

Rapid Lesson Sharing

Event Type: Copperhead Snake Bite

Date: April 30, 2018

Location: Veach Prescribed Fire
National Forests and Grasslands in Texas

“I heard a call over the radio. I couldn’t make it out very well, but heard enough to know there was a snake bite.”

Burn Boss

Incident Summary

On April 30 the Angelina-Sabine National Forest of the National Forests and Grasslands in Texas conducted a 3,149-acre prescribed fire. During baseline firing operations, a U.S. Forest Service employee on assignment as Chief of Party (COP) with a Job Corps Module, received a snake bite to the hand.

The employee was transported in a government vehicle to the nearest medical facility where the employee received antivenin (a medication made from antibodies used to treat certain venomous bites and stings).

After receiving treatment, the employee was released from the hospital and returned to work with the module, on light duty, for the remainder of their assignment.

Narrative

On April 23, a Job Corps Module was assigned to the National Forests and Grasslands in Texas. The next day, the module reported to the Angelina-Sabine National Forest office in Zavalla, Texas. Upon arrival, they received an in-briefing from the Angelina-Sabine Zone FMO. This briefing covered prescribed fire organization, objectives, special considerations and sensitive features, communications, orientation, tree cutting, environmental hazards, and safety and medical plans.

The in-briefing also included the module filling out emergency contact information.

3,149-Acre Prescribed Fire Begins

The first week of the Job Corps Module’s assignment was spent helping conduct numerous prescribed burns. On the morning of April 30, the weather was favorable to conduct the Veach Prescribed Fire.

At approximately 0809 hours, the RXB2 (Burn Boss) emails the dispatch notification of the impending burn. This notification includes the established, key personnel (Line Officers and Forest Fire Staff). In addition, the intent to use aerial ignitions, contingency resources, and a plan for emergency response were also incorporated into the notification.



Squad Leader's right hand shortly after being bitten by a copperhead snake.

All resources assigned to the prescribed burn convened onsite for the pre-operations briefing. At 1000 hours, the briefing began with the identification of the RXB2 (Burn Boss), Incident within Incident (IWI) and Initial Attack Response (IA). All participants were briefed on map orientation, assigned tactical and command radio frequencies, assignments, hazards (including snakes), procedure for an Incident within an Incident, and burn objectives.

The Squad Leader put his radio away and reached down to pick up the pulaski. Before he could get a grip on the pulaski, he felt the snake strike his hand.

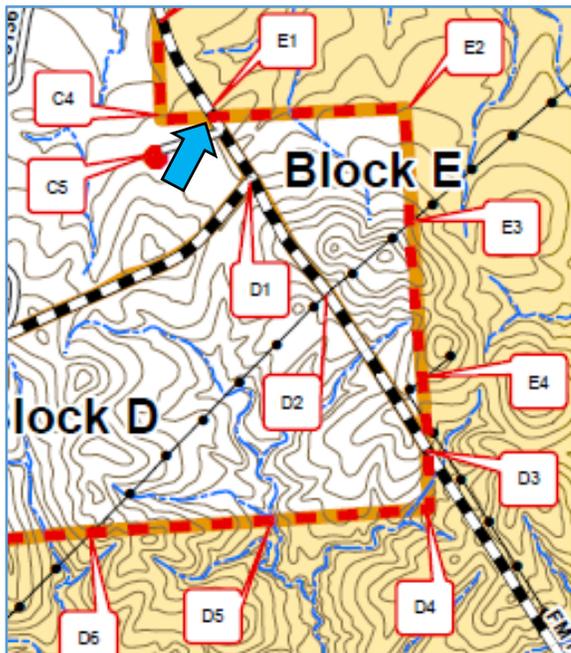
Following the pre-operations briefing, resources divided into their squads to discuss tactics for completing their assignments. The Job Corps Module was split into two squads. The Chief of Party became (and will be further referenced as) Squad Leader to one of the squads.

Test Fire Successful

At 1030 hours the RXB2 conducted a successful test fire and communicated to dispatch that the test fire results were favorable and they would be proceeding with the burn. He then radioed all resources to proceed with baseline firing operations.

Baseline Firing Operations Begin

The Squad Leader arrived with his squad at Drop Point (DP) Echo 1 (E1) where it intersects with the Farm to Market Road (FM705). The squad's assignment was to conduct baseline firing operations along the dozer line between DP E1 and E2 of the burn block. Once E1 to E2 was complete and the Squad Leader was comfortable with the depth of the backing fire, they were to continue the baseline from E2 south to Delta 3 (D3). As the baseline progressed toward E2, the Squad Leader stayed behind to hold and patrol the line while the Assistant Squad Leader advanced with the squad.



Blue arrow indicates the location of E1, where the Squad Leader was to start baseline firing.

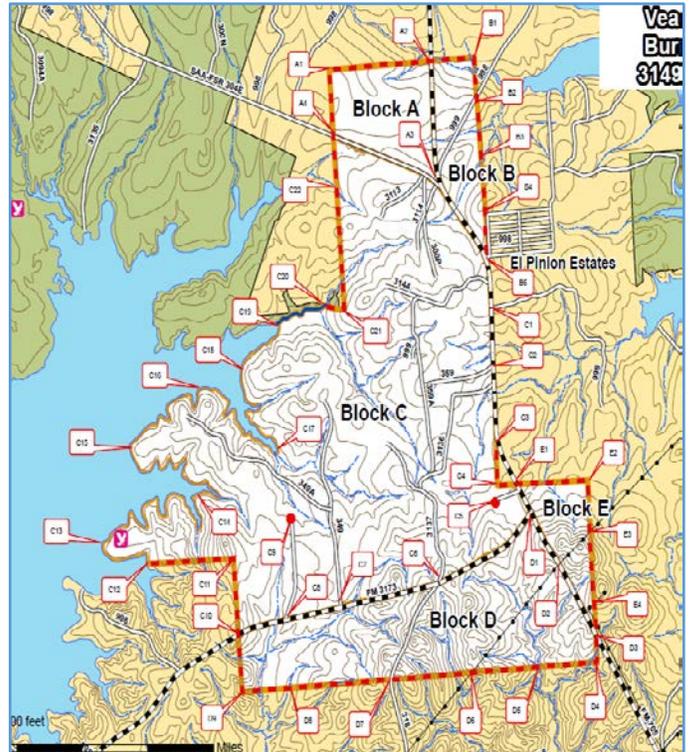
Radio Transmission of Medical Incident

As the Squad Leader held the line behind the firing mission, he initiated radio communication with the RXB2 on the dedicated command frequency to communicate the fire depth and progression.

He then communicated on the tactical frequency with the Assistant Squad Leader to check on the firing operations as they advanced toward E2.

In order to manipulate the radio knobs and transmit information, the Squad Leader had set his tool, a pulaski, against his leg and removed the glove from his right hand. While using the radio, the pulaski fell to the ground beside his foot.

After completing these radio communications, the Squad Leader put his radio away and reached down to pick up the pulaski. Before he



The Veach Prescribed Burn map.

could get a grip on the pulaski, he felt the snake strike his hand. He was able to get a quick glimpse of the snake—before it disappeared from sight—recognizing that it was a copperhead.

Within seconds, he made a call across the tactical frequency to the Assistant Squad Leader that he had been bitten. His second radio call was to the RXB2 to inform him that he had been bitten by a copperhead. He then walked the dozer line out toward FM705. He was about 150 yards from the road when he was met by the Engine Boss (ENGB) assigned to that section of line.

9-Line Initiated; Transport Decision Made

At 1130 hours the RXB2 had been approximately one and a half miles away from the location of the Squad Leader when he first overheard the radio traffic between the Squad Leader and Assistant Squad Leader about the snake bite.

He was not able to hear the traffic clearly but heard enough to know that there had been a snake bite. The RXB2 sent a text to dispatch to stand by for a possible medical. Immediately after, he received that direct communication from the Squad Leader confirming the bite. The Incident within an Incident (IWI) Command, Initial Attack (IA) Command and Prevention Technician (PRV1), copied the radio traffic directly which prompted them all to respond to the location of the injured Squad Leader. They all arrived on scene at the same time as the RXB2. As the IWI Command pulled up to the scene, the Squad Leader had just made it to the road with the help of the ENGB.



*Copperhead snake.
(This is not the snake from this snake bite incident.)*

During the pre-planning phase for the burn season, the Angelina-Sabine Forest's Prevention Technician had called each local hospital and numerous clinics to determine which locations carried antivenin.

The IWI Command evaluated the Squad Leader and declared the severity of the emergency as a Priority Yellow. After his assessment of the patient, at 1136 hours, he radioed dispatch and initiated the 9-Line. At the time that the 9-Line was called into dispatch, the IWI Command was uncertain as to which hospital the Squad Leader was being taken to. While he was still communicating with dispatch, the PRV1 began transporting the Squad Leader to the hospital.

The decision to transport via Forest Service vehicle was made with consideration to the Squad Leader's location and the nature of the injury. From the Squad Leader's location to the nearest local Emergency Medical Service provider would have been at least 45 minutes, delaying transport time to the ER. In addition, during the pre-planning phase for the burn season, the Angelina-Sabine Forest's PRV1 had called each local hospital and numerous clinics to determine which locations carried antivenin.

CHI St. Luke's Memorial Health was the closest hospital with the antivenin. Unaware where the patient was being transported, the IWI called PRV1 who confirmed that they were going to CHI St. Luke's. The RXB2 called the hospital to give them a heads-up about the incoming injured Squad Leader. The IA Command, after gathering all of the key information, began the Forest's Notification Plan by first making contact with the Ranger and the NFGT Fire Management Officer in the Supervisor's Office.

9-Line and IRPG Left in the Vehicle

Upon arrival of the IWI Command at the scene, he immediately realized that he had left his IRPG in his vehicle and did not have a copy of the 9-Line or the IRPG on his person. Formerly holding an EMT license and having had experience with the 9-Line was helpful. Being familiar with what information was needed, the IWI Command did the assessment and wrote all of the information down on paper so he could relay it to dispatch.

The Dispatcher was filling in her own version of the 9-Line as the IWI Command was relaying the information via the Forest repeater. While communicating the information, the IWI Command relayed that the Squad Leader had been bitten on the left hand. Once he had completed transmission of the information, the Dispatcher asked questions to fill in any information that was missed.

It was at that time that the IWI Command had to call the PRV1 to confirm what hospital she was headed to. The IWI Command later realized that he had given the left hand as the injured hand and that it was actually the right hand. He contacted dispatch at 1934 hours to correct that information.



Swelling of the hand and forearm approximately three hours after the copperhead snake bite.

“I gave dispatch the wrong injured hand. Once I realized the error, I contacted dispatch and corrected it.”

IWI Command

Emergency Room Arrival

While in route to the hospital, PRV1 immediately realized that the radio in her truck had quit working. Prior to the day of the Veach Prescribed Fire, there had been issues with the radio. The PRV1 had done numerous radio checks the day before and believed that the radio had been fixed. It was not until the transportation of the Squad Leader began that the PRV1 started having radio issues again—transmitting and receiving on the radio was hit and miss. (Upon inspection, it was later determined that the radio antenna had been broken.)

PRV1 received phone calls from the IWI Command and also spoke to the Dispatcher by phone to keep them informed of the patient’s status and ETA to the hospital. A discussion with dispatch was held as to whether or not they should have an ambulance meet them. At 1154 hours they mutually agreed that having to wait for the ambulance to find them and the time it would take to transfer the Squad Leader into the ambulance would delay getting him to the hospital. The Dispatcher was going to call the hospital and relay this information, but knew that it had already been done and did not want to be redundant.

The Prevention Technician continued to make phone calls for the patient and updated the IWI Command and RXB2 so they could ease the minds of the concerned personnel still on the burn.

PRV1 continued transport and consistently communicated with the Squad Leader throughout the drive to make sure his mental status did not change. She arrived at CHI St. Luke’s Memorial Hospital at 1230 hours. They were met by the NFGT Forest FMO and the NFGT Acting Safety Officer. The PRV1 stayed with the Squad Leader while the Safety Officer served as a hospital liaison and dealt with paperwork. PRV1 continued to make phone calls for the patient and updated the IWI Command and RXB2 so they could ease the minds of the concerned personnel still on the burn.

By the time he was released from the hospital two days later, the Squad Leader had received six vials of antivenin and the swelling he experienced had gone down significantly.

While in the emergency room, the Squad Leader begins to receive antivenin through an IV. The decision is made by the attending emergency room doctor that the Squad Leader will be kept overnight due to swelling and the need for observation. By the time he was released from the hospital two days later, the Squad Leader had received six vials of antivenin and the swelling he experienced had gone down significantly. He was put on light duty and returned to work as the Chief of Operations for the remainder of the module's assignment.

Tactical Pause and the Prescribed Burn Continues

After the Squad Leader was transported from the scene, the RXB2, IA Command and IWI Command decided to take a tactical pause and reevaluate the burn and whether or not they could, or should, complete it.

They visited with the firefighters assigned to the Squad Leader to assess their mental state and if they wanted to continue with their assignments. The Squad Leader's crew was reassigned to the ENGB. The RXB2 made sure they were comfortable with that decision and, after deliberation, all parties decided they were ready to continue with the burn operations. All resources reengaged, completed the burn and conducted an After Action Review (AAR) at 2011 hours.

Squad Leader Returns Home

At the end of their assignment, the Job Corps Module debriefed with the Angelina-Sabine unit and headed home. The Squad Leader returned with them as a chaperone and, shortly after, flew back to his home unit. As per the St. Luke's physician's recommendation, after arriving home, the Squad Leader scheduled a follow-up appointment with his family physician. Two weeks after the snake bite, he attended his appointment and was given a clean bill of health.

LESSONS

- ✓ Always have an IRPG or at least a copy of a 9-Line on your person, not in your vehicle or line gear. This will ensure that all pertinent medical information is relayed to dispatch.
 - ✓ Send medically trained personnel to handle patient care with the person transporting the patient. This will allow the driver to focus on the road while the care provider can cover patient care, communication of patient status and ETA of patient to Advanced Life Support to dispatch.
-

"I felt I was getting drawn into the medical incident and started to lose focus on the burn."

Burn Boss

- ✓ The purpose of assigning an IWI Command is to alleviate the Burn Boss (RXB2) from being distracted from the burn in the event of an IWI. The Burn Boss should keep himself/herself removed from the IWI unless a need is communicated for him/her.
- ✓ Periodic radio checks should be done in order to determine that they are all in working condition.

- ✓ There needs to be a way to have access to the employee's personal and notification information while away from the office. No one on scene had the emergency contact forms that were filled out by the Job Corps Module when they arrived on Forest for their assignment. Dispatch had this information available, but no one thought to ask them for it.
- ✓ Each year, the U.S. Forest Service is required to hold a Safety Meeting that covers environmental hazards. During this meeting, snakes and local snake types are covered. Discussing how a snake bite injury will be treated on the medical response end could be advantageous to all personnel. This information would also be valuable to cover during the in-briefing of non-local detailers.

***This RLS was submitted by:
Employees of the Angelina/Sabine National Forests
and Jamie Martin, Acting Forest Safety Officer,
National Forests and Grasslands in Texas***

Do you have a Rapid Lesson to share?
Click this button:

[Share
Your Lessons](#)