Incident Summary Page for the 100 Fires Project

Incident Name:	**Incident Date & Time:**
Mann Gulch Fire	08/05/1949 @ 17:55
Incident Location:	**Incident Size:**
Helena National Forest near Gates of the Mountain in Montana	4,300 acres
Types of resources involved:	**# of Fatalities/injuries:**
US Forest Service Smokejumpers and Fire Guard	13 fatalities

Reasons this fire was selected for the 100 Fires list:

- Fire is historically significant
- 3 or more firefighter fatalities

Conditions leading up to the event:

On August 4, 1949, a lightning storm started 10 fires on the Canyon Ferry and Helena Ranger Districts of the Helena National Forest in Montana. The Mann Gulch Fire was one of these and started near the top of the ridge in between Mann Gulch and Meriwether Gulch. At 12:00 the next day a fire lookout reported the smoke coming from the Gates of the Mountain. At 12:30 a spotter plane flew over Mann Gulch and confirmed the fire. Due to the remote location of the fire, a decision was made to staff the fire with smokejumpers. 1949 was a busy season for the young smokejumper program and there was a scramble to find and gather 16 smokejumpers and dispatch them from the Missoula jump base.

Brief description of the event:

August 5 was the hottest day ever recorded in in Helena, Montana and estimated to have been even hotter in the funnel shaped canyon at Mann Gulch along the Missouri River. At 15:00 the jumper plane flew over the fire and it was observed to be about 60 acres on the south side of the canyon. The jump spot selected was below a ridge at the head of Mann Gulch. The crew jumped and were scattered by winds from a nearby thunder cell. Many of the smokejumpers had hard landings and the crew's only radio was broken on impact. By 17:00, the crew had gathered their gear at the bottom of the gulch, up canyon of the fire, and had grabbed a quick bite to eat. During this time the Foreman, Wag Dodge, did some scouting and linked up with the local Fire Guard James Harrison, who had previously been a smokejumper. After the two of them conferred, Dodge decided to anchor from the heel of the fire. While hiking the crew down to the bottom to establish the anchor point, Dodge noticed fire below them in the gulch had crossed to the other side of the canyon and was rapidly moving up the canyon on both sides. This fire spread cut off their path to the river and potential anchor point. The decision was then made to head back up towards the ridge on the north side. With the fire now below them crowning in the timber and some dog-hair thickets, Dodge, knowing that they would not outrun the fire, decided to take out matches and started to burn off some grass to create a "refuge." He ordered the rest of the firefighters to follow him into the burned refuge. It was not clear how many were able to hear him over the roar and smoke of the fire. It is also speculated the firefighters were unsure of what Dodge was trying to do (burning out to create a safety zone was neither taught nor common practice at the time). The rest of the crew continued to run up the canyon. Three firefighters peeled off and ran up to and over the rim rock above. Two of them, Walter Rumsey and Robert Sallee, survived. The third, William Hellman who was the second in command of the group, did not survive. Wag Dodge survived in the refuge he had burned out. The rest of the crew were overtaken and perished as they continued their run in front of the fast closing flaming front.

About the same time that the smokejumpers were making their jump and getting their gear together, the Canyon Ferry District Ranger, Robert Jansson, was also heading toward Mann Gulch. He motored down the Missouri River in a boat, arrived at the mouth of Mann Gulch at 17:00, and began working his way up Mann Gulch to scout and confirm the arrival of the smokejumpers. According to Ranger Jansson's account, the winds were 20 to 30 mph and he observed the fire had crossed the gulch at two places within the first half mile hiking up Mann Gulch from the river. After about 20 minutes he turned around due to the fire activity and found himself cut-off from his return route. He ran through the flames and passed out. Ranger Jannson revived a few minutes later, made his way back to the boat, and left at about 17:45 without ever being able to make contact with the smokejumpers.

Fire behavior factors that were present during the event:

During the day of the event weather was not taken on the fireline. However, the nearby ranger station had recorded a temperature of 97 degrees, a relative humidity of 22%, a dead fuel moisture stick of 5%, and wind of 16 mph. There was also a thunder cell in the area at the time of the fire. The fire was in very steep and rocky terrain burning primarily grass and stands of Ponderosa pine.

Operational lessons available for learning from this incident:

The knowledge that fires in timber west of the Continental Divide burn differently than do fires in grass east of the Divide.

Delivering firefighters above a fire and approaching an active fire edge by walking downhill in unburned fuels is extremely hazardous.

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Escape fires in fine fuels can be a viable last resort option.

Systems used at the time to rotate smokejumpers made it hard to maintain working relationships between the jumpers and their leaders.

Notable impact or historical significance for the wildland fire service from this incident:

A high degree of controversy surrounded the Mann Gulch Fire with an investigation and subsequent board of review that examined training, standard procedures, and safety practices. It received attention in the national media at the time and has continued to be of interest into current times. A number of academic articles have referenced this event and the story has been recounted in at least three different books. The fire also inspired the 1952 feature length movie *Red Skies Over Montana*, and an article in *Life Magazine.*

This fire created interest in the scientific study of extreme fire behavior and better methods for predicting blow-up fire situations. Harry T. Gisborne, the head of the Rocky Mountain Research Station in Missoula and a pioneer fire scientist, died of a heart attack on site at Mann Gulch while investigating the fire behavior that occurred there. His vision resulted in the development of the Missoula Fire Sciences Laboratory just a few years later.

The Mann Gulch Fire was one of the major tragedy fires studied in the 1957 *Report of Task Force to Recommend Action to Reduce the Chances of Men Being Killed by Burning While Fighting Fire.* This work was the original source for the "10 Standard Firefighting Orders" and for many other improvements within the wildland fire service.

Links to more information on this incident:

https://www.nwcg.gov/wfldp/toolbox/staff-ride/library/mann-gulch-fire
https://www.nwcg.gov/sites/default/files/wfldp/docs/sr-mg-report-of-board-of-review.pdf
https://www.nwcg.gov/committee/6mfs/mann-gulch
https://wlfalwaysremember.net/1949/08/05/mann-gulch/
https://foresthistory.org/research-explore/us-forest-service-history/policy-and-law/fire-u-s-forest-service/famous-fires/mann-gulch-fire-1949/

Books:

- *Young Men and Fire* ~ by Norman Maclean
- *A Great Day to Fight Fire* ~ by Mark Matthews
- *The Leadership Moment* ~ by Dr. Michael Useem

The Wildland Fire Lessons Learned Center offers an excellent site which provides information on many wildland incidents.
Wildland Fire Lessons Learned Center's Incident Review Database (IRDB) (wildfire.gov)

This summary page was proudly provided by: Kern Valley IHC - Jose Magana, Jacob Lewis, Josue Flores	September 2023

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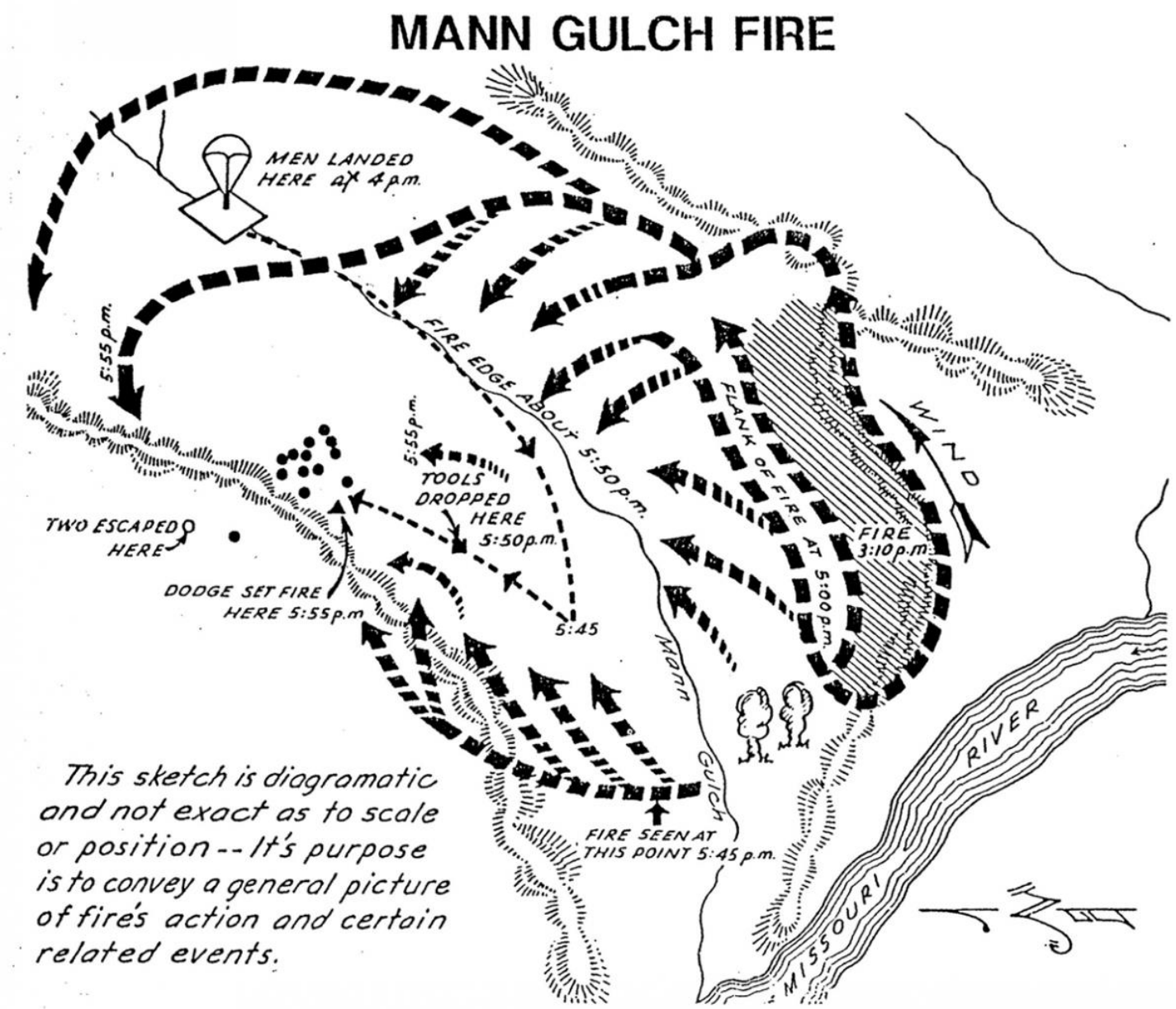

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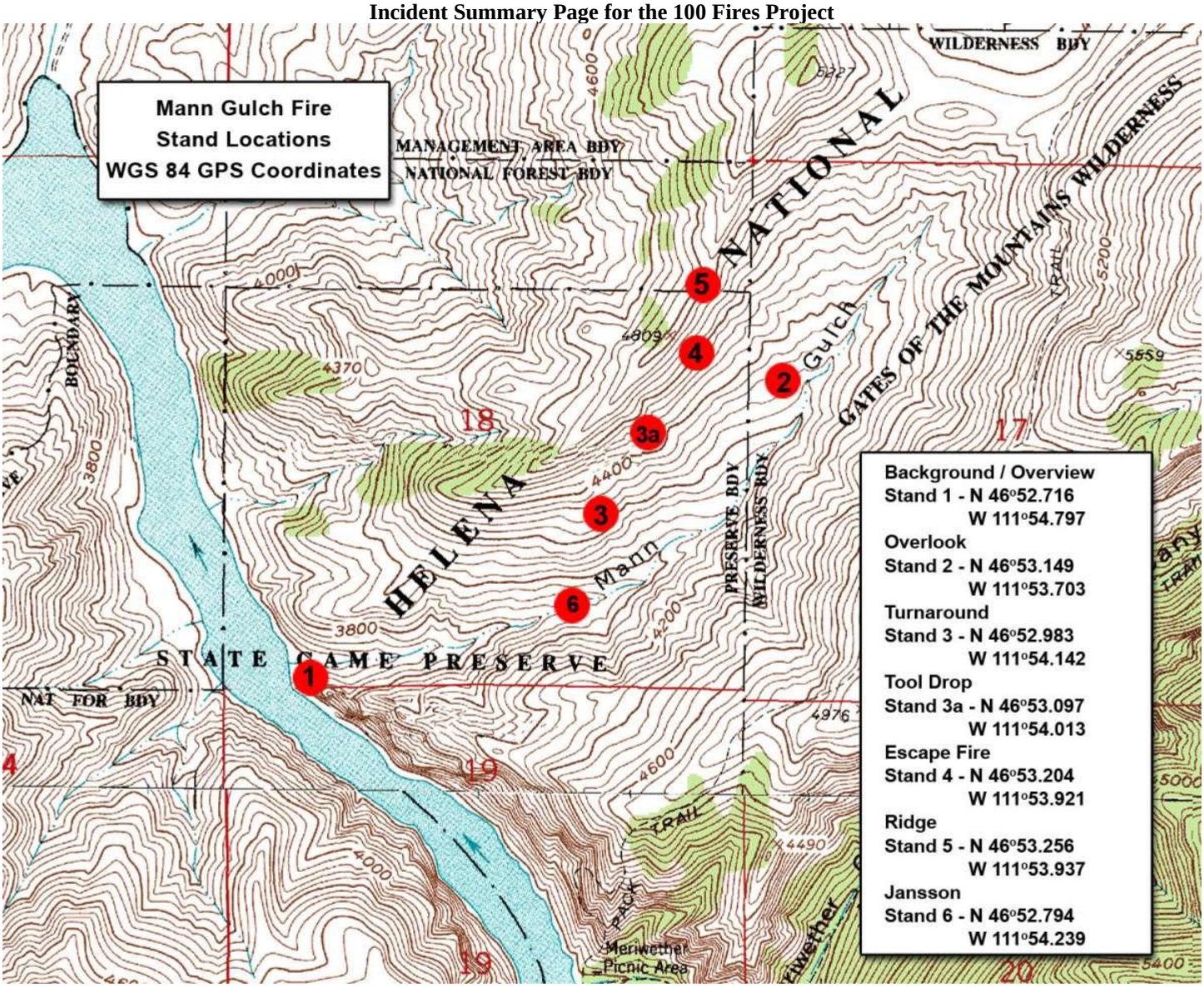

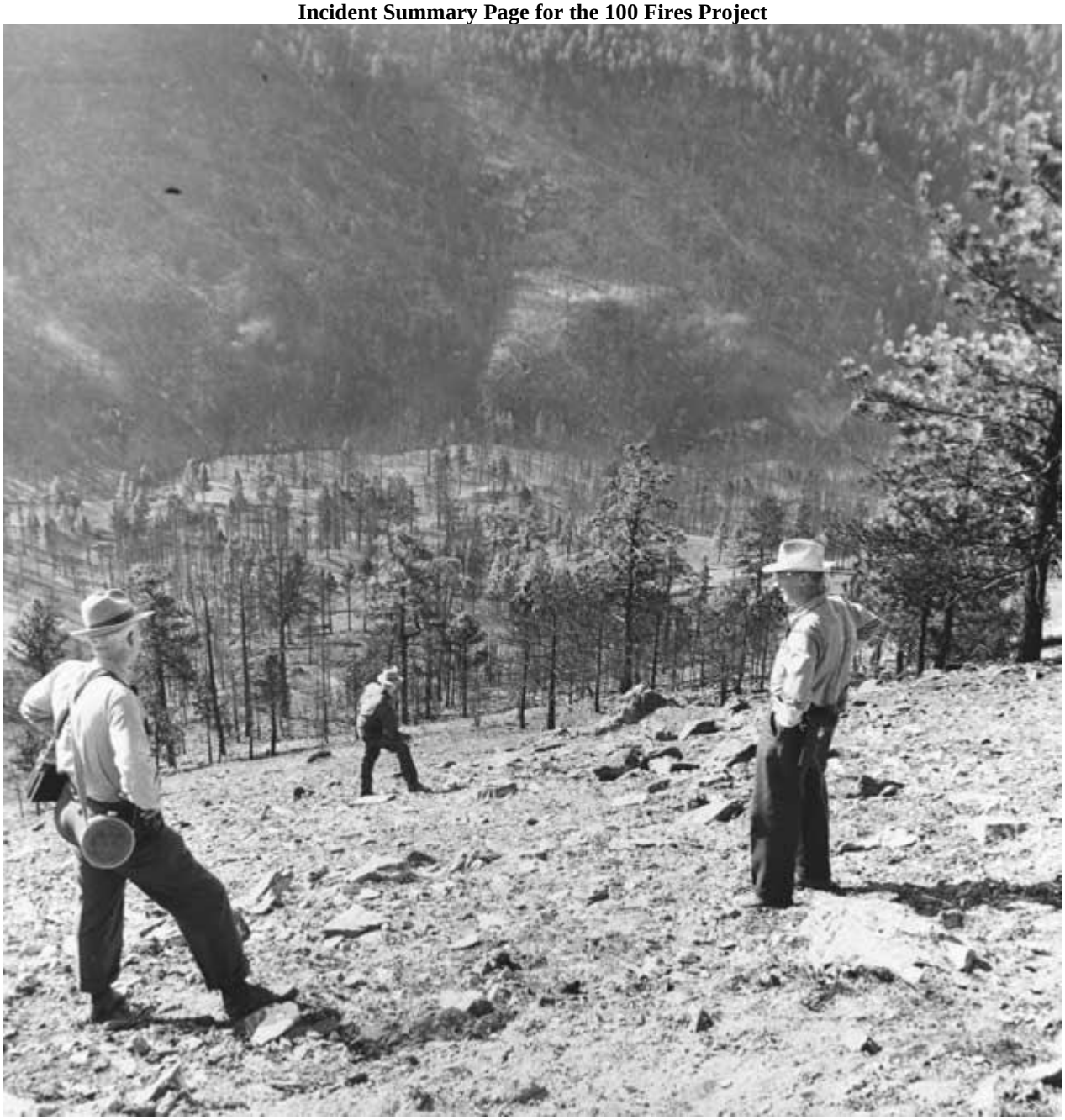

Investigation team members at Mann Gulch immediately after the fire.