

Nez Perce Clearwater National Forest Lessons Sharing

"It's not reality unless it's shared" - Lt. Col. Pete Blaber

Williams Creek Fire – ATV Event

September 7th, 2022

"READY...SET...GO!"

*"I heard 'TREES!', then
radio silence...
I feared the worst"
– Alex, DIVS(t)*

*"The flames were not my
immediate concern; it
was the trees that were
being 'sucked down' by
the wind of the fire!" –
Sam, TFLD(t)*



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“Events are a systemic by-product of people in organizations trying to pursue success with imperfect knowledge and under pressure of other resource constraints (scarcity, competition, time limits).”

– Sydney Dekker

Cover Illustration by Stuart Rau

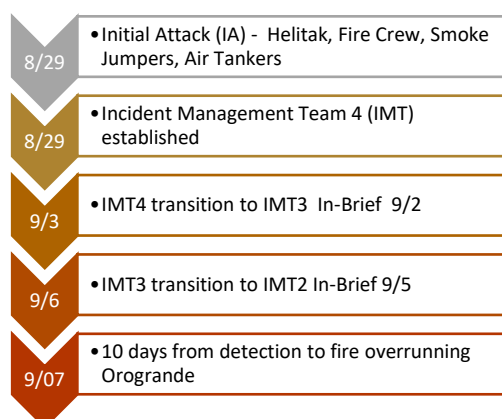
Introduction:

This Lessons Sharing is a realization of how the complex environment of wildland fire response is filled with uncertainty, and how firefighters adapt to that environment in real-time as events unfold. Yes, we have training, experience, and standard operating procedures, etc., but these alone are not enough to guarantee the outcomes we wish.

The narrative is written in second person*, present tense in an effort to help the reader put themselves into the position of the firefighter who experienced this event. There were many lessons learned and shared informally, but this report shares just one. That's right, just one. Beyond that this document shares a deeper dive into complexity, uncertainty, and how firefighters create success in the face of adversity. The "Digging Deeper" section is a tool for Agency Administrators and Tool Swingers to engage in discussions around learning and improving in their organizations.

Background Information:

The Williams Creek Fire was detected August 29th, 2022, on the Red River Ranger District approximately five miles west of Orogrande, Idaho in the Gospel Hump Wilderness. Ground and aerial firefighting resources responded with aggressive initial attack at time of detection, but the fire growth outpaced these efforts. A point protection strategy has been implemented to protect the community of Orogrande and other values at risk.



"District firefighters, smokejumpers, helitack personnel, and a combination of retardant tankers and helicopters hit the fire very hard immediately after detection on the afternoon of August 29." - Fire Information Specialist, Slim Miner



Photo: Williams Creek Fire, 8/29/22 – InciWeb

* The second-person point of view belongs to the person or people being addressed. This is the "you" perspective.

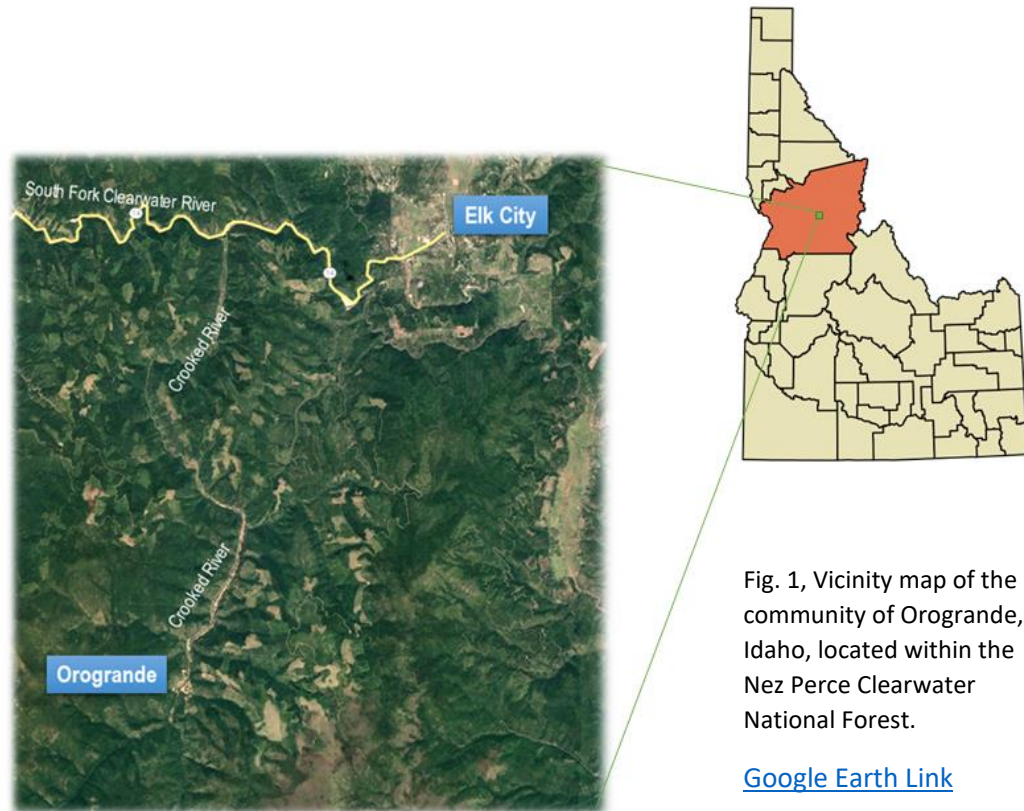


Photo: View of Orogrande, from Crooked River Road looking North, 2015 - USFS Photo

"The community of Orogrande has taken the initiative to move forward with fuels treatments and hazard reduction work in conjunction with the Forest Service in recent years." - Misty Martin, Acting Forest Supervisor.



Photo: Rx Fire above community of Orogrande, ID to reduce post logging debris as part of Orogrande Community Protection Project, 2019. USFS Photo by Tom McCleod



Fig. 3, Left: Wildlands surrounding Orogrande post-implementation of community protection project. The project was a significant contributor to the effectiveness of the point protection strategy employed on the Williams Creek Fire. Fig. 4, Above: Wildlands surrounding Orogrande prior to implementation of the community protection project.

Windy Weather to Increase Fire Activity on Nez Perce Clearwater National Forest - 09/03/2022

Several fires on the Nez Perce Clearwater National Forest grew significantly over the last few days. A return to warmer daytime and overnight temperatures, combined with consistent winds, has created a recipe for some fires to grow faster than Initial Attack efforts could suppress them. This will result in some access impacts on the forest as closures are put in place for public safety and fire managers develop strategies to look at longer-term planning for these incidents.

The Williams Creek Fire located five miles west of Orogrande, ID in the Gospel Hump Wilderness is approximately 626 acres with increasing fire activity. The fire offered a very difficult initial response for firefighters due to heavy fuel loadings and difficult access options in the area.

Level 1 "READY" Evacuation Alert

09/03/2022 – 4:58 PM: The Idaho County Sheriff's Office has issued a "READY" evacuation alert for the community of Orogrande due to the Williams Creek Fire. Deputies are enroute to Orogrande to connect with community members and inform them of this notice.



Photo: Williams Creek Fire, 9/3/22 – InciWeb

Williams Creek Fire Update 9/4/22

The Williams Creek Fire has grown to 4,400 acres, driven by the predicted high winds yesterday afternoon. Firefighters are working on structure protection around the community of Orogrande. Two additional 20-person fire crews are expected to arrive at the fire today to aid existing resources responding to the fire. A Type 2 Incident Management Team is arriving at the fire for in-briefing on the afternoon of Monday, September 5th and will be assuming command of the incident.

Level 2 “SET” Evacuation Alert

09/06/2022 – 7:10 PM: The area surrounding the Williams Creek Fire near Orogrande has now been moved to “SET”. This means residents in the area need to be ready to evacuate at a moment's notice.

Level 3 “GO” Evacuation Alert

09/07/2022 – 2:25 PM: A “GO” evacuation notice was issued by the Idaho County Sheriff's Office for the community of Orogrande due to current fire behavior conditions and the proximity of the fire's location to the west side of the community.

Williams Creek Fire Evening Update 09/07/2022

Red Flag weather conditions materialized in the early afternoon hours today, with hot and dry conditions and "squirrely and erratic" winds. As a result, the fire made a three-to-four-mile push from the west side of Orogrande. The fire behavior and activity prompted the Incident Commander and Fire Operations personnel to recommend a Level 3 “GO” evacuation notice through the Idaho County Sheriff's Office.

Firefighting resources disengaged and pulled back to staging areas to assess and re-evaluate, given the fire's progression. A large column of smoke was visible in many areas. After approximately 90 minutes, winds subsided, and fire behavior died down enough for the firefighting resources to re-engage the fire and address hot spots in the community.

ATV Event Narrative:

Wake-up

The sound of zippers and muffled coughs wake you shortly after 0500, you take a deep breath and make your move rolling out of your sleeping bag and pulling on your boots. Tugging at your boots that are stiff from the cool of the night, you wonder...is this day 10 or day 11? You think it is day eleven. You first arrived on the fire the afternoon August 29th, nearly two weeks since you were part of the original group of firefighters that initial attacked a fire that refused to cooperate despite you and your fellow firefighters' best efforts to keep it small. Or at least relatively small. The fire had grown to around fifty acres in the first couple of days due to waist high dead and down timber and being smack dab in the middle of the thermal belt that kept the fire active all night. You don't know it at the time, but this is just a foreshadowing of how the fire will continue to behave, eventually setting the stage for transitioning rapidly through Initial Attack (IA) and a Type Four Incident Commander (ICT4), to a Local Incident Management Team Type Three (IMT3), and to now an Incident Management Team Type Two (IMT2) that is just a couple days into their assignment.

“I had been dreading this day for six years.” – Alex, DIVS(t), in regard to a large wildfire impacting the community of Orogrande.

Lacing up your boots and clearing out the dusty boogers with a farmer's blow, you gather up your gear and shuffle your way across the dusty patch of ground that is spike camp and where morning briefings are held. But first breakfast.

After grabbing a quick breakfast chased by a couple of Redbulls®, it is time to gather for briefing. A small group of firefighters in dirty Nomex are huddled around in a half circle at the briefing site, and they are shooting the breeze and joking around, waiting for morning briefing. You shuffle up and squeeze your way in next to a couple of them and join in the good-hearted banter.

Morning Briefing

This briefing is a little different than prior days however, because the weather forecasted for the day isn't exactly good news. Red Flag conditions are expected, and this is expected to be a "fire day". The weather discussion from the day's incident action plan stated:

WEATHER DISCUSSION: A Red Flag Warning is in effect today, as gusty southwest winds and low relative humidity result in critical fire weather conditions across the area. These winds will be strongest across exposed ridgelines and through wind aligned drainages and will peak midday ahead of an approaching cold front. This front will cross the area early this afternoon switching winds to the northwest. Scattered showers and isolated thunderstorms along and behind this front may bring gusty and erratic winds into the evening hours, and any rainfall is expected to remain less than 0.10. Behind the front a much cooler and more stable air mass will move into the region Thursday and remain in place until Friday.

TODAY: ** RED FLAG WARNING FOR GUSTY WINDS AND LOW HUMIDITY **

WEATHER: Partly cloudy, warm & dry until 1300, then cloudy with scattered showers & isolated t-storms.
MAX TEMP: 5000 ft: 88-90° F 7000 ft: 78-80° F **Trend:** Down 2-3°
MIN RH: 5000 ft: 15-17% 7000 ft: 19-22% **Trend:** Up 2-4%

20 FT WINDS (mph):

Upper Exposed Ridges: Southwest 10-14 w/gusts 24-28 shifting to northwest 7-10 w/gusts 16-22 aft 1400.
Low/Mid Slopes & Canyons: Southwest 5-9 w/gusts 12-16 shifting to northwest 5-8 w/gusts 10-15 aft 1400.

MORNING INVERSION: Below 600ft early, mixing out by 1000 **HAINES INDEX:** 5 (Moderate)
LAL: 1 until 1300, then 2 **CHANCE OF RAIN:** 0% until 1300, then 30% **CWR:** 10%



Illustration: Fire Officials working on Williams Creek Fire operations. — InciWeb.

This will likely be the day all of the preparations to protect the small community of Orogrande will finally be tested. This will test not only the work that firefighters have done setting up pumps, sprinklers, and pulling ember traps away from structures, but it will also test the hazard fuels reduction work that has been implemented over the prior six years. Hopefully all of the fuels work done will moderate fire behavior enough that firefighters can implement the structure protection plan.



Fig. 4, Locations of community of Orogrande, the “gap”, FS-233 road junction, and observation point located at switchback.

The operational plan for the day lined out by DIVS X is for firefighters to test and fine-tune all of the pumps and sprinklers that had been set up over the course of the past few days, and to be prepared to assist with Level 3 evacuation of community if fire hits the predetermined trigger point. If an evacuation occurs, the plan is to start pumps and temporarily retreat to safety zone until fire activity allows reentry into area to take care of any spot fires, etc. The Sherriff’s Department currently has the community under a Level 2 “Set” evacuation notice.

“If it is going to happen, it is going to happen today.” – Sam, TFLD(t)

Your specific assignment is to ride up to the second switchback on road 233, where you have a pretty good view of the fire, and report fire activity to DIVS X. You will also determine if helicopter bucket drops are feasible and will direct any drops from your observation point. Most importantly, you are to report if and when the fire reaches the top of the spur ridge in Section 10, approximately two air miles south and west of town, which was the “trigger point” to activate the Level 3 Evacuation of the community. If this were to happen, you would also head back to Orogrande and join the rest of the firefighters in assisting with the evacuation of the community as needed.

The “gap”

After briefing, you gear up your ATV for the day, strap your line gear and tool to the rear cargo rack, check the fuel level in the tank, and complete one last mental checklist to make sure you haven’t forgotten anything.

You depart from spike camp enroute to what is to be your observation post for the day’s assignment, about a two-mile ride. You see firefighters in Orogrande already testing pumps and fine-tuning sprinklers. A few of the local residents are out and milling about, some visiting with firefighters. Some of the residents you recognize and give them a wave.

Between Orogrande and the “Y” where the road forks, there is a section of road that has spruce trees on both sides of various sizes. Some are small, but many are decent sized trees that create a small grove and gently shades the creek paralleling the road. It is only ten or so feet to the creek from the edge of the road in a couple spots, and there are two dispersed campsites that a small camper could fit into. On the side of the road opposite of the creek there is an old, dilapidated mining cabin that is over 100 years old, one of several such historic structures scattered throughout the area. You see that it has sprinklers set up around it just like it did during the prescribed fire conducted in the area two years earlier. It is this short stretch of road shaded by the spruce trees, that you think of as the “gap”.

The “Y”

At the “Y” you hang a right and start up the narrow road (FS-233) that winds its way up from Old Orogrande town site to Orogrande Summit to the south. Located at the Y is an old historic barn and the 120-year-old historic Colgrove Hotel, which is now a weathered gray shell of a building, held up by a skeleton of old timbers with a rusty tin roof keeping all four sides standing slouched like an old man. There



Fig. 5, The junction of the Crooked River Road and FS-233 Road referred to as the “Y”.

is also a tiny residence tucked in under the trees next to the creek, with a small corral and three horses that are rhythmically swatting away flies with their long black tails.

As you are riding up the narrow road you can see that the fire is actively burning on the ridge line across the drainage from where you will be observing the fire. You catch glimpses of the fire through the trees along the road every now and then as you are riding. You can see where smoke is puffing up in the trees across the drainage. It appears that the fire’s edge is about in the same location it was yesterday, so maybe there will be a few hours that some helicopter bucket drops can help buy additional time for firefighters in making final preparations at the community.

When you arrive at the observation point at the switchback, you can see that the fire has backed down the slope where it had remained active in the thermal belt but does not appear to be overly active at the time. You can also see a spot fire puffing up in a small drainage due west of Orogrande.

The main fire however has not reached the Level 3 “GO” evacuation trigger point/ridge, that would trigger a “GO” evacuation notice for the community. Your observation post from the switchback provides a decent view of the fire and you give an update on what you could see to DIVS X.

“Division X-ray, Taskforce Trainee on Tac 2”.

“Taskforce X-ray, Division X-ray go ahead.”

"The fire is still about a half mile from the trigger point and looks to have backed down the slope a bit further overnight. Visibility is 1 mile, and winds are calm. The spot fire that was observed in Umatilla Creek yesterday is still putting up smoke this morning. It looks like it has not grown much in size."

"Good copy, if you want to launch the bucket ship, go directly with helibase."

"Sounds good, Taskforce Trainee clear."

As you are finishing up relaying your update, you hear the sounds of a UTV approaching from where you had just come.

It is a father and son, who are residents of Orogrande, and they have ridden up to see what the fire was doing (The fire area is not closed to local residents). You chat with them about what the fire is doing, and they ask what you think it is going to do. You tell them that you think things will be fine. In your gut you are not sure. The fire behavior prediction indicated that the fire would cross the 233 road but would likely stay south of Orogrande. Either way, structure protection measures are in place, and you and the rest of the firefighters have prepared for the fire impacting the town.

While you are talking, you are weighing the options for ordering the helicopter in the back of your mind. The fire is not doing anything significant, and the visibility is good, just a bit hazy with winds out of the southeast, so you place the order to have the helicopter up at noon to do bucket work on the fire edge. This should provide at least a couple of hours of bucket work before the forecasted thunderstorms and wind shift later in the afternoon. You continue to monitor the fire and talk to the father and son, answering questions about the fire. They mention other fires in previous summers that grew to several thousand acres, but never made it down into the Crooked River drainage. Even just the summer before, the nearby Dixie Fire, had burned for several months and into early winter. On that fire firefighters burned out along the east half of the community of Dixie, and the fire never overran the community.

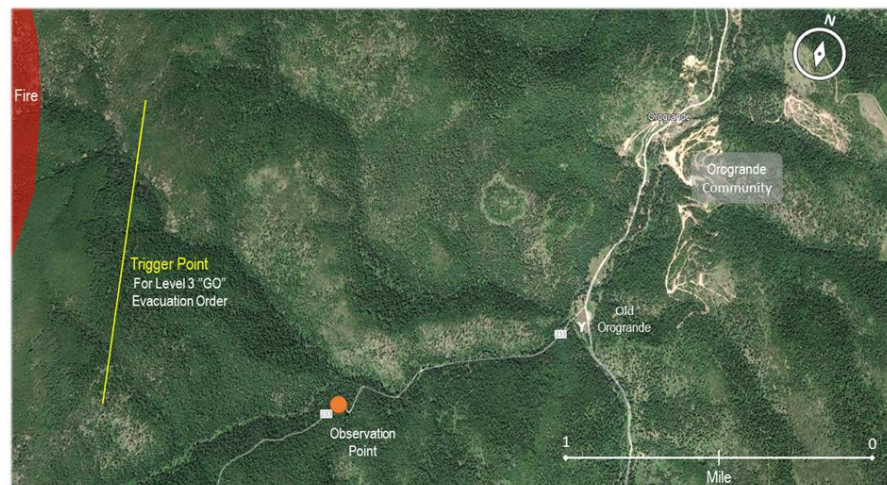


Fig. 6, Approximate location of fire and trigger point for Level 3 "Go" evacuation of community.

Bucket Ship

Swoosh, swoosh, swoosh. You hear the unmistakably quiet sound of the K-MAX helicopter approaching. Then your radio crackles with the voice of the pilot calling you. You quickly dial your radio knob to the Air-to-Ground channel and respond to the pilot's call.

“Kilo-1-Alpha Taskforce trainee on air-to-ground”

“Good morning ... I am just coming up on DIVS X, and heading to the dip”

“Kilo-1-Alpha sounds good. When you get back from the dip, I will line you out on some targets, but we are basically just wanting to cool the edge of the fire where it is backing down off the main ridge to the west.”

“Copy, Kilo-1-Alpha headed for the dip”

It should only be about 10 minutes before the helicopter returns from the lake. “It is a quick turnaround” you tell the father and son. They seem to be pretty interested in watching the helicopter make some water drops. You mention to them that it would probably be a good idea for them to head back down soon before the fire starts getting active.

It seemed no sooner than you said this, the wind direction switched. The wind switch was pretty light at first, but smoke started to fill the area pretty quickly. It looks like the wind has made a 180-degree shift from the southeast, from where it had been coming earlier...is this the wind shift that was predicted for mid-afternoon?

The radio crackled again, and it was the pilot enroute back from the dip.

“The winds have gotten pretty heavy up here, I am going to have to call it. I will make this drop and will be returning to base. Sorry.”

You respond that you understand, and you see the pilot drop the water from a high altitude as he heads back to base. The smoke continues to thicken to a hazy soup, and you can hear trees torching across the drainage.

“What’s that noise?” asks the father. “It’s the fire” you tell him. They seem pretty surprised about this, and you tell them that it is probably a good time for them to head back down the hill. They agree and load up in their UTV and head off. You plan to stay at the observation point until you see the fire hit the trigger point.



Illustration: KMAX departing after water drop
– Stuart Rau

“What’s that noise?” – resident

“It’s the fire” – Sam, TFLD(t)

Trigger Pulled

As the father and son are driving off, you watch the fire and can see a darker column of smoke building through the thickening haze. The column appears to be coming from the top of the spur-ridge

that was the “trigger point” for the Level 3 evacuation notice. You relay to DIVS that the fire has hit the trigger point.

“DIVS X-ray , TFLD trainee on tac...the fire has hit the trigger point, it is on the ridge and getting very active”.

“Copy, we will initiate the evacuation”.

“I am heading back down the hill enroute to Orogrande, TFLD trainee clear.”

“Time to go” you think to yourself as you see that the fire is spotting down into the drainage. The spots are growing quickly, and the wind starts pushing the fire down drainage. It only took about 10 minutes from when you report that the fire has hit the trigger point until now, when it was clear it is time to head back down to Orogrande and help out there before your route is cut off.

“Looking back on it, I probably stayed too long at the observation point.”
– Sam, TFLD(t)

Heading Out

You jump on your ATV and start heading down the road back to the “Y”. As you are driving down, you think you see that the fire has actually spotted across the road. About halfway down to the “Y” you come across some small trees that have fallen across the road. You easily drive the ATV right over them and continue along. You can now see that the fire has definitely spotted across the road and is burning up on the slope above the road, still ground fire at this time. You increase your speed a little, wanting to get to the “Y” where the road opens up with grassy areas on each side of it. The openness of the area will be a better place to be during the increasing fire activity.

As soon as you arrive at the “Y” you see DIVS, DIVS(t) and TFLD, trying to get the residents there to leave. As you pull up, the TFLD tells you “I’m outta here”, clearly irritated that they were having to try and convince the residents it was time to leave. He got in his truck and headed back towards Orogrande.

You see that there are additional spot fires across Orogrande Creek, and they are up in the canopy in a snap. You also see the fire torching trees on the ridge behind the residence. The residents also notice this and seeing the flames on the ridge above their home seemed to finally convince them to start evacuating.

You also decide to continue to head down to Orogrande on your ATV to help with evacuation. Other firefighters had started the



Photo: Spot Fire along FS-233 Road, 9/7/22.

“That was when the residents finally decided that they would leave.”

– Alex, DIVS(t)

pumps and were assisting with evacuations, as well as themselves, heading back towards spike camp.

At Orogrande, DIVS asks you to run back and look to see if all the residents were out, because you are on an ATV and could move quickly. You agree and turn your ATV back toward the “Y”. “It will be a quick run up and back,” you think, “no problem”.

Rodeo Time

As you are heading back you see that the wind is pulling the treetops towards the fire. The sky is a smokey shade of burnt orange as the sun is eclipsed by the column of the fire as it is building its strength. It is a bit mesmerizing actually, so you stop to film a short video of it on your phone, and then proceed towards the “Y”. As you pass through the “gap” you encounter one of the residents towing a horse trailer. He leans out his truck window and hollers “someone needs to talk some sense into that person.” He revs the engine and continues on past you towards Orogrande. You notice that the horse trailer is empty as he goes by. You throttle up and continue towards the “Y”. At this time, spot fires up on the hillside are scattered about and trees are torching, but down by the road where you are, there are only a few small spot fires, and they are not doing much.

“Someone needs to talk some sense into that person!”
- resident

As the “Y” comes into view you see the resident that the person in the truck was referring to. They are frantically trying to round up three horses that are galloping around their small corral. They have one horse by a rope and are leading it on their ATV, hoping to get the other mare and colt to follow. It looks like a one-person rodeo with the spectator stands catching on fire. It was obvious that the owner had no intention of leaving the horses behind. Unfortunately, there was no one but you to lend assistance. You attempt to herd the mare and colt a bit with your ATV, pressuring them towards the other mare that the owner is leading. You end up spooking the colt and mare to the gate, and thankfully they exit with their owner and the mare. You continue to help herd the horses down the road toward Orogrande.

Now the horses are trotting down the road, and you are making good progress. It didn’t take long, and you get them to town, where they are loaded up into the horse trailer to be taken all the way out to Highway 14.



Illustration: Resident trying to lead horse from corral. – Stuart Rau

Last Pass

Once you have gotten the resident and their horses to town, you decide to make one last trip back to the “Y” to check to see if the residents at the other cabin had evacuated. You didn’t see anyone there as you went by with the horses... but you were focused on helping with the horses, so you are unsure if anyone was still at the other home.

You feel pretty safe going back for one last check because the fire is not burning extensively in the fuel treatment area adjacent to the cabin. There are only a few small spot fires burning in a couple spots where embers had landed in pockets of fuel in the “gap”. It would only take a couple of minutes to check the last residence and then quickly return to Orogrande.

There is no one at the residence. The pumps are running, sprinklers are sprinkling, so you whip around and start heading back to Orogrande. The wind is increasing in strength, and you see that the tops of the spruce trees along the road are being pulled towards the fire. Just as you enter the Gap you see a large bushy spruce tree falling right in front of you! You crank the handlebars of the ATV to swerve away from the tree that is falling directly into your path! Locking up the brakes you come to a stop just as some of the tree branches brush across the front of your ATV. You fumble for your radio and mash the transmit button and yell “Trees!”

You start to grab your line gear off the cargo rack of the ATV, but all you can think about is that you need to get away from where the trees are falling. You give up on grabbing your gear, pull your favorite ball cap out from under the ratchet strap and jam it in your leg pocket. You notice that your radio was lying face down in the footrest of the ATV, grab it and start making your way out on foot. Several trees had fallen across the road, and you weave your way around them, hopping over treetops and debris.

“My immediate concern was to get away from the trees that were falling.”

– Sam TFLD(t)



Photo: Smokey skies, and wind pulling treetops towards main fire, 9/7/22.



Illustration: ATV skidding to a stop as tree falls across road in front of it. – Stuart Rau

Alex, DIVS(t) calls you on the radio to see if you are all right. You reply, *"I am OK, but the 4-wheeler is probably not"*.

Alex, DIVS(T) tells you *"You better start walking towards me."*, and you reply, *"I am doing more than walking!"*

You continue your jog down the road and are relieved that you see Alex driving towards you.



Fig 7., The "gap" and location of ATV relative to where trees fell across road.



Photo: Charred remains of ATV where it was abandoned after trees blocked the road, 9/8/22



Photo: Aerial view Williams Creek Fire and Community of Orogrande, 9/7/22 - ATGS

"After he said, 'trees' on the radio, there was no communication for a few moments...it was a sinking feeling wondering if he had been hit."
— Alex, DIVS(t)

Afterwards:

Williams Creek Fire claims several structures, Sep 14, 2022

OROGRANDE — When erratic "Red Flag" winds whipped wildfires across North Central Idaho into a fury



Photo: Historic Colgrove Hotel located in Orogrande, Idaho before and after fire.
- Jamie Edmondson, Idaho County Free Press.

one day last week, the Incident Management Team tasked with combatting the Williams Creek Fire recommended the highest-level evacuation (“GO”) through the Idaho County Sheriff’s Office at 2:30 p.m. last Wednesday, Sept. 7.

The turn was such that firefighters disengaged and reengaged multiple times, according to the IMT’s Sept. 8th update, even as the fire pushed five to six miles from the west side of Orogrande into the footprint of the McGuire Fire, which burned more than 40,000 acres near Orogrande and Dixie in 2012.

Assessments made later found the Williams Creek Fire impacted one cabin and eight other structures (sheds, outbuildings, and barns) during its run. The latest mapping as of September 12th marked the fire’s extent at 15,773 acres.

Lessons Shared:

Of course, many lessons were learned by those who experienced this event, but the lesson that participants thought should be most widely shared was about the “unexpected” aspect of trees falling that blocked the road which was also the egress route. The trees falling across the road represents that less than 1% chance that something totally unexpected happens, but when it happens you have to act quickly.

“The closest call we had was with the trees coming down” - Sam, TFLD(t)

1. Winds created by the fire were causing trees to fall well before the fire even reached them. Some of these trees were falling across the road that was the egress route. I was not expecting something like that to happen. I don’t know if anyone else was expecting that either.

Tool swingers:

- Do you have similar experience to share? If you do, share your experience! Tell your story and tell it over again and again! We learn more durable lessons through the oral tradition of wildland than we learn in the classroom alone.

Agency Administrators:

- Encourage your employees to share their stories. Not just between each other, but with you as well! Have them teach you what it is like to do their job. Of course, that will require humbleness, trust, and capacity for candor. A good start would be to share a story of your own.

“Information is the lifeblood of safety”.

Digging Deeper:

>1%er - Room for Uncertainty.

A “point protection strategy” is employed for a variety of reasons, often with roots in the lack of available resources in today's stretched fire world. Thus, at times it is more about accepting reality of constraints, rather than having all of your “cake”. However, sometimes it is “the choice” strategy for reasons such as “values at risk”, “appropriate utilization of fire suppression resources”, or allowing for fire to achieve “multiple resource management objectives”. All valid reasons for employing a point protection strategy. The tough part comes with accepting the uncertainty that comes with employing such a strategy, even if you deliberately choose the strategy as the preferred alternative, or your hand is forced because it is simply not realistic to choose anything other. If you are lucky, you get to choose a suite of strategies to implement simultaneously, leaving you “plan B, C, or D” to fall back on.

Either way, like much of wildland fire management and response, there is always risk, and there is always plenty of uncertainty. It is inherent in the work we do.



Consider the following statement: *“Risks are known unknowns, and uncertainty is unknown unknowns.”* Is it just word play, or does it make you scratch your head? How can there be known unknowns, and unknown unknowns? Much of the risk we manage falls into the category of known unknowns, things that we suspect will or can happen, have prior experience with, or at least feel like we can reasonably anticipate. Depending on how confident we are that we can manage, or control outcomes of these known unknowns leads us to decide how we go forward. We are really pretty good at this, and only get better with practice.

Unknown unknowns on the other hand are somewhat different, although they often hide right there in the known unknowns (a.k.a., normal work). Unknown unknowns are unique events that we do not imagine happening or register the smallest blip on the far corner of our radar screens. Remember that an unknown unknown to someone else might be a known unknown to you. Thus, it is good to share your stories.

“Managing for ‘uncertainty’ means allowing for slack in your system.” – Scott Page

>1%er Exercise:

Tool Swingers:

1. How do you conduct operations that allow for adaption and problem solving when something unexpected happens?
2. Are there specific tools or processes that you use to help your team be successful in navigating these events? Discuss the limitations of these processes or tools with your team.

Agency Administrators:

1. How do you plan for that less than 1% of times when things go bad...really bad?
2. What does the “worst day” for an Agency Administrator look like?
3. How is this different than the “worst day” for a firefighter who is directly engaged in operations?

Success and Failure...Two Sides of the Same Coin.

Success and Failure are two sides of the same coin. The same things that make us good, are the same things that get us into trouble. The problem is we often judge the person based on which side of the coin happens to land face up. If success...then hero. If failure...then zero. Even as we get better as an organization of not falling into this trap, the pull towards it remains strong, as if it embedded in our DNA. “If that didn’t happen, then this wouldn’t have happened”. True in retrospect, but not necessarily true before the outcome is known.



“What is the only thing that separates you from the Joker and Batman? One bad day.” - Jhovany Perez

Two Sides of the Same Coin Exercise:

Take out a coin and flip it. Seriously, don’t even worry about what side of the coin lands face up. Does the side of the coin that lands face up reflect the amount of skill you have at flipping a coin? A “waffle” flip doesn’t count, you actually have to flip the coin from a standing position. So, you have good thumb strength. You have a strategy. You even have studied statistics and know the odds of a tails. Does that make you better (or worse) at controlling how the coin lands? Maybe you feel it does, but that is beside the point. The truth is, that having a strong thumb, a strategy, and a grasp of statistics doesn’t guarantee success, but they definitely are things you can draw upon to try and tip the odds in your favor. In this exercise we are trying to explore how “positive” traits of our organization or individual traits can yield both positive and negative results. It is not to disparage the fact that these are traits we want in our employees and organizations, but rather to understand how complex systems don’t operate by the simplistic rules/traits we tend to project onto ourselves (or more importantly others).

Tool swingers:

1. Think of traits of your organization, team, crew, module, etc. What are some traits that are considered “valuable” that make you or your team successful? Go ahead scribble these traits down on a short list.
2. Now consider how these same traits may lead to outcomes that are not wanted. Are there any situations where what is usually considered a positive trait can be viewed as a negative when an accident happens? *Ex. Bias for action, Can-do attitude, highly experienced.*

Agency Administrators:

1. Consider the following two quotes:

“You will never fully know the struggles of your workers encounter while conducting work in your organization, because you rarely if ever, do that your workers do.” – Todd Conklin

“Workers, supervisors, managers, and leaders are constantly solving problems and adapting systems to try and ensure production success.” – Todd Conklin

How do these quotes resonate with you? Share these quotes with your team and ask them what they think? Do they find that these quotes are accurate?

Relationship Status...“It’s Complex” - A Systems View.

Complicated? Complex? What’s the difference? And why would a wildland firefighter even care? Turns out there is quite a lot of difference, and whether a firefighter views their work as complicated, or complex determines how they might think about how to improve navigating future events. In this section of the RLS we are going to talk about the [Cynefin Framework](#), which is a framework for understanding if you are operating in a complicated or complex environment. Why you would even care is a point we will get to, but for now let’s think of classifying systems into various types of terrains. A Simple System is like Mt. Fuji, a Complicated System is like a mountain range, Himalaya Mountains perhaps, and a Complex System is like sand dunes in the Sahara Desert.

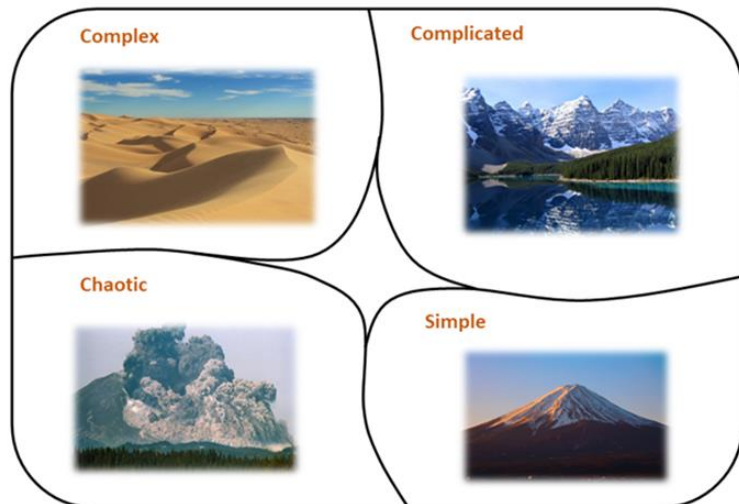


Illustration: Cynefin Framework with landscapes representative of each domain.

Now let’s say you and your team want to climb Mt. Fuji. It may be difficult, and even require specialized skills and training, but as long as you and your team keep moving up, you will get to the summit of Mt. Fuji. Even if you encounter significant risks along the way.

After conquering Mt. Fuji, your team decides that they want to climb a mountain in the Himalayas. You choose Kangchenjunga, the 3rd highest mountain in the world, at 28,169 feet. A very difficult and technical climb, and if you keep moving up you will eventually reach the summit, or at least a “summit”. You see, Kangchenjunga has several minor summits you could end up on along the way. Or if you are not careful, you might end up on top of an entirely different mountain without choosing the correct approach followed by a handful of choices of climbing routes. That is complicated, but route finding is

discoverable with a bit of pre-work and expertise. Even though there are many paths, and the starting point is crucial, the terrain doesn't change. At least on the grand scale.

Now that you have had enough of climbing at altitude, and indeed have had several near-death experiences completing those endeavors, you decide to take your team to the Algerian Sahara Desert. You are to navigate your way across the desert and eventually reach the peak of an unusual barchan dune, called the Grande Dune. This dune affords expansive views of the desert in a 360° twirl on its summit. Simple enough. But wait, the summit of the dune moves, so GPS coordinates are never the same, the approach also changes as the dunes surrounding it are constantly on the move, and indeed they all look similar. On this expedition, you not only have to do some pre-route planning, but you need to be ready to toss out those plans and begin wayfinding as you go. Constantly adapting your route to meet the changing positions of the dunes. But as luck would have it, this is right in your wheelhouse, you see, this is the same way you navigate wildland response. Pre-planning, expertise, etc., all help you to prepare for being highly adaptive to unfolding events as you work towards a common goal. And if you decide to return the next year for a trip to the Grande Dune, the route you used prior will not necessarily lead you to the summit again. Or it might. Prior success is no guarantee, nor does prior failure mean that it won't work this time!

Basic Traits and Action Modes for each Domain within the Cynefin Framework			
Simple	Complicated	Complex	Chaos
Solution is readily apparent.	Solution less apparent. Experts needed.	There is no "right" solution. Solution is discovered with each step.	Knowledge gathered throughout lifetime is only partially useful.
Known-Knowns	Known-Unknowns	Unknown-Unknowns	Cause and Effect Unclear
Best Practice	Good Practice	Emergent Practice	Novel Practice
Sense-Categorize-Respond	Sense-Analyze-Respond	Probe-Sense-Respond	Act-Sense-Respond

"Slow is smooth, smooth is fast." – Old Salty Firefighter

Systems View Exercise:

Tool swingers

1. Which box of the Cynefin Framework does your work fall into? Does all of your work fall into one, or does it fall into one depending on the work you are doing that day?
2. List some traits of your work that would cause it to fall into each of the framework domains. Use specific examples.

Agency Administrators:

1. Are the things that create complexity in your work, the same things that create complexity for your employees? How or how not are they the same?
2. Share some examples with your team and discuss how they are connected to their work.

Extent of Conditions – Context Drives Behavior.

In complex systems such as wildland fire management and response, learning through seeking a “root cause” is not an effective path to understanding. A more effective approach might be to study conditions that existed prior to and during an event as it unfolded in real time.

Understanding these conditions can give us a better understanding of context in which decisions were made, actions were taken, and to understand why they made sense at the time. Workers rarely act in ways that

don’t make sense to them, nor do they channel their inner “Spock” and base all actions on an algorithm of Vulcan-Human logic. Selecting one point in time or process, where a decision or action was made or not made, might tell you what you believe to be true with the benefit of hindsight. But it definitely does not tell you what the context of the event was as it unfolded, especially for those who lived the event.



Mapping conditions of influence is a technique to try and understand various conditions that existed that influenced decisions, behaviors, and actions. Not just of an individual, but for an organization (team, group, community, etc.). By mapping conditions of influences, you may start to see how various influences interact to either strengthen a system, or as is most often the case, where “brittleness” exists. By learning how to address brittleness, or continue to build on strengths, we may find a path to better understanding our complex system, and hopefully manage for better outcomes within that system.

Below (Fig. 8) is an example of an approach to map conditions of influence using a mind map. The example below is based on the narrative of the Williams Creek Fire-ATV Event, that you read prior. Influence categories are listed in the solid boxes, and I stole those from the [Wildland Fire Meta-Review](#). The “hollow” boxes contain various influences that were mentioned in the narrative, and with talking to those who were closest to the event. The “blank” boxes are for you to fill out with influences that you might have picked up on, or for influences that exist on your unit or in your organization that might create brittleness or strengths in the system. Think of this as “extent of conditions”.

“It is through learning (conditions of influence) and understanding complexity that we stand a chance of better outcomes in chaos.”- Peter Sandman

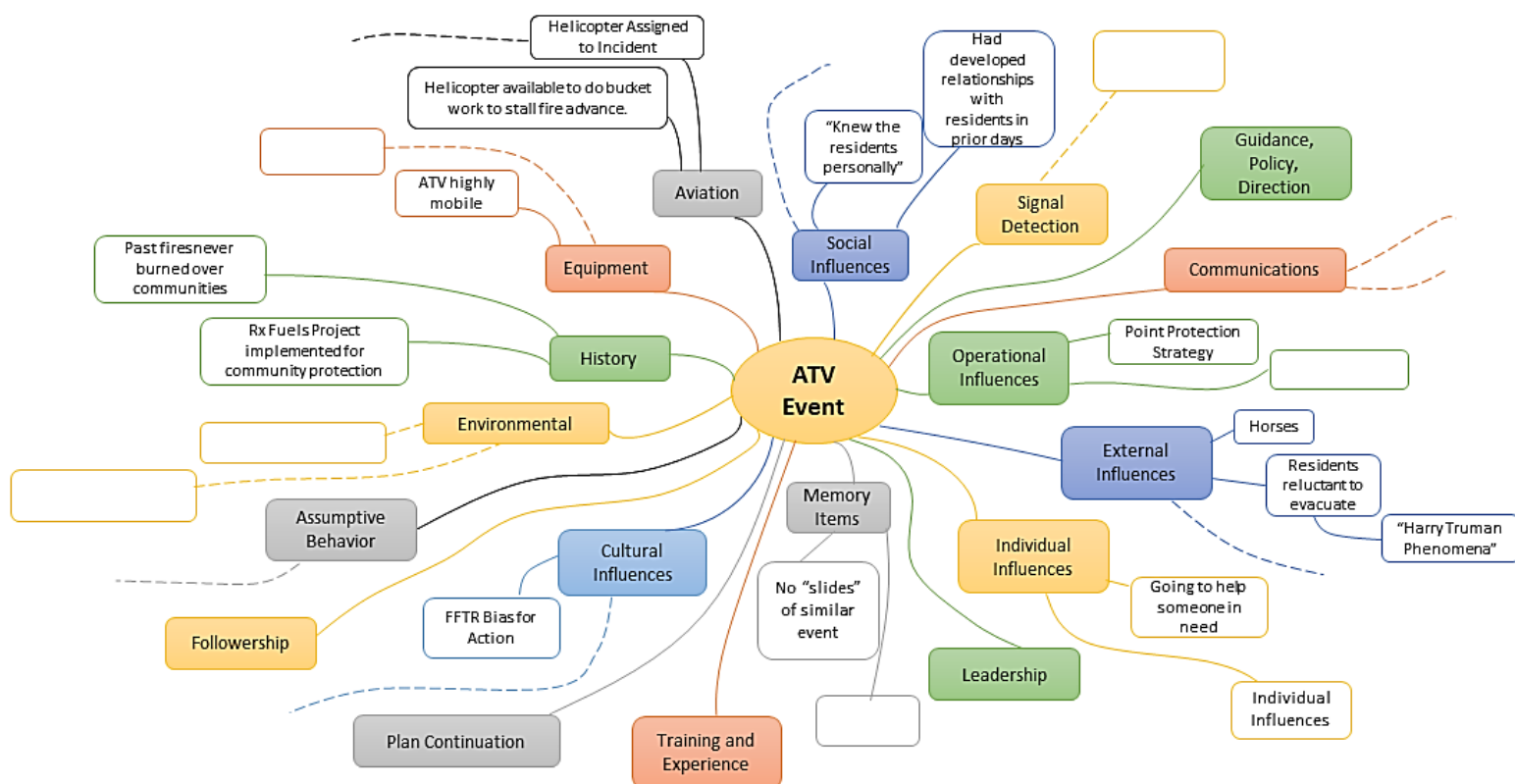


Fig. 8, [Conditions Mapping](#) with conditions that existed for Williams Creek Fire, including but not limited to community, pre-fire hazardous fuels reduction projects, fire-personnel, and natural environment.

Extent of Conditions Exercise:

Tool swingers:

1. Fill in the blank boxes in the conditions of influence map above. Add conditions you might have picked up on in the narrative, or conditions that you have experienced in your own experience.
2. Can you use these same conditions to determine if any of these exist on your unit? Remember, conditions are just conditions, they are not necessarily “good” or “bad”, they just exist.

Agency Administrators:

1. Can you do a condition mapping exercise prior to an event on your unit? Even for successful work?
2. How might you plan future actions based on recognition of conditions mapped on your unit?

“Organizations are context generating entities. Nothing occurs in your organization that is not influenced by the contexts generated within your organization.” – Sidney Dekker

Capacity for Candor.

Transparency and psychological safety are two terms important to successfully navigating complex systems, but neither word particularly resonates with wildland firefighters (or many employees for that matter). Probably as both of these words may hold negative connotations, be it from mandatory trainings to correct misdeeds of which they have never committed, or because of demands for “transparency” as reported by media in regard to the latest scandal to hit the headlines. So instead of using these terms that only cause confusion at best and an upset stomach at worst, I will use Common Operating Picture to replace the word transparency, as that is the kind of transparency in communications and information sharing, we are talking about. And I will replace psychological safety with “Capacity for Candor”...what is your team’s capacity to speak freely of what they see, hear, smell, or think about what is unfolding in the environment they are operating in? Can they deliver bad news to the boss (even if the boss doesn’t want to hear it) and be thanked for sharing that news? Can they speak up and share their thoughts and concerns or ask questions when they don’t understand, without fear of being judged by supervisors or peers? Capacity for Candor like resilience is an operational capacity that must be built and maintained. Being rooted in trust, capacity for candor is difficult to build, yet easily diminished.

How Leaders Build Capacity for Candor

Capacity for Candor is usually built from the top down. Leaders, managers, and supervisors set the tone. Not based on just what they say verbally, but through body language as well. Did you just roll your eyes? Another way and probably the most important in relation to safety is how **leaders react to failure**. If you tell your team to be innovative and find new ways to do the work, but when the “new way” that is being tested does not work out, a leader’s reaction will quickly tell the team all they need to know about whether they should continue to try and innovate, or whether they should go back to the “basics” and just plow ahead with blinders on.

1. Everybody makes mistakes — Even me: If you are unable or unwilling to be vulnerable and admit your own mistakes or lack of knowledge with your team, then there’s a good chance your people won’t feel safe to do so with you. Sometimes supervisors and leaders are resistant because they feel like the process makes them look weak. But to build capacity for candor you have to be willing to be vulnerable first, to show your employees that it is OK. You need to admit when you’ve made a mistake and show that you are human, too. It is critical to create an environment where experimentation and learning from failure is celebrated rather than punished.

2. Watch your reactions: Leaders need to be mindful of how they react to mistakes. If you get upset when your team brings you a problem, you send a message that failure and experimentation are not acceptable. And when people get that message, they hide their errors. Additionally, be cognizant of your body language. You can say one thing, but your body language can give an entirely different signal, and

Psychological safety is a belief that one will not be punished or humiliated for speaking up with ideas, questions, concerns or mistakes.
- Amy Edmondson



humans are more likely to interpret body language as “truth” than simply words alone.

3. Listen as much as you speak: Make sure you create regular time where people can come and talk with you, and more importantly that you can go and talk with them. It can be easier for employees to speak openly when they don’t have to approach you in your office (having flashbacks to going to the Principals Office in grade school). Lt. Col. Pete Blaber, former Delta Force Commander, and author refers to this as Management by Walking Around. Getting out into the trenches, making it easy for your people to access you, and to see for yourself how things are actually going on the ground. Another of Lt. Col. Blaber’s sayings is that **“It is not reality unless it is shared.”** If your people can’t speak freely without fear, then you will not know what “reality” on the ground truly is.

4. Encourage people to ask for help: If employees ask for help and are subsequently treated as if they are incompetent, they’ll suffer in silence, but the workplace will suffer as well. Don’t wait for them to come to you, either. Check in, and ask questions about how things are going, and what ideas they might have. Assuming that someone will speak up is a risky strategy for safety, even if you say they are “empowered to speak up”. You should facilitate communication deliberately. Also watch to see if employees are able to “ask for help” from peers without having to feel like they will be judged. Fear of judgment is a destructive force that undermines building capacity for candor.

5. Clarity for everyone: Capacity for candor is particularly important when teams work in situations that are literally life-and-death, such as health care, aviation, and wildland fire. Including making clear the roles and responsibilities with a pre-briefing beforehand and a debriefing afterward. “Clear roles and responsibilities” also build capacity for candor by defining how the team will share information in the decision-making process. In complex environments, each person being able to communicate what they are seeing or feeling and sharing this information amongst the team is a significant part of building a common operating picture. A critical part of it actually.

6. Speak of the Devil: Some teams will assign a person to play “devil’s advocate”. They say, “We don’t want to be prone to [groupthink](#), so it’s your job to come up with the counterpoint to every decision we make or to think about how this could go wrong.” Ensuring there will be some intellectual friction boosts creativity and innovation by expanding the range of ideas and solutions available for complex decision-making and problem-solving.

Adapted from: Psychological safety is the secret to workplace success, Matt Windsor, UAB, 2019

Capacity for Candor Exercise:

The following questions that explore what capacity your organization might have for candidly sharing information about the operation/work being done comes straight from Todd Conklin, PhD’s book “The 5 Principles of Human Performance”. The questions are essentially verbatim as Todd has written in his book. These questions are not easy to answer, and you may find them somewhat uncomfortable. Especially if you discuss them with your organization. But I have faith that you have the courage to do so and help your organization learn and improve.

Agency Administrators:

1. What systems, processes, and tools do you have to openly elicit feedback from your organization? How easy are they to use, and are they available to employees at every level of the organization?
2. How open is your organization to actually receiving honest feedback about your operations? How comfortable are you with hearing bad news? How often do you punish the feedback messengers, for example, by assigning them more work?
3. How committed is your organization to make changes based on information you get from the workers? If you ask for feedback (both good and bad) you must also do something with the feedback you gather; trust is built by making agreements with your workers and then most importantly, keeping those agreements in a timely manner.

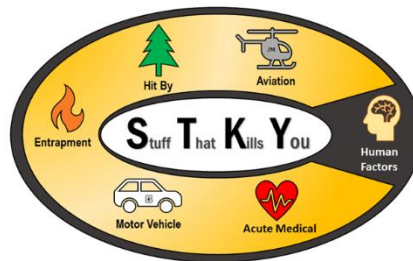
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Special Thank You To:

- The employees who shared their story of the event from their perspective.
- Forest Leadership who encouraged and supported employees in the sharing of their story in an effort to learn about our organization and the environment we operate.
 - Rita Bennett for her review and editing advice.
 - Stuart Rau for his amazing graphic illustration work.
- And you the readers for taking time out of your busy lives and schedules to read and reflect on this lessons sharing report.