Remembering MANN GULCH

August 1949

70 years later, deadly wildfire's legacy still endures

PHOTO COURTESY OF DICK WILSON/UM ARCHIVES & SPECIAL COLLECTIONS

The Mann Gulch fire can be seen from a U.S. Forest Service plane in August 1949.

PHOTO COURTESY OF USFS

Montana's MANN GULCH FIRE

NUGGETS FROM HELENA

MARC CHILDRESS

Most historians might argue that we have a duty to remember the sacrifice, determination and courage of those who undertook particularly daring, potentially dangerous and unusually heroic acts for which a high price was often paid. This summer two anniversaries of particular note come into juxtaposition.

This June 6 marked the 75th anniversary of the D-Day invasion of German occupied France, which began a long fight across Europe by allied armies to Berlin and the end of World War II.

Aug. 5 marked the 70th anniversary of an event, smaller in scope, but no less significant to those involved, to their families, friends and a fledgling community of smokejumpers and wildland firefighter co-workers.

The Mann Gulch fire north of Helena was caused by lightning strikes near the top of the ridge high above the mouth of the gulch at the Missouri River. By 2:30 p.m. on that day, 16 smokejumpers had left Missoula's Hale Field aboard a Johnson's Flying Service C-47 aircraft headed for the fire.

By 4:10 p.m., 15 of the smokejumpers were on the ground in Mann Gulch. One jumper returned to Missoula with the plane, ill from the turbulence of the flight. About 5 p.m. the crew was headed from the drop point to attack the fire from below with the river at their backs in case they needed to retreat to safety. The crew foreman crossed the gulch to meet the local fire guard who had hiked up from his patrol cabin on the river. Together they rejoined the crew about 5:40 p.m.

Minutes later the foreman saw that the fire had jumped the gulch, cutting off the crew's access to the river. The flames had started to spread up the gulch toward them. The foreman turned the crew and led them at an angle up-slope toward the ridge and away from the fire. The winds increased and drove the fire rapidly toward them in the high grass and brush. The fire had "blown up." The steep slope, smoke, and high temperature slowed the men in their race to escape the flames. They dropped their tools and fire packs in an attempt to speed up and stay ahead of the

PHOTO COURTESY OF PHILIP SCHLAMP/USFS

Fred Patten, recreation guard at Meriwether Campground, inspects the remains of a flashlight used in the Mann Gulch fire of 1949. The cross next to him marks the spot where Leonard J. Piper, a smokejumper, lost his life in the fire.

AP PHOTO COURTESY OF U.S. FOREST SERVICE

Mann Gulch fire survivors Walter Rumsey, center left, and R. Wagner "Wag" Dodge, center right, in this 1949 photo, are flanked by Forest Service investigators inquiring into the Aug. 5, 1949, Mann Gulch fire.

AP PHOTO COURTESY OF U.S. FOREST SERVICE

Caskets containing the bodies of Mann Gulch fire victims await shipment home to families in this August 1949 photo.

fire. The flames reportedly reached up to 50 feet in height and were traveling up the slope 50 yards every 10 seconds.

Two hundred yards after dropping their gear, the foreman realized that they were going to be overrun by flames. He lit an "escape fire" in the grass and told the men to lie down in the ashes to survive the rapidly approaching wildfire inferno. Independently, two men followed the edge of the "escape fire" to the ridge top and the rocks. None of the rest of the crew followed the foreman into the safety of the ashes of the "escape fire" and all were overrun by the flames. Only the smokejumper crew foreman and the two smokejumpers who reached the rocky ridge area survived.

The crew foreman's actions in setting an "escape fire," which no one had attempted before, proved a lifesaving innovation for him. No one knows why the crew did not follow his directions, or if they even heard them. They kept running for the rocky ridge where it could be assumed the fire would probably quiet and slow down.

The Mann Gulch fire was estimated at 60 acres when the smokejumpers arrived, and at 3,000 acres after the "blow up" when the firefighters were overrun. It was 5,000 acres when finally contained. The cause of the "blow up" was a collision of circumstances including fine flashy fuels such as tall cured grass, low moisture content of the fuels due to late season drying and curing, local topography causing air currents along the Missouri River breaks and regionally long-term hot and dry weather and winds. The cause of the fatalities is less clear. If the crew had followed the foreman into the burned area created by his "escape fire," perhaps all would have survived.

Lightning-caused wildfires in the West are common and usually turn into statistics by the next fire season. Without the deaths of 13 firefighters there would be little calling to remember the Mann Gulch fire of 1949. The deaths of 12 smokejumpers and a local fire guard have earned the Mann Gulch fire the status of a legend.

From the Mann Gulch Fire incident, lessons were learned about fire fighter safety, the importance of communications and leadership, and fire behavior. The Forest Service began to think more strongly about developing national fire research laboratories, which eventually were established at several locations including one at Missoula.

The value of fire to the overall health of the forest and the question as to whether all wildfires should be attacked aggressively, with all available resources, in all situations and all locations was not to be addressed until many years later.

The same C-47 aircraft that dropped the smokejumpers on the Mann Gulch Fire in 1949 had seen service during World War II. It came into service in 1944, but too late to participate in the actual D-Day invasion.

The C-47 is the military version of the civilian DC-3 plane which was designed in 1935 and became one of the first truly reliable and efficient passenger aircraft. Over 10,000 DC-3/C-47s were produced in this country.

General Dwight Eisenhower, the commander of Allied forces during the invasion of Europe, was credited with the statement, "most vital to our success in Africa and Europe has been the Jeep, the

More Retrospect, **PAGE 4**

Retrospect

continued from Page 3

two and a half ton truck and the C-47. "

The Mann Gulch plane, now known as "Miss Montana," tail number N-24320, was one of four C-47/DC-3 aircraft acquired by Montana's notable Johnson Flying Service in Missoula after the war and delivered smokejumpers and cargo throughout the state and surrounding areas until 1975 when the Johnson Flying Service business was sold.

The Mann Gulch plane was rediscovered and brought back to the Museum of Mountain Flying in Missoula in 2001 where it has been on display. Our "Miss Montana" was restored over the past year at the Museum of Mountain Flying and participated in the 75th anniversary flyover and paratroop drop reenactment in Normandy, France in June of this year. It was one of only a handful of other C-47 aircraft still flying and available for the event. It was also restored to reflect and honor a portion of the history of civilian aviation in Montana and throughout the west. A second plane, a DC-3 civilian version of the plane, has recently been acquired by the Museum of Mountain Flying. Both planes will continue to be housed at the museum for visitors to experience.

Coincidental to the history of the 1944 D-Day invasion of Normandy, France during World War II and the history of the Mann Gulch fire of 1949 was my personal experience with the C-47 airplane that actually dropped the smokejumpers on the 1949 Mann Gulch fire.

In May of this year I happened to be standing in the horse pasture when the restored C-47 now known as "Miss Montana" flew directly over my head, with perhaps only 300 or 400 feet separating us. The rumble and the roar of the two radial piston driven engines can actually be felt as well as heard, and I could imagine the effect the sound a whole squadron would have.

This plane was on a training flight from its home at the Museum of Mountain Flying in Missoula prior to leaving for Normandy for the D-Day Celebration. It carried parachutists for a practice jump. It made five or six circles over the valley before dropping a "stick" of jumpers over a local rancher's field. The thrill of participation in the event was as strong in the adults and children who lined local roads and the school grounds to watch the plane fly over and drop the jumpers, as it was in the pilot, aircrew, and parachutists. The parachutists commented that they could hear the school children cheering as they drifted down to a hay field near the school.

ASSOCIATED PRESS

An August 1949 photo shows the scope of the Mann Gulch fire near Helena, which took the lives of 12 smokejumpers and a forest ranger when a wall of flame raced up a steep hillside. The lightning-caused blaze burned more than 3,000 acres and controlling it required the efforts of more than 400 firefighters.

We honor people and events by remembering and passing on their stories. Our shared memories connect us. We commemorate them at anniversary remembrances. We learn about them by visiting a specific place or physical memorial to the people or events. We honor them by recording, documenting and interpreting in studies, literature, in signs and markers and displays. We preserve them by official designation as a part of the National Register of Historic Places as was done for the Mann Gulch fire area in 1999. We preserve significant artifacts that they can be touchstones to the past.

"Gone but not forgotten" can become "Not forgotten and not gone."

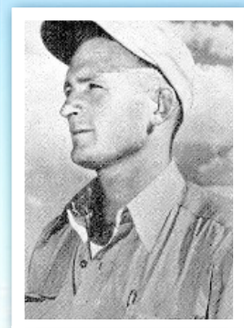
Marc Childress retired from the U.S. Forest Service in 2008 after a 37-year career on five different national forests in Montana, Wyoming and Idaho. He wrote this on behalf of the Lewis and Clark Heritage Tourism Council, which provides the monthly "Nuggets from Helena" column in the Independent Record.

The men on the Mann Gulch fire

The 13 men who were killed in the Mann Gulch fire on Aug. 5, 1949, are pictured here in these 1949 U.S. Forest Service file photos, along with the three survivors from that day. Twelve smokejumpers and a forest ranger died when a 200-foot wall of fire swept up the steep slopes of Mann Gulch near Helena.

Robert Sallee–Survivor

Walter Rumsey–Survivor



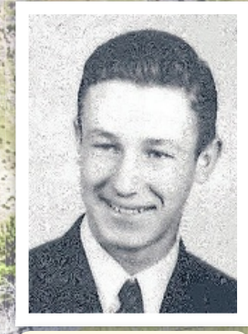
Wag Dodge, Foreman–Survivor

William J. Hellman–Killed

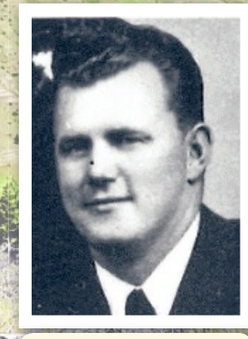
James O. Harrison-Killed

Philip R. McVey–Killed

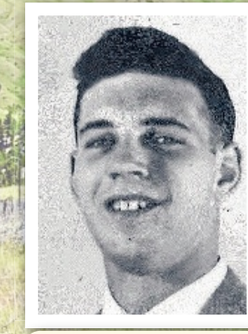
David R. Navon–Killed



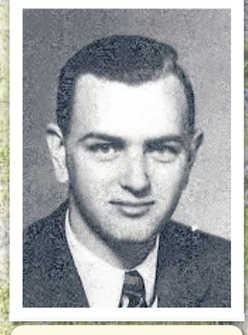
Leonard L. Piper–Killed



Stanley J. Reba–Killed



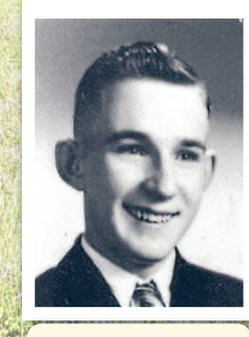
Eldon B. Diettert–Killed



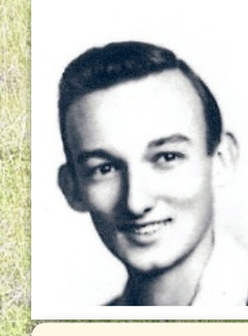
Robert J. Bennett–Killed

Marvin L. Sherman–Killed

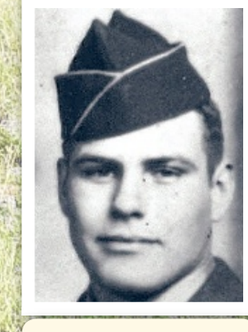
Joseph B. Sylvia–Killed



Henry J. Thol–Killed



Newton R. Thompson–Killed



Silas R. Thompson Jr.–Killed

The recovery crew digs through the food and water dropped to them. According to Wilson, the smell of the burned bodies was so bad most of the men skipped lunch because of their nausea.

PHOTO COURTESY OF DICK WILSON/UM ARCHIVES & SPECIAL COLLECTIONS

Smokejumper recounted Mann Gulch recovery effort in photos

PHOTO COURTESY OF DICK WILSON/UM ARCHIVES & SPECIAL COLLECTIONS

After successfully recovering the bodies of the deceased, the crew hikes back down to the Missouri River on Aug. 6, 1949.

THOM BRIDGE
thom.bridge@helenair.com

On Aug. 6, 1949, the U.S. Forest Service sent a recovery mission to the site of the Mann Gulch fire after tragedy struck the smokejumpers the day before. On that recovery crew was smokejumper Richard "Dick" Wilson, who carried a small film camera in the collar of his jumpsuit and captured some of the only photos of the aftermath.

In a 2017 interview published on YouTube, Wilson recounts that day and the mission to rescue those who fell victim to the Mann Gulch fire.

The rescue crew hiked in 150 pounds of first aid supplies, but upon arrival realized medical aid was useless because the smokejumpers were already deceased. They did find use for the sleeping bags they brought.

"They didn't have body bags at the time," Wilson said. "So we slid open the sleeping bag to put bodies in."

The crew was tasked with hiking the deceased to the top of a ridge so a helicopter could airlift the bodies back to town. The operation took a total of two days.

Wilson says he carried what he saw that day for the rest of his wildland firefighting career.

"It's something that you always remember, it's something that affected my entire firefighting career," he said. "I was always cognizant of the people dying on fires."

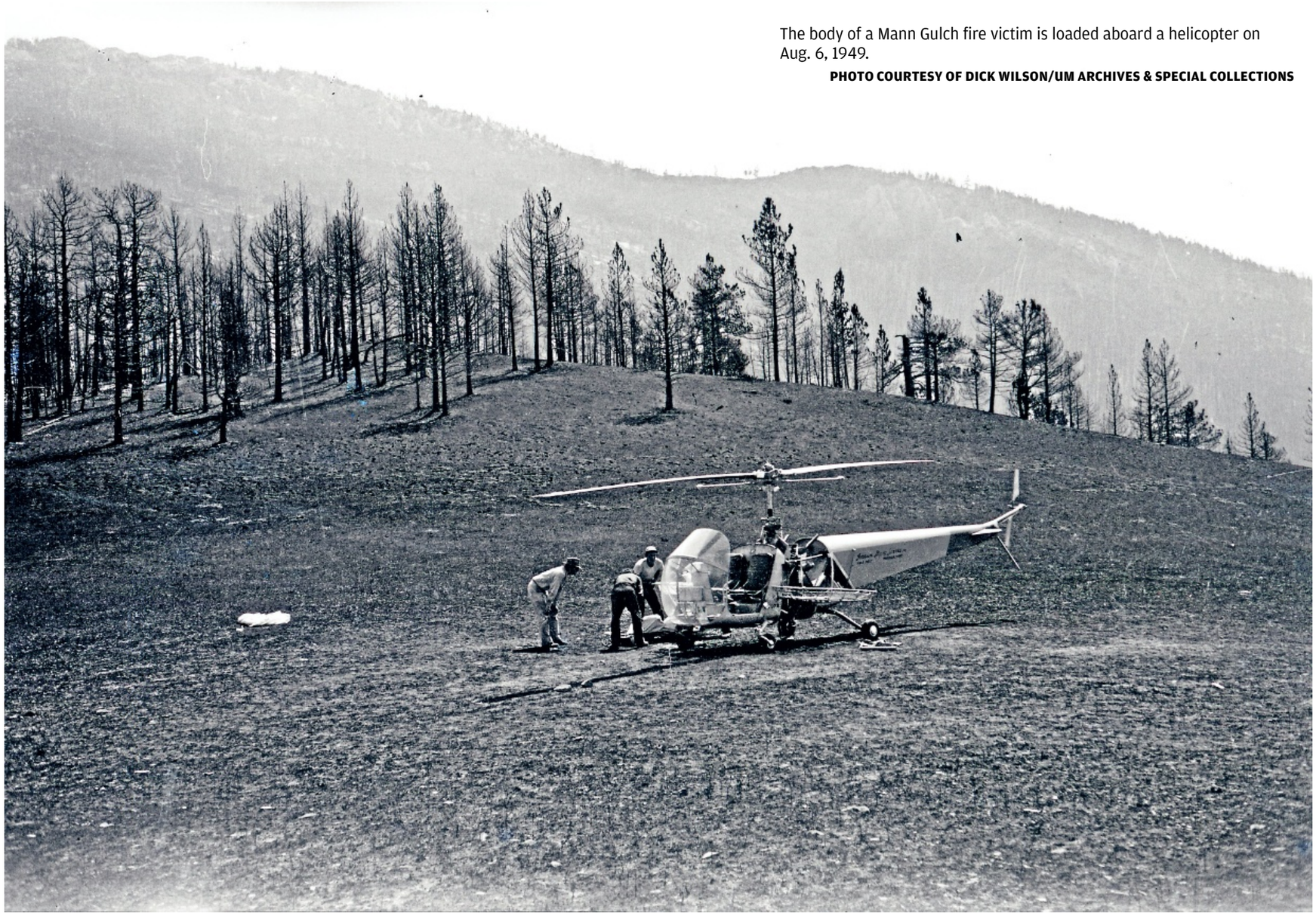
Wilson went on to be a wildfire logistics coordinator and would determine whether neighborhoods were safe to put firefighters on. He says that during his career, he didn't lose any firefighters under his supervision.

"I would burn homes up far easier than I would burn people up," he said.

Images captured that day show the recovery effort and scenes of the wildfire's destruction.

These images were provided thanks to the University of Montana's Archive and Special Collections, which houses Wilson's collection.

Mann Gulch recovery effort in photos

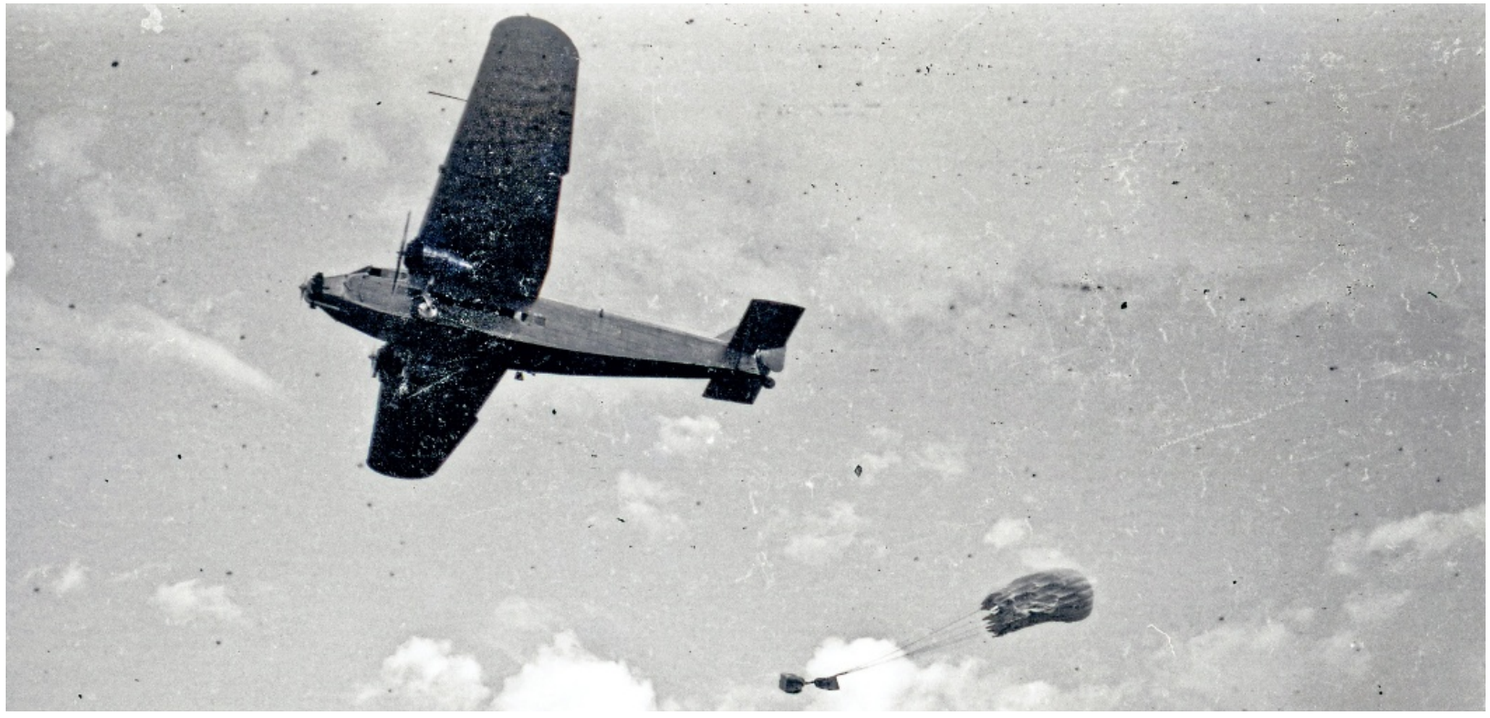


The body of a Mann Gulch fire victim is loaded aboard a helicopter on Aug. 6, 1949.

PHOTO COURTESY OF DICK WILSON/UM ARCHIVES & SPECIAL COLLECTIONS

Two deer wander toward the recovery crew during a break that day. Wilson believes the deer were in shock from the fire because of their abnormal behavior.

PHOTO COURTESY OF DICK WILSON/UM ARCHIVES & SPECIAL COLLECTIONS



A Forest Service plane drops food and water to the recovery crew in Mann Gulch Aug. 6, 1949.

PHOTO COURTESY OF DICK WILSON/UM ARCHIVES & SPECIAL COLLECTIONS

Flathead man dodged Mann Gulch flames

Jack Dunne was retrieving parachutes in Idaho when deadly Montana blaze flared

KIM BRIGGEMAN
kbriggeman@missoulian.com

TOMMY MARTINO PHOTOS, MISSOULIAN

Jack Dunne looks on and smiles as he sits near the Flathead River outside the Montana Veterans Home in Columbia Falls earlier this summer. Dunne, a decorated World War II tail gunner, was in his fourth season as a smokejumper when 13 men suffered fiery deaths at Mann Gulch on Aug. 5, 1949.

COLUMBIA FALLS — Jack Dunne knows it could've been him at Mann Gulch. Seventy years later he still insists that, had he been there, it wouldn't have been.

Dunne was a World War II veteran in his fourth season of smoke jumping out of Missoula when a dozen jumpers and one other firefighter suffered fiery deaths at Mann Gulch on Aug. 5, 1949.

The Forest Service parachuting program was young, like most of the victims. Dunne, a wizened 23-year-old, was retrieving parachutes after a minor fire in northern Idaho 250 miles away when the inferno in the Gates of the Mountains blew up at around 5:30 p.m.

In a life-and-death scramble for the ridgetop above the Missouri River, foreman Wag Dodge stopped and lit an escape fire to divert the worst of the flames. He hollered at others to join him in his own burn. Either they didn't hear him, didn't understand him or didn't believe him. None obeyed him.

Facedown in the ashes, wet handkerchief to mouth, Dodge survived. Only two others did. Bob Sallee of Willow Creek, just 17, and 21-year-old Walt Rumsey of Kansas squeezed through a crevice in the rimrock above Dodge's fire and made it to the Promised Land.

Dunne knew Dodge. He'd seen him every morning at the smokejumper base at Hale Field in Missoula, whenever one of the two of them wasn't out on a fire or support assignment.

From the first day he stepped on base in 1946, Dunne had been designated "tool man" and filer of crosscut saws, having sharpened those skills working for the Forest Service before he joined the Army as well as at sawmills, including J. Neils Lumber Co. in Libby, after his discharge.

"His (Dodge's) job was taking care of supplies and the trucks, etcetera," Dunne, now 93, said on a recent morning at the Montana State Veterans home in Columbia Falls.

"Wag Dodge would come walking by. He wouldn't stop or anything. He'd say, 'Good morning, Jack,' and I'd yell good morning back to him. He kept right on going. He was a marvelous man."

Dunne's point through all these years was echoed by the late Norman Maclean in "Young Men and Fire: A True Story of the Mann Gulch Fire." That is, Dodge, an old hand in the young smokejumper program, was most valuable to that program as a fix-it man.

"He could do things with his hands approaching artistry," is how Maclean put it.

"The foreman did all the buying and things like that, but he didn't work in the training of these people," Dunne recalled. "The kids (on the Mann Gulch fire) didn't know him."

That's why Dunne, the veteran, feels he would have survived.

"The foremen we had, and we had maybe three or four, they were good heads. They came up the hard way. Nothing was ever given to any of those people, and if they told you to do something, you did it," he said.

"Now these younger guys, there was a couple of outlaws in that bunch, and they said, 'Bull——. We're not going to lay down and let that fire burn us to pieces.' As it turned out ... that just wouldn't have happened."

• • •

There are details from '49 that Dunne doesn't recall as he did 35 years ago. In 1984 he was nearing the end of a long teaching career in Whitefish when he sat down with Jim Norgaard for an interview as part of the Smokejumpers 1984 Reunion Oral History Project.

Dunne told Norgaard that about a week before the Mann Gulch fire he'd been part of a crew that jumped on a fire on Edith Peak north of Frenchtown. He started cutting fire line with a saw, a job he preferred to do alone.

"If you don't get a good partner," he explained, "it's work."

A young jumper approached him and asked to help. Dunne demurred but upon the boy's insistence finally consented.

"And the guy was good," Dunne told Norgaard. "I mean, he was real good. The saw has a particular singing sound when it's working right and it was an absolute pleasure with that man, and we walked all the way through the fire line."

The young man's name was Sherman. Marvin Sherman grew up in Darby, moved to Missoula in 1942 and graduated from high school there. He was a Navy veteran and rookie smokejumper.

Two weeks after impressing Dunne with his saw skills, the 21-year-old Sherman was on the jump list for Mann Gulch. He's one of those who ran past Dodge's escape line and perished.

In the 1984 interview, Dunne said he was dispatched to Bonners Ferry, Idaho, a couple of days before Mann Gulch. This time it was to help cart an injured firefighter out of the woods. Dunne said he was pushing the wheeled stretcher up a trail when it became stuck in a narrow gap through rocks.

"Then one of the new men, he said, 'Hey, just wait a minute,' and he worked his way around the face of this rock … And he leaned over, it must have dropped 50 or 70 feet there, and … grabbed me by the arm and by the hand and between the two of us we drug the stretcher up through this crack in the rocks," Dunne said.

"And I thought, well, there's a good man, 'cause he didn't have to do it, there was other people that could've. But I'm gonna have to get to know him. So there was two good men."

In his interview with Norgaard, Dunne didn't identify the second man. The Idaho fire out, the smokejumpers returned to Missoula to wait for their next assignment. Dunne stayed to lead a crew that spent a day retrieving parachutes from the woods.

They stayed that night at the ranger station at Bonners Ferry. The following morning the ranger brought in news of the Mann Gulch disaster. Both Sherman and the young man who climbed around the rock to help him were on the fatality list.

"It hurt," Dunne said. "It hurt quite bad."

In a sentiment he echoed 35 years later, Dunne told Norgaard he believed the young crew's unfamiliarity with foreman Dodge at Mann Gulch was a key component in their decision to run past the escape fire.

"Maybe they didn't have confidence in him because he hadn't been around that much …" Dunne said. "He told the crew what to do and the crew didn't respond and, of course, (it's) difficult to respond under conditions like that because it must have been quite frightening. And they chose to try to run out of that basin and they didn't do it.

"If he had told me to do it, there wouldn't have been any hesitation at all because he (Dodge) was very experienced and he thought well."

• • •

That was Jack Dunne's last summer as a smokejumper. He'd grown up on what he called the "mean streets of Butte," and left school to join the Army Air Corps as soon as he turned 18 in late 1943.

After the war Dunne received his general equivalency degree, then a teaching degree from Western Montana College in Dillon. He raised a family while teaching at Hot Springs and Whitefish.

Daughter Cindy followed in Dunne's footsteps as an educator, but also lived for years in the smokejumper world after she married Jack Babon.

Babon ran the facility crew at the Missoula jump base from 1981 to 1988. Earlier he spent four seasons fighting fires from the air. He rookied in 1975, the last year Johnson Flying Service owned N-24320, the DC-3 airplane that flew those young men to their deaths at Mann Gulch in 1949.

Babon says now when his future father-in-law was called to the rescue in Idaho in early August '1949, then volunteered to spend an extra day retrieving parachutes instead of returning to the base in Missoula, it spared him the Mann Gulch assignment and probably his life.

"Whenever you get in from a fire or detail, you go to the bottom of the list and work your way up to the top," Babon said.

In a busy fire season such as 1949, when a jumper returned he might find himself right back to the top of the list. That so many at Mann Gulch were rookies who didn't know Dodge or understand his motives in the heat of the moment is not surprising, Babon said. The rotation is a changing thing throughout the summer. Cohesion with a crew foreman is another thing that was addressed in training in the aftermath of Mann Gulch.

"I believe he and a few other guys were at the top of the list," said Babon, a veteran of 72 jumps. "They were taken off the top and the next guys were moved to the top. They were so close to going."

He also believes his father-in-law was fearless. You don't fly 33 missions over the Pacific in World War II as a tailgunner in a B-29, and earn the Distinguished Flying Cross and an Air Meda if you're not.

"Something like (Mann Gulch) is scary, but I've been through scarier things in the war," Dunne said.

A tailgunner in a bomber, peering through a tiny opening at enemy aircraft and antiaircraft guns trying to do you the ultimate harm, is "about as scary as it gets," he said. "You can talk to yourself and everything else under those circumstances."

In the seven decades since Mann Gulch blew up, Jack Dunne has reflected on its lessons and comes up with the same conclusion.

"Of course I've thought about it quite a bit, and if you're in the business long enough you're going to see that," he said. "If you're fighting fire you're going to get involved with the fire itself.

"But no, I would have come out OK."

"Obviously, you needed to be here for me, Dad," Cindy Babon said. "So thank you very much."

"Maybe they didn't have confidence in him because he hadn't been around that much …" Dunne said of the foreman on the Mann Gulch fire. "He told the crew what to do and the crew didn't respond and, of course, (it's) difficult to respond under conditions like that because it must have been quite frightening. And they chose to try to run out of that basin and they didn't do it.

The summer of the Mann Gulch fire was Dunne's last as a smokejumper. "Of course I've thought about it quite a bit, and if you're in the business long enough you're going to see that," he said. "If you're fighting fire you're going to get involved with the fire itself."

Tragedy at Mann Gulch

On August 5, 1949 a tragic wildfire killed 13 firefighters on the hillside opposite you.

The survivors

Walter Rumsey

Robert Sallee

Wag Dodge

Thirteen men were killed by the fire.

Stanley J. Reba
Silas R. Thompson
Joseph B. Sylvia
James O. Harrison
Robert J. Bennett
Newton R. Thompson
Leonard L. Piper
Eldon E. Diettert
Marvin L. Sherman
David R. Navon
Philip R. McVey
Henry J. Thol, Jr.
William J. Hellman

Missoula Smokejumpers and the Meriwether recreation guard were sent to control a lightning-caused wildfire that started where you now stand. While heading towards the river to attack the fire from below, shifting winds caused the fire to jump across the gulch, trapping the 16 firefighters inside the steep canyon. The turbulent winds exploded the fire into an inferno, engulfing the men and killing all but three.

3:35-5:00 pm

Smokejumpers landed here and walked down the gulch.

They continued on, trying to get in a better position to begin fighting the fire: downwind and closer to the river.

5:30 pm

Before they reached the river, the fire had jumped the canyon and blocked their route.

They turned around and tried to outrun the fire as it raced them back uphill. Realizing the fire was gaining on them, the foreman Dodge ordered the men to drop their equipment and go faster.

5:55 pm

Foreman Dodge realized they could not outrun the fire, and lit an escape fire to provide a burned-out area the fire would bypass. He directed the men to join him inside the safe area, but they continued on instead.

Two men, Sallee and Rumsey found an opening in the tall rim rock walling off the canyon, and climbed through to safety on the other side.

6:00 pm

Dodge survived in his escape burn, although the ferocious and turbulent winds generated by the fire actually lifted him off the ground several times. Salle and Rumsey also survived behind the rock wall.

They did not die in vain...

Studying these tragic events has provided important lessons about suppressing wildland fires. Today, we know more about how weather and fuel sources influence fires, and we have better training and safer equipment.

For more information contact the Helena Ranger District.

Research, text, design and illustration by Denise Dahn, Dahn Design, LLC

This commemorative sign was installed at Mann Gulch to explain the tragedy to visitors.

Lessons learned from the Mann Gulch tragedy

THOM BRIDGE PHOTOS, INDEPENDENT RECORD

A memorial to the smokejumpers who died on the Mann Gulch fire welcomes visitors at the Meriwether Picnic Area.

Retired smokejumper John Driscoll points to the location where 13 men died on Aug. 5, 1949, fighting the Mann Gulch fire.

TOM KUGLIN
tom.kuglin@helenair.com

The tragedy that unfolded on Aug. 5, 1949 in a remote gulch north of Helena stands as the smokejumpers' deadliest day.

Mann Gulch still sits today much like it did 70 years ago, isolated between the Missouri River and wildlands of the Big Belt Mountains. No roads provide motorized access. Trails from roads range from 7 to 18 miles by foot or horseback through a mix of steep canyons and ridgetops. And water travel means finding a boat to transport people and supplies.

In August of that year nearby fires at York and in Cave Gulch demanded nearly all the resources the local area could muster. So when the call came in for a small wildfire burning in the remote stretches of Mann Gulch, it is little wonder the request went to Missoula for the smokejumpers to respond.

Mann Gulch today

Seven decades later, Helena-Lewis and Clark Forest Supervisor Bill Avey sat at the Gates of the Mountains Marina, preparing to board a boat along with other Forest Service officials and John Driscoll of the National Smokejumper Association. Their destination was Mann Gulch the way most visitors see it today: a tour boat ride down the Gates of the Mountains and a steep switchback trail to the ridge where the fire started.

Visiting the site where 13 people lost their lives offers the starkest of reminders of the dangers wildland firefighters face and the decisions to put them in harm's way to protect life and property.

"We put a lot of training and responsibility into people," Avey said. "You've got to

A informational signs tells the story of the Mann Gulch tragedy to hikers who pass by.

respect the fact that they're the ones on the ground and in the field making those decisions. You also have to respect the responsibility and the accountability that we put on those folks, because they're truly making life-safety decisions."

Following the historic 1910 fires that burned 3 million acres across Idaho and Montana, the Forest Service knew fire crews made up of whoever was available needed serious reform. By the 1930s interest grew in parachuting firefighters into remote blazes and by 1940, the first jump occurred in Washington. In 1949, 150 smokejumpers worked in the region, mostly concentrated in Missoula.

"It's like jumping out of a subway train in New York City," Driscoll, who jumped in the 1960s, said. "You're going down a tunnel and there's all this stuff coming by you and you have a feeling of motion and you jump into it.

"So you have to psyche yourself up that you're jumping into a picture window or something, or you say to yourself, 200,000 people have made this jump and only a few have been killed so the chances are it isn't going to happen to me."

Driscoll has 17 jumps to his credit and says that was enough. Given the gravity of the work they do, a tremendous level of respect exists for the decision of a firefighter to hang up his or her gear.

"There's a lot of mutual respect there because it's a pretty fearsome deal, at least it was for me," he said.

The crew in 1949 made the jump successfully into Mann Gulch, assembled gear and began to make their way to the Missouri River with the plan to work back onto the fire. The river would give them an important escape if things turned bad.

But before they could make the river, spot fires cut them off and shifting winds brought a racing inferno up the gulch. Crew foreman Wag Dodge ordered them to drop their gear and run. Only two, Robert Sallee and Walter Rumsey, would make the ridge to safety while Dodge succeeded in burning out a small area of grass and lying face down with his coat over his head as the fire burned around him.

Hike to the top

The tour boat landed at Meriwether Day Use area. A jaunt past the guard station begins the climb, switchback after switchback heading up through a narrow crease in the limestone cliffs.

Contemporary trail builders would never put it in the same place today, said Roy Barkley, recreation specialist with the Forest Service, but the historic value of its destination keeps it high on the priority list for maintenance.

The 1.5-mile ascent offers continuous vista views of the Gates of the Mountains below – a stunning stretch of the Missouri River given its name by Meriwether Lewis. Finally the trail enters the open ridgetop, cresting just as a commemorative sign comes into view.

Memorials lay scattered across the far hillside for the 12 smokejumpers — Stanley Reba, Silas Thompson, Joseph Sylvia, Robert Bennett, Newton Thompson, Leonard Piper, Eldon Diettert, Marvin Sherman, David Navon, Philip McVey, Henry Thol

More Lessons, PAGE 16

What Mann Gulch looks like today as viewed from the Missouri River.

The informational sign at Mann Gulch shows how quickly the fire exploded.

A view of the Missouri River from the Meriwether trail which leads to Mann Gulch.

Lessons

continued from Page 15

and William Hellman — along with Meriwether guard James Harrison, a former smokejumper who came to assist.

While the loss of life rocked the Forest Service, the tragedy brought important changes to the way fires are fought and studied, Avey said.

The crew worked together little before their jump into Mann Gulch, Avey said. Training now focuses heavily on crew cohesion, leadership and communication when on a wildfire.

Dodge's use of a burnout fire, while it must have seemed radical at the time, especially to the crew who continued to run despite his pleas to join him, is now fundamental to training, he said. Firefighters learn early on the phrase "one foot in the black," giving them a critical escape path into already burned areas.

During wildfire training, Mann Gulch is a place where the Forest Service talks about and sometimes visits with new firefighters, Avey said. The message is unmistakable, driving home the principles of safety in the face of the dangers of the job.

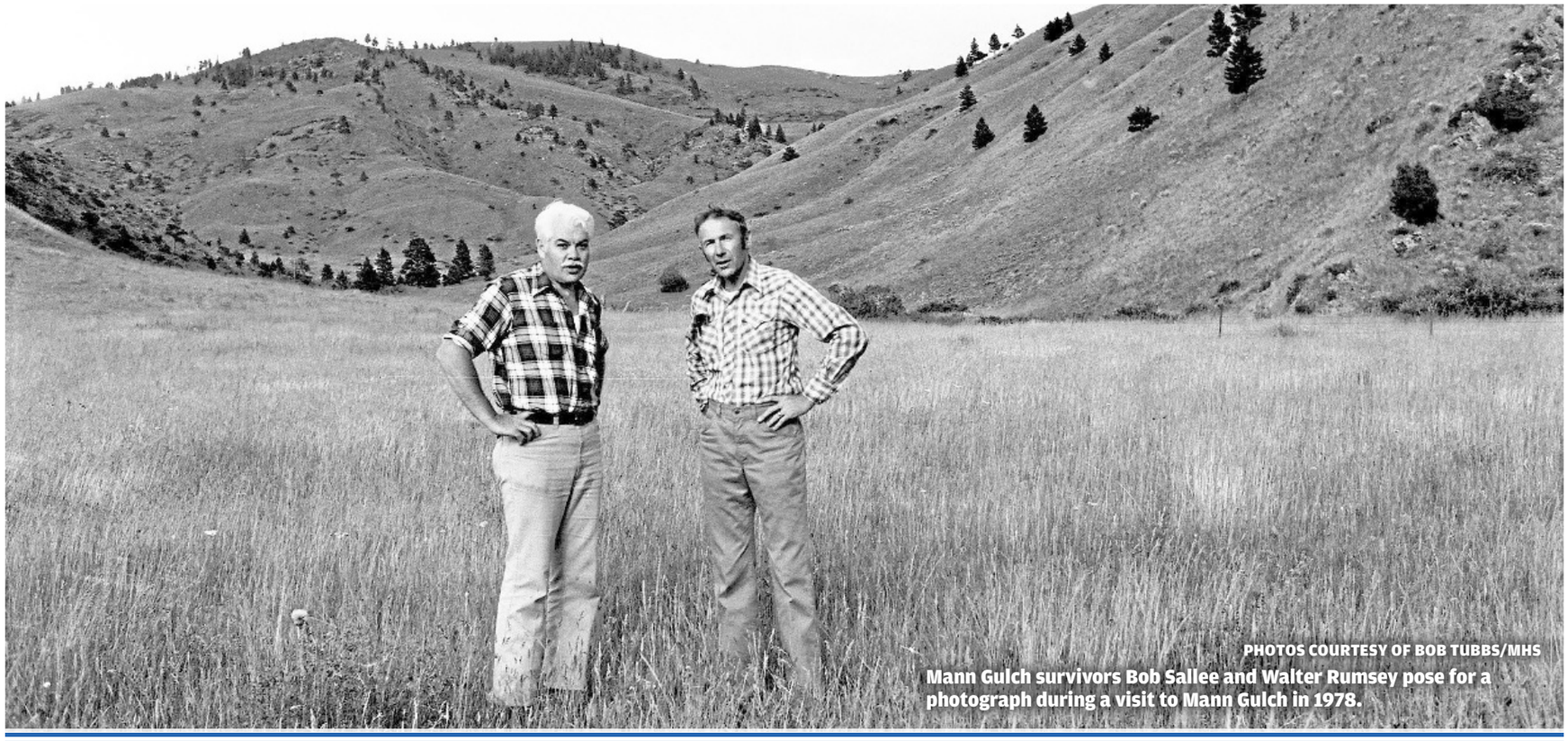
Avey paused when asked whether smokejumpers would jump on Mann Gulch under the same conditions today, given what is known about wildfires. Each fatality or other serious incident is unique, he said, and the exact circumstances will never present themselves again.

Fire managers today face a reality of longer fire seasons and more people and homes in potential danger when deciding when to deploy firefighters on the ground or from the air.

"Our real guiding philosophy is, how do we insert forces to protect the public, limit exposure to responders and have the best probability of success," Avey said. "Sometimes that means you'll jump a fire, a small fire and hit it hard direct because the implications if we don't do that and it grows, you'll have more people at risk.

"The places that keep me up at night are the places where we don't have that time or space."

Forest Service officials and members of the press hike to Mann Gulch from the Meriwether trail on a recent trip.



PHOTOS COURTESY OF BOB TUBBS/MHS

Mann Gulch survivors Bob Sallee and Walter Rumsey pose for a photograph during a visit to Mann Gulch in 1978.

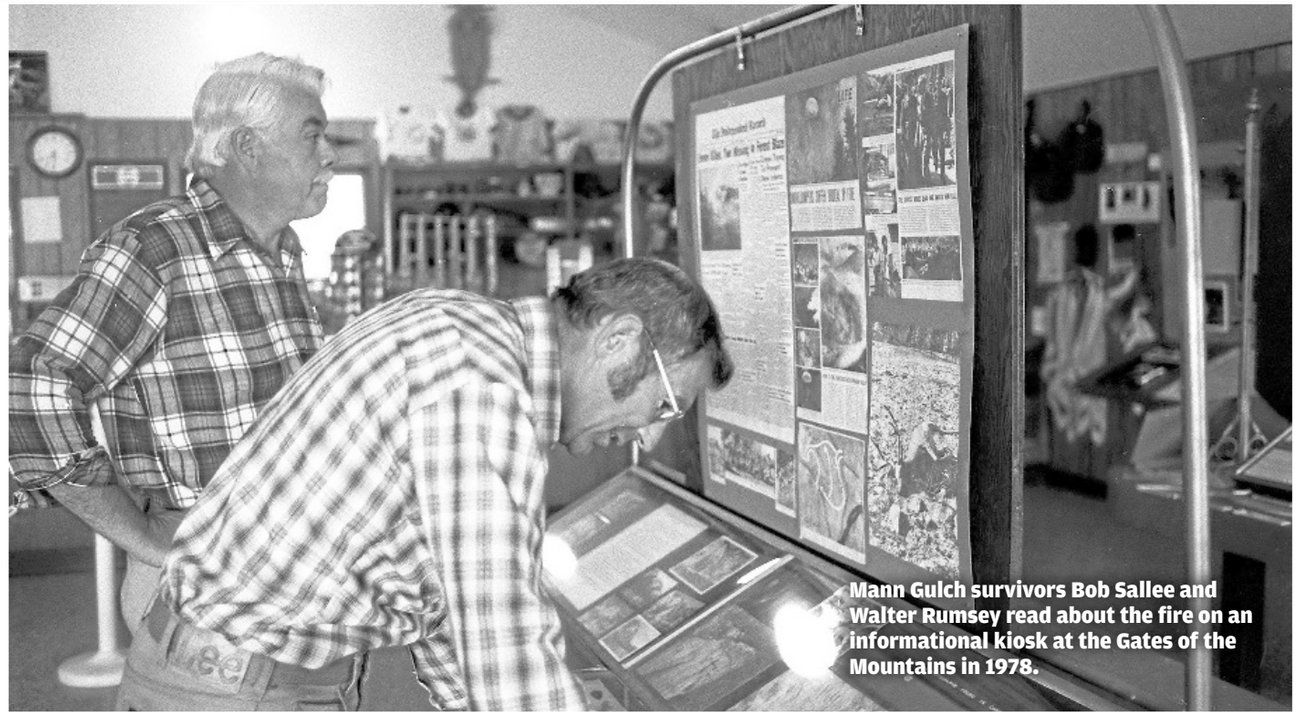
Survivors return to Mann Gulch after tragic day

THOM BRIDGE
thom.bridge@helenair.com

In late July of 1978, while Norman MacLean was doing research for his book "Young Men and Fire," he organized a trip to Mann Gulch with Bob Sallee and Walter Rumsey, the only remaining survivors of the Mann Gulch fire at the time. It was to be the first time the survivors would revisit the scene of the tragedy.

When they arrived to the Gates of the Mountains Marina to take a boat to the gulch, Bob Tubbs, manager of the marina, recognized the men and phoned the Great Falls Tribune. The newspaper staff couldn't send anyone so they asked Tubbs to photograph the visit. These are two of the images, unearthed from the Montana Historical Society archives, from that day.

According to John Tubbs, son of Bob Tubbs, he and Mike Bullock bribed the men with beer and soda to let them photograph the trip.



Mann Gulch survivors Bob Sallee and Walter Rumsey read about the fire on an informational kiosk at the Gates of the Mountains in 1978.

The Mann Gulch plane after being restored in the last year as Miss Montana.

TOM BAUER, MISSOULIAN

Story of 75-year-old DC-3 marked by TRAGEDY, TRIUMPH

KIM BRIGGEMAN
kbriggeman@missoulian.com

Johnson Flying Service's purchase in 1946 of a war-surplus Douglas DC-3 was deemed newsworthy by the local newspaper.

The Missoulian reported the announcement by company president Bob Johnson on April 16.

"Mr. Johnson said the airplane, the seventeenth in the firm's fleet, will be used principally for carrying forest service parachutist fire fighters to their work, and will also carry freight," the Page 5 story said. "It has a capacity of 28 passengers, and will carry three tons of cargo at a cruising speed of 160 miles per hour."

For nearly 30 years, the lumbering aircraft served Johnson in various capacities, carrying smokejumpers, cargo and charter passengers, and spraying weeds and insects. It was sold with the rest of the Johnson fleet to Evergreen International of McMinnville, Oregon, in late 1975.

Known in aviation and smokejumper circles by its civilian registration number N-24320, or simply "three-two-oh," it became the "Mann Gulch plane" to others in 1949, after dropping 12 jumpers to what turned out to be fiery deaths in a steep gulch north of Helena.

The airplane gained a more widespread and heroic moniker in 2018 and 2019 as "Miss Montana," the Museum of Mountain Flying's pride and joy. Part of the D-Day Squadron of "Dougs," it turned thousands of heads when it flew to Europe and back with the D-Day Squadron in May and June 2019 for World War II-related commemorations in England, France and Germany.

It was simply "a twin-engine Douglas DC-3 passenger and cargo airplane" when it first touched down in Missoula in the spring of '46. Johnson pilot Orman LaVoie was at the controls, and mechanic Waldo Matthies was crew chief. Lavoie had logged 1,000 hours for the Army Air Force as a flight officer in World War II, flying over the Burma Hump from India to China. He later flew commercial jets for Western and Delta Airlines. Matthies worked on airplanes similar to the DC-3 for several years while in the Navy and with Northwest Airlines.

By football season 1946, Johnson Flying was promoting round-trip flights to the Grizzly-Bobcat football game in Butte for $8.50 round trip, and to the Grizzlies' game in Seattle with the Washington Huskies for $35.

Johnson soon added another DC-3, which also went by the military designation C-47. In October 1947, Lavoie and Jack Hughes each piloted one to Concord, New Hampshire, to help fight massive forest fires in Maine.

In 1949 a Johnson DC-3 twin engine dropped hay for a snowbound pack string in Idaho's Selway country and sprayed for spruce budworms in Oregon. One of them spent the six weeks prior to the Mann Gulch fire in Buffalo, Wyoming, where it "scattered grasshopper poison bait over nearly 50,000 acres of prairie land," according to the Missoulian.

The call on Aug. 5 came into the jump base at Hale Field in south Missoula at 1:50 p.m. The ranger of the Canyon Ferry Ranger District asked Jack Nash, the loft dispatcher, for 25 smokejumpers.

But N-24320, with a payload of 16 jumpers and gear, was the only aircraft available. Earl Cooley, superintendent of the base, was asked to go along as spotter, and provided the most detailed account of Miss Montana's role in the Mann Gulch fire in his book "Trimotor and Trail."

The jump crew, stationed in barracks on the adjacent county fairgrounds, was assembled and in the air by 2:30 p.m. The plane carried foreman Wag Dodge, 33, and squad leader Bill Hellman, 24, who was second in command. The other 14 jumpers ranged in age from 17 to 24.

Nash went along as Cooley's assistant spotter. The pilot was Ken Huber and the co-pilot Frank Small. A Forest Service photographer, Elmer Bloom, went along to shoot a training film on the workings inside a smokejumper plane.

As it was a short flight to Helena, Cooley and Nash started suiting up the jumpers shortly after takeoff. While Huber was radioing the airplane's location back to Missoula, he couldn't make contact with the Helena Forest.

Cooley said as he was helping Eldon Diettert with his gear, Diettert mentioned he'd been called away from his 19th birthday party at home in Missoula. His father's garden adjoined the Cooleys' backyard in Missoula.

According to Cooley, the 40-minute trip over the Continental Divide was "extremely rough" and some of the men got sick. One, Merle Stratton, threw up in his facemask and begged off the jump. He'd had trouble with airsickness and nausea all season, even checking into St. Patrick Hospital in July. Stratton reportedly quit the smokejumpers when he returned to Missoula that evening.

Once the fire was located, Cooley and Dodge chose a grassy slope at the bottom of the gulch as the best jump site. Two drift chutes were dropped, indicating "about 300 to 400 yards steady drift straight up Mann Gulch."

Huber, an experienced pilot, circled the jump site and Dodge led the first stick of four jumpers out. Succeeding passes at 1,000 feet yielded four, four and the final three jumpers. Only Dodge himself had trouble upon landing, receiving a puncture wound to the bone in his elbow.

The cargo drop also had issues. Because of rough air in the gulch, Huber couldn't get down to the preferred 200-foot level but remained at 1,000. Besides scattering tools and supplies, the lone radio didn't survive the drop. Cooley said the static line broke off in the plane and didn't open the chute.

It landed with "a terrific crash" about a quarter of a mile down the canyon from the landing area, Norman Maclean wrote in "Young Men and Fire." It meant, he said, "that the outside world had disappeared. The only world had become Mann Gulch and a fire."

Dodge and his men put out orange streamers in a double L, indicating to the plane that everyone was present and accounted for.

All told, it was a successful drop from the airplane on what seemed to be a routine 50- to 60-acre fire high above the firefighters on the ridge to the south. The fire would soon burn down the slope near the Missouri River, spot in trees across the gulch, then come roaring up the north side to overrun the fleeing men. Only Dodge and two rookie jumpers survived.

But that was in the unforeseen next two hours.

Her job done, N-24320 circled twice more, then turned for home.

"It headed straight down Mann Gulch and across the glare of the Missouri," Maclean wrote. "It seemed to be leaving frighteningly fast, and it was. It had started out a freight train, loaded with cargo. Now it was light and fast and was gone."

A flight through history

Miss Montana, N-24320

May 4, 1944 – Rolled off the Douglas Aircraft manufacturing line in Long Beach, California. Accepted into service by the U.S. Army Air Forces and assigned to Rosecrans Air Force Base in St. Louis, Missouri.

June 1945 – Transferred to the 554th Army Air Force Base in Memphis, Tennessee.

April 1946 – Missoulian story noted purchase by Johnson Flying Services of Missoula.

May 1946 – After modification for civilian use by Johnson, given the registration number N-24320.

Aug. 5, 1949 – Assigned to fly smokejumpers to Mann Gulch Fire in Montana. Only three of the 15 jumpers survived.

Dec. 22, 1954 – Crash-landed in the Monongahela River near Pittsburgh while carrying 23 soldiers from Newark, New Jersey, to Tacoma, Washington, for Christmas. Nine passengers and the captain drowned attempting to reach shore.

1975 – Sold to Evergreen International Airlines of McMinnville, Oregon

1979 – Sold to Basler Aviation of Oshkosh, Wisconsin

1985 – Sold to McNeely Charter Service of West Memphis, Arkansas

Dec. 15, 1994 – Sustained substantial damage to the tail when a FedEx Cessna jet collided with N-24320 in the dark while both airplanes were taxiing for takeoff in Memphis.

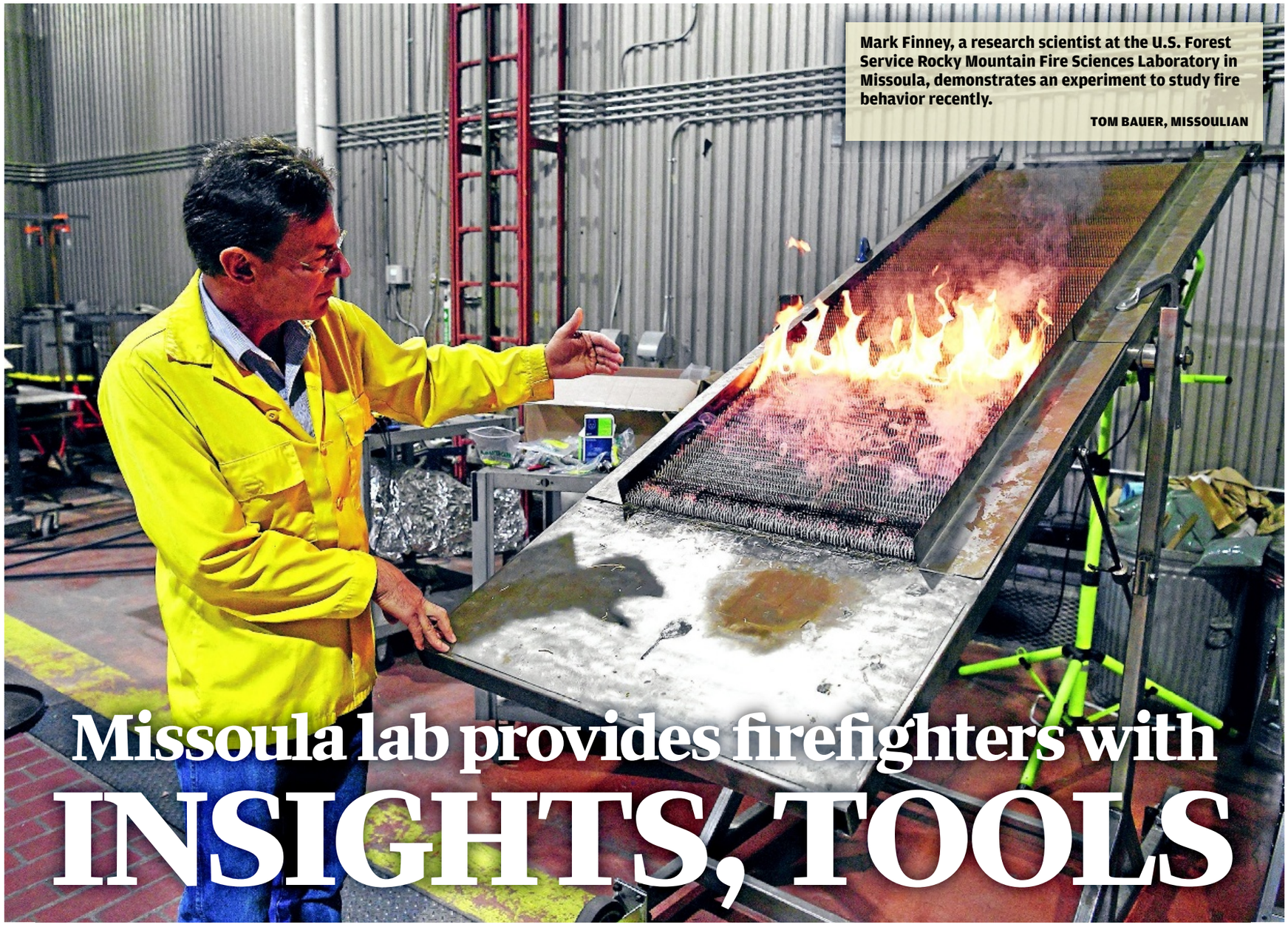
2001 – Sold to the Museum of Mountain Flying, Missoula

2018 – Dubbed "Miss Montana" as efforts began by the Museum of Mountain Flying to make the plane airworthy

May 12, 2019 – Flew for the first time since 2001

May 19, 2019 – Left Missoula to fly to Europe for the 75th commemoration of D-Day and the 70th commemoration of the Berlin Airlift

June 24, 2019 – Returned safely from Europe



Mark Finney, a research scientist at the U.S. Forest Service Rocky Mountain Fire Sciences Laboratory in Missoula, demonstrates an experiment to study fire behavior recently.

TOM BAUER, MISSOULIAN

Missoula lab provides firefighters with INSIGHTS, TOOLS

EVE BYRON
eve.byron@missoulian.com

Most Montanans are familiar with the "what" portion of the 1949 Mann Gulch tragedy — 13 men who lost the uphill race with a deadly wall of flames. But since the 1960s, scientists at the Missoula Fire Sciences Laboratory are better understanding the "why" of the situation and how to keep it from happening again.

Many parts of firefighting are intuitive. Fire burns faster uphill. Fires need fuel, a spark, and oxygen. Wind pushes fire.

But to the scientists and engineers at the lab, which is tucked into a nondescript building near the Missoula International Airport, those properties are just the start of their research, and their discoveries are making firefighting safer.

Bret Butler, a mechanical engineer, notes that the 10 standard firefighter orders and 18 "watch out" situations were devised in the 1960s and haven't changed much. They include the basics like posting lookouts, giving clear instructions and identifying escape routes and safety zones. But when he asked firefighters to define a safety zone, he got mixed responses.

"How big should it be? That was left to personal experience," Butler said. "I did a survey, and the size of the safety zone varied by three orders of magnitude. But when they saw the pictures of the fire, their sizes (for safety zones) increased greatly. That indicates to me that we fire people have a hard time envisioning what fire looks like and its impact on us."

So the scientists at the lab play with fire, testing and recording its characteristics for "boots on the ground" situations.

On a recent afternoon, Mark Finney, a research forester, noted that scientists began looking into the mechanics of wildfires in Region 1 after the 1910 fires.

"Eventually there was a fair amount of momentum to invest in fire research," Finney recalled. "Experimental research is at the heart of science; you can't address the unknowns without experiments. You have to play with them and experiment with them in different ways than ever imagined in the 1960s, when the lab opened."

He stood in front of a 6-foot table with the bottom closest to him lower than the top. Inserted in it were pieces of cardboard with uniform teeth like combs standing up. Finney had selected some that were relatively thin and about an inch tall as he noted that even the simplest questions about

wildland fires are unanswered.

"How do fires spread? What is the physical process?" Finney asks. "That's still largely unknown. But it doesn't mean we can't test the processes. It's like agreeing on the ingredients for a recipe, but if you don't know the amounts of the ingredients and the instructions, you'll get something different every time."

The different types of cardboard tines represent different fuel types, like fine grasses or maybe pine needles or sagebrush. Finney sprinkled "excelsior," which is shredded wood formerly used in Easter baskets, at the base of the table and lights it on fire. He called it an ignition line.

"This isn't intended to emulate what happens in the wildland fires, since fuel in the field is heterogeneous; in the field it varies from centimeter to centimeter," Finney added. "But it helps us study how heat is transferred from what's burning to the next fuel element that ignites."

He lighted the excelsior, and as the flames started to lick up the tabletop, Finney pointed to the troughs in between the tips of the flames. While eyes may be drawn to the dancing tips, activity in the troughs is what makes the fire spread.

"The trough is where the cold air comes down, and that's what's pushing the fire. The top of the flame isn't what's igniting; it's the lower part of the flames," Finney said. "A lot of this hasn't made its way into training and predictive models, but in the not-so-distant future — maybe a few years — we'll work this into prediction and training curriculums. We can explain to firefighting personnel how to interpret this in the field. What does this mean, and how does it translate to different decisions they make for safety purposes?"

He noted that flame behavior on the larger 12-by-20-foot "sand burner" behind him also is relevant to Mann Gulch because they're using propane and other liquid fuels to experiment with the effects of slope on fire spread and flame behavior.

"Those poor guys in Mann Gulch ran up the mountain from down below. Flames will stick to the slope and run very rapidly uphill," Finney said. "We test cautionary behaviors. Don't work upslope of fires. That was Mann Gulch, steep slope and fine fuels. It's interesting that everybody knows fire spreads up slope faster but we still can't fully explain it."

In his office, Butler pulled out a 1993 paper by Richard Rothermel called "Mann Gulch Fire: A Race that Couldn't Be Won" and opens it to page 5. A distance and time graph showed the estimated positions of the Mann Gulch crew and the fire, plotting the movements of both.

"It's simple. People go slower uphill and fires go faster," Butler said, shaking his head as he recalls the 14 firefighters who died in 1994 in Colorado trying to outrun a fire burning on a slope below them and pushed around by wind. "I don't know why we can't learn that lesson."

Bioscience technician Jon Bergroos, right, and Mark Finney demonstrate a wind tunnel fire test at the Fire Sciences Laboratory in Missoula recently.

What they did learn is the need to predict and understand local winds at the ground level. That led to the creation of the WindNinja, a mobile phone app to help fire managers predict what winds will do while out in the field.

Matt Jolly, an ecologist with the Fire Science Lab, said they're also getting ready to roll out across the country the first revision in 40 years for fire danger ratings. The ratings are based on a wide mix of conditions, including humidity, rainfall, sunshine, cloud cover, wind speed and direction, and fuel moistures, among other items.

"We went through the entire fire danger rating system and determined where we have better science," Jolly said. "It both simplifies the system and makes it fully automated. The old system required daily observations at weather stations across the country, a relic of when weather observations were made manually."

Jolly said the nearby regional Northern Rockies Coordination Center, which is the interagency focal point for mobilization of wildland fire resources, already is using the new system.

"We just presented it to the smokejumpers next door last month, and they're excited about it," Jolly added. "Just because it's cool and wet here doesn't mean it's the same when they fly into Idaho.

"Both the firefighters and the public are the reason I come to work each day. I want to ensure we're providing the best possible information so we can keep people safe."

As Jolly, Butler and Finney reflect on the conditions facing the Mann Gulch firefighters, and the knowledge that's available now that wasn't then, they hope that the tools they're providing will prevent another firefighter's death. But they all know that despite their best efforts at the fire science lab, firefighting always will be a dangerous profession.

"I do know that the information we can give them today versus the information they had then, is significantly better and they would have had a better idea of the conditions where they were about to jump into," Jolly said. "What we also have done a better job with since Mann Gulch is empowering firefighters to express their concerns about a decision, and having discussions on how they will mitigate those factors to keep their crews safe. That's a cultural shift that's evolving.

"The big thing is in this lab and all over the country we are committed to learning as much as we can about fire, then taking that last step, which is how do we keep people safer, and the community safer. Because science for science's sake is valuable, but when you can translate that into something people use day to day, hour to hour to keep communities safer and people safer — that's the reason we're here."

Colt Barnard, 11, places flowers on a marker where one of the 13 men died in the Mann Gulch fire. Barnard and his family decided to form One Foot in the Black. The foundation is currently applying for its 501c3 designation with its first goal to fund new crosses in Mann Gulch by the 75th anniversary.

PHOTOS COURTESY OF AUDREY WALLESAR

Montana boy, 11, launching nonprofit to replace Mann Gulch crosses

TOM KUGLIN
tom.kuglin@helenair.com

It all started as a 4-H project for Colt Barnard.

Firefighting is a family affair for the 11-year-old from Fromberg, including his mother Audrey Walleser, and both grandfathers. As he embarked on the 4-H project on forestry, Colt learned more about the tragedy at Mann Gulch in 1949 and became captivated.

"It really started with my mom fighting fire and (Mann Gulch) was one of those things that I found," he said. "What they had to go through at the time, they barely had any good equipment, just jeans and a cotton shirt," he replied when asked what interested him the most.

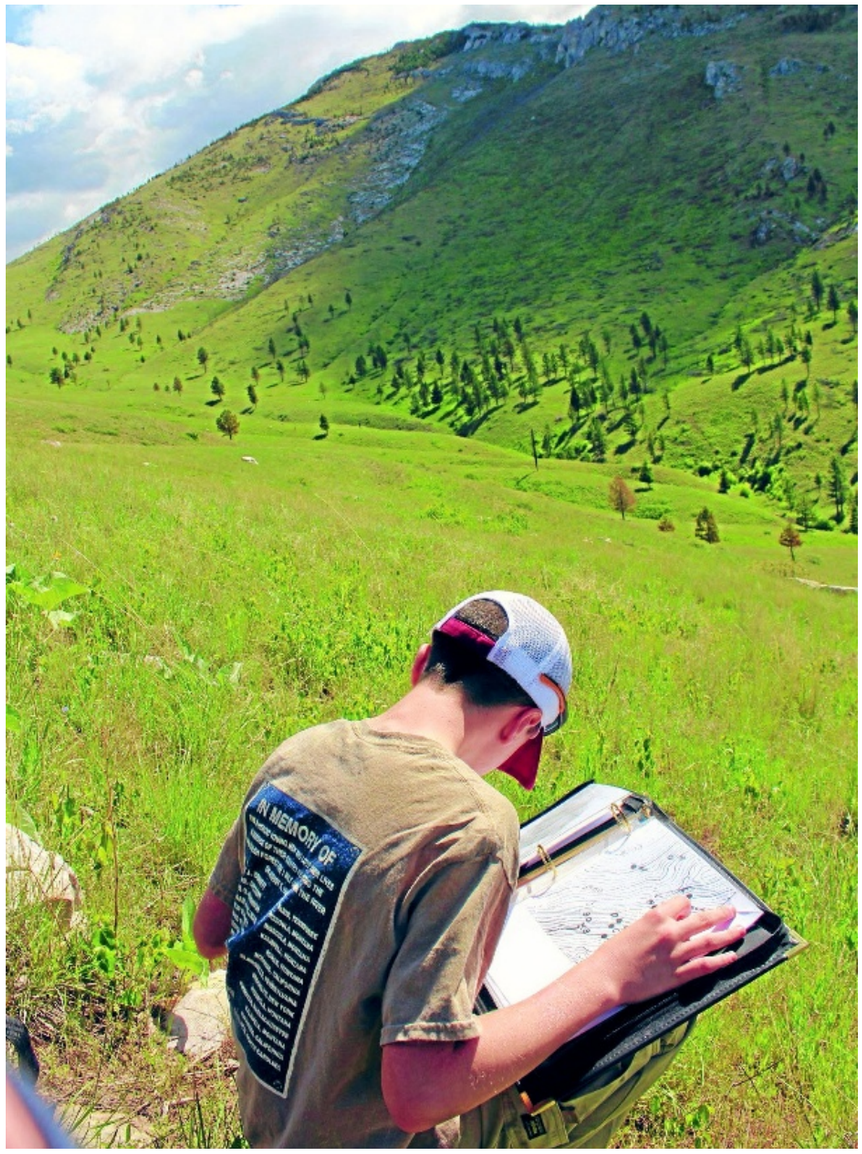
Earlier this summer Colt and Audrey went to Mann Gulch, carrying flowers to place on the 13 markers dotting the hillside. He was struck by the steepness of the slope and what the Smokejumpers faced attempting to flee as the fire blew up.

As they approach the markers, they could not help but notice their poor condition after nearly seven decades in the elements.

"We went up there and saw how destroyed the crosses are," Colt said.

Colt mentioned the idea of raising some money to help fund replacements. As the family began to look at where to donate, they learned that no organization exists to pay for and take care of wildland firefighter memorials.

"The project was supposed to be about



Barnard looks through research materials on a trip to Mann Gulch.

Earlier this summer, Colt and Audrey went to Mann Gulch, carrying flowers to place on the 13 markers dotting the hillside.

forestry, then we started raising all this money," Colt said.

The family decided to form One Foot in the Black. The foundation is currently applying for its 501c3 designation with its first goal to fund new crosses in Mann Gulch by the 75th anniversary.

"With One Foot in the Black it offers the opportunity to go up and replace those crosses and pay a little bit more respect to the firefighters that lost their lives and changed so much of how the fire industry is run today," said Ben Martin, Audrey's fiancé.

One Foot in the Black does not plan to stop after Mann Gulch. They hope to provide grants for wildfire education and community awareness, and to fund memorials at other sites.

"We joke about it all the time that we were just trying to raise some money, but now long-term we're talking about what it will look like once the nonprofit is established," Audrey said.

One of the next projects they hope to take on is new memorials for five firefighters who died in the 2006 Esperanza fire in California. Currently, steel rebar crosses mark the locations where the firefighters lost their lives, but interest has grown in designing more fitting memorials.

Colt's and his family's efforts resonate with everyone who seems to hear about them. Media coverage and word of mouth has helped spread the word about their cause.

"I think it really shocks them that a kid my age is doing this for something that happened 70 years ago," Colt said.

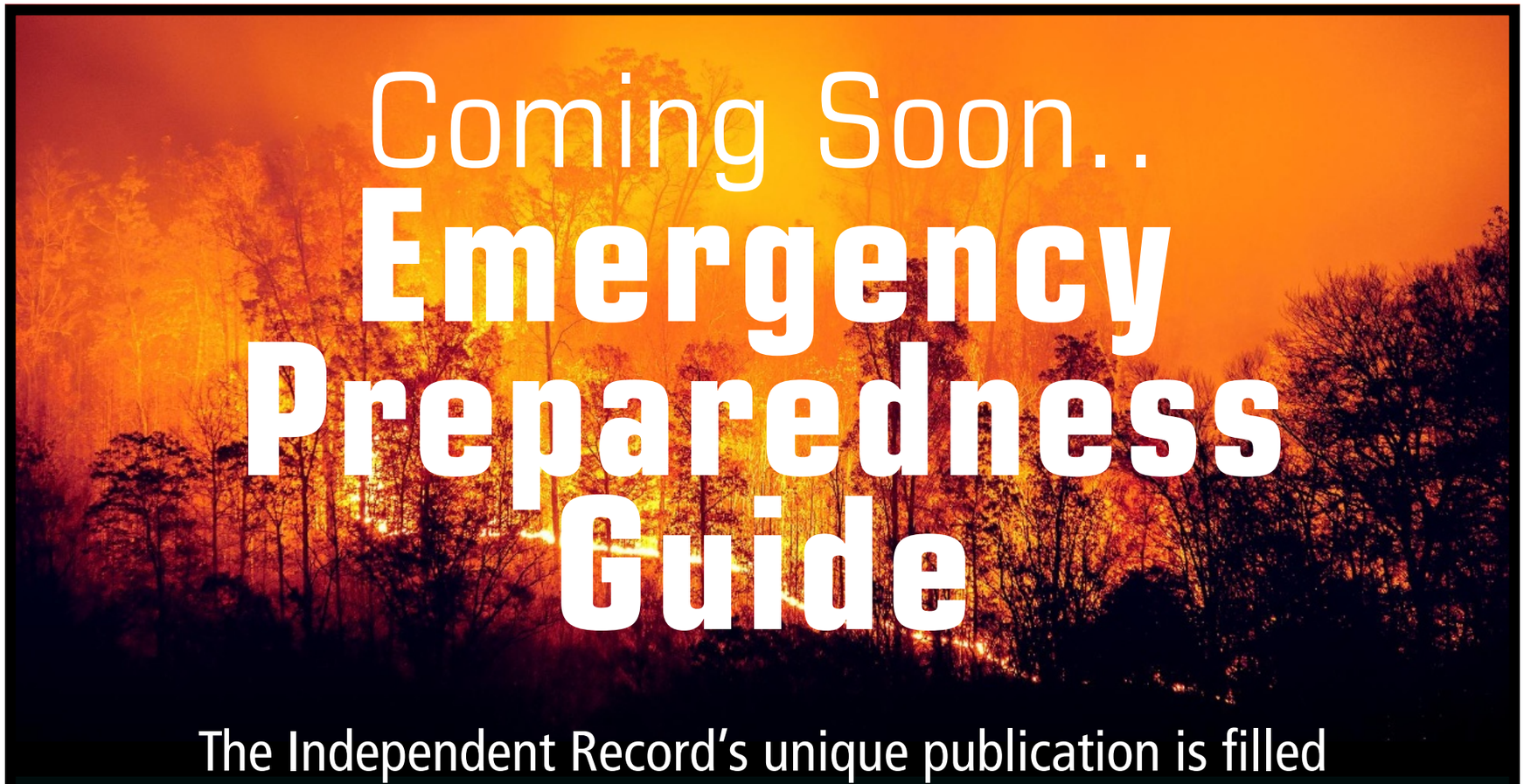
"That's the biggest thing that I think," Ben said, "that it's amazing especially in today's world that you have a kid that's not staring at a TV screen or playing video games, but he's out there doing this."

While the need is clear and the enthusiasm infectious for honoring the loss of wildland firefighters, the family has learned that the efforts are not without their challenges.

"There are lots of moving components, lots of red tape," Audrey said. "There are lots of components of who is really in charge of the Mann Gulch memorials, who is responsible and who makes those executive decisions."

Fundraising includes private donations and a sponsorship by the Greater Yellowstone Adventure Series, which is holding a silent auction for a wildland firefighter print by artist Sarah Morris of Ennis. More information is available at https://www.themadisonmarathon.com/.

Audrey says One Foot in the Black will also launch a Facebook page soon.



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