Polles Fire
Rock Incident Within an Incident
Facilitated Learning Analysis

Incident Date: July 7, 2020

Tribute to BJ, drawn on the Polles Fire IAP from 7.7.2020

Contents

1. Tribute to Brian Boatman

> ***"He performed his duty with honor and bravery, and it will be remembered as such by our state."***
>
> -Arizona Governor, Doug Ducey

Bryan Jeffery "BJ" Boatman, 37, of Litchfield Park, Arizona, gave his life serving his community while assisting the U.S. Forest Service fighting the Polles Fire on Tuesday, July 7, 2020 near Payson, Arizona.

BJ was born on June 8, 1983 in Provo, Utah. He was a third-generation pilot and worked diligently for nearly 25 years alongside his parents to build a lasting legacy for their company, Airwest Helicopters of Glendale, Arizona. As a dual rated pilot (he flew both helicopters and airplanes) he found his passion in the skies.

When he was back on the ground, his passion was his wife and daughter. He was a natural teacher, finding himself in the role of a mentor to many. A former flight student, Brad Balser, recalls the impact BJ had on him: "*I had the pleasure of having BJ as my flight instructor in 2009 and 2010. He was selfless, kind, a hero, an amazing pilot and husband. He was a very loving father and better son."*

To read BJ's complete obituary click here. To watch the formal procession honoring BJ's life click here.

2. Executive Summary

On Tuesday July 7, 2020 the Tonto National Forest was battling a wildfire that was sparked by lightning four days earlier on July 3rd. The Polles Fire was located approximately 11 miles west of Payson, AZ in the Mazatzal Wilderness.

At approximately 1215, the Type 2, UH-1H (Huey) helicopter that was slinging in supplies for ground crews who were spiked out in the remote area, crashed, killing the pilot who was the only person on board.

Immediately following the emergency response, the National Transportation and Safety Board (NTSB) responded and took the lead role in investigating the crash. In the following weeks, the U.S. Forest Service conducted this Facilitated Learning Analysis around the *response* to the helicopter crash.

The NTSB will produce a separate report to be released upon conclusion of their investigation. The NTSB report will cover the helicopter operations (flight and crash), whereas this FLA report covers the on-site and off-site emergency response.

A large number of resources responded to the accident scene. Because the Incident Within an Incident, Incident Commander (IWI-IC) quickly took charge of the scene, those resources were organized, moved efficiently, and safely did their jobs.

Off-site, the quick thinking of the Southwest Area Incident Management Team 2 helped to support personnel working at the crash site. This IMT also played a vital role in working with the Forest to organize the overall response to the incident that would unfold over the next few days, including supporting the family and personnel through Critical Incident Stress Management (CISM) support and other resources.

Many of the people interviewed for this FLA mentioned that the care given to both the personnel involved and to the family was greatly appreciated.

> ***"BJ is a member of our firefighter family and will be deeply missed. We lost an aviator, a fantastic gentleman, husband, father, uncle, and more."***
>
> -Type 1 IMT, Incident Commander, Kevin

3. The Facilitated Learning Analysis Process

The Facilitated Learning Analysis (FLA) process is meant to facilitate learning from unintended outcomes by interviewing people who were involved in an event and sharing a collective story of their experiences. In this FLA, the FLA Team also offers "Lessons Learned by the Participants" and "Successful practices, decisions, or actions" taken by interviewees that were found to be effective. By this, we mean that some lessons were learned by the participants as the incident unfolded and some were being practiced by the participants. Both have the potential to influence future actions if something similar were to occur again.

Scope of this FLA
It is **not** an objective of this FLA to attempt to reveal the cause or causes of the helicopter crash. That is the responsibility of the National Transportation and Safety Board (NTSB).

It **is** an objective of this FLA to share the experiences of the 41 individuals that the FLA Team interviewed, comprised of: Incident Management Team members (IC, DIVS, DIVS(t), ATGS, SOFRs, OSCs, MedL); Tonto National Forest personnel (Forest Supervisor, Agency Administrators, Fire Staff Officer, Aviation Officer, Center Manager, Assistant Center Manager, HEBM, AOBDs, ASGS, ASGS(t), ABRO Liaison, DIVS), CISM, REMS, IHCs, among others.

Acknowledgements
The members of the FLA Team would like to thank the Tonto National Forest for prioritizing learning and for supporting this FLA. At this time, there is an unprecedented demand on first responders. The FLA Team recognizes that everyone involved in this process made time to share their experiences with us.

4. The Accident Story

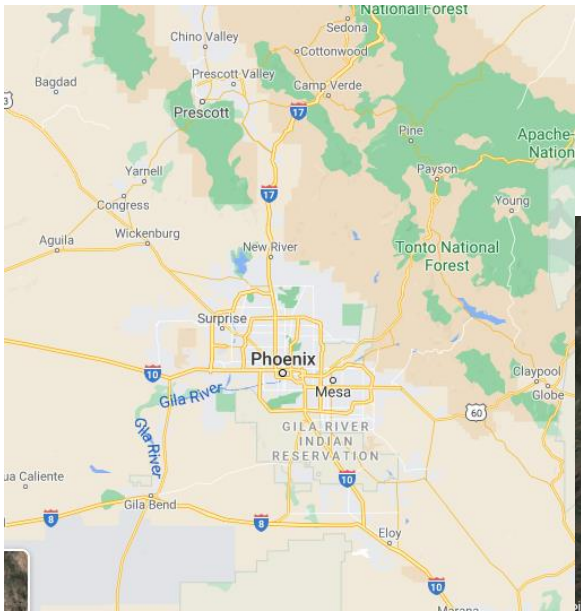
"It was very surreal, and I hope never to have to do that again."
-Blue Ridge IHC Squad Boss, Lance[1]

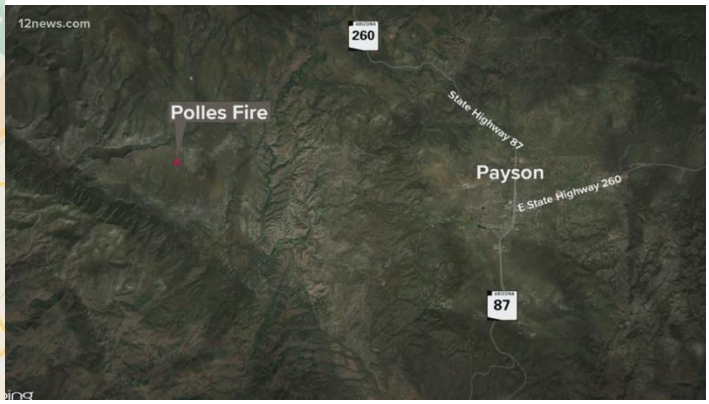
A. Background on the Forest and Context for the Polles Fire

Tonto National Forest
The Tonto National Forest is one of the most-visited "urban" Forests in the United States with three million visitors annually. At more than 2.9 million acres, the Tonto is the largest National Forest in Arizona, and the seventh largest National Forest in the United States. The Forest's boundaries are: Phoenix (nearly five million people) to the south, the Mogollon Rim to the north, and the San Carlos and Fort Apache Indian reservations to the east.

With some of the state's more prominent mountain peaks located on the Tonto National Forest, it supports an important communication link for Arizona. Radio, television and telephone networks use the electronic sites on these mountains to facilitate state and national communications. Many of the high-capacity transmission lines that provide Phoenix its electrical power are also located along numerous rights-of-way throughout the Tonto National Forest.

[1] Other than BJ and the individuals who we've cited from media sources for the memorial, all names in this FLA have been changed.





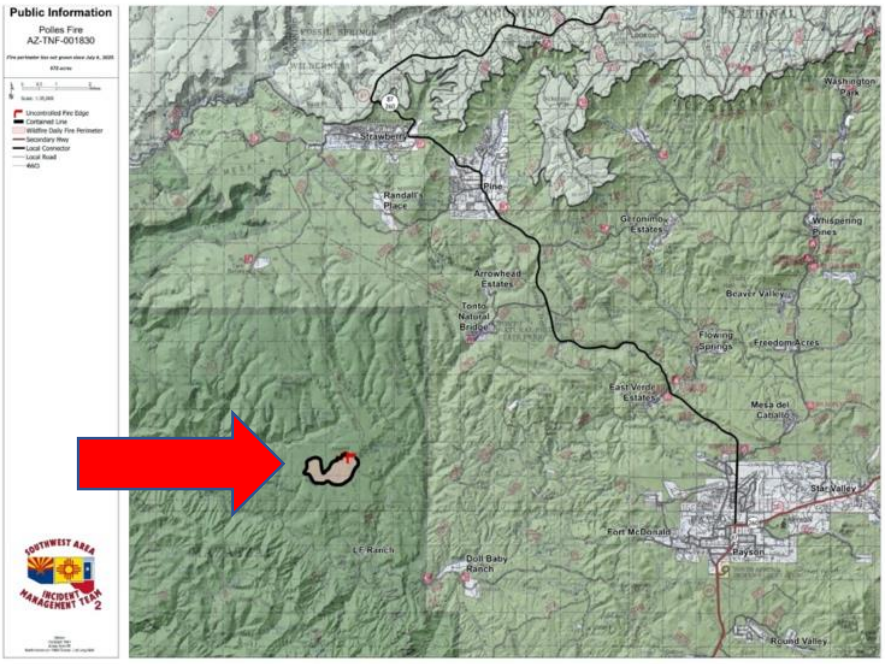
Map on left shows the Tonto National Forest's close location to Phoenix, AZ. Overview on right shows the Polles Fire location, 11 miles west of Payson.

Payson Ranger District

The Payson Ranger District encompasses the town of Payson, AZ and continues north to the Mogollon Rim. It consists of approximately 450,000 acres of chaparral, pinyon-juniper, and ponderosa pine types of vegetation. The Verde River and several trout streams also pass through this District. The District is also notable for its campgrounds, hiking trails, and fishing opportunities.

Polles Fire

The Polles Fire was first reported on July 3, 2020 in the Mazatzal Wilderness, 11 miles west of Payson. The fire was started by a lightning strike from passing isolated thunderstorms. Fueled by pinyon-juniper and high desert grass, it had grown to 549 acres in just two days. This area of the wilderness is known to be extremely rugged and was accessed by helicopter, which is how most of the crews were transported to the fire. Ground resources were relying on these helicopters, as well as Air Tankers, to provide them with air support by dropping water and fire retardant on the flames.



This photo shows (see red arrow) the location and size of the Polles Fire on July 7, the fire's fourth day, when the Rock Incident Within an Incident occurred.

This photo shows the location and size of the Polles Fire on July 4, the fire's second day.

Values at Risk

Initially, fire managers were concerned that the fire could align with the Rock Creek drainage located to the east of Polles Mesa and make a push to the north. If the fire was to become established in the drainage, the 3,500 residents in the communities of Pine, Strawberry, Arrowhead Estates, Randell's Place (Hardscrabble), Twin Buttes and East Verde Estates, would be impacted by smoke and flames, with possible evacuations.

Also, of concern was a high voltage KV power transmission line located about three miles north of the fire. These lines ran perpendicular to the Rock Creek drainage and supply power to Payson, Phoenix, and the surrounding towns and communities. Other values at risk included the Tonto Natural Bridge State Park, LF ranch and Doll Baby ranch.

Because of all the identified values at risk, fire managers made the decision to take full suppression action.

The 2020 fire season was unique in some ways and familiar in others. The entire U.S. Forest Service has been adjusting to the novel mitigation measures required by Forest Service COVID-19 guidance. On the Polles Fire, COVID-19 may have played an indirect role by complicating logistics and delaying the installation of communication equipment. Although the Incident Management Team (IMT) was working diligently to get one in place, the command repeater was not installed until, literally, mid-way through the Rock Incident Within an Incident (IWI). Some of the crews interviewed for this FLA noted that the increased dependency on aircraft may have also been related to COVID-19. While the nation was transitioning to Preparedness Level 4, the Polles Fire was transitioning to a Type 1 Incident Management Team.

B. The Events of July 7th

Working to Relocate Spike Camp

The Type 1 IMT was beginning their second day of working the Polles Fire. The division supervisors determined that Spike Camp needed to be moved closer to the fire activity. Due to the delay in getting the repeater from the national cache, communication issues were contributing to complications with supply deliveries, including slinging supplies to the wrong helispots or at the wrong times[2]. Air Attack had been taking supply orders to help fill the gap in communications. Because there was cellular phone service at the area around Helispot 5 (H-5), the IMT Safety Officer Trainee (SOFR-T), Eric, was hiking toward H-5 in order to get on the phone and help straighten out the supply ordering issue. He recalls

[2] Crews mentioned that there was confusion around the names of helispots and sling spots (sling spots and helispots were numbered the same way). Because they were completely reliant on aviation, this naming issue may have played a larger role in confusion about where loads needed to go, which may have contributed to late deliveries, incorrect deliveries, and missions pushing-up against "pumpkin time".

watching the helicopter sling two loads of overnight bags, food, Gatorade, and chainsaw equipment from Helispot 2 (H-2) to H-5.

SOFR-t Eric and Division Group Supervisor (DIVS-D) Delta, Vince, were hiking together as they approached H-5. In that location, there is one unnamed mesa that runs east-west and another unnamed mesa a couple of hundred feet taller, just north of it. As they were walking, Division Delta said something to SOFR(t) Eric but Eric couldn't hear him. As Division Delta turned around to face Eric so he could be heard, his expression changed immediately and he said: *"Holy Sh*t, look at that. Something is wrong with the helicopter."* Next, Division Delta said: *"You should call that in."* Then, they both watched as the helicopter fell behind the tree line. As Eric began to key the microphone on his radio, he heard the Lookout report on the tactical channel (TAC): *"We have a helicopter down."*

Above them, at almost the exact same time the Air Attack (ATGS) Evan, pointed out what he thought was a new spot fire. The pilot, Luke, said *"Evan, that's not a spot fire."* As they turned the plane to get closer, they started to see black, heavy, smoke build into an isolated column, and then they could see the UH-1H helicopter on the lower one-third of the rock slope. Division Delta called ATGS Evan and said: *"The helicopter is down north/northeast of H-5, and it's on fire."*

At approximately the same time at the helibase, which was located at the Payson airport, the Aircraft Base Radio Operator (ABRO), Fiona, remembers hearing someone on the ground call in and say: *"There is a helicopter crash."* Instinctually, she went straight to check the automated flight following (AFF) to determine which helicopter it might be. The only helicopter "showing red"—indicating that it was on the ground—was a Type 3 Helicopter on the ground at the new repeater site. She and the other aviation personnel immediately started going through the crash rescue plan. You could see smoke from the fire from where the helibase was located. Anticipating the need for an ambulance to transport a patient, the helibase manager (HEBM) called 9-1-1.

A Type 3 Helicopter who was shuttling a communication technician (COMT) to install the command repeater heard the radio traffic and asked ATGS Evan if they should extract. ATGS Evan asked: *"How much longer do you need to finish?"* The Type 3 helicopter pilot said: *"Not more than five minutes."* ATGS Evan instructed them to finish their mission because he knew they would need the repeater.

This photo shows the "big box" created by the retardant drops.

ATGS Evan recalls trying to communicate back to the Incident Command Post (ICP) via the Forest Net but *"that it's hit and miss out there."* After a couple of attempts, he switched to the air-to-ground (A-G) channel to call the helibase and request additional aircraft for bucket work. He then called Phoenix Dispatch to order two large Air Tankers. They were able to get a bucket drop on the helicopter within just a few minutes. ATGS Evan said, *"The reason it happened so fast was because we had a helicopter just off the dip, inbound to the fire, so I just re-directed him."*

While Air Attack was calling in bucket drops to suppress the fire in the downed helicopter, several hand crews were also racing toward the downed aircraft. By the time they arrived there, the fire that was engrossing the helicopter had started to spread into the surrounding vegetation. ATGS Evan called for two Large Air Tankers with a Lead Plane to "paint a big box" with retardant up along the ridges and below the crash site.

Emergency Response (On-Site)

Resources Begin to Arrive On Scene

The Blue Ridge IHC Squad Boss, Keith, couldn't see the crash, but he watched on the faces of the other crew members as they witnessed it. He recalled: *"I could see it on their faces. I knew it was bad, and then I heard the explosion, or a loud bang, and I started running in that direction. We were all in rescue mode."* He recalled thinking *"rescue, rescue, rescue"* before he saw the scene. Once he saw the scene, he knew there wasn't anyone in there and if there was—it was not survivable.

He recalls, *"I got there pretty quick and I was first on scene. As soon as I could see it, I called on our crew (net) and was updating Blue Ridge IHC Assistant Superintendent Grayson with what I was seeing. I think I told him: 'The helicopter is fully engulfed. We are going to need a couple of heavy helicopters to knock this down'."*

> ***"I was booking pretty good.***
> ***I'm glad I didn't have to start digging line right away because I was pretty out of breath."***
>
> -Blue Ridge IHC Squad Boss, Keith

Keith recalls, *"I hollered a couple of times seeing if I could hear him. About half of the helicopter was on fire. The back half. I was hollering for him and I didn't hear anything. After just a few minutes the fire was so hot, the whole helicopter was fully engulfed and burned down to nothing right before my eyes."*

Mesa IHC member Kyle was serving as a Lookout and witnessed the crash. He arrived very soon after Keith, as another Type 3 Helicopter began making bucket drops on the helicopter cockpit, and then they anchored in and started hitting the head of the actual fire.

Blue Ridge IHC Squad Boss, Lance, and Blue Ridge, IHC, Assistant Superintendent Grayson arrived on the scene. Grayson asked Keith: *"Has anyone taken command?"* It was chaotic. People were running around and no one had established command. After just a few minutes of Grayson being there he told everyone he was taking over the incident.

Once the Mormon Lake IHC Superintendent, Tess, got there, she assigned her crew with cutting a P-line from the crash site to the black and continuing to H-5, which was the closest helispot. Having just hiked in, she knew an easier route was needed to access the site. She also had some members begin gridding the area immediately around the crash for spot fires.

Everyone was concerned that the fire might make a run.

Mesa IHC was still digging line around the helicopter as members of Big Bear IHC arrived along with Rapid Extraction Module Support Team (REMS) Team 1 who had been staged at H-5, and the Team's SOFR-t Eric.

The REMS Team and SOFR-t Eric arrived at about the same time. SOFR-t Eric recalls thinking: "Should there have been a chance to save the pilot, we had everything and everyone there to do it."

Establishing the IWI-IC

> ***"It was very impressive to watch it go from chaos to organization, pretty quickly once Grayson took command."***
>
> -Blue Ridge IHC Squad Boss, Lance

Grayson recalled thinking: "I just saw a lot of people there and no one had really called in. I waited a little bit because I didn't know if I was stepping on anyone's toes."

He started to notice that there were way too many people there. Although they were working desperately hard, they might be contributing to a more dangerous situation. There was a lot of independent action that needed to be organized. Big Bear IHC was digging line and pushing into Mesa IHC. Grayson recalls seeing an electrical fire shooting out sparks and the helicopter's metal melting down into the line, while people worked underneath some pretty hazardous smoke. He started yelling at people to step back because it was a Hazardous Materials (HAZMAT) site and that they needed to work on securing the scene.

Grayson remembers briefly waiting for someone else to take command. He thought to himself: *"They are just as qualified as me, someone else will take command."* Right then he remembered becoming very concerned as he watched bucket drops taking place with people working underneath. At 1225 Grayson took command as IWI-IC. He called in the latitude and longitude GPS coordinates as well as other size-up information and started rounding-up overhead (OH) personnel from crews to bring people in together.

SOFR-t Eric asked Mormon Lake IHC Superintendent Tess if anyone had taken command. She pointed to Grayson and said he had been identified as IC. Eric went to Grayson and said: *"What do you need from me? I'm the Safety Officer on the ground. Does it help if I take command or do you want to keep it?"* Grayson said, *"It makes sense for you to take it."* However, right then Grayson realized that it would be confusing for everyone since he had just announced that he would be in command.

They agreed and quickly discussed that Eric would be the Safety Officer for the IWI and Grayson would keep command. Eric[3] said *"I will deal with all of the helicopter crash aspects of this and you deal with the fire."*

---

[3] **Eric recalls how the repeater went "live" during the IWI:**
I know the IMT had been working very hard to get a repeater. Every day the Operations Team had to fly in to give us our briefing because we couldn't do a radio briefing. So, they came out every morning. They were working very hard. Even though they had to take a flight every time they had to do things—they were overcoming this obstacle every day. They would bring us our IAPs, the daily briefing and maps, and then they would fly back out. So, the first morning I was there that's what they did. They were overcoming the communication issues until we could resolve it. That day, they put in the Communication Plan that a repeater was going to go in. So we cloned our radios so that we were ready when the repeater went in. When the helicopter went down, I continued to try and get out through the Command Channel. I said what the heck and tried the repeater. And when I clicked the mic I got feedback. I couldn't believe it. It was working by chance. I reached the individual who had just turned on the repeater and said: *"You need to relay back to command that we have an aircraft down and that I'm on scene and I'll touch base with them later."* And this poor individual said: *"I'm just the guy who put up the repeater."* He answered it as a Communication Tech. I said: *"I'm really sorry to do this to you, but you have to communicate back to ICP. Notify Safety or Command or Operations that we have an aircraft down.*" While the repeater itself did not make a difference in this outcome, this scenario goes to show that anyone—at any time—might be a part of an IWI.

> ***"The 'Fog of War' set in once we heard about the helicopter going down. This is when you start wondering if what you are hearing and seeing is real. You operate under a lack of information. It is when you want to do something, but you are having to make decisions with 30-40 percent of the information."***
>
> -Division Supervisor, Ethan

Grayson remembers, *"I focused on trying to control some of the chaos. So, the first crew I released was Big Bear. Then I released Keith [Blue Ridge IHC Squad Boss] and the Saw Team and cancelled any other response from any other Division. I kept REMS 1 and 2 on scene with Mesa IHC and Mormon Lake IHC."*

ATGS Evan was coordinating with Grayson on the ground. He brought in a Lead Plane with Large Air Tankers to put indirect retardant line about one-half mile away to box it in. They had two helicopters making water drops and one helicopter on standby for medical.

> ***"The chaos slowed down when the IWI IC took command. It was such a relief for me to have someone on the ground, on the scene. Then I'm supporting the commander. There was urgency but I felt calmness coming over."***
>
> -Air Attack, Evan

Meanwhile, IHC Squad Boss Lance put his squad into the hard black and arrived at the scene just as Grayson was taking command. He recalls, approaching Grayson and asking: *"Do you need me for anything?"* Grayson responded: *"Yes, start taking notes for me."* Lance remembers that he wasn't planning on staying, but that he felt comfortable being assigned that duty and wanted to do what he could. Lance kept track of who arrived on scene and who was released from the scene, among other details.

The Mormon Lake IHC Superintendent Tess approached Grayson and asked how she could be of use. She started taking photos of the scene and working with crewmembers from Mesa IHC to flag the perimeter. Grayson also requested that she have her crew identify and construct an extraction helispot as close as possible to the crash site, to facilitate access. Another squad from Mormon Lake IHC finished the P-line from the helicopter crash site to the new helispot. Mesa IHC also cut a handline around the aircraft to stop the forward progression of the fire while additional aircraft were conducting bucket drops. Initially, it was unclear if the pilot was still in the helicopter. Tess instructed her crew to start gridding the flight path until it was confirmed that the pilot was the only person on board and that he was still inside the helicopter.

> ***"It was probably about an hour before all of the fuel burned off. By then it was a pile of unrecognizable material."***
>
> -Blue Ridge IHC Squad Boss, Lance

<u>The Fire is Out; Work Continues at the Scene</u>

SOFR-t Eric was able to hike to the top of the ridge and talk to the lead Safety and then Operations[4]. They decided that they needed additional information about the pilot's actual location and that Eric

[4] Eric didn't know this at the time but it was relayed to him later that the IMT's Safety Officer, Eric's supervisor, left ICP and went to the human repeater site. He was close enough to come to the helicopter crash site, but he didn't. He let the people on the ground do their work. He and the rest of the IMT were not intervening or micromanaging. And, in the long run, this really helped. They were not getting on the radio and asking a lot of questions. Eric explains: *"It's a testament to the Team and their discipline to let us do our job. They were getting timely updates but they didn't want to intervene. It was pretty impressive for someone who was that close, who could have come in and said: 'Let me handle this.' But they didn't. They got to a location where they could listen. About an hour into the incident, I could go direct with Operations. It took a lot of discipline."*

would stay until investigators, including the Arizona Department of Public Safety (DPS), state police, the local sheriff's department, and the NTSB arrived on scene.

In order to confirm the location and condition of the pilot, SOFR-t Eric approached Nathan, the lead from the REMS Team 1, who was based out of a structural fire department, and said: *"I have a really tough assignment for you. You are the one who needs to do it. I apologize for this. Now that the fire is out, I need you to get close enough so that you can see if the pilot is there. We shouldn't be looking 200 or 300 yards into the forest."*

Next, the REMS Team 1 Lead Nathan confirmed that the pilot was still with the helicopter. At that time, the operation became a recovery mission.

SOFR-t Eric asked to have all the firefighters leave the area. They had flagged it all off to ensure that no one would enter the scene—and to keep everyone safe. Eric recalled*: "I didn't want them to continue to be there and continue to see the aircraft as well as the investigation that was going to take place and the removal of the pilot."*

Before everyone left, SOFR-t Eric asked them to write down their witness statements and to provide him with any photos they may have taken. He asked them to write their notes before they talked with each other so the information wouldn't *"get tainted through other peoples' stories."* Then, he gathered up their notes from random pieces of paper and the backs of CTRs and photographed them so that he wouldn't lose track of them.

At this point, the crews weighed the option: To be flown out, to walk out, or to return to Spike Camp. Mesa Hotshot crewmember, Bill, recalled that once the scene was secure, they decided that they needed to get out of there. Rather than use the helicopter, the Mesa IHC Crew decided to hike out. When they started walking, he noticed that most people *"just had a blank stare on their faces, sort of in disbelief."*

Air Attack Evan contacted IWI-IC Grayson and asked if he was okay to stay another day until either Aviation Safety from the Forest came out or the NTSB [see Appendix A: NTSB Guidance] responded.[5]

Investigators Mobilize to the Crash Site

Over the radio in his office, Sergeant Oscar from the Gila County Sheriff's Office (GCSO) heard that there was a downed aircraft. Initially, he and others thought the crash was at the airport itself. However, once they arrived there, they realized it was 8-10 miles away on the Polles Mesa. IMT Liaison Officer David coordinated with Sergeant Oscar, who was also the Search and Rescue Coordinator for GCSO, and the Helibase Manager at the airport to arrange a helicopter to take Sergeant Oscar and the Arizona Department of Public Safety's Ranger 1 Crew to the crash scene for investigation and recovery efforts. After Liaison Officer David talked with Sergeant Oscar and the Ranger 1 Crew, it was decided that the Ranger 1 Helicopter would be used because Sergeant Oscar and the Ranger 1 Crew routinely performed search, rescue, and recovery missions together and they were all familiar with the Ranger 1 Helicopter.

At 1554, Sergeant Oscar and the DPS Ranger 1 Crew landed at the accident scene. At approximately 1622, IWI-IC Grayson transferred incident command to Sergeant Oscar and the Sheriff's Office took over the recovery effort.

[5] The NTSB was not available but they sent a representative from Honeywell Engines to the new helispot the next morning and they spent 3-4 hours doing their investigation. Safety Officer Eric met the Honeywell rep at the scene of the crash site to answer questions, and serve as a liaison to the investigation and support their needs. Investigators and Eric flew back out to helibase from the Rock Incident Helispot.

The DPS Helicopter hovered over the top of the crash site and the state trooper on the ground was able to assist extracting the deceased pilot from the downed helicopter. SOFR-t Eric recalled: *"They raised him up using a cable and winch. And then they had a tag line, so that the trooper could have control so that it stayed straight. They did a good job of not making it too visible to anyone working at the site. They positioned the helicopter so that they flew out of the area to get the pilot into the ship privately without people seeing. They flew away and came back and brought the cable back to get the trooper and then winched him up."*

Sergeant Oscar recalled initially being caught off-guard: *"Out of the many years I've been doing this, it's the first time that someone said 'I'm handing over command of this scene to you.' I've never had that happen. I work in NIMS [National Incident Management System] a lot so I understand there's a transition. But I've never had anybody say 'Do you accept charge of this scene?' When I thought a little bit more about it, I realized they were following the exact procedure. And when it was time, I verbally transferred command back to the on-scene Safety Officer Eric."*

Because of the great number of people (emergency responders and civilians) at the airport, the IMT and the Arizona Department of Public Safety did not want to land the helicopter there to transfer BJ's body to a ground vehicle. At 1629, the Liaison Officers for the IMT, (Liaison Finn at ICP and Liaison David at the airport), in coordination with the Gila County Sherriff's Office, made the decision to make this transfer at the Tonto Natural Bridge State Park because it was temporarily closed and had a large area for the extraction helicopter to land. Liaison Officers David and Finn departed the airport and ICP and met the Gila County Sheriff's Office and Pinal County Medical Examiner at Tonto Bridge State Park to wait for DPS Ranger 1 to arrive.

Everyone wanted to respect BJ's body and the family as much as possible. Liaison Officer David and Operations Branch Director Alex placed an American Flag over BJ's body before it was transferred into the Medical Examiner's vehicle. The IMT also coordinated a small caravan of local emergency vehicles, as well as the County Coroner to escort the body to the Pinal County Medical Examiner's Office in Florence, Arizona.

Word spread through the IMT that the small procession was going to pass very close to the Incident Command Post. Therefore, many of the IMT members walked to line the road and pay their respects.

Back at the crash scene, SOFR-t Eric hiked to H-5 where the crews were spiked out. He remembers trying to strike a balance between being helpful as well as letting people process things on their own. Eric did not address things formally that night. He simply ate dinner next to all the supplies and food, knowing that was where they would have to pass by. He offered for them to chat if they wanted, but didn't create any pressure. Eric talked to Division Delta about not making people talk but being available if they did. They came up with a plan to bring people together in the morning. That night, people slowly trickled in and started talking, mostly keeping the subject light. In the morning, Eric said: *"If anyone wants to talk, we are here, but it's not mandatory. There will be a CISM set up back at ICP. The only thing I ask is for patience with one another. Everyone will handle grief differently. If you see people angry, it's okay. If you see them sad, it's okay. And if you see people blowing off steam by laughing to relieve stress, it's okay."* He then told them: *"I am proud of you and if we could have had the chance for a better outcome, we had the right people, and it would have happened. Keep your heads up."*

The Off-Site Response

The Incident Command Post IWI Response

At around noon, Kaden, the Carson National Forest Supervisor, had just arrived at the Incident Command Post, which was staged in a casino (due to COVID-19 protocols) in Payson. The plan

was to take over Agency Administrator (AA) responsibilities from Charles, the Tonto National Forest Deputy Forest Supervisor, for the Polles Fire. Kaden had only been at ICP for few minutes when he and Kevin, the IMT's IC, started a conversation. During that conversation, at 12:22, Kevin received a call that Air Operations had been notified just three minutes earlier that a helicopter had gone down.

Since the Command and General Staff were all at the ICP and in close proximity, IC Kevin called for them to initiate the emergency action plan and checklist. He then contacted the AA and Regional Fire Director. Charles arrived at the ICP and noticed that there was a flurry of activity. The Command and General Staff members who were not at the ICP all arrived there within minutes and began managing the IWI. All the people that should be there were there.

At roughly the same time, at the Forest Supervisor's Office, the call came into the Forest Fire Management Officer (FFMO), Sam, that there had been an accident involving a helicopter on the Polles Fire. Initial information coming in suggested that there were possibly burn victims being transported to the burn center and Maricopa County Municipal Hospital. The FMO immediately called the Forest Supervisor to share the news and they started to work on identifying hospital liaisons for the injured firefighters. The FFMO went to his truck to be ready to head to the Maricopa Medical Center and was awaiting further information from the AA on the fire. The news came in about 15 minutes after the initial call from IWI IC Grayson that there was indeed a helicopter that went down, the pilot was deceased, and there were not actually any other patients or injuries.

Back at ICP, the IMT IC and his Commend and General Staff and the AAs were listening to the operations in person and trying to validate what had really happened with the crash and size-up the IWI. They knew it was likely a fatality. They worked collectively as one unit to size-up the situation and chart a course forward to handle the IWI and take the necessary administrative actions. This is what Incident Management Teams do: assess and develop a plan of action. AA Charles knew right away that Kevin had a handle on what needed to happen. He later recalled*: "IC Kevin was very professional and took charge and focused on the facts."* Within 30 minutes, it had been confirmed that the pilot was deceased and this was now a recovery mission.

Charles started thinking about how to provide support to the resources on the ground, as well as how to try to stay ahead of the "rumor mill". Unfortunately, news of the crash had been shared on social media. A traditional news helicopter requesting information followed soon after. Because the pilot was well-known on the Forest and in the community, someone had made a call to his wife. She was on her way to the helibase located at the Payson airport, with their 9-year-old daughter. Charles realized that they would have to scramble very quickly to get there in time to meet the family members at the airport. Charles and Kaden as well as the Agency Representative, John, and District Ranger, Oliver, quickly decided that Kaden would focus on the operations of the fire with the IMT and Charles and John would focus on meeting the family at the airport.

A Deputy Sheriff accompanied Charles; John; the Public Information Officer (PIO) Liaison Officer, David; and Human Resource Specialist (HRSP), Chloe to meet them. They relayed the tragic news about BJ to his wife and daughter. Charles thought about how BJ's father had been injured 10 years earlier in a helicopter accident in the same part of the country, and how *"people in the fire community really are just two degrees of separation apart."*

> ***"There is quite a support network in the fire world. They live, work, and breathe together."***
>
> -Deputy Forest Supervisor, Charles

Once the notifications had been made to the wife and daughter, the IMT and AAs focused on protecting and helping the family. Because the pilot had a history with folks on the Forest and in the community, the Glendale Fire Department and other state cooperators played a critical role in organizing an impromptu procession immediately after the recovery of the pilot. *"The number one priority was taking care of the family,"* recalled IMT Incident Commander Kevin. *"You only get one chance to get it right when it comes to treating the deceased with dignity and respect."*

Charles, the Tonto National Forest's Deputy Forest Supervisor, started thinking about implementing the Forest Critical Response Plan (FCRP). They needed Forest personnel to be available for the implementation of the plan to meet agency administrative requirements and to also meet the needs of the affected family members. After he discussed staffing options with Forest leadership, he realized that even though two key Forest personnel for the FCRP had recently transferred or retired, but that they still had the necessary skills if they were needed.

Additionally, Charles began thinking about CISM resources and support for the affected fire employees. Charles placed a call to Paul, an Engine Captain on the Tonto National Forest and the Forest's CISM Team Lead, alerting him that CISM resources would be necessary and asking him to take the lead for organizing the CISM response.

Charles ended up calling Esther on the Kaibab National Forest who was very informed about critical response requirements and provided advice and documents to guide decision making. Then, Charles called Regional Director of Fire and Aviation, Kindra, at the Regional Office to notify her of the accident and seek advice on administrative review requirements The IMT Liaison (LOFR) Noah had also reached out to Esther to identify what to have in place for the CISM Team. Charles and Noah also came together and agreed to follow the Forest Critical Response Plan and to ensure CISM was in place.

Upon reflection and participation in an AAR with the IMT, Charles realized that there was a lot of support having a Type 1 IMT at the incident. In addition, having the extra AA's and a liaison on the IMT who was also a district ranger on the Tonto National Forest, provided the extra resources they needed to be able to care for the family, the fire operations, and the crews on the ground.

The IC, Kevin, coordinated with the Acting Regional Forester, Rachel, to request that Honor Guard be requested to provide services for the deceased pilot.[6] The family received assistance and there was an outpouring of support from the local fire departments, Forest Service, Bureau of Land Management (BLM), and fire crews from Phoenix and beyond. The family seemed very appreciative of the support.

Per Charles's earlier phone call, Paul was brought in as the CISM Team Lead and took over coordinating the CISM response. He was able to get things going within 6-12 hours of the crash, and he and his team's efforts unfolded over the next few days.

> ***"I'll be honest. I didn't sleep for a few nights. But I felt better later, after talking about it with CISM."***
>
> -Blue Ridge IHC Assistant Superintendent, Grayson

The 11 people who comprised the CISM response team were composed of Forest Service, BLM, and Bureau of Indian Affairs (BIA) employees and ADs, and licensed clinicians. Because there was an active, ongoing fire, most people were still in operational mode, so CISM had to be flexible to reach people over the next few days.

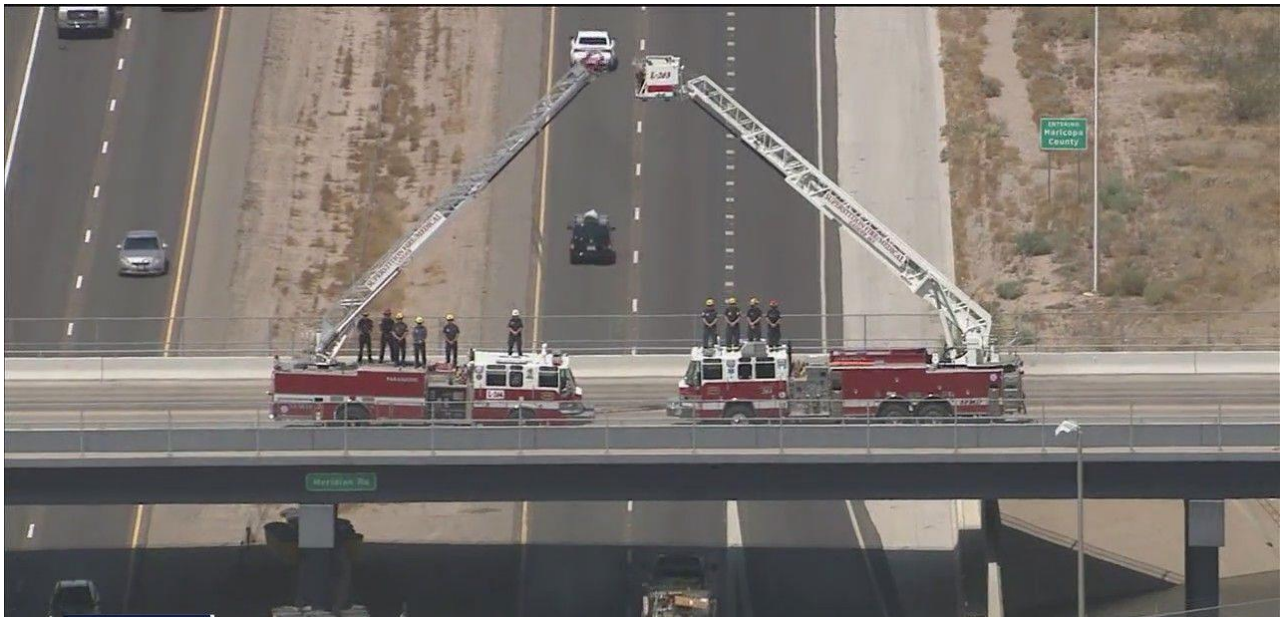
[6] Traditionally, the U.S. Forest Service is notified of a Line of Duty Death (LODD) for employees and the Honor Guard responds. However, it is possible to request the Honor Guard for contractors who die in the line of duty. Furthermore, in this situation, the pilot was well known by Forest employees.

"We expect trucks to drive, crews to hike, and helicopters to fly. So, when something like this happens, it shakes our perception of reality."

-Mesa IHC Crewmember and Lookout, Kyle

Although people were scattered (new assignments, timing out, etc.), the CISM Team was able to offer services to those involved. Several participants mentioned that this CISM Team was comprised of people who had similar experiences and had served in similar roles, and that it was extremely useful. Creating common ground based on something that was so hard to process went really far in gaining trust for the participants.

***<u>IMPORTANT NOTE</u>:**
The FLA Team will NOT ask CISM about any of the content discussed with those involved. The privacy of those conversations will be maintained as the highest priority.



On July 10th, a procession honoring BJ was held from Florence to Peoria, Arizona. Approximately 30 emergency vehicles were represented in this procession. Participants recalled how important it was in showing their respect.

"Everybody thought we had been on the fire for a week, but it was day two."

-Ryan, Air Operations Branch Director

5. Practices Worth Sharing and Lessons Learned

The Rock Incident Within an Incident revealed both "Practices Worth Sharing" (steps taken by those involved that are worthy of sharing) and "Lessons Learned" (opportunities to make change that surfaced during the IWI).

A. Caring for Our Own and Their Families

Practices Worth Sharing

A. Timely communication is essential.

1. Agency Administrators worked with the County Sheriff to make the proper notifications to the family. Once the wife of the deceased had been notified, they gathered the rest of the family at the airport to notify them. The proper notifications were made to the wife and daughter at the airport by the AA and County Sheriff before they heard it from anyone else.
2. The AA agreed to meet with the extended family at the airport for further notifications. A Family Liaison was quickly identified and established for the family. This person was someone with whom the family had an existing relationship.
3. The IMT and AA's were able to handle the distractions posed from people placing images and information on social media because they anticipated having to: *"get out in front of it, but you never will, so you have to be prepared to handle it."*
4. The HR Specialist on the IMT went to the helibase with the extended family and played a critical role with the 9-year-old daughter in the grieving process. This HR Specialist has the training to handle these situations. The AA could not say enough about how helpful this was.
5. Having increased capacity for the Agency Administrator (shadows and additional AA's) provided the back-up needed so they could divide duties and the primary AA could focus on notifications while others focused on the fire and taking care of our own.

B. Providing options to people who were a part of the response (instead of making decisions for them) is greatly appreciated.

1. After the scene had been secured the Incident Management Team began to work with crews to see if they wanted to keep working or come down from the fireline.
2. The IMT did not have a "kneejerk reaction" to the incident and pull everyone off the line. They gave crews a choice and some crews decided that continuing to work was the best thing to do.
3. Some of the IMT members gave up their rooms for firefighters so that they could have an option about where they would spend the night.
4. Members of the IMT's overhead drove out to the road to meet the crews who opted to walk out in order to reduce the length of their hike in case they decided they wanted that option.

> ***"Both Carter [Safety] and Ethan [Branch Trainee] called me after the incident to check up on me and see how I was doing. This meant a great deal to me as this was definitely a difficult situation."***
>
> -Eric, Safety Officer Trainee

C. Who comprises the CISM Team and how they approach those effected makes a big difference.

1. Firefighters felt that they had truly been cared for after the incident and the CISM went well.

D. People will remember the efforts that go into showing respect to the fallen.

1. Even efforts that are quickly arranged and impromptu can have a lasting impression.

The planning section of the IMT gathered firefighters and cooperators to form an impromptu procession when the deceased pilot was taken off the fire, showing the utmost respect for their fallen hero. They had to move BJ's body twice and both times they showed respect.

2. The Honor Guard's services are a way of showing deep respect.

Honor Guard and Honor Watch was requested and approved to show the proper respect to the deceased pilot. This is not standard procedure for contractors and was very nice for the family and firefighters.

Lessons Learned

A. The crews at the helibase felt like they had not been properly notified of the impromptu procession from the crash site to the Natural Bridge State Park.

The Planning Section Chief pulled together the procession by talking to personnel at ICP. Inadvertently, they did not send someone to the helibase to spread the word and include them. While this was a noble effort to respect the deceased pilot, they inadvertently left out some of the personnel that had the closest relationships with the pilot. Caring for our own can be tricky. Each incident has different needs and firefighters are affected differently by each one. In this case, the pilot was local and had close relationships with many of the crews on the fire.

*The larger lesson here is that once the IC was made aware of the helibase crew's dissatisfaction, he personally went to the helibase the next morning and had a conversation with the crew and provided the opportunity for the crew to vent. At this time, the IC also explained how the impromtu event of procession and transport to Tonto Natural Bridge State Park happened. The crew appreciated the conversation. ***Lesson:*** *When something is missed, take ownership quickly and accept the responsibility. People need to be heard.*

B. Some of the crews that stayed on the line asked if grief counselors or part of the CISM Team could have come out to the fireline.

The time to help the firefighters is soon after the incident.[7] If crews stay on the line you may need to bring support to them rather than waiting for them to come off the line. Grief counseling is less effective the longer you wait to provide it. In this case many of the crews stayed on the fire and did not come back to ICP at night. This poses a tough logistical problem because the fire was inaccessible and difficult to access. It is important to recognize that the crews who kept working may also need some level of support. Just because they kept working does not necessarily mean they have processed the loss.

[7] Standard operating procedure for the national peer support under International Critical Incident Stress Foundation (ICISF) training is a delayed response of 2-3 days to allow individuals to process events and disengage from operations. That being said, occasionally transporting peers and clinicians to the line is the appropriate step.

C. IMTs and host units should have discussions about who on their rosters would be best to notify family members of a Line of Duty Death (LODD).

Notifications of a death or severe injury to the loved ones of firefighters can be the toughest job a person ever undertakes. The Agency Administrators involved with this incident report that it is important to have the ***right person*** and/or persons with the ***right skill sets*.** Identifying the **"right person"** means that open discussions need to occur (ideally, as a part of spring preparedness meetings) so that experience, willingness, training, etc. are all considered in making this decision. The HR Specialists in this incident proved to be extremely valuable to the Line Officer when she accompanied him to make the notifications. The **"right skill set"** may be developed through years of experience, but there is also some specific training available. The course "You Will Not Stand Alone" (YWNSA) includes a section on "The Notification Process" as well as how to work with Family Liaisons, benefits for survivors, memorials, etc.

D. Because the REMS (Rapid Extraction Module Support) Teams are likely going to be first on-scene, they should be trained in dealing with mental and emotional trauma as well as first aid.

The REMS Teams are trained in providing first aid and stabilizing patients for transport. One member of the REMS Team mentioned the need for training in dealing with crews that are emotionally shaken by an incident. This is not a normal part of their mission. It can be discussed further if this is something that needs to be added to their training regimen.

B. Establishing an IWI-IC (and Supporting that IC) is Crucial

Practices Worth Sharing

Taking time to establish an IWI-IC may seem counterintuitive when you are in "rescue mode" but it pays off by **aligning individual work into a larger strategy** and **controlling the chaos** that inevitably happens right after an incident

When the IWI is established, all resources can become part of a larger strategy and can know their roles within that strategy, saving time and increasing efficiency.

1. Once the Rock IC was established, crews went right to work on their assigned tasks. The pace slowed and became methodical to work through the IWI and recover the victim.
2. Establishing the IC allows the most efficient division of labor. There was still a fire to fight and the Rock IC was able to focus on that response, while others the remained focused on the wildfire. Once an IC was established, assignments were made and handed out to the crews, giving them meaning and purpose to help with the IWI.
3. The IC can help to minimize (or maximize) the resources who respond to a scene. There were a lot of resources that came to help and the Rock IC took charge and maintained control of the scene.

Tess, the Mormon Lake IHC Superintendent and one of the first people on the scene, reflected on what she was thinking at the time. She recalls asking herself, "How can I be an asset?" She later recalled, "This is part of taking a minute to make a plan, instead of making a plan a minute, so-to-speak. In my mind, the high caliber and training of the resources responding reflected this. We converged on the site and began the sense-making process and triaged the priorities, namely: responder safety, pilot location and rescue/recovery, fire suppression, and securing the scene."

Lessons Learned

At the onset of this incident the mission changed from fighting the fire to responding to the IWI. When this shift occurred, firefighters became unsure of their role and what was needed. Everyone wanted to help and started to act independently. Although there was not a long period before an IWI-IC was established it could have happened sooner in those precious first minutes of the IWI.

Find out who the IWI-IC is when you get to the scene. If you can't figure it out, it might be you.

1. During the Rock IWI, people responded to the scene in "rescue" mode. Instinctively, this meant they were going to take some kind of action. The initial phase of the IWI was a bit chaotic (in the words of the participants) on the ground with people taking independent action until the Rock IC was established. People may engage in activities that are actually more hazardous (ex. people digging line into a smoky, hazardous area).

2. Hesitating taking command in order to identify who has the highest qualifications may take more time than it's worth. The initial IC that is established can transfer that command if they find they are not the right person for situation as it unfolds. There just needs to be that understanding of the importance of establishing that command as early as possible in the IWI.

3. Communication and tempo can be better controlled with an IWI-IC. There was constant chatter on the radio until the IC took control and established a chain of command.

C. Training that Includes Drills and Worst-Case-Scenario Learning is Critical for Managing IWIs

During the Rock IWI, firefighters operated off what they described as "muscle memory" from their training and drills.

Practices Worth Sharing

Practicing with the appropriate guides for critical incident response is important.

The IMT, Dispatch Center, AA's, and firefighters all referred to their guides for critical incident response. These guides help make sure that people are doing the things that the need to do but they also help people feel less stressed because the necessary actions (notifications, etc.) are laid out in front of them.

Lessons Learned

Training for the IWI must include developing a plan for dealing with social media.

Although the Tonto National Forest has a policy preventing firefighters from posting incident-related information on social media, during the Rock IWI a local cooperator put information on Facebook about the incident. However, different Forests have different policies and these policies may not reach all of our cooperators. Some of the AA's suggested training and drilling with our cooperators and discussing this issue, including what leaders' expectations are around communication and notifications.

Training or the IWI must include a plan for how to include local resources if they are needed.

One of the crew members called 9-1-1 to ensure an ambulance was present at the helibase in case there were injured crew members coming off the line. This may have increased confusion by adding to the number of vehicles and personnel who showed up at the helibase. The option to call 9-1-1 has to be available. However, using the non-emergency number and requesting to stage an ambulance for a patient transfer would have decreased the amount of emergency vehicles responding.

D. Adjusting to COVID-19

Lessons Learned

During interviews the topic of COVID came up in the discussions. None of the personnel interviewed suggested that COVID had anything to do with the accident and that it was this IMT's "third roll this year" so wearing masks, social distancing and other COVID mitigations were muscle memory. However, participants suggested that COVID made parts of the response to the IWI more difficult.

Traditional ways of checking in with crews after an incident may not be possible.

The Forest Supervisor said that while COVID mitigations did not cause the incident, they make everything else you do more complicated. He went on to explain that he was in self-quarantine and was not able to go out to ICP to look people in the eyes and help them work through this loss.

COVID must be a factor when selecting a location for ICP.

ICP was in a casino. While there are advantages and disadvantages to this location, some members of the IMT suggested that it seemed to make adjusting to COVID worse. Casinos use recirculated air and you can't open the windows.

Even though there is guidance, people still have differing opinions about how to handle COVID.

The Polles Fire IC said that the challenge with COVID is *"What is right?"* Everyone has a different opinion about what is right for COVID mitigation, which can lead to confusion about what steps to take, and can contribute to unrest when some people take measures and others don't.

6. Appendices

A. National Transportation Safety Board Roles and Responsibilities

Overview: During the course of interviewing participants for the Polles Fire FLA, it became clear there was confusion on behalf of participants about how and when the National Transportation Safety Board (NTSB) folded into the overall incident response. The FLA Team has captured questions presented by the participants and included answers from our Forest Service Air Safety Investigators. Those questions and answers are listed in the text below:

Questions and Answers

When is NTSB Called? *When there has been an accident. The lead agency for the fire must provide the NTSB with the following information*:

- Time of accident
- Rotor or fixed wing
- Tail # of aircraft
- Owner/Operator
- Name of pilot
- Where a/c departed from
- Destination
- Closest City
- How many fatalities/injured

Who calls NTSB? *For the U.S. Forest Service it's the Regional Aviation Safety Manager. The RASM serves as the point person for a Forest Service Region to assist in determining response to an unplanned aviation event.*

Do they just show up?
NTSB is charged with determining the probable cause of transportation accidents and issues safety recommendations. They are notified anytime an aircraft is involved in a mishap where certain damage criteria are suspected. Specifically, federal regulations require operators notify NTSB immediately of aviation accidents and certain incidents. Since "operator" can mean the vendor or the Forest Service if the agency has operational control, the actual person who makes the call can vary. It is usually the RASM or an Air Safety Investigator from the Forest Service Washington Office. Outside of obvious cases and where either no one is hurt and/or there is some damage, we advise our aviation personnel to respond utilizing the damage criteria as outlined in 49 CFR 830.5 which lists the types of damage to an aircraft that are reportable to the NTSB. The NTSB was the lead agency for the Polles Fire Helicopter Accident. Due to COVID-19 concerns, there was no on-site NTBS Investigator. When the NTSB cannot be on site or determines there isn't a need, they retain control of the investigation but will utilize onsite party members to conduct site business. For the Polles Fire Accident, the Forest Service Air Safety Investigators worked on behalf of the assigned NTSB investigator.

Does the Agency do this?
No, the NTSB determines whether it is an event incident versus accident and the level of involvement from other parties.

What do they do?
Please reference the following link to gather information on NTSB procedure and scope of work. To access this link, you will need to copy and paste this URL into your web browser: https://www.ntsb.gov/investigations/process/Pages/default.aspx.

Who determines the cause of an accident involving aircraft?
The NTSB has the final determination.

What is the agency role in an aircraft accident?
Forest Service's role is "party status" to the investigation and are working on behalf of the NTSB to assist in the investigation. For the Polles Fire Accident there were two Forest Service Air Safety Investigators assigned who worked for the NTSB Investigator. Their role was to gather site data and interview information.

What is the agency's (and at what level of the agency) role in an NTSB investigation?
The NTSB designates other organizations or corporations as parties to the investigation. Other than the FAA, which by law is automatically designated a party, the NTSB has complete discretion over which organizations it designates as parties to the investigation. Only those organizations or corporations that can provide expertise to the investigation are granted party status and only those persons who can provide the Board with needed technical or specialized expertise are permitted to serve on the investigation; persons in legal or litigation positions are not allowed to be assigned to the investigation. All party members report to the NTSB.

Who communicates about an aviation accident (does the agency play a role)?
The Forest Service Air Safety Investigator issues a Preliminary Report generally within the first 2-3 days. (The use of the terms 24hr or 72hr report are no longer in use. The only term is Preliminary Report.) In addition, the NTSB releases their own Preliminary Report with information but no final determination on accident cause.

What is the relationship between the NTSB and U.S. Forest Service for accidents?
The sole job of the NTSB is to determine probable cause of an accident. The Forest Service is party to the investigation and does not determine probable cause of an accident.

How long do their investigations last?
The entire investigation by the NTSB could take upwards of 18 months or more to determine a probable cause and issue a report.

Are NTSB fault finding and/or punitive?
No. NTSB's role is to determine the probable cause of an accident and provide safety recommendations.

B. The Facilitated Learning Analysis Team

Joe Alexander
Director of Recreation, Minerals, Lands, Heritage,
and Wilderness Programs
U.S. Forest Service, Northern Region

Diane Taliaferro
Deputy Forest Supervisor
U.S. Forest Service, White Mountain National Forest

Brad Widhalm
Fire Prevention
Tonto National Forest

Dave Martin
Assistant Director, Fire & Aviation,
U.S. Forest Service, Southern Region

Brian Knapp
Helicopter Operations Specialist
U.S. Forest Service, Southwestern Regional Office

Rebekah Fox
Associate Professor, Communication Studies Department
Texas State University