

# West Boulder AB Wilderness Medivac Lessons Learned

Yellowstone Ranger District  
Custer Gallatin National Forest  
06/25/2020



## Executive Summary

On the morning of June 25, 2020, two Fishery Technicians from Bozeman Ranger District who were working on the Yellowstone Ranger District on the Custer-Gallatin National Forest planned to pack up camp and hike out along the West Boulder trail back down to the truck at the trailhead. The prior evening of the 24<sup>th</sup>, a storm had created some blowdown in the area. At 9:40 am, one of the crewmembers stepped over a downed log during the hike out and rolled their ankle. As the ankle swelled and the crewmember could no longer continue, the crew called in the medical emergency with a Garmin In Reach device as they could not reach dispatch on their handheld radio. The crew's local supervisor for the project was alerted, as was Bozeman Dispatch. A load of Smokejumpers with EMT's on board, was dispatched to assist as Garmin and Dispatch relayed the Lat and Long. Additional local district fire resources and a trails crew were also sent to the trailhead to assist. Based on the medical evaluation of the jumpers on scene, and the distance of the injured employee from the trailhead, a life flight helicopter was ordered by dispatch through the county. The jumpers assisted the injured employee to a large meadow LZ not far downhill. The helicopter met the group in the meadow and transported the injured employee to Bozeman Deaconess where they were treated for their ankle injury.

## Narrative

At 0800 on the morning of June 25<sup>th</sup>, two Fisheries crewmembers broke camp along the West Boulder trail on the Yellowstone District of the Custer Gallatin NF. They had been working in the area the previous day and it was time to begin their 5 mile hike out to the trailhead and waiting truck. A windstorm from the previous evening had brought down several trees in the area and the ground was still wet. Rain was in the forecast for the day, so trail runner shoes were chosen for the hike out and trekking poles were used going down the trail to balance out the heavy packs.

At approximately 9:40, while navigating a downed log across the trail, one of the crewmembers missed-stepped and rolled their ankle. Stopped on the trail, they went through the small first aid kit they brought along and not finding an ace bandage in the kit, the injured employee wrapped their ankle as best they could in a jacket. Unable to continue, they tried to make contact with a handheld radio to get help, but could not reach dispatch or the local district, as unbeknownst to them the radio was toggled to low power setting. Out of cell service, they grabbed their backup communication device and sent out an SOS message on their Garmin In Reach. As the message was received by the Watershed Program Manager, and by the Riparian Crew leader and Fisheries Biologist back in Bozeman and Livingston, there was initial confusion whether it was the fisheries crew or a riparian crew that needed assistance, as the SOS call came in from the Garmin device usually assigned to the riparian crew. It was quickly cleared up that the call came from the fisheries crew working on the West Boulder trail on a



*Although some contacts in Garmin In Reach received the SOS message right away, another contact and home unit supervisor in Bozeman did not receive the message from Garmin until 1300, hours after the message was sent.*

project under the supervision of the Yellowstone District Fisheries Biologist. While the YRD Fisheries Biologist supervising the crew was acting District Ranger at the time and had received the SOS alert while out in the field, the crew's home unit supervisor in Bozeman did not get alerted until 1300 by Garmin even though they were in the In Reach contacts. Once the home unit supervisor found out about the medical incident from a call by the Watershed program manager early that morning, they went directly to dispatch to assist and monitor the situation.

At 9:47 a Garmin dispatcher called CGNF Bozeman Dispatch with the SOS alert, delivering the message of a crewmember with a broken ankle, and providing the lat long of the two crewmembers. Bozeman Dispatch promptly alerted the appropriate county of the incident and began coordinating with the Yellowstone District Fisheries Biologist as acting Incident Commander. It was decided early on to alert the jump base and put the smokejumpers on standby with the lat long of the fisheries crew in case they would be needed.

Contact was made by Bozeman Dispatch to the Yellowstone District AFMO, and an engine crew were sent to the West Boulder trailhead to see if they could assist from the ground. Meanwhile the IC began seeking approval to land a helicopter in the wilderness should it be needed. The Deputy Forest Fire Staff Officer supported the use of the jumpers and informed the Forest Supervisor and Deputy. The county sheriff was contacted once more by dispatch about the possible smokejumper mission and the sheriff put the life flight on standby until the jumpers were on the ground and a patient size-up completed.

The IC made the decision to send the load of 8 smokejumpers, and at 11:01 the jump plane left the base at West Yellowstone with an ER nurse and 4 EMTs while additional local district resources were sent by ground including two additional engines and a trails crew. The IC continued to receive texts from his fisheries crew, one stating that the injured crewmember was somewhat mobile with "crutches" (trekking poles). At 11:18 the jump plane had the injured party in sight and prepared for jump ops in a large meadow about ¼ mile further down the trail.

Bozeman Dispatch informed the IC that at 11:48 the jumpers were on the ground. The IC, Yellowstone District AFMO and Bozeman Dispatch began to also consider a backup plan for extraction should life flight not be able to complete the mission. Recommendations to stage a district UTV at the trailhead or a more direct route through private land with consent by the landowner were discussed. The jump base manager and AFMO also accounted for the return trip for the jumpers back to West Yellowstone and extra vehicles were brought to the trailhead and staged for the responders.

At 12:53 the jumper IC on the ground radioed in to Dispatch that they were on scene with the patient, who is talking and in a good mood. The patient's ankle was wrapped by the nurse/EMT jumpers and then the IC on the ground relayed to Dispatch that they will be assisting the injured person and second crewmember down to the jump spot in the meadow. The jumper IC confirmed the need for life flight and the lat long of the meadow was provided by Dispatch to the county Sheriff. At 13:34, life flight was launched by the county and lands in the meadow awaiting the jumpers and injured party making their way down the trail. The patient was loaded onto the helicopter at 14:30 and flown to Bozeman Deaconess Hospital.

In coordination with the Forest Safety Manager the injured employee's home unit supervisor leaves Dispatch for the hospital to greet the injured employee and act as hospital liaison.

## Incident Timeline

Event	Time
Fisheries crew pack up and begin their hike out to West Boulder trailhead	8:00
While navigating a downed log, crewmember severely rolls ankle	09:40
Unable to continue the hike out, the crew uses a Garmin In-Reach device to send out an SOS alert requesting assistance.	09:47
Dispatch alerted county and put smokejumpers on standby to assist	09:53
Forest approved smokejumper launch with EMTs and nurse on board	10:33
Load of jumpers leaves West Yellowstone airport	11:01
Jump plane spots injured party ¼ mile up trail and begins jump ops	11:18
8 jumpers arrive on scene and begin assisting patient, wrapping ankle, request life flight and provide lat long of LZ in meadow where jumpers landed	12:53
Dispatch talks with county, agrees to launch life flight	13:05
Life flight launches and will be on TAN channel when they arrive	13:34
The life flight arrives at the meadow, awaits the patient and jumpers moving down the trail.	13:41
Life flight helicopter leaves meadow with patient enroute to Bozeman Deaconess	14:30
After assisting dispatch, the fishery crew's supervisor leaves dispatch to Bozeman Deaconess to act as Hospital Liaison	14:41
Patient was released from hospital with severe ankle sprain and possible broken ankle with a follow-up appointment	<b>1700</b>

## Injury and Medical Response

The patient suffered a severely sprained ankle after rolling their foot in trail runners while stepping over a log. At the time of the incident it was thought that the patient had broken their ankle. The original hospital diagnosis also determined a severe ankle sprain and break. The follow-up appointment determined that the break had been bone chips from a previous injury and not a broken ankle.

## What Went Well

- The individuals had a plan in place with their supervisor and were carrying the needed communication devices identified with their supervisor for the trip. Two forms of communication were utilized during the trip.
- The employees were able to identify their need for additional assistance and took the proper steps to secure additional help prior to the situation becoming worse. They also provided the information needed to find their location and identified the extent of their emergency.

- Use of smokejumpers provided the additional support needed to provide medical support and help transport the injured individual to a meadow where life flight was able to land and transport the patient to the hospital in a timely manner.
- Development and implementation of a backup plan and mobilization of additional resources to assist in the rescue if needed was a good call and allowed for additional rescuers to be an hour or two from the scene verse several hours out.
- Having the home unit crew supervisor and safety officer staged in Dispatch during the incident provided up to date information and the ability to track the situation all the way to timing the arrival of life flight at the hospital. Home unit supervisor then was able to transition to a Hospital Liaison role and directly check on injured employee.
- Following the AAR, the Watershed program implemented several changes including additional



training, changes to SOP's and updated labeling of devices. These changes occurred immediately, and it should not go unnoticed that they took appropriate actions to fix weak spots within their program and communications.

### **Lessons Learned and Recommendations**

In an After-Action Review, the injured individual, his co-worker, the acting district ranger during the incident along with individuals from the AB zone fire crew, West Yellowstone Smokejumpers, Bozeman Dispatch and miscellaneous other involved individuals were all on the virtual

AAR due to COVID mitigations. The following observations are derived from that discussion.

- Use of an electronic check in and out system forest wide. The Watershed program on the CGNF has a good check in and check out system in place using both the forest radio system and the In-Reach system while in the field. In this instance checking in or out and the ability to reach a supervisor to inform them of the injury was not an issue. The need for an electronic system lies in the ability for dispatch to be able to access employees location and other important documents such as the Medical Emergency Evacuation Plan (MEEP), the trip itinerary, individual currently possessing the In Reach device and ability to directly link to the In Reach system to confirm location of injured employees. This information was provided by the supervisor to dispatch through a series of coordination calls in this situation. However, there is the potential

had the contacts on the In Reach call list been unavailable that gathering this information could have taken away critical time in certain situations. This was not the case with this incident but needs to be a heavy consideration as we improve our safety measures across programs on the forest to ensure we are providing for the best outcome in an emergency. Also, due to COVID-19 many of our forest district offices are closed. According to our forest Check In and Out plan employees are to check in and out with the district office. With offices empty this creates an issue which can be corrected by using this electronic system. It doesn't correct the issue of having someone at the office to answer radio calls and therefore, dispatch is currently the fall back for this tracking. The forest and region are both currently working to gain access to this system used in many other regions and agencies.

- Consideration of forest wide operating procedures and documented call list on forest In Reach devices. Initial confusion occurred around who had the device and who was receiving messages and who would take the lead for communicating. This was straightened out immediately within the supervisors after a few phone calls. Having a clearer SOP across the forest for In Reach and SPOT devices should be considered. In addition, having dispatch as a contact with the ability to send and receive texts directly would provide a direct line of communication to the injured party.
- Use of MEEP (Medical Emergency Evacuation Plan) having a plan filed for projects in the backcountry or larger and longer lasting projects are things that can improve a potential negative outcome. This is hard to remember in that district employees check in and out on a district level. Having a MEEP completed and filed with dispatch can help to eliminate questions that may arise around a possible emergency.
- The choice of hiking boots over trail runners may have lessened the severity of the injury as noted by the injured during employee the AAR discussion. Something as simple as selection of footwear has been shown to reduce injury and protect employees during various projects and tasks. While hiking boots may not be required PPE for a hike down to the trail head, based on the project or task, it can always be added into an RA or JHA.
- Radio communication from the accident site did not occur as the handheld radio was on the low power setting and hindered the ability to hit a repeater and stopped the emergency call from reaching dispatch. Unfortunately, due to the pandemic, in person mobile and handheld radio training during orientations did not occur. Radio Techs on the Forest are available and should be utilized by any field going unit to increase familiarity with radios and repeaters across the zones. We do recognize that some dead spots may exist within the forest network. Reporting these dead zones to the forest radio technicians should occur so that they can take appropriate actions to rectify the situation. This is also one of the reasons many programs on the forest require two forms of communication when traveling in the backcountry. It is important to remember that the SPOT and In Reach devices should never be the primary communication device. During this incident the forest radio system was used as the primary and In Reach as the backup system.

- Although a personal contact sheet for family emergencies was not used during this incident, it is a good reminder for supervisors and employees to make sure that personal contact sheets are completed during onboarding and kept in a secure but quickly accessible location.

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