

**Yellowstone National Park**  
**Fires of 1988 Oral History Project**

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In the summer of 1988, fires swept through Yellowstone National Park burning over 793,000 acres and resulting in the largest firefighting effort in the United States at the time. After the first snows of September, when the fires finally were brought under control, many predicted the nation's first park would never recover. "Moonscape" was a favorite expression at the time.

The fires that blazed through the park in the summer of 1988 affected more than just the land. Thousands of scientists, firefighters, journalists, park personnel, and others from around the country also experienced the fires that year. Working at the Yellowstone National Park Heritage and Research Center in the summer of 2014, three students from my history of Yellowstone class at Montana State University -- undergraduates Todd Jensen and Garrett Smith, and master's student Andrea Yaeger -- interviewed eighteen individuals who witnessed this historic event. While there were many others they had hoped to interview before they had to return to school in the fall, they were able to talk to a representative sample of those who were in the park that year.

Even though the summer of 1988 was more than a quarter of a century ago, most who were there can still recall vividly the fires and their involvement with them, from journalist Rocky Barber, who cut short a family vacation and put his marriage and even his job at risk to cover what he knew would be the story of a lifetime, to firefighter Bobbie Scopa who left her young family behind in Arizona to work on the fire and experienced a real sense of accomplishment

helping lay thousands of feet of hose to the top of a mountain. These kinds of personal stories and remembrances help flesh out the historical record, providing insights into what it was like to experience an event that made front-page news for weeks, and what was, for many swept up in the events of that summer, a life-changing experience.

Many fire scientists had never experienced anything like it, either. Forest Service researcher Richard Rothermel returned to the Northern Forest Fire Lab in Missoula, resigned his position as a project leader, and spent the rest of his career working on a way to better define the behavior of crown fires such as those he had just seen in Yellowstone. Bobbie Bartlette, who worked for Rothermel collecting fuel moisture data in the field, returned to Missoula and took classes in fire behavior, and then went back to school for her master's degree in forestry, wanting to know more about how the data she collected could be used to predict the fire behavior she had seen. For park scientist Liz Colvard, the 1988 fires in Yellowstone turned out to be one of the most amazing experiences of her life.

These oral histories also capture the day-to-day, on-the-ground experiences of those who were there to keep the park open, visitors safe, firefighters transported, and the basic infrastructure working. Ralph Jerla helped ensure that firefighters had safe drinking water and access to water to fight fires, while Tim Hudson kept the lights on and the pumps working. Everyone had a role to play and a contribution to make that summer, from meeting with the press and political representatives, to keeping track of the weather. Superintendent Bob Barbee had the unenviable responsibility of having to do it all.

Conducted twenty-six years after the fires, these interviews also provide a perspective that may have been impossible to capture at the time. For example, even firefighters such as Russ Wenke, trained to fight fires, reported that it has taken time for him to fully appreciate the natural role fire plays in Yellowstone and other fire-dependent forests throughout the region. "I would've been the

first in 1988 to say, ‘Oh man, it's burned up way too much of Yellowstone. It's never going to be the same,’” Wenke admitted. “But I'm also one of the first now to point out to people how it has come back and it is a natural thing.” As fire manager Phil Perkins put it, the fires in Yellowstone were just “... nature taking its course, and it’s just fine. The park was going to be just fine...,”

This is one of the key stories that fire scientist Bob Mutch, a strong advocate of the important role fire plays in these fire-dependent ecosystems, had uppermost on his mind during his interview. As he explained, “... we, the fire community, have failed to tell our story so well that policymakers get it, politicians get it, the media gets it, the public gets it. In other words, I think it is up to all of us to tell the story so well that we will have the kind of resilient policy that allows us to manage our natural resources in a way that will be sustainable and not lead to their demise.” These oral histories go a long way towards achieving that goal, as well as helping historians and other researchers better understand the fires that swept through Yellowstone in 1988.

Flying over Yellowstone National Park during and after the fires, researchers and others reported not a moonscape at all, but rather a mosaic of burned, partially burned, and unburned areas. This is how fire rejuvenates a landscape over time. The history of the 1988 Yellowstone fires, comprised of news reports, feature stories, photographs, books, scientific reports, and policy evaluations written at the time and after, creates a similar mosaic. These interviews with individuals who experienced the fires on the ground add yet one more piece to that picture, capturing the human experience and adding what might be considered the heart and soul of the story.

***A note about oral history transcriptions:*** Transcribing human speech is as much an art as a science. Every attempt has been made to capture the exact words as they were spoken, keeping corrections to a minimum (e.g., transcribing “kind of”

for what sounded like “kinda”) and liberally using punctuation to help the reader “hear” the individual voices. We have also attempted to capture all the place names and proper names as we heard them, with helpful assists from Google. When in doubt, we have used long dashes and question marks to indicate that we were unable to hear the word or the name, or that the word we’ve used is our best guess. We apologize in advance for any misspellings or miss-hearings that we’ve made in the process.

Diane M. Smith, PhD  
Missoula, Montana  
February 6, 2015

**Robert (Bob) Barbee**

Interviewed in Bozeman, Montana on August 8, 2014

By Todd Jenson and Garrett Smith

*Barbee:* “Are we off to the races here?”

*Interviewer:* “We are off to the races. And today we are interviewing Bob Barbee. If you want to just give us a little of your background and your involvement with the 1988 fires of Yellowstone.”

*Barbee:* “I was the superintendent at Yellowstone for twelve years between January of 1983 until almost 1995, and so I was very much involved in the 1988 fires. My background -- I was a career person with the National Park Service and started out as a seasonal ranger in Rocky Mountain National Park. I went to Colorado State University for a bachelor’s degree and a master’s degree and that is sort of my background.

“I started as a seasonal and worked at a number of parks and finally got on permanently like everybody struggles to do that. I finally got on through the backdoor, at that time it was through Carlsbad Caverns as a park guide to get in there. There are lots of ways in. Almost nobody comes in some sort of a traditional way. Well, anyway, I finally got in and worked at Yosemite three times and a lot of other parks: Big Bend National Park in Texas, Cape Hatteras on the East Coast, Cape Lookout, Redwood National Park, Hawaii Volcanoes. Well, anyway, kind of a real diversity of parks and a number of different kinds of jobs. At first it was strictly field-level kinds of jobs.

“Seven years and the director said you are going to go to Cape Lookout as a superintendent, which was something that I did not want to do. I was in Yosemite and I was the resource manager there and I had a big program including fire. But when George Hartzog says you go at that time, you went, and so I went. I never did anything else my whole career for thirty years. I just moved from park to park and finally ended up at Alaska as regional director in Alaska after Yellowstone. I was in Yellowstone for twelve years. I did have fire experience along the way, but I would not bill myself as any kind of an expert. I had my red card and I worked on fires and I was involved with fire in Yosemite and trying to get the fire introduced there. Natural wildfire and natural fire. So I had been around fire a lot before Yellowstone. So that is sort of the background in a nutshell.

“As far as the ‘88 fires, understand that intellectually we knew there had been great fires in Yellowstone. There was one, according to Bill Romme, a dendrochronologist -- he did a fire history and you can’t go back very far because lodgepole pine do not live very long. He determined there was a great fire in 1705 and another one in 1850, so we knew there were huge fires. You could go and see where the outlines were. There had not been any since 1850. There again, it was not something that was on your mind every day. As you know Yellowstone is surrounded by national forest. Of course Grand Tetons to the south and we had a managers’ group of people, a very collegial group of forest supervisors and a couple of superintendents and we pretty much thought we had our protocols in order. They had never been really tested in any great degree. There had been fires and we had a natural fire program, and it is hard to get lodgepole pine to burn and, when they do burn, they really do burn. We were trying to get some acreage and we were hopeful we could get some more acreage in natural fire.

“So in 1988, in our view, it started out just like the last number of years. It was sort of a moist spring in a way, although you will hear different stories. But all you have to do is go look in the records and not by what people’s memory serves, but what the records said. Anyway, the big issue of the moment in 1988 was a General Superintendents Conference in Grand Teton of which I was a chairman, and that was on my mind. Then we had a big road project on Craig Pass with some problems and those were going to be the issues. Fire wasn’t on our minds. We did have a few ignitions that got started. The Chief Ranger Dan Sholly announced we are making some acreage on some of these and, okay, that’s great. And so we did have some fires started, the Fan Fire and a couple of others. That was about it.

“The difference was that in ‘88, it just got drier and drier. Single digit relative humidity, the fuels were getting drier all the time. More fires and dry fronts came in, dry fronts with lightning. And so there were more ignitions, that is a matter of record. When we decided to stop any natural fire program and respond to every fire that we could along the way, it exceeded our capability. So we started bringing in teams of national fire people and, well, it just grew and grew and grew. More fires and more incident command teams, and it looked like Nagasaki here, huge mushroom clouds all over the place. The smoke in Bozeman, Montana where we are having this interview was thick along the street here, and people were getting tired of the smoke.

“The politicians jumped into the act. They represented the passions of their constituents and their constituents were anguished. Let’s just get this fire out. Well that was sort of like, well, will you please stop the hurricane. That is easier said than done. We had the best in the world here at the time. I had endless numbers of show-me trips. Senator Wallop—who is a friend by the way from Wyoming—he got very involved as well as Al Simpson did. Dick Cheney was our Congressman and he was a voice of reason, although he was having heart



problems then and was in the hospital. The other delegations of Montana had a Congressman, Ron Marlenee, he got involved. Max Baucus was sort of on the periphery. Idaho did not have too much to do with us. There was a lot of political involvement. We tried to keep them informed.

“Our Washington office was just not up to the task of dealing with the kind of media deluge that we got. I mean it came from all over. We had several hundred media here at any time. Our public affairs officer at the time was the best of the best, a woman by the name of Joan Anzelmo. She spoke a number of languages and so she could deal with international people. The media was not really prepared either to deal with something like this. They had a lot of relatively inexperienced reporters here as far as dealing with a thing of this magnitude. There were endless interviews where you had to start with, in the beginning the earth was a giant fiery ball and then there were--. You know, it was just not a good scene and their editors were putting the pressure on them for high drama. The TV people wanted to have flames. The print media was describing everything with a high-octane hyperbole. There were some good ones. There were some really good media people and reporters, a couple right here locally that were really good. The whole media issue was something else. Maybe you read about a guy from Ohio State, sort of a historian type, and he did a study on the media response.”

*Interviewer:* “Is he the one that compared downed forests to moonscapes?”

*Barbee:* “I think so. I’m trying to remember his name. He was well known. Anyway, they drove a lot of the public opinion. Things like burn, baby, burn. Well, that became kind of--. Don Despain, our ecologist was the guy that said that. Don Hodel, who was our Secretary of Interior at the time, and he called me personally and said, ‘Who is this idiot out there?’ I said, ‘Wait a minute, before you get too excited. Let me explain to you what happened.’ Don Despain had a

plot that he wanted to burn over, the plot to what effect it would have on the plants, and he had a reporter with him from the *Denver Post*. He said 'burn, baby, burn' about the plot, not the fire, but just this plot. The guy took it out of context and it became this huge big deal, like we just could not care less. Just let it burn. And at that time we were spending millions of dollars trying to get this thing under control and he said, 'Well I understand.' I said, 'I understand why you did not understand, but he doesn't deserve to be vilified for this. It should be the *Denver Post* guy.' So you had to be careful of what you said because they would take things out of context. They would go over to West Yellowstone to a bar and interview somebody. Maybe they had just flown, maybe there were pilots of one of the retardant planes and said, 'Well, yeah, if they would have just let us move over here we could have gotten it out.' You had all kinds of stuff like that you were having to deal with.

"We tried our best to keep people informed. When you have an event like this, keeping people informed of what is going on is really important, but it does not necessarily mean that people are going to understand always, especially when you have opposing points of view. There were a few crackpots that surfaced that got a lot of attention. A guy over in Silver Gate and Cooke City, they got a lot of attention. 'Ecology is dead in Yellowstone' and just crazy stuff like that. You can't just discount it. So that was in the mix of certainly what I dealt with.

"Michael Dukakis was running for president in 1988, and he came with two hundred media people. His advance people were here but they were out talking to fire information officers. They are good people but they are in charge of the information of one fire. I called his office at Boston and said, 'We are going to have a presidential candidate that is going to be here.' They said, 'Well, yeah, but our people are out there.' I said, 'Well they are not talking to the right people.' 'Well who should they talk to?' I said, 'You might tell them to stop at any of the offices with the potted plants. You can start there.' That's what I told

her, it was a woman. So he came and I met him out at West Yellowstone and he said, 'I am not here to harass you.' And I said, 'Well I am gratified about that. Why are you here and what are you doing?' He said, 'You are the only game in town.' Those were his words. 'There is nothing else going on and this is where the action is and I want to illustrate my concern for the West, so here I am.' So we went out to Madison Junction, I introduced him. Sam Donaldson asked the first question which was about his view of gun control. He wanted to talk about gun control. I thought, we just had Black Saturday, I think it was, and here we are, and here is Sam Donaldson talking about gun control. There was a lot of crazy things like that.

"I am just sort of hopscotching around here. There are no sequential kinds of things. It was just coming at us from all angles. There were lots of fires everywhere and there were lots of involvement, the gateway communities and beyond the gateway communities and a lot of political involvement. The secretary was out here twice. His name was Don Hodel. He was a James Watt protégé I guess you could say. Let me tell you, Don Hodel could not have been better. I think at first they expected a conservative guy and that he was hard to deal with, but he was a quick study and he supported us one hundred percent. I don't know if we would have had some other secretary that was looking to have heads on a platter, then my head probably would have been on a platter, too. Anyway, he was very supportive.

"Our director was Bill Mott, a nice guy from California. And he had been around a long time. He was probably then close to eighty. He was sharp, but he was kind of visualized as pushing rocks off a cliff, so he never knew where they were going to land. At least that was my view on Bill Mott. I called him and said, 'You got to get out here and run the flag up. You are the director.' I told him that. He says okay, and out he comes. He took a real interest in it, but at the time we were working our wolf initiative, a completely different kind of thing,

but it sort of got itself involved in that because Mott was a big promoter of wolves and very controversial because of it. So I think the politicians' delegation by in large just did not like Bill Mott. That got kind of mixed up in it, and they were calling for his resignation. Malcolm Wallop called me one day and said, 'Bob, I just wanted you to know, Bob, that I am going to be on national television tonight and I am calling for Bill Mott's resignation.' I said, 'Why? Why are you doing that? He did not have anything to do with this fire.' He said 'Well that is part of the problem. As far as I was concerned he was running around here like Nero celebrating these fires.' He was just trying to assure people that the sky isn't falling and Yellowstone will still be—but he has a funny way of doing it. But I think a lot of this is the wolf thing without being said, that is just my opinion. He did call for his resignation and Don Hodel, who was Mott's boss and also had been Ronald Reagan's state park director in California, so there was some trepidation and direct attacks on Bill Mott. You got Reagan as president and they were long-time associates. Anyway, Bill Mott stayed and nobody got fired, although there were a lot of people calling for heads to roll. They always do. Somebody has to be kind of flash point somewhere of people.

Yellowstone—you know when a bird drops at Yellowstone it is covered by two or three networks at least, so Yellowstone became the focus. I was the superintendent so I became the lightning rod, kind of a provocateur. You've got to have -- somebody has to take the hits and I took a lot of hits. You just can't take these things too seriously because you know what is going on. A lot of cartoons in the paper, maybe you have seen some of those.

"It was interesting. I get calls at home on funny stuff too like, 'All you had to do was get some of those great big airplanes and load them up with waterbeds,' this guy says. What are you going to do with a waterbed? 'You fill them up with water, fly over the fires, and drop those waterbeds and the fire will go out.' I said, 'Well, you know, I hadn't thought of that, we will look in to it.' (laughs)

“So where are we here in this interview?”

*Interviewer:* “We are just enjoying the conversation. But what about some of the resources that you were talking about? There were so many resources.”

*Barbee:* “When you talk about resources I guess you mean equipment? We weren’t the only fire in town. There were other fires, but this was, of course, the dominating huge one. This was the largest enterprise in the history of the Forest Service and the largest fire at the time, except maybe for the 1910 blowup. It was probably the largest wildfire ever and they are getting bigger all the time. The controversies over things like bulldozers--. We did not have any prohibitions on bulldozers, but they had to answer some questions. One of the commanders or sub-commanders said, ‘We want to put three dozer lines here,’ and I would say, ‘Why? What are you going to accomplish with that?’ Because the joke was what is brown in the middle and black on both sides? A dozer line. They aren’t doing any good. The fires are spotting a mile or two out there. But we didn’t foreclose on some opportunities. You can come to us and say here is our strategy and we want to put in a dozer line here. For example, we gave them permission up by Cooke City in the park. A BLM commander wanted to put one in and we said, ‘Go ahead. That’s okay.’ They were going to do a backfire which, by the way, got away from them and that is what burned up through Cooke City. If you went to Cooke City at the time there was big sign that said, *Thank You Mr. Barbee*. As if I had done it. I had nothing to do with it. It was the Storm Creek Fire off of the Custer National Forest managed by a BLM commander, which we took full credit for because it got away from them. You know it is just the way it is.

“Dozer lines are always controversial because they tear up a lot of country and they are there and they do not go away. We have one point to illustrate, this was in Pelican Valley. Pelican Valley is a beautiful, pristine valley with a creek running up through it. Big-time bear habitat. This guy wanted to put three

dozer lines up Pelican Valley because the fire was moving down and nothing was going to stop it and he wanted to put in three dozer lines. We called the incident commander and he was clear over on the east side of the park and he hadn't even been to Pelican Valley. It was one of his sub-unit people. I asked him and he honestly said he did not know. And I said, 'We are not going to allow it. There is no compelling reason to put dozer lines up Pelican Valley. Even if the fire comes down where is it going to go? There are no values at risk there.' We just let it go and it ended up over in the Hayden Valley somewhere. It was a huge controversy and the regional forester at the time got involved. We had spirited conversation about it. The district ranger at the time, John Lounsbury, had to deal with it. These guys are going to come in and take the lock off of the gate and go up there. Well, if they do, we got a jail up here in Mammoth here and we'll arrest them. No means no. They never actually did, but it was a possibility. It was an emotional issue. It really did not have anything to do with tactics as much as it did emotion. That is the Sistine Chapel up there; I am not going to run three dozer lines up there. Have you ever seen Pelican Valley? Do you know what I am talking about? It is beautiful. So dozer lines were there, we did not foreclose on them automatically, even though we were accused of it.

"I think as the fire went on it became pretty clear that they were throwing everything at this fire. We were operating on about eighty-five frequencies. Safety, safety was a huge issue. You got that many people and you got that many aircraft and you got trees falling down. I mean, you got bees. Bees were problems and people were being stung. So safety was a real issue. It was probably a miracle that we did not have somebody hurt during the episode. There was a guy in a rehab operation over in the Shoshone. A tree fell on him and killed him. During the fires we had no major mishaps, which is

unbelievable, when you consider the magnitude that was going on, but it was because we had people that were concerned and we stressed it all the time.

“And with the public, that was another big issue. When are we going to close the park? People ask you that now, what would you have done differently? I don’t like those kinds of hypothetical questions. Yes, we would have done some things differently. I would have told them to snuff out the Fan Fire. It was a big fire that started out as a natural fire but we never did get a hold of it and it was threatening the CUT people and they all got out in front of it and prayed and I guess it stopped the fire. (laughs) Anyway, we would have done some things different sure, but it would not have made any difference in what we had done. All the variables were for the perfect storm to occur and we were going to have big fires. They might have had a slightly different configuration.

“If the dog is chewing on the bone, if it’s bothering you, we can get him up? That is what the crackling noise is for those people that are listening to this interview. It is not a fire burning, the dog is chewing on a bone.

“Where was I?”

*Interviewer:* “The dozer lines. Safety issues and nobody got hurt.”

*Barbee:* “So anyway it became pretty clear that it was costing enormous amounts of money. We had to make decisions like on the North Fork Fire, which was burning on the Madison Plateau, and they kept telling me, anyway us, that it was going to hit the cliffs and dribble down the cliffs and are no big deal. Well it didn’t dribble down the cliffs. It went flying over the cliffs. One fork of the North Fork Fire burned up through Gibbon Falls and all of that. The other one went flying over Old Faithful September seventh, there was a firestorm at Old Faithful.

“Oh I know what I was talking about, it was the public. What are we going to do here? We were trying to keep the park open for two reasons. One is because people want to come here regardless of the fires, but also they could see fire to a degree, but it was dicey. We had people out on the roads and said, okay, let the buses through if it is okay. Okay, close the road. Finally it came to the point that we just roll the dice and you have to be careful. The last thing we wanted is to have a bus caught in the middle of the firestorm. We really stressed the public safety.

“September seventh the firestorm came through Old Faithful and people ask you what would you have done differently. We should have closed it. We should have had everybody out of there because of the firestorm. We didn't because it wasn't a big deal -- but it was a big deal -- but nobody got hurt. I did meet with the fire commander and they always ask you, what are the real values in my area here? What are the values at risk here? There is a lot of stuff at Old Faithful and I said, 'Let's just get right down to it. Losing the Old Faithful Inn is not an option.' I told them that, 'It is not an option. If the Old Faithful Inn burns, I am dead meat but so are you. We are not going to let the Old Faithful Inn burn.' It is the largest log structure in the world and why it has not burned down a long time ago – anyway it was a huge effort on the Old Faithful Inn. They soaked it, foamed it, and soaked it, and on September the seventh, there were guys up on the roof. When I say guys, there were women on these fires, too. Anyway, there were people up on the roof and they put out several fires, little fires that started right then and there after it had been soaked for three days. We did not lose the Old Faithful Inn. Not that there was any probable chance, but with that sort of incentive. Like losing it was not an option. That just illustrated of how important it was. Some of the other stuff I wouldn't say I didn't care about it but, you know, but don't take any resources away from the Old Faithful Inn to save some cabin over there. And few of them burned.



“So it became pretty obvious that this fire was not going to stop. The weather wasn’t stopping. We had a chief meteorologist from Washington out here, weather people, and I said, ‘Well what do you see down the line in two or three weeks?’ ‘Well,’ he said, ‘you just left meteorology and entered astrology. There are excessively many variables and you can make some predictions but there are so many things that can enter the picture we don’t know what is going to happen in three weeks, we really don’t know. Whether this pattern is going to persist or something.’ There was a wind day; I can’t remember what they called it, E-day or something with a letter designation for incredible wind. The choreographer for the whole fire was the wind. E-day I guess is what it is called. The chances of having another E-Day were absolutely low and well, of course, the next day we have another E-Day. (laughs) And a lot of the fire models that we were following early said the fire is going to burn normally here and then it is called LP1 which is new growth in old growth and then the fire is going to drop down into LP1 and it will disappear and go out or get a hold of it. It went right through it. That happened when we evacuated Grant Village. That was an LP1 issue. So the fire models that we were following sort of went out the window.

“September, let’s see, we had a big meeting here in Bozeman. It was Labor Day and all the fire gods were there. All of the forest supervisors, regional foresters and our regional directors and everybody were there. Somebody, I can’t remember who, but somebody that was from Washington or somewhere and one of the fire gods got up and actually said what was on a lot of our minds. He said, ‘It is hopeless, it’s absolutely hopeless.’ He said, ‘Our recommendation is that we pull in and protect our utility corridors with irrigation lines down there, and try to protect these utility corridors. Then go in and if it is ranch or structure you could go in and button them up like a baked potato, sprinkle them, and save them so we got a lot of them saved. So we saved almost all of our backcountry

cabins, except we lost one, and we were not in charge of that one. I am not trying to cast aspersions on the Forest Service, but it burned.

“The way you save these backcountry cabins is that usually your water source is a creek. So you get a Briggs and Stratton pump and draft water out of the creek and set a sprinkler on top of the cabins. And when the fire approaches you start the engine and get out of there and the sprinkler goes and the fire comes through and the sprinkler keeps going. You might lose an engine but that is no big deal. We saved almost every cabin with that technique.

“So anyway, I think it was Labor Day and it is hopeless, what are we going to do? By that time the Army was in here, we needed more people on the lines, mop up and all that. They came and set up a big camp in the park. But you just don’t go here, you don’t send them out, you have to get them trained. So it was huge training effort to train these guys. This is a pulaski; this is what you do with it. They were here and I think it was September eleventh and it rained and I thought this is it. It did not rain hard but it rained enough and I thought it could break the back of this fire. Although it could dry up and keep going, and gone into October and get bigger. It was still there and it allowed us to do a lot of things.

“So my role in the whole thing was bouncing all over the place doing different things. I spent a lot of time in a helicopter. I had endless meetings. We had started setting up press conferences at the Mammoth Hotel every day at four o’clock, every afternoon, and the place was loaded with media and reporters and had a big media operation over in West Yellowstone. We had updates all the time and people could walk in and see where the fire was. West Yellowstone was threatened at one point and I don’t know how big of a deal it would have been. I am not sure, but the people in West Yellowstone thought so. Clyde Seeley over there, who is still a force in the town, he was involved, and they

brought in all of this irrigation and he called out for all this and all these irrigation lines and pipes and charged them with water and set them up down the streets.”

*Interviewer:* “They were getting ready to put it out.”

*Barbee:* “If the fire had gotten in there it probably would have been okay. It would have sprinkled not the fire itself but coming through town. There’s a lot of homes right there. So finally, the whole thing settled down and then we had fire reviews ad nauseam. You know there is a certain type of personality that likes to come out after the battle and bat at the wounded. That is kind of a gross way of putting it, but there are these people that, they like to – let’s get down to the basics and find out whose fault this is, like Bengasi and things like that. So anyway, it always happens.

“They were there, and all these fire reviews, and I think they did a lot of good because they really subjected the whole fire response to that. We were subject to critical examination. When do you pull the trigger? When do you go into a natural prescribed fire that was started by lightning and when do you put it out or try to put it out? After Yellowstone there were a lot of nervous Nellies out there. You also look at least at the National Park Service, and I think other agencies, people who ascend into management jobs, they may or may not have any experience. I happened to have had some. You could get the superintendent who might be a historian. Nothing wrong with historians but they don’t know anything about fire. So we recommended that every manager, every manager that has anything to do with a park unit where there is forest fire potential, go for a week to remedial school on fire management. What it is and how it works and what kind of system is there set up nationally to deal with it and on and on and on. If not, you will find yourself in a real pickle. When you are in a pickle you do not have the time to send somebody off to school. We had some disasters, the

one down at Los Alamos burned 256 homes. I wrote the guy, and Weaver -- I can't remember his name -- that was the superintendent who may or may not have had much to do with the fire. Fire management officers had made the decision and they allowed the fire to burn and the weather was kind of squirrely. With squirrely weather, you do not want to allow these things to burn, when you get these funny winds. Anyway, this thing got away from them and a huge fire burned 256 homes. I wrote him and said by the grace of God it goes with a lot of us, and that it is not going to make him feel any better, but a lot of us understand or tried to give him some kind of consolation.

"There were a lot of people nervous about any kind of fire, put it out. The next year the fire management officer Phil Perkins came in with one of the rangers and said, 'One of the universities is studying that area over by Slough Creek,' and it had not burned in '88 and they wanted to burn it, and this is in 1989. I did not know and I said okay, but if the thing gets away you are dead meat, I told that guy. So guess what? It got away. I thought, oh God, here we go. We had to bring in a couple of fire retardant bombers and they got it out. It did not get out for some reason. We did not try to hide it, and nobody picked up on it -- why, I don't know. A big thing after the big fires you would think they would make a big fuss over. I never heard a thing about it on how the fire got out. The guys came in and I said if someone did not screw up once and awhile, what would everybody talk about later on? (laughs)

"Anyway, a lot of lessons were learned I think on a lot of things. A lot of protocols were tightened up and things like releasing equipment called resources -- the tendency when you have resources and the potential to need them, you do not want to let go of them. There are other people are making the decisions and you are going to have to release that. Whatever it is, you have to release it because they need it more over here than you do and sometimes it is hard to wrench these things away from people that really need them. If they say release

them, you release them, and you play some kind of game with them. They really need them.

“The supervisor on the Bridger Teton, they had a fire down there called the Mink Fire, which started as a prescribed fire, a prescribed natural fire, and they could not get a hold of it and it was coming right towards the Thorofare and I went down there. I flew it and saw it, and you could see it coming. It was right close to the Thorofare. They had a formal guide, someone called me and asked me – ‘I’m asking you to formally accept our fire.’ I said, ‘Well, what is the alternative, what choice do I have? Here it comes.’ (laughs) Well, that is what we are supposed to do is say okay, we accept the fire, as if we had any choice.”

*Interviewer:* “Protocol”

*Barbee:* (telephone rings) “Don’t worry about the phone. It is probably someone else wanting to do a fire interview.”

“We have a friend and we just got back from a pack trip. We hiked in and had a packer down in the Wind River and a spot trip. We were standing there talking about four or five miles from the end, and one of the outfitter’s mules went crazy and knocked him down and he is still in the hospital in Idaho Falls -- brain injury.”

*Interviewer:* “Oh no.”

*Barbee:* “He is alive. That happened like six days ago.”

*Interviewer:* “That’s terrible.”

*Barbee:* “Mules are a different world.”

“I am sure that I left some things out. That is kind of general, off-of-the-top-of-my-head. I said that I wouldn’t ramble, but I did ramble. The things that were really important, like dealing with the incident commanders that would come in.

You have to know them because you are signing a document and turning the fire over to them. You back off and then they would come and consult me to see what I might do. And if we do this, it might burn that, and over there is an old bone yard over there with some signs, and if it burns we lose some signs or don't let it burn. You would get down to some things like that. That is important and the media relationship is absolutely important. We had the best. Joan Anzelmo. She had just retired a year or so ago and she lives in Jackson. "

*Interviewer:* "What was her name?"

*Barbee:* "Joan Anzelmo. I don't know how far and wide you are going to go with these interviews but you have to talk to Joan Anzelmo. She handled the media very, very well. She was the chief of public affairs for the entire national park system. She moved back to Grand Teton. She does not suffer fools. It is usually casualties, and then she would go out and pick them up. She is good, the best, and I always tell people if you are doing interviews or doing a study of the fires of '88, you have got to include the media relations and not just tactics. But when, where, and why that is important of course.

"Then there are little things like paperwork. There was so much coming in. I will give you an example. There is maybe a big fire that is moving and then all of the sudden there is some lightning and then two or three little fires that are going to be overcome by the big fire, so you do not respond to them. They check off stuff, but there is no check off place to say that it was going to be consumed. And so there is no blank there that says prescribed natural to check that, so that basically means that you are not going to respond to it. Well later on, when the people come in and start reviewing they go look here. Right there in August you were allowing fires to burn. So it is a controversy because of the crazy paperwork. You defend yourself on a lot of things you should not have to defend yourself on. The fire is coming and you have a little fire over here that is going to be

overtaken. Well you do not respond to it, and waste resources on that. That was a big issue with historians – well it says so right here and you try to explain to them. Can you imagine what people are going through when checking and trying to do all this work and paperwork and all of this other stuff at the same time? Not to pick on historians. Some of my best friends are historians. So what have we left out here?”

*Interviewer:* “Do you have any more on the size of things?”

*Barbee:* “Well the size was enormous. It exceeded anything anybody had dealt with. You know when you get so many different incident command teams in here then you have to have somebody to coordinate that and that is what was set up in West Yellowstone, was the area command. Area command tried to coordinate and it was like who has the real line of authority here? Who could go in and, say, take these resources and move them over here and so on? Then there are things like infrared. Infrared is very important because there is no wind and lots of smoke, and you do not know where the fire is and you can’t find it, and it is all over the place. Where is it? Well you have to fly it with infrared, and then you can see where the fire is. We had to have a special act of Congress passed immediately to allow us to go to Canada to access infrared resources there so our fire commanders would know where the fire was. I think it is over here; I think it is over there. The public expectation is the fire is here. Well it is not that simple. It is all over the place. There is a fire over here that they would spot and people don’t understand the mosaic and the way that there is a mosaic. You go up into the upper Lamar Valley and it was a crispy critter. It had just burned, everything burned. In most places that wasn’t the case. Some was green and they had fire over here and there, and it spotted all over the place. People think that anything in its way burns. Well, lodgepole pine does not work that way. Even in the worst situations, there were some situations where you couldn’t get it to burn. Other places it is just a horseshoe on a rock will start it. The biggest

fire was the North Fork Fire that was started by woodcutters on the Targhee Forest. There was a controversy over that with dozers. If you would have put dozers out in front of it you [couldn't] have stopped it. It might have burned up a few dozer operators.

"I don't know. Nobody has ever done a thing well. Like what would you have done differently is a waste of time in my opinion."

*Interviewer:* "I was not going to ask that."

*Barbee:* "Well no, it is not a bad question to ask. They just need to be more specific. We would have done some things but it would not have made ultimately a lot of difference. The configuration of the fires would have been slightly different. It came through the Silver Tip Ranch, kind of a hole in the donut, eleven miles up Slough Creek there, and a beautiful setting and old-time place and a private -- And the fire, it came off of the Gallatin Forest and roared through there, and we deployed everybody there in fire shelters. It could have killed a bunch of people there, burned them up, but it didn't. Dan Sholly, they were saving a cabin, they had deployed a fire shelter, and the fire went over the top of them. It worked, the fire shelter. They work, those fire shelters. It can be like an oven and cook you. Depends on the situation."

*Interviewer:* "As time goes by it seems that all the right decisions were made."

*Barbee:* "I don't know if they were or not, but they were made. Hundreds of decisions were made by hundreds of people. There was nobody really, quote, in charge. There were many people, but there were no grandmasters so to speak. It surely wasn't me, although I was very much involved. A couple of exceptions and that's why I keep stressing how important the media issues are. Our Washington office could not handle it. Triage, media triage is what it was, and Joan Anzelmo, she lives in Jackson. She is very voluble; you won't have any trouble getting her to talk. John Varley, Don Despain was not a decision maker,



but it was his fire models that were going out the window. He is the burn, baby, burn man.”

*Interviewer:* “He is coming up Tuesday.”

*Barbee:* “Don, he is a good guy. He is not a political guy; he is a scientist. I still don’t think he grasped the gravity of that whole thing. I had to save him. The Secretary of Interior read something in the paper that said, ‘Burn, baby, burn’ and you tried to-- I always listened to him. I didn’t always nearly believe him. ‘Don’t worry about it, LP1.’ He will tell you about it. This wasn’t as if this was the first fire in the world. There were a lot of fires we knew biologically what would happen. Don was out right after the fire doing studies on seed rings on these cones. They cut a plot out there and count the seeds before they disappear. I got lot of pressure from the secretary to drop-seed, reseed. Of course, where are you going to get the seeds? Why are you doing it? So anyway, again the secretary calls and I get pressure to reseed. I go ‘Mr. Secretary, don’t give into that. Our ecologists have been out here, the plots are in, we know what the seed ratio is. It is a natural process of reseeding.’ Al Simpson says, ‘It is a moonscape, it will always be a moonscape.’ Well, it’s not going to be a moonscape but we knew all of that.

“One other thing that I did was that I went careening through Europe in the fall of ‘88, myself and a Forest Service guy, and the secretaries of commerce from Wyoming and Montana. We went through Frankfurt, we went through London, we went through Paris, and we talked to big groups of travel media. International travel is very important.

“Coco. Is that going to mess up this interview? The bone?”

*Interviewer:* “It will be in there but it will be okay. We can hear the conversation okay.”

*Barbee:* “We had to assure the travel media in Western Europe that Yellowstone was still there, this was in '88 right after the fires. We had all kinds of things going on and the only thing that saved the bacon was the Exxon Valdez crashed and suddenly it's like, oh my God. Suddenly they were all up there in Alaska, hanging the captain who was asleep when that happened.”

*Interviewer:* “What were you doing over in Europe?”

*Barbee:* “We were talking to the travel media. Groups of people and basically we gave a program, basically that we were assuring that Yellowstone was still here and the values were still there. To assure that if they had tours planned, do not let this deter them. The commerce people were really concerned about money. Big money comes into Wyoming and Montana from Yellowstone and Idaho, to a degree Idaho. So that is what we were doing in Europe. Then we came back and had *ad nauseam* reviews.”

*Interviewer:* “*Nauseam* reviews?”

*Barbee:* “Yes, *ad nauseam* reviews. There were just lots of reviews. There were just lots and lots of explaining things like why did this guy mark prescribed fire in August? Because there was no other thing on the form to check. It was just saying that we did not respond to these fires because we were just defying the ultimatum of not allowing any fire to burn.

“So how about it, Garrett? What have I left out?”

*Interviewer:* “I don't know. What else would you like on record?”

*Barbee:* “Well I don't know. It has been a while you know. A lot of it is as vivid in my mind as it was yesterday. Some of it is a little more vague. Who else are you interviewing?”

*Interviewer:* “Well, we did a guy named John Giller. He is out of Klamath Falls.”

*Barbee:* "What did he do?"

*Interviewer:* "He was an incident commander. They gave us a list."

*Barbee:* "Toward the end there were so many incident commanders that came in and out of here. I couldn't even keep up with them and I could not even meet them all. Are you going to interview Dan Sholly? He was chief ranger. Well he was a player. Marine type, Vietnam. He had one eye with a marine core emblem in it that he would wear once and awhile.

"People say well, how did you survive this? I don't know. I guess my answer is that we collectively did a good job. I don't think there was any sloppiness. Some decisions that were made early on you could remake now, but there was no way to stop this fire. You had all these things that came out on the stage. We had single-digit relative humidity and you got dry fronts coming in and explosively dry fuel. The fuel on the forest floor was drier than kiln-dried lumber and then the wind--. You get all these things working together and it doesn't end. This goes on and on and on. There isn't any rain, just lightning.

*Interviewer:* "I know you were concerned and love the park, but what was the feeling some of those times when you go to bed and it was such a relentless day? Everybody talks about being so tired"

*Barbee:* "Well you did not get a lot of sleep. You were awake for three months. Sleep deficit because there is a lot on your mind, and you want to keep your cool sort of speaking because it was being tested all the time. Then having to deal with this constant revolving door of media people and political people and then later on when the military got involved. We had a bus with a couple of governors and two lieutenant generals. One governor said, 'If I had been the secretary, this fire would have been out.' You know what am I going to say, 'Governor, you are full of it.' You have to listen to them. That is their point of

view. Of course, he is wrong, but people would say things like that. So you get people that say things that you'd rather they wouldn't.

*End of interview*

Rocky Barker

Interviewed by phone on August 6, 2014

by Todd Jensen and Andrea Yaeger

*Interviewer:* “We are doing an interview this morning with Rocky Barker and if you want to just give us a little on your background and then if you just want to start on how you got involved with the 1988 fires in Yellowstone.”

*Barker:* “My name is Rocky Barker. I grew up in Illinois and went to college at a place called Norton College. I got a degree in environmental studies. In 1975, I decided to go into the newspaper business, worked my way up to the managing editor of the *Rhineland Daily News*, and answered an ad in *Editor Publisher* that said ‘Cover Yellowstone grizzlies and Three Mile Island clean up’ and I said, ‘That’s for me.’ I came to Idaho Falls where they had the Idaho National Laboratory, a nuclear laboratory. So I began my beat in 1985, covering Yellowstone and the Idaho National Laboratory. I basically had been in the Greater Yellowstone Ecosystem beginning in June of 1985. I was very lucky that a guy named Rob Brady who cared a lot about the environmental issues ran my newspaper. He and my editor sent me off into Yellowstone and so I was really lucky to have three years to really learn the park, to get to know the people and know many of the issues that were going on before 1988.

“Indeed for me, 1988 in Yellowstone began in January. I went into Yellowstone to do a story. We were doing a series about people at work and profiling people, and I profiled the winter keeper in Yellowstone, Steve Fuller. I spent several days with him in Canyon and got to know Steve very well. That really kind of began my year and, just so you know, 1988 was not a good year for snow.

Something you don't think that much about in Yellowstone, but you thought about a lot in those days down on the Snake River plain because our economy is totally tied to irrigation. That led me into the year from a Yellowstone policy standpoint. In June, I covered and attended at the Jackson Lake Lodge, the National Park Superintendent Conference. I got a real feel for the whole national place that Yellowstone played in the Park Service. At that point things were starting to dry out. I was also spending quite a bit of time in Jackson Hole covering issues like oil and gas development, which was happening on both sides of the border at that point, exploration, and that took me into July.

"When the Fan Fire started in Yellowstone I was writing briefs about it in June. At that moment, and really all the way into July in fact, I was writing stories in July mostly about—forgive me if I don't remember all the names of the fires but you have a big fire burning down in a \_\_\_\_ and it really got big in the Teton Wilderness. Brian Stout, who was the supervisor at the time, was faced with the decision of whether to keep using their version of natural fire policy or to jump on it. I remember doing a story where he was predicting that it could get more than 100,000 acres. My story was quoting all kinds environmental folks like people from the Wilderness Society saying why are they jumping on this fire? We should let it burn. We finally get a fire that could burn naturally, this was a mistake. Well, Brian did not think it was a mistake. What had happened was the fire got into a big blow down and, like many managers, and particularly in the Forest Service, people get fired in those days in the Forest Service for letting fire go. It is kind of a historical thing that there are not many things you can do to lose your job faster than let a fire get out of control. He jumped on it and the Yellowstone folks -- I can't remember whether I quoted them or not -- well, if we had that kind of fire we would be letting it burn if it was started by lightning. I certainly knew very well the natural fire policy and knew Don Despain and I had discussed these issues in the past.

“I can’t remember the date – yeah I do remember -- the day the North Fork Fire began I loaded my family into our Volkswagen camper bus and drove to Glacier for vacation. We were in the backcountry for quite a bit of the time in the Two Medicine area, hiking and camping and I came out, I think the town is St Mary’s. I had picked up a copy of the newspaper and Hodel, the Interior Secretary was on the cover. My blood ran cold [?]. (laughs) I go, ‘Oh my God! I am missing the greatest story of my life.’ He was at Old Faithful, Yellowstone was on fire, and this is the big story, the big event. It is in my beat. It’s the story I dreamed about. Hodel’s basic comment at the time is, ‘Don’t worry, this is a natural event, and don’t worry we’ve got firefighters here on hand ready to protect Yellowstone.’ I turned to my wife and say ‘We’ve got to go right now. This vacation is over and I am going back to Yellowstone.’ Now I have to tell you, my wife was not very happy about that. So we compromised and stayed a couple of more days, but came home a couple of days early.

“With that in mind, she – . We got back and my editors already had, we had several really good reporters that I shared the Yellowstone beat with. Kathy Kuhn covered and lived in St. Anthony and she covered Fremont County and the Targhee National Forest a little bit, backing me up on that. So she had covered a lot of the breaking stories immediately. When I got back basically I was told that the story had already been assigned to other people. I was like, nooo! That cannot happen. I got an assignment to cover something up in Island Park. I got up there and covered this event, whatever it was, I can’t even remember. Now I am in Island Park and I am only twenty miles from West Yellowstone so I just decided to go up to West Yellowstone and see what was going on. Again, the exact date I would have to get the book to get, but it’s right around this week, twenty-six years ago, around August third. I get up there and it turns out that Bob Barbee had called in Richard Rothermel and other top fire behaviorists to determine what to expect for the rest of the month. Rothermel --

as he called them, the fire gods -- and Despain was working with them directly, and they were going to give a briefing that evening. I called my editor and I said, 'Look they've got this big briefing, I got to go to this I and I am not going to come home.' We were a morning newspaper at the time, so it broke on out -- the way I could do it was by -- it would work good for me. We were an afternoon paper, actually. I could go to this thing late, and then write it in the morning for the afternoon paper. Just the fact that I was writing for an afternoon paper when everybody else was writing for a morning paper meant that a lot of my stories throughout the next month or a half were picked up by AP because they needed a counter deadline new lead for their stories. It was ideal for me, for my reporting to go national and international, because AP was picking up my story simply because of the deadline. But of course I had some pretty good scoops, too. This day I remember the meeting was in the old depot there. It was soon to become the Yellowstone Area Command Headquarters. This team starts giving the report. I knew a lot about the natural burn policy and a little bit about the fire, and I had covered a couple of fires since 1985. But I really did not know that much about firefighting and did not know the first thing about fire behavior.

"These guys got up and they are talking their language. I'm not completely understanding everything they are saying. They are showing us maps and, frankly, because of his on-the-ground knowledge, Don Despain was one of the lead voices in this briefing. There was a point and I quoted him saying -- there is so much. One of the interesting things I remember is like, so we have determined that there is about 200,000 acres of -- this is still when Don, based on his belief, did not think he could get fires as large as we were seeing. Don had not -- it was interesting he and Rothermel were in some of the middle of their research but he was still sticking to the idea at the time, not to expect a fire larger than 40,000 acres. The North Fork was already more than 40,000 acres and the Fan Fire was burning more than that. So were the fires in the eastern side of the



park. They had looked at the ground and done their little math and they had come to the conclusion that about 200,000 acres could burn and that natural barriers would stop it. They had said over the last couple of days that about 150,000 of that has burned. (laughs) I quoted specifically Don saying, 'Essentially there is nothing left to burn.'

"That was my big story that day; I wasn't alone. Bob Ekey reported the same thing. He was so far ahead of me that I was in catch-up mode. While I was there, Jack Troyer, who would go on to become the regional forester and who had taken a class from Steve Mealey in grizzly bear management with me the year before, had come up to me. He at that time was working for the Greater Yellowstone Coordinating Committee, something that had just been formed. He was working with a woman by the name of Sandra Key, I believe. Troyer comes up to me and says, 'Rocky, you got to see what they did over here. They actually broke one of their rules.' I go, 'What are you talking about?' He is explaining to me, on the Shoshone Forest, Mealey was out with Bush and Simpson taking them fishing -- Vice President Bush and Senator Alan Simpson. So the deputy supervisor that was sitting in had been, in the way that Troyer had explained it, pressured by Yellowstone officials to accept the fire that was heading over the Continental Divide into the Shoshone National Forest. This is a great opportunity for a scoop. He told me all about it and gave me the background. I went and talked to the supervisor and he told me that, indeed, he had accepted the fire. Now the rule that they had broken -- this was on the Clover Fire -- apparently if you have a burn over or if you have a structure that is threatened that becomes a trigger under the Yellowstone natural fire policy to begin fighting the fire.

"Well Dan Sholly had gotten burned over at a backcountry cabin. He, a trail intern, and the cabin had been threatened. They had protected it so that should have been the trigger. Yellowstone at that time was very much wanting to burn.

Bob Barbee himself said he was listening to Don Despain a lot. As I explain in my book, Bob Barbee is amazing and interesting and his fire history went all the way back to Yosemite where he learned about fire essentially from Harry “the torch” Biswell, who was known well in the Forest Service. Bob was at that point very open to burning.

“So anyway, I break that story in fact that Yellowstone had not followed its policy and that the Shoshone had accepted this fire. Meanwhile, and around the same time, John Burns, who is the supervisor for the Targhee National Forest, he calls me up and says, ‘Rocky you know that not everybody here is burn crazy.’ He said, ‘I wrote this letter on July fourteenth a couple of days before the North Fork Fire saying that we would not accept any more fires into the Targhee National Forest.’ Of course, it is ironic that the biggest fire of 1988, the North Fork Fire, started by a cigarette in the Targhee National Forest by a woodcutter who was a —. A part of their policy to harvest all of the dead lodgepole pine in the Island Park area right next to the clear-cuts that you can see from space. So I broke that story as well. You know, John saying that.

“By this point my editor is deciding that year for the first time we are going to have a budget. We did not have the budget to send me to Yellowstone and have me stay in Yellowstone and I still had the Idaho National Engineering Laboratory to cover and I just reported there is nothing left to burn. It’s time to come home, Rocky. You can just imagine that I am livid. That fact was that it did kind of quiet down a little bit, but Ekey and my friend Jim Carrier were both running stories every day about the efforts to fight the fire. They were reporting on the North Fork as it was heading toward the Madison River. They were doing these appraisals on how the firefighters were basically whispering to them that they thought Yellowstone was nuts for not fighting this harder and they did not agree with the tactics or the strategy. I am eating all this stuff up and not getting to report on it. But I was reporting on stories that were going on at the

INEL that were of big significance there, about some major programs there, major nuclear programs that they are trying to get. So I was really kind of bummed out and thought that I had missed this big chance. Then Black Saturday came, and I was not there. When Black Saturday hit, all that area burned. I looked at my editor and said, 'That's it. I am going to Yellowstone and you are not getting me back until this fire is out. I am covering this thing and I am going.' My editor at the time pretty much allowed me to do that. I was in several times in clear insubordination when he told me to come back and I would not come back. I just stayed from the day after Black Saturday until September tenth, September eleventh. Let me catch my breath."

*Interviewer:* "We are still here."

*Barker:* "At that point the issue is the fire is burning up by Wolf Creek up on the area between Norris and Canyon. I go up there with a —. The nice thing for me at that point was that Steve Fuller, my now new friend, allowed me to stay at his place. The thing is I did not have any money. They are not giving me any budget for this, they are allowing me to work on my time basically. I worked without overtime. I ate in fire camp and I slept in my car. I did this for about a month and a half or whatever that is, a month, it's not quite a month but — and every once and a while I would go to Steve's and have some of his wonderful curried chicken dinners and I would take showers whenever I could get them.

"At Canyon I got there and the big story now is that the fire is headed toward the rangers' homes just to the north of Canyon Village. There is a big meadow right off the road. The guy who is the incident commander, a guy named Dave Poncin has already saved Grant Village with his smart and savvy but still light on the land firefighting tactics. Barbee and he had connected right away. I did not know him. He was from the Nez Perce National Forest in Idaho. Poncin put together this plan that essentially they are going to do a burn, what we called at

the time a back burn, so that we would save the cabins. They decided to do it at exactly the moment that the smoky head of the firestorm essentially arrived. Being the first time that I had ever seen that kind of fire behavior where you had the long and tall tower of cloud and the fire essentially making its own weather. It was just a sight to see. You had this big beautiful meadow and you had all these firefighters set up along the highway. It comes over the hill, you see it going directly for the ranger cabin development, and at the very last moment they light that meadow. That fire flies across, that backfire flies across the meadow almost as fast as you could see. I don't know how fast it was, but the moment when that big fire was sucking everything to it and it sucked it right to it and hit the woods and hit the head of that fire and boom! It turned it north. It was the most incredible piece of firefighting I ever saw in my life. I was just like, 'Wow, this is just unbelievable!'

"That was really my entry into this, but it was the beginning for the next month. Essentially we would go every morning down to the West Yellowstone headquarters and there was this group of fire behaviorist. We would go and say, 'Okay what is going to happen today?' Before they would do their meetings or maybe right afterwards, they would then tell us, 'Okay, this is where we expect the fire to have some pretty hot stuff.' We would plan our day around that, trying to be at the hottest places. At the same time, I am sitting here doing dailies, but I am also doing 'think pieces' is what we called them in those days, about the fire policy, because this is what I did and this is what I really cared about, the whole ecological impact of those fires. The week following Black Saturday, I had a big Sunday piece that examined the natural-fire policy. At this point the park was in the middle of changing their message. In part because Don had been out doing these experiments and had Jim Carrier along. Carrier quoted Don saying, 'Burn, baby, burn.' Those headlines prompted several in Congress to call for Don's dismissal, Barbee's dismissal, and the park director's dismissal.

They would not let me talk to Don, so I was talking to other people. So I did this big story anyway and basically, I am talking to people like Alston Chase who wrote *Playing God in Yellowstone* and to national scientists, scientific sources, and people in Yellowstone about what was going on. John Varley was my main Yellowstone source at the time. So we ran that story.

“Meanwhile I have an old rancher that comes up to me and he says, ‘Rocky, I was there the first day. I was driving a water wagon for the Park Service and if they had used bulldozers that first day, we could have stopped this North Fork Fire. It is all their fault because they did not fight this fire hard enough the first day.’ I went and called up my Forest Service sources from Targhee and, indeed, they were saying that publicly, that they thought -- and I talked to several that had been in on the ground that day and I talked to some people in Targhee headquarters and pretty much everybody agreed on the Forest Service side -- that if they had used bulldozers that very first day, they could have stopped that North Fork Fire. I also talked to some firefighting sources who were Forest Service people but had now been fighting fire in Yellowstone and who understood the behavior that they were seeing that they had never seen before. In particular they were pointing out those firebrands being carried as far as a half mile ahead of the fire that first night, and they said that they did not think anything in the world would have stopped that fire. So I ran that story and because of my deadline I saw that story the next day on Dan Rather. He was reading essentially my AP story. So that was one of my scoops -- was that maybe they could have put it out. The ranger who was making the decisions, I talked to him and he just rolled his eyes and said, ‘It is easy for Monday morning quarterbacks to say these kind of things.’ But that was the nature.

“My friend Jim Carrier was much more open with this stuff. He was really bitter about the way the park had been going about this. His reporting reflected that. He liked reporting these people and he did a really good story, for instance,

about this whole group of hotshots who were holding the line in the middle of nowhere in the backcountry ahead of the North Fork Fire protecting Old Faithful. These guys were not getting enough food, and they had to be really careful with their garbage to meet the grizzly bear rules. They were tired, and were hard fought and they were being pulled off of the fire and that was his big story Friday, the twenty-sixth or something right around there. That was his follow up to 'burn, baby, burn.' I instead -- there again exact dates are hard -- but Baucus had come into Yellowstone to hold a press conference, Max Baucus the Senator from Montana had come into Yellowstone essentially to beat up the National Park Service and show his voters that he did not like fire, and he did not think they should have let this place burn. It was the most disingenuous political press conference that you saw.

"While the press conference is going on, I am interviewing some of the section chiefs or whatever. One of them that I was doing was from the Angeles National Forest in Southern California and I am quoting him saying, 'We are seeing conditions, we are seeing behavior, like never in all my years of fighting fire. We are actually seeing the fire burn against the wind,' he was saying. I am quoting all of this, it is on the front page of the paper, and of course again it goes out on the AP the next day. John Burns calls me up and I kept his name secret for many years after that, but it became pretty obvious and I have talked to John since then and he did not mind -- he called and said, 'Rocky you are being brainwashed by these Park Service California firefighters? This is a fire. I fought fire my entire career and I have three dozer lines on the Targhee now, along with all those clear cuts as I had that you can see from space, and I am telling you this fire is never coming back into the Targhee National Forest.' I go, 'Okay John, I hear you.' I go talk to those behavior guys and while Carrier is going to this neat story on the hotshots out in the backcountry, these guys tell me there is going to be an east wind going to blow that day and it is going to blow the fire back to Idaho. Well,

I am on the Idaho newspaper. I drive around down to Big Springs in the Targhee National Forest. I get there and, as I arrive, the fire is burning through the forest and crossing the road right by Big Springs and they are in the middle of trying to evacuate the campers from Big Springs campground. This is a crown fire burning now all around them. It was just an amazing scene. They were trying to get these people out, the normal way out was where the fire was crossing the road, and people were trying to get out. I basically, for the only time during the fire, I got out on the road and I stopped traffic. I said, 'You can't go this way, you have to turn around. You've got to get those people behind you to turn around. This fire is burning full blast and you have to get out of here right now.' They listened to me because I had my yellow Nomax on so they thought I knew what I was talking about. Moments later there, Contreras is the ranger from the Island Park district. He comes up, takes over and directs traffic away from the fire. I immediately turned back and grabbed a picture of him doing that, and that picture runs nationally on AP of him directing traffic around the fire. I run this story about this run that came back into the Targhee, across the three-dozer lines, and across the clear cuts that you can see from space. Essentially without that quote, and I quoted an unnamed forest official that said it would never happen, and the next day it happened. That story also got national coverage.

"As we are heading into September, I did come home for the day because I'm back in Idaho already and I needed to get those pictures developed that day because I wanted to get that picture of Contreras. At the time, what I was doing was putting them on the bus at West Yellowstone. We had the earlier laptop computers call the TRS80s or the Trash Eighty that were made by Radio Shack. I had that, but it was really hard to make it work on the Yellowstone phone system, so most of my stories I was dictating. This time I was able to go home, write the story, and get new film loaded up, took a shower and my wife was just

livid. My wife says I can't believe you have done this to me. She was really mad that I had basically left her with—we had three kids. She had said, 'Your boss called me and said that he told you to come home, so stay home, just stay home.' I said, 'I can't Tina, this is the biggest story of my life and I am not going to do it. I have got to do this. This is my career right here.' She did not understand and so the way I placated her was I said, 'Look Tina, we have been invited to this big party over in Jackson Hole on September tenth.' That is my birthday. *High Country News* was having this giant get together and a lot of people we knew were going to be there. It was going to be a really neat thing and I said, 'Tina, if you let me stay this week we will go to that party in Jackson Hole and we are going to have a great time and you are going to get that break and have the fun that you deserve. We will finally get a babysitter for the kids and we will really enjoy it.' That at least kept her from walking out on me that day. I just turned around and went back up.

"It is a little gray here, but basically I remember Labor Day, September sixth, Monday. I hope that I am right. The next day I remember what was going on because this is the basis for Carrier's story and these guys are really pissed because the hotshots were being pulled off the line. They had decided that we cannot stop this fire here so just pull these guys off and let it go. So it was going to head to Old Faithful and there was nothing there they could do for it. We knew that was going. This is huge, from a story standpoint this is going to be big, this is it, this is the big story. We are going to see this fire come to Old Faithful. The secret shrine of the park movement worldwide and you know that everybody and their brother in the press is going to be there. Even my editor acknowledged -- understood that, okay, you'd better cover this. He was done telling me I had to come home because he was loving all these stories that I had been writing and he was enjoying it. It is the day before and I get the plan, somehow I get into my hands the evacuation plan for Old Faithful.



“Now remember, Barbee is doing everything he can to keep the park open. The tourism interest of the three areas is critical to the economy of this region and he was trying to do this. Today I would say it was the most ridiculous decision that Bob ever made. He should have stood up on Black Saturday as he was prepared to do and got talked out of and closed the park from a safety standpoint. To be honest none of us had any idea because nobody really understood how big of a deal this was, and how dangerous it was. Firefighting at the time, people tended to still believe they could do amazing things, and hadn't we just seen Dave Poncin pull off this amazing back burn to steer that fire. Gosh, we can do just amazing things if we have to. That was certainly my thinking at the time and, of course, he keeps it open. The day before they did not expect the fire to get there on September seventh, they expected it on September eighth.

“On the sixth they are organizing the evacuation outposts and, of course, they are going to let us stay. They put out a plan and tell the people who are staying in the lodge that they've got to leave the next day. Now everybody in the media is there. Every major newspaper in the country, they had sent somebody. They had sent Vietnam War correspondents that were way past their prime that knew nothing of Yellowstone or the fire. It was an amazing mix of journalism. To the young journalist it was pretty heavy stuff to be in the middle of all this and to be one of those guys that knew everything, because I knew everything at the point I felt like. I was so wired at that time. I knew all the fire sources, I knew all the park sources, I had many friends in the park, and I knew lots of folks at Old Faithful. It was great but I was so self arrogant. I had seen more fire and seen more firestorms by September sixth than any living firefighter because these guys did not get to go to every fire. I did. Perhaps the only person that had seen more fire than me was Carrier and Ekey. And there were some Yellowstone people that had gone around also. It was just this amazing scene.

“The next morning it all changes. They decide that it is not going to come in on the seventh so they open up to day use, Old Faithful. A thousand people come in at the same time that they are sending all these people in the hotel out and in fact loading up buses for the workers. As I describe in my book *Scorched Earth*, the workers are sitting up on top of the buses in lawn chairs, swilling down beer like they are at a Grateful Dead concert, and having a ball waiting for the buses to load up and go as the fire comes over the hill.

“It is about three seventeen in the afternoon and Old Faithful erupts. I have a photographer with me, Robert Bower, who knew Yellowstone better than I did. He was an Idaho Falls native and a member of the Geyser Gazers Association and he tried to position himself up to Observation Point above Old Faithful, because he knew this would give him this big beautiful overview. He had a radio that he had worked with the rangers, and he knew what channel they were on. They could call him, there were a couple of other photographers up there, and they could call them and tell them to get out of there if they thought they were in danger. Old Faithful erupts and there is a full crowd there, and not obviously a huge crowd by Old Faithful standards, and still at 3:17 the parking lot is filled with satellite trucks, but these people are on their vacation and they are going to have a good time and finally going to see Old Faithful. As the geyser itself starts to wind down the ashes start falling and you start seeing ashes in the air. Moments later I turn and I see 200-foot flames coming over the ridge to the west. The whole ridgeline very quickly is engulfed in flames. The people on the buses start cheering like they are at a sporting event: ‘Yeah, yeah!’

“This is an extremely dangerous moment. This Ranger McKinney comes up to me, and she is running around frantic. I had never seen a ranger more scared in my life and she is saying, ‘Get out of here now, now get out of here. If I did not have to be here, I would not be here.’ I am looking at her going, ‘Oh, isn’t that quaint, she has never been around fires, so she is scared and blah, blah, blah...’

And I am basically ignoring it. I am sorry, but I have seen lots more fire than this and I got the biggest story of my life right in front of my face. I walked behind and took some pictures of the Hamilton store that they were watering down with flames behind it, and shooting pictures, and I remember one of the most amazing scenes was the retardant plane coming in below the ridge of the fire, and a lot like a scene out of the movie *Always*. It was pretty cool. Meanwhile, I am walking back behind the Hamilton Store in the area that today is the expanded Snow Lodge, and there was a whole bunch of cabins there in the old days. There climbing down from one of those cabins was Jim Carrier. He had just put out an ember on the roof, and Denny Bungarz, who was the incident commander, comes over to him and says, 'Thanks, Jim. I appreciate the help.' He is not saying get out of there. He trusts him and seemed to know what he was doing. He was a good guy; he took over from Poncin. He walked away and Jim and I walked up towards the fire. We first walked up toward the road through the trees, and across the road like right under these two-hundred-foot flames there is a fire crew cutting line. Today again, I consider this the most surrealistic thing I saw because what the hell are these guys doing? But at the time, I'm going, oh hey, they are cutting line. That makes sense. They are trying to save the building. I can understand. Jim and I are talking and we just got our fire shelters and we are joking about where we are going to deploy our fire shelters. Of course, as you know, you do not deploy a fire shelter unless you are ordered to deploy it. We did not know that we were in danger because the winds were blowing the fire largely to the south and it appeared like it would be burning south of the development. I am not as quick to pick up on this as Jim. I suddenly noticed the leaves on the ground are moving toward the guys that are fighting the fire. I feel some wind on my back and, for me, I am not reading all this yet. Jim, on the other hand, is much more sensitive to it. Within seconds suddenly it goes dark as night. The wind comes up to like eighty miles an hour or a super-force gale wind from our back. The sound is like a bunch of railroad

trains at full tilt. It was like a covey of jets. Now I look at Jim and go what the heck. He says we got to get out of here, come on, and he turns around and starts running toward the parking lot. Well, I got a knee brace on at the time. I wrecked my knee in football in college and reinjured it in 1968 while doing a story on telemark skiing at Grand Targhee Resort. I am not going to be able to keep up with him because I don't run anymore normally. I walk fast but I don't run. I ran that day! (laughs) I remember jumping over a creek and running past those same cabins that Jim had just put out. It is lodgepole pine forest. We get to the parking lot and some notes started coming out of pocket. I had a note pad but I had some free paper and they were just going right back to the fire. Jim told me when he saw that he said I thought you were going to go back for them because I go, 'Oh no, my notes.' I was not going anywhere. I was in full-blown panic. I was scared out of my wits. You got firebrands as big as fists and maybe even bigger. I vaguely remember bowling-ball size. They were swirling through the air. Everybody was screaming and I turned back around and that forest, which I had happened to have just left, ignited. Just like someone had thrown a match on it. I made the assumption later that was because the oxygen had returned. I did not think about it, but I was having a hell of a time breathing, but I just thought I was out of shape. But actually I was in pretty good shape at that point, so it was partially due to the lack of oxygen. I got air and saw that and I just broke down, I was a total mess. I suddenly see Jim and those firefighters who we just watched on the fire line about forty-five yards ahead of us, and they are in a circle and counting each other and Jim begins interviewing them and that took me out of my panic, and I go, 'Oh shoot, I better get back to work; he is going to have the best quotes.' I did interview one of them.

"I interviewed another couple who told us about after the smoke cleared they saw that the inn was still there and it was like St Paul's Cathedral in London after the bombing and I used that quote. Then I was scared, I looked up and there was

a spot fire. One of those big giant embers had landed to the south of Observation Point where my photographer was and like many Americans and certainly press people at the time there, I don't want any help, I will kick the embers out. I see my photographer Mike being threatened and I find a West Yellowstone ranger that was driving around in his car and I go, 'My photographer is at Observation Point. We've got to save them, help, help, help.' He is cool and collected right in the middle of the whole thing and he gets on the phone and he says what about the photographers at Observation Point, and somebody says we gave them the order and they exited down into the geyser basin. My friend Robert Bower said they told us to exit left, and I told the other folks we are not going to exit right or we are not going to exit to the north, exit left and he told the other photographers, 'We certainly aren't going to exit left.' Because they clearly saw the fire right next to them. What happened was the ember hit in the middle of the firestorm and it took off running and went heading for the lake. So basically stuff burns. A building burned right next to the parking lot and then they decided to evacuate everybody including us. They start caravanning, we evacuate through the fire, and it was pretty amazing to see. It was black, it was smoky, and I have never been more smoke in my life. That night was the worst dose of smoke I ever had. We got to West Yellowstone, I am sick as a dog from smoke, and we are all sitting around the pizza joint writing our stories on our computers. We all apply our stories and we are just totally burned out. I forgot to tell you my boss had told me not to get within one-hundred yards of that fire. At one point I told him, 'Bill there is no place to go. There is not any place that is not one-hundred yards from the fire.'

"Anyway, the next day I decided to take the day off. Now I have worked around the clock for about six days straight. I am like the firefighters. I am working around the clock. I am sleeping very little and I probably put in that week at least 120 hours, if not more. What I did not tell you that day at Canyon, after the

big burn, I looked up and a guy said that this story is even better than the story of the house that fell through the ice. I said, 'What?' My big story up to that point was -- a story that I was known for -- was in 1977 in March someone was hauling their house from the mainland out to an island on Lake Superior. He made it about three-quarters of the way across the ice when the house fell through. Those pictures ran worldwide and I had a half a page in the Minneapolis Tribune. It was my first big story, and the reason that I still do this because the adrenalin rush from doing the story was incredible. I was on the front page of the LA Times with that picture; the AP has it in their annual photos for 1977 for a book they put out. Still you would have to know who I was to know that picture, and a guy named Richard Stabile, who is a ranger at Fire Island [?] and a classmate of mine from Norton College. Richey and I get all caught up and we are pretty good friends and so September eighth I meet up with Richey at Mammoth, where he actually has a room where we can sleep and a shower and everything like that because he has been called in and mostly what he is doing is crowd control and road stuff, and the Park Service has brought in people from all over the country. There are more than 10,000 firefighters in the park. Virtually every firefighting resource they could get, they sucked in.

"So Richie and I that night on September eighth, we go in to Gardiner to the K Bar right there on the corner and we just get rip-roaring drunk and many of the people there are the concession workers from Old Faithful because now they have been dumped off in Gardiner so they are in the bar with us, so we just had a rip-roaring night. The next day, the ninth, I go back up to Mammoth and John Varley is on his roof. He is hosing down his roof and unloading his house. I talked to Despain, who still cannot talk to me officially. He had been told to keep his mouth shut and he was also evacuating. It is Friday and Robert Bower our photographer had actually spent the night, all night taking pictures. Even for Yellowstone it was a rare occasion where the humidity was so low that it burned

all night long, pretty hot through Roosevelt. Robert took some incredible pictures and one of them with a deer and fire in the background was in *National Geographic*. Which, by the way the night of the sixth, I slept in the Old Faithful Inn and shared a room with the correspondent from *National Geographic*. Of course Steve Fuller's work was in *National Geographic*, too. There was this kind of crossroads about all of that. I digressed.

“Robert meets up with me after spending all night fighting the fire and now the Interior Secretary, it might have been Odell, I can't remember, or the Agriculture Secretary was in Yellowstone that summer on the tenth. Barbee had to go down there. Now the road to Norris was closed but they were going to open it up so that Barbee could go down there. Now if I wanted to sneak in, I could have snuck in past all these roads because I knew all the combinations to the locks. I am not going to tell you now because they might be still be the same. Barbee was going to go and gave me a seat. Joan Anzelmo, who I worked with very closely throughout this thing, we had this wonderful, sometimes adversarial, and sometimes friendly relationship. At this point she said, 'Rocky, we can get you a seat with Bob and Carol to go through if you want to go.' If I did that, then I would get to go home that night, and then I would get to go to the party with the *High Country News*, and my wife would be happy, so I was making the right married man's choice.

“This is going to be the great culmination. This fire is coming into Mammoth. When it comes into Mammoth here we are at headquarters, the retreat. I got these guys who are evacuating their homes and a fantastic culmination of the whole year. I said 'Robert why don't you go and then develop those pictures and have those pictures for tomorrow's Sunday paper.' Then I called my wife. She was right on the verge of divorcing me. The square that they had in front of the hotel there was lined with fire engines. We are all looking up at Bunsen Peak and to the east, ironically, where on August twentieth in 1886 a fire had burned

and it is there Captain Moses Harris sent the cavalry to put out fire beginning the federal government's involvement in firefighting, and it is coming right over that ridge. All of us, including myself, were all broken, depressed, it is really a bummer, and it's as bad as it can be. Everybody has been through all of this. I have to say they weren't mean; the Park Service people were incredibly patient considering what condition we all were in. It was really a rough moment, then a little bit of rain, the humidity dropped and you could feel it, and suddenly it was over. They told us that it had snow in the mountains and it was obvious, it was done. I don't know why it was so obvious to us at the time, but I had a personal reason to go home so I did not stick around.

"I wrote the story for the next day's paper and all of that, and I went home to face my wife -- and my editors for that matter. Eventually she let me off the hook. She was livid and mad at me for days. At this point I am probably suffering from stress, what I had been through was incredible and I think I took some time off. I can't remember exactly but I do remember my editor saying, because I was a salary employee, that 'I want you to make sure you put down all of your hours' and I look at him and say, 'You mean all of the 120?' And he goes, 'Ugh.' He says again, in kind of an acting voice, 'So how many hours did you really have, Rocky?' I said, 'Ten hours,' and he still goes, 'Ugh.' How dare I put in ten hours of overtime? But I did, and I had actually been sued for wage and hours by a managing editor back in Wisconsin so I was going to give him deniability. Because it was my choice and I made the choice. I was not going to make them pay for my choice. It was my responsibility and at this point he was jumping for joy because we had definitely done great work and they knew it. A lot of people nationwide knew and several people including Tad Bartimus, who worked for AP and was that year a finalist for a Pulitzer, recommended that we nominate ourselves for that and we did, and we did not get anything. But we did not know what we were doing at the time. The fact was that Ekey did do



work that deserved it, and he should have won a Pulitzer for his coverage. His editors were so focused on the day-to-day that his paper's stories on policy, the stories that would have made the difference, for one they cut the crap out of them so they did not have the depth that my story had and they did not put them in their entry. They were a finalist for breaking news. A bus accident in Kentucky won that year, maybe it was Louisville. I can't remember.

"I came back with Steve Fuller sometime in October. We rode into the edge of the Hayden Valley on his horses and I did a story then featuring him. His wife divorced him the next year. Those events were tough on a lot of families, and tough on us all, but they were awesome. It is still the biggest moment of my career. That's it."

*Interviewer:* "Okay"

*Barker:* "Is that about an hour? That is about an hour and a half."

*Interviewer:* "That was incredible, it went by so fast. That was just a great story. What a great storyteller."

*Barker:* "Thank you. And like I say, anything that you can do to remind people that there is a great book out there that tells most of that story along with the context of how all that happened. I am still a shameless self promoter."

*Interviewer:* "You deserve a plug."

*Barker:* "Yes, so anything you can do, that I appreciate. I have been covering fire ever since. I will continue the rest of my career and written a whole lot of things and have followed the whole fire thing and I have been now for twenty-six years. And Boise, of course, is the home to National Fire Suppression Center, so it means that I get to write from a national context."

*Interviewer:* “Well, Rocky, that was just perfect for what they are looking for here at the archives. You are recorded here at the Heritage Research Center in Gardiner, Montana in the oral archive for the 1988 fires.”

*End of interview*



**Roberta (Bobbie) Bartlette**

Interviewed by telephone on July 28, 2014

by Andrea Yaeger, Todd Jensen, and Garrett Smith

*Interviewer:* “Can you just start with your background and how you got involved with the 1988 fires?”

*Bartlette:* “Okay. I have worked in the Fire Sciences Lab [in Missoula] primarily most of my career. I spent a little bit of time teaching school and a couple of summers out on other districts, but the majority of my time working has been at the Fire Lab. It started when I was a University of Montana student at eighteen, working in the fuel chemistry and fire physics groups. I got in on some of the very basic studies that were involved in eventually putting together the fire model. As a technical person, I operated some of the equipment that we used for sampling moisture content as well a lot of other kinds of analysis of fuel.

“I managed to end up on the fire at Yellowstone because the coffee truck machine that we were using to do still moisture studies was a little temperamental. My project leader, Dick Rothermel, had taken it down there to do some moisture sampling and it wouldn’t function for him. I gave him a bad time about that. I said, ‘Of course it won’t work for you; it takes a specialist like me who knows how to hit it in the right places actually to make it work properly.’ So anyway, we did end up getting to go down there. One of the things they were curious about was why the fires were burning all night long. They expected it might have something to do with fuel moisture, so I went down with Bob Schuette. We spent some time sampling, day and night, taking turns, working and resting so that we were taking fuel samples twenty-four hours a day.”

*Interviewer:* “We actually just interviewed Rothermel last week.”

*Bartlette:* “Ah, very good.”

*Interviewer:* “It was a great interview.”

*Bartlette:* “It would be. He is just a fantastic scientist and has an incredible way of taking something that is very complex and bringing it to be understandable.”

*Interviewer:* “Perfect. How long were you actually involved during the summer?”

*Bartlette:* “I was down there twice. I was going to look back to see what period of time we were down there, not for a long time. We were down for a week or so for the first time and then we went back down again later in the summer. I think as things were starting to slow down we were back there in September and the first time we were down must have been maybe in August. I should have looked that up; I can look that back up and send you an e-mail as to when exactly we were there.”

*Interviewer:* “So what was your general assessment of the fire when you arrived in Yellowstone?”

*Bartlette:* “It was really interesting when we drove into Yellowstone. We came down from the north into West Yellowstone. As we came over the crest and looked down into that big basin, I think we were seeing five different columns that were standing up in the afternoon as we came in, which was really, really very impressive. My overall assessment, I knew that it was dry, that it had been a dry year, and that fires had been burning pretty well. In fact, much earlier in the summer, I had been working over at the Little Missouri Grasslands and we had seen some smoke columns as we were working there and they were coming from the general Yellowstone area and not necessarily just the park. There were some other fires in the area. On my way back home to the lab, I called in and said I’d

be a day late. I detoured down to take a look at some of the burning. It was very early in the season that there were some substantial fires. I had gone through, perhaps it was near Ashland, in Montana, there had been a fire a little bit earlier in the year that had completely consumed the fuel on the ground and also carried very well through the crowns even in areas where there wasn't a lot of supporting surface fuel. I knew that the general pattern of weather for the year was set up for large fires. It wasn't surprising to me. Early when I got back, Rothermel was wondering where he could go to take a look at some fire activity and I suggested that Yellowstone was probably going to be a good place."

*Interviewer:* "Had you seen anything on this scale before or since then?"

*Bartlette:* "Since then, yes. We have had several dry years. Prior to that no, I had not seen fires at that scale, that many large fires in a fairly small area or fires that were burning day and night. I think that was one of the reasons we went down, was that was a surprise to see that the fires were continuing to burn regardless of diurnal changes. Certainly there were changes in fire behavior but not in the extent that we were accustomed to seeing."

*Interviewer:* "When you were down there then, the fires were already pretty well going. What was the whole atmosphere? Could you just pull over and just go walk out into the woods and check for fuels and stuff? You didn't have to check in with anybody or anything like that?"

*Bartlette:* "Well of course for safety purpose yes, we were checked. We would check in with the camp leaders there. There was a situation group in West Yellowstone, so they knew exactly where we were going to be. Once we got there then there was no problem. That was one of the things I found interesting was the tourists were still able to continue to travel around the park, pretty much without concern. There were some times that tourists stopped to talk to us and they wanted to walk out and we had cautioned them not to because we were

seeing fire undermining some of the lodgepole. The lodgepole would drop the roots, the root would leak under the \_\_\_\_\_. They were dropping regularly without warning. We weren't hampered in our motion at all. We said where we wanted to work and we were allowed to go there. There were a couple of times when the fires got up into the crown and were moving in our direction that one time we were ordered to leave. Another time, it was suggested that we leave, but we stood our ground on that one. It was interesting, very, very, interesting. But I'm going to let you ask questions because we may get to some things I'll mention later."

*Interviewer:* "If you have stories feel free to just ramble on. We just want to hear you reminisce about your time when you were down there."

*Bartlette:* "Okay. Well one of the things that I thought was very fun: I'm a short person, and I had lots of opportunity to talk to tourists. We were working very near by the road, sampling fuels in sunny areas and also in shaded areas. We were between West Yellowstone and Madison Junction where we were working so that we could access both sagebrush and ground-meadow areas, as well as shaded, fairly dense, lodgepole pine stands. So being right on the road and being a pretty short, non-intimidating-looking person, lots of tourists would stop and ask us what we were doing and give us their comments about the fires. It gave me lots of opportunity to hopefully talk and teach. I know a couple of times folks stopped and said, 'Gosh, this is so sad that this is burning, there's not going to be anything for the elk to eat.' I said, 'Come on, I want you to take a walk with me.' So I'd walk around with them through the lodgepole that had had elk in it, there were elk droppings everywhere. I said, 'You tell me what you see that the elk can eat in here and I'll tell you what we are going to see afterwards.' So, that was a wonderful teaching opportunity."

“I remember another time, some folks pulled up and they said, ‘Oh! We just saw the most awful sight. There’s all these elk and their sides have been blackened. We know they’ve been burned. They said, ‘Even their mouths are black.’ I said, ‘No, actually, the elk are really enjoying the ash to roll in. I think it’s probably keeping the bugs down.’ The elk seemed to be liking to eat the charred bark. I don’t know if it’s concentrated in minerals or what, but it gave me an opportunity to ensure them that the elk indeed were fine. They hadn’t been hurt but they were taking pretty good advantage of the situation.”

*Interviewer:* “In that vein, could you maybe extrapolate maybe on the climate that tourists had at that point or maybe what the greater sort of media impacts were? Could you expand on what you saw on the greater attitude that tourists had toward the fires?”

*Bartlette:* “They were in awe of the fire. They were very concerned about wildlife more than anything else. Some of them were very irritated that more wasn’t being done to stop the fires. For example, some folks would come through early in the morning when fire behavior appeared fairly benign and indeed a person could walk around and stomp out any little flames that they saw. They said, ‘Why aren’t they doing that?’ So, it gave me, again, another opportunity to show them the smoldering combustion that was going on unseen, that would continue and also the irregularity of the combustion edge and to talk with them about the immensity of the fire. That even though there were times that it was fairly benign, just because the fuel was so very dry and there was depth to the fuel. There was far more burning than what they could see. As the day would warm up and the winds would pick up, of course, the fire behavior would increase until we were back up to a crowning situation. As far as putting bulldozer lines around, I explained to them at one point, and this is one of the points we were pulled back out, but we were standing and a crown fire was approaching. It was maybe a quarter a mile or an eighth mile away. We couldn’t



see it, we could hear it. We were standing near the Madison River, we watched a hillside across the river ignite and start burning. It had to be a spot they had blown from the--, and I'm gesturing with my arms here so you can picture exactly what I am talking about, this isn't helping. To the fire, I was facing east, the fire off to our right, so to ignite the hillside across the river, that fire had to jump across the big grassy meadow that was off to the side of us, a riparian zone, the river, another substantial riparian zone, a foothill area of grasses, to get off that hillside. So the jump had to have been at least a half-mile. When you frame that picture you can explain why a dozer line is pretty meaningless when you have fires at the scale they were at and with the weather that you were seeing, we were seeing then. Some of them believed you and some of them didn't. Some of the tourists still would go, 'Oh you should have done more earlier.' Other could grasp, especially ones that had driven through some of the fire areas, could grasp the immensity of the situation."

*Interviewer:* "So when you are sampling fuels, what about the beetle kill? We read a few different things on that, how its not that selective to beetle kill, but at the time were you including that in your sample? How would you read all the beetle kill?"

*Bartlette:* "One of the things that I found interesting when we were walking through looking at the lodgepole pine in the area that we were sampling, was the fact that most of the trees had some kind of disease or damage or beetle activity in it, and that there were pitchy-area wounds on a lot of the trees. All of that would sort of predispose it to burning a little more easily because the pitch is right there at the surface. Whether that is predisposing it to large fire or not, I think the weather conditions have more to play perhaps than the condition of the trees at the time. When we sampled the live vegetation, the vegetation of the needles of the lodgepole pine, even though the moisture content was ranging around one-hundred to one-hundred-twenty, it was ranging in at a moisture

level that we typically see in trees at that time of year. The fuel was not unreasonable low. Trees have a way of maintaining the needles that they need to maintain to continue their processes and they shed the ones that they can't support. So as a result, what we were seeing was that the needles that were green and alive on the trees were at a moisture content that wasn't startling to us at all. The fuels that were impressing us were the dead pines needles, the litter on the ground and the sticks, the fine sticks and even the large dead fuels. Those were at a moisture content that was low enough that we knew that they could very easily burn. For those pine needles--. We talk about one-hour fuels, and the fact that they can change moisture content fairly rapidly. So what we anticipate is that as the humidity rises, as the evening approaches and as you come into night time, that the recovery we would say or the increase in moisture content in the fine fuel should come up to a point where it is going to diminish fire behavior or even stop progression of fire. Humidity recovery wasn't happening in the fuels even though we were seeing relative humidity in the air increasing at night.

"For example, if we would sample dead grasses, we would see that moisture content come up to a point that would slow or stop fire spread, that moisture content. We observed that as well, the one night we held at ground when a crown fire was approaching. The pine needles on the other hand, which had always been anticipated would change moisture content rapidly, like dead grasses, did not. Rather than change rapidly like grasses, they had a moisture content change that would be more reminiscent of ten-hour fuels or fine sticks. So what was happening even though the humidity was increasing at night, the pine needles, which was the primary carrier of fire on the surface in the forested stand were staying dry enough all night long to continue to support burning. So that was one of the things that was really striking to us. Also, the larger fuels were very dry, four-, or five-, or six-percent fuel moisture. The mineral soil was dry as well. When the air would cool, there wasn't any moisture condensing out

from the cooled soils because the soil was already very, very, very dry. Then the pine needles weren't picking up and changing fuel moisture with the increase in relative during the evening hours either. They were slow in response.

"So that was one of the reasons why the people who were modeling the fires were surprised that the fire behavior was continuing during the night. They simply anticipated that the fuel moistures in the fine fuels, the carriers of fire on the surface would be changing to a point with the rising humidity that fire should stop, but really, it continued. It was totally explainable, the fuels were very dry and stayed dry through the night."

*Interviewer:* "How about some other science? On the North Fork Fires, stuff like that. We read up here in the reports from the meetings in November of that same year of '88, they said that fire science was rewritten with the North Fork Fire. Can you just talk about some of the changes that you found in Yellowstone that helped develop things later?"

*Bartlette:* "I think part of it was that fuel moisture, the lodgepole pine needles, a lot of that dead pine needles and it would be because they still have a little bit of a waxy residue on the surface on them, they don't change fuel moisture rapidly. You have to take that into account, rather than thinking that all of your fine fuel load is going to change in moisture content rapidly. It may not. The other thing that was surprising to them was that there were stands of relatively young trees, maybe fifteen-, twenty-years old, that they really thought would not burn. The fire carried right through those. I think there were a few factors to play at that. In the places that we looked at, after the fact, I think both of these were on the North Fork Fire. One of the areas, it had been relatively young stands, fifteen-, twenty-years old was a place where fire had been the stand replacer in that area. There had been many large fuels down on the ground. The young pines had come up through them. So with the large fuel as dry as it was, that was seeing a

tremendous amount of heat as it was burning. There was support to burn that younger stand that would have had a little higher fuel moisture. The other area that we saw that had the same thing happen had been a wind-throw area. It was exactly the same conditions where there was a young, lush-looking stand of pines growing up within a tangled jumble of dead, very dry, large fuel.

“I think this is something perhaps to keep in mind as we see more beetle activity. Those trees are of a concern to us visually. You know, when we see them red we go ‘Oh, my gosh, those trees could really burn.’ One of the things I think we need to keep in mind is after they burn, or after they fall for whatever reason, whether its due to age or wind throw, eventually those big \_\_\_\_\_ are going to come down to the ground and the younger trees are going to grow up through them. One of the things to keep in mind is that in a dry season, those young stands are prone to burning where we might not have anticipated that in the past. We saw those conditions and saw that happen in Yellowstone. They were not a fuel break, but they were added fuel for continuing the fire.”

*Interviewer:* “Can you elaborate on your experience there? When you were there, just all the smoke, there was a lot of air traffic. Did you come across the military at all? There were five thousand of those guys there? Just the day after day of no end in sight.”

*Bartlette:* “I don’t know quite how to respond to that. There were a lot of people on the ground. I think it was interesting and to me it was personally exciting to be in the midst and studying to see why things were burning the way they were burning. We being pretty stationary at a spot to be working on fuels, we weren’t running around encountering a lot of different people. However, one of the things that was interesting is that we got feeling like, well, we are the one-stop shopping spot for weather information because we did have a lot of fire folks from various agencies that would stop by once or twice or three times a day just

to see what's the temperature, what's the relative humidity, and what are you seeing for fuel moistures in the fuel. We were kind of a handy little spot for that, which was fun to get to talk with folks from different parts of the fire. They were moving through seeing what they are seeing and then relaying back what we were seeing for fuel moistures and weather conditions. There was a lot of activity; there was certainly a lot of smoke. I've seen that so much now in the past several years, or the last few decades actually. I can't believe how long it has been since 1988. I don't remember it being really startling to me. I remember being very interesting and somewhat exciting. I don't know, I don't have any other reflections on that. Our focus was on what we were doing and then talking with people as we encountered them, as they stopped through."

*Interviewer:* "Yeah that's fine. How did you feel about the general management of the park during that time? Was it organized? Was it chaotic? Was it unorganized? Or did you come into contact with that?"

*Bartlette:* "Well we were again kind of an isolated little unit doing our own thing. One of the things that surprised me, continued to surprise me, was the number of tourists that were still moving around through the park. I don't think there were any problems that resulted from that. At the time I thought, gosh, there is a potential for people to get hurt just because when the fires would pop up in the crowns and start moving, that motion could take it across a roadway. Yet it seemed like there were crews out taking care of trees that could fall, you know things that were hazardous and getting the hazardous things out of the way so that tourist traffic could continue. So that I think was the thing that surprised me the most was just that the park remained open. I think there were a lot of benefits to that. Many, many people got to see what a large-scale fire is all about. I would have liked to have an opportunity to talk with more of them because I know there were a lot of misperceptions about what was going on. We would encounter folks with negative attitudes and it was great to have a chance

to talk with them and educate them and show they why a dozer line isn't going to be effective or why bigger crews at night might not be any help and why the animals were actually going to be fine. It was interesting to be able to redirect people if they had the time to move back through an area that had burn a week or so prior because grasses were coming back in so rapidly. You could see the vegetation was responding so fast to coming back in after fire."

*Interviewer:* "You mentioned elk earlier. Do you have any other interesting wildlife stories or anything like that?"

*Bartlette:* "Oh yes. (laughs) The afternoon that we were asked to move out we had been again working in this area not too far from the river and some elk came down with their calves and stood around in the river while the crown fire was approaching. They were totally calm, they weren't the least bit concerned. I found it interesting and thought oh gosh, they aren't worried, yet the people are telling us we got to pull out. The second time there was a crown fire approaching and we held our ground. The evening was coming and we were near a meadow and we knew that the fuel moistures were going to be coming up in the meadow and we were going to be fine. We listened to the freight train sounds before we saw the fire and then as the sky was getting darker, we could see the flames as the crown fire was approaching us. Because it was pulling the air into it, the air we were breathing was really fresh and sweet, not smoky at all, but you could see the flames above the pines and hear the roar. We would hear elk bugling at each other even though it was a month or so before time for them to really be bugling. They were more talking to each other so you would hear bugle over here and a bugle over there. It was more like they were checking in with each other to see where everybody was. We could hear but not see because it was getting darker. Animals moving through stands of timber on either side of us, and going down towards the river. It just was an amazing time to watch when the crown fire reached the meadow that we were in, then it dropped, of

course, out of the crowns and burned a little ways into the sagebrush and grasses. With the humidity the rapid spread didn't continue. It dropped down and was moving very, very slowly and then we went ahead and pulled out for the night. That was just such an interesting time to hear the animals not sounding panicky, but just like they are checking in with each other and then hearing not a frightened, crashing running through the timber but just a gentle steady progression moving through the timber and on out away from where the fire was approaching."

*Interviewer:* "It seems that you have an affinity for fire science. Do you have any emotional attachment to the park at all? How did you feel about Old Faithful when the fire threatened the inn?"

*Bartlette:* "I do have an affinity for the park actually and fire in the park. My dad was a meteorologist and I was interested in the weather and science since I was little and forest fires growing up were rare. Our skies in the summer time were always crystal blue with puffy white clouds. I remember very well. I don't remember what fire it was, but my dad showing me a plume that we could see above the mountain rims around Missoula. It was a fire to the north of us. I was a little kid and that was impressive. As far as an affinity for Yellowstone, yes. Yellowstone was a place we visited often. I am also a square dancer so we [have] a very large festival that we called the Knot Head Jamboree that was held at Old Faithful Lodge. It was called a Knot Head Jamboree because they would kid that anybody that would travel more than a hundred miles to go to a square dance, you had to be a knot head. I do have an affinity for the park. I camped with my children in the park when they were young and prior to the 1988 fire and we have been there since.

"One of the things that really impressed me was when I drove in there as an adult and drove around was that the browsing that the elk were doing was as

high as they could reach on all kinds of dense vegetation that you could not see anywhere. You could not see out, you were in such a dense tunnel of trees in so many places. To me it felt like the park was a lot more closed in than when I was a child. The run on Old Faithful, yes I was concerned because I have a lot of memories there. We stayed in little cabins back when they had cabins to stay in. Of course I love the big old lodge. My general outlook was that it was time for that vegetation to be replaced. I was probably more excited to see the changes and concerned that everybody stay safe during that period. I was concerned about the structures even though I have a fondness for them. That might sound a little warped.”

*Interviewer:* “Did you keep an eye on the media while you were there and after you left?”

*Bartlette:* “I did not keep an eye on the media while I was there frankly because I did not have the opportunity. We were together the day and night as much as we could and we would each take a short shift maybe six hours each to go catch a nap. Go back to a hotel room and actually go lie down and sleep. So I wasn’t watching the media at all when I was there. I watched it and paid very close attention in the time I was not there.”

*Interviewer:* “How did you feel about the coverage when you did get to see it?”

*Bartlette:* “Gosh, it was spectacular. Like media always is. The media tends to focus on what will catch people’s attention and maybe not the more mundane activity. It gave me, I think, in general a bigger sense of foreboding that something horrible was happening watching the media that I felt at the time. When I finally had an opportunity to fly over the park afterward, my general impression was wow, that this is really cool. This is really neat. Fire did what it was supposed to do. It replaced the part with some lightly burned places here and there and made some light pockets. One of the things that struck me actually



was that some of the time when we would come home from a fire and being away we would find that there were new fires in our area closer to home, which was kind of startling. It makes you go this is not a tiny isolated area. This is a region-wide thing that is happening. It was just happening more densely or intensely in Yellowstone with the number of fires that were there.”

*Interviewer:* “I have a couple of questions that might be more ecology related than fire science. What about smoke and water? Do they mix at all? Is there ammonia that mixes with the water at all?”

*Bartlette:* “I am going to jump away from Yellowstone and I am going to talk about a fire in my backyard. We are a mile and a quarter from the edge, actually two edges from the fire that burned Lolo Creek, the Lolo Creek Complex last summer. I worked for the Lolo Water Shed Group as a volunteer and one of the things that are of great concern was that there was very intense burning right across the creek and on the hillsides on both side of the creek in on area in one afternoon. It was just another one of those situations where the fuel is very dry and the wind was in the right direction and the fuel was ready to burn and everything all lined up to create a pretty severe fire effect and a very impressive fire for a few days. We have been watching the creek very closely since then and our fishermen had no problem in catching fish afterwards. I have not seen big changes in the apparent visual water quality. We were lucky in the way the runoff came. I don’t have huge concerns about the water quality and certainly not from smoke. The smoke is very irritating for someone that has worked his or her life in fire. I have very poor tolerance for smoke in the air now. I get asthma and have problems with it and I don’t like it.

“That is just the way it is. There are going to be large fires. We are way behind treating fuel in my opinion. We just have a lot of huge areas all over the west that are primed and ready to burn and we have a lot of houses in between them to

fight fires with just like ours was. My concerns are that I have seen debris flows from fires in the Bitterroot and mudflows. That is just part of the process. The land moves around and one of the ways it moves around is that fire scorches it and water comes down and reshapes the land form a little bit and everything slowly recovers from that and I don't see that as a bad thing. Our place happened to burn and we were quite certain that we were going to lose some of the trees in our campground and pretty sure that that was going to happen and certainly that would have been a sad thing for the campground. But in the big picture -- if nobody was hurt -- it is all going to come back. You can rebuild, the trees are all going to regrow, and the shrubs are all going to come back. In Yellowstone and up our creek, it is coming back and driving back through areas just weeks after the fire. There is no end in re-sprouting. The grasses are starting to come back. There is just a remarkable ability for the earth renew itself and it just makes you go, yes, fire is a natural process and perhaps in areas that we have restricted fires for so long and we have fuel loads and we are seeing a drier climate, we can anticipate that we are going to see more fires."

*Interviewer:* "How did the fires of 1988 change or alter your career in fire science, or did they?"

*Bartlette:* "How did they help my career? Not directly but indirectly for sure. Being there in 1988 and watching Rothermel and others work at predicting how fires were going to spread was very fascinating to me. Because as I said as a kid, worked in the lab looking at things like surface area volume ratio of all these different kinds of fuels and heat contents and fuels from all over the world. The shapes of fuels, the moisture content, the mineral content, all of those tiny little pieces of the puzzle that went into making the fire model, and then seeing the strong impact of fuel moisture and particle arrangement and particle size and not just the particle size but the fact that that resin coating on those pine needles made it not behave like a grass that had the same dimensions. All of these little

pieces were really interesting to me having studied these for all of these years. I started in 1968 in the Fire Lab, so 1988 was twenty years into a spotty career in fire science. I was part time when I was going to school and I taught a year or two and I worked on some districts but most of my time is working in fire science.

“So after the fires in 1988, I told Dick Rothermel that I really want to be able to take the classes in fire behavior analysis. Because I wanted to have the background in how all those little pieces I had studied worked together in a fire model to make the fire model work or be imperfect. So I think it was in 1990 then that I had an opportunity to start taking some of the fire behavior classes and also teaching at the training centers, teaching fuel moisture and fuel chemistry because I knew that part so well. Then moving into looking at how -- and taking the courses and eventually helping to teach the long-range fire prediction using climatology, using the current conditions of fuel to take a look at what might happen long range, down a week or two weeks. In what direction might a fire go? I eventually went back and got my master’s in forestry with a fire science minor emphasis. It was 1993 when I finally graduated, so it helped. It was midpoint in my career when I hit the top of my technical field and it helped give me the push, although I had gone to grad school earlier. It just pulled a lot of things together and really gave me the urge to go ahead see how all that fit into modeling. The strengths of the model and how do you predict long term which goes to show you the problems in our climatology record.”

*Interviewer:* “Did you attend any of those meetings when they would gather and they would try and give a forecast for the next day and the atmosphere when trying to predict for the next day?”

*Bartlette:* “At those meeting we were on the ground sampling. We did not get to attend those. The thing that was really cool about the 1988 fires was it showed us

that we did not have all the answers yet. The fire model was very good but there're things that we did not know that had not been tested and had not been shown. Two of those examples were why did those fires burn all night long and we showed why that was happening. The other thing was the young fuel and those places burning that we did not anticipate to burn. It just showed that we needed to learn more. Isn't that cool? When you are in research and you do not know all the answers yet."

*Interviewer:* "It was amazing that Richard needed that crown fire equation and he went back to the lab and solved it. It is just amazing that he could do stuff like that."

*Bartlette:* "He is a very amazing person in being able to put things together. I used to tease him. He would go, 'Well I still don't have it all together. I still don't have all the answers.' He is a physical kind of scientist and an engineer. My undergraduate degree was in zoology, so I would tease him that his models were leaving out the magic. There is magic in biology that he can't explain totally with physics and engineering. He has done an absolute remarkable job in being able to figure all of that out, see how it works, and being able to put things into a model that are not perfect, of course; he cannot get the magic in there. Some of the magic that I am talking about is when I watch a pine tree, I am looking at my ponderosa pine tree now and I see it in a lot of conifers. When the air is really dry, the bark is, even if it is rough bark is relatively tight to the tree. When things get really dry and I see these little curled edges coming out from the little bark flakes and that just makes an ideal ladder for fire to run up. I have watched in our campground in, I think 1988, a camper's careless cigarette thrown on the ground in a tiny little bit of litter and all of the sudden we have a fire running up through all these little bark flakes and up into the top of the pine. How do you explain all those little things with physics? You can't.

“Nineteen eighty-eight was interesting because Dick came home and he is going, man I got to figure out some more and he really worked hard at it and did an excellent job of putting together a crown fire model. Of course you can't put all the tiny bits of magic into a model.”

*Interviewer:* “He talked about experiencing a down burst for the first time and learning about that and watching fires later where firefighters exited the fire due to signs that he had discovered and I think he was pretty humble about all of that.”

*Bartlette:* “I think so. There is one thing sitting there in the mountains and looking at all this data and all of these different kinds of chemical tests and putting together a model and how things would burn and using raw data from tons of laboratory burns. We have a wonderful wind tunnel and a big burn chamber and gosh we did tons of work in that. That is one thing and getting out on the ground and seeing the differences in landscape and the differences in the way wind flows. There is so much and I know it was humbling to him and I think probably as exciting as well to jump in on another challenge. Those downbursts are fascinating. I see them in both fire situations and good thunderstorms where you don't have fire. You have that kind of thing happen here in Lolo Creek where a downburst will lay down a strip of timber or a downburst will lay out an array or knock down an array of timber.

“I can't remember what year but after '88 and I was camping with our kids and we were coming back up along the Salmon River and there was a pretty good storm forming overhead and I must have had the windows open and I told the kids, 'Feel that change in temperature. That storm above us, that cold air is starting to fall out of it. We got to keep our eyes open, it could produce enough wind to push some of these trees over.' We came around a corner, and there was

a big downed cotton wood tree that had just come down. So that is just an interesting little thing to remember after what we saw in Yellowstone.”

*Interviewer:* “Do you remember where you were at when it snowed and the fires were kind of over and what the feeling was like.”

*Bartlette:* “I was at home and I was relieved that it had snowed but what one of the things I was concerned about was that under the surface that it was very dry and so my first comment was that maybe it snowed in Yellowstone but the burning is not over yet. The big fire was over but there was still going to be burning going on underneath for some time until we got some really good deep wetting rains. One of the other things that was interesting to me because at the time I was working on my master’s. I was working in smoldering combustion and at looking at soil, so the soil effects were interesting to see, too, because people are always talking about these hydrophobic soils that can form under fires and part of it I am sure is volatile materials being pushed downward, \_\_\_\_\_ things hold soil particles and take a while to break down so that water just does not want to seep into soil real easily. You get overland flow right after fire. This carries soil particles simply because the soil particles do not want to pick up water. Also in looking at soils and looking at soils after the fire, the simple fact that everything was so dry, just like a house plant, if you let it dry out too much and you go to water it and the water beads up on the surface. It had nothing to do with fire; it had something to do with very dry conditions. So that was interesting to see also in speculation of the water beading up on the soil because the fires put resin there or was it because the soil is just so very dry. It will take a while of long soaking rains to actually wet what remains, wet the organic material that remains, wet the minerals in the soil that is still there.

“Then there was one of the areas that I spoke about that had fire twenty years earlier that I think was near Swan Lake. We had gone back in to there after the

fire to take a look. It was one of the areas where there was a downburst and also it was like an amphitheater in that this hillside was in kind of a bowl with a hillside across the way. Those two hillsides burned pretty severely. The one hillside that was sort of the bowl shape was where the young pine stand was that they thought might not burn, but burned very well supported by all the large dead fuel that was down and probably all the heat radiating from nearby hillsides. Those soils, you would walk along and water would bead up on them and some places it would soak right in. It was not like it was a solid hydrophobic surface on it, but the heat had been so intense enough to crack and flake the big rock boulders that were on that hillside. That was interesting to see.

“There was one picture that we took that says a lot about my perspective of fire. There were two logs that crossed and, of course, they had burned more where the two logs had intersected with each other. On top of that little area of logs was a whole lot of pinecone flakes. Some little squirrel was checking out his cache after the fire and it had piled up his little stash right on top of that area that been two crossed logs that had burned quite a bit. And I don’t know if he was counting them or putting them out there to show, but I looked at that, and maybe it was hot enough to crack the rocks and maybe hot enough to destroy this little forest that everybody thought would not burn, but this little squirrel is already at work getting ready to disperse the next bunch of trees. You look at that and nature’s way and life goes on.”

*Interviewer:* “I think that is a fitting end to our interview unless you have anything to add.”

*Bartlette:* “It was interesting to reminisce back on those times. Those fires were so large, they weren’t coming under control. People were wishing that they would put more people or whatever on them. Since those fires I have been involved in fires that have resulted in two fatalities under severe conditions. I

have always felt that the whole purpose of my career was to learn more about how fire burns and why it burns and what makes it spread fast and what makes it dangerous so that I could help teach others to be safe. Yes, you can predict how fire spreads but the whole bottom line is that keeping people safe. You can tell by my perspective that I don't think those large fires in themselves are a tragedy. I see them as a renewal process that is going to happen under those kinds of conditions and I honestly don't think fire management would have made a huge difference in how those fires spread. The conditions were right for them to burn and being how far the spotting was occurring there is no line on the ground that would have stopped at some point.

"Since then, having done investigating of these fatality fires, they honestly break my heart and they make me feel ill every time kids are killed because that darn ground will regrow and houses will get rebuilt -- sorry about getting emotional -- and lots more of these big fires and people have got to learn that we get out of the way of a hurricane, or we should, we get out of the way of a tornado, or we should. And we have to learn that we have quit being so arrogant that we think we can put a fire out. A big fire, we have to get out of the way. We know enough now on how to predict how much those fires are going to spread. We cannot predict every moment of them because we cannot predict every moment of the weather. We cannot predict accurately the long-term spread of them because long-term weather is the driver. Once we get a stand of fuel that is ready to burn and we get really dry conditions, what is going to drive it is that day-to-day weather. From these big fires and even some of the small ones that are severe we just have to learn that humans have a limited ability to stop them and to manage them. Our best bet is to be smart about where we build and be smart about it.

"Since 1988 we have had several fire seasons in the Bitterroot that have been a lot of fire and a lot of smoke for a long time and I don't enjoy it. I don't do well with



smoke now. That is part of the country I live in and part of the climate that we are seeing now."

*Interviewer:* "We are still learning from it."

*Bartlette:* "It is amazing to see how things have regrown. We still go down to the Knot Head Jamboree down at West Yellowstone rather than down at Old Faithful but still have a pretty strong tie to that area."

*Interviewer 1:* "Well we have about an hour."

*Bartlette:* "Thank you for the opportunity to think back on that time. It was certainly fun, interesting, exciting, and informative. It spurred me on to have better understanding of what these models were all about."

*Interviewer:* "Thank you for your time. You are recorded here at the resource center in the oral archives for the 1988 fires."

*End of interview*

**Liz Colvard**

Interviewed by telephone on July 8, 2014

by Andrea Yeager and Todd Jensen

*Interviewer:* "Can you give a short story on yourself and your background and, after that, how you got involved with the 1988 fires and start on the story of your involvement?"

*Colvard:* "Okay. Well, I got a master's degree in geology in New Mexico and, in 1986, I defended my thesis and immediately drove up to Yellowstone National Park because I had gotten a summer position as a volunteer with Wayne Hamilton, who was the park geologist. At the end of that summer I had had such a good time that I decided to stay in Yellowstone and got another volunteer job with the Fish and Wildlife Service in the winter and, over time, worked my way into some very low-paying, temporary positions. So by 1988, I was still working in the research office, I was no longer working for Wayne. My supervisor was Henry Shovic. He was a soil scientist with the Forest Service but he was somehow working part-time for the Park Service. My job was to monitor a number of geothermal features in the northern part of the park that was part of a cooperative study that was part of a U.S. Geological Survey. I was also supported whatever soils work was being done by the group. Ann Rodman had come in maybe that year, I'm not sure, maybe the year before, and was working on a soil survey. I also did a couple of other things around the office. That's what I was doing around the park that summer.

"I remember early in the summer we went on a hike, I don't know who with, and far out in the distance somebody pointed out a teeny, tiny spiral of smoke. Somebody said, 'Oh, that's the such and such fire.' We all got very excited that we had gotten to see a forest fire. But of course, in time, the fires started getting bigger and bigger. I'm not really sure when the fires became a big interest to what I was doing. Keep in mind that I was very, very low on the totem pole. Also keep in mind that we were all extremely poor, as poor as church mice. We were thrilled to get any opportunity to make additional money. At some point, they started paying people to do work in the fire cache to help out building the big burn map that they maintained and do odd jobs. I know that Ann Rodman, who was one of my housemates at the time, pretty quickly got involved. She kind of pulled me in, and I started helping out doing odd jobs here and there.

“Yeah, at some point, they told us that we were not allowed to do any work with the fire cache during our regular work hours. So, we had to work before or after that during the day. I would often go to the fire cache after work to see if they had any little jobs that needed to be done. At some point I started working in the morning up at the YCC [“YAC”] camp, the Y-C-C camp, where they were providing breakfast for some of the firefighters. So there were some nights that I would, for example, drive six-hour round trips to Billings to pick up some printed copies of the burn maps that were getting done there, get home at two in the morning, then get up a couple of hours later and go up to the Y-C-C kitchen. I was not getting a lot of sleep. I don't remember a lot of what went on because I was pretty sleep deprived, as all of us were. That was my primary involvement.

“At some point, Henry Shovic got put in charge of the post-fire burn map project. So I got pulled into that. I was mostly just taking maps and reports that other people had made, and pulling them together into a computer file. There was one occasion where I got to go into the fires when they were trying to set up a sample plots in front of the fire. And often when I went out, when I was trying to collect my water samples as part of my geothermal monitoring project, I would have to go fairly close into the fires. Not super close, but there was a lot of smoke and haze.”

*Interviewer:* "How long were you involved with the fire. Did you stay until it was out? Did you see the end of it?"

*Colvard:* “Well, I was living in Mammoth, so of course I— I was one of those people who stayed in Mammoth when they had people evacuated— when they thought the fire was going to come through, so I stayed in Mammoth that day and after it passed through. I think soon after that it died out; it had rained or snowed. It calmed down. That probably marked the end of my involvement. Exactly when I started, I couldn't tell.”

*Interviewer:* "So you mentioned that you'd seen that very first plume of that fire. When did you notice that it was a big fire?"

*Colvard:* "I have no idea. I was working in the now defunct research office, so I was working with people like Don Despain all the time, so I was pretty clued into what was happening, but I don't really have a clue when that was. It was such a gradual evolution. There was no one point in time when things started happening, at least in my mind, but I don't really remember much."

*Interviewer:* "Did you come across the military at all? Do you have any stories about the military experiences that you had?"

*Colvard:* "I don't have much memory of seeing them around. The only time I really remember them was there was a traveling Shakespeare company that would come to Silver Gate every summer and give a performance of a Shakespeare play. I went to that. It was fairly late in the summer when the fires were going strong. They had this outdoor performance of a Shakespeare play, it was the *Merchant of Venice*, and I remember sitting there, it was fairly close to the road, and these military vehicles kept going back and forth and back and forth. Military helicopters were flying overhead, and smoke was flying across the stage. The actors, I don't know if they were getting scared or annoyed by all the noise and commotion, but they cut the performance short. It was all very entertaining. I think they evacuated Silver Gate either the next day or the day after. It was all quite exciting."

*Interviewer:* "How fast were your operations like the mapmaking with conditions changing on a daily basis?"

*Colvard:* "It was -- again my memory is limited -- but I seem to recall that things were happening pretty fast. It was very exciting. I remember at one point my USGS coworkers who were in charge of this project I was working on came into the park to spend a couple days there and do some work, and I was so excited to

take them over to the fire cache and show them the burn map, all the excitement that was going on with the cache. I thought it was really cool. They were totally unimpressed. The things we were doing changed very quickly. One day I was driving to Billings in the evening. I know a couple times after work, I would drive to parts of the park to deliver things to the fire command there. Then working up at the YCC camp. What we were doing was constantly changing. People were going in and out of the various fires to set up research plots. It all seemed very dynamic and exciting.”

*Interviewer:* "When you would take off out of the park and go to Billings, did you notice anything in the media? What was the attitude of people outside the park about the fires? Do you remember talking to people at stores or anything like that?"

*Colvard:* "Oh no, I had almost zero contact with people outside the park. None of us owned a television or had very limited TV reception anyway. Very limited radio reception. I think there were only three radio stations that you could get in the park. We probably didn't have too much access to newspapers. I do remember seeing the news. I guess somehow I saw that. We were young and stupid, and we felt that we were very much a part of the action and in the know. We felt like insiders even though we really weren't. I think we kind of viewed much of what came out in the media as coming from people who didn't really know what they were talking about. I don't know that I paid a whole lot of attention to it at that point. I certainly didn't have much contact with people outside the Park Service at that time.”

*Interviewer:* "It seems like morale was pretty high around there. Was anyone fearful of the entire park burning down?"

*Colvard:* "No, we were scientists. I was working with scientists and I think everyone had a pretty realistic view of what was going on and that this was a

natural process and that had a lot of positive benefits. I think more than anything, I felt and the people I hung out with felt that it was really exciting privilege to be involved to be in a somewhat historic event and to have this opportunity to have such a close-up view of wildfires. To be part of it all. I did get to go one day into the fires for a research plot. It was one of the most exciting things to happen to me. It was such an enormous thrill. Awe-inspiring nature at its best. For the people I was with, it was just very interesting and exciting. It was a great research opportunity. Everybody was exhausted but I would say that morale was pretty high."

*Interviewer:* "Have you been involved with anything similar to this after the fire?"

*Colvard:* "Nothing fire related. I just remember driving through Yosemite several years ago coming back from a field trip. They had shut down several major roads in the park because of the fire – because I was driving a government truck, they let me through. There was tons of smoke and everything. It brought back so many fond memories of those days in Yellowstone. (laughs) Fire smells great. Forest fires I associated with one thing."

*Interviewer:* "Did you notice a lot of wildlife? What was the wildlife doing at the time?"

*Colvard:* "Oh you know, you would hear stories in the media about how the -- and once again I have no concept of the media access that I had -- but we would hear stories like, 'Oh my gosh, the animals are running in desperate fear,' or that they're getting burned up. But I think on several occasions, I would see elk grazing very peacefully right in front of some fire, and they didn't seem very disturbed at all. I never saw any upset animals. Of course, I think it was that winter that they had that huge die off. I did see wildlife in very unusual locations. I remember seeing some moose down by Reese Creek, which is very

dry, so you don't normally see moose. That was kind of bizarre. But other than that, no."

*Interviewer:* "Where were you at when the big Old Faithful [fire] was really coming down? Were you around that at all? Did anybody talk about the outlying towns, West Yellowstone and Cooke City, things like that being in danger?"

*Colvard:* "Well, I was living in Mammoth Hot Springs near the officers' quarters row there the whole time. I know Rick Hutchinson was on top of the Yellowstone Lodge during the fire down there. I talked to him afterwards, and he told me about his experiences there, although I don't really remember a whole lot of what he said. But all these other locations, they were pretty peripheral to where we were and what we were doing. They weren't really our focus. I'm sure we were talking about it, but I don't really remember them as being a very big deal, or us paying a whole lot of attention to it."

*Interviewer:* "How about the portions of the fire that were human-caused? It does seem like it was such a big fire, was everyone on board because it was a natural fire, or was the human impact part of people's attitude?"

*Colvard:* "You know, I think, you mean human-caused as in ...?"

*Interviewer:* "Well, some portions of the fire were lightning caused and they burned into fire, and some were human caused, like a man caused the biggest part of it."

*Colvard:* "Well, I know that some were deliberately started, and they didn't quite work the way that they expected them to. I'm not even sure that I knew that was the situation immediately. I certainly heard about it at some point, but for my situation, what I was doing, and to me you know, the fire was the fire. How it started was not really relevant. Again, I'm sure there might have been some

discussion, or I might have heard about how they were started, but it wasn't really a big deal to what I was doing."

*Interviewer:* "Where were you at when it finally snowed? What was the thinking that it was finally out?"

*Colvard:* "Well I'm sure I was in Mammoth. I remember people talking about it. By that point, we were all just so tired and sleep deprived. It was, 'The fires are going out.' In one respect, it was probably kind of bad because our moneymaking machine was ending. But I think we were all kind of ready by that point. So I don't remember a whole lot of elation or anything, it was just sort of, 'Yeah, it's over.'"

*Interviewer:* "Yeah, and at the same time, when all this is all going on, the park is open and tourists are going through. Did you see where they were still stopping at bear jams or elk jams, things like that? Did you encounter stuff like that driving around?"

*Colvard:* "When the fires were getting close to Mammoth, they did close a lot of the roads and there was limited access. You know, I really don't remember."

*Interviewer:* "Well, it was a long time ago."

*Colvard:* "Yeah." (laughs)

*Interviewer:* "That's why we're trying to get some oral history before people forget."

*Colvard:* "That's right. Most of what I'm really remembering is sort of the end, when it was getting close to Mammoth, and by that time, they did have a lot of the roads closed. And, there were not many tourists. I remember, we had just come back from going into the fire, and we were wearing our fire clothes – I'm sure we were sooty and messy – Ann Rodman and I were sitting on the steps in



front of the Post Office. And there weren't very many tourists around and some Japanese tourist came running up and stood behind us so his friend could take a picture of him. (laughs) Behind the firefighters, ha-ha. We got a big laugh out of that. But yeah, I didn't have much in the way of visitor contact."

*Interviewer:* "Have you been back since?"

*Colvard:* "I've been back a few times. I stayed there till 1990. I left in 1990 and moved to California. I've been back once or twice, but not in many years."

*Interviewer:* "You're not involved in seismology or anything like that now?"

*Colvard:* "All my involvement was with the geothermal features in terms of USGS. And I continued working on that with the USGS for a while. But that particular project ended within a couple years after I left. I came back for a wedding, and I came back once for work. That was it, and it was pretty soon after I left. Over the years, I've kind of followed the fires. The fire stuff in the media. Every now and then, somebody will do an article of how things change or how things are different in the park after the fires. But that's about it. I've sort of stayed in touch with Ann Rodman, who is still in the park. Or, at least, I think she is still in the park."

*Interviewer:* "Yeah, it seems to be as good as ever. It seems to be no harm, no foul from the fires in the long run."

*Colvard:* "Yeah, and like I said, I was there until 1990, and the next spring and summer, that would have been 1989, it was just spectacular. It was amazing—the wildflowers and the regrowth. It was so fascinating to look at. There were just spectacular flower shows, incredible with the contrast of the fires and burns, the black of the burns. It was just so interesting to be there the next year and see how everything was coming back so quickly, and how everything had

changed – how the looks of the park had changed. It was really cool. I enjoyed it almost as much as the fires."

*Interviewer:* "It's really nice to see both perspectives like that."

*Colvard:* "Yes."

*Interviewer:* "You're not really involved in the firefighting, you know, there's a lot of perimeter control and it became a defense thing. Was anybody really worried or scared about what was going on? It seems pretty casual really."

*Colvard:* "It was. Yeah, that day in Mammoth when they had evacuated most of the people from Mammoth, they were expecting the fires to come through. You could see the huge wall of smoke outside Mammoth. That was kind of weird. It was an interesting atmosphere. I don't know if it was fear, it could just be nervousness because nobody knew what was going to happen, and how close the fire was going to come into the buildings and how dangerous it was going to get. So I don't think anybody was scared, but it was very – There was this heightened sense of anticipation. Of course, I had to pack my car in case it had to be evacuated. We had to get ready to leave fast in case we needed to, but I was never – That night when it started to come through, and the next day when we knew it would come either through or by Mammoth, we were exhausted by then. I kept getting up and looking through my window. I couldn't sleep very well. You know, just wondering how it looked, and what was going on. But nobody was ever really scared. There were so many firefighters there and so many fire trucks there, that I don't think it was ever really fright."

*Interviewer:* "There were an estimated total of 12,000 people fighting the fire. Where did everybody hang out? Where did everybody stay? That's a lot of people."

*Colvard:* "That's a really good question. I have no idea. My only contact with the firefighters was serving up breakfast at the YCC camp and, honestly, I don't even remember where they were staying, if they were staying up there in the camp or somewhere else. I have absolutely no idea where those people were. I'm sure a lot of them were in places like West Yellowstone, where I had little to no contact. Yeah, no idea. But I just don't remember seeing them around much at all."

*Interviewer:* "There were some pretty big evacuations like the evacuation from Grant. That's what really started the big news media, that evacuation. Did you ever come across that at all? That had to be quite the train coming out of there."

*Colvard:* "Zero memory of anything involved with that. I guess I was busy with other things."

*Interviewer:* "Were you instructed or anything if you came across the media to not talk to anybody or anything like that?"

*Colvard:* "I do know at one point, I went to a presentation that Joan Anzelmo gave. I don't remember exactly what she said, but she presented some bullet points and speaking points. I was sitting next to Paul Schullery for that, and Paul Schullery, ever the joker, at the end of the presentation he said, 'Fire is our friend.' Which I thought was very funny at the time. I've never forgotten that. But mostly what she told us was just how to speak to the media. Not much what to say, just how to speak. And on what not to say. Don't call it a terrible disaster. She did present some bullet points. She never really told people what to say. I think her speaking points were very reasonable and presenting science in the situation. But that was the only contact that I had in instruction on what to say."

*Interviewer:* "So you talked about some of the regrowth in the following years, in the summers. Do you ever remember the media coming to cover that at all?"

*Colvard:* "I do not. I'm sure I had an awareness of it, but I do not remember seeing them there."

*Interviewer:* " Back to the no harm, no foul. Do you think there would have been a difference if Cooke City would have burned, if it had gotten outside the park, or if the famous Old Faithful would have been damaged? The lodge or the town of Yellowstone, do you think the opinion of no harm, no foul would have been different?"

*Colvard:* "Well, again I'm a scientist and I was working with scientists. I'm very indoctrinated in the science, and I'm sure those things would have been a horrible tragedy. Those things would have been a great loss. But I think ultimately, in my view, would have been all about science. That's an unfortunate consequence, but it wouldn't have changed my perspective. One only knows the perspective the media would have taken. The general public would have seen that in a very bad light. But I think the general public, I think that fire was a turning point in the public perception of wildfires. Everybody learned a lot, both the media and the scientists and the general public. It was a great experience because of Yellowstone. We see wildfires a different way, and we're less critical of the consequences and see them more as a fact of nature and something that has a lot of benefits. I think, ultimately, it was a good thing. I hope people's perceptions wouldn't have changed too much if those things had happened."

*Interviewer:* "A lot of the camaraderie and stuff like that. Do you still come across anybody twenty-eight years later? You're pretty proud of being there, that's for sure"

*Colvard:* "I am. The people I was with at the time. And I lost touch with most of them. There are a couple that I've maintained contact with. The fires are old days and we don't really talk about that in our limited time. Frankly, by the end of that summer, we were all sleep deprived and cranky and sick of seeing each

other. I remember almost having a blowup with a couple of people that I lived with. Looking back, it was an irrelevant argument, but I think we were all getting pretty tired and cranky and bad-tempered – not loving each other all that much by the end. But yes, we all got very close."

*Interviewer:* "Is there any really special memorable experience that you haven't covered yet? Anything you want to talk about?"

Colvard: "You know, I did get to go in the fire that one time. I went in. I got invited to go in, well it was more like a special privilege to go in and help set up a sample plot. This was when the fire was fairly close to Mammoth. And so I went in with Roy Rankin and Ann Rodman and a few other people. I can't remember who they were. Our objective was to get in front of the fire and set up a sample plot. But the front was moving too fast, and we could not do that. So, after hiking for several miles, we stopped, we had stopped at a little grove of unburned trees. We were walking through an unburned forest at that point, and stopped at this little grove of unburned trees to rest and eat some food. I remember hearing this roaring behind us, and I asked Roy Rankin, 'What's that sound? Is that a river?' He said, 'No, that's the fire behind us.' That was very exciting. This was sort of getting close to midday, and the winds were starting to pick up a little bit. As we were sitting there eating our food and resting, every now and then you could hear a tree falling. And of course, that's the most dangerous thing to encounter in these burned forests: getting these trees that suddenly fall on you. And so, we could hear these falling trees and think, oh my gosh, we need to walk back through that to get out of here. But finally, Roy decided to set up a sample plot in an area of unburned trees knowing that it would probably burn later in the afternoon when the wind picked back up again. So, we started to lay out a plot and just as we got everything set up, I heard this big 'Whoosh,' and Roy came trotting by saying, 'Time to go, time to go.' I looked up and there was this big wall of flames right beside us. We just grabbed our

gear and hustled down to the river, which was close by. We just stood there by the river for a little while, and we could look across the river and the slip across from us was just completely on fire. There were just these big fireballs in the treetops. Of course, it was completely dark as night because of the smoke. It was just so incredibly cool. It was one of the most amazing experiences of my life. Finally, we gave up and hiked out. But that was really neat. I'm really glad that I got to do that."

*Interviewer:* "I don't understand what the plots were. What was the sample plot you were doing?"

*Colvard:* "They were setting up sample plots in front of the fire. They were doing inventory of all the plants and things that were in the sample plots, and then the fire would come through. They would then come back to the sample plot and see what was there. The objective was to return to that sample plot over the years and see how the vegetation changed and recovered from the fires. You got an opportunity to look at the vegetation before the fire, and then get to come back to the exact same spot after the fire. And, I think that famous, when Don Despain got quoted as saying, "Burn, baby, burn," my understanding was that they had just set up a sample plot. Then the fire came through and he said, "Burn, baby, burn," because he wanted the sample plot to burn. And, of course, it got taken completely out of context, and became that famous Yellowstone fire quote. But I could be wrong, but that was my understanding."

*Interviewer:* "That's pretty cool. I'm glad you included that little piece. Anything else Liz?"

*Colvard:* "Well, I will just leave you with our mantra for the summer. I don't know if you ever heard this: 'Burning, burning, burning. Keep those fires burning. Earning, earning, earning overtime.' We were all so happy to make

that extra overtime money from the fires. It really added to our coffers. But I think that was probably about it."

*End of interview*





**Don Despain**

Interviewed at the Yellowstone Heritage and Resource Center

on August 12, 2014

by Todd Jensen, Andrea Yaeger, and Garrett Smith

*Interviewer:* “Today we are doing an interview with Don Despain. Don, if you want to give a little bit of background on yourself, and who you are, and if you just want to give your story about the epic 1988 fires in Yellowstone.”

*Despain:* “Well in 1971, I was fortunate enough to land a job here in Yellowstone. I grew up over in the north end of Wyoming and have been coming through Yellowstone since before I can remember on my way to my grandparents’ home on the south end of Yellowstone. Somehow I was able to get a job as a plant ecologist here in Yellowstone. I marvel still why that happened, but it was great. I started in the fall of 1971, and the first thing we did that winter was to write up a fire management plan that would allow fires to burn without suppression. I got to write the ecological justification for something like that, which was interesting to me. I was able to interact with the fire suppression people and learn more about how things worked. This was a brand new thing in 1971. There was another Park Service unit and Forest Service unit where they were going to begin to try to understand the natural behaviors of fire and the effects of fire from a natural standpoint. Of course, Yellowstone was the perfect place for this because that was its purpose, to preserve the nature of the place, and to allow natural processes to occur. You can argue that with a lot of people, but that’s a lot of the main points. I did believe in the idea that it can be natural, that the natural processes can go on. So I was very interested in the beginnings of

that whole idea that maybe fire suppression isn't the whole answer. The world won't burn down if we don't put some of the fires out.

"In 1971 we set up two areas, 850,000 acres, which was a fairly sizeable piece during those days committing, and still is, where we would let fires burn under – well we would just let them burn. If they got too close to the boundaries and looked like they were going to spread into the developed areas and go outside the park, then we would do something about it. So the road system is a figure eight. So what we did was take those two pieces that were inside the eight and over 150,000 apiece, we would let them go as much as we could. Then in 1972, there were two lightning-caused fires in those areas. A lot of it was down by Mount Washburn, not Mount Washburn – I'm losing my mind – the fires by lookout by Heart Mountain, not Heart Mountain, see. (laughs) Anyway, the south end of the park. It started by then, we turned it in. Okay it's in the area, we can go down there. I went in with the helicopter people. I walked in to the fire. Lightning had struck a large tree, the crown of it had burned down and there was some rotten tree trunks that were smoldering."

*Interviewer:* "Is this the North Fork Fire?"

*Despain:* "No, this is 1972."

*Interviewer:* "Okay, I'm sorry."

*Despain:* "This was the first fire that we allowed to burn without suppression. So we looked at it, we walked around it, and I took out a tape measure and measured the length of it. The fire had burned down this rotten log and along the sides of it and out into the understory a little bit, not very far. Maybe a five-foot diameter circle had burned. We looked at it for a little while, picked up our shovels, and went back to the helicopter and flew off. That had never happened to a fire in Yellowstone before. If they detected the fire, of course, according to all the standard procedures, they went out and put it out. On the helicopter back

we heard that it's blowing up again. Well, it put out smoke and burned a tree or two here or there, and never got over an acre in size. Finally it just died down, the lookout on the mountain. It never did anything, it -- died out.

"After the fall, we got another fire in the northern part of the park. We got up in the helicopter and went out and saw -- and what we found was a dead stump, a rotten stump right out in the grassy area and the grass was all still green. We didn't even get out of the helicopter. We just flew around it and went back to base because it couldn't go anywhere. All it had was green grass, and the green grass doesn't burn. It was maybe a month before, maybe it consumed all the dead stuff. Well, that was the beginning of allowing fires to burn.

"We got several of those kinds of fires. Finally, one year it burn 500 acres, which was a big one. It was from a lightning strike down near where that first one had started. There was a lot of fuels there. It burned in the spruce and fir forest, the old forest. It burned for two or three weeks, four weeks, and then the wind came and blew it in the right direction. The wind was, until that time, out of the west and it would burn the spruce and fir forest until it ran into the lodgepole pine forest that was between it and the lake. It did that for several days. As soon as it hit that lodgepole pine, it turns out that that lodgepole pine forest was from 1875, 1878. It was a couple hundred years old, but we just couldn't burn it. Then it shifted and the wind came out of the north for a while and was able to burn spruce and fir forests and was able to burn to the lake and put up a big smoke column. Still there were no firefighters on it. Finally, the end of the season came and it died out.

"That was the learning experience for me. The world doesn't burn down. All of the forest doesn't burn the same. Then I could make observations on why that might be. I found that in those older forests there is a lot of young trees, seedling, saplings up to the big trees, mostly spruce and fir. They had branches

come clear to the ground. The bottom ones die and it's drier and if it gets dry enough in the forests, those sparks, the firebrands that fall in to the needles and all of those dead things in the ground and they are dried out sufficiently, those could spread around. They have a spread rate of about a foot an hour, burning into this stuff. (laughs) They get under one of these seedlings and gets one of these lower branches burning, and the trees are dry because the kind of a drought. So that little seedling just torches and puts out a whole new firebrand. These things move around and get under another seedling and it goes up. Pretty soon you've got eight or ten or fifteen of these seedlings. Some of them are under the big trees and they start a flame column up those big trees. Those big trees will put out a big fire so that's why the spruce and fir forest became quite important in terms of fire behavior and fire starts and fire spread. You could walk into that two-hundred-year-old lodgepole pine forests, and all of the branches on the lodgepole pine had died and fallen to the ground and had become part of the mat that was down there. Spruce and fir trees hadn't started growing yet, and they had the sparks there far between. When the firebrand landed in between that, it started this layer of duff burning and slowly progressing until it got to the spruce and fir forests. It wouldn't do anything. So under all those conditions the fire could not maintain itself in the crown. It did not have the heat underneath it to carry it but under the spruce and fir forests it did. It could spread over a wide enough area that it could generate enough heat to get a smoke column going which would generate some wind firebrands down wind that had the opportunity to develop something. I learned a lot about fire in those years. I think that was 1979. Seven years. We decided everything could burn. We might have gotten a little bit complacent.

"We had other years. I forgot what year after that. We had five or six very large fires, over 1,000 acres each. We had – what was it Labor Day in the fall? Down on the Shoshone Lake, what was it, four different smoke columns going up in to

the air. Nobody was fighting them. It became apparent that the world won't burn down just because the fires are burning and fires start.

"I had done a vegetative-type map, a cover map of the park, and saw the patterns of burning. I looked into the old fire records and saw how big fires burn and how big they got. The biggest fire that was in the records was 1930-something, 18,000 acres down by Heart Lake. Why it did that was a big windstorm that came. They finally put it out when it snowed. That's what we did to all the large fires we had and, yeah, every one of them were finally suppressed by the suppression crews the day or two after it snowed or rained, heavy rain in the fall. That's what put them out. There was another couple of burning years there where a few thousand acres burned where we had a fairly good handle on that. The vegetation maps show that where these 250, 200-year old lodgepole pine stands that covered thousands of acres, you couldn't tell whether those were big fires, that line up, or there were one that burned one year and the next and burned further up, or whether they burned the same time. The pattern of the burned forests as demonstrated by the lodgepole pine distribution and pattern would indicate that maybe – I predicted 70,000 acres to be the biggest one, that's the biggest one I could come up with out of these fires. I predicted that 70,000 was the biggest fire we were going to get. This is going to burn up if we let these fires go. The whole park was included in the area where the fires were allowed to go in certain conditions. We figured that'd keep it from leaving the park.

"I think 1983 was one of the big years, but I'd have to go back in the records and look at it. Those are there in the records of the big fire. In 1988, it was obvious that it was going to be a dry year. The winter was dry. We had dry winters before and it didn't really matter whether the winters were dry. Not very many people believe that. In the spring -- April, May, and June -- are the high precipitation months in this part of the world. That's the peak precipitation

months. All of the fuels are wet completely down and all of them are saturated with water by then end of June. They can't burn. (laughs) They can't burn until they dry out. They had a mud puddle in a little side road between Norris Junction and Canyon. There is a little dip in the road and as the snow melted it would fill up with water. I knew we couldn't get a fire until that puddle dried up. (laughs) It wasn't going to dry out enough until you had dry enough punk and the trees were dry enough to burn. All of these things had to come together before you could even have a fire start. That puddle was one of my indicators. The other one was if I could reach into the rotten log and get a handful of the rotten material and squeeze as hard as I could, then the fire wouldn't start until no water came out. If it dried out enough that I could not squeeze water out of the rotten wood. I've forgotten how I got into there but anyway – if water flows out, then it's too wet to burn. If I couldn't squeeze any out then there's a possibility of getting fire starts. If it continues to be dry and we got no rainstorms, thunderstorms, anything, then fires would continue too, and they had the possibility of getting big.

"In 1988, we had the dry winter which didn't matter because it was supposed to rain in the spring. Well the spring rains didn't come either and April, May, and June had very little precipitation so things did get dry. I took a reporter out to one of the fires in Yellowstone – I took him to a place where one had burned a couple years earlier. All new trees were coming up and we talked about how it's part of the system. We don't burn down everything and sterilize the soils or any of those kinds of things. Fire does not make the soil incapable of supporting vegetation. I showed him all of these things. He asked me how I would predict for this year. I said, 'Well, it's been dry and we could very well get some very large fires out of this, 80,000, 40,000 acres.'" (laughs) The rains didn't come and July was dry – it was always dry. At that time, the average July precip was an inch-and-a-quarter, which isn't very much at all. I was just saying every August

they've got what they call the monsoon rains – and every August that there was records for, it rained in August. They had been sufficient to really dampen fire things. They just kept going longer and longer but August was coming and there was no problem. Don't worry about it. We'd had some fires that we allowed to burn, some that said we probably ought to put out because we had too many fires, and we should suppress these.

“When the fire started I was on the fire team that met to decide whether the fires could be allowed to burn or not. I always argued that there was no reason to put them out. Let's let them go. All the superintendents decided we couldn't allow the fire to burn across the highway. People just weren't ready for that. They didn't want to see all this burned timber, all the destruction of their national park. So we had to put some out that might have crossed the highway. We had to put some out because they might have got to Old Faithful. We put some out because they would go outside the park and get on to the forests. There were a lot of reasons to put the fires out, but we were successful in allowing quite a number of them to go and do what they wanted to do. Before 1988, I was going through the data on how big the fires got and how many of the fires that we allowed to burn. How big they got. I found out that eighty percent of the fires that started went out less than an acre in size. Eighty percent of them. Just after I got that worked out on the rotary calculator (laughs) -- that was before computers -- there was a news clipping that came around through the offices about how successful their fire season had been last year. They had kept all of the fire, eighty percent of the fires, to less than five acres in size, and they were congratulating themselves. They were able to keep eighty percent of the fires to less than five acres. I thought hey, you didn't have to do anything to get that kind of numbers. We'd had a hundred fires, I think. We had a lot. Eighty percent was the number of fires that was significant on these and none of them

had gotten more than 1,000, 1,200 acres in size. The biggest one that I could find in the aerial photos was about 70,000.

“Well we are in 1988 and it just kept getting drier and drier. The way we did it was we met and decided whether or not to put the fires out. It was decided to put it out then. I was the fire behavior officer – that’s what they called it in those days – on the fire suppression team, and went out and made forecasts and worked with the suppression crews to, quote, put the fires out. When the fires got too big to handle for us inside the park, they brought in the national level, regional level; anyway, they brought in other teams to take over the fires. So we would go back to running the park and work with other fires. Pretty soon we were handing over these fires to these other teams. My role at that point was to go around and help the people from these other teams understand Yellowstone fuels and the way fires behaved. Their fire behavior officers then would take over and make the predictions and so I was an advisory role and this is the way you should expect it to go. We just kept getting these big fires. I told a lot of people about it. I had the vegetation map and that showed the distribution of the lodgepole pine, and the spruce and fir, and the different age classes of lodgepole pine and size classes, which is the same thing, and how the fires behaved in each of these. I gave them the copies of my preliminary map that at that time was finished. It wasn’t printed or anything at that point, but we could make copies of it. So it just kept developing, and kept going. These large teams of firefighters would come in and of course this was happening in other places, too, but of course the notoriety, it was an election year, there wasn’t anything else going on. There were no hurricanes, there were no wars, there was nothing else going on in 1988 except fires in Yellowstone. The park is burning down and the stupid rangers there are just letting them burn. That was fun.

“The presidential candidates came. Dukakis and Bush had to come and see what was going on in their national park. So they had the president come and of



course the nominee for the other party had to come and make sure that he got noticed in the papers as visiting. There were satellite trucks from all of the places around. When it really got going in July and August, it was the big news story around the world. When the president came, I went out and showed John Varley what he should show them, the little seedlings that were coming up. Tried fire burns in these kinds of forests. These parts have already burned and we could go through them and see that vegetation was already coming up from the fires that had been earlier in the fire season. So the world wasn't going to burn up. So when the president came, we brought him in in helicopters. I was manning the fire engine. I was placed there in case anything would happen. They had a fire truck there so if a fire started to burn up the president they'd have a fire truck there. I was on the Volunteer Fire Department so I could be there with that truck dressed up with my firefighting clothes and watch John Varley lead the president around and show him all the things that I had showed him. It was a circus.

“The park's fire people got together every day and went over what had happened and how much had burned. We got reports from all these things and made their predictions on what they thought. I was trained to be able to go onto the fire line and make observations and do that thing that a fire behavior officer can do, which was a pretty nice thing. You would go out, walk around, and say, 'Okay this is the fuels on the part of the line. This is what you can expect. This is what you have to watch out for.' You'd get the weather report and find out whether the wind was going to blow, whether there was going to be rain. To call the weather service and get a spot forecast for the fire and put all of this together to predict what was going to happen, and what they had to watch out for safety-wise. That was my background and training and involvement in this, and this is what I was doing the whole summer.

“I’d go on to the helicopters and fly around and map them when they were small and do those kinds of things. And go on the ground and watch what happens. I had the privilege of just sitting there and previous to this, go out watch the fire, see what it did, see how it crept around the ground and got under the trees, the little trees and torched them off. I got so I could sense when it was time to leave, when there were so many little trees going off that it was time to get to an opening, get out, get down the road, and look back and watch the smoke column go up. You just develop a feel for that. The dryness of the air, the way the fires are behaving, how fast they are moving, how the trees torch, how they burn, and how many of these fire brands that are going out and starting new fires and new hot spots. Then eventually these hot spots coalesce and build a smoke column and the thing takes on a life of its own.

“When we first let the big fire go, we decided we didn’t need to be out there all the time. So nobody was watching it one hundred percent of the time that we would get some time-lapse cameras. We got a couple of time-lapse cameras and would put them a ways away, and see the area and photograph it every half hour or every ten minutes or whatever we thought might work. We put some of those out and I remember the first time one fire burned a few tens of acres and we got it on this time-lapse photography. We brought it in and got it developed, and Bob Sellers was the fire chief for the park at that time, him and the rest of the people that were involved in that, the rangers and what not, looked at that time-lapse photography and watched it in the mornings. As soon as it got light it would creep around and start smoldering and smoldering a little bit and saw it develop and go into a smoke column and run up the hill. Then it got dark and you would see little red flashes every once in a while, but no big flames, nothing really active going on in the fire. Then the sun came up and it was just like it was before, smoldering and smoldering and nothing really going on. Bob said, ‘Boy, if we’d have been fighting that fire, we’d have congratulated that crew on what a

great job they had done containing that fire.’ That was another eye opener for me. When you fight everything, you take credit for everything that happens. The fire crew did a great job, but they weren’t even there. But they kept that fire contained and it looks really good this morning. Then it developed in the afternoon again and went up and did some more burning and smoke columns and all that sort of thing. There weren’t any slurry planes, there weren’t any bulldozers, there weren’t any crews on the ground doing anything with it. It finally went out. I think it was less than one-hundred acres. The rains came in August, like they always do.

“The middle of July I think there had been about 70,000 burned total from all the fires and the Department of the Interior Secretary said, ‘Put them out. This has gone far enough. Put those fires out.’ So all of the fires were attacked full force from all of the resources they could pull together. They even finally brought in the military to build line and I don’t know how many millions of dollars were spent on suppression. The fires just kept going. They brought in Rothermel and all of the other people that had studied fires and me. We sat in a place over there in West Yellowstone and made our predictions and looked at all the information that was available, and had the weather forecasters, what the next month was going to look like in early August. One of them went through all of the climatic records in the park, back to the early thirties. Oh it went further than that. We have one of the oldest weather stations in Wyoming, and I’ve forgotten the dates. It rained every single August, monsoons came. So we predicted that the monsoons would come and the fires would all lay down and quit and we were about finished. They didn’t come. (laughs) There was no rain, zero in August of 1988, but every day there were winds that were greater than ten miles an hour, steady. Many hours that they were more than that, ten miles an hour for a forest fire is significant. That causes lots of movement. The relative humidifies at night

didn't rebound, didn't come back up. They stayed very low because of the air mass that was here at the time.

"So we had those extremely dry conditions. The trees were dry enough to burn very well. The monsoons didn't come but every time a cold front came through that usually brought rain, they brought wind. They just burned a whole lot more. There were fire starts, and lightning caused a lot more fires that year even. There were the early fires that started, but there were lightning fires that started and a lot of them just burned into the big fires or were run over by the big fires. In our meetings we were talking about various fires and things that we should do. There was a lightning-caused fire up here on Lava Creek, called the Lava Fire. Have you heard of that one yet?"

*Interviewer:* "Mm-hmm."

*Despain:* "The 'Let Lava Live' t-shirts. (laughs) Well we were in on that. The superintendent came and let us know that we were going to put the fire out. That didn't sit with me, and I said a cuss word that I shouldn't have said. The other guys around, they said, 'Despain, you better let us say those things for you.' (laughs) But I went out and talked to the superintendent and he said, 'Despain, just relax. We are going to put it out. That's the way it's going to be.' 'Well alright, it's stupid, it's not going anywhere.' 'It's okay, just relax, Despain. This is just one of those things we have to do.' The North Fork Fire started from Old Faithful on the other side of the park, eventually burned over in to the Lava Creek Fire. It didn't make any difference that we put it out, it did burn. If it would have burned, in fact, it might have gotten big enough that the North Fork Fire may have actually not done exactly what it did. There was a couple places where had fires that we allowed to burn in years past, that had gotten really big, had stopped the fire over in Fan Creek. So it was an exhausting year, but it was a year for me. There wasn't once in a three or four lifetime chance to observe

something that only occurs very rarely. At least up to that point it was extremely rare.

“Eighteen thousand acres was the biggest one that firefighters had fought since the 1930s. Again, it was the weather that put it out. The weather put out all those. The weather allowed the 1988 fires to continue to burn long after they had earlier and at much higher rates. That sort of thing just does not come about very often. It was something that was, as you look back, and look at the weather records, it was the same thing that had happened in 1910 around Missoula. I was up there last week in that area. They have a lot different fuels than we have here, but the weather set up in a time when the forest was dry and the fires were burning and the wind blew very strongly in one direction for three days straight, three days and three nights and no precipitation. And that’s why 1910 was the legendary thing and that’s why it was able to burn the way it did. I came to realize that, you know, we’ve got an uncontrolled experiment going with fire, fire suppression. We suppress everything and we don’t know what would happen if we didn’t suppress everything. There was nothing to say how effective the fire suppression was. There was no science that could be performed because we attacked everything, we did something to it. We did what we could to bring in the slurry bombers, build the line, build the line of bulldozers, everything you could think of. Of course, you were doing it to save the world. If you didn’t get the fire out it would burn all the way to the next city and burn it up. That’s our training. That was the training and still is.

“So that little experiment I did with the fires, I kept track of the acres, the fires we allowed to burn, and the fires that we didn’t allow, we burned them out or we suppressed them. By 1988, we had over one hundred in each category and if you looked at the size of the fire, the total size of the fire at the end, how big it was, they had exactly the same distribution. Eighty percent of them burned an acre or less. A lower-percent burned a thousand acres, a lower percentage burned a

hundred acres, a lower percentage did ten acres, and both curves were the same. It didn't make any difference whether you got to them when they were small and had gotten put out, or whether you just let them burn. In 1988, they had a lot of lightning fires even after everything was put out. They just didn't have the resources to get to them and they burned. They got bigger and they ran into the fires that had already burned the fuels and then quit. I think there were fifty-eight lightning-caused fires that year. Previous to that, we had a year that had fifty-two and hadn't burned very many acres. Of course when you get fifty fire starts, it's a dry year. In those years we didn't burned hundreds of thousands of acres a day like we did in 1988 partly because the rains came in August. I went back through some of those big fire years and because the rains came in August, the acreage increase in August was negligible, even if we didn't do anything less.

"The big ones that we put out in August, the rains came. You go back and all the big fires, the Tillamook Fire in Oregon that was so bad that it destroyed the forest and nothing would grow back on some spots. It put ashes from firebrands on ships out on the oceans. We were getting the same thing – about firebrands falling out of the sky into Cody from our fires and they were going to burn Cody down. Of course, when you build those high smoke columns, you get air that is hot and can maintain the burning of the little branches. That kind of an air column can pick up and carry into the sky and drop miles ahead of it and under the right conditions, those can take off. But they don't have the data that shows that it changed the end result of any of the fires that they fought. They build miles and miles of fire lines, and they did that. You could tell, all of the fire lines were either green on both sides or black on both sides. They didn't do anything, lines, dozer lines all of them were either green on both sides or black on both sides. The fires didn't stop at the fire lines. They asked me one time how much damage the fire had done. I said, 'Well, there's twenty miles of bulldozer line, there's so many miles of hand line out there, that's the destruction

that the fires brought. Those places will take quite a while before they grow back. But the rest of it will all regenerate.

“By then I had seen enough large fires that had burned real hot and had gone out. And I’d walk around in them and put out some plots and record what plants came back and what species and all those kinds of things. I couldn’t find any place that burned so hot that the soil was, quote, sterilized and wouldn’t grow anything. I found places, where I call tree ghosts, where a big rotten log had laid out there and had reached the point of decomposition and would smolder. Well, they would smolder until the whole thing would turn to ashes because it was dry enough to be able to do that. So there would be these ash lines, exactly the size of the tree trunk with the same height. Ninety, a hundred feet, fifty feet and you could see those out there all over the place. In between those, in the year after the fire, there was green everywhere. Little shoots came up out of the ground, fireweed. There’s a lot of species that have an underground rhizome system that just goes back up as soon as it gets wet and the whole thing is coming.

“There was even a species of plant, *Geranium maculatum*, that had been collected once in the park in 1906, and the specimen was in the herbarium in UCLA. There had been several people that had collected it in the park and hadn’t seen it. I had never seen it and I had been around and seen what grew. It was in the park flora but it hadn’t been seen. But after the fires it was there, after the 1988 fires, they were there all over the place. We did a study on the seed bank after the fires. Dave Clark got his master’s degree with that; he was working for me. We went out and used a tulip bulb planter to get the little cores of the surface and he took them into the greenhouse and watered them and determined what came up from all of these things. He also put some samples into the oven that had them burn at different temperatures. He found species that required 50 degrees centigrade heat before they re-germinate. Not just this *Geranium maculatum*, there was a

number of them. Fireweed increased in density tremendously because in all of the forest we have out here, fireweed has a massive rhizome system that is kept alive by little branches that come up, grew about that tall. They don't flower but they are all over the forest. When the forest burns off, that rhizome system puts off new shoots. They have lots of sun, they have lots of fertility, and they bloom massively and spread their seeds everywhere. But the seeds have to compete with everything else that is coming out of the ground. There is a number of species there. We also found that the killing temperature only goes about that deep down, about a centimeter, or a centimeter and half. Underneath that the temperatures don't get hot enough to kill living tissue except under these rotten logs, then it can go down to six inches.

"I've got a picture of a glacier lily coming out of one of these tree wells. It's about that big around, they are wide, which means that it was big trees that had smoldered for a long time and here was this glacier lily coming right up through the ash. That's because they have bulbs that are more than six inches into the ground. They germinate on the surface and they put out a runner and that runner goes down into the ground and puts out a bulb. The first year it doesn't go terribly far, but they next year it does, it goes down further. Eventually they get to these depths and that's way below the killing temperature that are created by the fire.

"I got to go the Tillamook burn while my son was going to school at Forest Grove just right on the edge of the Tillamook burn. I couldn't see any place that had not regenerated since then. I asked a number of people if they knew, the ecologists and foresters, if they knew of any places I could go to see where the Tillamook burn had burned sufficiently that nothing would grow and none of them could. Well there was one guy, there was one guy that took some pictures of this place that did have very few trees and had the kind of a red tinge in the soil. I went to visit that place and it was a place that was geologically that way; it



had nothing to do with the fires. It was the geology of the place. There were a lot of predictions in 1988 about how these fires were so big that it would take hundreds of years to get seed back into the centers of these very large fires. It was devastated. We were bad people because we didn't stop these fires when they were small.

"I think it was nine-hundred million, I've forgotten. Military came in, firefighters from everywhere. The fire bought fire engines from most of the communities around here that needed the new fire engines because they could send their dinky old fire engines out here and the government would pay them so much money to have them sent here to protect this place. They could buy new fire engines here.

"I've lost my train of thought. Where was I going with that?"

"I knew that from the work we had done already that there was a lot of seed bank out there, there was a lot of ribosome, and there was a lot of bulbs, a lot of everything else out there in those forests that they didn't need to worry about the area becoming covered with vegetation again. Lodgepole pine has a seed cone. There's a lot of them here in the park, it's about thirty percent or maybe a little bit more. They have that closed cone that needs the heat to open. The cone is, I've found through some research, is sufficient even in those big horrendous fires, is sufficient to protect them from burning and killing the seeds inside the cone. Even though the outside of the cone burns, it's enough that those seeds inside, they don't all die. Some of them do, if the cone is in the flame for more than a minute, then they all die. But the flames average only twenty seconds. Most trees burn. There is only fuel there to burn to keep the fire going for twenty seconds in the crown. There are brush piles and what not underneath that might burn longer than that, but I've also found that the live trees, the twigs don't burn back past two millimeters. Any twig that was alive, that was more than two

millimeters in diameter, was still on the tree after the fire burned. I verified that in some crown fire experiments up in Canada. So fire intensity cannot be judged by how big around the branches are that got burned off. You go out there and see branches that are that big around that are complete, are stubs in the tree. Well they were dead before the fire came. I've found that five millimeters, up to a half a centimeter – I'm getting too old. There's stuff I had on my mind.

“But anyway, it didn't burn the bark off the live tree. It just burned the outside, dry part of the bark and the inside, it has to stay wet to live. It could not have all the moisture driven out of the bark and the wood inside it for you to have charred wood. It was not dead before the fire came. Any time you see charred wood on a standing snag, it means that tree was dead before the fire came through because there is not enough heat even in those monstrous fires to dry out anything more than two millimeters in diameter and the amount of time that they are in the flaming fire.

“So the lodgepole pines seeds are out there and they are protected and dropped in. The opening mechanism does not allow them to drop in to the hot ash. They have to dry out before they open. Especially current-year cones are so wet that enough heat cannot get in to the center of the cone to allow it to burn. There is enough of those out there to put out more than a million seeds per acre. Some estimates I made, it was two million. Certainly, even if half of them are dead, half of them are killed, that's more than the seeds you need to restock the forest. Spruce and fir are not that way, but the spruce and fir forests all have lodgepole pine in it. Maybe they burned 300 years ago but there is still a 300-year-old lodgepole pine scattered here and there in that spruce and fire forest. To have a resident seed bank, at least that much of it and they have very easily wind carried seeds. Wind will carry the seeds of those spruce and fir trees long distances and put them out there.

“So even though lodgepole pine is the dominant species following the fire because its seeds are already there, they don’t have to blow in. Where spruce and fir can grow, there are spruce and fir seedlings the next year, a half a mile, a mile inside the outside perimeter. In all of those fires, there were little pockets, at least small pockets left of trees that hadn’t been burned, spruce and fir trees. You wonder about the dynamics of how they were spared. Some of them were along streams. All of the flames are going up because hot air rises and if you have this wet vegetation underneath the trees on the streams where is kind of smoldering, those trees don’t burn. The understory doesn’t burn so they seeds of those trees even though they were, quote, inside the fire line, spruce and fir are still there, where they cast their seeds out.

“Fire is a part of the system and the natural system has adapted to fire. It never did create fires hot enough to sterilize, of course it is sterile, you could eat off of it but it did not keep it from being able to support life. Even those tree ghosts, seedlings would grow in and anywhere else the seedling too much completion from the seed bank that was in the soil, the vegetative reproductive parts that were there before. One time I decided to dig up one of the fireweed’s sprouts that was coming up through the ashes. I got down about six or seven inches in to the ground and there was a rhizome that was as big as my thumb, this little branch had come from that burnt off end and come to the surface. Now I don’t know how that root got burned that far down, it must have with a tree ghost or this kind of a thing that allowed that to get that deep. There were three or four branches coming from that large rhizome. This rhizome system is spread throughout them. It’s kept alive by these little branches that you see come up and it’s there. No matter how drastic that fire might appear to us, all of those things are still there. The seeds are down there. If for some reason there was a large deep layer that smoldered stuff away and the killing temperature did go

more than a half inch into the ground, there are other things down there that the roots can bring up live seed.

“It’s just a fascinating system. Something that I feel very fortunate to witness and study and to not get so wrapped up in the way things are supposed to be, and what’s going to happen. I could say let’s watch it and see what happens. I could go out there in the morning and walk around the fires that were smoldering during the night that hadn’t developed yet and put some markers in the ground and see how fast they were burning through this mat of dead needles and twigs. I’d sit there and think, what is happening here, why is it behaving the way it is, how does it get from here to there, what is really happening here, what can I project? I could stand outside and watch this smoke column go up and marvel at the things that are going on and fly around in the helicopter and see at the edge of that big fire that is putting a 30,000-foot smoke column into the air, what’s really going on with the leading edge of that fire. You can’t see into it, but you can see what is going on into the leading edge. You can watch it and see the little smoking firebrands coming out of the smoke column that has gotten tipped over by the high winds.

“I did that on Mount Washburn on one of the fires that burned earlier. It burned across the valley. It was one that we allowed to burn, so we burned it for several weeks. We’d go up there and watch it. I was watching it one day when it started to build and build a smoke column and the wind was blowing and it laid that smoke column over. From the road, all the tourists who were watching were going, oh my. They could see these little smoking things coming from out of the smoke columns and dropping to the ground. Pretty soon you could start to see the smoke coming up from where it would build. It would build a little bit and build some more and finally it was building its own smoke column and joining it. The main fire was still up the hill so you could see this progression of things. The firebrands were starting fires, so all of the fire movement is not from tree to

tree. The final product it a product of that kind of spread and the firebrand spread. To me it was a fascinating experience to see that.

“So you have some questions? I’ve talked for a long time and can go on some more.”

*Interviewer:* “Yeah, just really enjoying it. It’s really interesting.”

*Despain:* “One of the guys, a plant ecologist, from one of the neighboring universities, I’ve forgotten the name. He came in and said, ‘Despain what are all the ponderosa pine seedlings doing up here. There’s no ponderosa close to here at all.’ I said, ‘Well where were you?’ ‘Over down by Moose Falls. They’ve got needles out there that long.’ I said, ‘Well that’s what lodgepole pine seedlings look like.’ (laughs) ‘On no, these were ponderosa.’ I go, ‘Well, okay.’ I’ve seen these things and they do that. Those little seedlings that come up after a fire are different than the seedling that you dig out of a cone and plant in the pot. I don’t know why, but they do. They put out these big long needles. They are fascinating. They are all over the place.

“That’s another story. After the fires I knew what I was going to find but I went down by Norris Geyser Basin and thought I am just going to walk around here and see if I am going to find any of these seedlings after the fires. I was walking out through there, just glancing around and looking for the seedlings. I thought, oh, these guys are right, I don’t see any seedlings. Where are all the seedlings I was looking for, where are they? I looked down at the ground to think a little bit and one materialized right in from of me. (laughs) It was about that tall, a little group of them leaves, like the conifers had, and it just didn’t stand out at all. It wasn’t a bright green; it was just green. I thought, oh, there’s one and there’s another one, and there’s another one. Look at them all. I turned around and I had stepped on a few walking in there. I don’t know what I was expecting. I’ve done that with other people. I’ve taken them in there and say, ‘Okay, do you see

any seedlings?' 'No, not a one.' 'Well, there is one right there.' 'Oh yeah.' 'There's another one there, over there.' 'Oh yeah.' Then they would start seeing them, too.

"I don't know why, even ecologists should have known better to come up with the idea that this is a terribly destructive force and that these fires were way too big and that they were not going to regenerate. Well, yes there are. You just don't know. You've never seen anything like this before. Well no, I haven't seen it burn so many thousands of acres in a day, but I've seen so several hundred acres burned in an hour. It's been interesting to watch it come back when I knew it would from what I had seen before. I had a few years to observe that."

*Interviewer:* "That's got to feel good. Feeling that many years after and it just gets better."

*Despain:* "A lot of people call you a liar and stupid. You just don't know. Yeah okay, twenty years from now we'll see who is right. Sure enough twenty years has passed."

*Interviewer:* "Yeah, it seems like all the bad is going away and all the good is coming out."

*Despain:* "That's another thing I learned. It's not bad. Why is it bad for a tree to burn?"

*Interviewer:* "Because it doesn't look pretty."

*Despain:* "Well yeah, because we have defined it as not pretty, the patterns that you look at when you go out there. I was sitting beside a lady on a bus tour going through the park after the fires and I had talked to her about how bad it was. I sat down beside her and asked her what she thought about all of this. She said, 'It's horrible, I worked in a burn unit in a hospital and it just sickens me to see all this burn.' (laughs) Okay."

*Interviewer:* “And you can understand that view, too.”

*Despain:* “Yeah. I’ve learned something from that. We define it that way. We define it as bad. Burns are bad on people. Burns that burn down your house are bad. A forest fire that has burned since the glaciers left and the trees started to grow every few hundred years. That’s just the normal way of life. The problem is that we only live for eighty years and we don’t see the full lifespan of a forest. Two hundred, four hundred, eight hundred years on a forest is well, the same thing as a wheat field that dies every fall. In the winter things die and we marvel at what comes up the next spring and for these forests, that’s no different than the winters are. We see forty or fifty winters and think there is nothing wrong with this slow cold that will warm up in the spring and things will grow. If we had lifespans of two-thousand years we would see the forests burn and think, well, it will be back in a couple of hundred years, burning between two or three times in between them.

“The black patterns—a lot of pictures were taken with the fire ring. Massive flower displays were put on. There is another species that is very common in these forests, showy aster. It blooms every year with maybe five or six blossoms in one hundred square meters, ten by ten. You might get two or three blossoms out of it. The year after the fire there was a total massive cover of these blue showy asters in all of those first stands that burned. Again, it’s the response to the fires. There are a lot of things out there that are adaptive and have to be in a place that burns. When they have a lifespan of who knows how many years because of the vegetative reproduction that is going on in the ground, fire is a good thing for them.

“Woodpeckers really enjoyed seeing the fires, all these dead trees that are going to be rotten and then have lots of insects in them, it is great for them. So it depends on whose eyes you are looking in. Then this nurse where fire was at,

burning was a bad thing because it caused a lot of pain and takes a lot of healing to come back. It depends on whose eyes you are looking through to even see whether it is ugly or not. If you can think of burned forest without thinking it is ugly looking. What are the light and dark patterns, what are the interactions between these green shoots that are coming up and these standing snags? You look at the charred outside of the log that died several years before, it is still a good solid log, the bark had all gone off so you have this surface and the fire burned through there slowly enough that is carbonized that outside edge in an alligator pattern. The way the light reflects off the surface and the artists can see the pretty things in those kinds of things. It's hard to get people to understand on that level."

*Interviewer:* "You've got to get educated. You've got to get educated to change your mind."

*Despain:* "Well yeah, you have to have an open mind. You have to look at things and look at a fire through a bluebird's eyes. It may be burning down her next nest but she might come back next year and raise more healthy chicks or fledglings. So as a species they do a lot better after a fire. There is a lot of species that do better, animal species and bird species. A lot of insects really enjoy that dead wood. There is a horntail wasp they call it, which is not a wasp but it does have a long ovipositor and looks like a wasp, kind of. They have smoke receptors in their heads, and they fly towards the smoke and land on the recently dead trees that recently burned and deposits her eggs down through the bark and deposits their eggs in that wood, and the larvae hatch pretty round-headed wood and flat-headed wood worm. Anyway, they put their eggs in there and the eggs feed on the wood then they produce more of these big things. There are several insects that really thrive on the burn residue. It's a big food source. If you only have little fires then you can't build up as big as population, but you can maintain the population of the species though. A lot of plant species.



“One of the first fires that got big and we let it go, it burned up the lake, five-, six- hundred acres that burned up to the lake. The rangers had a Boy Scout troop paddling, paddling like crazy to get out in front of that fire so they could watch all of the animals jump in to the lake that were fleeing in front of the fires. (laughs) They had seen Bambi, that’s the way Bambi did it. They all run straight away from the fire and run out to the sides and get away from the fire or run right and jump in the lake. But we are educated to think that’s what happens.”

*Interviewer:* “Did you want to talk about your famous quote?”

Despain: “Sure, yes, yes. It won’t take very long. Well in 1988, it was such big news right, and there were a lot of reporters. A lot of them wanted to talk to Don Despain because he had been quoted in the newspapers and all those kinds of things. I wanted to go out and set out some plots. Since we started letting fires go, I had put out plots hoping that they would burn because all of the research that has been done on burning forests had been done with controlled burning, prescribed burning. There haven’t been any done on what happens, or had been very little done on what happens, when the forest burns in a crown fire. To have beforehand information as well as after, and then to look at that same piece of ground after it had burned in a crown fire. They had gone in after crown fires and put in plots and got the data on that but there wasn’t anything with a pre burn crown fire. So I was putting out plots that were five meters by five meters and recording the young trees and the old trees and the cover of the different herbaceous plants in these plots. I didn’t know enough about it early on. I put these plots out and none of them burned or I wasn’t brave enough or dumb enough to put them where it would burn. I finally figured out how to tell where they would burn and how to put them in early in the morning before the fires built up.

“So some reporters wanted to talk to me. I said, ‘Well I’m busy, I’m going to put in a fire plot, if you want to come help me and record for me then we can talk on the way in and back.’ They said okay, so all the way in we walked through burned forests and I pointed out various things to them and to get to the other side of it where the fire undoubtedly burned because that’s what the fires did through the forests then. Next if the winds were right, and everything and the fuels and all that was right, and some fire on the edge of that would burn a swath next to the one. Okay, so we go through, find the place, set up the plot, record all of the stuff and it’s noon. We were eating our lunch and right on the edge there it had been smoldering and smoking and my plot was just from here to there to the edge of that, and I wanted to be sure that it burned. I had all of the data and we were sitting in the plot and eating our lunch. The fire started to get active in this grove of trees, spruce and fir that were there, and it started to drop firebrands into the plot. I said, ‘Okay we’ve got to move. We are going to go across the creek.’ There was an open area over there and that was my safe zone. We could observe the fire from over there and so we did. We got over there and this grove of trees kept dropping fire brands into my plot and pretty soon my plot started to burn and it burned. (laughs) “Burn, baby, burn!” That’s the first one that I got to see that was out there. And, oh, what was the guy’s name? He was a good reporter and he was a friend at the *Denver Post*. Then next day the superintendent says, ‘Despain come here. What did you say?’ (laughs) I explained it to him and he says, ‘Well look at this.’ A two-inch headline above the fold and I learned what that meant. Park scientist says, ‘Burn, baby, burn.’ Then there was all this stuff about how a pyromaniac I was.”

*Interviewer:* “Well you love fire, you kind of are.”

*Despain:* “Well I learned to understand it and appreciate it for what it was not for what everybody says it was. It was interesting. Yeah I said it! The reporter

reported it correctly and it was the last paragraph in the article. The headlines don't read that far into it."

*Interviewer:* "That's not the only reason your name has come up with everybody. You are such a big part of the fires and predicting stuff and the forecasts and all that stuff. Your name comes up in almost every interview. Everybody knows you. Everybody talks about you. You are a really important part of the 1988 fires."

*Despain:* "It was fascinating for me. I guess I deserve a little credit because I am one of the few that has had time to stop and look at it and to try to figure out what was going to happen. I stuck by my ground. But there are a lot of other people out there, too. There's probably going to be more people who are learning to understand people the way I do. They don't work here in the park anymore. They try to figure out reasons to put out fire rather than reasons to let it go."

*Interviewer:* "I guess it just kind of human."

*Despain:* "It is and they have been trained that way and it's what they are here for is to put fires out. It is easy to imagine the whole world burning down."

*End of interview*

**John Giller**

Interviewed by telephone on July 7, 2014

by Todd Jensen, Andrea Yaeger, and Garrett Smith

*Interviewer:* "Hey John, how are you doing?"

*Giller:* "Doing good."

*Interviewer:* "I think we got connected finally. This is Todd Jensen, and we have Andrea Yaeger and we have Garrett Smith. We are up here at the National Park doing oral history project on the 1988 fires. How are you doing today, John?"

*Giller:* "Doing good. Just getting started here."

*Interviewer:* "Can you give us a short story on yourself and your background?"

*Giller:* "Sure. I work for the U.S. Forest Service and I have since 1981. I worked all that time in fires, so that is all that I have ever done. I live in Klamath Falls, Oregon. That's where I started with the Forest Service and that is where I plan on retiring. As far as fires go, during my career I have been in every position up to AS mode, district manager officer, and the last position that I had here with the local unit here was NHAC fire staff officer – Fremont Area National Forest. Two years ago, in August 12, I took the position of operation section chief for the national organization of\_\_\_\_\_. That's why I am in Klamath Falls. [It's a] virtual job and I work out of my house, and I travel fires most of the summer. A lot of risk management, and management training different special projects back in the Washington office during the day when I am not on assignments. That's kind of my deal. I was actually in Yellowstone last summer trying to help them with that Elk Fire they had there in Yellowstone last summer.

*Interviewer:* “Hey John, it’s Monday morning and I jumped the gun and I forgot the introduction to the interview. I just want to let you know that you can stop at any time and you can also retract something say if you thought you said some that was controversial you can retract it later to and any time. You can also add something later that you might think is important to record in oral history here at the archives center. So we are going to start again.”

*Giller:* “The question that I would have is what is the oral history going to be used for? Is this something for the public to read or for the Park Service to use or for their own information?”

*Interviewer:* “No, it goes into the archives center. The archives are made up of things from the public, public officials, Native Americans, scientists, archivists, archeologists. The oral history is an important part of the archives here in Yellowstone National Park and as time goes by more is forgotten. They are just trying to get some accounts of people’s experience with the fires in 1988 in the park and just want some stories on record and they will be transcribed to text and they will also be able to listen to them.”

*Giller:* “Okay, excellent.”

*Interviewer:* “So it is a neat project and thanks for jumping in with both feet.”

*Giller:* “Yes, well, it was certainly a memorable experience. It sounds like a great project you are working on so I thought I would offer a little bit if I could.”

*Interviewer:* “So how did you get involved with the 1988 fires? Were you called in? Can you tell us that story a little?”

*Giller:* “Sure. So at the time in 1988 I was an engine captain – ranger district on the Winema and the previous year I had spent on a hellcats [?] crew. I spent a summer down in San Diego on the Clevelander so I got trained as a helicopter crew person. So the next day in 1987 I signed up as a call-needed helicopter-

crew-needed person. I went to training that spring and the next summer they said they are sending a Type 2 helicopter to Yellowstone. That's how we got to West Yellowstone. Actually, the helicopter was already there and they needed a module and we were asked to join a module. There were three of us – myself, Mark Nye, Mark McFarland, we were all helicopter crew persons, and said you betcha we were ready to go and a guy named John Dinwittey over in Medford, BLM was a helicopter manager that was assigned. So John flew over in a King Air, came to Klamath Falls air tanker base. Myself, Mark McFarland, and Mark Nye all loaded up on the plane and they flew us to West Yellowstone. We were first assigned to the North Fork Fire and did a bunch of stuff for them. We were only there for a week or so then and they sent us to area command working out of Mammoth. We spent probably another two weeks at area command and then we hit our twenty-one days. They said take a couple days off, so we just drove around and visited some of the outlying towns outside of the park there and came back and they assigned us to the Clover Mist Fire and then we were on the Clover Mist Fire for another twenty-one days until it was eventually snowing when we left."

*Interviewer:* "What day did you arrive in the park? Do you remember?"

*Giller:* "No, I don't. It seems like it was toward the end of August."

*Interviewer:* "So things have been burning for quite a while at that point. What was your assessment when you got here then? Describe the atmosphere of the people. It was kind of an endless thing. It has been going a month, there is no end in sight. Can you just describe the atmosphere?"

*Giller:* "Sure. When we first came into North Fork, again the perspective I have is all from the aviation side. I drove through a lot of firefighting stuff of people along the road, but at that time, I was really focused on the aviation stuff. We get to the North Fork and there is a lot of helicopters spread out down the middle

there and they are busy flying left and right, hauling gear here, hauling gear there, crews here hauling crews there. Then, about the same time, a bunch of smoke rolls in. It just seemed there was a lot of moving parts. At least from my perspective it did not seem very organized. There was a lot of trucks, there was a lot of people and moving parts, and I remember helicopters all spread out through the meadow. Out there, they just had so many of them, and it just did not seem organized at least compared to a lot of helibases that I have been to.

“So when we first get in there, it was the helicopter that they wanted, they did not need the module. We spent a lot of time sitting around watching stuff, a lot of wildlife. I was surprised we would wake up in the morning, we camped right out by the helicopters, because the elk would rub up against the helicopters. All the guys would sleep out by the helicopters to make sure no one would mess with the helicopters like the critters there. I was amazed the first morning I woke up there at the North Fork helibase. Elk were out in the meadow. It seemed like the elk and such did not really care that all this activity was going on. It was kind of second nature to them. It just did not seem to bother them. All the activity did not seem to bother them. I was surprised that all that could be going on and there was so much wildlife just kind of hanging out watching. It seemed like when we hooked up and I was just overwhelmed, and it was cool just being in Yellowstone.

“There was a lot of fire, there was a smoke column coming up in every direction. Any direction you could look inside the park and outside the park, fires everywhere. At first, when we were just inside the North Fork, the helicopter just did some missions -- bucket drops or troop transports or whatever they had going. We were just focused on that fire. About a week later when we moved to area command, we flew to a different fire every day and a different part of the park and it was amazing to me. Normally you would fly directly to a fire and figure out where you are because of the big old columns. At Yellowstone you

couldn't, you had so many other columns coming up you really had to know exactly where you were going because you were going to fly right through someone else's air space. There was just a lot of activity from the aviation side, a lot of aircraft flying.

"Since then, I have done a lot of air attack work and at the time I was qualified in air attack, but I remember thinking to myself, boy, there is a lot of aircraft and someone is doing some good air traffic control to keep all these folks separated and coordinated. Obviously, that was going on because we never had any issues because there was certainly a lot of aircraft. And it wasn't just the normal ones we run into on fires -- column needed aircraft and exclusive-use ones, but a lot of military stuff, too.

"That was my first time getting exposed to military aircraft. I did a couple of missions like loading firefighters in a Chinook. You can put the entire crew and all their gear in the back of a Chinook and they fly off and drop them off in a meadow somewhere else and the whole entire crew is there with their gear. So that was really cool to me. I did some missions with Blackhawk pilots, and that was my first exposure to military pilots. National guard pilots are experienced pilots that have flown a lot and do the fire stuff on their off time so it was not a big leap for them. The active duty army guys are usually young kids that do not have a lot of experience and certainly do not have experience flying up the mountains with smoke and landing on ridge tops and such. They were a little out of their element.

"One of the stories that I have related to that. There was this kid that breaks his leg up on the fire line and they needed a helicopter manager, somebody that knew the helispot and could guide the pilot to the helispot so that they could land there and pick up a passenger. There is a pilot and copilot and a jump seat in between. I am sitting in between, and we fly into this heliport. It looks like



twenty to thirty others that I have flown into on a ridge top, no big deal – smoke blowing across and a little bit of lumber and fire next to it, but nothing big or significant. The pilot tried over and over to land there, and I finally had to tell him that we have other helicopter pilots that can come get this kid. ‘Please do not do this if you do not feel comfortable.’ I could see the sweat pouring off his face, his hands shaking, he was not going to do it very damn well, if he was going to get it on the ground at all. Finally he agrees and he says, ‘Sorry John, I am just not experienced enough to do it.’ So, he flew off and we got another helicopter, picked the kid up, and left. That was just one of those examples of having an entire air force was awesome, but a lot of the aircraft was military stuff that was not that useful to us for a lot of missions. You certainly could not use them for bucket work, but they were great for hauling a whole lot of crews. The Chinooks were awesome for that. The Blackhawks did not provide much benefit for us at all, however. That’s just my take on that whole deal with the active army guys.

The active army guys, it was neat having them there. When I was at the Clover Mist they would bring in a whole battalion and have five hundred tents all lined up in a straight line. All those guys over there self-sufficient and moving made a lot of sense to me, but when it came to actually using the guys on the ground it did not seem like it was a real practical use. That was one of my first experiences with the army and since then I have used them in a lot of situations and think that is a good use of army folks. But back in Yellowstone it was like sticking a round peg in square hole. It was nice to have them there as a workforce, but they weren’t really that useful.”

*Interviewer:* “That is exactly what we are looking for John. Those are really good descriptions of like the five hundred tents in a row and things like that. So you said that you had some days off and drove out around the park. What were some of the people’s opinions of the fire?”

*Giller:* “Everybody had lots of questions. The controversy that was going on the entire time was that the fire was burning on Forest Service land, and they were adamant that we put it out at all cost or whatever. They had dozers lined up outside of the park, dozer lines ready to be put in and guys ready to put fires out when it came out of the park, because that is how they are ever going to fight it. And here in the park, and this is my perspective being a young kid or whatever, it seems to me the park had a public issue there. The public preconception of what they had going on it seemed like on the radio and in the news, they were telling everybody that we are putting these fires out.

“In reality, when I was working for central command, if it was human-caused fire they were trying to put it out. They weren’t using bulldozer or anything like that, but were trying to put them out. If it was lightning-caused fires, they were letting them burn. But that message was not clear to the public, and it was not getting out very darn well. And then, I think after a while, the park just changed the message to we are putting all the fires out. Well yeah, but you are not really because you can’t. Let’s be honest here. There is no way you are going to put out most of that fire. You are going to wait for the weather to change. The fire got so big you threw out the option of putting it out. Most of those fires--we never had the option of containing them. They were getting so big, so fast, there was not a workforce big enough to put a line around it. So again, you had to prioritize where are the important areas to contain the fire, and where is it okay to let it go. In the end, that is probably, ultimately, the best thing to happen in the park that was to let a lot of that fire go because it was certainly ready to burn.

“So I come back here last year in 2013 and look at the same ground. Yes, you can see a mosaic of all the areas of the old burn and such—looking at all the old burn -- it is ready to burn again. It’s not like they are going to burn with the same intensity maybe, but there is still a lot of area out there in the park that did not

burn and I think it is a darn good thing that what did burn, burned and it did happen when it did.

“The entire park standing dead because it would have been a terrible thing to lose the entire park and it could have happened if the mosaic was not there. At the time, I was still young enough and still thinking, why the hell we are not putting these fires out? Now that I am older, I understand it, I get it. There is a lot of benefit to letting the fire do its natural thing out there. I am a big proponent of that. The park had a hard time with getting that message out to the public clearly and they did not do a good job of it.

“I have a T-shirt that I got from West Yellowstone, and I think you have probably seen it. It has Smokey the Bear standing there and the Park Service on one side and the Forest Service on the other side. The Forest Service guy saying, ‘Put it out,’ and the park guy saying, ‘Let it burn,’ and Smokey’s head going back and forth. That is kind of the exact perception that the public had, and that is the exact perception that the firefighters had. Talking to the firefighters there, the joke there was on the news they were saying we are putting the fires out and I don’t see much effort to actually putting this thing out. So by the time I got there, there was so much fire spread out in so many places. There was a lot of crew around Old Faithful to protect the valuables at risk, but most of the perimeter was not being staffed.

“There was no point in doing that unless there was some natural landmarks to tie it to you, or you cannot contain it. Otherwise it was kind of a futile effort. There was too much fire and not enough firefighting resources that were allowed to just go after it. Certainly they could have just bulldozed everything and contained it all and at maybe some point they could have caught some of those fires, but in the end I don’t think there would have been a better outcome. It was very interesting just watching the whole situation. Put it out, don’t put it out, let

it burn, don't let it burn, and just the different perspectives of peoples that were out there. It seemed to me that -- what I also noticed was that and I was still pretty young in my career. The Park Service, national park -- I think I was still kind of new to this whole fire thing. As far as they understood, they wanted to let it burn, but I don't think they knew how to relay or to get that message to the public and actually implement it. Now when we let fires burn like we did at the Druid Complex.

"A very drawn out strategic operational plan of every single step of okay, these are the lines, these are your primary, these are your alternates, this is your contingency plan, this is your emergency plan, this is the evacuation plan, how many folks are going to be needed to evacuate this area here. This is the protocol that we are going to use, this is the line we are going to burn out, this is how much hose I need to do it, this is all the equipment I need to fire this line out, these are all the people that I am going to put in place to fire this piece of line out now if the fire gets to this check point or this management action point. They had none of that in place in Yellowstone. They were flying by the seat of their pants. I have seen it come a long ways since then. It was good idea, not properly big. It went off half-baked is the way I saw it. So the public did not understand. They did not get it because the Park Service did not get it yet. They are much better at it now. They have a plan and they can clearly explain to the public why they are doing what they are doing, and how far they will actually let this thing go or if they are not going to let it go.

"They can explain that now. Back then they did not have that, and it did not make a lot of sense when the entire skyline is still nuclear columns. I think a lot of people panicked. A lot of folks thought, oh my God, Yellowstone is one of the most beautiful places and it is burning down. That was the public perception. It was bad. It was depressing. They thought we lost it all. They did not realize that

it was meant to burn and it will come back. They were thinking in my lifetime this is all gone. I won't get to see beautiful Yellowstone Park."

*Interviewer:* "I think that is really good assessment on all of that. That is pretty good perspective. Unstoppable fire, you do not hear that very often. What was the feeling like that and the feeling of the future once they figured out it was unstoppable. Does that make it a once-in-a-life time event even for fire people like you?"

*Giller:* "It does because the political and social environment at the time, it certainly was a lifetime event. As far as fires burning like that, I have seen some since but, like I told you, this is the biggest fire I will ever see and the most fire I will ever see. That has changed -- global warming, climate change, whatever it is -- it is changing things here. Fires are getting worse. The amount of fuels out there, and where more people are placing homes and such is really the big thing that stresses me out the most now is that wildland firefighters, we are asking them to do a task that is really not their responsibility. When we look at all the fires we have put out in the last twenty years or so you can go right down the list. We all have a job to do. Number one is life and property first, public and firefighter safety first, property second; infrastructure third, somewhere down in fourth and fifth is resource stuff. How come the Forest Service and the Park Service is out there responsible for all these fires, when the guys that are actually out there protecting things we don't manage. We have grown to this over the years of people living in the woods and the value that we are trying to protect, when the timber used to be the most valuable thing out there.

"Now we are finding there is a lot more important stuff out there. Timber values and resources are pretty well low on the list when we go out fighting fires now a days. That's the big thing that I see changing. It used to be, like in Yellowstone in 1988, it was pretty clear some key things like Old Faithful and such that we need

to protect, but mostly it was the resources, the natural beauty of the park and such. So probably the Forest Service, Park Service, BLM people are the type of people we need to have out there.

“Recently in the last ten years or so, what we manage is we are protecting private homes and private property. We let it go on the forestland or the parkland or whatever; we fight like hell to keep out homes and the subdivisions and such. Look at the firefighters. Is this the right people for the job and if it is the right people for the job, then are we working for the right agency?”

“We got to North Fork and didn’t have a vehicle at all. It was very awkward, very cumbersome – dragging our gear all around. A week later we got assigned to area command in Mammoth, and they assigned us a Park Service pickup truck, so that the four of us could ride in it. We could put all of our heligear and night gear in the back and it worked perfect. And from the time that they put us in area command, they assigned us to sleep in somebody’s garage. That worked fine. We did our two weeks there using that pickup everyday wherever we went. Then they gave us our days off, so we took our two days off and we used the truck to go up to Cody and up to Bozeman to go do some shopping. So we took our two days off and they said, okay now you’re assigned to Clover Mist. So, we loaded all of our gear up in the truck to go to the Clover Mist Fire and spent three weeks there, and when we got done with our fire assignment we didn’t know what to do with the truck. We asked the Park Service guy at the helibase at Clover Mist, and we said, ‘What should we do with the truck?’ He said, ‘We could certainly use that truck. Why don’t you just leave it here and we’ll let the next helicopter crew use it.’ We said, ‘No problem.’ We left the truck there and flew home.

“My friend, who was on that helicopter base a week after I left, ended up going out to Yellowstone and spent another two weeks there in Yellowstone on the

Clover Mist at the helibase that I was at. Towards the end, when they were cleaning everything up, the Park Service guys were coming through figuring out who's got what vehicle, and they came up to the pickup and they said, 'Holy cow. We've been looking for this truck. It's been reported stolen. We haven't had any clue where it's been the past month.' We were like, great. We've been driving around in a truck that's been reported stolen for the past three weeks of our assignment. Another example of just so many moving parts, so many people. We thought that truck was ours to use. They didn't tell us that we needed to give it back when we left Mammoth. They said, take it on R&R and we assumed that we could take it to the next fire if it was still in the park. In the end, we ended up stealing the rig even though we didn't know it was stolen. That was good though. It allowed us to have a vehicle to go around and do everything that we needed to do."

*Interviewer:* "The media, there are statistics that they didn't really talk to scientists. They would pick someone off of the fire crew to talk to and stuff like that. Of course, the media needs a good story. How does that go with other fires that you're with? Can you elaborate on that? Did you watch the media at all during the fires?"

*Giller:* "I didn't really too much. We never had an opportunity other than the two days of R&R. It certainly looked like the news was full of it. Back then I didn't really pay attention to the media too much. I do know that I remember seeing on TV, TV folks saying that we were maybe doing a big burnout. They had TV folks there, and they definitely do want to get the story, the perspective of that on-the-ground firefighter – that young kid who's got the wide eyes, who's looking at the big flames. I'm sure that's a perspective that they want to hear once in a while. As a fire manager nowadays, I'm kind of on board with that. I understand – I see that as a benefit to the whole firefighting community as a whole. If we can show firefighters that are reputable, respectful young men and

women that are trying their best to do a professional job. I think sometimes the public in general have a different view of firefighters that they're lower class citizens, that they're kids who can't find a job anywhere else, so we send them out to the woods or whatever. In reality, especially once you get to know them and meet them, they realize that these kids do what they do because they love it. They have a passion for it. They want to be out in the woods. They think they're providing a service. They are providing a service. I think that when those guys get on TV once in a while, the media gives them a chance to show their perspective. That's the main thing that allows folks to think a little more highly of firefighters, is a good thing.

"Those kids do a lot of stuff that I don't think that they're appreciated for. Not enough—a lot of those guys may be poor, and it seems like there are folks that don't have a lot of money or a lot of things going on, so they go out and fight fires and if something bad happens it's like--. It bothers me that when we lose firefighters there isn't a public outcry like any other profession. We lose a law enforcement officer and, holy shit, from one coast to another and every news outlet has a story about it. We lose a firefighter and maybe that local community will put it on the news and that's about it. I don't see a difference. It bothers me that there is a difference. A public perception that there's a difference about wildland firefighters that they're not as important. I'm not sure what the difference is. Of course, when you lose nineteen firefighters like last year there's a big deal about it. I don't think folks realize that we lose twenty-five to thirty firefighters a year, every single summer. People's communities are being protected by these firefighters, and I don't think that people appreciate what those kids are doing for us. We pay them very little, and we expect long, hard and in really crappy conditions. Then, when one of them gets killed, it's just part of the job. Is it really? What they were doing, was it part of the job? If they came on a Forest Service crew that was hired to cut some brush and fight fires, and



then we expect them to go out and protect a community and put them in a dangerous position. I don't think we pay them enough, and I don't think that they're properly trained a lot of the times to be doing the kinds of things that we're asking them to do.

"Anyways, back to the media thing. I'm a proponent of it. The media exposure to fire. Even when the media says that these folks didn't do a very good job, and shine a light on the bad stuff. It probably doesn't happen enough. I think a lot of times the public perception is that air tankers put out fires. You hear the chief of the Forest Service or fire director say, no problem. We're prepared for the 2014 fire season. We've got five more new air tankers. That's nothing to do with fire-preparedness. Tankers don't put out fires, firefighters put out fires. We just have a hard time getting the right message out to the public to help them understand. Even down to Smoky, 'Only you can prevent forest fires.' That gives the public the perception that we can control fires. If we just put the message of prevention out there, we won't have fires. We can control this problem. It's like, no, wrong message. That's not the problem. The fires are here either way, we need to learn to live with them and manage them. We can't control them, and we can't prevent them. That's not the right message to send to the public. We've got to live with them. Anyways, I think there is some work to be done. We've got a road to travel."

*Interviewer:* "I think as climate change and fires become more prevalent, people are just getting more exposure and that opinion is changing rapidly."

*Giller:* "I think folks are coming to that point where they're seeing that, wow some of these fires are so big and so explosive. The opinion that we're seeing in the fire community is that they don't expect us to put two-thousand to three-thousand firefighters on the shores of North Carolina and stop a hurricane from coming. Why would you expect us to do the same with a fire that's out of

control? It's got the same kind of force as a hurricane, and firefighters – I don't care how many of them you've got lined up – are not going to stop some of these fires. I think the public is finally coming to that realization that, holy cow, when a fire burns one-hundred-thousand acres in an afternoon, maybe that's more than we can actually stop with humans. Maybe some of this is Mother Nature doing its thing, and we need to step back and go, maybe we built these houses and community in the wrong place. Never do I hear that assessment. It's never questioned that this house should have never been here in the first place. It is like, no it's a full-blown conclusion that this house is here and we've got to protect it. I beg to differ. We need to stop. Should that house of been there to begin with? And if it shouldn't have, why are we expecting firefighters to try and save it? It's a simple upside question that we never ask. We just go on blindly, there's homes, they're threatened by fire. Let's go stop the fires so that we don't burn those homes down. Maybe those homes should burn down. Maybe they were built in the wrong place. But we never ask that question. I know it's politically incorrect to do that, but that's a question that I think we need to ask pretty darn soon."

*Interviewer:* "It's kind of the same thing with flooding. I think those kinds of questions are going to be answered here in the future."

*Giller:* "I think so."

*Interviewer:* "During the fire, when you got there, was it perimeter control? Or did it go from perimeter control to defense strategy? Were you there and can you describe who made that decision at the time and what was that like from the air?"

*Giller:* "I wasn't involved high enough in the organization to know anything about who made that decision. What I could see when I was flying and driving around and working was that the area where they had a concentration of

resources, like Old Faithful and those other places. Perimeter control wasn't the primary strategy that I noticed. It was using an actual barrier – tying something into this or cutting a connection line over here to this big ridgeline here. Hopefully we can keep the fire down into this drainage. They had already realized that they needed to look at the bigger picture and kind of go indirect on some stuff. Mostly because I think that direct attack works fine on a fire that's burning at a pretty reasonable rate and not spawning very hard, but these fires were burning pretty dang fast and spawning quite a ways out. You had to back off, had to go indirect. There's places certainly where they went full on, full suppression and full direct, but that was like around Old Faithful and those other \_\_\_\_\_. Where the public spent a lot of time. They wanted to make sure that they could keep the fire out of there. That's kind of how I saw it. Where they could go direct and they needed to, but the majority of the fire, especially as it burned off away from the public use areas, was mostly an indirect a thing. It's burning in this big drainage surrounded by rocks on this side and just let that go. Lets not even go out there and not worry about it. These are the areas that are important, these are the areas that we're worried about. I also noticed that it seemed to me that the park was being sensitive to the forests on the outside. They were trying pretty hard, it looked like to me, that they were trying to keep the fires in the park and not let them burn onto the forest. The forests were definitely lined up with equipment and bulldozers to do what they needed to when the fire came out, but I think the park was making a conscious effort to try and keep their fires in the park as much as they could if they had that opportunity at all."

*Interviewer:* "Let's talk about Old Faithful, because that was in the news and that's what really attracted the people's hearts when they thought something like that was going to be destroyed. Where were you at when the Old Faithful thing was coming down? Were you in the air?"

*Giller:* “I remember a day or two before the fire actually came into Old Faithful or maybe a few days before. We came into Old Faithful to that camp and they had some supplies that we needed and I remember seeing a whole lot of fire trucks, a lot of sprinklers and a lot of hoses. A lot of people trying to get everything in place to be prepared for that fire. When I saw how much stuff was there and how much equipment and how much of a dedicated force they had and how much asphalt and bare ground was around that thing. If it was going to catch on fire it was going to be a bunch of embers lofted up into a piece of that roof that they wouldn’t be able to get to. When I saw how many firefighters and resources they had there, I felt like, this part is going to be pretty safe. It looked to me that the fire behavior in the trees around there, it wasn’t going to be a comfortable place to be, but you could certainly stay there. \_\_\_\_\_.

Which would allow firefighters to spray water continuously the entire time if a fire came over. I think, rightfully so, they concentrated a whole hell of a lot of resources there and it made a lot of sense to me for the value that they were trying to protect. It also seemed like there was enough area around there they could probably be safe and stay there in place when the fire came over. I never did get to go back there and see how it looked afterwards until I came back last year. After that fire in 1988 we saw it when they were prepping for the fire to come. I never did see what it looked like or how it happened when the fires actually came through.”

*Interviewer:* “Was that vacation last year when you came to the park or were you working?”

*Giller:* “Our \_\_\_\_\_ Team came over to take on the Druid Complex Fire. We were there for work.”

*Interviewer:* “You were there for the end of it. What was the feeling like when it finally snowed?”

*Giller:* “We were working the Clover Mist Fire that one day that they had – Black Saturday – the whole entire mountainside and everything were on fire. I remember that night we didn’t sleep at all. We all just hung out by the helicopters. We moved all of the helicopters to the middle of the meadow. We watched the fire trucks run up and down the road, up and down the road. Just back and forth, back and forth. All night long, trying to evacuate people and move stuff. Our fire camp ended up having a bulldozer line around it so that the fire didn’t burn down fire camp. That was pretty interesting. That was a long night. There was enough stuff going on and exciting enough that nobody slept. Everybody stayed up all night, it was kind of like Fourth of July or whatever. There were fires on the hillside and made the whole place light up. It was quite unique. So then, after that, we were still at Clover Mist so this must have been a couple weeks later. We were flying in to the east entrance of the park, right on the east entrance there’s some kind of government -- I flew in there, we had some kind of mission to go in there. I remember I flew in with a pilot and it was just me and the pilot. We went there and dropped off some stuff. It was snowing pretty hard and remember saying to the pilot, ‘Don’t shut down. I don’t think we’re staying.’ He said, ‘Good, I won’t shut down.’ We get talking to the guy at the station there and telling him that we can’t shut down or we’ll ice up. We have to go back, and I don’t think we’re coming back unless weather improves here. That to me was kind of the beginning of the end for the fires there in Yellowstone. There was probably two or three inches of snow on the ground there and the east entrance. We flew back to the helibase and went up there and it wasn’t more than a day or two after that that we got the order to go home. We had been there for two twenty-one day tours. After forty-five days, it was time for it to end. We were ready to be done. I think most all the firefighters that were on the fires were glad to see the snow. It seemed like that was the only thing that was going to end the fires. Of course that snow melted off, my friend that I had ended up coming back out at least another two weeks at the same helibase. I

think a lot of what they were doing was cleaning up and the rehab and they were doing a bunch of work finding grizzly bears. The end was near when that snow happened. That was kind of nice knowing that thing was going to go out finally on its own. I think we all knew that it was going to, but it was nice to finally see the snow – to see the end of that fire.”

*Interviewer:* “Is there anything in particular, any highlights or memorable moments that you’d like to get on record?”

*Giller:* “One of the things I had mentioned earlier is that the initial plane we’d flown in on—he picked us up and flew us to Yellowstone, dropped us off at West Yellowstone. We were there for a week or so, and we heard that the pilot had dropped us off at Yellowstone, went back to Medford, picked up some more passengers and then flew into Jackson Hole. I think on his exit out, he crashed. That plane was destroyed and he was killed. At the end, we were getting \_\_\_\_\_. And they sent us back to West Yellowstone to catch a flight out. We were at West Yellowstone and \_\_\_\_\_. The guy who was our helicopter manager. David dispatched \_\_\_\_\_.

“He said, ‘We’ve been working on this one. A Learjet’s coming to get you.’ So we drive out to West Yellowstone and get to the helibase out there. The FBO guy is sitting there and he said, ‘You guys waiting for a flight?’ We said, ‘Yeah, there’s a Learjet coming in to get us.’ The guy busted up laughing. He said, ‘There isn’t any Learjet coming into West Yellowstone to get you guys.’ We said, ‘No, dispatch said they’re sending a Learjet to come get us.’ He laughed and said, ‘Okay, whatever. You can hang out over there in the lounge.’ Sure enough, at about one o’ clock a Learjet comes up the runway. The guys get out in their suits and ties and everything and they were there to pick us up. I remember the FBO guy looking like, holy shit, you guys weren’t lying. We jumped on that Learjet, and one other guy who was from Salem, Oregon that flew also. So there

were five of us total passengers. I can't remember how long it took us to fly to West Yellowstone, but it seemed like it was a long flight. But on this Learjet, he takes off and it was so much fun—it had so much power. Back then, that was a new contract, they hadn't flown firefighters before. The fridge was full of beer, all the snacks—everything you would ever need. They said, help yourself to whatever you need. So, we're back there like executives. We were in the air for about half an hour, and we're just loving this VIP treatment. Mark, my friend, says, 'Hey, is it okay if I use your phone back here? I need to call my wife and let her know that she needs to come pick us up.' We fly into Salem and drop this guy off. It seemed like the flight from West Yellowstone to Salem, Oregon was like, I don't know, an hour. It seemed like it was really, really quick. We dropped this guy off, and as soon as we're in the air, Mark says, 'Can I use the phone, I need to call my wife to pick me up?' I remember the pilot turned around and said, 'Son, by the time you make that phone call, we're going to be there.' He was right, it took us like another ten minutes and we were down there in Medford. We landed there, and we talked to the dispatchers; they did a cost analysis, and they said based on the flight hours, the number of passengers and how much faster a Learjet is, it was actually cheaper than flying the King Air. Of course, the King Air wasn't available. They did the cost analysis and said it was cheaper to fly in a Learjet to get us because it was so quick.

"That was a fitting end to a very nice fire. We got to fly home in a Learjet. It was too bad that the pilot had gotten killed, but I'll tell you what -- I've done a lot of aviation work in my career. I used to do a lot of air attack. My wife used to be a tanker aviation manager. I probably know ten different pilots who are not with us anymore doing this business. It's another one of those facts that we're not willing to recognize. Wildland firefighting, aviation are dangerous as hell. We kill a lot of pilots, especially air tanker pilots. We're getting better at it, but it's still one of the most dangerous things we do is fly aircraft. We fly them in really

dangerous situations. It's one of those areas that we're going to continuously lose aviators, I think, until we come to the point that we realize that not everything is worth sending the world at it. Especially not big fires burning like crazy with air tankers taking load after load after load. They're just putting it in there to slow the fire down. We're not even putting folks on the ground behind it. That happens all the damn time. We've got to get better at that. That was kind of the bittersweet ending to our fire. Our pilot that flew us there was a nice guy, of course, his next mission was his last. We got a Learjet ride home instead which was quite fun and exciting, but it's part of the deal I guess.

"After I had left, one of the helicopters that we had on the helibase at Clover Mist actually did crash. I wasn't there, but my friend said that the pilot wasn't killed or anything, but that was a scary situation. They almost lost a helicopter there doing a bucket. They were pulling a bucket out of a pond, and the bucket got hooked on something. With as much aircraft and moving parts that we had going on at Yellowstone, it is surprising to me that we didn't have more mishaps. It was definitely an area where we could have had much worse happen. There were so many moving pieces in the air, it was incredible. Just something about having a lot of fires in one area—every fire has got to have its aircraft. That's just a lot of aluminum in the air to be flying around."

*Interviewer:* "I don't think that's a picture that many people recognize. Thanks for letting us enjoy that."

*End of interview*



**William (Dugger) Hughes**

Interviewed by telephone on July 21, 2014

by Andrea Yaeger, Todd Jensen, and Garrett Smith

*Interviewer:* "Alright. Well I guess we'll just go ahead and get started. If you want to start with your background and then how you got involved with the fires and then just explain your involvement and what you did."

*Hughes:* "Okay. My background is I started in 1974, on the Globe Hotshot Crew, in Globe, Arizona. I've been working in wildland fire ever since. I am currently an area commander, one of the national area commanders. Formerly, before that, a Type 1 incident commander. My formal education -- I got a B.S. out of Northern Arizona University in Flagstaff. I do remember, the second question -- how'd you get involved with the 1988 fires -- I vividly remembered getting ordered. I was actually on a fire there on the Globe district. I was the assistant fire management officer on the district. I was up on the side of a hill with about five other guys on a couple of acres. We just about had it mopped up and a fire management officer called me and said, 'Hey, can you get off there within a couple of hours?' I said, 'Sure.' He said, 'Do you want to go to Yellowstone?' And I said, 'Yeah, who wouldn't want to go to Yellowstone?'"

"I do remember that and got off the hill, and then trying to coordinate. It was kind of a different assignment for us, for me at least as well, too. I was an engine strike team leader, strike team leader for engines with five structure engines. They were rural metro engines, which are a private entity, not a government agency. So it was a little bit out of the norm for me because I was used to working with Forest Service-type stuff. So I got tied in with those guys and they

were Type 1, Type 2 engines. The decision was made through the coordination system to lowboy those trucks up there. So those five structure engines were lowboyed up the West Yellowstone. We were flown at the same time into West Yellowstone. That was a little haywire because we got there, we flew up that night, and the trucks weren't there and wouldn't for another day. So our first day on the fire, we were actually put on R&R. That was our involvement. And once we got there, once the trucks got there, there was an incident management team in place. We were on the North Fork Fire, I believe was the name of it. We were assigned to Old Faithful Inn. We were told by the Park Service that it was the most critical piece of infrastructure in the National Park Service system and to protect it at all costs. So we did."

*Interviewer:* "Do you want to elaborate some on what you did there at Old Faithful? There's a lot of confusion. The media there and all that stuff, you can talk about that a little bit."

*Hughes:* "We got there early on. I will tell you we were there before the big blow came through. We got there early on and the fire was still quite a ways out to the west of the Inn itself. We got briefed. There was a division supervisor, he took us over, showed us the inn. Then they took us in, I think it was like the manager or whatever from the Old Faithful Inn. He actually took us in, gave us a guided tour, walked us up and down the different hallways of the inn. They had just recently, I believe that prior winter, and they'd sprinkled the inn. There was a deluge system on top of the roof. The entire roof had a deluge system on top of it, a hydrant stand out front that we checked and said was good. I can't remember, it was either one million or two million gallon water tank on the hill. They said that water was totally dedicated to us for the inn because that was the most important thing. The roof was, if I remember right, was a metal roofing that they put in. We felt really good about the security of that place. We did some drills with the structure engines, we laid some hose, and we made sure all

the hydrants were working. We made sure everything was good for the first two or three days. We'd get up every morning, go to briefing, and then work during the day over there.

“Like I said, the fire was still, I believe, I'm going to guess, at least twelve or fifteen miles west of Old Faithful at the time. It was quite a ways out to the west. We got everything secured and we talked to the operations folks and said, 'Hey it's good, what do you want us to do?' They said, 'Well how about you start prepping around the facility and start taking down the snags?' There were hundreds of lodgepole snags scattered in the road median and around the buildings, just over a few acres there. There were a lot of dead snags in there. I had these guys from rural metro, all of them out of the Phoenix area, so their chainsaw experience was extremely limited. So we did a basic S2-12 chainsaw course for a couple days. I did some training with them and got them cutting. We got a couple saws checked out of supply. We got after them. Man, those guys started cutting down trees. They were having more fun. We would cut them up into fire log pieces and then the Park Service would show up in their dump trucks. We would load the dump trucks with their rounds. They would take the rounds and dump them out at the government housing there for the Park Service employees so they had firewood set up for the next year from all the trees we were cutting down. The limbs et cetera that were left, we piled all those, we did not burn them, but we piled them in open spots where they would be burned at a later date. We never did burn them. I'm sure they probably caught fire when the fire went through there from embers. That's kind of what we did. We did that for almost three weeks. I think, like two-and-a-half weeks we were there. To tell you the truth that's pretty much what we did.

“I know down here it talks about leaving or whatever. We were continuing to do that, bothered somebody else, and somebody else. But I remember Rothermel because he is kind of the god of fire predictions and stuff. They said they had

flown that fire, the North Fork Fire, and they said they did not see any likelihood of it getting to Old Faithful Inn before a season-ending event. Now the next sentence they said was there is a ten-mile blow down in front of it. Those two didn't correlate to me but I hadn't flown it and I'm just listening. So anyway, they made the decision to release all of us because those structure engines were pretty expensive. They were looking at cost and the work done around there as far as doing any pre-fire work, fire preparation around there, we were pretty much done with what we could do. We had done it all. So, they turned us loose. I do remember coming home, getting a couple days off then getting called again, saying 'Hey, this thing is running into Yellowstone. Do you want to go back up there?' I did not. I wound up going down and just doing night dispatch on the Tunnel Dispatch Office for like six weeks straight. I did not go back up for another run up there. I was a little frustrated with some stuff going on and I also had some personal stuff going on in the state where it was good if I could stick around for a while after having been out there."

*Interviewer:* "Do you have anything on resources? Lacking? Or overdose of? Or anything like that? How did all that stuff go?"

*Hughes:* "I don't remember the exact numbers of crews. I remember there weren't a lot of hotshot crews. I remember a lot of Type 2 crews. One of the things that was frustrating for me, it was never a definitive let it burn, and it was never a definitive put it out. It seemed like it was in the middle all the time. So, they were sending the crews out and they were going out for three days at a whack. They go out and spike for two nights and they'd bring them in on the third night and let them shower up. But they wouldn't let them really do any line construction. They wanted them to hold the fire on existing trails, on existing elk trails, buffalo trails, whatever. That's just impossible in that type of fuel modeling to not have some sort of line in place or at least to be going exactly direct. But if you're trying to hold it on a two-foot-wide trail and one hundred-

foot of canopy above you, it's not rocket science. You're not going to hold it. I felt bad because the crews really wanted to do more, but they were not allowed to do more. There were other fires in the Rockies at the same time that were threatening in towns or going into towns. If we weren't going to let them fight fire there, we should have turned them loose and let them go to where they could have done some good. That was kind of my opinion. I felt kind of bad. I felt the crews kind of got beat up. I felt there was a lot of exposure to risk with minimal accomplishment.

"I did see a strike team of structure engines come in from Colorado. I don't remember, it was one of the bigger cities in Colorado -- it could have been Boulder or whatever. I don't remember. I do remember a strike team of engines, like ours, big fancy nice engines came in. The operations section chief asked them, they said, 'We don't need any more engines here; the fire is a little too far to the west. But we want to put all your guys together in a hand crew.' Those guys said, 'No, we don't want to do that; we only work trucks.' They said, 'Fine,' and they turned them around and sent them home that afternoon. I went over there and said we were more than happy to be a hand crew because I didn't want to get sent home. But they said, 'No, you know Old Faithful, you are the ones who have prepped and we want to keep you there.' So we never changed, we never got off of the engines. It was funny to me that they did send those guys home because they were not flexible enough to actually get out and do some work away from their trucks, which is kind of different, you don't see very often."

*Interviewer:* "Well I think there was a lot of that going on, confusion, so many people. I've heard it all. There were so many people but not enough aircraft to get them where they needed to. The military was there, but a lot of people said they couldn't use the military, things like that."

*Hughes:* “Right.”

*Interviewer:* “I think that was just generally part of it just because it was so big.”

*Hughes:* “Right. They were there big, and they were confusing. Like I said, I do believe there were some pretty mixed signals as far as using them for a management benefit-type burn versus a full suppression-type burn. I know there were conflicting beliefs and directions from much higher than the ground level. Certainly having been on incident management teams after that, I feel for that incident commander, because I’m sure he was getting jerked around quite a bit by whomever he was working for at the time because there were conflicting directions coming some a fairly regular basis. When it got out and did make that final big run, and did actually run into Old Faithful, I’m sure it was, do whatever you could to put it out. But at that time, not much you can do, other than get out of the way. It says, ‘Was the fire inevitable given the drought, weather and fuel storage?’ Certainly, sometime it’s going to happen. I mean, that’s the natural fire cycle and it’s going to happen. That being said, there was a guy I used to work with on the hotshot crew there in Globe. I ran into him. He was actually working on the Targhee, on a crew. This North Fork Fire, they were working it and it started over on the far side, actually over on the forest in Idaho before it came into Yellowstone. He said they had it picked up. He said they were like a half an hour from having it hooked and picked up. Park Service came in, and they were using a couple of dozers, and Park Service said, ‘Your dozers are in our park, get them out.’ ‘Yeah, but we can hook this thing up and be done with it.’ They said, ‘Nope, get them out.’ So they pulled the dozers off and that’s when it kept getting bigger and bigger and went over the hill on them basically – kind of interesting. Was it inevitable? That one certainly was. Now if they want to let them burn, that’s certainly good, too. I guess they are all inevitable because it is all going to burn sometime, one time or another, but I

don't think it had to be that year, and I don't think it has to be under those conditions. Hindsight is always nice. It's twenty-twenty, right?"

*Interviewer:* "Well in this case it is. I guess in the long run it turned out to be no harm, no foul."

*Hughes:* "I got to tell you guys a little bit of a funny story. In 2001, September 11, when September 11 occurred, I was an operations section chief on Bateman's team and we went back to the Trade Center. We were there thirty-five days. We worked with F, D and Y, lot of middle, lot of end roads. That's where now everybody has to have ICS and all those kind of things. Well, that was driven right there out of September 11. Then on our training, we went back and did a lot of training with those guys the following couple of three or four years. In 2003, I believe, 2003 or 2004, we started taking some of the F, D, and Y chiefs, we brought them out west on one-week show-me trips to let them watch incident management teams and how they worked because that's what they were trying to learn. So, I had six chiefs with me. I was in Montana. We went to two or three different fires. I had them shadowing the Type 1 teams and learning how that worked. We had kind of a slow day one day. I said, 'Have any of you guys ever been to Yellowstone?' They all said, 'No, never been there.' I said, 'Come on, we'll have a good day.' So, we came in from the north end, and came down into Yellowstone. You know how you can drive for mile after mile after mile and its just black sticks from the old fires, especially back, what's that, ten, eleven years ago. So I was sitting in the back seat of this big Excursion and I was with a couple of assistant chiefs and the rest were division chiefs or battalion chiefs, pretty high-ranking guys. One of the assistant chiefs was up in front, Chief McNally. He turned and looked at me and they couldn't say 'Dugger,' they said 'Dugga.' They said, 'Hey, Dugga. You said you were on these fires.' I said, 'Yes sir, chief, I was.' He said, 'Nice stop,' and he turns and looks just straight to the front. I laughed so dang hard because those guys couldn't believe that we could

allow something to burn that big, that long. I said, 'Man, sometimes Mother Nature just has her way with you and that's just the way it is especially in that fuel tide.' That's one of the things I will remember, 'Nice stop.'

*Interviewer:* "Well, they should have been there."

*Hughes:* "Yeah, I think they would have liked it."

*Interviewer:* "Like they say, how do you stop a tornado?"

*Hughes:* "Yeah, you could appreciate them all, watching them set up camp. They all had their brand new Coleman tents. None of them had ever thrown a tent or anything. It was great fun. We had a great time."

*Interviewer:* "Were you ever able to watch the media coverage?"

*Hughes:* "You know I never did see the media coverage. I shouldn't say that, I saw the media coverage once I got home. In fact, when I got off, we off loaded at the airport. It was about ten o'clock one evening because I got met by the ten o'clock news at three stations, lights in my face, 'Tell us about the -- tell us this, tell us that, tell us about the devastation.' I couldn't tell them much more than I am telling you. I said, 'Well, we didn't see any devastation. The fires are very impressive but they were still a long ways from where we were working at the time.' So, the rest of it that I saw, to tell you the truth, I can't remember it. I just can't remember other than that part, just bombarding us just as soon as we hit Phoenix."

*Interviewer:* "Where did you guys stay and your accommodations and things like that? Were you camping out? Or spiking out? What were you doing there at Old Faithful?"

*Hughes:* "The camp was just west of Old Faithful across the main highway there. They had like a work center. I think there was some employee housing there and



also maybe some of the road stuff there. Anyways, that's where they set up the ICPs and the base camps. So we camped just, probably, maybe a quarter mile from Old Faithful, we were just on the main side of the road there. We threw out camps and it was just like a normal fire camp, other than we were next to the highway. The place was not closed at that time. The Old Faithful Inn was still open. They had not closed it, so there was a lot of tourism, a lot of tourists. There was still a lot of traffic in the area. We woke up every morning. It was kind of neat to see elk walking within fifty feet of you grazing in the grass. That was pretty cool. We would go over in the evenings, usually after the evening planning meeting and after the dinner. We would actually--. Sometimes we walked over to Old Faithful. Like I say, since it was still open, lots of times they had people fiddling or little kids singing or whatever their programs they had for the tourists. We'd go get lemonade and sit on the balcony and watch that stuff a little bit. It was actually kind of a neat experience for us. I do remember that. It was kind of neat for us.

"You know, it's funny that I told you, the first day we got there we were on R&R. I was in my Forest Service uniform and they lost my luggage on the way up as well, on the airplane flight. Nobody else's, just mine. So we are on R&R, we don't have any vehicles, they transported us to the camp. They said, 'Okay, you are on R&R, you are on your own.' The only thing within walking distance from our camp was Old Faithful Inn and that was a novelty for us to go see Old Faithful, right? Well, we said, 'Well, we'd better go hang out at Old Faithful.' Well I was in my Forest Service uniform and I had dozens, if not hundreds of people approaching me, asking me, 'When is Old Faithful going off again. What about the bears? What about this?'" Finally, I went into the gift shop, I bought a t-shirt, and I pulled it over my Forest Service uniform. I couldn't answer their questions. I said, 'Hey, I'm just a knucklehead from the Arizona desert. I don't'

know.’ It was kind of funny; it was kind of a weird deal for us. Luckily my clothes showed up later that night, but that was kind of how it went.”

*Interviewer:* “That just fits in perfectly with Yellowstone Park.”

*Hughes:* “It was different for us. I mean really, when you think about what a neat experience. We worked hard every day. I think we worked twelve-hour shifts. We did a lot of good work while we were there, but we never fought an ounce of fire. We just did all structure protection. You know what I think we did when I--. I certainly wasn’t there when it came through, but I always felt good. I think the work those rural metro guys did while we were there, all that thinning. We hiked, I can’t tell you how many dump truck loads of wood we hauled out of there. But I got to believe that thinning that and prepping all that set it up so it was much more easily secured when the fire actually did come through. I know we thought that at the time, and looking at it, a metal roof, a deluge system with that, I think it was a million gallons of water dedicated to us, plus the sprinkler system inside, plus it was pretty open around the lodge itself. We felt at the time that it was bombproof. We didn’t think that we could lose it to tell you the truth. We were very positive in our feelings as far as the ability to protect that. Now that being said, when you’ve got a forty- or fifty-mile-an-hour wind and a column of smoke lying over the top of you, and it’s black as Hades and embers dropping on you, I’m sure you don’t feel quite secure. But for us at the time, we felt pretty good about it.”

*Interviewer:* “Well they lost quite a few buildings around there. That’s just from embers. They just couldn’t protect those extra buildings.”

*Hughes:* “Yeah, some of the outbuildings. You know, it’s funny. We offered to work on some of the outbuildings but they said, ‘No, we aren’t worried about the outbuildings. The only thing we are worried about is the lodge. That’s what’s really important, that can’t be replaced. Everything else can be replaced.’ So we

said, 'Okay.' To tell you the truth, some of those outbuildings, they weren't going to be easy to protect. Some of the little one-room cabins and stuff built out of old wood, very little access. They were scattered everywhere. Yeah, you are going to have problems with those, but the main building, it wasn't going to be an issue."

*Interviewer:* "That's probably the most world renown."

*Hughes:* "That's what we were told. [It is] the most important building in the Park Service system. That was the most important building to them. 'Protect it at all cost,' is what we were told when we got there on our end briefing."

*Interviewer:* "Everything that you protect there is important, but have you heard that before on any other fire?"

*Hughes:* "No. I've heard some things, this is most important to us, this is very important to us. This is sincere, you knew this was from the national level and this was a big, big deal. You know, I've been told to save hunting cabins that are extremely important to a certain unit's wellbeing as far as financial and stuff. 'These hunting cabins are really, really extremely important to us.' You look at them and they are four-by-eight sheets of pressed board with plastic over them. The Old Faithful Lodge is something special. Anybody that has ever been there, they know how special it is."

*Interviewer:* "I think that's the part where people started to get upset with the fires, too."

*Hughes:* "Oh, probably so. Probably so. They got so big. I think it was a good notion, a good idea at the time, to try to introduce fire back in. But it became so overwhelming that it just stripped every resource in the nation. Then when you've got fires in other parts of the country where they are running into towns and they don't have any resources because they are tied up on these ones that the

Park Service decided to let burn, it certainly caused some big political issues. I don't know how you get away from that, as long as we just continue to try to allow fire to reenter its natural role. You got to have some people there to take care of it. When you tie up those resources, certainly down the line, it can make it rough on other folks, but you can't just let them go. Then you know your liability is terrible. You've got to have resources in place just in case something does go bad."

*Interviewer:* "This is a little bit away from Yellowstone, but do you figure as a wildland firefighter, your job is kind of changing to protect different resources than you initially were?"

*Hughes:* "Yes. I think certainly structures and infrastructures on tops of mountains, you know, their telescopes, electronic sites, or whatever are much bigger, much more prevalent in the West today. Certainly, that's typically what we get our direction from, that's the highest priority, firefighter safety and then typically whatever the infrastructure is. I find it interesting, though, and I tell this to my guys now, and I do this part of risk management and to me it's a safety awareness for them. This is kind of off topic now, but the Cerro Grande in 2000, you guys may remember that it was actually Bandelier National Park, who started that prescribed fire, and they lost it and it came into the town of Los Alamos and the Los Alamos Nuclear Lab. Our team was there. There was a lot of drama and stuff, but one of the things that always sticks in my mind, was that I think we lost like 260 homes and I say we--we didn't, Los Alamos Fire did because they didn't give us any delegation of authority for anything other than the forestlands around it. So, when it ran into town, it was all on Los Alamos Fire. The people came in five days or so after the homes burned. What do we focus on now is protecting homes, protecting homes, structure threats and there were homes that were still standing and there were homes that were burned. The homes that were still standing, the homeowners were hugging the

firefighters and saying, 'Thank you. You guys are heroes. Thanks for saving my house.' The people who lost their homes were crying. Well, I worked over in Albuquerque running swift for a while. Well, I went over to Los Alamos probably five, six years after the fires. I went in there and I found it very interesting that all the people that's homes had been saved were all saying they wish their homes would have burned because their neighbors who lost their homes all had brand new homes, thanks to insurance.

"We risk our lives for homes and a lot of time the homes burn down and people are better off because they get a new home and are better off. Within the span of five years, that is a blink in the ecosystem time, they wished their home had burned so they had a new one like their neighbors. I think our philosophy has to change a little, that is for sure."

*Interviewer:* "The North Fork Fire, they say fire science was rewritten. Can you elaborate on that at all?"

*Hughes:* "Do you mean suppression or ecosystems?"

*Interviewer:* "Just from the North Fork Fire on how fast it would grow, how fast it would spread, and how they learned to read the fuels on the ground."

*Hughes:* "I think that helped and we learn every year. If you remember in 1987, the siege of 1987 in Northern California that we will never see a fire season like that again and in 1988 it was exponentially greater. So, we learned a lot in 1988. The modeling profiles that we have now, a lot of them come from Rothermel and Yellowstone. We are finding now that we are underestimating fire behavior pretty dramatically on most cases. The rate of spread and the growth potential that they are predicting and projecting for us are not real world and still being underestimated and are still by some pretty significant amounts – fifty- to one-hundred percent low on some occasions. I think there is a lot learned, but there is a lot to be learned. It is forever evolving and if the drought continues and the

bug kill continues then you are going to get more extreme fire behavior than ever before. It is funny that some years we expect fire behavior to be really bad and it wasn't as bad. So you got to try and figure out why."

*Interviewer:* "That has come up in other interviews that we don't learn from history."

*Hughes:* "We should be. But what is weird is that we have a hotshot crew here and I am talking to kids on the crew at the start of the year. I say kids, they are nineteen, twenty, twenty-two or early thirties, but kids to an old guy like me. I bring up South Canyon, South Canyon was '94 and that is not that long ago, and most of them have never heard of it. So when we go back to the 1988 fires, I don't think people learned a lot. Human nature. You see it wherever you go and very quick to forget. A year later, it is a whole new world to us. We are not as bad as cattle, but we are getting close. We forget those things. Those lessons learned we have to bring those up all the time. We have change so much as far as technology, but as far as actually putting a fire out or making that decision to burn, let it burn or put it out -- it is never going to be an exact science.

"Talking about fire science, they let a fire go on the North Rim a few years ago. The North Rim, I mean the Grand Canyon. It was the middle of June, it was a lightning fire, they were going to do fire use on this, and that will be good. I raised my hand and said wait, this is the middle of June and we are not even expecting any moisture until July 4. I think it just totally nuked about 45,000 acres of ponderosa pine. To me that is not good judgment. Had that been 45,000 acres of mixed conifer, personally I could have cared less. That is how mixed conifer burns. But when you do that to ponderosa pine -- that is ecosystem altering, changing or whatever you want to call it. So we have to be smart when we do it and I am no way judging the decisions made on those 1988 fires. Heck I was a young kid then and as far as the decisions that were made, I think they

were pretty good. I think they set up a whole lot of future fire managers with good background and a good base to build off of both politically and scientifically as far as getting stuff done on the ground.

“We got right now in the state of Arizona, there are probably a dozen fires going. They just got one up around Flagstaff and it is around 1,600 acres now and it has actually burned out to some edges of some roads. Letting it burn is a good thing. If we can do it, we need to do it. The buildup of fuels as you guys know is just crazy out there. It has been proven to us that we can’t just keep putting them out. We will never ever have the funding or the political support to do enough prescribed fire to stay ahead of the curve. One of the best things you can do is let fire take its natural role just like they did in Yellowstone. The trouble is that stand of lodgepole and a mixed stand of conifers but mostly lodgepole pine, it won’t burn again in what a hundred, hundred-fifty years. In 150 years from now, what will land managers remember? What will be the political climate of the time? It will eventually be a stand of fire there. It is just a matter of time. So it will be interesting to see if they will allow nature to take its course or what their plan will be.”

*Interviewer:* “Since you went home in 1988 has your opinion change about the fires at all. Everything seems okay now? Did you feel that way when you left for home in 1988?”

*Hughes:* “I was frustrated when I went home in 1988 simply because of a decision, but indecision. If you want to let them burn, let them burn. I did not have a problem with that. If you want to put them out, put them out. I had a problem with kind of putting them out. When you kind of do something in the suppression world, in my opinion, all you are [doing is] setting someone up to get hurt. They sent a lot of crews out along the edge of this thing and they would come in looking beat to death. I mean they looked terrible. They were not

allowed--. I talked to them and they said if we could have went after that fire and could directly suppress this thing, they could have had some good luck. All they would do is hold them at the buffalo trails and the elk trails. Well you can't do that, and that is what frustrated me. If they would have pulled all the people off of there and said we are going to let this do its thing, great. I liked that. I just did not like indecision. I did not like being in there without firm footing one way or the other. I did not like that part. It did not affect my operations of clearing around Old Faithful. Certainly, that was pretty straightforward. But I saw those other crews and I thought they were in those shoes."

*Interviewer:* "You are along in your career and I realize that you don't want to lay criticism on anybody, but that was just fact of how it was so there is not any harm in saying anything like that at all."

*Hughes:* "I am not taking shots at anybody. The decision makers were getting beat up from all sides. I think everybody thought they were doing right. It is a tough decision to make for certain, especially in those days."

*Interviewer:* "Barbee has some big shoulders. Do you remember where you were when you heard it was out?"

*Hughes:* "I am trying to remember that. I was home and I remember a sense of relief. Simply that I had hope that that winter, the leaders at the national level would be able to come together and help clear up some of that decision making, and they did. I felt good about that later on. There were some policies set in place that allowed decision makers out here in the field to better make decisions based on conditions and actual agency direction and I thought that was a good thing. Yes, I do remember that. It was like a sense of relief. Good, finally it was over because it drug on for so long. Like I said, I did not want to go back up there. I went down and night dispatched in the Tonto National Forest. In those days we mobilized a lot of resources at night, now you never do. We were busy



and I was down there for six weeks. You take that three weeks when I was at Yellowstone and the six weeks I dispatched, it was a long season. I was glad it was over and I am sure that guys up there in Yellowstone were just ecstatic that it was over. I cannot imagine going through what a lot of those folks went through.”

*Interviewer:* “We have heard that everyone was just so tired and so much smoke day after day.”

*Hughes:* “It had to be terrible for the firefighters and just for the people that worked there and the maintenance people. Those maintenance people were critical in getting it done. They were right there every day, right with the rest of us. It was pretty interesting. A good bunch of folks.

*Interviewer:* “I think some of your frustration for not letting people fight the fires comes from don’t damage the park. There was a lot of light on the land training, so that was a challenge to the firefighters, too.”

*Hughes:* “It was. When we were cutting down those lodgepoles by Old Faithful we just took them to the ground, and maybe took them low and scattered some dirt over the stumps. I was talking to some crews down by the south entrance and they had been opening the road up and they were going at it with saws. They were cutting down and they had to follow it up with pulaskis to chop up the stumps so that they had looked like a beaver had been doing it rather than a saw cut. That frustrated me. I get it. I understand it. But man, you are working people to death and I don’t see the value to the amount of work that that was because that was a lot of hard work. But that is okay. That is how we do stuff in the federal government. That is just the way it is.”

*Interviewer:* “There is a lot of camaraderie and pride and everyone is really proud to have it on their résumé.”

*Hughes:* “Oh yes, without a doubt. You know, it is interesting. I took those rural metro guys and when we came home, it was very interesting to watch them. It was a building block for a lot of those guys and a lot of them turned into strike team leaders and division supervisors over the years and that was pretty neat. It eventually goes from camaraderie to look at me, look at me, and some of that, but overall it really developed a good strong core of future firefighters I think.

“Things have changed in the firefighting world socially. I remember our incident commander. I believe his name was Kiplinger. I am pretty sure that he was out of Region 5, out of California. He was supposed to be getting married while we were at that fire. He had to postpone his wedding date and I remember vividly at a briefing that was supposed to be the wedding day, the section chief was wearing a wedding dress. They did a little mock wedding and I laughed about that because I see a lot of people flying home for weddings, but he was committed to the fire. Man, he was there. That was pretty impressive, and them doing that for him was pretty neat also. I can’t remember, but he was an IC from Northern California. But I was younger then and just a strike team leader and did not go to planned meetings. Those were the old guys. I just kept quiet and did what I was told to do.”

*Interviewer:* “Just something on the size of the fire. It was reported seventeen columns in a fire, the biggest flames that people had seen and horizontal vortices. Can you talk about anything like that or you probably did not see anything like that around Old Faithfull probably.”

*Hughes:* “We did not see anything like that at Old Faithful. An interesting point. We would see a pretty good smoke column at times and that was about it. We went to a fire in 2006 just south of Glacier. The Forest Service up in the mountains there was managing it. It was a wilderness area, steep. It was in the Rockies and real steep mountainous country. When it came down and hit the

flats and the forest line and the state line followed the base of that mountain. The Forest Service said let it burn and we don't care. The flatlanders say we don't want you to burn a single acre of our grass. We need that for our cattle. So, we are stuck in the middle as a team on how are we going to hold this to the mountain but keep it from running out to the grass flats. It is interesting. It goes back to 1988, while the animosity was there, and it burned in the same day, all the Yellowstone fires took off and went crazy. This thing came out of the wilderness and burned across huge swaths of private land and burned homes as well. Those people still remember that, so it is interesting when you talk about repercussions from the 1988 fires. That was in '06 and those folks sure had memories about it and they did not want anything left burning. You suppress everything, even up in the wilderness. It is an ongoing political battle for sure."

*Interviewer:* "Does scapegoat ring a bell?"

Hughes: "Yes, there you go. It's funny, it still affects pretty dramatically and that is from 1988 for sure."

*Interviewer:* "We interviewed a guy named Al Nash and he said it is the story that keeps on giving."

*Hughes:* "Isn't that the truth. That is a great quote. The other thing that I do remember from up there was that they would take a couple people from different crews to be security for the helibase and they were night security for the helicrew and were sent down in a truck and were told to not do anything but sit there and watch because the buffalo are going to come in. Don't go out and mess with the buffalo, just let us know which helicopters the buffalo are going to rub against or butt against so we can inspect them before we fly them in the morning. That was the craziest thing for me to ever hear. I talked to the security guard and he said that those buffalo would come in there and start butting those helicopters

and knock the heck out of them sometimes, kind of funny. You don't hear that everywhere. Yellowstone is probably the only place you will hear that story."

*Interviewer:* "Any more stories off of the top of your head, Dugger?"

*Hughes:* "No I really don't. To me it was a really great opportunity. It started off goofy. When you fly up there and your first days are R&R in camp no less, and you don't have any luggage and you are stuck at Old Faithful Inn with your Forest Service shirt on, it was just a crazy day for me. Plus, I was there with all these structure guys and a lot of them had never been on a wildland fire before. It was just a really unique opportunity. Had we been thrown into the grounds of a going fire it could have been a little hairy for us, to tell you the truth, with all the new guys we had. But they gave us two and a half weeks of training and it was great. Those guys loved it a ton."

*End of interview*

**Tim Hudson**

Interviewed by telephone on August 11, 2014

by Todd Jensen and Garrett Smith

*Interviewer:* “Today we are interviewing Tim Hudson. And Tim, if you just want to give us a little bit of the background, and then when the fire started, and then your experience with the 1988 Yellowstone Fires.”

*Hudson:* “Okay. Well, first of all, I think that was my seventeenth year in the park so it wasn’t the first fire and actually the first fire was the Fan Fire and I had been through at least one other Fan Fire before that. I actually saw the Fan Fire, I think, in June, and I went on vacation and the Fan Fire was about the only thing going. Nobody was really overly surprised, because it burned out in an area that had been burned before and, in fact, the Fan Fire wasn’t a huge story when it was all said and done. It was just the first one. So I came back right after the Fourth of July or the tenth of July and things were starting to really heat up with the Clover Mist going down there with the woodcutter starting the fire and the conditions. We just didn’t get the thunderstorms or anything else, so first it was let the fire crews go and then we started to get into structure protection, full fuel reduction and what we needed to do to start to save and do protection. My biggest role in the fire was moving the equipment around with the crews we had. Yellowstone has more capability with equipment than most parks, certainly small parks. We had a road crew, we had a lot of dump trucks, and we had crews in each area, and so as things got into the developed areas it was staying one spot ahead of that, or trying to figure out what is going on.

“I guess the first really good crisis was at Grant Village when the fire came in there and the fire camp, and those guys literally went into the lake, and with that

fire that was their escape route. We had lost power down there. So a lot of the stuff I dealt with was protection and fuel reduction and keeping the utilities going. The biggest thing was keeping the utilities going. Basically, by the time when it was all said and done -- I will get back to Grant in a minute -- when it was all said and done, at the peak of the fire we were running about thirteen generators between us and Montana Power, and we were using about five-thousand gallons of diesel fuel a day just to run generators. They would use fuel during the day and when trucks would come in at night and the fire would lie down, and we would fuel up. We would keep going. Yellowstone had the luxury and the burden of having almost of eight megs of standby power in the park which is extremely unusual, which was dictated by the fact that it has no loop feed and electrical system. The main power comes in at Gardiner and then to Mammoth, and splits at Norris. And one goes down to Old Faithful and dead ends and one goes down to Grant Village and dead ends. So if a line went out, you were screwed because you could not feed it from the other side. So at Grant Village they started to lose power. The water system there is pumped and the lines had burned down and at the time the generators at that time were at West Thumb. But the lines had burned down between West Thumb and Grant so we could not supply power from the standby generators at West Thumb.

“We were about starting to run out of water and there is a two-million-gallon water tank at Grant, so at the last minute we figured out that the only standby generators we actually had at Grant Village that would actually run anything were the ones to run the sewage lift stations, particularly the one down at the lake. So about an hour or two before the fire hit, they sent the chief electrician down there to basically hotwire that generator through the sewage plant because the power came back to the sewage plant. So he hotwired it and jumped it over so it would run the water system and the water pumps out of the lake. So we used the sewage station lift generators to run the water and pump enough water,

and we never ran out of water. And we were running a couple-hundred gallons a minute was all we could pump, and that is how they had water to fight the fire that day at Grant Village.

“Then Montana Power brought in what we called a “Carni Van,” it was a trailer with a generator in it about a 350-KW generator that was painted up in their colors, which is orange and red, so we called it the Carnival Van. Anyway, the Carni Van sat there and ran Grant for a long time after that on kind of little bits of power.

“Then as fire came in we would send crews out to do fuel reduction in the areas. There were crews that went -- and mostly done out of wildland fire and not out of my shop. I was chief of maintenance in the park at the time, and they would go out and basically set up sprinkler systems around the cabins. Most of the fires, if you read on anything on wildland fire installations, fires would start from roof fires. So the big thing was to keep the shingles wet if you had wooden shingles -- and we had many -- to keep them wet, and wetted them down. We also learned if the sprinklers did not keep the fires out, they would deflect the fire. So we set up irrigation sprinklers and I can't remember who came up with the idea or where it came from, but we started using irrigation sprinklers that you would use out in the Gallatin Valley and down in Idaho. And now it was getting into August, so the irrigation was done and the piping was available from the spud farmers down in Idaho, and some of the irrigated farmers out of Manhattan, Montana and Bozeman. So we started contracting for huge amounts of sprinkler pipe. The park, they had a little bit. They had been doing it for quite a while and had a good supply up in the old fire cache that is now over in the old ranger offices in the old corral or barn. Then we noticed when we would set up sprinklers like at Norris on Black Friday, the fire came through there and it annealed the wire, but if you put deploying covers like you would use as a tent, and wrap the fire poles with that aluminum, with the foil, and the put a sprinkler

line in there, the fire ran through there, but did not burn the line. But it did anneal the line a little bit, which means they will work, but they lost a lot of their ductility by being heated up, so they would last the summer, but we knew we had some issues there because when they got annealed, they were not going to take a lot of stress after that. They had become brittle for overhead lines. So we set up sprinkler systems like that, then deployed those around the park when the fire was coming.

“Norris on Black Friday, after that, we went there and there was no water in the water tank. We went to plan B, which was we basically contaminate the entire water system in Norris and move everybody out, then we would pump out of the river and repair the break and then pump raw water out of the river and that is what Norris fought fires on for a couple of months. We didn’t have anybody back in there. We had one house open but we fed it by parking a water truck on the Mammoth Norris Road and running a line off of the water truck down to this one building and to where we would have enough water pressure to take a shower and basic use for water. And that was the only potable water in Norris for probably four weeks. One house was occupied there and that is how that one survived.

“At Old Faithful, the fire commander did not want sprinklers to go in on that system, on that power line. And we insisted and we insisted and finally the chief ranger down there, Joe Evans, finally got in a meeting and literally threw his shoe down and said we are going to bring those sprinklers in. We came in and those sprinklers were set up in Old Faithful and if those sprinklers had not been set up we would have lost the Old Faithful substation, the electrical substation. It was so hot in there that the Montana Power trailer right there, that we sprinkled it, actually melted the stripping on the outside of the windows, but the building survived and the power and the substation survived. If that substation would have went down, I doubt that we would have had an operation of any



sort at Old Faithful the next year. They have two megs of standby power there, which is not enough to run Old Faithful, but enough to run most of it. With the substation down, there would have been a generator here and it would have been very tough. Montana Power -- we kind of felt that if that thing went, the Old Faithful in the summer of 1989 it probably would not have operated. But anyway, the lines being set up literally right before the fire did its job and basically diverted the heat around. There were other buildings were lost at Old Faithful but not that.

“The other thing that saved the Old Faithful Inn was that there was a deluge system on that roof. That was about the only building that we had a deluge system on. It was put in a few years before, and I don’t really remember why it was put in to soak the roof, but they had to run fire trucks to run it through, so they ran fire trucks out of the line to up that pressure, and that is what wetted that roof down at the end, and that is why the Inn survived. Embers blew obviously right over Old Faithful and would have taken that Inn down in a roof fire, I believe, if that deluge system had not been in place that way. So that was kind of Old Faithful and the stuff we did there. I was not at Old Faithful the day it went over -- I was somewhere else -- but that is what happened.

“At Mammoth when it came through there, which was late, after Labor Day, and everybody had evacuated. We set that sprinkler system up literally four or five hours before the firestorm came in. At that time, the garage at Mammoth was not finished and actually its first use was the fire camp. After that sprinkler line went in, and you could go back there the next day, and you could see that that sprinkler line was set up on the hillside, right above the garage. When we came back the next day we had green on one side and black and green on the other side. The fire line diverted it over the building and it spotted out by the junction there that the guys got out. The water plant burned over and Ralph Jerla, who I think is still there in the park -- he was the operator in there -- and I went up to

him just before the fire and said, this is your chance. You are going to have to leave or you are going to have to stay. You are in a concrete building with a metal roof and if you get scared jump in the water tank. He waited it out here and he will tell you that he never heard such a commotion when the firestorm went over him. Another fire guy was up there with him, and they saw a power pole burning after the fire and got it out before the line went down.

“When it came into Mammoth across the block there, and like, what is going to happen. The wind was just howling that day. I literally think it blew against it and it didn’t travel because the wind was blowing so hard that it went back onto its own fuel. It was heading into Mammoth, and not that it would have been a crown fire coming in there. We had set the water plant up to maximum. The water for Mammoth comes from way up on Swan Lake Flats, and we were running so much water up there we were blowing manholes up in the flats, and we were running as much water as we could, and barely treating it. People put sprinklers on the roofs. One guy had so much water coming out on his roof he had like twenty or thirty gallons a minute and he was starting to draw the tank down and I said, ‘Jim, you do not need to wet the whole place down.’

“Then we got into, finally after it had snowed there after Labor Day, it really didn’t put things out. Then I worked on the restoration crew. There was a lot of pressure from the outside to reseed with what we would call exotics, clover particularly. We used a technique called LEBs, log-erosion barriers. A lot of erosion barriers, and we put those up in lieu of doing the seeding. I was in charge of a crew that put the LEBs up in highly burned areas, particularly around Tower, and then we put a few up in the front country and a lot up in Cache Creek and up the Little Lamar. Those areas were heavily burned and we went and cut trees and dropped them as transfers across the slope to make little check dams. At first we were using rebar to put them in. Then we finally decided that we did not want steel in the backcountry afterwards, so we started

using posts -- either stakes or basically stubs that we cut off. And that is how we held them in place.

“We did some before and after photos, about five years, especially up on Cache Creek. I don’t know where those photos are and I don’t have them, but we did that in lieu of reseeding. We were doing that up until the last day I worked out there -- was like the tenth or the eleventh of November -- with the crews out of Little Lamar burning our slash and I am getting out of there. And anyway, that whole period from early July until November there, I think I had a day-and-a-half off in that period. Every night you would go to the meetings and then you would run the crews out and then they would call in and you would have a briefing at night. The phone would ring until ten at night and then start at six o’clock in the next morning. I guess it was all over the news. I never saw a newspaper or a TV report the whole time.

“That is a lot of the stuff we did. You learned a lot of different things. I mean there were a lot of really interesting stuff up at Dunraven. All the wooden log barriers, the car stops they burned up in the fire, it never went through there. It got so hot that the pins that held them got so hot that they ignited and burned the wood up, but no fire ever hit them. So you would go there and you would see the rebar or the metal pins were and there was a big hole around it and some of the logs were burned up and some just had holes around it.

“I guess one of the strangest things - well, not strange -- but the aftermath up at Norris where the big blow down was. Of course everybody thought, the news came in, and it was the firestorm by Yellowstone, and the firestorm from the fires, but that is not at all true. That area had blown down three years from before, and I was there that day, and it took almost all day to crawl through that area because you were going from one dead log to another just crept its way through. All the downfall and the shear zone that went through there had

nothing to do with the fire, it was already there. Of course, it made all the news and they even tried to put a sign up that said firestorm and we had to get that started because it just wasn't true.

"Then the next year they wanted somebody to replace all the things that were burned up. I got that job, doing the restoration after the fires, putting things back together, and I hired a couple of people to work with me. Jack Roberts came in from Bryce and then I had Dave Price who came over from the resources. We had a special appropriation from Congress for a bunch of things, so that is what we did. And then there was some money that came in for the research side, but this was more of the infrastructure side that I worked on. So 1989 was just as good as 1988 for me, and getting things back together and getting things opened up and how to get things back working again. That is the five cent tour."

*Interviewer:* "Well that was quick one. That was great information. That is exactly what I was hoping for from one of the maintenance people in your position. That stuff is really interesting about the extreme fire behavior and things that were burned. Do you have anything that you discovered the next year that was really burned that you really haven't seen before or anything like that?"

*Hudson:* "Well yeah, there was stuff that showed up that you didn't know it was there. Everybody knew that the bomber plane was here, but it uncovered it down there on Douglas Knob and then they got it out. It changed our plowing patterns rather dramatically. Where we plowed in the spring and that opened areas up, so we had drifts where we did not have drifts before and it change how we plowed. The conditions weren't the same, especially after we did a lot of roadside -- very controversial -- we took the hazard trees down with a commercial crew and the logs went out of the park. But because they were going to fall on the cars roadside or on the road or power lines. But opening those

things up after the burn changed especially down by Lewis Lake. There were drifts there where we did not have drifts before, because we had trees blocking it before. And then I said the plowing changed. I don't think anybody paid a lot of attention to that. Things you would do differently to protect certainly the piece with the sprinkler and the water and the burden was a huge lesson on how you can start to protect utilities in an extreme event."

*Interviewer:* "I was wondering what kind of sprinkler they really used. I guess they never asked anybody before. I didn't realize that it was hand line, that big aluminum hand line."

*Hudson:* You can go out to Churchill and see it lying on the ground. It is four-inch and six-inch aluminum lines, with hand pipes in it and pumps pumping it out. We pumped it out of reservoirs at Mammoth and we pumped it out of rivers, and dredged holes in spots and the other spots. The cabins. They were little inch and half-inch lines, but those big ones for the power lines, you are going regular sprinklers like you would see on the big circular ones or the ones that move down the line, and that is what we used, and it was those pipes. They came out of Ashton and South East Idaho and the Gallatin Valley."

*Interviewer:* "You know when you are talking about annealing that power line? Does the power line mostly run along the road so most of it was probably burned then and damaged, huh?"

*Hudson:* "Different spots got different treatments. It does not, it runs along the road in spots, and it does not run along the road in other spots. Like it runs across the Hayden Valley but it does not run along next to the road. It comes out of the trees and the good thing about down there at Hayden Valley and the Lake, remember, is the fire did not hit there. Once you got south, and once you got into the Valley, you did not have fire out of that 1988 fire. It did not run that corridor much between Canyon and Lake. Remember Lake was the only area

that really didn't get burned. It got evacuated only because we couldn't get there; it never got any fire. That was the only fuel that was left, the only big fuel load that was left. The power lines, a lot of them along Norris, were annealed and down at Old Faithful they had trouble, and then we had that section at Grant Village all burned up. It just didn't seem to have any connection between the two. There is a 2750 generator at Lake and there are two one-megs at Old Faithful right now -- we have upgraded it since then -- and about three megs at Grant right now and that is a new system in at Grant Village and it is not at West Thumb anymore. You got to remember when all of those were put in, Grant Village did not exist. Grant Village was not built until the sixties. All of the development was at West Thumb. The gas station and the store and all of that was there at West Thumb. It was gone by 1988, but the infrastructure that supported that was still sitting there. It was the line through the woods the three miles between West Thumb and Grant and it went along the old road. When I first worked here, you could drive the back roads and there was an old camp down there at West Thumb and that whole intersection was redone. Just like the old lake intersection was redone. Every bit of traffic used to run between the store and the hotel. There was no back road around like there is now. That was done for the centennial in '72."

*Interviewer:* "I think the rehabilitation and the rehabbing, we have not had much on that. Could you expand a little bit more on that?"

*Hudson:* "Well, we had almost every trail sign burned up. All the metal and all the signs burned up so we did a lot of that. A lot of the water barriers burned up on the backcountry trails and so you are going to get erosion so it was a big emphasis on getting those trails stabilized so that they were not going to run into all the creeks because the water was running freely down the road, so we had a lot of erosion control. We had a lot of tree and stump grinding like I said before, and pulled them out. We had all these power lines that got redone the next year

through Montana Power as part of the grant because those lines were not going to last. Those annealed lines were going to go because they would not stretch like they used to. We had poles that had to be replaced -- some of them were half burned up. A lot of poles went in that year. The only cabin we lost was at Sportsman's Lake. We lost it early, but we rebuilt the Sportsman's Lake cabin. That was a big deal. The roads got hot and there was some asphalt, but not much. A lot of the trailheads were screwed up. The log stops -- like I said, anything that got hot would burn. That was the main part of it that comes to mind. A lot of electrical stuff, and a lot of electrical problems, and a lot of trail issues and they were real concerned about erosion. I think they are still living off the trail signs we bought. The boundary markers were shot, and the boundary was gone back in the backcountry. We still monitored the areas that we put the LEBs and a lot of cleanup of slash. When we took stuff out, there was piles of debris everywhere. Clearing out around buildings, and one or two crews all they did was grind stumps because we had the stumps along the road and we were not going to let them stick up. We ground them out rather than take the roots out, so you didn't have a big hole. So we had a couple of reamers in there. We had stump grinders and one crew stayed on the South Entrance Road all summer grinding stumps, after we got the widow makers out of there.

"We lost some of the buildings at West Thumb which never got replaced. They were part of an old camp, like I said, because West Thumb was no longer the focus, so they did not get rebuilt. And there are some cabins at Old Faithful, a lot of them were concession cabins and some temporary cabins went in there, back of the Inn. Gosh, it has been a while. Those are the big-ticket items. There were a number of little things and a number of little buildings that we worked on. The whole crisis in there, besides the fuel reduction, was keeping the water and sewer systems treatment basically. The electrical was the biggest concern. We almost lost all of the power in that park for a long time. You have to remember

that the park did not have commercial power until sometime in the late fifties. It was all run on generators. There is no commercial power at Lamar, for instance.”

*Interviewer:* “Right, and all the phone lines ran with the power lines?”

*Hudson:* “Phone lines, we had to protect some of that, but you have to remember that by that time they started to get microwaves in. There were some drop lines that went, but phone lines were not as big of an issue as the power lines at all. At Tower -- I forgot one thing -- at Tower we had limited water at Tower. When it was coming through there, we told the rangers and the fire guys not to use the water until you have to because we can't fill that tank up again, it won't fill up as fast enough. Somebody ran the tank dry three days before the storm hit. So we spent three days shuttling water between Tower Falls, which had an adequate water supply, to Tower Junction. The water truck went up and down the hill, all day, fifteen, eighteen hours a day to get water in that tank at Tower Junction so that we would have water. And we did use it to run the sprinklers around the area. We knew we had a problem when somebody emptied the tank.

“Anyway, I probably said some things that I shouldn't have said then when I found that out, but we went to plan B. A lot of the time we went, okay, this is the problem, and we got a plan A and plan B and a plan C. Like I said plan C was the last plan that we got to and one was Tower and the other was Norris, when the tank went down. We were going to contaminate the system and disinfect it later and that is what we did. That and Grant Village and jumpering the power through there. That was a last minute, we got to do something, and it came up that this might work. The electrician called up and -- Tom -- he called up and he goes did you get out? And he said, I got out with ten minutes to spare.”

*Interviewer:* “How about when you are out rehabbing, like immediately after the fire, and even the next year? What did you notice about the wildlife around there, dead or alive. Do you have anything on that?”



*Hudson:* “They were smarter than that and you probably seen the reports. The only good kill we had was down at Lava Creek where those elk got asphyxiated. That was the biggest kill and there was other stuff, but there was very little. You remember the fire was a mosaic, so they would run from spot to spot. To me the most interesting thing that I ever saw with fire and wildlife was we were out of Hayden Valley where the fire went through the trees and into the valleys and it stopped. What was happening was when it hit the valleys -- and there was probably twenty to forty hawks, and they were just down there, dive-bombing rodents that were escaping from the fire. The smorgasbord was set. The animals were running out because they could not get deep enough and they were running out, and the hawks were out there just dive-bombing them as they came out. I suspect that that happened at other spots, too. The big animals -- and you can look at the reports -- except that one at Lava Creek, I don’t think you are going to find more than a handful of large dead animals that got killed.”

*Interviewer:* “No, we read those reports. We just want to hear some stories that people encountered and their reminiscing about what they saw and the feelings of the fire and just the size of it and what it did and all that kind of stuff.”

*Hudson:* “Well the biggest thing -- I think Yellowstone completely changed in 1988. Because they came in with TV trucks with satellite dishes everywhere and they never left. The scrutiny of having people writing about the park every day, to me, that was a seminal event they weren’t there. You would see it occasionally before the fire but, after that, we had people all the time interested. Every day, you looked at the paper to see if you were above the fold or not. It usually wasn’t good if you were above the fold. A lot of that interest in the media and the writers that became focused year-round, I think it was way more than before in 1988. I was there, like I said, I was there seventeen years before 1988 and I saw a huge change. Part of it was the media had changed by then, but when those trucks came in and a lot of the interest stayed with them. There are

four or five reporters made their living writing about Yellowstone for the wires and the papers.”

*Interviewer:* “That was just the thing. It was world-renowned names, and I think you felt a little pride in protecting that stuff.”

*Hudson:* “Well I think part of it was all the satellite trucks hadn’t happened all that much you know. CNN was not that old of a network at that time. I was new, but I think that was the first time to see all the big RV’s and in Mammoth there were probably eight of them parked there at one time.”

*Interviewer:* “It was the only game in town they said.”

*Hudson:* “Yes, it was kind of funny because they just made a movie last year or two years ago and I had moved from Yellowstone and back to Anchorage and they made a movie about saving the whales with Drew Barrymore and all of that stuff. I don’t know if you remember the movie. It just came out, and they cut a couple of holes in the ice. Anyway, the reporter that did that was a guy named Greg Lafait (?) and he was in Yellowstone forever, and everybody goes ‘Oh my God, here he comes, and what is he going to say today?’ And I remember the whales up in Barrow, and I am glad he is leaving, and he is gone to Barrow. Anyway, here I am back in Anchorage three years ago, and they are making a movie out of it and, you know, there he is again coming back to haunt me.”

*Interviewer:* “I think Barrow was the next big story to take it away from 1988.”

*Hudson:* “It was and it was probably August or September. But he went up there and I had lived in Alaska before, so that was of interest to me. I actually came to Yellowstone from Alaska.”

*Interviewer:* “The park was open most of the time. Do you have any encounters with the tourist?”

*Hudson:* “No, not really. We were too busy inside doing the other things and I was going through stuff or I was going around it. Our job was more with the infrastructure and we didn’t get into road closures. I knew where they were, and what facilities could be open, and could we get power. But the public was dealing more with interpretation and manning a lot of those barricades. “

*Interviewer:* “Was the evacuation from Grant finally because the power went out, or was it the threat of fire and burning down then?”

*Hudson:* “Yeah, it was the fire coming in.”

*Interviewer:* “That’s what I thought all along, until I got to your story today.”

*Hudson:* “I am sure that you already heard the story about how dry it was. Down at the south entrance at the Huckleberry Fire, the guys at the south entrance station put all of their stuff out in the street because they did not know what was going to happen. That was the biggest wide area that they had. They had a helicopter in there that had about a seven-hundred gallon bag on it, and the power line broke on Huckleberry Mountain coming up to the south entrance. And a power line ends at the south entrance coming up from Jackson, and that thing started a fire, and those guys had seven hundred gallons on it, in less than two minutes. And they turned around, and it is about a five-minute turn around, and when they came back, it was an acre. And the next time it was five acres, and the next time they came back it was twenty-five acres, no catching it. People talk about how you could have fought it right off. There is one that they had everything they had on it in a couple of minute and it still went.

“The other thing that I did with the rehab that I did forget was where they had put in a couple of dozer lines, one at Cub Creek, which didn’t work. The joke is what is black on both sides? A dozer line. We had to clean up a lot of dozer line, but we cleaned up a lot of hand lines, too, as restoration out in the backcountry, and hand line and that one big dozer line. The other pieces we did was cleaning

up a lot of hand lines that were laid for protection, where they dug in the dump, but the other big one was kind of a border dozer line that went up from Cub Creek and then into the top by Jones Pass and Crow Creek Pass, if that is familiar to you. You can still see evidence of that one today. Actually, there is a little trail and you can go up there. If I go up to Jones Pass, that is how I go.”

*Interviewer:* “There is still evidence of that dozer line there?”

*Hudson:* “No, but you can see the cut.”

*Interviewer:* “There is a publication called the *After Glow* that we read and it talked about how well they did with all of the rehabilitation and how well it all turned out.”

*Hudson:* “Well if you could get nature in there and turn it over, it will. The thing that people didn’t understand was they had the soil sterilized everywhere when, in fact, it was a crown fire, and it jumped around in the crown. And it wasn’t burning on the ground, and it [didn’t] burn everything up. I think that is part of it. You go to California and somewhere, you got that manzanita, and it is going to cook the ground. That is not what happens there. You have some jackstraws on the ground and you didn’t have that heavy growth and a lot of the fire was carried high. But the ground really wasn’t sterilized except in a couple spots when it burned hot down where we did restoration. And a lot of that was political. If we didn’t do something they were going to seed, and we didn’t want them to seed. We thought it would come back but we put those LEBs down, but we just ended up dropping trees down. That is the other misconception -- that the ground got totally fried and thought nothing would grow there and you can go back between Norris and Old Faithful the next year and there are fifty-thousand little dog hair, little lodgepoles growing every acre. Those serotinous cones like that stuff.”

*Interviewer:* “Thicker than grass.”

*Hudson:* “Yes, they will crowd their way out. It is interesting to go through there after so many years. It is just progression, LP1, LP2’s, LP3’s, and LP4’s.”

*Interviewer:* “You talked about clover. What else did you guys put out for other rehab stuff and did you go back out to some of the plots they put out and burned back over? Did you do any part of that stuff?”

*Hudson:* “We got a picture of it, but we did not put anything on it. We did not reseed. We are not putting exotics back in there. We did not reseed. That is what the LEBs crews did. We did not reseed and where we did any reseeded was around the area was done out of the nursery we had. Down at Steven’s Creek, we had our own seed, and there was very little of that. Conserve the top soil and let the rhizomes take over and that soil that is sterilized will come back. What you had to do that first year was keep it from eroding. You know we had some bad floods the next year, and particularly the Madison River Canyon, which of course the road isn’t there anymore. That is a road we just took out between Tanker Curve and Gibbon Falls. You know we just rerouted the road to the top of the hill and it just got finished.”

*Interviewer:* “I am not familiar with that down there, but okay.”

*Hudson:* “Well, the road went from between Norris and Madison and it used to go across the meadows, and then it drove down next to the river and it crossed over and stayed on the north side of the river. And then right before you climbed up to Gibbon Falls, it crossed over again. That road there was always susceptible to slides. It is a bunch of altered \_\_\_\_\_? in there. There is nothing growing there, so the fires just made it worse. We had a big rain event the next year or the year after that, and we had 5,000 cubic yards of material sitting on the road, pink stuff. That blocked the river and it went all the way across the river. The fires probably accelerated the issue. Trees that weren’t, were wet. Sometime after that we were looking at the situation wondering what

to do there and we actually -- part of the highway program -- we rerouted that road and that road opened to the public probably only three years ago. There were slides there that were certainly influenced by the fire. That area had slid before. It was kind of funny. When it slid, it went all the way across the river and I got a call from the Corps of Engineers and they were going to fine us because we had dumped some material in the river. I said the whole mountain slid, Ed. What do you expect us to do? He said 'I see pink stuff in the river.' It blocked the whole river. I said 'There is stuff on the other side.' The guy's name was Ed \_\_\_\_\_. Anyway, I say 'Ed, do you think we took the trucks and we drove them across the river and deposited it on the other side over there?' So anyway."

*Interviewer:* "You are a good storyteller. These are some really good accounts."

*Hudson:* "What we did to most people wasn't really sexy as it were. Putting it back together again and keeping it going."

*Interviewer:* "Well, twenty-five, thirty years is supposed to be peak restoration time in the park and it sure looks good."

*Hudson:* "You know I spent a lot of time in the backcountry afterwards and I come to Yellowstone every year and I have been working the boundary every Labor Day since 1980. We have been marking the boundary. We were in some areas that burned right after the fire and they always said after about ten years those trees would start coming down. And we were in the black a year or so after the fire."

"The one that strikes me the most was over by Stone Cup Lake, if you know where that is, from the east boundary by Mount Chittenden. We went through there and we came back over Jones Pass and it was black everywhere and it wasn't a big deal. And about eight years ago we went and marked some other boundary and came out that way and it was almost impassable because it was jack-strawed so badly there were two, three, and four trees stacking each other,

and all of those black trees had fallen. You are seeing after ten or fifteen years it is hard to get through, and we were clamoring over logs and those things are still falling up there, and you can see that they are gray now, but they are starting to fall. So whoever predicted that was right on target. We went through there a couple of years later and you could walk and get black and everything, but they did fall like they said they would. But it was not easy to get through with some of that stuff.”

*Interviewer:* “You mentioned marking those boundaries a couple of times. That sounds kind of interesting. What is the process there? Do you use GPS or what are you doing there?”

*Hudson:* “Well when we started we did not have GPS. We go and find the old points from whenever it was surveyed. The oldest ones are about 1893 and 1905. A lot of them from 1910 and then the hydrographic boundary in 1933, and we find the old points and we mark the boundary that way. The park was just described by four points. The original park was a rectangle and it was described by four points. That is all it was. It was designed in the board rooms, and it says you go east, west from the confluence of the Yellowstone and Gardener River and then you north and south from a point ten miles east from the eastern most part of Yellowstone Lake, and then you are going east and west from a point ten miles south of the southern-most point of Yellowstone Lake, and you are going to go to the west ten or fifteen miles west from the most western point of Lake Sheridan, which is down by what is called Shoshone Lake. Each one of those points, except at the Gardiner River, there is a concrete monument that was set there in the 1890s.

“If you go out in the backcountry, you will see that concrete monument sitting out there in the middle of nowhere. There is one sitting by Beaver Dam Creek and there is one sitting down by the South Arm of the lake. There is on at the

South Arm of the lake. There is one at the zero point at the east entrance. There is one over at Shoshone. Then in the thirties, the boundary was redone so you got the different markers. It hadn't been marked right. We actually got out there and we took transits down there early on, and especially the south boundary, and we found points that were three hundred yards in the wrong direction. Jerry Vernon was a big proponent of getting them marked. The superintendent hated them getting marked. Bob Barbee did not want them marked. He did not want to see the tags; he thought that was an intrusion. So we still do that and we are doing that again in a couple of weeks, down by Anderson Mountain between Silver Tip Ranch and Slough Creek on the north boundary."

*Interviewer:* "That could be rugged."

*Hudson:* "Well it is a straight line. It just goes up and down gullies. It has been interesting to mark it. We have marked over one hundred miles over the years."

*Interviewer:* "You have a lot to go."

*Hudson:* (laughs) "The west entrance is mostly brass capped. Most of the west boundary they log right up to the line southwest corner."

*Interviewer:* "You know a lot about the park."

*Hudson:* "Well a little bit. I was there for thirty-one years."

*Interviewer:* "You know it in detail that is for darn sure."

*Hudson:* "There are people that have been there longer."

*Interviewer:* "Yes, but working maintenance, you get to see an integral part of things that other people do not get to see. Do you have anything more just on the size of the fire, the size of the flames, and the amount of smoke, or just the intensity of it, or anything like that?"



*Hudson:* “Every day was smoky. No matter where you went it was not a good air quality summer. It just sat, and in the afternoon you could not see very far, and there was particulate in the air, again it just lasted long. The big thing was about the thing was the duration it just never went away. You know we were in emergency for three months. Usually it is not that long. That was the big thing. It was the grind. It was a big grind because it just kept going and going and going and moving and it wouldn’t leave. A lot of these events, two weeks are a long time, and two and a half and three months, that was way different. I am sure you heard that before, too. It was just never ending.”

*Interviewer:* “No, but that is something that I forgot to ask you about and I am glad that you put that in there because that is really important. And what was the feeling like if it is not going to end, and it is out of control, and what is the mood, was it kind of scary finally?”

*Hudson:* “No, scary? You know I don’t remember being scared. Once, basically you could kind of predict where it might go and you plan ahead. Mammoth got evacuated two days early and it really did not hit there. But we really didn’t have people to deal with it, which is a good thing. If people took it seriously, you could plan out, like I said at Norris with the water, which was our plan. If you lose it, this is what we are going to do and it wasn’t like at the last minute. The Grant Village was last minute. That was the first one and after that, okay, if we lose it, and these are the things we can do, and if we lose something we can still keep something going. That is basically what we did. You know, I don’t think any of that was written down. If this happens this is what we are going to do, and that is what we would sit down and talk about in the maintenance shop.”

*Interviewer:* “You have been involved with some pretty big disasters since then I guess Yellowstone was good place to cut your teeth. Do you take a lot of experience from there to the future?”

*Hudson:* “Oh yeah, it has been interesting. This job has a bigger, different dollar value and a whole different environment. This urban environment is way different. But a lot of people think Sandy came in and took buildings out and destroyed everything else, but what it destroyed most was the utilities. The same old story. The utilities have failed. In lower Manhattan and all the hospitals, they did not get beat up. All their generators and electrical panels were in the basement. That is why they did not operate. Again, it is all about what to do with utilities. Probably spending sixty percent of the money on Sandy is dealing with the utilities, which is my background so that is good enough.”

*Interviewer:* “That is really good experience to take into something and knowing that ahead of time.”

*Hudson:* “Well, I did not know what to expect back here and the whole urban scene and how people think is way different. Some of the stuff we are doing now I wouldn’t think of doing in Yellowstone. You know -- manipulating the natural environment. We are fighting over this pond that is an unnatural pond that they created, and it failed during Sandy. I go ‘just leave it,’ and ‘oh no, we are going to put it back because freshwater birds want to go there.’ And I am going, ‘Oh my God.’ It’s a different world.

“I am at home right now. I live in Northern Maine. We moved here because it reminded me of Bozeman thirty-five years ago.”

*Interviewer:* “So where did you guys stay during that time, in Gardiner or where were you living at?”

*Hudson:* “At home, front row in Mammoth. We lived in Officers Row. I lived in building four then I think. Mammoth was because of the parade ground. It’s a word you use now but you didn’t use then, but Mammoth is not in a big WUI, unlike some other parts of the park are in WUI, Wildland-Urban Interface. You go to Helena and those canyons. I wouldn’t live there to save my soul. The fire is going to come down those canyons. Mammoth is the parade grounds and with sprinklers in the lawns and things like that. It was way more easily protected than other places. The YCC camp and the CCC camp was the most vulnerable area, the most vulnerable area in Mammoth.”

*Interviewer:* “They did a burnout to save that didn’t they?”

*Hudson:* “A burnout and we put the sprinklers up behind the shop. That was the one that was sitting down in a hole and that one was the concern. The stuff out in the open, basically, some of the houses out in the open you did not want the embers hitting the roof of those buildings, but basically you weren’t sitting there with a bunch of vegetation hanging on to your roof.”

*Interviewer:* “Where were you at when it snowed? Do you remember that day and the feeling of that and did you think it was over? Can you elaborate on that a little bit?”

*Hudson:* “Yes, we were outside cheering. What are you talking about? Finally we got some moisture. Two or three inches of snow did what ten thousand or twenty-five thousand people couldn’t do. It didn’t put it all out, but basically it was the end. We were down to cleanup with some concerns, but basically a broad distribution of that much moisture knocked it down. That was only one or two days after it came to Mammoth. We got everyone out of Mammoth and we took the family to Bozeman, and we put anything of value in the freezer. The freezer will be the last thing that will burn. I stayed in Mammoth the whole time. There were a few of us there. The families were all gone.”

*Interviewer:* “Well it snows and the fire goes out that is about it.”

*Hudson:* “Well it was still smoking into November and that just knocked the poop out of it. Well not too exciting, but that is what happened. Where were you in 1988?”

*Interviewer:* “I was actually living in the Bahamas at the time, but I was home and I was riding up Monument Mountain and seen the start of the Fan Fire. I got some pictures of that original plume coming up from that.”

*Hudson:* “Are you from West Yellowstone?”

*Interviewer:* “I am from Bozeman.”

*Hudson:* “That was like the fifteenth of June. That was like the third Fan Fire, so it was going to have a hard time traveling a long ways. They closed the road to West there. Finally it smoked out right there on the Divide. I remember there was big fire camp on the Taylor Fork. You turn up Taylor Fork and there is a huge parking area and a lot of snow machines use it during the winter. That was a big fire camp.”

*Interviewer:* “I think the air force and everybody was up there, I think.”

*Hudson:* “Could be, although most of that stuff came in later. It could have been there but the Fan Fire was early and the military did not come in until later. It was the military and then the guys behind them coming in and picking up the cigarette butts. It was great.”

*Interviewer:* “Did you have any encounters with the military?”

*Hudson:* “No, they were cutting line and we had to deal with some of the line afterwards. Mine was more in those developed areas keeping utilities running and keeping buildings from burning up. That was protection. Utilities and protection, that was most of my summer of 1988 until the snow came. And then

it was erosion control and then putting estimates together to see how much money we were going to need to put it back together again. I did a lot of those estimates.”

*Interviewer:* “So when you put things back together did you try to upgrade or did you try to restore back to historic ways? How did that all go?”

*Hudson:* “We tried to do both. There is a fine line there on how far you go. It is the same thing that I am fighting now is how much deferred maintenance? Why would you put something back next to something that’s crappy? We were a little conservative with the power lines because they got annealed, and they were still working, but they were going to fail, so we did some upgrading there, but not a lot. Water bars and things like that burned up and were they old ladder bars? Yes, and some were half rotten, so we had some upgrades there, but there was no huge golden Cadillacs out there that I can think of. It was mostly spent on putting things back into a functional order. And the cabin at Sportsman’s is better than the one that burned, but the other one burned completely to the ground. I am fighting that a lot more on this job I think than that one there because you got a lot more old forts and stuff like that. We tried to do better. It was not like oh, yeah, we are going to gild a lily. That lily did not happen. It was mostly putting stuff back. Yes, I bought too many signs for the backcountry and things like that they are still using. I can’t think of anything really egregious on that. You are not going to put makeup on a pig. We tried to fix some of those things. There is a line you have to draw.”

*Interviewer:* “I was just looking for some insight on the process.”

*Hudson:* “Well, you have to have some integrity about what you are doing there. At that point we had money -- but it wasn’t -- but there was not a lot of money to sit there and do other things. Some cabins and supplies got put back and some

bags that burned up. We probably did okay, but there was no palaces built. I would be curious if somebody brought that up.”

*Interviewer:* “Not yet.”

*Hudson:* “I will have to watch out for that now that I know what I am doing, I’ll tell you.”

*Interviewer:* “Well we got about an hour. Do you have anything else that really stands out on your mind?”

*Hudson:* “Well not really. Like I said, the whole park changed and it was changing all ready. That put it on the map and then of course from the early seventies until the late eighties the whole shoulder season changed and I don’t know if the fires did that but that all happened at the same time. You know it used to be by Labor Day, the park would be dead and it was dead for the rest of the year. And that now is like the fifteenth of October.”

*Interviewer:* “The fires had a lot of influence.”

*Hudson:* “That media thing -- I am truly convinced that was a seminal moment in scrutiny of the park.”

*Interviewer:* “It changed everything. It launched a lot of careers. It changed fire science.”

*Hudson:* “You know if you go to a fire class now they don’t even mention it. It is old stuff. They are into WUIs and other things where people lost their lives and it is an afterthought now.”

*Interviewer:* “It is amazing that it got so much attention being nobody lost their life or very few buildings were lost or anything like that.”

*Hudson:* “There were all kinds of people helping. You know the guy in West that was going to bring in the air force and put the fire out. I will just make the call and we will have them in and bomb it and we will get it out tomorrow and all that kind of stuff. There was the guy that lived over at Cooke City. We had letters that came in and they were going to pray the fire out. They were going to love the fire out. It was great stuff.”

*Interviewer:* “How do you stop a hurricane, huh?”

*Hudson:* “I guess you pray for it to turn. Who is doing this project, MSU or what are you guys doing?”

*Interviewer:* “Well it is through Yellowstone National Park and we are history students at MSU. I am nontraditional and then there are two others Garrett Smith and Andrea Yeager. They hired us to do this oral history project for the 1988 fires. So I think you are the seventeenth one that we have contacted. We will get back with everybody and we got your e-mail and we will let everybody know what happens with it so that you will be able to access it or give it to other people and it’s here for the record for other people to learn from.”

*Hudson:* “Well good.”

*Interviewer:* “So you are recorded at the research center here in Gardiner, Montana for the 1988 Yellowstone epic fires.”

*Hudson:* “Well okay, and thank you.”

*End of interview*





**Ralph Jerla**

Interviewed at the Yellowstone Heritage and Resource Center

on August 12, 2014

by Todd Jensen

*Interviewer:* "Today we are doing an interview with Ralph Jerla. If you just want you give a quick background on who you are and what your position was, and then just when the fire started and your story on the epic fires of 1988 in Yellowstone."

*Jerla:* "I am the water supervisor for the North District. I was the water supervisor during the fires in Mammoth. I had four people working for me. I guess we first started getting involved with the fire we knew where it started and they were watching Old Faithful. When it started getting big, and they started having the fire camps where the firefighters would stay. They would bring in potable water and they wanted us to sample the water and make sure that the water was safe because they were bringing it in from out of the park. So I had people there doing sampling because we have an EPA-certified laboratory to do bacteria on drinking water to test it. So I had people going out to all of these fire camps, never thinking it would come heading toward Mammoth.

"I am responsible for twelve water systems in the North District which is Indian Creek Campground, Mammoth, northeast entrance, Lamar, Pebble Creek, Slough Creek, Tower Falls, Roosevelt, Stevens Creek, and Apollinaris. And I guess the first place it hit that affected me was the fire that was coming into Indian Creek campground. We have a pump house there, and we watched the fire move and thought for sure we were going to lose the pump house for Indian Creek. We were over across the Gardiner River at the Swan Lake dump road

and we were watching the fire come there because our intakes for Mammoth are at the end of that road at Panther Creek and the Gardiner River. They were safe because there was no vegetation around there and we just checked to make sure the intakes were okay. Then we have our transmission line from the Panther Creek and Gardiner intakes and it runs seven miles to Golden Gate Bridge. The transmission line has vaults along the way. Vaults are like four feet by six feet with a cover on them and are locked, and you can actually open the lids and see the water flowing through the transmission line. They put those vaults in when they slip lined the old transmission line. They are also used as an air-relief port. So along the way there are probably a dozen of these vaults. So what I had to do was -- Tim Hudson the chief of maintenance at the time -- he wanted me to go remove the lids of all of these vaults just in case the firefighters needed to draft water and put there pumps in the transmission line to fight the fire when the fire started heading toward Bunsen Peak.

“So with that done I went down to the water plant and it was still at Indian Creek, and I was making water for Mammoth and my water plant is designed to produce 1.2 million gallons a day, which is roughly about 800 gallons a minute that I can make water. That is as fast as I can make water. I can't make it any faster than that. We had a million gallon reservoir behind the hotel underground. At this time, just when the fire was coming toward Mammoth, people in lower Mammoth, it wasn't Xanterra at the time, TW maybe, and they were hosing down and they were using their water to hose down their buildings, and the residents of lower Mammoth were using sprinklers on their roofs running the water. They were using the water faster than I could make it so I was losing water in the million gallon reservoir and it's dropping and I am making water as fast as the water plant can produce. So I had to go down and tell the TW residents to turn their water off and nobody would listen to me. And they would say, 'No, we are protecting our homes' and whatever. I had to get

Tim Hudson and, I think, Dan Sholly who was the chief ranger at the time, and they had to go and demand that these people stop using the water until I could fill the reservoir up, and just use it in extreme emergency. That helped me there, so that I could gain water in the reservoir.

“At this time they were setting up, I have the raw water reservoir coming down from the intakes down from Golden Gate into a thirteen-million gallon reservoir, open reservoir like a lake. They were setting up a sprinkler system and that is where they were taking water out of that reservoir and they had sprinkler system all set up around YCC camp, which eventually did save the YCC camp. They were hooking that up and I was helping them with that and making water.

“That night and I was manning the water plant twenty-four hours a day with my operators. And that night I had Rodney Booth, my lead operator, he spent the night there. He took these photographs of the fire coming over Bunsen Peak. He was done at six, he left at six, and I relieved him at six and that was right within an hour it was coming down from Bunsen and right through the water plant. Dan Sholly came up and he knew that it was going to come there and he gave me a firefighter and we were going to stay in the water plant, which was a pretty safe place. All brick and not that much vegetation around it, but we knew it was going to come right through and he said, ‘Okay, stay here and take the firefighter and if you guys need any help, call,’ or whatever. I can’t remember that firefighter’s name. The wind started howling and we left the water plant and we walked up the road to the embankment of the raw water reservoir, the thirteen million gallon lake. We climbed over that embankment to look toward Bunsen and to look toward Golden Gate Bridge, and the pass coming that you could see, that is where the water line comes down and drops six-hundred feet through that canyon and that is where the fire was coming.

“When we stood up on that embankment the wind was blowing so hard you had to lean into it, or it would like blow you over. It had to be a fifty- or seventy-mile-an-hour wind just blowing, and you could see the fire coming and heading right through that valley and that canyon. At this point we started seeing it come down, and sparks are flying, so we headed into the water plant and just watched it consume all of the trees around us and go around the water plant. As soon as the wind stops, and the fire burning with just a hose from the water plant, we started spraying the trees around the water plant. And then we had a pump set up at the control plant -- the water comes down and goes into the raw water reservoir -- there is a group of big fir trees right there. We went over there and got that pump going and sprayed water on those trees and the sagebrush. We tried to put the fire out and save those trees, which we did. That was the intense time when that fire came down through there.

“Then we had troubles at Tower Falls. The fire went around the pump house there and we saved that place. Then we thought we were going to lose the water out of northeast entrance and that was saved and somehow we lucked out on that. That was it and the cleanup started.

“At this time Mammoth was filled with national guard and military units all over the place. They must have had a hundred fire trucks in Mammoth. They were saying that they had so many fire trucks in Mammoth that they had two fire trucks per house. So there was no way the fire was going to get any of the residences. That is about all that I can remember. It was intense at the water plant when that fire came through there, and that wind.”

*Interviewer:* “Was the wind going toward the fire or bringing it toward you or what?”

*Jerla:* “Yes, bringing it right toward me, right in my face. I was watching the fire come down through that canyon and the wind was blowing right in my face. It

was like a hurricane in front of that fire, and as soon as the fire passed, then it was calm. It was unbelievable. It was like a windstorm coming through.

*Interviewer:* "And the sound."

*Jerla:* "Yes, the sound was intense, too. The roaring. Holy mackerel. Yeah, it was something to be around then. That's about all that I can remember."

*Interviewer:* "Anything on the aftermath on cleaning up that was unusual you seen due to extreme heat or anything like that that was amazing to see?"

*Jerla:* "Oh just driving the road to Roosevelt, just all the black everywhere, and smoke still burning and finally September something -- we had that snow in the first week of September I think. Finally it was over with. It seemed like it lasted all summer long. Face masks and clouds of smoke, holy mackerel it was something. How many years?"

*Interviewer:* "Twenty-six years later?"

*Jerla:* "Twenty-six years later things are coming back, looking pretty good. Twenty-six years. It seems like it was not that long ago."

*Interviewer:* "It is supposed to be peak restoration about now at this time. The trees have fallen down and the canopy hasn't quite closed up. The park looks pretty good."

*Jerla:* "Yeah, it does. I thought it would never after that year."

*Interviewer:* "So what was that like Ralph, when it was never ending? It had been going on for a while, and you had been a resident in Gardiner and living here and just day after day. What was the feeling like?"

*Jerla:* "We lived right in Mammoth. We had a house in Mammoth, and then when they evacuated Mammoth, my family went to Gardiner to stay with my in-

laws. No, I stayed here and never left Mammoth at the time. Yeah, it was intense. We were working a lot. Working, sleeping for that one week. It was something else.

“There were some challenges actually with the water treatment process. Then, especially after the fires, the debility of the raw water coming in. It was almost black water from the ash. Then we had to do a lot of testing and figure out the right way to get this dirty water clean because there was still a lot of water usage, so that was a challenge. I remember that. That’s it.”

*Interviewer:* “Did anything get into the wells at all?”

*Jerla:* “No, just surface water.”

*Interviewer:* “Does that come out of the rivers?”

*Jerla:* “That came right out of Panther Creek, we were taking the water. It burned all along Panther Creek. But just the ash, because it burned right up to the banks. Yeah, the water was really drastic. But no, all the other groundwater was unaffected. It was just the surface water. I think Old Faithful experienced the same thing. I think they use the Firehole River and they were having a hard time treating the water.”

*Interviewer:* “It was so smoky that it was almost black day after day of that, and did you have plenty of support for everything that you needed to do and all the resources?”

*Jerla:* “Yep, everything that I needed. Tim Hudson was there to help me and so was Dan Sholly. So anything that I needed I got that was for sure. It was just that smoke and eyes burning all the time for two months in a row, it seemed like. We made it.”

*Interviewer:* "It was a big one. There were no injuries with your work crew or anything?"

*Jerla:* "No, we were all good."

*Interviewer:* "That was the amazing part of it, that no one got hurt and nothing really got burned down of importance, and nobody got hurt, and everything grew back, and a lot of teamwork. Everybody is pretty proud and a lot of camaraderie of being involved with the 1988 fires. Everybody is pretty proud to have that on their résumé."

*Jerla:* "Yeah, we kept on sampling all those fire camps. Holy mackerel, there were a lot of them. More and more they were laying way up in the Beartooths. And a few spots we found bad water, and they had to get rid of the water, and disinfect their water. Remove it, clean their equipment, and disinfect it. So we did a lot of testing."

*Interviewer:* "Were they getting their water out of creeks at fire camps?"

*Jerla:* "They had it brought it in -- contractors to these tankers -- but who knows. They didn't trust them, and since I had the capability to do the testing -- so we sent people to all of these camps and there was some big camps. All the way into Idaho and West Yellowstone and up all the way into the Beartooths, Cooke City."

*Interviewer:* "Thousands of firefighters. How long did it take to get that water cleaned up in say Mammoth for instance before it was drinkable again?"

*Jerla:* "It was always drinkable. We had shorter filter runs and we had to backwash the filters more due to the high debris in the water. And it cleared up by the winter. And next spring, with the runoff, and it was the highest turbidities that I ever saw during runoff mainly due to that there was no vegetation. Everything was burned and the snowmelt and all of that went right

into the river, Panther and Gardner, which is where we get our drinking water. So we had a challenge to treat that water. That spring was something else. “

*Interviewer:* “It was just contaminated with dirt or was it bacteria?”

*Jerla:* “No bacteria. Just that ash, black high color. The vegetation holds a lot of that back but it all burned and went right into Panther Creek and Gardner and by the second year it was clearing up. That first spring was something else.”

*Interviewer:* “Where were you at in September when it snowed and it was looking like it might be over? Was it just another day of work there when it snowed?”

*Jerla:* “Yeah, I was heading to Tower Falls just to check on my pump station there at Tower Falls and the fire went right around that. I couldn’t believe it. I thought for sure that I was going to drive past the campground, up the hill where the reservoir is and the chlorine house and see it just vanished. And somehow it went around it, just like Indian Creek was saved. That was when I was headed to Tower Falls when it was snowing.”

*Interviewer:* “Was that in the forecast or was it a surprise to everybody?”

*Jerla:* “No, I think that was in the forecast. They knew the temperatures were dropping.”

*Interviewer:* “How long did the smoke stay around for?”

*Jerla:* “I don’t remember. It was just there all -- not during the winter, it cleared off after that snow, and after the fires were out. It did not take long [with] that snow. It didn’t take long to put all the fires out. That was, you did not even see any smoke anywhere, a few places in the trees.”

*Interviewer:* “Well, thanks Ralph. I know you are busy and I will let you get going. You have to get back to work and save the park”



*Jerla:* "Twenty-seven years ago."

*End of interview*

**John McCutcheon**

Interviewed by telephone on August 1, 2014

by Todd Jensen

*Interviewer:* "If you want to give a quick background about who you are and start with when you got a call for the fires and what you did. This is John McCutcheon."

*McCutcheon:* "I am talking on my cell phone. I am climbing to the top of Look Out Mountain in Tennessee right now as we speak. Currently I am a supervisor for the U.S. Park Service in law enforcement. I have worked for the Park Service since Yellowstone in 1989, one year after the fires. I have made a career out of it. I have been to eleven different National Park units across the country with a lot of diversity but mainly keeping in the ranks of protection and emergency services. One year prior to making it my career, I was at Yellowstone in the summer of 1988. During that summer, I was a bus driver and, slash, tour guide for the concession service, which was called TW Recreational Services at that time. They had a fleet of motor coaches, diesel MCI Motor Coaches. I think most of them are gone now. I was hired in March or April of 1988. I had done two years previous of that in 1986 and 1987 in Yellowstone, so I had some experience prior to the fires and I had an older brother at that same time period that worked for the Park Service at Yellowstone. He was the sub-district ranger at Canyon Village. So you had two McCutcheons working in the park at that time.

"What I mainly did was -- we went into training that May. It was actually mid-May to Memorial Day of 1988 where there were a lot of us. When I say a lot of us, there were maybe fifteen to twenty people involved that were hired that

summer for the summer tour season at Yellowstone. I was one of them and I was hired as a bus driver. I had a commercial driver's license and some prior bus experience in Ohio working for Ten State, for a nonprofit group. We were trained out of Mammoth Hot Springs. We did frolicking for about three weeks if I recall in the month of May. During the month of May 1988, there were no fires. I don't know if anybody had any speculation of the torrential fire season that ensued. I knew there was a strong possibility as always for forest fires. The summer of '88 was particularly dry. I do remember several key events during the summer. Of course, the fires did start. I want to say in mid-June. They were not large complex fires at that point but they were individual fires scattered about the Greater Yellowstone area. In particular, the Red Fire, the Shoshone Fire, North Fork Fire, which I believe came into a large complex fire, the North Fork Fire that I recall, many fires in the Tower, Roosevelt area.

"As a bus driver going all over the park on the big figure eight loop road system, I saw a lot. In particular, when the fires got really bad -- I say really bad -- large complex fires that were devastating. They threatened roadways and they threatened the development within the Park. They had to start closing down the developed areas. Fishing Bridge, Lake, Mammoth Hot Springs, and areas like that. Most of my tours started to become charters, charter work as a bus driver. I started to do a lot of airport runs, shuttling firefighters to and from the fires. The bus service provided -- became critical in transportation of the firefighters. Of course, they leased a lot of school buses, but we had these large motor coaches and a lot of extremely knowledgeable and trained staff. Not just on how to drive bus, but also knowing the nooks and crannies and dynamics of Yellowstone National Park.

"I do recall going over to the West Yellowstone Airport and loading passengers, which were firefighters, loading gear, shuttling people. Taking these large diesel motor coaches of the typical roadways on a dirt road and that was fun.

“There are several days that I do remember specifically. One was, I believe it was September the eighth of 1988. I may be off by a day or two. They called it Black Wednesday. I volunteered or maybe I was selected, I forget, but I ended up staying back at the Old Faithful complex to lend my services to do the evacuation process of Old Faithful, which is the largest development in the park. Old Faithful was going strong, and I am not talking about the geyser. All the lodges were open. The lodge, the Old Faithful Inn, and the Old Faithful Lodge and it was very crowded and it just happened to be the right mixture of fuels, weather, and just how these fires were working. The fires came in from what I remember, all angles. I remember evacuating the Wind Flower Dorm. They came up with a different name for it, but there is an old concession dorm directly behind the Old Faithful Inn. The day started off bad and grew worse and worse. Most of the visitors were gone. They had evacuated the majority of the people but we still had many employees both with the Park Service and several of the concessions, TW employees and Hamilton Store employees. I remember myself and two other bus drivers, Lori Detwiler and John Rose, and we three drove the motor coaches directly in front of the Old Faithful Inn. The wind had turned very powerful and was blowing hard and all around me was orange sky. There were no clouds and blue sky, there was all orange. It became quite dramatic. I forget what position my bus was in. I think I was the middle bus or the last bus. Half way through the day or late morning or early afternoon, there was an emergency. The fires were coming right into the Old Faithful complex. It seemed from all angles. From the east, from the west, the south. Not the north, but there was many fires burning north of us. The fires were coming and if anybody knows anything about the Old Faithful area, you are in a bowl. There is a rim around you. There is an observation deck that looks down upon the Upper Geyser Basin and the development.

“I remember this female employee, a young girl. She came running out of the Wind Flower Dorm. She ran directly through the lobby of Old Faithful Inn with no visitors and I happened to be sitting in my bus seat with my door open with the doors facing those famous red wooden doors of the Old Faithful Inn and she was hysterical. There was really nobody around -- John and Lori and except for the firefighters, and they were very busy. She came running out directly toward my bus. She was screaming, ‘My boyfriend, my boyfriend is asleep somewhere, and I can’t find him, but he is a night security watchman and he is sleeping.’ I said, ‘What is his name?’ She told me it was Nino and I remembered Nino. I said, ‘Come with me. Get on the bus.’ I did not have any passengers yet. We had not been loading yet; we were in this holding pattern. I am sure the Park Service was determining what to do with us. We were three large motor coaches ready to evacuate. So she ran in the bus, and I closed the door. She said, ‘He is a night watchman at the Snow Lodge.’

“Now back in 1988, it was the older Snow Lodge building. For some reason I could not drive the normal route. I had to go behind the inn to get to the Snow Lodge. It had been blocked off and, believe me, the flames were coming, and I could see them. I just kind of grabbed the bull by the horns, I took my MCI Motor Coach, I drove up on the sidewalk, and I drove straight across the obsidian gravel to the front of the Snow Lodge. That was the quickest route. I had a line of sight vision of the Snow Lodge but driving there, you had to behind the inn. I drove right in front of the Snow Lodge. I thought it was an emergency because when I drove in between the two buildings you could see a wall of flames coming down. I think it was behind the complex but it was moving toward us. It was this huge wall of flames and that really frightened me. I really did not know what to expect. I knew where this guy was sleeping so I took the bus -- firefighters were starting to set up a foam unit to foam down the front of the Snow Lodge, and before they just started running foam I remember yelling

from my bus that I needed to get around to the other side. They said go ahead. I was afraid I did not want to drive over the hoses that were being laid but they were flat, so I drove over the hoses and whipped this large bus around to the back of the Snow Lodge. They had a little manager's office in the back. It was a small little manager's office. It looked like a little lean-to attachment to the back of the Snow Lodge. I remember Nino sleeping in there from months ago. I ran out of the bus and I knocked on the door hard. It was closed but I kicked it open. It was large old wooden door and my goodness here was Nino, a very large man, but sound asleep, the night watchman sound asleep with the curtains drawn. He had no idea what was going on. I remember shaking him and saying, 'Nino get up. This is John. Get up get up and look out the window.' It was like a little square window above his cot. He pulled the curtains back and he saw this wall of flames coming towards us. The fire was not on us but it was only a couple of hundred yards away. Still you could hear it, you could feel it, and there were burning embers flying and he just said, 'Oh my gosh,' and he jumped up, got out of bed, threw his clothes on and I said, 'Get in the bus. There is no time to pack. We got to get out of here.' He ran to the bus and, of course, boyfriend and girlfriend were reacquainted. Hugging each other and scared to death and I drove the bus back over in front of the Inn before we started to really load up with passengers.

"I would say a couple hours later my bus was filled with the remaining employees along with the other two drivers. My bus was overloaded. I remember some people crying. They had quickly packed their belongings and my bays underneath the seat areas were overloaded. It got worse and worse throughout the day. The afternoon went by quickly and I remember having 144 gallons of diesel fuel in this bus. The bus capacity was a forty-one seater, and I know I had well over fifty people. The other buses did, too. We were finally all three given the green light to be escorted out by rangers.

“Just before we left in front of the lodge I remember looking over across the Upper Geyser Basin and looking at the observation deck. It had a wooden railing and I remember that whole side of that mountain exploding with fire in less than a minute. I would say even less than thirty seconds. The trail that went up to the observation lookout area, the railing, and all the lodgepole pine trees burned up instantly as the fire was coming towards us. My bus was parked directly in front of the inn and my door was facing the inn. I remember looking up at the roofline of the inn. The beautiful historic inn that Robert Reamer designed back in the early twentieth century and there just seemed to be a blanket of hot embers flowing over the roof line of the Old Faithful Inn coming down onto the porch and patio, and some of the embers falling on my bus. I did not know what was going on behind the inn. I did not know if the inn was on fire, but I remember telling people next to me that, oh my gosh, we are going to witness this entire beautiful building burn right in front of us. We’ve got to get out of here. The wind was extremely fast, burning embers, hose lines being laid all over the place. Very few people left except the firefighters that I have such high admiration for. We were given the green light. I remember the location manager, he now works for the Park Service, George Helfrich was the location manager back in those days. And I remember him telling me, ‘John, you got the green light, and you will be led out by a ranger escort and follow the other buses.’ So all three buses moved out under ranger escort and it seemed like it was getting dark out. It was the latter part of the evening. Maybe it was late afternoon or early evening and, honestly, I could not even tell at that point because the sky was orange. We drove away from the Old Faithful complex northbound toward Madison Junction and then Madison Junction and out toward West Yellowstone and up Highway 191 toward Bozeman and back down to Livingston and back to Mammoth Hot Springs where they had set up cots for all the people from the Old Faithful development.

“I will always remember exactly how that progress went. The drive out in particular from Old Faithful to Madison Junction was what I call a fire tube. I have never seen fire in all my ranger days, ever in my career so long, the flame length. You had mature lodgepole pine, which are anywhere from sixty to eighty feet, are totally engulfed. It was crown fire, a major crown fire. There was a wall of flames well over 100- to 150-feet tall. The energy that was being released from this wall of flames rocked the bus back and forth sideways as we were trying to escape. All I could think about was that I had 144 gallons of diesel fuel underneath all these passengers. But we made it. The road was clear even though we had hell on both side of us. It was incredible drama. I think some firefighters probably never saw such drama. We were right in the middle of it. Thank God the road did not collapse on us or a tree came down on us and we were stopped, but we were let out. We made it to Madison Junction and we saw more fire and fire behavior as we went down the road toward West Yellowstone and getting into Mammoth Hot Springs that night sleeping on cots. I slept in my bag on my bus that night. That was a very energetic and exciting day.

“Another time that I remember was after that in the month of September we were still shuttling firefighters around. I was now based out of Mammoth Hot Springs. The road that we called Golden Gate that is just above Mammoth Hot Springs on Swan Lake Flats. They had shut down the road system because of the fires. You could not really drive through the park. I was given a very late dispatch to go over to West Yellowstone because I had to pick up a group of firefighters and I had to do it quickly. I drove my bus up to a ranger block where the rangers had blocked off the road. I remember explaining to a female law enforcement ranger that I had been dispatched to go over and I need to go over now. It is very dangerous and the fires are raging near Norris. She had been on the radio and she gave just my bus permission to go directly to West Yellowstone and do not stop. I was deadheading over to West Yellowstone and it was just my



bus and I. It was still light out and I was driving from the north approaching south by Obsidian Cliff. I was just there at the right time and I watched Obsidian Cliff burn. I watched the entire top of Obsidian Cliff on fire and embers falling down. It looked like a little waterfall with fire and embers. There was nobody around. It was just I. The biggest mistake I made was I never took any pictures. I took a couple pictures and I have those Kodachrome slides of the fires of 1988, but I only have a handful. I never took any photos of the events of evacuating Old Faithful or that day that I saw Obsidian Cliff on fire, but that is in my mind. I remember seeing it like it was yesterday. That was really a neat experience and I was successful in driving the bus through and driving it over to West Yellowstone.

“I had many shuttles. By August, we were not doing any more tours. The fire had taken such a dramatic effect on operations. It was just the bus and I. I just shuttled firefighters and did an occasional tour and airport run but most of it was shuttle service for the Forest Service.

“That is about all that I have got Todd, unless you have some questions.”

*Interviewer:* “Those are some incredible accounts, some of the best so far. Incredible stuff.”

*McCutcheon:* “Well I remember those very well. My gosh, it has been more than twenty-five years hasn’t it.”

*Interviewer:* “Twenty-six years.”

*McCutcheon:* “Well, I am sitting in my Dodge Charger ranger car right now while I am telling you these stories. I remember driving through also the south entrance. This was earlier on, before they started evacuating. I think the first thing they evacuated was Grant Village by the Shoshone Fire. As a bus driver, I got some great views from my windshield. I remember being on what they call

the Teton Straightaway, which is a real straight section of highway between West Thumb Geyser or from West Thumb Junction and the south entrance. I remember seeing the fires rising to my west and seeing the red fire. I did run down to the Jackson airport so I got to see a lot of fires there but that was in June or early July. The real drama was in September.”

*Interviewer:* “Things have been going quite a while by then.”

*McCutcheon:* “Yes, a lot was going on. I look back on those days and before people had personal cellphones and before the Internet. Yellowstone National Park still had rotary phones still there in the late eighties. I remember the Park Service making this map, black and white map copies, of how the fire was expanding each day, and I would pick up one of these little sheets, eight-and-a-half by eleven sheets, kind of a run sheet, telling you what was going on. I would do that every day just to find out. I would also keep tabs with my brother Mark who was a ranger. I don’t think he was directly involved with fighting fires but he was trying to contain the Forest Service from going crazy with bulldozers that came to Canyon Village.

“The Park Service had some issue with other federal agencies coming in with bulldozers and just going to town, especially inside the boundaries of Yellowstone. I remember that was going on in my brother’s district.

“I remember very well going back to the evacuation of Old Faithful. Gosh, as I am talking about this it is really coming back to me. I was descending the hill by Fire Hole Drive. Now we are going northbound on the road coming toward Madison Junction descending and I remember looking at my nine o’clock position outside my driver’s window and looking up. There is the name of a mountain there, kind of the edge of a mountain rim. It’s directly above the Madison Campground and I remember that on fire. It was just lines of orange. I am like, ‘Wow, check that out, holy mackerel!’ The real inferno was leaving Old

Faithful complex driving northbound going past Black Geyser Basin, Fire Hole Flats Drive, Midway Geyser Basin, Biscuit Basin, the names are really coming back. That whole drive was just an inferno tube, a fire tube of orange flames. When I first started off, I really just had a pit in my stomach. Oh, my God, my bus is going to blow up. Something is going to go drastically wrong here. The passengers were crying, they were scared and I remember looking above. A bus driver has a real long mirror above their head and I remember looking at my passengers, they were hugging each other and holding arms and I don't know, maybe praying. It was really a frightening experience for them.

“Moving down a couple of months after that I think I checked out the first week of August and I flew back to Ohio. When I came back late November, early December of that year, 1988, and I started driving snow coach. That was the first winter of Yellowstone after the fires and I have many experiences of that, too. I hiked all over the place during the winter of 1988, 1989 and remember seeing masses and masses of dead animals. The stench in the month of March in the Black Canyon of the Gunnison and the hikes that I took in March and April as the snow was starting to melt in the lower elevations. Those were my experiences, Todd.”

*Interviewer:* “You are doing great. Do you need some help or do you have some more?”

*McCutcheon:* “I need to get to the top of Lookout Mountain to the Visitor's Center. I got to change out the alarms. Besides waking up the night watchman in the back of the Snow Lodge, that was quite the memory for me. Nino, I don't know what his last name was, but that was the guy. He is out there somewhere today.”

*Interviewer:* “The park was open to tourists. Were you giving tours with your bus in the meantime and such?”

*McCutcheon:* “Oh yeah, all through the month of June and all through July, I was giving tours.”

*Interviewer:* “Can you talk about what all the people thought about the fires going on?”

*McCutcheon:* “For the most part the general public just did not get it. I remember people on my tours thinking, oh, this is awful, and this is terrible, the whole park is going to burn. But really, I learned a lot that summer. It was a good thing. It was a very good thing ecologically for the park. Really, you would have to check the statistics but there were not that many structures that burned. There were some structures that were lost but not a whole lot. I remember seeing gigantic smoke columns rising and ridgelines of smoke rising as I was giving the tours. The fires were burning but not these gigantic complex fires yet. People would make comments and we would drive through a smoky area but we were still giving tours. A lot of the interior tours that I gave and a lot of shuttle runs to the airport. The Bozeman Airport and the Cody Airport, which was my favorite run going out to the east entrance and down to Cody. Staying overnight at the Holiday Inn and picking up passengers and bringing them back and forth. I would also go down to Jackson Hole. It was great summer. I vastly enjoyed it. And I remember quite a bit, I remember a lot.”

*Interviewer:* “There was a lot of pride and camaraderie involved with it.”

*McCutcheon:* “Yes, there is. I remember vignettes. I have pictures in my brain of these big empty parking lots where most of the cars would be at Old Faithful and employees just running across the parking lots with suitcases and clothes sticking out of their suitcases and the zippers not zipped all the way. Shampoo bottles and toiletries items thrown about on the parking lot where they were trying to run to get into a car or a bus to leave. I remember that morning, Black Saturday. Early in the morning, Diane Ely, who was the bus manager and she

was there. And the orders were given to evacuate and those volunteering to stay. I wanted to stay and I wanted to help out. I guess that is a part of me because I have turned into a public service employee and I have made it my career. I think the fires of 1988 kind of shaped and molded me into this career and I have stuck with it ever since. It really had a traumatic effect on me.”

*Interviewer:* “Everyone. It started many careers, defined many careers. It started some fire science, and defined a lot of fire science. It was the biggest that everybody had seen, it was the biggest flames and the biggest smoke columns, the most aircraft. It is the story that keeps on giving.”

*McCutcheon:* “I guess so, I never thought of it that way. Here I was twenty-one years old and I had been working at Yellowstone in 1986 and 1987. I loved the park and still do to this day. It started my Park Service career because the following year I became a ranger at Yellowstone. It is somewhat funny; I just got my twenty-year service pen a couple of months ago. It should be more than twenty, but that is an accounting error. They did not count some of my time of government service. But it did, it started my career off. Not in fire but in law enforcement and as a Park Ranger. Todd, I am going to have to go.”

*Interviewer:* “That’s good, John. I sure appreciate the time. I know you are busy and you are recorded here at the oral archives at the Heritage Research Center here in Gardiner, Montana.”

*End of interview*



**Robert (Bob) Mutch**

Interviewed by telephone on June 30, 2014  
by Todd Jensen, Andrea Yaeger, and Garrett Smith

*Interviewer:* “Could you give your background – your education, what you do for a living, and how you got involved with the fires to get started?”

*Mutch:* “Sure, I’d be happy to start there. For a kid that grew up in Cleveland, Ohio delivering the *Cleveland Press*, I sometimes wonder how I found my way west, but I guess it was destined to happen. I went up to Albion College, Michigan for my undergraduate work. I got a bachelor’s degree there with a major in biology and a minor in English. Then, I went up to Missoula. Actually, I went up to Missoula smoke jumping while I was still at Albion. Going west for my first time, I fell in love with the mountains and fell in love with Montana. I guess I fell in love with fire because I’ve been in fire for something like my sixty-first year in fire research and fire management. Much of my initial assignment after graduating with a master’s at the University of Montana, in forestry. I went to Priest River. I was the superintendent of the experimental forest at Priest River, Idaho. I went right from there to being one of the first people at the Fire Lab as it was dedicated in the fall in 1960. I spent seventeen years there, and spent the remainder of my career, which was thirty-eight years total, in the national forest system, and in international forestry for five years in Washington D.C., heading up the brand-new disaster assistance support program that responded to natural disasters with U.S. personnel; these disasters occurred in countries all over the world. Then I came back to the Fire Laboratory for my last assignment in technology transfer. That is the quick run through of the career.

“The 1988 season was interesting because I was working in D.C. at that time, having gone to the disasters system support program in 1986. In 1988, as the summer developed, I was following my friends in the fire on television as Yellowstone grew and grew. I thought, my gosh, I ought to be out there. I did something that I haven’t done since: I called the fire center in Boise and essentially said that I was available and dispatched myself to Yellowstone. I had to convince the director of the Office of Foreign Disasters Assistance in the State Department that this was important and that she could do without me in the Disasters Assistance program for a few weeks. I said, ‘Julia, if you let me go, I will probably be back in four or five weeks.’ I left and for the first time in my fire career, I was met at the airport at West Yellowstone by my daughter who was in \_\_\_\_\_ . She met the plane and took me into town, which started an interesting thirty days of my time on the fire doing a variety of things. Linda had already gotten into the park because she worked for the Park Service then and now, and was monitoring the Clover Mist Fire. So that is what the career looked like, and that is how I wound up in Yellowstone National Park. I probably did not arrive in Yellowstone until September, so a lot had gone on but there were ten more days of active burning before things started to settle down on the tenth of September.”

*Interviewer:* “Were you there for Black Saturday?”

*Mutch:* “Was that the Black Saturday in September? There were many black days because there were six cold front passages with winds that were forty to sixty miles an hour. There was a day, I don’t know if it finally got a label of Black Saturday, it was a day when I was working in a fire behavior service center. We were monitoring weather conditions and providing an overall, broad Yellowstone-wide behavior support forecast for all the individual fire behavior analysts who were on the various fires. When I looked at all the weather being projected for the following day, I had a feeling that I had never had on any fire



before that, and I did not want to wake up and see the next day because everything was in place for long-range spotting. I thought that the North Fork Fire could spark spot right over Gardiner, and burn all the way to Jardine. I thought, if this weather comes to pass, tomorrow is going to be a day for the record books. The whole fire season had had many days on the record books for Yellowstone up to that point. Surprisingly enough, as it sometimes happens, that dire forecast never really materialized. Rather than more hot, dry, and strong winds with a cold front – moisture, some of it snow in those high elevations -- there was snow that next day. I think that day was the tenth of September, and that day was the beginning of the end. That long, hard season started to wind down from that point on.”

*Interviewer:* “When you first replied, you also sent a poem that you wrote that obviously had quite an impact on you with the fires. Can you give some reference to the poem, how that came about, and read that poem for us?”

*Mutch:* “I would be happy to do that. I think I have only once read this poem out loud before, and that was at a conference. For some reason it made sense at that conference to finish up with a Yellowstone poem. Although I’ve written many reports and articles throughout my career in fire research and fire management, I knew that I would never be a poet. I always admired poets because I thought they had a special way with words, and a special way to express themselves – a special way to use words to express feelings rather than facts, figures and logic, which most of my reports for the fire service were like. At one point, not too long before the twentieth anniversary of Yellowstone, which was in 2008, a friend of mine, Paul Keller, who was an editor, was working with me on a paper for the Lessons Learned Center in Tucson, Arizona. I had sent him an email about something or other, and he replied with part of my email and said, ‘Bob, this is what we call a found poem. There is a poem in your email. I have included it. You need to know that there is poetry in you.’ I told Paul, ‘You’ve got to be

kidding me. That had to have been a total accident.’ With that kind of nudge from an editor that I have worked closely with and think very highly of I thought, maybe I will give it a chance.

“So several poems showed up. Never did I sit down and try to write a poem. It did not work that way for me. The date on that poem is September 27, 2008, on my way home from the Yellowstone Twentieth Anniversary Conference from Jackson Hole to Missoula. I stopped at a hotel in Idaho. I had all this conference information fresh in my mind – much information from speakers on my mind. We had taken a field trip on the previous day to the Yellowstone Old Faithfull Inn where the fire had burned over the Old Faithful Geyser Basin. My daughter and I had happened to be there that day on September 7, 1988. That awesome fire behavior of the North Fork Fire had burned through, so I had a lot going on in terms of memories. I got to this motel. I woke up at three in the morning, and realized that there was another poem coming forth that was ready to be written. I felt just like a court reporter – I turned the light on in the room, quickly grabbed a piece of paper and a pen, then I started writing. It got to the point where I could not keep up because the words were coming too quickly. I started writing in some form of shorthand while trying to keep up with the words that kept coming. It was a process itself that was quite fascinating to see it unfold and to be a part of. Finally, the poem seemed to be at an end, so I put the paper away and went to bed. I woke up in the morning and looked at my notes and figured that I should capture this while it was still fresh in my mind. I sat down at the computer and committed the notes that I had written in the middle of the night. I did not change much – what I had written down on paper pretty much became the poem.

“I have titled the poem after a large button that was handed out to people who attended the Twentieth 1988 Yellowstone Fire Conference. It said, “I Was There.” It meant to convey: “I was there in 1988.” I thought it was an interesting

three words to use as a logo for the conference because it was significant to be there, because it was a series of events that do not come around very often. If you were there, you were happy to wear that button twenty years later, and have some of these memories come back twenty years later.

“If you are all ready there at the Gardiner research station, I am going to do my best to recount my poem *I Was There*:

*“I Was There”*

Coruscation...

Torrefaction...

Phantasmagoria...

Words used by Bob Marshall

Describing fire in north Idaho '28

Gates of Hell...

Flames of Creation...

Mesmerization...

Buzzing of bees...

Words used by others

Describing fire in Yellowstone '88

Fan, Hellroaring, Storm Creek

North Fork, Clover, Mist

Valley Complex, Huck, Mink

Words used by dispatchers

Identifying fire in geographic location

A Landscape Legacy

A Fire Smart Landscape

Words used by keen observers  
describing the phenomenon whereby an earlier fire  
controls the spread of a later one

Wind-driven, plume dominated, vortices  
surface, crowning, spotting

Words used by behaviorists  
describing the character of spreading fires

Never saw it coming  
Sunny skies at noon  
Tourists, cars, another day at Old Faithful

Then smoke and flames on the southwest horizon  
The sky turning orange in late afternoon  
Later, choking smoke and blackness and myriad embers

No bright ring of onlookers now  
Expectant, excited, surrounding the geyser basin

Only slumping, shrouded figures  
Tears in eyes  
Cloths protecting eyes and noses  
A heavy copter, thumping overhead with a futile bucket

A mighty roar  
The Fire? Is it coming? Is it here?

No, Old Faithful erupting loudly  
Visually lost in the acrid smoke but audible  
Hydrothermal heat upstaged by the heat of lodgepole pine combustion  
The Inn, the Icon, the National Treasure survives

Twenty years later and bright sunny skies once again  
International visitors – the same expectant ring of geyser gazers  
Quiet, watchful, cameras at the ready

The noisy torrent of Old Faithful propelling skyward  
Captured again and again by the silent imaging of digital cameras  
Against a backdrop of twenty-year-old lodgepole pine  
The distant twenty-year-old spot fire now green with young growth

The cycle continues and life goes on  
The short return interval of cascading geyser  
And the long-return interval of lodgepole pine fires

But to what future?

Summer seasons much longer...  
Temperatures warmer...  
Drought seemingly ever-present  
Bark beetles now flying twice a year

The new shake roof on the Inn  
Dry, receptive, flammable  
An invitation to some later day fire?

Twenty years from now bringing what?  
Unknown fire and unknown effects?

But certainly there will be this:

A complex array of images seen or imagined

Phantasmagoria – Yellowstone lives

“I guess the interesting part about that poem, for me, is that many of the doomsayers who were on TV, in the newspapers, saying Yellowstone was gone forever were totally wrong as we saw over the intervening years since 1988. Life returned like it always returns to those long-interval lodgepole pine forests of Yellowstone. And, the flush of flowers the next spring and the next few years as

the wildflowers flourished on the landscape along with the lodgepole pine coming back. People quickly realized that Yellowstone was truly alive and well and just undergoing a process that has occurred over millennia. That's the poem. Thanks for the chance to share it. It was a fantastic experience to be there in 1988. It was great to relive it in 2008. It was certainly surprising to wake up in the middle of the night on September 7, 2008 to realize that this experience was so ever present and was waiting to be written out on a piece of paper in a motel in Idaho."

*Interviewer:* "That's a great story, Bob. You are a fire scientist. Can you talk about fire and fire science in general—the good and the bad points of it?"

*Mutch:* "Yeah I'll do that. I'll use Yellowstone as a backdrop for my seventeen years at the Fire Laboratory. We were fortunate to have Dick Rothermel, probably the world's most renowned fire behavior researcher, out of the Fire Lab in Missoula. As soon as we set up the fire behavior service center in West Yellowstone to support all of the fires that were going on in that summer of 1988, we knew that we wanted Dick there if possible. A call was put in for him, and he showed up readily. He will be part of this fire behavior story. Early on in my assignment at the park, I started out working in this fire behavior service center, heading that up. We had several fire behavior analysts. We put out reports morning, evening, and did a lot of research on what was going on. We got out in the field to find out what was happening. We talked to the various fire behavior analysts that were there, including people like Dave Thomas at the North Fork Fire. We were trying to pull all of this information together, the kind of information that might have gotten lost otherwise. People on individual fires do not have the time to dig into fire behavior issues and past history and reports that they do in a fire behavior service center. So, we set that up and tried to provide a service to the people on the various fires. Then, as that started winding down, Kathy Davis, who recently retired as a park superintendent in Arizona,

had been called into Yellowstone to head up an effort to prepare a report documenting the fires. A report that saw many different outlets, but one of the places it was intended to go was to Congress. It was to provide a record of what was going on in terms of facts, figures, numbers, data – documenting the many, many fires that occurred in Yellowstone throughout the summer. Kathy headed that effort up, and I wound up helping. My daughter wound up working with us on that particular report along with several other people.

“I was attached with area command there in West Yellowstone. This fire behavior service center was attached to area command. Rick Gale and Ken Dittmer were area commanders. It was a pretty active time as you can imagine. One evening we finished a briefing in area command, and we all stepped outside, it must have been cloudy at eleven o’clock or midnight, and I looked a little bit to the north of West Yellowstone and all I could see was this huge reddish-orange glow to the north. I said to somebody, ‘Look at that North Fork Fire. It is really doing something north of town. I think I am going to drive up there.’ No one else wanted to go. I guess they were all ready to head to bed at that late hour, but I was compelled to drive north to see what that red-orange glow was about.

“By that time in 1988, I had left the Fire Lab to go into the National Forest System. I was a fire behavior analyst. I spent a lot of time at the Fire Lab working on fire tools, fire behavior, and those kinds of issues. I was drawn like a magnet, like a firefly, to a fire, to go north and see what was going on out there. And so I drove, it was just a few miles, and I parked in a big parking lot on the way to Gallatin Canyon. It was a parking lot that we used during the daytime to take weather measurements. It was a familiar place to stop. I was the only one there. I looked to the east after I got out of my vehicle, and the entire horizon, the entire length that I could see from north to south, was a big reddish-orange glow. It was quite a long ways off, just far enough so that one could not hear the sound,

but the orange glow from the lodgepole pine crown fires, that were going on even at that late hour in the night, were lighting up the sky with an unbelievable orange glow to quite some height above the tree tops. It was a scene that I had never seen in my career up to that point in my career. I've seen lots of fires, but the massive extent that was going on, was something that I had not seen before. From that came some of the words of the poem. As I stood there looking at what I was seeing, this bright red-orange color from a lodgepole crown fire, I thought that this looked like one of two things: 'Hellfire or the fires of creation.' I have seen enough fires that I have opted for the second. It looked like these were the fires of creation, not the fires at the gates of hell. I just stood there for a long, long time, just watching what was going on and thinking about what this summer in Yellowstone would mean to fire behavior, fire behavior science, and our ability to predict these kinds of events. A couple of days later, I was standing with Dick Rothermel in the middle of the day, outside the area command in West Yellowstone, and we looked up and it looked like atom bombs were going off. The first few days in September, each large mushroom cloud was one of the project fires in the Yellowstone area that summer. We could see about two or three different fires. I will never forget that particular moment because as Dick and I stood there, mostly looking and not saying a lot, he finally turned to me and said, 'Bob, we have to do better at predicting the occurrence of those kinds of fires. Those fires that are like those in Yellowstone National Park right now.'

"Three years later, I was helping Dick teach at the fire training center down at Marana, Arizona. Three years later the crown fire nomograms. [There] were a group of fire behavior analysts, were going through training there at the national fire behavior course. It was interesting to see this group respond to the stories of where these nomograms came from. They came from Yellowstone National Park and Dick realizing that fire research had the wherewithal to put this all together. There was a lot that came about because of those 1988 fires. That was just one fire



science project that motivated Dick Rothermel that we cannot say much about these fires, that we cannot predict much about them, and that we need to do better. That was certainly an important breakthrough, because I think Yellowstone 1988, with that kind of burning, was the onset of what we now call mega fires, these huge, large, gigantic fires that we did not use to have on the landscape in most places until recently. Now we probably have fire science, fire technology, and fire predictive capabilities unlike that of which we have ever had in the past. All of these capabilities have matured to the point that they are allowing us to say some things about fire and do some fire assessments as a part of decision-making. Sometimes, in places like Yellowstone and the Bitterroot wilderness, guiding the decision-making process to allow some of these fires to burn, recognizing another line in the poem: A fire-smart landscape. A fire-smart landscape was defined in the poem as previous fires limiting the intensity of future fires. If you can suddenly turn the baton over to mother nature, allowing enough fire on the landscape, at enough equivocal times and places that prior fire are regulating the spread of future fires to a large degree -- that was documented by scientist at the University of Montana a few years ago in a paper in which they said that large fires burn wilderness areas are indeed doing that. They are regulating how future fires behave.

*Interviewer:* "You were there at Old Faithful. I think a lot of people, the media, thought that that Old Faithful was actually going to burn. Can you just describe your time there around the lodge? Some of the outbuildings did catch on fire, those were going up. The media there, stuff like that. It was pretty chaotic."

*Mutch:* "You think that you've put all that stuff behind you but as you ask me those questions just now about Old Faithful on September seventh, that brought the goose bumps out all over again. I know that is going to be ever present because it was such a memorable day to be out in that kind of an environment, with that kind of an event going on. The North Fork Fire blowing out of the

southwest with a strong wind and aimed dead on to the Old Faithful Inn, the Old Faithful Geyser Basin. We had been there earlier in the day, we had been there at noon, as the poem indicated and drove in and looked around. It was a sunny day and there wasn't much happening. We could just see North Fork smoke to the west and then we left. There were people there and tourists moving around and it looked like many other days at Old Faithful, but it was going to be a very different day before the day was over.

"For some reason, I guess we maybe saw some signs of increased fire behavior late in the afternoon to the southwest as the North Fork Fire picked up, as the winds got stronger and we decided that it was time to get back to Old Faithful to document what was going on for the fire behavior service center. As we got there it was a definitely different-looking place. The smoke was rolling in, it wasn't quite there yet but it was getting close. The first signs of fire we saw I believe -- and this is around four or five o'clock in the afternoon or a little bit later -- we looked to the east of the Old Faithful Geyser Basin and we could already see spot fires taking hold and lodgepole pine. That was that lodgepole pine and twenty-year-old stand that was discussed and mentioned in the poem. Those embers had gone right up over the top of the Old Faithful Geyser Basin and they were igniting downwind of the Old Faithful Geyser Basin pretty actively before embers and flames started getting into the Old Faithful complex itself.

"Pretty soon there were engines everywhere, Nomex everywhere, helicopters overhead. Visibility went from good to bad, to really bad, and it got pretty black. We didn't know some of the reports until later, but my daughter and I finally made our way to the geyser basin which was the safety zone, as free as it was of vegetation-type fuels. So that's where we gathered and there were people there that hadn't been evacuated, some of them were concession employees that hadn't gotten out yet. These people sat huddled around and it looked like a war-torn area. These people were not feeling very good and indeed had smoke-related

tears in their eyes— they had bandanas over their mouth and nose. They were sitting on benches. You could hardly see due to the dense smoke. You couldn't begin to see across the Old Faithful Geyser Basin. Then we heard that roaring sound that's in the poem and we truly thought, someone thought that it was the fire approaching. It wasn't the fire, it was Old Faithful going off and you couldn't see it because the hydrothermal heat was lost in the smoke of the lodgepole pine.

“There was no way to describe it, except that it was just an awesome experience. To be there and wonder if the Old Faithful Inn was still going to be standing when the smoke cleared enough to look around. Overhead there was some helicopters' noise but visibility was so bad that helicopters really weren't an integral factor at that point. It was just a black-smoke environment for quite a long period of time. Before the fire blew into the geyser basin, there were several big national television vans there with satellite antennas on the top of these huge vans. You just had the feeling that all of these newscasters were waiting for Old Faithful Inn to burn down, probably, so that they would know the feature story to put on the national news that night. That did not happen, as we all know; they had a tremendous irrigation system on top of the Old Faithful roof. We heard later that rangers were out there, roped in for safety, actually extinguishing some embers that did catch some shakes on fire on that world's largest shake roof. The water system up there that had been installed prior did save the roof and saved the Inn. Maybe CNN and the others were disappointed, but it was nice to see that world's largest shake roof survived that kind of fire behavior event.

“Afterwards, after things cleared, I went right over to Old Faithful Lodge and I got a hold of a pay phone and I called the dispatch office in Missoula because I thought I would share with them what we had learned. We had a fire behavior service center over there working at the same time our fire behavior service center was working, so we maintained pretty good phone contact back and forth to share what was going on with each other. I finally got a hold of a friend there

in the dispatch in the Northern Region in Missoula and I said, 'Well guess what just happened at Yellowstone?' And I started to go through this story and they said 'You were lucky you weren't on the Canyon Fire last night because the Canyon Fire blew up, burned upward toward Augusta, Montana.' I couldn't believe my ears. They said the fire was over 200,000 acres now and they recounted some of the fire behavior on that fire. And then as more and more information came out, it became apparent that over in the eastern part of Washington, there was a wildfire burning on the fifth of September. It was affected by this very strong wind event. Then on the sixth, that surfacing jet stream hit the Canyon Fire and blew it all the way out into the prairielands, the rangelands, around Augusta, Montana, out of the Bob Marshall-Scapegoat complex. So that's the sixth of September. On the seventh of September, it comes right over us at the Old Faithful Geyser Basin. So in terms of fire behavior, a pretty historical event that occurred on September fifth, sixth, and seventh as the system moved from west to east. We heard later, and saw evidence before we left the Old Faithful complex, that afternoon of the seventh, that probably some seventeen outbuilding structures burned to the ground that could not be saved and a lot of damage done to buildings like that around the Old Faithful complex.

"The only other thing I'll add to that afternoon was maybe another event that we witnessed driving out to safety later that evening. They wouldn't let us go until around seven or eight o'clock in the evening. A park ranger formed up a rather large convoy of some of us who were there for that whole burnout period, starting around four in the afternoon and going on for a period of time. They said the fire was on both sides of the road and there was no way we could return north to Madison Junction and then into West Yellowstone, and that we had to wait until later in the evening and a park ranger would escort us out of the area. That happened about seven, seven-thirty. This park ranger gave us a briefing and told us we weren't to stop and that we were to keep going and she said that

it would not be safe to just freelance on your own between there and down at Madison Junction where we would be turned loose to head on into West Yellowstone on our own. So we take off and it's a long orderly file, quite a few vehicles behind her Park Service rig. As you well know, right there west of the Old Faithful complex is the Firehole River, the Madison. As we got not very far out of the Old Faithful Geyser Basin heading north, we looked off to the west, and this is in late afternoon, early evening around seven o'clock, and the whole mountain to the west there is burning from bottom to top in a crown fire on the other side of the Firehole River.

"If that wasn't enough of a sight to draw your attention, in the large meadow in front of that crown fire going up that meadow in the background, was a herd of bison, and there must have been, I don't know, seventeen, eighteen, twenty-something bison in this herd. They were grazing along like they did that every day of the week, with their dark hides almost black, dark brown to black. They were the perfect black bodies that absorbed radiant heat from the crown fire and it was amazing how unperturbed they were by what was going on in the background as they would move a few feet and put their head down, and eat and move and eat and move. Despite the park rangers briefing, it was too much. All of the cars stop and we get out and take pictures of this once-in-a-lifetime scene of these bison and this orange crown fire flames in the background and the Firehole River in the foreground, with smoke. It was a scene to behold. She needed a cattle prod because she would go up and down and say, 'No, we can't stop here, we've got to go, we've got to go.' Then I think we stopped two or three times and repeated this scenario. Finally she got pretty exasperated and said these bison are headed for a fjord across the Firehole River and you are disturbing them and their progress and we need to get out of here. I guess she got our attention at that point and realized that the bison probably did need to be left alone and we needed to heed the directions of the park ranger and continue

moving north, which we did. An unforgettable experience, both the burn over the geyser basin, followed by the bison and the crown fire on our way north.

“It was a pretty special time. I think the park is to be congratulated under those dire circumstances. To the best of their ability, they tried to get the recreating public into the park on days when it was safe to do so and actually travel some of those roads where tourists from all over the country and the world could observe firsthand some of the fire behavior and fire effects. Indeed, that’s probably the best way to tell the story of fire ecology, is to let people see it and experience it in person, rather than trying to assimilate what is going on in the written pages of a report, or an article, or a brochure. That’s kind of what went on that day. It was the day to be remembered. It was the day I was glad later that I could say I was there.”

*Interviewer:* “Was it ever life threatening at that time over at Old Faithful, Bob? Were you worried about your daughter?”

*Mutch:* “Well we felt safe enough, I think, because the safety zone provided by the geyser basin, it truly was, as you well know, there was nothing there to burn. You could get scalded by the hydrothermal heat if you got too close, but of course no one would ever venture out there. So no, we didn’t feel threatened by the fire. We did feel that we wanted to be in that safety zone, we didn’t want to be wandering around where crews were working and trying to save some of the structures. It truly was almost black, you could hardly see when the smoke blew through there at its worst. It was not like four in the afternoon, it looked more like midnight. We felt safe in the geyser basin and we knew as things started to improve with visibility you could start looking around and seeing where there was black and burned areas in a lot of the area that did have vegetation. We realized it was safe enough to move away from the geyser basin finally and move around.

“Later I heard a story that I think was true; I have no reason to doubt it. I forget now who told me the story, but someone said that they realized as this fire was getting closer and closer that they had to make sure that all those buildings where concessionaire employees lived -- that was their living quarters -- that they had been evacuated completely. So some people were given the assignment of going building to building to check on people that might still be inside some of those buildings. As the story goes, one of those people monitoring back into those buildings a store or concession employee sleeping who had maybe worked a late shift and was sleeping in the afternoon. Who knows what might have happened if that person had not been found and run out to a safe place. Fortunately there were no serious injuries or loss of life there at Old Faithful basin that afternoon. You could just think of that scenario. What if that person had not been found, and what if people had not looked in time and gotten that individual out in one of those buildings where someone had lied down and was still asleep. It could have resulted in a much more undesirable outcome like a fatality or a very serious burn injury. Fortunately, that didn’t happen, and they got most of the people out and the tourists out in enough time. There were people there that were concession people that had not gotten out and they were well cared for by overhead in the vicinity.

*Interviewer:* “It is amazing that the fatalities and incident were way down.”

*Mutch:* “Yeah, that’s for sure. The fact that, under those circumstances -- an incredible record. I think it was much later in the season, and I think it was east of the park, where there was some fire burning. I’m pretty sure it was outside of the park but I’m pretty sure some of the fires burned from within the park from outside the park and there was that tree fall and the fatality due to a falling tree that happened on one of the fires. But it was quite a bit later. Yeah, you are right, it could have been so much worse under that kind of fire behavior scenario that went on from early July right on into the ninth or tenth of September. “

*Interviewer:* “Do you see anything else like that, Bob? That kind of once in a lifetime thing, the fuel, the weather at that time. Are there any other places that you can think of that are right for that kind of scenario in your studies of forests in the present day?”

*Mutch:* “Well I’m sure we haven’t seen the end of some of that. I know I was like so many other people you still see quoted in the newspapers in 1988. I’m sure many of us, because I saw some of us being quoted in the papers, many of us, because I’ve been in fire now twenty or thirty years. I’ve never seen anything like this. It sounds like a broken record anymore. I mean, you go to 2000 and 2003 and the Rim Fire in California and all the other fires in between. The Mustang Fire in Salmon country a couple years ago, 2012, a 350,000 mega fire burned from Idaho into my little fire district in the Upper West Fork of the Bitterroot. We were held siege by that Mustang Fire for weeks on end and finally wound up with a fire crew putting a Mark III pump in my yard. I had that Mark III there for two or three weeks as this huge fire was right there threatening to get us. I’ve seen time and time again in the papers, on the television, year after year after year, I’ve never seen anything like this before, and you wonder how there could be more to that than what we are seeing. How could this be? How could someone say, ‘Oh, I’ve never seen anything happen like this before,’ yet it keeps happening. So no, I don’t think we are done yet.

“Tom Swetnam from the tree ring laboratory, who has done all that great research in climatology tied to tree rings and fire history tied to tree rings. He’s done all that work in Giant Sequoia and those huge Sequoia slabs to document fire intervals there in Yosemite and Sequoia National Park. Fire every eight-to-ten years, going back for several thousand years as they continue to and those old-age Sequoias. He said fire seasons are longer, hotter, drier. That means by up to two months now, and it’s no wonder we are seeing things happening now that haven’t happened before on a scale that seems unprecedented. When I was at the



Fire Lab back in the '60s, I was up on a fire working on the fire line in 1967 on the Trapper Peak fire; nearby was the Sundance Fire. The Sundance Fire made what we thought was a really big run at the time towards \_\_\_\_\_ on September first. That fire wound up like 50,000 acres in 1967. Fifty thousand acres was a huge fire in those days, as you know. Now it hardly makes the evening news. Fifty thousand-acre fire when you've got fires 350,000, 400,000, 450,000; Rodeo-Chediski in Arizona, almost 500,000 acres, 50,000 people evacuating. Unfortunately, way too many fatalities. Thinking about fatalities for a moment, I think if I am not mistaken, today is June 30, isn't it?"

*Interviewer:* "Yep, you are correct."

*Mutch:* "June thirtieth is the one-year anniversary of the nineteen Granite Mountain hotshots dying on the Yarnell Hill Fire. It's a number that all of us are still reeling from. You know, nineteen. I got the goose bumps back again."

*Interviewer:* "Yeah, that was on the news this morning."

*Mutch:* "Yeah I'm sure it was probably all over the news and the Internet again as it should be, and it's unacceptable. We can't have that, we know better, and we need to do better. It is just another wakeup call that this business that we are in is not unprecedented proportions. We not only need to learn the lessons that we learned from past fatalities, we need to apply those to each and every moment to people that are on fire lines. There are firefighters at risk; there is residence and wildland-urban interface at huge risk. It's at a level now where more of the same isn't good enough. We have to be better than we ever were in the past. We have to overcome some of these fire behavior threats that are out there, fire exclusion, unnatural fuel accumulation and global climate change. All these factors coming together to give us some scenarios. You might almost wonder about a post-scripted "I Was There" poem, phantasmagoria. Can Yellowstone really truly live through some of events that are cataclysmic that we

can't even begin to understand and describe at this point because we aren't there yet. There are some questions lingering around and we don't have all the answer yet, but we do have to do better with what we know to keep people out of harm's way. I think we are equipped to do that if we just would."

*Interviewer:* "That's just incredible information Bob. What do think about changes in fire management and challenges they face in fire policy these days? I think you kind of summed that up in what you were just saying there, but anything major since '88?"

*Mutch:* "This is very fresh in my mind because I just spoke to a group from Red Lodge, Montana, kind of a unique group. There were over this way for a field trip and part of their field trip was in the field and part of it I spoke to them at the Fire Laboratory last Friday. I spent some time with them there about some of these issues. They are from -- it's called the Natural History Institute from Red Lodge, Montana. I spoke to them about some of these factors and what's going on. Fire policy is one of those factors. We've gone through a lot of gyrations to get where we are today and we've learned the hard way that some things don't work. One of the things we have learned the hard way in my mind is that fire exclusion does not work in fire-adapted ecosystems. You are buying yourself some new problems if you think you can exclude yourself from fire adapted ecosystems that have evolved with fire. The Forest Service tried it and failed; the Park Service tried it and failed.

"They were setting up giant Sequoia growth -- thinking about mariposa growth for a minute -- that photograph from 1890. Beautiful, open-growing stand of giant, huge Sequoia trees. The tree on the left in the photo point had a large fire face that went up on it, like twenty or thirty feet probably. There were some people standing in grass among these trees for scale, [and] you could just imagine fire behavior in 1890 in that stand. It would have been another low-

intensity surface fire. Then they had, in the next picture in the series, like 1970, and they went back and re-photographed that, and now it's kept to exclude fire from giant sequoia in the trees' best interest. We have a dense, dense stand that isn't cedar then white fir and you can hardly see the giant sequoia trees and the mariposa growth in Yosemite for all the \_\_\_\_\_ and white fir. You just picture in your mind a hot August day what a fire would do under those kinds of fuel conditions and it would have been a high-intensity Sequoia-killing crown fire when this tree evolved over millennia to coexist, in a resilient manner, when a frequent, every ten-year, low-intensity forest fire. So we know better, we've got fifty years of fire science. We have a lot of fire ecology information that shows that many of the plants and animals we enjoy in the landscape, including in Yellowstone, are there because of fire, not because we keep fire out.

“Look at things like serotinin and lodgepole pinecones, where the heat from a fire opens the cone to release the seed. Things like redstem ceanothus, an important plant in the Rocky Mountains that the elk depend on, and winter range for their wellbeing and livelihood. That particular plant, the redstem ceanothus, the seed the size of a head of a pin. That seed can remain dormant but viable in the soil for up to seventy to eighty years. Generally it takes heat or fire to crack the seed coat of the seed buried in the soil so can it can invite moisture and germinate. I saw that happen in the Selway, where we allowed a fairly large fire to burn, quite a few years ago. We went back in the following spring and although the adult redstem ceanothus was probably clubbed back into not recognition by overuse by elk and deer, on the ground the following spring, we put in plots and measured some fifty-to-sixty thousand redstem seedlings spread in this area that hardly had a recognizable adult plant on it in previous years simply because the fire hadn't visited the area.

“Then you look at something like the 1910 fires in north Idaho, western Montana. Three million acres burned, eighty-five people killed. Some communities either

partially or totally destroyed by fire. We developed in the Forest Service a knee-jerk reaction from that 1910 episode that all fires are bad. We mounted a program to put every fire out. We got to 1935 and we adopted the 10:00 a.m. policy that very formally said that every fire started should be organized to control it before 10:00 a.m. the next morning. Finally, it wasn't until around 1995 when all the agencies, the Interior and Agriculture, Forest Service, got together and developed a clear policy that's pretty darn resilient. It was for suppressing fires that are unwanted or have a potential to do damage, using prescribed burning where and when necessary to introduce fire and to allow pre-burning lightning fires to burn in places like Yellowstone and the Selway to further the health of these systems that depend on recurring fire. So, we did well then.

“The thing that is so disappointing to me is that although we have made these attempts for a policy that recognizes the importance of maintaining fire-adapted ecosystems, we quickly tend to go backwards in our thinking to the days of 1910. In 2012, because of our budget problems, falling short of having enough money to fight fires, or worried about that. Yet, one more fire season, the Forest Service somehow implemented a fire ban. I mean, I think you can't call it anything but a fire ban because of budget concerns and the risk to firefighters. It was decided at the national level of the Forest Service that every fire started in 2012 would be suppressed to save money and to reduce risk to firefighters. The irony of the fire ban is that it did just the opposite. We were suddenly starting to jump, putting smokejumpers on fires in the Bob Marshall Wilderness that didn't need any fire-suppression activity. So we were putting firefighters at greater risk and spending more money than we had been in preceding years as we implemented a more responsive total fire policy. Fortunately, the fire ban only lasted that one year. But it lasted for a full year, and it did happen, and if it happened once, there no reason to believe it couldn't happen again. It's not the way to manage our national resources or to safeguard firefighters. It is far better to have all the

tools in the our toolbox being displayed on the landscape, with fire suppression, prescribed burning, and pre-burning, lightning fires, where appropriate.

“I spoke about his very topic -- you asked me the question -- over a year ago in February, back in Raleigh, North Carolina and I laid out this problem of policy that’s not acceptable because it did not consider the fire adaptiveness of much of our vegetation in the western United States. It would be very easy to point fingers at others; it would be very easy to point fingers at Washington. Now, why did you do this when at the same time you thought it would produce catastrophic results, why did you do this? I told the people in North Carolina at the fire behavior fuels conference that whether we like it or not, it is far better to turn that finger around and point it at us, and consider the thesis that we, the fire community, have failed to tell our story so well that policymakers get it, politicians get it, the media gets it, the public gets it. In other words, I think it is up to all of us to tell the story so well that we will have the kind of resilient policy that allows us to manage our natural resources in a way that will be sustainable and not lead to their demise.

“I guess that’s the long and short of it in my mind, anyway. That we know better and we have a lot of good fire science backing us up by now, and if we don’t tell our story better and successfully, others are going to tell it for us and we might not like to hear some of that. There were some major authors that weighed in about the fire ban in the Forest Service in 2012, including people like Steve Pyne and Michael Kotas, who is writing a book on mega fires, and another award-winning author here in Missoula, Richard Manning. They all weighed in and said a fire ban is shortsighted because it is delaying the inevitable for future generations to pay a dear, dear price. I think they are so right. I see signs of some individuals that are stepping up and telling this story in a way that maybe it will resonate with all the various audiences. We know how to do it, we know how to do it better, and we need to tell our story, to tell our success stories. Like in

Yellowstone, what are the lessons learned today in Yellowstone? There're some interesting lessons at the twenty-year anniversary conference at Jackson Hole in 2008. We need to keep those stories current, viable, updated, and widely disseminated. I think that is a large part in being successful in the future, is gaining everybody's attention so that they are on the same sheet of music and not debating and arguing and putting forth unsustainable policies."

*Interview:* "Okay Bob, I don't know how we could ever improve on this interview."

*Mutch:* "Well, it's nice, you know, after having sixty-some years to think about these issues and I'm a slow learner. Don't get me wrong, I'm a slow learner. It probably takes me sixty years to get some of the lessons learned firmly in my mind. So it's nice that someone like you folks come along and ask some of these leading questions to pull some of this out, because sometimes that's what it takes. Sometimes you need to be drawn out a little bit and put some pieces together in a little different manner. You've given me goose bumps today a couple of times. That relives some of these past activities, especially September 7, 1988 in Yellowstone. Good for you folks for pulling all this kind of thing together for the park. It's been a pleasure working with you."

*Interviewer:* "Well the reward and the feelings are mutual. We are really glad to have that poem of yours recorded in the Yellowstone National Park Archives."

*End of interview*



**Al Nash**

Interviewed in Yellowstone National Park on July 17, 2014

by Todd Jensen and Garrett Smith

*Nash:* “The first draft of history was the news coverage. When is it appropriate to jump back in? In their own way, they capture something. I’m not exactly sure if they captured what you guys are trying to get after though. Well certainly, it was a seminal event for anyone involved in it. Nothing had happened in our collective experience before it. I hate to say it but we have certainly seen fire seasons bigger since then. It was a seminal event for anybody involved in it.”

*Interviewer:* “A lot of pride.”

*Nash:* “Nothing had happened in our collective experience before it. I hate to say it but we’ve certainly seen fire seasons bigger since then.”

*Interviewer:* “Do you want to start with telling us who you are, and a little bit on your background? How you got involved with the fires. Just tell the story.”

*Nash:* “Sure. Absolutely. That’s what I know how to do or at least theoretically I know how to do. And as you can see from stuff in my office, I actually now have a fire background and I certainly have an affinity for it. Nineteen eighty-eight will take the credit or blame for some of that.

“I’m Al Nash. I’m currently the Chief of Public Affairs in Yellowstone and have been for the last eight years. In 1988, I was the news director of the Montana Television Network. It was based out of Billings and I was the news director for, at that time, four network affiliate stations: Billings, Butte, Missoula, and Great Falls. We also had a state capital correspondence at the time. We had about forty



news people across Montana. While I was based in Billings, my job was to oversee the news operations across the state. I had been there about two years at that time. I had started in Montana in April of 1986. The '88 fire season started earlier than most people seem to attach it and it was a much more widespread event than just Yellowstone. The way I recall is we started covering fire in the Shoshone National Forest in Wyoming fairly early that season. While we really focused on Yellowstone in our coverage, there was a lot fire in the Northern Rockies that year. It's just that the marquee of Yellowstone gathered greater attention.

"Again, looking back at it, there hadn't been a fire season really like '88 since the 1910 fires. A very different approach to how they did it in 1910, but we hadn't seen anything on a scale since then. So, nobody involved in the fires had any kind of personal experience with anything on that scope. For a little TV news operation, covering the fires in Yellowstone was really daunting. You have to remember the technology was not what we now take for granted. There was no Internet; there was no e-mail. The cameras and equipment that we used was a lot more primitive and bulkier. You couldn't just push some data down a line and get it out somewhere. So the logistics were rather daunting for us to cover the story.

"Certainly by sometime in July, I had a crew in Yellowstone every day, somewhere. Trying to drive in and out of Billings predominantly, it's a long haul. Whether you go up over the Beartooth Pass or you come in by Gardiner, for a period of time, we tried to get footage in and out of West Yellowstone and chartered an aircraft. Then the airport got so busy, we weren't able to utilize it that way. I rented a motel room for an extended period of time in Red Lodge and we set up an edit bay there. I had crews that would crash there and cut stuff and we would bicycle tapes from Red Lodge back and forth. I had reporters and photographers who got stuck in the park. They would come here to cover

something and the road would get temporarily closed and they would be stranded and we would do telephone interviews with them because that was what we had available.

“Early on, we really tried to go and seek out whoever was serving in the public information role. First, it was in the park, and then they brought in more and more help. We ceased searching those people out on a regular basis. They would push information out, ‘here’s how big the fires are today.’ In the standard briefing stuff, we could get without having to be there in person because everybody somehow was trying to cover it. We’d get to the point where it was a search and destroy mission for my staff. It’s go into the park, find something, find something different, find somebody, and do a story. So, we somehow would get the basic information to do the big story and then we looked for the little human story to tell every day. Trying to come up with a new story about a fire, gets to be a little challenging. I was working staff twelve, fourteen-hour days, putting all kinds of miles, we had two news cars out of Billings for heaven’s sakes I would bring some people in from elsewhere but it was predominantly our Billings operation that was doing that. Plus, the other stations were covering other fires across the state. So our statewide news coverage was dominated by fires, not just Yellowstone.

“There are certainly some days that stand out. We were getting tired, frankly, as it got into August. The stations carried the Jerry Lewis Labor Day Muscular Dystrophy Telethon, which at that time was like a twenty-four hour, twenty, twenty-four hour deal. So the forecast suggested that things were going to be quiet over Labor Day. So I cut most of the staff loose and said, ‘Take a day off.’ Well it’s Sunday morning and I’m in a sport coat and tie because I’m on my way church to teach Sunday school in Billings. I drop by the station and I find out that they were evacuating Cooke City and Silver Gate. It was on the AP wire; I really did find out from the wire service. There is me and the master control operator in

the station, that is it, on a Sunday morning. I ripped the wire, I go into the master control operator who is surprised somebody showing up at about nine o'clock in the morning. I said, 'I'm going into the studio, center the camera up on me, punch me up live, statewide.' And so we interrupted programming and I attempted to read through the wire coverage to tell folks that Cooke City and Silver Gate were being evacuated.

"Then I got off the air and got onto the phone trying to find who in the world I can get to go down to Cooke City. I found my director, my weekend director, one reporter, and my ten o'clock producer. Those were the four people that I could find to help, and I said, 'Get your butt into the TV station.' They did and I said, 'I don't care what you do. Go to Cooke City and come back in time so we can put something on the ten o'clock show, that we don't have.' Our news coverage was canceled for the day because of the telethon. I said, 'Just come back so we can put something on at ten o'clock. Go.' Then I had to wrangle with management. I said, 'This is a big deal. We've got to interrupt the telethon.' I said, 'It won't be for more than about ten minutes. But at ten o'clock, we have got to have a show tonight.' I finally convinced them that we do that. I'm trying to get a couple of interrupts during the day. My staff didn't show up until about nine-thirty. I said, 'I don't care what you have, cut me two pieces and we're going on at ten o'clock.' Of course, TV's always last minute. They are scrambling, and my director is also one of the guys that is my shooter that day. So I've got a script that says, special event open. Al ad-libs, tosses to Chris; Chris ad-libs, roll the piece. That was our coverage of one of the big events of the '88 fires. It was just really, truly, off-the-cuff television. It just burned in my mind how we scrambled on a day that we thought was going to be quiet to pull it off.

"That was when everybody else started to discover the story. Up until then, it was very much a regional story. It was Billings and Idaho Falls and some of the others, and Salt Lake and Denver a little bit were following the story. That's

when the national news media got interested. That helped us because they started to bring in satellite capability, which we didn't have. There were no satellite trucks around. The closest were Denver and Salt Lake. TCI Cable, which you may remember, TCI, they had what's known as a C-band truck. Not these little things that we now take for granted, it was a great big old hunking semi with a great big dish. We managed to get some time for them.

"I had a guy who was filling in for a few months. Bill Coleman is my Helena correspondent, and I sent him down to do Old Faithful, this is when the threat happened there. Bill was doing some stuff there and we were able to send some stuff out by satellite with him. I remember the day when the fire was threatening Old Faithful and Bill calls me on the phone from a pay phone because we still had those. Bill calls up and says, he has this kind of low calm, draggy voice, and Bill said, 'The fire is coming over the ridge, I can see it, they are telling us to evacuate. I have got to get out of here, I will call you when I get to West Yellowstone.' It was several hours later before I heard from Bill. I had no idea if I had a correspondent or not. I did not know if he got trapped, I did not know if he got injured. There was no information coming out of the area. I will admit to being on pins and needles for a very long time until he got out and was able to give a phone call and tell us he was okay. We cobbled together an opportunity to do a live shot from West Yellowstone that night. He fed out some footage and added really dramatic -- he had some really dramatic shots, with our crappy old tube equipment. Somebody, during his live shot, wearing a yellows shirt, ran through and said something like, 'They are evacuating West Yellowstone,' live on TV. They weren't of course, but stuff like that happens.

"Then Jay Kohn, who is now the main anchor at Q2 in Billings, at that time he'd just come off a fellowship, a yearlong fellowship, and was back as our state capitol correspondent. In my own subtle way I was like, 'Welcome back Jay. Get your ass down to Old Faithful. I need you there.' We bought some satellite time

for the five-thirty show, statewide the day after. Of course, Old Faithful had been saved. So there's Jay, top of the five-thirty newscast in yellow, his first time back on the air in a year and Gus, our anchor tosses to Jay and Jay does great ad lib intro and a beautiful piece that he'd put together using some of the stuff that he'd shot, some of what Bill had shot the night before. They are doing this great interplay and I'm in the control room telling my director, 'Wrapping, wrapping now.' Daryl, my director turns around and says, 'This is great television. Wrap him hard now!' So he does and Gus says, 'Thank you very much Jay,' and he turns and the satellite went pshhhhhh because I had only bought five minutes of satellite time because it was expensive. I had to tell my director I only bought five minutes of satellite time."

*Interviewer:* "You got it though."

*Nash:* 'We got it! It turned out well. Then there is the other day, the other real big day that jumps out was September 11, because the fire was advancing here on Mammoth. And while it is a day that we now do not draw much attention to, it was the day it snowed. It stopped the advance of the fire on the Mammoth area. It didn't end the fires of course, but it certainly closed out the most dramatic portion of the fire season. That it happened, I mean we had beautiful video of snow falling that made the show that day. It was a certain amount of finality to us from that '88 fire season. It is just that story that again Jay did for us that just stuck out. It was a bit of a relief because we were all just pooped. Everybody had been working six-, seven-day weeks, twelve-, fourteen-, sixteen-, eighteen-hour days for weeks by then, trying to do our best to provide the coverage. Those are some of the things anyway that stand out. I know you'll probably peel some more out of here, but those are the first things that kind of come off the top of my head."

*Interviewer:* “Those are great, that’s incredible. It had to be really something. I mean, you can’t imagine until you are there.”

*Nash:* “Yeah. So my experience was from Billings where I was the general directing the troops and where I filled in on the air a lot. Small market TV so I’m the producer, I’m the assignment editor, fill in on the air as needed, but I wasn’t in Yellowstone during the fires. I always try to make that clear to folks. I have an experience, but it’s not on the ground in the park.”

*Interviewer:* “It’s just a different prospective there, too.”

*Nash:* “It was hard at times to get that overview picture. Now being on the inside, I have an idea of why it was so difficult. Again, the challenges that we had logistically were the same kind of challenges that the incident management teams were having trying to get good updated information and share it. They couldn’t just send us a GIS-created map of the new fire perimeters by e-mail or post it to a website. That technology just wasn’t there.”

*Interviewer:* “That was changing hourly and daily.”

*Nash:* “It was. Trying to find out what’s happening in the park and getting that to some central locations, it’s still a challenge. It offered us some really interesting stories. When the U.S. Army came here, I knew enough about Yellowstone, having been an aficionado long before I moved out this way. It was the first time the U.S. Army had been in the park since they left in 1916. That was a cool story for us to be able to tell. I caught a little heat from the Park’s Chief Ranger at the time, Dan Sholly. Sometime in July I went over and did an evening meeting in Silver Gate. I think it was the Rough Riders Lodge. He essentially said to the folks of Cooke City and Silver Gate, ‘We are not going to allow those fires to come to your town.’ We got it on tape and, of course, the day that they evacuated Cooke City and Silver Gate, I made sure that we played that frequently. He wasn’t very happy about that.”

*Interviewer:* "That's news."

*Nash:* "It was news. He unknowingly over promised. Again, looking back and what I know about fire now and having done fire and fire information, again, the people involved had not seen fire on that scale in their career. They tried stuff that had worked before and it didn't work. So, they were trying to come up with strategy and tactics that they hadn't tried before. They had tried something and it worked in their career and ops, it didn't this time. As the media, we did point out the failures. Now we know more why they occurred, but we did. The networks certainly did show up and we got some help from the networks. We got people who got transported back and forth sometimes; they moved tape for us physically. Everybody was kind of in it together. I remember one night, my chief photographer, this is a guy who is supposed to be the visual guy and he got stuck in a fire camp, somewhere on the North Fork, I couldn't tell you exactly where. He was there and he got to a pay phone and so we did a phone interview with him on the news. He painted the most eloquent word picture of the situation around him. He was an artisan with video, but he was also the most eloquent about talking about what he saw, much better than any of my reporters would be. That was another great moment in television that happened, that should not have. He just did a wonderful job of explaining what he had seen that day. It was telling about the images and words, a different approach than what my reporters would take."

*Interviewer:* "It's just the emotions that fire brought out to where you describe something like that where maybe normally you really couldn't. It was just that big of a thing."

*Nash:* "From my point of view, we tried to put things into perspective. I knew that we had a lot of people who were watching us who had an affinity for Yellowstone. They knew where some of the places were. Frankly, it's a very

competitive business. When I arrived at the TV station, we kind of stunk. It was really pretty rough. Our cross-town rival, which was the NBC station, was very dominant. We became very aggressive in our news efforts – we changed personnel.

“Frankly, I will tell you that the 1988 fires was an important event for that television operation because we gained a reputation as a solid and serious news organization. Our ratings went up and they’ve never dropped since. Now that wasn’t the only event, but when you talk about an experience that changed things, that experience changed the fortunes of that business. I got to the point where I had one competitor in my mind. That was the *Billings Gazette*, that was really who I was competing against. They could put more people in the field than I could in a given day. I worked very hard to make sure our big story was as good or better as their big story. I think they had discounted us previously and I think that’s when they began to see our news operation as an actual competitor as well. Again, we couldn’t do exactly what they did, but we weren’t the ones that they had written off before. Car, tires, gas, food, motel rooms and shuttling tapes back and forth because of the technology, spent a lot of money. But the boss was happy because he was getting back such great feedback. We didn’t have a budget for that; nobody has a budget for that. I didn’t pay attention to the budget. It was good news, it was important to our audience, it was a big story, and I just threw what I could at it, knowing that it is easier to beg forgiveness than to ask permission. The owner at that time, the guy who owned the stations, was living in Billings and so was watching the coverage and he was getting the feedback from the community as well. It helps when the guy who really controls the strings is happy with what he sees you are doing and what he is getting feedback on what you are doing. That helped. It was a whirlwind of a summer.

“Focus, like I said, focus primarily on Yellowstone -- but there certainly was a lot of other fire in the ecosystem. Mostly the out-of-state stations provided the



coverage but it was part of a full summer. When people think about '88, I don't think just about Yellowstone, although that's at the center of it. I really do have a perspective about such a much more widespread fire season and how that really tapped out all of the available resources. The whole fire community just scrambled. Then Billings was just choked with smoke for a long time. Again, predominantly from Yellowstone but the air quality issues and the thick smoke, I mean that was something the people there lived with, too. There were respiratory issues that the public dealt with because of the heavy smoke that we experienced then. I do not know that anybody there had seen anything like it prior to '88. It was really oppressive and Billings gets hot anyway. You throw in the heat that we had across the region that year with the smoke and it was pretty stifling."

*Interviewer:* "Being a news reporter at this time, these were world-renowned names. How many times as a news reporter from Billings do you get to do world-renowned stuff? You know, who covers Rosebud, the golf course, Rimrocks Airport. Then you are all of a sudden covering world-renowned names and stuff like that."

*Nash:* "You know, reporters are generalist, as you very well know. I did not have anybody on staff who knew anything about fire. We didn't know zip. We didn't have any equipment, we didn't have any gear. Like anybody else, we five-fingered, wholesaled our way into helmets, and Nomex and fire shelters. It honestly seemed like they were handing this stuff out like candy. Eventually, we got a pretty good stash of stuff so that everybody was able to grab some, to be able to go out to the fire line. But it's nothing that we any understanding or experience. We knew nothing about how the incident command system worked. We did not know what an incident commander was; we did not know how the system worked. We did not know how to access it. That was all stuff that our staff had to learn on the fly. That has not changed a lot when it comes to the

media. I deal with fire, I deal with the regional news media all the time, and the funny thing is that there are still people out there that used to work for me who are out in the business. Most of the time it is that fresh twenty-something who has been out in the business eighteen months maybe and we are trying to help them understand how to access this information and what they need to do. So some things have not changed. People that are trying to get a grasp on it and share with their regional audience and do not have any kind of a background, that makes it easy to jump into the situation.”

*Interviewer:* “The history thing again where no one learns from it.”

*Nash:* The older hands do. These media markets are starter markets. The day-to-day reporters are first- or second-job people. The anchors and the managers are somewhat more experienced and some of them will stay around and they do their best to help the younger staff. But when you are running and gunning there is only so much time you have. At that time we did not have anyone that was experienced with fire, nobody. In 1988, I was thirty-one as the news director, so I was really young. Some of the stuff we did in Billings was because I had some bigger marketing experience and I was game to gamble. Most of our staff did not know that we were reaching far beyond our potential capabilities. But it worked most of the time.”

*Interviewer:* “The media was just part of the whole thing. They were told to evacuate Old Faithfull and they stayed there.”

*Nash:* For good and ill. It was mostly us locals until it got into late August. It was just a wild and crazy summer. The big media guys did what they always do. They come in at the last minute. They are important or they tell everyone that they are important. There were a couple of big-time folks that showed up that I have great respect for. Like Roger O’Neil at NBC, based out of Denver at the time. He had done a lot of fire. My feedback from my staff on him, even though

he was a different network, was that he was just a gentleman to work with and to be around. You know some of those folks have egos bigger than buildings and they can be a little challenging to work with. That was the case then and that will remain the case this day and age. You have to have an ego to do that kind of work. You cannot be shy, but some were over the top.

“It was a ten-day story for the national news. It was story for all of us at the TV station, *Gazette*, Rocky Barker, down at the *Idaho Statesman*; there was Angus Thurman with the Jackson Hole News and Guide. These people lived it, day in and day out for weeks, and weeks and weeks, so they did have a different perspective and a different story, I think, during that timeframe when the national focus was on Yellowstone. It showed up on the *New York Times* and the *LA Times* and the evening news all around the world. I think our local coverage at that time was different than the national coverage, because we put a different focus and faces on it. They were trying to tie it all up in a nice little bow. We had a continuum going on. We reflected on some of the coverage that existed. We did different things at the timeframe because we had laid so much groundwork with all of our audiences. And they did not need that snippet that they were sharing with the national media.

*Interviewer:* “You did not stay in the park at all?”

*Nash:* There was no opportunity to stay in the park. So it was in and out all the time. We had this *crazy* news vehicle. An AMC Eagle with four-wheel drive. It was the first four-wheel vehicle that we had. It was kind of a wagon thing. We are eating in the darn thing, we are darn near living in these things, and he spilled milk in the car. It got sour. We did not have the time to take it and clean it. These guys are driving back and forth trying to roll down the windows or turning on the AC or something because they are driving hours a day in this car that smells of sour milk. I had a small number of people that were in and out of

here trying to cover day-to-day news as best we could. The focus was that every day someone was here. For us that was a really big commitment. A lot of days it was more than one crew. At that time, we were mostly shooting with a photographer and a reporter because the equipment was so big that most reporters were not comfortable shooting their own stuff. Not like today. I have a better video camera on my smart phone than the stuff we were using in the field at the time.

“There are a couple of folks at the *Gazette* who I know who would talk well. Angus down at the *Jackson Hole News and Guide*; Angus stayed in the park. Rocky Barker from the *Idaho Statesman*, again somebody who can give you that on-the-ground thing that I can’t. There are a couple of people that can give you the reporter’s perspective of on the ground and staying in the park. Angus camped out for heaven’s sakes. So, they have those kinds of stories to tell when mine is kind of logistics, big picture kind of thing.”

*Interviewer:* “What about the resources? People lacked resources but there were also many resources coming in.”

*Nash:* “It was very hard to get a sense of the enormity of this place. It was a hard story for us to tell. When you are talking about the size of the acreage, when you are talking about the geography that the fires covered in July and August and how many different places people were out. It was a terrible story for us to tell. We got to the point where we would try to show a map at a daily briefing in Bozeman that they were doing, and talk some statistics, really a difficult story for us to share from that perspective. That is why we really started to focus on individual stories. It was go to a part of the park, we tried to vary where we were in the park, but we would tell a story about a portion of the fire, because the big picture was so hard to get our hands around. I don’t know how the people running it got their hands around the scope of this thing, with the air show that

went on, the amount of personnel and equipment that came in here, it was just overwhelming. I know firefighters get a little upset at times when reporters refer to actions taken in a fire as if it were a battle, but in '88 it sure was. It was the only corollary that existed was a military fight. Maybe not so much in smaller fires but we still use the language, I still use it myself sometimes, and catch myself.

“That big picture was horribly challenging to share to be meaningful. Especially TV. TV needs movement. TV needs pictures. And what TV does best is motion and not facts. I talked to a lot of people in my job and they say we need them to understand this and this and this, and that is all nice, but that is not what TV does best. TV needed moving images. We needed smoke, we needed flame, we needed fire engines, and we needed firefighters. We needed somebody to tell us a story.

“The nuts and bolts were we did thirty- or forty-five seconds and tried to go at some facet. Again, it is the nature of that particular medium. Newspaper is better at some of the things, that television is not good at.”

*Interviewer:* “Hard to picture that reading it in the news to capture what you are seeing on TV.”

*Nash:* “However, the *Gazette* devoted a lot of time to photographs. They had, they did and they still have a couple extraordinary photojournalist. I would put what Larry Mayer shoots up against anything anybody shoots anywhere and I have known Larry for all those years. He is an extraordinary photographer and he can capture still images that are truly great. And the *Gazette* made the most of their photographers. I think they did a better job than any other print outlets with their photography and probably devoted more ink to photographs. They got it. They did a photo book afterwards and republished it and there is some really strong stuff there. They got it then. Stills don't do the same thing as

moving video, but they made the most of what they had available and with the technology they had.”

*Interviewer:* “They were dramatic pictures.”

*Nash:* “I was out on a hand crew in 2000 in the Bitterroots. I have done the honest work, subsequent to my TV days.”

*Interviewer:* “I think it is amazing that you have that background and have this job.”

*Nash:* “That was no plan. In the middle, I spent about a year-and-a-half fulltime in firefighting, wildland fire in between, and I don’t fight fire anymore. I am too dang old. I talk fire better than fight it, but I have spent time out on the line with a pulaski, so things do come full circle.

“I am interviewed. The twentieth anniversary we did some events here in the park, put together some special media opportunities to bring people back to do stories on the twentieth anniversary. But one of the weirdest ones was Jay Kohn, who again was our guy that captured our story at Old Faithful. Jay came to the park to interview me about the twentieth anniversary of the fires so I am talking in my perspective as the Park’s spokesperson about the twentieth anniversary. But Jay did get into some of our personal history of the fires and they used some B-roll of me on the air that night of our special Cooke City, Silver Gate coverage so that was pretty funny. It does make an interesting place for me to speak from.

“I started here as a summer seasonal. My Park Service career started here as a seasonal in 1995. At that time, the job was called Ranger Naturalist. I was a summer seasonal at Fishing Bridge. That was the first year they had allowed in the park, a fire to burn without suppressing it, and it was up in Pelican Valley. I was out there as a park representative talking to visitors about fire. They had a

lot of 1988 questions at that time. It was kind of an interesting interplay there. There were scared people because it looked close to Fishing Bridge. We would get people running in from the RV park, 'Oh my god, when are they going to tell us to evacuate?' Well we are not, because it is really not close to you. They would not believe us. It has been interesting to be on both sides of the story."

*Interviewer:* "About as both sides as you can get."

*Nash:* "That is with some fire experience in the middle. I certainly look back at '88 and I understand it a lot better than I did during the heat of the battle. I know more about it. I have greater compassion frankly for the staff that was here, and the challenges that they were facing. Like things that I had no clue about and my staff had no clue about that were reflected in our daily reporting. Daily TV, like daily newspaper reporting, is not reflective. I have heard it described as the first draft of history. We got things wrong. We did not comprehend some things and it was certainly an incomplete picture that we shared with our viewers. It was the best we could do. It was our impressions and understandings that we could get pictures and sound for. That is what the TV coverage was. I know it colored what the area residents gained about what was going on. All they could do was get it secondhand from us and other news outlets."

*Interviewer:* "What we read is that the evacuation of Canyon was what started the media. Is that when you started also?"

*Nash:* "Our first fire was in June. I was talking to people and they said this is early. It just really steamrolled on from then. It is impossible to pick out individual days and put a hard focus on them until we get to the end of August there. It just all rolled into one. This thing from our perspective became the overwhelmingly dominant story. I really do have to go back and refer to some of the written materials. Everyone goes this fire on this date and that. My perspective is a little more jumbled than that. I was not thinking all the tactical

things all the firefighters and managers were thinking. Mine was getting in the damn park, find a good story, and take some pictures. And it was everywhere, so we just tried not to be in the same place one day after the next.”

*Interviewer:* “I found it interesting the park was still open and tourists were going through.”

*Nash:* “We operated unimpeded as well. Now you like to think that the approach was to make sure that the reporters had access but, frankly, they did not treat us any different than they did visitors. The part that people did not get was that there was still visitors here; there were a lot of people here. There were a lot of portions of the park that weren’t closed at any one time. Again, the scope and advance in this place is how it may have been very significant to the park at any one given moment at a time.

Everybody had this vision of it burning like your campfire does, burning completely out. You know the great thing about the ‘88 fires again was the fact that it was the story that kept on giving. We had a wonderful series of stories to tell in 1989, coming back talking to people, seeing the renewal of this place, and talking about it and the impacts on the economy. And again, the ten, the fifteen, the twenty, the twenty-five year anniversaries. Those are still very viable stories for media to share and those stories show a very different perspective and take a different approach than they did immediately after. So many people had the impression that there was one big fire in Yellowstone and it destroyed the place. Out doing fire information now -- because I love talking to the public when I get the chance -- I will stand at a pullout if I get a chance when we’ve got smoke in the air, and they will go ‘Is that from the fire in 1988?’ And I will go, ‘Over here was in 1988, where you see the fifteen- to twenty-foot tall trees. That was two years ago.’ The public does not comprehend that it was not just a onetime event. Our ongoing challenge here, working ourselves through the media, is helping



people understand that this is a fire-adapted ecosystem and we see fire every year here. The fire impacts that you may be driving by probably were not from the one fire whose year you cannot exactly place.”

*Interviewer:* “It turned out to be no harm no foul over the years. It was sure heated at the moment.”

*Nash:* “National fire policy was reviewed because of what happened here. Yellowstone caught a lot of grief for what was perceived as a decision not to suppress the fires and that was an early decision. By the middle of July, that had been thrown out and the approach was to attempt to suppress the fires. It is just that it did not work. What I continue to try and share with the public is the fact that Mother Nature has to give you a break to effectively get at a fire. It is not about how many tankers, firefighters, and bulldozers you throw at it. If Mother Nature does not give you a break, it does not matter how much stuff and people we have. That is just controversial. We did not do a good job of explaining that story. I don’t think the people on the ground did a good job of helping us explain that story at that time. The fire community oversold themselves for some years, if you look back on it. The ten a.m. rule that the Forest Service had that every fire was out by ten a.m. And if it is not ten a.m. today, it better be ten a.m. tomorrow. I think we oversold our capability as wildland fire fighters and I think they still tried to live up to that in Yellowstone. I don’t know they did the job they should have admitting that they were not as capable as they were. I know we did not tell the story that way. People were to blame and that is the way it came out in the news coverage at the time.”

*Interviewer:* “There are some old firefighters that think there is no such thing as an unstoppable fire, depending on how much you want to destroy to stop it.”

*Nash:* “It is just not as simple as the general public thinks. I always get this crazy image in my mind of the terrible made-for-TV movie that Howie Long was in.

And he is running through somewhere with a pulaski in his hand and screaming we are going to knock this fire out. It does not happen in ninety minutes with a romantic interlude somewhere. It is not how fire is. It is often the vision the public has of wildland fire. The only fire they typically see is a house fire and that is such a different approach to fire than what we do in a wildland.”

*Interviewer:* “It looked like it was going to be gone was the forecast. What you knew of Yellowstone Park was not going to be there again. “

*Nash:* “I still hear from visitors that were here fifteen years ago that Mammoth Terraces are all dried up here. Well, all of Yellowstone, whether it is fire or natural processes, our job is to protect nature at work here. It is not to protect that snapshot. It has been our ongoing challenge here at the park to help people understand. We protect a process here and not a snapshot. And here again, as the news media, we did not tell that story at the time. I am sure that they did as good of job as they might, helping us sharing that story now. It is a hard story to get your head around.”

*Interviewer:* “They say that thirty years is peak time for restoration so when I come up to the park, I see more animals and more bears than I have ever seen before.”

*Nash:* “Now when we are starting to deal with fire, there was period of time here in the park when people talked about the fact that something burned into an ‘88 fire scar, that was the end of that fire. Well guess what, that is not the case anymore. That 1988 regeneration carries fire well in some places, it really does. So, our dynamic approach to fire is evolving here based on how things have changed over the years, post-1988.

“If you look at wildland fire policy over the evolution from 1988, it was a little more black and white than it is now and you know in recent years we can now take any management approach we think makes sense on any park. It does not

have to be all or nothing. On most landscapes, there are some exceptions, but we have a firebreak out somewhere in the park that is threatening people or property, then we are going to see if we can go suppress it. If there are portions of that fire that don't pose some sort of a threat, we are not going to throw money and firefighters out at it. We did not have that flexibility a few years ago. It did not exist. This is something more recent. There are some other federal lands that are a little more all or nothing than we are, but it is all evolving that way."

*Interviewer:* "Just too much fire to fight it all."

*Nash:* "It just doesn't make sense. Just because you can put a firefighter on it, is that the right thing to do? Is that the safe thing to do? Again, we tend to treat firefighters as if they are asbestos, too. Our image of the public is these wildland firefighters and they are tough, strong, and young people and we are going to go out and put out that fire. They know that fire is going and you have to put a firefighter on it. You know, they are living, breathing, living human beings. You see what happens when they are put in harm's way. I think the public is beginning to realize that with things like Yarnell. Those people are important, they are hard-working and they will put their lives at risk and they are not invincible. I think it is a little easier for us to share with the public that it isn't always appropriate to put firefighters on the fire line. I am not sure that was the circumstance on the part of either the fire managers or the public during 1988."

*Interviewer:* "Some of the wildland firefighters say their job description has changed. They are fighting more structure fires than wildland fires. Their job description is changing a little bit."

*Nash:* "Fires are getting more complicated to fight. The public is demanding more information and more of the available resources and budgets are getting tighter. I am not a fire manager anymore, and I am glad I am not, but I still have

to explain what they are dealing with and it is really challenging. The fire world is certainly evolving on how it is approached and certainly some of that comes from what was learned in 1988. Nineteen eighty-eight did change a lot of things and it did prompt a lot of reflection. I am in a different place than I would have ever envisioned twenty some years ago. I would like to think that the continuity of experience allows me now to share a better message with media and the public over the course of time. I will lay the fact that it started in 1988. It was not the only event that leads to this passage, but it was an important one.”

*End of interview*

**Phil Perkins**

Interviewed by phone on August 8, 2014

by Andrea Yeager, Todd Jensen, and Garrett Smith

*Interviewer:* "Thanks for participating in these interviews with us."

*Perkins:* "Where are you guys today?"

*Interviewer:* "We are here in Gardiner right now."

*Perkins:* "I wish I was, too."

*Interviewer:* "It has been pretty rainy here."

*Perkins:* "Yes it is on my computer. I usually look at web cams every day and reminisce. I was there about twenty-one-and-a-half years. I miss it up there. I am down in Fort Collins. It's not too bad here. It's too crowded here in Colorado. But that is where my wife is from and I want to stay married so we moved back here."

*Interviewer:* "During the interview we have a couple of questions to ask you, otherwise feel free to just reminisce about whatever you would like to. If there are any pauses, that's because we are just giving you opportunity to keep talking, otherwise we will just move on in to a different question."

*Perkins:* "I can ramble forever. You will probably learn that, so interrupt me if you want. I don't know if you have any background on me and what I was doing in 1988 or not."

*Interviewer:* "Phil, that is a perfect start. If you just want to start in with your background, and how you got a call for the fires, and what was happening."

*Perkins:* “I moved there in 1985. I came from Alaska with the Bureau of Land Management. I’d smoke jumped out of Fairbanks for a while. I had been in Alaska for ten years. The fire manager officer that was in Yellowstone, he took another position over in Grand Junction with the BLM and so I applied for the job in Grand Junction. Anyway, I ended up in Yellowstone, we kind of traded jobs, kind of a deal. I ended up in Yellowstone in 1985 and moved there about the first part of July of 1985 from Alaska, so I came in. They restructured so Terry Danforth was the designated fire manager officer. I don’t know if you have talked to Terry or not?”

*Interviewer:* “No, we have not come across his name yet, no.”

*Perkins:* “He was a district ranger. He was in the park about thirty-three or thirty-five years or so. He had smoke jumped out of Missoula and he was a Type 2 incident commander. He was my boss. He had been a district ranger so they made him in charge of the fire program and this other guy, Tom Black, who had been in the park forever and he had been a smokejumper and on Type 1 teams and such. So they restructured and so Terry was the fire management officer and I was the assistant fire management officer. Basically, I was running all the day-to-day fire programs over at the fire cache there from 1985. After the 1988 fires they infused a ton of money to the Park Service and the park was paying part or all of my salary. Then they got more professional after the 1988 fires with the funding, so I officially applied for the fire management officer position in 1989 and got that. I was the fire manager from 1989 to until I retired in 2007 because I got too old. They throw you out at fifty-seven with fire. I don’t know if you know that or not? Law enforcement and firefighters have to retire at fifty-seven. Congress passed that in the seventies. They wanted a young and vigorous work force so they put us out to pasture. That’s kind of that.

“So I was there in 1985. I came into the park because I’d had some background. They had the natural fire program going in the park. They started that as a test program in 1972 through 1976. They had success with it and it was one of the first in the country. I think they had one out in Sequoia, Kings Canyon and they were doing some up in the Bob Marshall part of Montana there, whatever forests, the Flathead and Lolo I think. So we were one of the first programs to have natural fires and that was a test program from 1972 to 1976. Then in 1976, they rewrote the fire management plan and had it in there that the natural fire would be the main emphasis of the Yellowstone program. That allowed as many fires to burn naturally that were caused by lightning as possible. That was passed in 1976, and there was an environmental assessment done in 1976. That is what we were operating under when 1988 hit. Prior to 1988, when I showed up in 1985, they had some folks in there working on rewriting the fire management plan to update it. I took that over and we were pretty close to wrapping that up when 1988 hit and kind of discombobulated things.

“So that was a big key. What was our fire management plan and were we following it? Probably jumping ahead but when we had all the reviews after it snowed and rained and the smoke settled and they got in to the reviews after the fires, which was pretty much like the Spanish Inquisition. The Forest Service was heading it up and they did not like how things had gone in Yellowstone, so they had an axe to grind with the Park Service. Anyway, the big thing that we did is that yes, we did have a plan and yes, we were following the plan, so that was a big key. We followed it, we documented it, and we were doing exactly what we said we would do. So that is basically why nobody got fired after 1988. It was a pretty big deal.

“I don’t know if I am rambling too much or do you have specific questions here.”

*Interviewer:* “No it’s mostly just your reminiscing of that time so if you have four good stories to tell that would be great.”

*Perkins:* “I got hundreds of them.”

*Interviewer:* “Firefighters are good storytellers.”

*Perkins:* “We are. It starts off, this is the truth, this is the way it really happened, and this is no joke. Then you know that it can be embellished. One of the guys that I jumped with, a guy named Murry Taylor, he wrote the book called *Jumping Fire* so he always said never let a little truth ruin a good story. That is firefighters for you.

“Anyway, when I got there, one of the big people that was there that was important to the program was a guy named, shoot I lost his name, I’ll get it back in a second. Anyway he had been involved with the program there. Roy Rankin is still there, isn’t he? Does Roy Rankin ring a bell?”

*Interviewer:* “No, Roy does not ring a bell.”

*Perkins:* “I drew a blank on the researcher’s name. I have only known him for thirty-something years. I’m having an old timer’s moment here. Don Despain, I don’t know if you had talked to Don yet or not.”

*Interviewer:* “He is on the list.”

*Perkins:* “He is absolutely critical. He predates me. He was there in 1982 when they started the natural fire program. He was key to that. And then I think Roy Rankin came to the park in 1978 or 1979 and he was a key component. He worked with Don. Don was one of his field techs and researchers and took over as management specialist. Don was kind of the climatologist and the keeper of all the records there. Backing up a little, Mammoth has a weather station there and it is the second oldest weather station in the state of Wyoming. The oldest is out



of Cheyenne. So we got a plaque for taking weather I think in 1997. So we had good weather records, fire records, and good historical start records, updated, and stuff. Basically, we had a drying pattern from about 1979, in 1979 if I remember right, they had a couple pretty good fires around Mount Washburn. They had one that was about five thousand acres and had another fire down in Forest Lake that went five to ten thousand acres.

“So they had some good examples of letting fire roam around there. So from 1979, there had been a drying trend and a ten-year drought when 1988 hit. Another thing that had lined up was some mountain pine beetle infestation I think in the late sixties. A researcher up in Missoula had done a lot of work on that, Kevin Ryan I think did a lot of work on that, and he has got papers out. A lot of it went down to the middle of the park from Old Faithful down to the Thorofare and out into the Targhee Forest. So they had a big infestation in the early sixties and seventies, so they munched a lot of trees. Those trees are dying and falling down. Yellowstone does not get a lot of fires. We average about to forty fires a year. Not getting much this year, looking at the stats they have had about six fires this year. That is not uncommon. Some years we would get ten fires and burn five to ten acres. Then there are other years where you get forty or fifty fires a year, and burn twenty-thousand acres. So it is kind of an all or nothing fire regime but everything kind of lined up in 1988. We had the drought situation going on. A lot of this is from Don Despain and his research. A lot of these areas have not burned in 150 years, a lot of down, and dead heavy fuels. We had the drought and, in this year, in 1988, the weather lined up. It basically went about three months of a bunch of lightning and little rainfall, so it was off to the races with the fires. That was kind of the setting.

“Initially, our first fire we had was in May. The Rose Creek Fire around the Lamar Ranger Station. I think the nine or ten natural starts that we had that year, they were rained out and went on their own. They did not do much, tenth of an

acre or single-tree fires. The first one that lived to grow large was the Fan Creek Fire that started late June, maybe the twenty sixth of June or something. Actually, Roy Rankin went out on that to look at that so he could get his specifics. We knew we were in a dry year and one of the things we did need was the Gallatin fire staff folks. We met with those guys, saying we got potential for fires to impact you guys.

“Backing up a little bit more, also by 1985 we had cooperative agreements with the forest around us. We did not have one agreement like we do today for the Greater Yellowstone area. We had agreements with all the forests around us in Teton National Park. We had an agreement with the Gallatin, the Custer, the Shoshone, Bridger-Teton, Targhee, and Teton National Park for fire that burned across the boundaries. There were certain parameters, we had those agreements in writing, and that was a critical factor. We did not have like a set mechanism, but we had things that when the fire got going we would contact that we had fire on the boundaries and we were going to let them burn naturally. They might or might not have the potential to come onto you guys was kind of the process. We had met with the Gallatin for sure, and had flown the boundary and looked at where, if we had fires come across here, could we put fire lines.

“We talked to the national office, and I had talked to the national office, a guy named Steve Botti. He was up there and he was doing a lot of stuff and Rick Gale, he is passed on now. He was head of the operations regional group for the Park Service and in charge of fire operations.

“We talked to him, he actually came down, and one of the area commanders helped us out a bunch. Then a guy named Butts out of Boise was in charge of Park Service. We talked to all of those folks and told them we had a dry year and we had the potential to have a very active fire season. We had warned people before that were around and our forest friends that we could be pretty active.

That kind of sets the stage. What really happened was that it got drier and quicker, and we got some wind. We had like eight dry cold fronts come in and they started pushing the fires around.

“We had our first fire that really took off. We had fires that started over in the eastern part of the park in the Clover and the Mist, they burned them together, and they took off one day and burned pretty good. Then by that time it was not in a position where we could really do much about them. Once we let them go it was hard to corral them back in. These fires actually burned up to the eastern boundaries and over the eastern boundaries to the Shoshone and brought one team in, and put on that for a while. That was an early stage. That was probably by July. That sets the stage and we just had more lightning strikes.

“Before that, they had a fire start up in the Absaroka Wilderness administered by the Custer National Forest out of Billings. Then the Red Lodge District had a Type 1 team that had gone up there for about two weeks in the wilderness and tried to put a fire out early that had started in June. It did not go out and it actually came back in and burned back into the park. This is the fire that actually burned through Cooke City and stuff. That is a little known fact that got lost in the smoke.

“There was a lot of fire activity going on around the park. We had more fires start. We had one down on the southern boundary. It was the Falls Fire, and the Targhee Forest did not want any part of that coming on to them, so we would put a maximum effort into it. We had the Alpine Hotshot crew, we had the Park Service crew, they came in, and I worked with them for about four days. We burned out from Tanager Way down to the park boundary and kept that fire inside Yellowstone. That joined up eventually with the Red and Shoshone to make the Shoshone Complex in the southern part of the park. That’s kind of the stage.

“The real kicker, the thing that broke the camel’s back, was the North Fork Fire. That actually started out on the Targhee National Forest by a woodcutter who threw his cigarette down and it took off that afternoon. It was a very windy afternoon, so it took off and burned into the park within like an hour. I actually flew it with Dan Sholly, he was the chief ranger at the time. I flew it with him, Terry Danforth, and a guy named Steve Fry. Is Steve on your list or not?”

*Interviewer:* “No.”

*Perkins:* “Okay, Steve was district ranger at Mammoth at the time. He became a Type 1 incident commander in the Northern Rockies. He had one of the Northern Rockies Type 1 teams for about ten years, and I was on his team. He is now working for the state of Montana, Kalispell. He became chief ranger at Glacier National Park. He was one of the key guys. He was pretty much the operations chief for the summer. We kind of organized as an in-park team, where Dan Sholly was the incident commander and Terry was kind of his deputy, and Steve was doing a lot of the operations. I was working with Steve as his understudy, doing more of the operations and then running the day-to-day operations of the fire cache guys, the helitack crew, and our other crews. That’s kind of how we were organized.

“All four of us flew this North Fork Fire just after it came into the park and it was spotting about three-quarters of a mile ahead of itself. It was three-hundred acres within the first hour that it burned into the park. It was a big thing that the Targhee Forest wanted to run bulldozers into the park to stop it. It wouldn’t have worked because every bulldozer line is either black on both sides or either green on both sides. If fire ever got there, it burned across every dozer line they ever put in, so that definitely wouldn’t work. When that fire came in, that was the real thing because it was a big threat to Old Faithful just because it was pretty flat terrain out there on the western side of the park. There are lots of old-growth

lodgepole that is down and dead and it just had a straight shot into Old Faithful. That fire burned roughly 500,000 acres by itself. That fire threatened and burned past Old Faithful. It burned to Norris. It burned past West Yellowstone. It burned to Madison Junction, West Yellowstone. It burned up to Norris and then to Canyon Village, then eventually came over Bunsen Peak, and burned down into Mammoth. We stopped it at the YCC Camp. We actually back fired from the YCC Camp and stopped the North Fork from coming into Mammoth. They had a big sprinkler system set up there and we put foam on the YCC building up there at the YCC Camp there in Mammoth. Then it burned out to Tower and finally stopped there. That single fire was probably the most important factor of what happened that summer. It was that one fire, we just could not stop it. We had Type 1 teams in on it and actually had a team that was in at Old Faithful that went to Madison. They split the fire in half and put another team in at Canyon. So they had teams at Canyon and Old Faithful over out of West Yellowstone covering that and could not stop that fire. It was getting pushed by the strong winds and cold fronts. That is the big picture for the summer and it kept burning.

“The Red and Shoshone Fire came together and that burned all the way down to the south entrance. It burned up to Grant Village and past, so Grant Village was threatened by that fire. The other big one was Clover Mist. They had another fire start by an outfitter out in the Gallatin Forest called the Hellroaring Fire. We had a north wind and that pushed the Hellroaring Fire into the Yellowstone Park and that burned out just north of Tower Junction and that area. That thing burned I forget how many acres, but it was pretty impacted up past the Lamar Ranger Station. The fire that had started in the wilderness on the Custer National Forest it burned down back into the park. Then the Clover Mist Fire joined up with that fire and that is the fire that spotted across a six-blade-wide dozer line at the park boundary at the northeast entrance toward Cooke City. They tried to do a

backfire inside the park, the backfire actually spotted across the dozer line, and that is actually what burned through Cooke City. That joined up with the Storm Creek, which is the one that came out of the Custer. So Storm Creek and Clover Mist joined up and burned through Cooke City. The Clover Mist on Black Saturday left the park. On Black Saturday, on August twentieth, we burned about 165,000 acres inside the park. That is when the Clover Mist burned across the eastern divide at Boot Jack Gap and went over to the Shoshone Forest and it ended up burning lots of acres, I want to say 85,000, maybe more, onto the Shoshone Forest. That is the only one that left the park. The Park Service got blamed for everything.

“Over sixty percent of what burned was the five fires that started outside the park. The North Fork specifically, the Hellroaring. There was one that started down by the south entrance at Flag Ranch from a tree across a power line. That was the Huck Fire. It went 10,000 acres within the afternoon. It was another windy day. That was Black Saturday. They had two crews there, and a helicopter there, and they could not stop it. They saw the power line – . A tree had come across a power line to start the fire. They jumped right on it and it was off to the races. Then by five or six hours later, it was 10,000 acres. That is the kind of fire behavior, I have been doing this for over forty years, and I have never seen anything like that. I have been on some of the biggest fires in the west. I’ve never seen anything – I’ve seen some things come close to that but not exceed what we saw in 1988. Then we had a couple other fires, we had firefighters burn into the park. They actually burned most of the acreage, but of course the Park Service got blamed for every fire in the Western Hemisphere that year.

“Anyway I’ve rambled on a long time. Do you guys have anything specific there?”

*Interviewer:* “What were some of the unexpected challenges of the 1988 fires? With your fire management plans, did you feel prepared and did others feel prepared for the job?”

*Perkins:* “Nope!” (laughs) “We didn’t. Quit honestly when we were talking to our national office, the largest fire that we had ever had in recorded to history was 20,000 acres. I think in the year 1939 or 1940, down in by Yellowstone Lake. They had a fire burn about 25,000 acres. So when we were talking to the national office we said this could be a historic year, we might burn 50,000 acres. Well, that was not even close. We burned roughly 793,880 acres officially is what we burned inside the park. Then, about 1.5 million in the Greater Yellowstone Area burned. So we were not even close to being prepared for anything like that. Our staffing was pretty minimal. We had roughly 125 people trained, and put together about four crews inside of the park. We had the militia, but the normal fire crew that we had paid for was about twenty to twenty-five people, so it was a pretty small staff for a couple of million acres.

“The Park Service was woefully underfunded at the time. When the reviews came down they realized that we were underfunded and that we had way less than our counterparts in the Forest Service, BLM had for fire staffing for that complex of a program. So that is why a lot of funding came in 1989, and we got fully funded fire crews and my position was fully funded as well as my assistant was, and our helitack crew, and our lookouts and stuff, and our fire monitor. So we benefited by extra funding after the fires, but at the time the fires started we were not ready for that kind of fire activity. Quite honestly, we had cooperative agreements that we relied on our neighbors in the Forest Service to help us out, and also a smokejumper liaison that was a Park Service employee out of West Yellowstone smokejumper base. We contributed money to the base. We would have the smokejumpers to help us out on a lot of fires that we suppressed. So we weren’t in bad shape, but we weren’t prepared for that kind of fire activity.”

*Interviewer:* “Do you think we are behind in treating fuels in Yellowstone? You said it was kind of like an all-or-nothing fire regime here.”

*Perkins:* “I think that when I retired that was still debatable. Personally, I don’t think fire suppression was —. It did have an impact but Yellowstone being so much wilderness around it, I think in 1972 they tried to put more acres in wilderness in Yellowstone. I think that were getting some backlash because the Wilderness Act was passed back in 1964, so there was a lot of acres being stuffed into wilderness. There was a lot of people saying that we are locking up too much timbered land in the west and potential recreational developed land, mining and logging, and stuff like that. So that kind of backlashed at Congress against more acres in wilderness. So in Yellowstone, it was kind of treated like wilderness so in that 1972-era, that is when they started the natural fire era from ‘72 to ‘76. It was not wilderness, but it was treated as wilderness. So with all the other wilderness areas, and as remote as Yellowstone was, and as very few structures to be impacted and people, that was a perfect place for natural fire. I agreed with that, so the thing was that the park staff and researchers and, from management down, their process was pretty well established that the natural fire program, the natural process is good, and this is what we need to do, but we don’t want to do prescribed burning. What we started doing was after the 1988 fires in 1992, myself, Dick Bahr, and Andy Mitchell, we got together and started thinning and just doing hazard fuel reductions around developed areas to protect developed areas. And went to the backcountry cabins. We updated that plan in 2000, 2002, somewhere around there. So we just started doing that, letting the natural processes work. I rewrote the fire plan in 1992 with help from Dick Bahr and Don Despain and Roy Rankin and a lot of people in the national office had a lot of input and I was the main writer.

“Again, the park wanted to stick with natural processes and again I think that is the right way to go. Like I said, I have been in fire suppression and fire



management since 1972, and putting them all out is not the answer either. You've got to do that when there is life and structures threatened. In Yellowstone you can allow fires to roam around. I think it is a good policy and a good plan, but it is still pretty controversial. I would say a majority of the public, from my feelings, are not really behind that, but I think it is the right thing to do in Yellowstone. I don't know if that answers your question or not?"

*Interviewer:* "So you were right there at the beginning. And it just starts, where it is out of control and not being put out, and now going on for months. What is the mood of all the management and the people in the park of this thing that is just not going to stop?"

*Perkins:* "Well my humble opinion was we tried to talk to our public affairs and the research staff with John Varley. We are putting out the message about natural fire: It's kind of the best thing since sliced bread. Which I agree with. Like I said, I have been putting out fires for a lot of years and just thought, gosh, this is stupid putting out some of these fires; it needs to burn to clean things out. Us fires guys tried to say, yeah, that's correct, but that's not the message you want to put out now; we are going to end up on that one. So that was kind of the message. They sent the researchers out first off with that message, and the public didn't want to hear it. The park got beat up bad, I mean really bad. Bob Barbee, who was the superintendent, he is just fantastic. I can't say enough good things. I just have the highest admiration for him; he weathered it. He came over to the newspapers and us one day and the Forest Service was just bad mouthing us every day, especially the Billings paper, above the fold, just saying how bad the park was doing things. Bob said, 'I'll take care of the politics. You guys go fight fires and keep people safe. Do what you need to do, but if I see one person quoted in the papers, this isn't anything against the Forest Service, but I will fire you.' (laughs) He said, 'I'm not going to put up with that. We don't need it, we are above it. We are taking the high road. I mean it.' Everybody knew he did, so

I didn't speak my humble opinion obviously, and kept my job, which is good for my family. The national press just came in there and they had a field day. They had cameras set up at West Yellowstone, Mammoth, and all over. The fires were just standard placement fires. Some of these fires like I say, we burned 165,000 acres on Black Saturday alone, one day. So that's a lot of country to burn. I don't know if you appreciate the size of that, but that's roughly a quarter of what burned, a fifth of what burned all summer in one day. There were days when you'd come in -- I remember one person came in one day, Ann Rodman was there, Ann's still there. She works for the GIS program, I assumed. She was helping out, she was a soil scientist, but she was a great computer gal, and great with maps, and burgeoning GIS and all that good stuff. She was helping us map the fire growth every day. The one day we said, 'Ann what's burned today?' Somebody said, 'Well, 50,000 acres.' I said, 'Well, we had a great day.' We'd never burn 50,000 acres in a year, even half that, and we're doing that on a daily basis.

"Things kind of got skewed out of proportion that summer with the extreme fire behavior. National news had come in there and I remember the CBS news, unless you guys are old, I wouldn't imagine you'd remember Roger Mudd or anything else, but he is standing out there. There is a blow down between Norris and Canyon, and the fire burned through there, very hot and extreme. It burned very hot and pretty much sterilized the soil for a few years. It was just totally nuked out, there was no standing trees. There was nothing there but logs, trees on the ground, burn up and ashes. So it looked like a moonscape. They would go to that spot and say, 'This is what Yellowstone National Park looks like.' Which was not true, but that was kind of the media, they were going for the hype. The other agencies were really not pleased with the natural fire program that Yellowstone had had, and it gets out of control. We only had one fire leave the

park, that was the Clover Mist to the Shoshone, which was east of us, downwind is the one that got the recipient of that.

“The big thing was the fires burning into the park, but that message didn’t get out, so people just beat us up. Quite honestly, after 1988, there were these big reviews and they were wanting to, specifically the Forest Service, they were wanting to fire the director of the Park Service, who was William Penn Mott at the time. They wanted everybody in fire management in the Park Service to be fired. They came after us with a vengeance in their reviews. So it was pretty bad. They had reviews all over the country. There were some people that had some reasoning and there were some good enough fire people in there that realized that our natural fire program didn’t do all the burning. It was fires that started outside the park that burned in that did the most of it. Other areas of the country were utilizing that for fire at that time. They didn’t want the things to go away so they gave us fifteen recommendations that we had to incorporate into our fire management plan. They basically said the natural fire plan is a good plan, it’s a good program, but the guys in Yellowstone just goofed up and that they didn’t do a good job of managing that year. So we accepted that, left it at that, and moved on, rewrote our plans, brought our plan back on in 1992, and it’s been good since. We haven’t had, at least since I left, we haven’t had a fire do what we didn’t want it to after we came back online. We had one fire, the Hellroaring Fire in 1996, that burned from the park into the Gallatin up the Hellroaring drainage, which was planned, and we were looking at that from day one. We have had a successful program since then.

“Anyway, but until the South Canyon Fire in 1994, here in Colorado like on Wood Springs, I don’t know if you guys are familiar with that one. South Canyon killed fourteen people down there. Until that happened, that was on Forest Service, BLM watch, until that happened, Yellowstone was beat up in every single meeting, every time I went out in public, the firefighters, they were

bad mouthing us until that happened. We didn't hurt much less kill anybody in any of our fires in the park in 1988. That's the thing I'm proudest about. We told everybody, 'These fires are going to rip, they are going to burn, they are wind driven, they are going to go big acres, they are going to spot out ahead. It's all natural, trees will come back, they need fire to regenerate. It's okay, let's not get anybody hurt, let's not be stupid, let's be safe.' That was our message.

"I'd say one thing that I would really like you guys to take away is that we realized this was a— everything wound up, nature taking its course, and it's just fine. The park was going to be just fine, the trees. Eighty percent of the park is forested, eighty percent of the forest was lodgepole pine, and they need the fire to regenerate, so they were going to come back. The park was going to be just fine. We just didn't want anybody to be stupid or get hurt or injured. Definitely not kill anybody, so that's what I was personally the proudest of, was our safety record. Not that anybody didn't get injuries, but I don't think there was any serious injuries and there was no death in the park. There was a couple outside the park. I think on the Shoshone a guy got hit by a tree that fell over when they were doing bucket drops. That was in October, during mop-up stage. That was a heck of a tragedy, any death or serious injuries of firefighters is horrific for me. I think there is a helicopter pilot that had a malfunction, helicopter that crashed into a lake down in the Bridger Teton and he died. I think those were the only two fatalities around the area that I am aware of, that I remember, but there was none in Yellowstone. That's again what I am proudest of, we just didn't hurt anybody.

"Did we make all the right decisions? No. (laughs) We didn't make all the wrong ones. Even if we would have put every single fire out that we could have when they started, which would have been the Fan, the Clover Mist, I'm sure we would have caught those. It would have been tough, they were pretty remote. The Falls Fire we couldn't put out, we just herded it around. The Red, the

Shoshone, we might have. The Fan we definitely could have put out. But if we would have even put out all of our fires that started in the park, you still would have had the North Fork Fire coming in, the Hellroaring Fire that came in, and the Storm Creek Fire that came down, and then the Huck Fire. You probably wouldn't have had a lot of difference in the acres burned. If we would have just said, 'Hey, we are putting everything out this year,' we would have been more in the white hat. We would have been the good guys. I don't think anything would have looked much different. One thing is that the North Fork Fire on its last major run on September eighth, the last cold front, that was the eighth cold front we had come through, ran into the Fan Fire. We actually caught the Fan Fire, they had a little rain up there, they had a Type 2 team on it, and they actually surrounded the Fan Fire. It burned up to the park boundary, I don't think it hopped over. So we actually stopped that fire. The North Fork Fire, on its last run, ran into the Fan Fire. So if the Fan Fire hadn't have burned, the North Fork would have kept going, and would burned on to the Delta and no telling how many acres it would have burned. Whether known, an interesting unknown kind of a fact.

"It was pretty tough living there and we ate smoke for three months. The last push, the last cold front that came through—I had three daughters, the oldest was six, and four, and one. Yeah they were six, four, and one when 1988 hit, and they got evacuated out to Bozeman so they went to the motel. A gal at the desk goes, sniff, sniff, and sniff, 'You guys are from Mammoth, huh? I can smell the smoke on them.' So we had been living in smoke for several months. They could smell the smoke off the clothes from being in the park, so it was pretty bad."

*Interviewer:* "So where were you when it finally snowed? What was the feeling like?"

*Perkins:* “It was pretty amazing. We were so thankful. That was actually in November when it got to snow. What happened was right after the last cold front in September, September eight, I think it was September ninth or tenth, we got a little bit of rain and just a snow and that actually stopped the progress, so we didn’t have much more acreage grow. We had like, I don’t know, over 10,000 people in the military there, so we were able to get a handle on the fire perimeters. But inside the perimeters, probably, in some areas, I’d say fifty percent had burned, maybe sixty at the most. It really warmed up the rest of September and October. It got back into the eighties and low nineties in September. It was in the eighties in October. It burned inside the perimeter so we still had a heck of a lot of activity and crown fires, ripping fires, and big columns of smoke through the rest of September and October. It was into November before it snowed enough to kind of take things out. We had crews rehabbing until November fourteenth or fifteenth when we sent the last crew home. We had started on basically with the Fan Fire, on June twenty-fifth, so we had gone into July, August, September, October, so about four-and-a-half months we’d been going. I think I had five days off in four-and-a-half months. Two days off in one stretch, that was a real bonus. (laughs) We were more than tired. We were literally burned out; it was a tough. Well, we were working, during the height of it; a sixteen-hour day was a short day. This was before they had limits. I think we could work twenty-eight days then before we had to take a day off. You could work twenty-eight and you got two days off.”

*Interviewer:* “Not a lot.”

*Perkins:* “No I worked four-and-a-half months and had five days off. Whatever that is, it works with me. It was not a lot of fun. It was tough.”

*Interviewer:* “What were some of the more memorable moments. Do you have any interesting stories? Anything about wildlife?”

*Perkins:* “Yeah. I have several personal ones that I will definitely never forget. Black Saturday, it was a pretty amazing time. My wife’s birthday was the nineteenth, so I got a few hours off so we actually drove down to Corwin Springs. I took her out to dinner for her birthday so we could try to get out of the smoke for a little bit. But the payback was that I had to do the morning briefing the next day at Pebble Creek. I got up at three-thirty that morning, went in, and got the incident action plan. Steve Fry was supposed to have the day off; he came in. I think Sholly, he was always up, Sholly never slept -- he would sleep maybe four hours a night. He told me he would meet out after the briefing, and we’d fly around and take a look at things. So I went out and briefed the troops on what we were going to do for the day out at Pebble Creek. Our plan was to get two Chinook helicopters that flew over from West Yellowstone. They were going to pick up ten crews, just out -- we had a little landing spot out from the Lamar Ranger Station there. We were going to insert them on the Clover Mist Fire and try and do some line construction and some burnout to keep it tied into Mount Norris from Norris there to Lamar River and Cache Creek or Calcite Creek, I forget -- whichever of them runs in there, we were going to try tie the fire off on the western perimeter there.

“Anyway, we got done with the briefing, I went for a helicopter flight with Sholly, and we looked to see what we wanted to do. We scouted out where we wanted to put our line in. I landed back and I had a division supervisor there that was going to go in with the first crew so we put the division supervisor and two helitack people with our park helicopter, which was the Llama, and we put them in to receive the crews. Well, as it turned out, the Chinook helicopters were about an hour late, which turned out to be a wonderful thing because they were supposed to come in about eight and pick these guys up and they were late. Anyway, about nine o’clock I looked up and I saw the Hellroaring Fire that was into the Gallatin Forest. It had put up a convection column. I don’t think I’d

seen a convection column that early in the morning. This thing is ripping at nine in the morning. We'd hadn't had a lot of humidity recovery at night, so these fires would burn all night long. Sometimes they would burn for miles during the night. They wouldn't slow down day or night, they would just rip twenty-four hour a day. So it had put up a convection column. I looked over and the Storm Creek over by Cooke City was putting up a convection column. I look back and our fire is putting up a convection column. Where are we going to put our people? From the division sup, I just stuck back in there, and he says, 'Boy, this fire is gotten really active. It just really came alive. It's ripping already. We've got maybe five, ten minutes before it's going to burn over us and we're going to be in fire shelter. You've got to send a helicopter to get us.' Our park helicopter was getting fuel. (laughs) He wasn't going to go anytime soon. So there was a second Llama that we had on contract. Actually we got a hold of him and he cranked that one in and got these guys out before they got burned over.

"They came back out, we regrouped, and about that time the Chinooks show up. I talked to Sholly and we said, 'Well this plan ain't going to work.' So we'd just say we'd back off to the Lamar River and try holding it on the Lamar River, and that road that runs out to the northeast entrance from past Lamar. That was our game plan for the days. We had ten crews out there holding it and mopping it up, sent the Chinooks back to West Yellowstone. Again, being Black Saturday, this is another major cold front where you get strong winds that surface and blow all day long in low humidities. We had a remote weather station up on Mount Norris -- anyway for about eight hours it was clocking winds between forty and sixty miles an hour. Then for a four-hour period, it clocked winds at over eighty miles an hour. That's kind of the weather conditions we were having. This is about the third or fourth, maybe fifth cold front we'd had so this was what was spreading these fires, these cold fronts that would come through, we'd have these strong winds that would blow through. Anyway, Sholly came



back out and he says, 'Well, it looks like it may kind of try to reach a divide between the Thunderer and the Amphitheatre,' the ridge line that's just, I guess, to the southeast, if you drive out towards the northeast entrance. The fire got established in Cache Creek and Calcite Creek and was burning on the east side of Mount Norris and to the Thunderer, and Abiathar and Amphitheatre. So about dark, this is about twenty-hundred, we had been up since about o-three-hundred, so about seventeen hours into this day roughly, I take two park crews and we fjord the Lamar and go hike up to the Thunderer and the Amphitheatre. We start digging line across the gap here, had to keep the fire from coming over into the Soda Butte drainage into the Lamar. If it would have gotten established in the Soda Butte then it would have had a straight shot up into the northeast entrance into Cooke City. We dug line all night long, mopped up all night long there, and the fire was kind of paralleling us. Fortunately, it was just kind of coming up. It was bumping us pretty good and we were getting some spotting and a lot of tree torching out. It was more than exciting, I can tell you that.

"This fire, it made an eight-mile run that day. It made a run from the confluence of Calcite Creek and the Lamar, all the way to Republic Pass, which just right on the other side of Republic Pass is Silver Gate and Cooke City. About the time the winds stopped blowing, it had made its way to Republic Pass and kind of died out and didn't spot across. I thought it was going to spot across. If we had done a prescribed burn, we couldn't have done a better job. It was an almost perfect burnout time. We stayed up there all night and kept digging lines. Shoot, about eight o'clock in the morning we started running retardant across the ridgeline and so we ran retardant forever. The crews stayed there. Steve Fry came and got me about noon so I had been up about twenty-four, thirty-three hours by then. We flew out over to the east boundary -- there's a place called Boot Jack Gap on your map -- and the Clover Mist left the park through Boot Jack Gap and it runs out of vegetation. It gets into alpine vegetation where there's just lichens, moss,

and small bushes and for about three miles there's not much vegetation. We got in the helicopter where the last trees were, to where the next trees were on the Shoshone side, and it was like three miles. So it spotted across three miles, spotting across the divide with this eighty-an-hour-mile wind. The fire was burning farther than we could see in the helicopter on to the Shoshone. It was off to the races on the Shoshone, so they got the Clover Mist Fire on to them. I finally got back, did a few other things, and finally got back to the fire cache about sixteen, seventeen hundred. That was my most exciting day of the summer."

*Interviewer:* "Sounds like a long day."

*Perkins:* "That was a long couple days. Again, had a 165,000 acres burn that day and yet nobody hurt."

*Interviewer:* "Well, we've got about an hour. Is there anything else you would like to add to the oral history?"

*Perkins:* "You know I had one other exciting story towards the end on the last push, when the North Fork burned past Old Faithful and burned up Old Faithful. Those guys did a fantastic job down there saving the Old Faithful Inn. They actually got some spot fires up on top because they had wood shake shingle. They had sprinklers up there and they got in underneath there. They got guys on top of the Old Faithful Inn putting fire out, and they did a wonderful job. It really ripped past there. Actually, I was supposed to get a good deal since I had been working for so many days and stuff. I actually had gone out and burned around Buffalo Plateau Cabin when there was a Type 2 team on the Hellroaring Fire, they did a backfire. I was firing around the Buffalo Plateau Cabin and to protect it and they were supposed to join up which they did. I went out and fired around that and then I go on down to the south in to the other park, Huckleberry Cabin."

“That was supposed to be a good deal, I suppose to get a couple days of rest there. Well, there was one other ranger, Nick Herring, I think he might be assistant chief ranger or was. But I’m not sure if he is still there. So he and I, I don’t think he had ever been on a fire before, so we got down there, so everything was just to protect the cabin, and the horses and stuff. I think they got the horses out. Anything that cabin didn’t get burned. We had structure protection for all the cabins. The park had taken over structural protection for the cabins after the team that was on the Fan Fire let the Sportsman Lake Cabin burn up, we’d put our people on it, and we never lost a backcountry cabin. So we had two pumps in tandem that would run, and most of the cabins had creeks around them so we had them set up. We had done some fuel reductions around the cabins. So anyway, it was supposed to be a good easy kick back. We get down there, things are not too active. About two in the morning I roll over, look out, and just see this big red glow. (laughs) That wasn’t good. I think it was the Huck Fire was coming at us. We got up, took a hike out, and the fire was about a mile from the cabin so we said we got a little bit of time. We went back to bed, got a little bit of sleep, and get up about six. We went and checked the fire and it was moving towards there, so we went and fired up our pumps and wet everything down around there. Probably about noon the fire came in, and so we had to backfire around from our wet blind out from our cabin to keep this fire from coming in from on top of us. So that was pretty exciting, torching out and everything. That was good. The fire kind of went on a little bit to the north. The next day, it decided to come back at us, we had a little wind shift that blew the fire, it went by us to the north, the winds were coming out of the north, northeast. It blew that fire that had gone by us that day back towards us. We fired around on the north side of the cabin. That was pretty good, that worked real well. Another exciting day.

“Then when the last cold front came through again, it went by Old Faithful. The Huck Fire came up over the ridge above the cabin and started coming down. This is like the third day that we are getting hit by fire, it went across the \_\_\_\_\_[?] to wet everything down pretty good and make sure the pumps were gassed up and had fuel and everything else ready to go. I went across on the other side of the creek and did a pretty extensive backfiring operation on the other side of the creek. It would go up the ridge and hopefully meet up with the main fire. Well, it went up there quite a ways and met up with it, but it was blowing so hard and coming at us so fast that it spotted across, right in front of the cabin. (laughs) We had our hose laid out from our pumps, and had our sprinkler systems, and the sprinkler is on top of the cabin. So we were wetting down the grass as much as we could, trying to put out the spot fires. Of course, not far from us, right across the creek, the trees are torching out. So it was getting a little warm to say the least. We were taking turns going out there, wetting things down, and running behind the cabin to get cooled down. He goes, ‘Well, should we get out our fire shelters?’ And I go, ‘Oh no, we are good, we are fine. No problem.’ Anyway, it was pretty hot for probably about an hour, an hour-and-a-half there. We just kept putting out spot fires around the cabin. It pretty much burned within about thirty feet of the cabin. We were able to save a little bit of grass for the horses to eat. That was another exciting day.

“We get that all knocked down probably by dark then, and we had been at this since probably just right after lunchtime that day. Then we sit down and finally had something to eat, probably just some food rations or MREs or something. Things are kind of looking good and calm down. Ten, eleven o’clock I figured it was probably time to get some shut eye so we go to bed. But we left our boots on in case we had to respond real quickly. That was kind of the norm for those three days. So we are sacked out and about one in the morning I hear this noise and got up on the roof. I thought that’s like pine needles falling on there so it’s

making another run at us. So I go, man I thought everything was burned up. We get up, we go outside, and it was raining. (laughs) We thought, oh finally. Those are probably two of my personally more memorable days of the summer. I try not to embellish too much.”

*Interviewer:* “It seemed like a lot of long, hot days.”

*Perkins:* “It was. It’s been what twenty-six years now, those are pretty vivid memories.”

*Interviewer:* “Well we appreciate your time today.”

*Perkins:* “Well, you are more than welcome. I don’t know whom else you got on your list but, do you have Dan Sholly on your list?”

*Interviewer:* “How do you spell that last name do you think?”

*Perkins:* “It’s S-H-O-L-L-Y. Dan, he was the chief ranger for geez, I don’t know how long, quite a few years, eight, ten years. I don’t know where he lives these days. Terry Danforth lives in Bozeman. He’s out up East River Road, some place south there. Then another guy, Bob Barbee, lives in Bozeman also. He was the superintendent.”

*Interviewer:* “We are actually interviewing him on Friday.”

*Perkins:* “Say hi to Bob. He is my hero. He is an amazing gentleman. He really is just the finest gentlemen, manager, superintendent you would ever meet. Highest respect for him, he was great. Terry Danforth, he was my boss; he was one hundred percent involved just like everyone else. He had a Type 2 team for quite a few years in the Northern Rockies. He was put down at Grant Village running a Type 2 team operations for a good part of the summer. He was a key, key person. The other one is a guy named Gary Brown and I know he retired, I think into Bozeman. He was the assistant chief ranger at the time. He also had

the bear management program. Then of course Don Despain. Roy use to—. He should still be working unless he retired, he lived in Gardiner. He lives in Gardiner.

*Interviewer:* “We will have to check those names out for sure.”

*Perkins:* “You should talk for sure to Roy, he was instrumental. Rick Bahr was the helitack foreman that year. When I took the fire manager officer position, he took my job as the assistant fire manager officer. He came in 1986 and so he ran the helitack crew. So he was out there in the dirt. He was out there when the Clover Mist joined together and took off. He would have significant number of details. So he was there. I can’t remember when he moved. He went to a regional job; he is in Boise now unless he’s retired, and he’s probably getting close to retirement. Another gentleman that was there, he came later in the year, Andy Mitchell, he was on the helitack crew. He became the assistant, after Dick left, he got the assistant FMO job so Andy Mitchell was there. He just retired. I think he was the FMO in Acadia. He hit the age limit here in June. He was around for, in 1988, in the later part there, he was helping our helitack team. He jumped in Alaska that summer, came down, and joined our crew. He had worked for us in 1986 and 1987.

*Interviewer:* “We are going to stop recording just for transcribing purposes but you are recorded here at the Heritage Research Center in the oral archives for Yellowstone National Park for your experience in the 1988 fires.”

*Perkins:* “Very good.”

*End of interview*

**Gene Rogers**

Interviewed by telephone on July 14, 2014  
by Todd Jensen, Andrea Yaeger, and Garrett Smith

*Interviewer:* "Hey Gene, Todd Jensen. How's it going?"

*Rogers:* "Oh, not too bad."

*Interviewer:* "Well, we are up here in Gardiner, at the research center. And we are going to do a little interview here today on the 1988 fires. And you can stop the interview at any time, and you can retract anything at any time, and you can call up to add anything at any time."

*Rogers:* "Okay."

*Interviewer:* "So, if you want to just give us a short story on yourself and how you got involved with the fires – just kind of get started from there."

*Rogers:* "Sure, sure. Well, let's see. Gosh, I don't know whether to start at the beginning or start at the end and work back"

*Interviewer:* "Well that's fine. Either way would work fine."

*Rogers:* "Well, I grew up around the Forest Service actually. The district ranger in my hometown in northern California was one of the parents that worked as a project leader at a local 4-H club. I actually met them before that. My mother and his wife had become friends through the church or whatever. My recollection of the Forest Service go back to pretty early childhood, probably three, four, or five, in that neighborhood, wherever it is you start assimilating memories. By the time I was eight, I was in 4-H and took forestry as one of my projects. The first time I saw an active timber sale for instance, logging and

dozers in the woods, I was eight or nine or so. I'm sixty-three years old now. Well anyway, that sort of gives you a background. This wasn't something I dreamed of doing when I was at college in New York or something like that. I started fulltime with the Forest Service the summer of 1970. I worked part-time, off and on in the summer of 1969. I ultimately held positions with the U.S. Forest Service, the Bureau of Land Management, and the National Park Service, until July 1, 2003. I retired that year. At that point, I was the deputy fire staff officer for the Fremont-Winema in Klamath Falls, Oregon. I held a lot of positions in that time, mostly fire management. Graduated from Humboldt State University in 1975, degree in natural resource management, bachelor's. Did graduate studies there in the early '80s and likewise at the University of Washington, attended the second session of technical fire management when the university hosted it.

"Fire qualifications wise, I held operations positions through operations section chief Type 2. I became a qualified fire behavior analyst in 1987. Ironically, my first Type 1 assignment came in 1988, which was the North Fork Fire in Yellowstone. I guess we could tumble to that story, eh?"

*Interviewer:* "Do you remember the day you got the call to go to Yellowstone?"

*Rogers:* "July 24. Well actually I traveled on July 24, I was going back through my records, and I found them appallingly scant compared to the records I have on virtually everything fire since then. I think I have learned a few things. My first day on the fire was July 24 and, as a matter of fact, I left here basically at flying line in a charter aircraft, flew into Island Park. Actually no, no, no, no. There is a little community south of Island Park that we flew into and then I was picked up by a driver and taken to Island Park on the Targhee National Forest, which was, at that point, where the team had assembled and was putting together ICP, incident command post. Walked into the camp, found my



supervisor, the camp was kind of in a flurry, and he said, 'If you hurry you can catch a recon flight but the word is we've been told to disassemble this camp and reassemble at the park, but go ahead and take that flight.' I dug through my records again, I am embarrassed, it's amazing what you have as a memory in your mind compared to what you can with physically. I came up with some slides. I couldn't recall if they were slides or prints, but they are slides. I'll get these particular ones digitized. They are from the afternoon of July the 24th, 1988, during that recon flight that I took. At that point, the fire was under a full suppression strategy, mainly because it ignited on the Targhee National Forest and was caused by a fire woodcutter, happened to be a smoker. Evidently the point of origin was pretty easy to determine. The fire had started from cigarettes that he had been dropping in the wood chips where he was cutting up firewood, dead lodgepole.

"We came back from the flight, the camp was in the process of being torn down and put into trucks. We ended up moving into Old Faithful that evening. We set up a new ICP in a Park Service maintenance yard, there at the Old Faithful village area. Details -- those are important. During that flight, I was able to observe that the team that anchored the point of origin and were actively flanking the north end, south flanks of the fire, basically moving into the park at an easterly, north-easterly direction. One of the things I recall from the flight and I hope these slides -- I'm going to get them digitized so we have copies we can look at -- but I recall that there was dozer line being produced inside the park with Park Service permission because the original strategy for that fire was full suppression. Because for one, it was human caused, second it had entered the park from National Forest land. There was a quick change from jurisdictional responsibility there and the park had assumed administrative responsibility for that fire. I need to go back and look at these photos once I get the slides back. I recall that the dozer line was successful and hadn't been breached too much.

Although I looked at one slide this morning, I see some spots, and that's why I need to get the photos so I can actually look at them. So once that decision was made, obviously the fire was free to run.

"We moved into Old Faithful, and one of the first things that struck the team when we were holding command at general staff meeting and getting objectives, delegation of authority from Park Service, the superintendent, Chief Ranger Dan Sholly. They assigned a district ranger, I forget what they called that area at the park at that time, and it could be the Old Faithful district. I don't recall that person's name either. The first thing that struck the operations people on the team was the structural threat that was so present in the Old Faithful area. There were a series of National Park Service cabins, some that were still being used, some that had fallen into disrepair more or less wrecked at that point. The interesting thing was the lodgepole pine had encroached up to and against those buildings up to the point, they were virtually indefensible. The fire initially is continuing to move in the park and do its thing, obviously based on the weather. Some of the operations people set to task, and through the course of our two weeks there and put in a compressed air foam system around Old Faithful Lodge, did a bunch of fuels abatement work around the structures. In essence, initiated hazard fuel reduction around the Old Faithful. Ironically, that hose system and phone system and all was used later that summer when the fire did come into the Old Faithful area.

"That said, the team I was on was a California Type 1 team. I filled in as the fire behavior analyst. Their regular team FBA could not make the trip. I came in behind the team by twenty-four hours. By the time the order went into the system, I went back to Boise. When California couldn't fill it then they sent back out to the regions. My region was the Pacific Northwest Region and they filled it with me from the Winema National Forest in Klamath Falls.

“The IC was Larry Katlinger. I haven’t been in touch with him in quite a few years. I did a Park Service fire review in the early nineties. That would be the last time I was face-to-face with Larry. I don’t know his whereabouts or state of health or whatever. While this operation was going on in Old Faithful, I spent numerous days flying into the backcountry of the Madison Plateau, prearranging where I’d be dropped and where I’d be picked up again. I spent several days just observing the fire behavior, taking weather ops and documenting what was going on. About a day or two into that, it became thoroughly obvious that there was a management opportunity here and, ultimately, we discussed that with our team and with the park. What our team did was a checking action, if you will. We ultimately asserted some crews, put in hand lines, and actually supported them with permission from the superintendent with portable pumps and hose. We had tanks we were filling with helicopters. That ultimately developed into a spike camp situation. That check line was on the Madison Plateau.

“Thinking about my bearings here, basically in a north-south aspect. We had checked the spread toward Old Faithful of the main fire at that point. I’ve run into lots of people over the years and we’ve discussed this. The fire. We timed out as a team after fourteen days. They transitioned us to a Type 2 team. Steve Raditz was the incident commander of that team. I briefed him and his operations chief. I said, ‘This is kind of ironic that we are timing out and you are coming in as a Type 2. You are going to see very active fire behavior tomorrow, and you are holding this thing by yourselves. It is going to stand up and make a big run. Don’t get too perturbed by that. It’s going to lay down again.’ Ultimately it did do that.

“My point in bringing all that up was I call it the twenty-four-hour centrifuge. In terms of the manager, that virtually takes a full day. Ironically, when you look at accidents. So that’s a little side point I want to put in. So, our activity there wasn’t in fact that. Focused most of the operations people on the Old Faithful

Village. Fire behavior wise, the fire was spreading by a very active surface fire. One of the things that surprised--. He had classified the lodgepole pine in four categories. LP1 being the initially seedling of a young stand that successional age classes beyond that. The fire will not spread in LP1 but will spread [if] you've got a lot of mortality, a lot of dead and down. Lots of dead and down materials, which of course added to the mortalities. The fire was spreading readily in LP1 and 2. It was spreading quite readily in that and would propagate in surface spread. The true spread was the propagation of spots. That would start building the intensity. The whole thing would start over again.

“One of the things that definitely was retained in my memory. There was a fire behavior prediction group assembled in West Yellowstone. That group was headed up by Dick Rothermel. So Dick assembled a group of people, kind of the big names, Bob Mutch was there. We both went through the fire behavior analyst course together. We just completed that in 1987. Anyway, that assemblage were tasked with kind of looking at the overall picture of these multiple fires in the park, what was known as Greater Yellowstone. In fact, it had just surfaced in 1987 as the official tool. It literally had a full keyboard, it was a little bigger than an iPhone, but was smaller. You could actually equip it with a printer, which I did. What if I bump the wind? Dick Rothermel being the author of that. Once you had done that, gotten pretty close to the ballpark, then you were pretty close. Of course, now we all carry computers, we have Internet, GIS. Pretty substantial leaps in technology. Then, everything was done on paper and Mylar. Then I carried both water erasable and then permanent marking pens. You could always tell you were working on \_\_\_\_\_ by their collection of tools. Those of use attached to teams on specific fires were doing our projections. We were either transporting photocopies of our work at the fires or possibly we were telefaxing them.

“One day Rothermel and Norum visited me. They were curious about what my technique was for making my daily, day-two, three or four projections. Because they were not able to duplicate my predictions back in West Yellowstone using traditional inputs of BEHAVE and getting an output of rate of spread, then you take that output and project into a map distance and put it out on the map. I had the advantage of being at the fire and having spent time watching what it was doing, so I had actually observed projection distances. Then I was able to tweak my numbers back to the point of about the fourth day I was literally using what is called persistence projection, which was more or less invented in Yellowstone by me and several others that summer. If it went this far yesterday, what is the difference in the weather today than yesterday or the day before?

“A side note: fire behaviorist analysts work hand in glove with incident meteorologists, so I had a partner incident meteorologist assigned from the National Weather Service. The first one was Brenda Graham, who now works in Redding, California at the Northern Operations Center in Redding. She was the first incident meteorologist that I worked with at North Fork and between the two of us we developed this concept of if it went this far yesterday, what do you think weather-wise. We got increasing-decreasing temperature, we got increasing-decreasing relative humidity, we got increasing-decreasing wind, change in wind direction, and then ultimately a factor for atmospheric instability.

“The concept of the Haines Index had not really burst onto the scene. It ironically showed up the next season in 1989 at the Lowman Complex in Idaho. Basically, what we were doing for projections was we were looking at the map and looking at the terrain and for those that don't know it, the Madison Plateau is flat. There are certainly canyons and fissures and some peaks and buttes and what not, but that area of the Continental Divide and particularly that portion of Continental Divide on the west side boundary on the west side of Yellowstone National Park, it was very difficult to tell if you were, if you were to dump a

bucket of water on the ground it would be difficult to tell if it was going to go to the Atlantic or the Pacific, it is virtually flat. So far as behavior modeling, we treated it like a tabletop. All you needed to know that is what are the fuels and, like I said earlier, it did not matter what the fuels were because the spread was being driven by the propagation of intensity building, leading to tree torching, crowning, and the downwind spotting again.

“On the worst spread days, those were the wind events like cold front passages. When highs would break down, new lows would move in from the west-southwest. On those days there were, in fact, large-scale crowning runs, active crown fire runs. So that was our other mapping, is when we had days like that, how far does it go? So we basically had non-crowning spread, crowning runs meaning there were active crowning episodes, but the main fire spread was not active-crowning runs. So we had two categories of spread. We just had to figure out based on changes in the weather is this going to be a bigger spread day than the previous, or is it going to be a lesser spread day than the previous?

“Where I am going with all of that is toward the end of our tenure there, because in those days the rule were fourteen and out, meaning the team spent fourteen days on assignment and then needed to transition the fire to another incident management team. You were going demode with that fourteenth day being your last day and that would be your transition day with that incoming team, which is what we did. We demoded on the seventh of August, so our meeting day in West Yellowstone was the fourth. I recall that because it was my daughter’s birthday and we had a huge meeting in West Yellowstone. All of the incident management teams were requested to have their IC and their fire behavior analyst come to West Yellowstone for a briefing meeting. We ultimately tasked with bringing a thirty-, sixty- and ninety-day projection map of the North Fork Fire with me to West Yellowstone.

“The team that Dick Rothermel had assembled was tasked with doing the same thing for each of the fires so we were kind of blind tested. They do not know what I am doing, I do not know what they are doing, but we are going to brief Superintendent Barbee and the Chief Ranger Sholly. I believe the Secretary of Interior was Hodel. He actually visited with us -- it was an interesting afternoon talking with him. Anyway, the meeting was about the unveiling of these projections for the individual fires. Ironically, I got to speak last, so I got to hear everyone else’s presentation. What really struck me was there was several of these individuals that I knew quite well and as a result of that I got to know the others quite well over my career, but what struck me was that each of us that were doing fire behavior analysis work had surprising consistency in what we were coming up with. You know some were a little more conservative and some were a little more explosive if you will, but that variance would also be explained by the individual fires and where they were, and the terrain that they were in, and et cetera.

“The bottom line to the projections that I displayed, when it came time for questions, Superintendent Barbee said, ‘I don’t agree with your long-term projections for this fire,’ for which I had put it over one-half-a-million acres. Barbee said, ‘You have to understand, we have snow on the ground here by mid-September, late September for sure.’ I remember replying to him that I don’t know what meteorologist you are talking with, but climatologically speaking you are correct. But this season you are incorrect. We are seeing fire behavior right now, this is early August, and we were seeing typical fire behavior that exceeded what we would typically see at the end of the season in previous years. Averages are great but the anomalies that set the trends and change the ninety-ninth percentile of what it would be. My projections for the North Fork were what I thought were ludicrous, a half-a-million acres, thinking this thing is going to be all over the place after ninety days had gone by – if it is still moving in

ninety days. Certainly, by then, an event, changing event will occur and did. Five-hundred sixty-five thousand I believe is what in the neighborhood of what it became, I meant to look that up.”

*Interviewer:* “On our report that we have on file, it said 500,000 acres, so you were pretty darn close.”

*Rogers:* “Okay. I remember seeing some infrared and that there was some great satellite photography. We had a great picture of the North Fork Fire at the Redman Training Center that was on the wall just as you walked into one of the main training rooms. I remember when that arrived and put it up on the wall. I had to just stand there for fifteen minutes just looking at it. It was like, ‘Wow, I was there. Very impressive.’

“That season certainly exceeded the expectations that Barbee and his staff would have expected. I have actually revisited the whole thing. We held a Yellowstone Revisited Conference in Jackson Hole in 2008 that was sponsored by the International Association of Wildland Fire, that I subsequently became a board member of, and I am in my final years as a member of that board now. We brought back a lot of the players, any that were willing to come back. So we had Barbee there, several of the ICs, we had a panel discussion. Rothermel was there, of course. Mutch. Anyway, the proceedings from that might be a good source of information for you is why I am bringing that up.”

*Interviewer:* “The report that we have says fire behavior history was written with the North Fork Fire. Do you have anything on the intensity, the size of it, size of the flames, columns or the smoke compared to other fires?”

*Rogers:* “I have some slides that I took. There are some classic cumulus caps on some of the columns on various days. In terms of rate of spread, what was significant about that season was, are you familiar with the National Fire Danger Rating System indices, in particular ERC, energy release component?”



*Interviewer:* “We have read about it.”

*Rogers:* “I will give you the ten-cent tour. The fuel moisture drives the energy release component, heavily contingent on the large, woody material. Anyone that has built a campfire or used a woodstove understands that you just don’t light a match and hold it against a log and generate a campfire. So what the ERC, by being focused heavily on the large, dead, woody fuel moisture content, by tracking that number value, in essence, what you are looking at is what is the flammability of that large, woody material. So in 1988, quite frankly, I almost said the skill level at the DNRC is variable at best, and I was going to make it sound like everybody is good at it now. I am going to tell you that that skill that working with that index and all of the indices and tracking weather and fuel moisture and what that really means. Among fire managers in general, down at the ranger district level, the FMOs, the AFMOs. One of my career-long frustrations is that those people don’t put enough credence in that process. I am going to say it peaked probably in the ‘90s and 2000. Then the baby boomers, myself included, started leaving the workforce and I’m literally appalled at what I find now when I travel. I still go out as a fire behavior analyst. When I show up somewhere and I ask for that information -- and typically, there is some local nerd that takes care of looking at those numbers. I am surprised to find how many managers don’t have a handle, particularly the agency administrators don’t have a handle on that other than when the number is big, that is bad. (laughs) Fire behavior is logarithmic thing. People are linear thinkers. We don’t think in exponents and logarithmic functions, but that is exactly how fire behavior works. When you get into a critical threshold and fuel moisture to where those larger fuels are going to contribute to fire spread. That, in fact, is where the intensity of the fire comes from.

“Today feels like yesterday to most people, unless there is a radical weather event coming through. Without instrumentation or without observing the fact

that our relative humidity for the last ten days has set an all time low for this weather station. If you are not observing that information on a daily basis and you have not spent the time to look at historical data, that is an intuitive process. Where I am going with that is that when Barbee made his statement to me, it was made at an extremely high-altitude look at things. He was familiar with the overall climate logical weather patterns in his park, but he was not dialed in to where are we at in 1988 compared to previous years? So, the bottom line, the rate of spread, spotting potential, made 1988 an exceptional year.

“That particular season and the experience of Yellowstone and being fresh out of fire behavior analyst school, I was no stranger to fire behavior. By then I was a fuels management on a FMO ranger district. Prior to that I had been a hotshot superintendent and an engine station foreman, and now I am called a captain and run a Type 3 engine station in Southern California. I had seen a fair amount of fire. That would have been my nineteenth season, so I was not a rookie to what I was seeing. In 1988 was that I saw enough interesting things, such as the LP1 discussion, that it was just not going to spread in these young stands. There is not enough litter and dead material because it was consumed in previous fire. If I remember right, Despain classified an LP1 as being ten, maybe fifteen years post-disturbance. A disturbance in most cases was standing fire event.

“That entire season I came back here and ended up working a fire in Crater Lake National Park, which is just north of here. In the duff layers on that fire, they were backing and producing six- to eight-foot flame lengths. In my previous experiences, you would have just seen flames just now and then, and it would have been a smoldering spread. But in 1988, the indices were so extreme that even compressed duff was producing a backing flame, which is semi-unusual and it became a landmark point, and that is why people my age in the business, we got recalibrated that season, and we have had others since that set the bar perhaps a little higher. The driver in all that is what is being tracked in the

energy released component. I hang my hat on that index. When I go to a fire, I pull up that information and get as many years of data as I can get, and then figure where are we at compared to the history of that site, and then make my adjustments based on that conclusion.

“Nineteen eighty-eight was for many people in the levels of the organization a landmark year. I am not sure if there had been a previous season that would have been visited by the Secretary of the Interior. I was on two different fires in my time that Secretary of the Interior Babbitt was at. In fact in 2000, Clinton came out and visited the fires in the Bitterroot Valley. I know that for the history of Yellowstone Park that there had never been a visit by the Secretary of Interior that was generated by fire. Everybody was getting their bar raised in terms of what is a fire season. That was early. We were assigned there in July.”

*Interviewer:* “The media was a part of the whole deal.”

*Rogers:* “Oh, man. Have you turned it up in your research yet? A term got coined that season. In fact, some people might tell you that the North Fork was the reason. The irony is that the media drives what the public perceives one way or another. Whether or not you agree that we are a victim of that or not, it is certainly true. The term “catch and release” showed up that summer. The North Fork fit that category in the effect that it was a suppression fire initially. A management decision was made that if we are okay with these natural ignitions that moving around the park, we are okay with this one, too. One of the things the media blitz on Yellowstone did is that it did not bring to light all the major fires that were doing the same thing on national forests in the Northern Rockies. The media went to Yellowstone because it was Yellowstone National Park. I don’t know if you are going to interview any of the ex-managers from the Targhee or the Gallatin or some of the other Northern Rockies national forests, but all those guys and gals said we are so glad Yellowstone got all the press

because we were already strapped with what we had to deal with. We did not need the media to make it worse.

“That was my initiation by submersion about dealing with the media and it has helped me with the rest of my career. Like I say, I am still active. This is season number forty-five for me and I will probably be out playing somewhere in August and September. It was just incredible.”

*Interviewer:* “There was a lot of camaraderie and pride with those being involved and it launched a lot of careers. You have certain boundaries that you fall in and those that weren’t there, are not on the same track that you are with fires.”

*Rogers:* “The whole concept of persistence projections. I almost said great minds think alike but I am not vain enough to say I have a great mind. It was interesting that my fellow FBA were coming to the same conclusions that I was in terms of dealing with long terms of projections of fire behavior. We did not have GIS and satellite, and we did not have Google Earth and our world was flat. At best you could get seven-and-a-half minute quads and tape them together, which I had to do with North Fork in order to have a map big enough to track what we were dealing with. We were kind of Neanderthal. A lot of the tools that evolved since then, including FARSITE, and one of the events that sparked a lot of the research was the 1988 fires. In fact, based on that, Dick Rothermel developed the crown fire nomograms that were published and distributed, and I got my first copy of those when I was the FMO at Crater Lake National Park in 1991. So three years. In following his experiences in Yellowstone and debriefing with his peer group, people like me, he went back to his lab in Missoula and developed crown fire nomograms and I still carry those and use them. They are a good starting point on will the fire generate crowning runs or not. It is a

threshold value to start with then you observe what really occurs and make adjustments and then you get dialed in. That was a definite spinoff of 1988.”

*End of interview*

**Richard (Dick) Rothermel**

Interviewed at the Yellowstone Heritage and Resource Center  
on July 24, 2014

by Todd Jensen, Garrett Smith, and Andrea Yeager

*Interviewer:* "If you want to tell us who you are, then your background, and then start in on how you got involved with the 1988 fires."

*Rothermel:* "My name is Richard Rothermel and I was an employee of the Intermountain Fire Science Laboratory in Missoula, Montana for thirty-three years. I spent considerable amount of time on the Yellowstone fires in 1988, so I will relate what I can remember about it. That was twenty-six years ago. I had been working at the laboratory for several years and had developed a mathematical model for predicting fire spread and surface fuels, but I wanted to get more information on crown fire behavior. Really the only way to get that is get out on the fires and experience them yourself, so I was on the alert for severe fires. In 1988, it did start out as a good fire year or a bad year -- it depends on which way you are viewing the fire. I remember my birthday is on July eighteenth and I started out that day to go to, I think it was the Bridger Teton Fire, where the Fan Fire was burning south of Yellowstone Park. And that seemed it would be a good place to start.

"When I got there I knew some of the people on the fire -- the fire boss and line boss -- and spent some time there and it was a very interesting situation. Every

so often at these high elevations they have what they call a high-elevation cyclone. It blows down massive amounts of trees, and you could see some of them in the park. There happened to be one of these occurrences here in the Bridger Tetons just south of the park. It was like a log deck for three miles of downed timber, and there were ranchers down below that they wanted to keep that fire away from. So they did a very successful burnout to keep the fire out of the big log deck. When that was through, I started noticing smoke plumes farther north in the park, and decided to head up that way. I was not attached to the fire yet, I was still operating as a researcher, and had free time and free access to anything that I wanted to do. I got up by Grant Village and the Shoshone Fire was acting up. I ran into one of the Park Service guys that was in charge of fire control and was there trying to call in some fire retardant and get some handle on this fire before it got in to Grant Village. While he was there, a bus pulled up with a load of firefighters and they did not know quite what to do with them. There was no organization established at this time.

“So we thought we would take a little walk in to see what this fire was doing if we could. It was very flat terrain up there. There were not any obvious bluffs to observe from, so we started walking through this lodgepole pine at about eight-thousand feet on the Continental Divide on the south entrance highway. I remember there was the three of us, a member from Yellowstone, the squad boss from the bus, and myself. As we are walking in there, before we left there was a trooper pulled up -- Yellowstone law enforcement -- and it started to rain and I joked with him and said that every time I go on a fire it always rains and I never get to see anything. It did not rain very hard, just a light sprinkle.

“So, we joked about it for a little bit and the three of us started walking in to see if we could see anything of the fire. It might have not been the smartest thing in the world to do, but we did it, and as we are walking in suddenly, well not suddenly but it had been quite windy, and a very calm developed. There was no

wind at all. We looked at each other and all of a sudden you heard this humming noise, a very peculiar noise. The next thing I knew was my hardhat blew off and the trees started crashing down around us. At that time, we did not know what in the world was happening. It was a very, very strong wind. We were lucky falling trees did not hit us. Trees that were six-, seven-inches in diameter were breaking off in this wind. We got back to the highway and away from the trees and we could see this big smoke plume overhead and started thinking about it and this precipitation.

“What had happened was the fire had moved out of the fuel and died down a little bit and it could not maintain the convection column that it had established. It started to cool off and, as you know, fire produces a lot of moisture when it burns, and this is held aloft, and when the fire was no longer putting out enough heat to support it, the precipitation came down and that is what we were able to experience. The next thing that happened was the whole upper atmosphere where the convection column is collapses, and hits the ground, and then it turns sideways -- and it will blow out in every direction. That is called a downburst. That is what we were caught in and, fortunately, there was no fire immediately around us. In other cases, like the Dude Fire in Arizona, there was a downburst and it caught some crews and they went in their shelters. Several of them were killed by this fire being pushed out so suddenly by this downburst.

“Anyway, that was one experience, and shortly after that, a Type 1 fire crew came in and they took over Grant Village. They moved all the tourists out, took it over as a campsite, and started fireproofing it and moving and clearing out brush and wrapping power poles in aluminum fire shelters and doing all they could to protect the buildings there. Then I went back to Missoula and that was in late July. The fires kept developing in the park. The Clover Mist and the Fan Fire were burning in the northwest corner. They were quite worried about that because it could get out of the park and start down the valley here.



“They had a central headquarters and they requested that someone come down and make an assessment of what long-term fire danger was going to be. There were six of us -- Rod Norum from the Park Service and Boise, and Sue Husari from Florida, and Tom Nickels from Sequoia Canyon, and Don Despain from Yellowstone, and Bob Burgan and myself from the Fire Laboratory -- came over and they wanted us to give a worst-case scenario on what these fire might do. They said, ‘Could you do it in three days?’ We said, ‘Oh sure. We can do anything.’ It was a heck of an assignment. We started going around looking to see what we could see in the way of fire behavior and get organized on fuels and weather, topography and maps, and so on. We tried to put together some sort of an assessment of what these fires were going to do. It became obvious fairly soon that a worst-case scenario was just not going to work because no matter what or how bad you thought something might be, you could always think of something worse.

“So what we decided to do was give a most-probable forecast of what the fires might do. We did it for two times, one until the fifteenth of August, and the other one to the thirty-first of August. We had the fire model, but it does not predict crown fires, so we had to find some other way of getting a handle on how these fires are going to spread. The best information that we had had been work that Don Despain and others had done to characterize all the fuels in the park in six classes, ranging from young lodgepole to old decadent, and lots of stuff on the ground called LP4. Anyway, the whole park was mapped in these, and their history had been that fire had carried very well in the very decadent LP4 fuel type. We thought we would use this as a strong base for predictions, but then we needed weather to go along with that. We had two sources of weather. One was climatology. The Forest Service has a climatological record taken for the fire-danger-rating stations and they had twenty years of that on file that was available. Bob Burgan that was working with us was able to call up that data,

and look for classes of fire conditions. We established very benign situations with cooling rain to a very severe, all-out strong winds and extremely dry. There were six categories of weather that we would put these different categories of fuel for the matrix for what you could expect. In addition to the climatological information, we had a fire-weather meteorologist with us, Rick Rachilla from weather service in Boise. He gave us some excellent estimates of the six classes of weather that we might experience and how many of those we might experience during these time periods.

“We still had to get some idea on the rate of spread. There were fire behavior officers working on these fires already and, in fact, I remember sitting in the community center there in West Yellowstone that doubled as a library, and we were sitting in there in the evening trying to put this stuff together, and the wind was blowing so strong I could hear the roof shaking and rattling and thinking to myself, my God, what are we in for here? The fire behavior officer from the Fan Fire came in and, it was quite late that evening, he gave us some very good estimates of how fast the fire was spreading under these different wind conditions and these fuels. We got a multiplication factor to put onto the fire spread model to show the increase of the rate of spread that would occur during crown fires beyond what it would do in surface fires. We laid out the fuels and possible expected weather according to the climatology and according to the forecast, and came up with a matrix with expected spread rates for these conditions. And then we got an overlay where the fire existed at the time and laid it over the fuels and then projected what the fire growth would be on each of the fires, depending on what kind of fuel lay in front of the fire and what weather event would likely occur at that time. We put that together and had four maps: one to the fifteenth of August with climatology, and one to the fifteenth of August with the forecasted weather, and then a pair until the end of August for the same situation.

“We presented this to the park staff supervisor and all the fire chiefs came in and had a meeting on the second of August, and we presented this information and it was not long before these winds came up, unbelievably strong. In most cases, made the crown fires well beyond what our predictions had been, which was not surprising because we just did not have the background information necessary to predict these for these very strong winds. The winds kept occurring every five to seven days throughout the summer.

“Then I went back to Missoula and it was not long before I had to get back to see what was going on. When I came back, I was attached to the fire. I became a fire member being paid out of fire funds. I worked with Rob Norum quite closely and we scouted the fires around. I had a fellow with me from Australia who was doing fire work over there and his name was Dr. Neville de Mestre. He had not seen fire over here, so I took him to show him some of the fires I had seen. We were driving past Old Faithful and looking off to the west and suddenly a big plume developed. A very narrow sharp convection column went up, indicating some really strong fire just off to the west from the Geyser Basin area. Previous to this we had seen a truck drive in there with a crew on it. We were taking picture and watching this crown-fire behavior and suddenly this truck came racing out of there but the crew was not in the truck, just the driver and the crew boss. The crew boss was so concerned. He just did not know what to do. He went roaring on up toward the Madison Junction. I thought, oh what has happened to this crew? This fire did not persist too long in the strong behavior that it was. We went on up toward Madison Junction and happened to run into this truck again, and he had found his crew and was so relieved. It was something else.

“So, I had come back to the fires and the situation had changed dramatically. During this time, the North Fork Fire had come in from the west started by a woodcutting crew in the Gallatin Forest just outside the boundary. It eventually

became the largest fire in the park. They had to give it two names it became so big. The North End was called the Wolf Lake Fire. It was remarkable, the North Fork Fire threatened every establishment in the park except Grant Village. It started out with Old Faithful to the east of where it was burning, but it tended to move to the north. When I got back, it had over run Madison Junction and was headed up toward Norris Junction.

“I was able to get a flight. I’d flown once previously over the north end and saw the Hellroaring Fire which had amazingly been so destructive. The north end of it, every single tree was completely gone. It was one of the most severe fires that I had seen. But this time we flew up around the north and came back south into the fire and that was a big mistake. It was so smoky that you could not see anything. I remember sitting in the airplane, it was just the pilot and myself, and I had my lunch with me. He could not see a thing, we were just enveloped in smoke and he turned to the west to fly out of it and I remember sitting there eating my sandwich and I thought, well, there is no sense in getting worried about this, there is nothing I can do except sit here, so I might as well eat my lunch. Finally, we were able to fly far enough west that we were able to fly out of it. We were outside the boundaries of the park and he landed. I did not see a single thing worth the effort because of the smoke. The fire continued up and I remember it had some down-canyon wind at night and had blown smoke into West Yellowstone. We had been staying at West Yellowstone and getting up early in the morning to go have breakfast at one of the cafes here. The waitress was all so friendly and knew we were doing a good job and all that. But this time with the town all enveloped in smoke, it was different atmosphere. I thought she was going to hit us over the head with a coffee pot. It was all our fault that this fire was doing what it did. The smoke became a real problem. In fact it was burning into the evening and into the night.

“We called for a crew to come down from the Fire Lab -- Bobbie Hartford and another fellow -- to set up fuel moisture sampling there along the North Fork of the Madison River and had to move three times because the fire burned out their sampling point. Anyway, they got some excellent data. They found that the fuel moisture got down to the very low single digits during the afternoon and would stay really dry into the evening, clear up until midnight and would still be six percent fine fuel moisture. The fires were burning all through this period, the afternoon, and stay dry well into the afternoon and late into the night. It would still be no more than six percent fine fuel moisture. The fires would burn all through this period all afternoon and into the night. The moisture would finally recover in the morning around nine o'clock in the morning. It would reach its highest value up around ten to eleven percent. Then it would immediately start drying out again because the weather was so dry. We were able to give this information to the overhead teams. By then the army had come in and established a camp.

“Every morning at a regular briefing we would set up a fire behavior service center. The fire bosses would come. I remember this colonel from the army would come. He had a driver and one of these vehicles, a Hummer. They were just coming into use at that time. He would run around to the fires in that vehicle. We would all envy him and his truck. In the mornings we would have these briefings and have a map showing the latest fire position that was recorded by infrared scanners the night before, and it was all laid out on a map and a fire weather meteorologist would give the forecast for the day. Then we would give an estimate of what the fires were going to do. By then, the Fan Fire had become pretty well under control, and it was the only one they ever did control.

“The Mink Fire had burned in from the Bridger Tetons into the lower end of the park and had turned and blown out the east entrance. The Shoshone had moved up to against Yellowstone Lake and stalled there until the winds blew up from

the west and it blew up to join up with the Fan Fire later on. The North Fork Fire continued moving through Norris Village and then Canyon Village and then the Storm Creek Fire became very active in late August. August twentieth was declared Black Saturday, I believe. When the Clover Mist Fire made a dramatic run toward Cooke City and the Storm Creek Fire came down from the north toward Cooke City and it got pretty dicey up around Cooke City. They tried to cut in a big dozer line and do a burnout, but the fire brands jumped the line and it burned through the north part of Cooke City and burned out some homes that were up there, but did not get the main part of town. There was some question to whether or not the Clover Mist Fire had been so intense that the draft had pulled the Storm Creek Fire down from the north towards it. They asked me what I thought about that and I said it could be a possibility but when we looked at the topography in the area, it is quite mountainous with some big valleys and it just did not seem likely that the influence would reach that far over.

“The Clover Mist Fire was beginning to blow out on the east side out of the park and most of the structure loss occurred at this time as the fires burned out into the ranch land. This is getting on into September now, and the fires are getting bigger and bigger every day. Early on in July, they were moving maybe one-half to a mile a day. Later in August they were moving about three miles a day, and now in September they were moving seven to fifteen miles a day. The information that we were giving them was estimates in the large burnouts that were taking off from these hot spots. We no longer tried to estimate the rate of spread. We were estimating daily where these large burnouts would occur. I don't know how well we did.

“On September sixth and seventh there was very strong winds and large fire growth on all the fires and at the same time the Canyon Creek Fire up in northern Montana blew across the Continental Divide and on towards Great Falls toward the Shoshone and that area. It traveled thirty-three miles on those

two days. The controller, they gave us a forecast that the ninth and tenth were even going to be worse. The fire was heading towards Mammoth. We went up to Mammoth. People had previously had firewood stacked against their houses and you could see they had thrown all this firewood out into the lawn to get it away from their houses and they were evacuating Mammoth. And on September tenth the fire was coming over that mountain there just south of Mammoth and started coming down the north side of it. Then it began to rain, then it began to snow, and the fire stopped. I figured someone was praying over Mammoth and they stopped that fire and, sure enough, it was snowing over most of the park. So the fires essentially were not spreading anymore after the tenth. By then the North Fork Fire had joined the Hellroaring and Storm Creek Fires. You could walk all the way from the Gallatin through the black, through the park all the way to Cooke City, and be walking in black all the way, the fires had joined together.

“After working there and experiencing this, it became clear to me that we needed a way of predicting the behavior of crown fires. I went back to the Fire Lab, resigned my position as project leader, and took on the job of developing a crown fire model. I was able to do that and came up with what I think now was the most significant things, identifying and coming up with the three types of crown fires that you can most likely have. The one of course is the wind-driven fire. Strong winds dominate everything and can cause a fire to blow across mountain ranges and spot across rivers and just keep going, driven by strong winds.

“Another type of fire that was responsible for a lot of deaths is what I call a plume-dominated fire. I would rather call it or given it the name a blow-out fire, but everybody calls fires blowup so it needed a unique name. So I called it a plume-dominated fire, one in which the convection column above the fire can be seen to be very dominant, and the fire is burning extremely strong. It requires a

lot of heavy fuel, very dry fuel, usually on a slope with an up-slope wind, not a strong wind, just an up-slope wind. When it is in this situation, suddenly conditions become just right. Weather dries out, slope is there, the fuels are there, the fire is there, and the fire will make an unexpected long run to the top of the ridge, very suddenly. Many crews are trapped in this situation because the winds had not been that strong to be forecasting a fire run of that magnitude. The fire just blows up. That is called a plume-dominated fire.

“The third one I have already described: the downburst. When the fire does not maintain its heat, the convection column cools, the air becomes heavy, it settles very rapidly, falls to the ground, and blows the fire out, and it can go in 360 degrees. These also catch firefighters. Like I said on the Dude Fire and also one in Yosemite, I believe. Those three, the wind-driven fire, the plume-dominated fire, and the downburst are things you should look for. We wrote up descriptions of these. The precursors of what to look for when these fire were going to take on this behavior. The most significant one is the precipitation that comes ahead of downburst.

“Later on, I had been on fires and seen fire crews move off of the line, and go into a safety zone when they have experienced precipitation on their fire. They were given instructions -- if you see a large plume overhead and feel precipitation, get out of the way, it is liable to downburst on you. So I believe those three descriptors have taken root in the fire culture and are used now.

“Now at the Fire Lab they have gone computer and have all sorts of very sophisticated simulation models for estimating fire growth. Mark Finney and, of course, Pat Andrews developed the BEHAVE program which is the standard, and there are some others. And FARSITE that Mark Finney wrote, but I can't give you much information on them.



“So that’s about it. After I retired, I was called back in the year 2000 when we had many fires there in the Bitterroot. They asked me to brief crews that were coming in from different parts of the country and Canada on what to expect on fire behavior. I wrote up a little piece on that to hand out and that were put into one of these journals. That was my last involvement in fire.

Interviewer: “What was your legacy of the 1988 fires for the greater fire culture and your work?”

Rothermel: “The legacy? Well I think it was to produce this crown fire model was one of them. And then there was a great deal of interest in ecology. I remember sitting in on a little meeting for the fires and different scientist from different disciplines were there, laying out what they wanted to do. Most of it dealt with the ecology, both the streams and the animals, plants, and nobody seemed too interested in the fire itself. It was mostly concerned -- because at the time we had this everlasting debate whether fire is good or bad. It is a natural part of the ecosystem and all that, and the opponents would say that cancer is a natural thing, too, so that does not mean it is good. So it goes on and on.

“The boss of the Fire Lab when I first started there -- Jack Barrows -- he was an old-time firefighter and he had worked for both the Forest Service and the Park Service and he felt very strongly that all fires should be put out. But we had other people coming along, mostly people that were studying fire carefully, pointing out that we have always had these fires and that we will always have them, and they were a natural part of the scene. Trying to integrate that thought into a concept of fire management has been very difficult. After every big fire there is a big effort to rewrite the procedures on handling and managing these fires. They go into these concepts of when you let a fire burn, but you don’t call it a let-it-burn policy, but a fire management policy. There was one of these set up after the Yellowstone fires to change the fire management plans to better

reflect the conditions that were there, and establish when you can expect a fire problem in the season and when you can't, and you should put them out. And it just goes on and on. In my view, they never work. In 1988, some of the first fire decisions were to allow it to burn under the park's management plan, which was a sensible thing. But when the drought persisted and we did not get the early rains in June like they normally do, then they are declared wildfires and they start putting them out. By then, your fires are there and getting bigger. They probably should have put them out beforehand, but there is no way to know that.

"The Canyon Creek Fire was the same situation. That is one thing that I hadn't mentioned was that there are weather patterns that fire people rely on. In June, that is normally a very wet month in the Northern Rockies. If it does not occur, like it did not occur in 1988, why then you can be in trouble. It did not occur in 2000 when we had these big fires in the Bitterroot. The other thing that occurs is that the cold fronts coming in late August, usually the third week of August. For the first few years that I lived here, you could count on it that it was going to rain the third week of August. That was when they had the county fair, and it would always rain on the county fair. They caught onto that and they moved the county fair up to the second week of August. In 1988 that did not occur either, so when these fire patterns do not mature, it can cause a lot of trouble."

*Interviewer:* "What was the attitude about the fires?"

*Rothermel:* "One of resignation. At first, we have the fires that were extremely dry and a drought situation. We are just going to have to buckle down and do what we can to handle these. That was the feeling in late July, early August. Later in August and certainly into September it was more of a fatal feeling of fatality beyond resignation. Things were occurring that they never experienced before. Nobody knew how severe or how much damage would occur. They

fought like crazy to save Old Faithful. We actually anticipated this. There was a line of LP4, very old, decadent lodgepole leading right from the North Fork Fire toward Old Faithful. And sure enough, the fire moved through that and came right from the west right toward Old Faithful. They had anticipated this and had done everything possible to save that structure and they were able to. They lost a few outbuildings but nothing severe.

“I remember coming back just after Madison Junction had been overrun. I ran into the fire boss and he had just thrown up his hands. He had run and got a shovel, and he was digging a line. The fire boss, there was nothing else he could do. The fire was gone over the hill and headed toward Norris Junction. He was just beside himself, and he was just digging fire line.

*Interviewer:* “Do you have any opinion on the media?”

*Rothermel:* “Oh gee, I would go back to my hotel room and listen to the news broadcast. The guys that were here would give a pretty straightforward rendition of what was going on and happening, and there would be somebody at the studio interpreting what they were saying and saying how the park was destroyed and blowing it up something fierce. We actually had a media professor from Ohio somewhere come to the fires. I got a chance to talk to him and he said there are two things that the media will always do in a severe situation like this. One is they will always try to find out whose fault it is, and the other is they will go and find victims and interview the victims. That is the two primary things that they will do.

“Then I heard some stories and Tom Brokaw was here. They would not let him go by himself. He had had to have a driver with him. He said later the driver did not know where he was going. They gave him some person that they just picked up to drive him around and he was no help whatsoever.

“Have you interviewed Dave Thomas? He was the Fire Behavior Officer on the North Fork Fire. Just an excellent fireman and he is very good with words. He can write a story like you cannot believe. He tells about the fire coming after Old Faithful and gives a really interesting perspective on that whole fire situation. He is retired now but he was working in Region 4 the last I knew of him. He is well known in the fire community.”

*Interviewer:* “We might look him up; we are still looking for a few people.”

*Rothermel:* “When we had the fuel moisture sampling crew here -- Bob Schuette was the other fellow with Bobbie Hartford -- we were standing there where they were sampling and Dave Thomas and he had a driver. There were not enough Forest Service vehicles, so they hired people in West Yellowstone to bring their car and drive guys around. Dave had this girl and she was probably eighteen or nineteen and probably never been near a fire before. She was up there and we were standing next to the Madison River where we were sampling fuels and it was late August and the fire was burning. We could hear it moving to the east of us, and we could hear elk bugling, the sun was setting, and a little thunderstorm came in and moved by real close. Some lightning was coming down, not much but a little bit. You could see a little over there. We happened to be in a pretty much smoke-free area, and just standing there, and it was the most tranquil, interesting experience that I could remember. There was a big sagebrush area nearby. I knew the fire was back there, so I started to walk up through the sagebrush to see what was going on and see these elk that were bugling. This girl calls out to me and says, ‘You had better not go up there. It is dangerous.’ Dave Thomas thought that was so funny that this girl that had never been on a fire was telling me to be careful. She did not have clue who I was and, of course, she was right. Dave wrote that whole thing up about experiences on the Yellowstone fire and just a wonderful written piece that I would like to find for you to have.”

*Interviewer:* "Some things on the size of the fire. Horizontal vortices and three-and-a-half miles out in front, it was just such a big fire."

*Rothermel:* "I did not see vortices on this fire but some others may have. We experienced them on the Sundance Fire in 1967. They were carrying firebrands well out in front of the fire and then they would die down and drop the firebrands, it was a way of propagating. You hear people talk about the sound of fires as they are spreading by. They will often say it sounds like a freight train going by. What they are primarily hearing is the fire whirrs along the edge of the fire, causing this very loud noise. The wind on the edge of the fire is moving faster than the wind that is being blocked by the fire. Fire whirrs form as the fast wind comes around to the front and picks those up, so you get these fire whirrs along the leading edge. That can be very dangerous because sometimes, spot fires or firebrands will land out ahead of the main fire, and start a small fire up ahead. If a fire crew is working nearby, they might think that this is the main fire and they start working putting out these spot fires. They can't see the main fire because of the smoke and suddenly the main fire is on top of them and they should not have been there messing around with those spot fires out ahead of it. They learned that in Australia."

*Interviewer:* "What was the immediate aftermath of the 1988 fires in the next few years? Were there a lot of fire scientists and researchers up here?"

*Rothermel:* "There were people that came from Australia and we toured the park with them. Jim Brown brought some people up and I did as well, and just toured where the fires were. There again it was a prominent situation as far as fires go, and there was a lot of interest in it. Like I said, it was more from the ecological point of view and research development."

*Interviewer:* "Thanks Dick. We sure appreciate you participating."

*Rothermel:* "It was a big event in my life. I am glad to help get a record of it."

*Interviewer:* “Well you did and you are recorded on record here at the archives.”

*End of interview*

**Roberta (Bobbie) Scopa**

Interviewed by telephone on July 8, 2014

by Todd Jensen and Andrea Yaeger

---- *tape starts* ----

*Scopa:* "...working for the Santo, a couple seasons on an engine, then on the hotshot crew. Globe Hotshots back then. Then I graduated from Arizona State and went to work for the state of Arizona. I did range management and fire. Then in 1980, I went up to Prescott and got on with Central Yavapai Fire District in Prescott. We had a very active wildland fire program in part because we had so much jurisdiction responsibility for wildland country within our fire district, and we also applied apparatus and personnel to the state of Arizona and the feds – water tenders and engines. I went out regularly as a division superintendent. Then I would go out as a sector boss. And since that time I went back to school and got a master's. I worked as a consultant. Now since 1999, I have been back working with the feds, the district FMO, as a Tech 2 out of Boise, Chief 1 on the Okinawa-Anachee. And now the assistant fire director for operations here in the Pacific Northwest and Alaska. That is a little about my background."

*Interviewer:* "How did you get involved with the 1988 fires in Yellowstone?"

*Scopa:* "In 1988, what I had been doing is that I had been taking off district assignments for fires, but only ones that were short duration. My children at that time were five and eight. So I had been staying close to home, responding to incidents in our district as far as when I was on duty. And I thought I might take on assignments that were maybe three or four days maximum. But in 1988, I

thought that my kids were old enough that I could leave, and my mom would come and stay and take care of the kids. So I thought I would take an assignment and make myself available, not knowing where I would end up. Of course, where I ended up was in Yellowstone National Park. What I thought would be a week or two turned out to be at least thirty-three days. So that was a significant event in itself, being gone from my young children for the first time for that long. So, Yellowstone stays in my mind when I see pictures of my little ones who are now parents themselves.”

*Interviewer:* “So, what was your assessment of the situation upon arrival? Did you feel adequately prepared for the fires of 1988?”

*Scopa:* “It was an interesting experience at that time. I went up with a strike team of engines and they were all fire department engines except for one that was a state of Arizona. They were Type 6 engines but we were generally fire department trained, fire department employees. They put our engines on lowboys, trailered them up, and flew us, so we got up there and we had to wait for our apparatus to arrive. When we arrived, we flew into West Yellowstone and our engines arrived a couple of days later. It was hard to get good situational awareness when we first arrived, there were so many fires burning over such a large area. Number one for sure, we did not know what fire we would be assigned to. We were trying to gather up some equipment to augment what we brought not knowing what we would end up doing. We did not have real good assay on the conditions; it was a little bit goofy.

“I don’t want to say it was disorganized, but it was difficult for us to get a real good handle on what was going on, where they wanted us. Resources were pouring in, this is August, and this had been going on for six weeks or more. By the time we got there, there was fire across the landscape. When we first got an assignment and were driving to our first assignment it was difficult to know



where one fire started and the next one ended. You would see columns here, columns there. Is that our fire? Is that someone else's fire? You always felt a little uneasy. Was there someone else on that fire across the ridge or drainage? At the time I had not spent that much time thinking about the fire policy in the park. It was before my time when I went back to grad school and studying fire policy more. So, our assay was not great about what was going on. One of the interesting things about our story there, of the strike team, is that we started at West Yellowstone in August and we ended up in September outside the park gate in the Cooke City-Silver Gate area and east of there even. Over the course of our time there for five weeks we went from West Yellowstone to Silver Gate and they ended up sending us down to place in the park for R&R, west of Cody, Wyoming. So we covered quite a bit of ground over those forty days or so."

*Interviewer:* "So what were the living conditions like? What did you guys do for food, where did you stay?"

*Scopa:* "Because we went from fire to fire, we were sometimes spiked out and sometimes we were in a fire camp. When you are spiked out for a firefighter that is pretty good deal because you do not feel like you are sleeping in a KOA campground. You are out in the woods and so it was always nice when we were able to spike out. The interesting thing about our strike team was even though we were fire department employees we were all on Type 6 engines. So we got some pretty good wildland assignments. Not typical just doing structure protection. The fire camp life is always fascinating. I think it looks like a circus has rolled into town when a fire camp is set up. The largest fire camp that we stayed in was near a place called Sunlight, east of Cooke City. That fire camp turned out to be, I believe, the largest gathering in the county, so it was bigger than any of the small towns that were in the county."

*Interviewer:* “That is a good story being the largest in the county. It did not take much did it?”

*Scopa:* “Well it did not take much. There are probably about a couple thousand people in that fire camp. That fire camp actually got overrun by fire late in the season and while we were gone fighting fire, that fire jumped and actually made a pretty good run and they had grader and dozers put a line around that camp. And many of the homes that we had been protecting earlier burned down that night, but that happened.

“So I would say that the living conditions weren’t that much different than we have on most large fires today. The difference was that there are so many fire camps set up and different places to stay. We went from place to place. We stayed in a barracks and a Park Service facility, to being spiked out on the line. Because we were with engines, we stashed a lot of gear on the engines so we could be comfortable.

“I do have one interesting thing about living conditions. Late in the season, it started getting cold. We had been spiked out for a few days and we had a nice camp set up in the fire camp. We had some tarps and made ourselves some cover so we could get out of the dew in the morning. Earlier, when that camp first got set up, we were rummaging around camp looking for tarps and that sort of thing. We could not find any tarps at first; we had left some tarps out on the line thinking we were coming back. But we did not have any tarps back in camp and we found a bunch of big boxes. So, we ended up sleeping in boxes. We put our sleeping bags in boxes. It was kind of funny to look at a bunch of people, however many there were of us, twenty of us, sleeping in boxes trying to stay out of the weather. As it continued to get cold, we were out spiked and we were from Arizona and, of course, we brought our gear that we would normally bring -- light jackets and sweatshirts -- with us. Well that was not enough to keep us

warm. Other people were having the same issue. Apparently, the locals in the community had taken up collections and everybody was donating jackets and heavy coats to the firefighters. They brought in these huge boxes that were filled with coats and heavy jackets. But by the time we got there everything had been picked over because we had been gone a couple of days out on the line. When we got there and we heard about the coats and jackets, several of the firefighters from the strike team, they went rummaging through to see what was left. What was left was a sleeve and a piece of fur trim, and it was all kind of falling apart and was parts and pieces. They had found a few coats, they put on the coats, and some of these guys on the strike team were pretty big boys you know. They were six-foot plus, and they were two-hundred-plus pounds. And what they found were these women's coats that had fur collars and fur around the end of the sleeves. I have a picture of a few of these guys lined up looking like idiots trying to stay warm and they've got these women's coats on and they are feeling like idiots, but trying to stay warm. They looked like a cross between someone that looked like they escaped an institution and a street person. I love it every time I dig out those photos. They make me laugh."

*Interviewer:* "Were you able to pack a camera and take a few pictures at the time?"

*Scopa:* "Actually I did take a picture. I made them line up with those coats. It was hilarious.

"One of the things that I wanted to mention that was important to me, that may sound like a silly item, but I hadn't been away from home for a long period like that. That was the longest assignment that I had ever been on. The caterer sets up in one of the fire camps along the way, and it was breakfast time, and I asked one of the servers if they had any salsa to put on my eggs. And the woman said, 'Salsa,' -- remember this is 1988 -- 'you must be from the southwest.' I said, 'I

am. I am from Arizona.’ They said ‘We are from Arizona, too,’ and off they went and got me some salsa. You know these days everybody uses salsa. The world is a smaller place than back then, so it was nice to have a caterer from my neck of the woods.”

*Interviewer:* “Pauses are long because we want you to keep going, after a bit we will ask another question. So if you have another story that would be great.”

*Scopa:* “One of the stories I have is that I had never worked in grizzly bear country. There were signs all over about being aware of the bears and not having food with you and that sort of thing. Even though we were a fire department strike team, we volunteered and we were very capable of cutting line and everything else and so often, we would end up parking the engines for the day, hike up, and put some line in. We had already been briefed in fire camp about no food and be careful with your wrappers and that sort of thing. But at the same time we were told don’t leave your sack lunch trash out there on the line and pack everything back in. Well one day we parked our trucks at a drop point that had sign for a trailhead parking area. The sign also had some warnings about grizzly bears and a couple of firefighters took some Nomex pants, Nomex fire shirt, a hardhat, and some boots, and they scattered them out under the sign to make it look like something bad had happened to a firefighter right there. I also have a picture of that line gear and Nomex lying on the floor. So we would be walking through the woods and nobody wanted to be in the back of the line because we all had this idea that a grizzly would smell us carrying our lunches and our lunch wrappers and then start coming our way and the last one in line would be the bait for the bear. We made good time when we were hiking through the woods there because we were always paranoid that if we leave our wrappers out in the woods, and yet we can’t carry around wrappers and food in our packs, so we were always a little bit nervous about that. I never ended up seeing a grizzly myself and, personally, that was okay. If

I want to see a grizzly, I would want to see it while locked up in the cab of my fire engine.

“You know, the smoke was extremely thick for days on end that summer. It was so thick that after a couple of weeks, all of our voices got really raspy and for me it was worse than normal. It was really thick smoke. This is not politically correct, but I was doing a briefing one day. It was as smoky as can be and you can’t see more than a couple of hundred feet. It looks like fog. You cannot see any sky because it is smoked in. We hear this noise in the air, kind of like a little whistling sound coming through the air, and we all look up. And about that time we all look up, here comes a duck falling out of the sky and it falls out of the sky and crashes onto the ground, dead. I assume this duck was overcome by the smoke and died of smoke inhalation and it died right above us and fell out of the sky right to where we were standing. That poor little duck became -- well we nicknamed it Smokey Duck, and I actually bungee-corded it on the light bar on the top of our fire engine. Smokey Duck came around with us for a week after that. I think I have picture of Smokey Duck somewhere in my boxes.”

*Interviewer:* “You can get a little jaded in situations like that.”

**Scopa:** “Some people might think we were sick.

“One of my prouder moments there was when we were supporting burnout operations and holding operations on the side of some mountain. The division supervisor wanted hose laid out on this mountainside. It was steep country. It was outside the park I believe, on the east side of the park somewhere. It was probably the biggest hose lay that I have ever put in at that point. The hose lay started down in this creek and we probably went up two thousand feet in elevation. We used -- I don’t know how many -- pumps and pumpkins, and I don’t know how many thousands and thousands of feet of hose. And in some places we had to tie the hose onto cliffs with ropes, and it was one of those kinds

of assignments when we were out there for a few days, one of the times when we were spiked out. It was one of those times when somebody said I don't care how you get it done, but we need water up and down this flank of the fire. This road switched back up the side of the mountain. We had strike team of engines, we had lots of folks who were enthusiastic and, by God, you point out something that needs done and we are going to get it done. It took days to get this hose lay in. When we started, I could not even fathom how we were going to get water up to the top of this mountain. We got the supplies we needed and we got some help from some of the hand crews helping roll out hose. There had to have been twenty-thousand-feet of hose or more. At least twenty-thousand-feet of hose and there had to be dozens of pumps and pumpkins. That was so cool. That was the first time I had done a hose lay that size. In the years after we did some similar in size to that, but that one gained the most elevation of any that I have been on. That is something that says you made it. Now don't anyone take it down now, like a testament, like the Bridge Over the River Kwai or something.

"I have a great story of the night that the fire came into the Cooke City area. We had been spiked out for a few days. We had been doing structure protection on some homes in the vicinity of sunlight in a little subdivision between the park boundaries and where the fire camp was. We had been out there working and you do like you do when you are doing structure protection. We would go in and remove firewood piles, we would trim up some of the brush, we would develop some water sources, go check out some pumps, and we would set up some pump systems so that when the fire moved in we would be ready. We had been out for a couple of days and we were sent back to camp to get a hot meal and a night in camp. When we came into camp, it was a closed camp, you had to check in at the gate, and we told them who we were. The security guard at the gate said you have to go, plans right away. They got an assignment for you so go to plan. Everybody went and got food so if we get sent someplace you are

fed. We go get our assignment and we got to report to Cooke City. Before we went, we went to supply to restock our engines. We had just left a lot of extra hose that we had left at the last assignment. It sounded serious if they are sending us out at eight p.m. at night. We had not slept yet. So we stocked up the engines and off we drove to Cooke City. When we arrived at Cooke City, you could see the glow off in the distance.

“It was nine p.m. or so when we got there and you could see the glow off to the west. So we get a briefing that we are going to be assigned some homes on the north side of the highway and there is a dozer line that is running through this group of homes. The division supervisor wanted to put a hose lay in and be prepared to burn out a line to protect those homes. It was a long ways, it was a long piece of line, and we did not know what it tied to. We had never seen this place and scouted in the day, thinking about fire orders, you know, and watch out situations. We don't really know where the fire is, it is black and dark out, and we can't see anything other than this big glow through the smoke. He says to put a hose lay in and be prepared to burn out. The dozer line did not go around the subdivision, it went through it. At this point of long days and who knows how many hours we have been working, he said be prepared to burn this out. I have a tendency to be a little bit of a smart alack, and said, 'Which homes do you want me to burn down because we have homes on both side of that line.' He did not think that was an appropriate question. But I did get a dozer to go in and cut off some of the homes so we had all the homes on one side of the line. We were driving Type 6 engines and we did not have enough water in all of our engines to fill the hose, let alone fight fire. There was so much fire going on for weeks, everybody was not running at their A game. Everybody is tired, everybody is overworked, the fire is moving in, and we are trying to get something set up defensively before the fire gets there. We just had to go out and find a bigger engine with bigger pump capacity and a water source. We

found a Forest Service Type 3 engine and they were assigned to that area to help us. We developed a water source and there was a couple southwest crews that were there and we got them to help lay this hose lay.

“Now it is getting later, the fire is getting closer, and you can tell by the noise. It has been a couple of hours and we got a dozer line in. We have an engine set up down at the water source that is a little creek. We put a couple of our Type 6s in up the line to help boost the pressure. We put laterals in everywhere. Now we are ready. They give the order to start lighting this line. What happened when we were burning that off, we had no knowledge of where the fire is. It was on the west side of Cooke City, I believe. The embers shower that started coming down was the most amazing thing I had ever seen in my life. It looked like something you might see in an animation on Walt Disney or Pixar. The embers were big, like an inch or two across, and they are all burning. The air was just filled completely with burning embers. There were so many spot fires burning, we just ended up opening the nozzles on the laterals and tied them to trees and we just let them spray, and we just let the wind take the water because there was no way we could go methodically from spot to spot to pick it up. We had already laddered the buildings and homes there. Being fire department firefighters we did not have an issue with laddering a building and going up and some of our engines carried ladders even though they were Type 6s. So we had most of the structure laddered. I remember being up on the roof of one house with just boots and shovels stopping the fires. Then you would run to another spot fire that was starting up, and maybe there was a shovel nearby but you needed water. It was the most extreme case of ember showers that I had ever seen. It went that way for hours. By morning, things started slowing down. We did not lose any houses right where we were working. I found out later that those houses that we had been protecting earlier in the week, that they pulled us out of to go to Cooke City, some of those places burned. We checked on them



days later when we got released from Cooke City and some got saved and some didn't.

"So that next morning when it gets light out, but its pitch black to the point that we still had to keep our headlights on and our headlamps on. In order to look at a map you really needed to keep your headlamps to really see the detail. It was the darkest I have ever worked during the daytime from smoke. It looked like it could have been ten o'clock at night. We were sitting down there, and I was feeling a little uneasy because -- and you probably are saying no kidding you should have been feeling uneasy earlier -- but at this point when everything started to die down and calm down a little bit, now I'm really uneasy because we can't see the flame in front anymore. It's above us, we can hear it, but we can't see anything. Visibility is so poor from the smoke. It was dead calm and pitch black at midday and every once in a while we would hear the fire just roar. It was like, you know, you hear the jet engines on. Imagine that jet, 747 or 787, whatever -- imagine it being chained down in the tarmac and those jets throttled up. That's what it would sound like. But we couldn't see it and it was filled, no air movement where we were. Every so often it would just die down. It would be quiet, the air was still and it was kind of like just waiting for the dragon to start up again. Then maybe fifteen, twenty minutes later, that dragon would roar and it was very eerie because you could not see where it was burning. There were still lots of patches of unburned behind us where we'd been. You know, that was our escape route back down to the highway. That went on a good part of the day.

"One of the things that happened during that day was, we weren't going anywhere, we were dog tired, we had already been up for, I don't know, maybe forty-eight hours or something. One of the best places to get a view of things was from the roof of one of the houses we were protecting. We had been hosing down and using foam, just wet water basically, on these houses and a lot of these

houses had shake shingle rooves. The best view from the area was from one of the housing we were protecting. Myself and another firefighter, by the name of Don Devendorf, he was from \_\_\_\_\_. He and I were on this roof and you're tired, you're trying to keep your eyes open, yet you're trying to keep an eye on what you can see of the fire. We are on this roof, if you can imagine, we are on the roof sitting on the ridge and we're looking north, and north is uphill. It's really black and you can't see much, but you can kind of see into the understory of where we had dug the burnout the night before. Off to our left, there's lots of these fan trees and most of it's burned and we hear a noise from our left. Now this sounds like something you tell around a campfire or something like that, or maybe we were hallucinating from lack of sleep. From our left we hear this noise, and the only people who could see what happened was Don and I on the roof, and it looked like two big hands of an arm of fire coming through the understory and a little bit right below the canopy, coming right towards us. It scared us and we yelled and we slid, it was a pretty steep roof, and we just slid because the roof was just really slippery from all that wet water we had been putting on. We slide down the roof and then just jumped off the roof and got behind the building thinking that those flames were coming after us. As fast as those flames came out, they kind of stopped and sucked back in. What was going on? Maybe it was making a little run in some unburned fuel in that understory, but it was very freaky occurrence and scared the beans out of us, is what it did. We stayed there another night to just keep an eye on things so we didn't lose any structures.

"That was a little microcosm of what was going on around Silver Gate and Cooke City. That was one street off the highway, one road off the highway that forked a couple of times. There might have been eight or ten structures back there that we were protecting and that was one little piece at the time that fire burned lots of home, lots of facilities, there at Silver Gate and Cooke City. That

was the fire that jumped and spotted and ran another twenty miles down the fire camp down by Sunlight, if that was the correct name for that area.”

*Interviewer:* “Definitely a once in a life time situation?”

*Scopa:* “Yeah it was one of those things when you look back on it, you think to yourself, did I imagine some of that? The huffing and puffing of the fire that day where it would make those runs. When the jet engines were on, you knew it had gotten some air and you knew it was just making a big run somewhere up there. What I’ve perceived what was going on was that it ran out of air and ran out of fuel a little bit. Sit there and chug, chug, chug, quietly there before it made another run.”

*Interviewer:* “So you were mostly on the ground? Was there anything like fighting the fires versus saving the park that you noticed?”

*Scopa:* “No, there was some issues about --. We stocked up on a bunch fusies and such, drip torches and such, to do burning out. I remember getting into a discussion with one of the parkies like, why do you need all that stuff? You guys don’t need all that. Well yeah, if you’re going to do structure protection, we may need to be doing burning out. There was some discussion about we don’t want to light fire in the park. It wasn’t some policy issue. It was someone giving some direction. We never had any trouble in the park or any conflicting direction about suppression versus not and all the rest of that.”

*Interviewer:* “So it finally snowed. Were you in the park the day that it snowed and finally went out? Where were you and what is your remembrance of that?”

*Scopa:* “Well I have a great memory of that. The ash had been coming down out of the air for weeks and we had been there. I don’t know what day it started to snow, it was in September. We’d been back to Cooke City and my PIO at the fire department had sent up something that said ‘Hey if you are going to be near a

phone tomorrow, maybe you can do an interview on the air, for one of the local radio shows in Prescott.' I said, 'Yeah, I don't think we are doing much tomorrow. Think we are going to be kind of standing by if it's the same, like today.' So we are back to Cooke City that next day, we're in town, and I'm doing this radio talk show. My voice, it was very, very hoarse and I'm kind of croaking out trying to talk to this guy. I'm on the air and they are asking some questions. It's a big deal for a small town. Our local firefighters are out in Yellowstone battling the wildfires. They are making a big deal about it. I'm giving an interview and they are asking about the weather and why is your voice so hoarse. Then I explained I've been breathing smoke for weeks now. Then I said, 'Not only is it smoky, the ash has been falling out of the sky for months and everything is covered with ash.' Then I says, 'It's coming down right now.' Then I realize as I start looking at the ash coming down, I said something like, inappropriately like, 'Holy shit, that's not ash, it's snowing.' Of course, the guy got kind of flustered because whatever word I used I got excited that it was snowing. I was just like 'Yay, oh my God, we are going to get to go home.' It was one of those things that there was no end in sight, that we were never going to get to go home. It wasn't like okay, you've hit your fourteen days, and you're out. It was like you were drafted. This was the beginning of Pearl Harbor, and you are going to be here for the duration. So when it started snowing, I was really excited. So as I recall, it's snowing and it's flurries and it's on and off a little bit and so we are all kind of getting pretty happy about it. That night we go to bed, freezing cold. In the morning, we get up, there is snow on the ground, and its like oh thank goodness. I'm just happy, this is going to be wonderful, I get to go home and see my kids. My kids that were five and eight. I had never been gone for more than a few days at a time. I had worked twenty-four hour shifts at the fire department and I would take these fire assignments that would be a few days, but nothing like this. I was having a hard time not getting

emotional. I'd call home to the kids, they'd start crying, and I'd start crying. So now, it's snowing and I'm thinking, thank God, I'm going to get to go home.

"So I wake up in the morning and I'm thinking they are just going to do this mass demote. Of course, that wasn't the case, and they assign us to some division, get out there and I'm like 'Assigned? What are we going to do out there today.' I was indignant. We get out there and then, of course, camp was down in the valley. By the time we get up to the division, the snow was like ten inches deep. So we are all in four-wheel drive trying to get up to our division. As disciplined as we had been, and as hard working as we had been, and as responsible as we had been, that's how much we became irresponsible, not working, we were going to play. So it tuned into a giant snowball fight that day. We didn't do anything. It would be silly to work in ten-inches of snow anyway, but there was a lot of snow on the ground. I don't think we ever even made it to our drop point because of the snow. So that was the last day I remember working. It was a giant snowball fight. No one was going to do much. I think we were just done. I don't remember if it was day thirty-three or whatever, it was just kind of like, all right whatever you guys want to do, I don't care because I just want to go home. That's when it snowed."

*Interviewer:* "Well that just kind of when after it snows, the fire is out. That's kind of the end of our story there. We've got about an hour on tape and that's about all we can do."

*Interviewer:* "Unless you have anything else to add."

*Interviewer:* "Did you have another special story that you were thinking of, we can still put something in."

Scopa: "No, I made some notes yesterday about a few things, and then I remembered more about the Smokey Duck. Those are ones I hadn't remembered for a while."

*Interviewer:* “Those are perfect. I can’t believe how different the interviews are. I love your stories though.”

*Scopa:* “I often have said, this is my forty-first fire season, and I have often said if I ever write a book it’s not going to be the book of hero firefighters, it’s going to be the stories of all these goofy things that have happened because that is the stuff that I have remembered.”

*Interviewer:* “Well start writing them down.”

*Scopa:* “So is there an end date? Is this going to be accessible if I want to go listen to other stories? Is it going to be open to the public or what is it?”

*Interviewer:* “Yeah, the archives are open to the public. You probably have to come here to check them out. The ones that are on here are on disc and then it has text on file and you can listen and also read it. I don’t think you can access it on the Internet, at least not at this time. We can send you a couple more samples or something like that or send you a copy of what you did just so you have something like that.”

*End of interview*



**Russ Wenke**

Interviewed by telephone on July 29, 2014

by Garrett Smith and Todd Jensen

*Interviewer:* "What is your background in fire, and how did you find yourself in the fires of '88?"

*Wenke:* "Okay, I first joined a volunteer fire department in Wyoming in 1977, February of 1977, became friends with a state forester who was encouraging some of us to begin going out on wildland fire assignments, and I guess in early or mid-1980s I started taking some of those assignments. By the fall of 1988, I had actually been out a lot during 1988 on different wildland fire assignments in Wyoming and Utah and South Dakota. I was typically assigned to a fire engine, a wildland engine. So I got the call at the end of the first week of September. Somewhere around the eighth, I believe, to take an engine and a two-person crew with me, and go to Pahaska Tepee just outside of Yellowstone. We were assigned to the Clover Mist Fire, which was one of the fires that had left Yellowstone and burned on the Shoshone National Forest."

*Interviewer:* "When you got there, what was your initial assessment of the fires?"

*Wenke:* "I believe we ended up working night shifts, several nights. I believe the first night was pretty quiet. The second night the fire was threatening Pahaska. It was very large, but it was off in the distance. So the first assessment was probably what I was hearing in the news which was that, you know, the huge scope of the fires throughout the park and that this just one of the many large ones that had escaped the park."



*Interviewer:* "This is Todd. I'm here with Garrett. I'm just part of the interview thing to kind of help things go along. Can you just reminisce about from day one and what you did? Your day-after-day-after-day thing?"

*Wenke:* You bet. I can give you a synopsis of the first two or three days. I believe it was the second night that we were assigned a night shift. I had actually gone as part of a six-engine strike team. In other words, six fire engines staffed with three per engine and then a strike team leader, all wildland engines. At the same time, there were six structure engines, more like city fire engines, assigned to the same area to do structure protection on the North Fork. I think during the second night we got a call that the fire had picked up activity up in the Crandall area up in the northeast entrance of Yellowstone. [It] was burning structures up there. And so, they took three of our wildland engines and three of our structure engines and moved them up to Crandall. We stayed, I believe, the rest of that shift and another night shift. That second night shift, we were working right behind Pahaska, and were supplying water to a twenty person – I believe they were marines – it was either marines or a regular army crew. It was kind of a unique experience for us. We'd never worked with a military crew before. They were noisy with a lot of 'Oorah' and 'Yes Sir' and all that, so that was kind of a unique experience. Then, we got a call at midnight that we were supposed to take the three wildland engines and drive to Crandall in preparation for going to work the next day in Crandall and that the three structure engines in Crandall were supposed to return to the North Fork to help with structure protection there. They kind of figured at that point that the structure threat was over in the Crandall area, but it was still present in the North Fork. That was kind of the synopsis for the first few days. We did actually make that trip, I believe we made it into Crandall at about 4:30 or 5 o'clock the next morning and checked into camp. Do you want me to go on with that story, or do you have some other questions?"

*Interviewer:* "We just want to hear some stories about it, and if you just want to go from one story to another, that would be great. And just reminisce about the whole time that you spent there and what you remember."

*Wenke:* "We pulled in there that night, and the rest of our wildland engines, that we were assigned with previously, were going out on night shift that day. But because we'd been on shift for well over twelve hours, they said, well you three engines, we're going to put you to bed, and we won't use you until tomorrow morning. So we set up our tent, went to bed after breakfast sometime that morning. In the Crandall area, this was close to the Crandall Ranger Station, a Forest Service ranger station. This was actually right across the highway from the main Crandall Clover Mist Fire camp. And sometime late afternoon, one of my engine personnel woke me up. He was outside the tent and said, 'I think you'd better get up.' I realized, as I became fully awake, that the wind was just howling. I said, 'What's going on?' He said, 'Well the fire is coming. It's almost here.' I got out of the tent, and could see that the fire had come off the surrounding timber slopes and was heading towards our location."

"Around that time some fire supervisor, I have no idea who he was, pulled up in a pickup and said, 'Get your three engines and come with me.' So, we got our three engines staffed and went down the road. We went around what they call a K Bar Z road. K Bar Z is a guest ranch on the forest up in that area that is still in existence. They had me take my engine and my personnel around to one of the private cabins that was close. We were there with a Tahoe National Forest engine. The fire was— it was mid-late afternoon, as I remember, and it was almost dark out. It was almost pitch-black out except for this glow coming from west or southwest. It was the main forefront coming. We felt fairly safe where we were because right across the road from us there was large hayfield that we knew we could get into if we had to. So, we backed in and provided protection for this one cabin. The main fire front burned past us east and later that evening

somebody came by and said, 'We're going to move you to K Bar Z, and you're going to be structure protection at K Bar Z for the remainder of the night.'

"We pulled in there, kind of a funny story here, we pulled in there, it's not a good place -- it's surrounded by timber - but it has a huge lake they call Swamp Lake, and it has a boat. I told my supervisor, I said, 'If the fire comes down and crosses behind us, we're not going to get out of here with the engines.' I said that the safety zone was going to be the boat. He said, 'I understand, that's a good idea.' I said, 'I just wanted you to know that the engines are probably not going to survive.' He said, 'Okay, understood.'

"So, we worked there all night, it had calmed down quite a bit. We didn't have any issues. The next morning, we were relieved. Somebody came in to relieve us. We went back to camp and we were told by our strike team leader that we were moving up to the highway maintenance camp which is between there and Red Lodge, Montana, between there and the Montana line. They were going to provide structure protection at the highway maintenance camp, at the Clay Butte Lookout Tower, and at the top of the World Store and isolated private residence cabin in the area. And so, we worked that day at setting some pumps up. My engine did on the private residence cabin, the other engines worked around the rest of the facilities. We actually were able to stay in the buildings at the highway maintenance camp that night. The next morning, we woke up to several inches of fresh snow. That was pretty much the end of the big runs for the Clover Mist Fire. I don't remember the exact date but it would have been around the fifteenth of September. So we woke up the next day, we ended up working the next day, and they gave us a day off to kind of dry off and get our camps dried out and everything else.

"[We] worked the rest of those two weeks. It was a two-week assignment, patrolling and mopping up hotspots. At that point, things had kind of wound

down. There were still a lot of things burning, but nothing was really moving. Personally, my two weeks ended, I went home and figured that was the end of my fire season. I was actually home about a day and a half, and was asked to return as a strike team leader. So I actually went back up and spent another two weeks up there as a strike team leader of another group of six engines. I believe I left out of there about October tenth or eleventh is when I finally finished that assignment. That was the end of my fire season for '88.

*Interviewer:* "You were there later than most."

*Wenke:* "Yes, there was very few left. There was, I think, a couple isolated crews. In fact, sadly one of the crews that was left -- Well, I think I left about the seventh or eighth. One of the crews that was left, one of the crew members was killed by a snag, I think, on the eleventh of October, right in the same area. Right in the same area that we worked in Crandall. And, they were one of the few remaining crews up there.

*Interviewer:* "Well, can you reminisce any more? Was there any wildlife? Anymore of the military? Anything like that?"

*Wenke:* "I don't believe we had any other experiences with them. Well we did have some experiences with the military. Interestingly enough, I think the Crandall camp up there, they were talking it was the third largest city in Park County at the time, behind Cody and Powell, while it was fully staffed. It was a fairly typical wildland, large wildland fire camp except adjacent to us the army had their own camp with their own caterer. They had a doctor. Actually, one of my guys had bronchitis, and they sent him to a military doctor. So that was a little bit interesting. [I] saw bears on a regular basis, which is actually part of the fire district that I'm the administrator for. It was a typical, interesting assignment. The first part of it was pretty exciting, and the rest of it was pretty much hard work. Towards the end, by that late in the season – Of course,

always, to my knowledge anyway, once the fires left Yellowstone the forests were taking full suppression on them. At least initially, early on in the park, their policy was to allow them to burn because they were natural fires and they never really had any issues before. But once any of them crossed over the boundary onto the Shoshone Forest, they took full suppression tactics. The whole time we were there, we were actively fighting fires. And towards the end, I mean the last two weeks that I was up there as a strike team leader, it was pretty much, 'If you can see the smoke from the highway, we want you to go put it out. We don't care where it is, just go put it out.' Because, I think the public perception was that we weren't doing what we should have been doing, and that they just really didn't want to see smoke anymore.

"So we had kind of a unique situation also that summer – it was so dry that they have these peat bogs in the area, that are normally just under the surface of water. In fact, sometimes there's water in them. Well it was so dry that summer that these peat bogs were burning. And it was just almost impossible to put out because this peat would be eight-, ten-, twelve-, fourteen-inches thick before you'd ever even get to bare ground. They had two of my engines, when I was back up there as a strike team leader, trying to put out smokiness on probably one hundred acres of peat bog. And, it was just impossible. They worked a whole day on smoke, and moved to another one the next day. The day after that, they would look over where they had been working before and it was smoking again. So they tried sprinkler systems, they tried everything. And one of the private landowners in the area was an elderly lady. She came up to one of my guys one day and said, 'I don't know why they have you young men out here wasting your time with this.' She said, 'The last time this peat bog caught on fire was in,' and she said some date that was fifty years before. 'It burned all that fall, and into the winter. It snowed on it.' She said, 'The next spring the snow melted off, and later in the summer it popped back up. It was still burning and burned

all that summer and finally we got a big enough snow year the next year to put it out.'

"So, you know, the kind of stories that you run into sometimes. And like every fire, you meet lots of different people from lots of different places. Yellowstone, I think, had people assigned from all parts of the country. We were seeing volunteer fire departments from Minnesota, Michigan. They were totally unprepared for that kind of fire assignment. They brought their old city fire truck that was a spare. They brought it out there to make some money on it. They didn't have the right kind of equipment, they weren't prepared to stay for two weeks.

"I remember at one point when it started getting cold, so many of these crews showed up without any kind of winter clothing. It was freezing. Basically every night we would have to drain our pumps and make sure that everything was dry so it didn't freeze overnight and hurt something. So they were having clothing drives in Cody, and asking people to donate warm clothes and buy long underwear for some of these people. I remember in particular that the Wyoming Game and Fish had some winter coats that they were no longer using and they donated a whole bunch of these winter coats. I was surprised one day to see all these guys in Wyoming Game and Fish coats that didn't look like typical game wardens. I realized that they had been giving them coats to wear.

"They had a movie house up there. They built a great, big tent. We could watch movies at night. It was really a long-term camp."

*Interviewer:* "Anymore stories from those people up in that area? Or those people being brought up to that area?"

*Wenke:* "Well it was interesting. I mean, the way the federal dispatch system works. Because Wyoming resources are not dispatched out of the same dispatch center that Yellowstone resources are, there were actually engines from the Midwest, Minnesota, Michigan, some of those places, assigned to Yellowstone before engines from Wyoming were assigned to Yellowstone. Which was kind of unique, and of course, sort of a sore spot to some. I remember one day distinctly, we left camp and were heading up the road, there are some cabins right along the highway there, and here was one of these Minnesota or Michigan fire trucks. The kind like you would typically expect to see in a parade or something, parked in front of this house, and there was this gentleman out there in his structural firefighting gear, the kind he would wear to a house fire, walking around the sagebrush, trying to put out a few little hotspots in the sagebrush. We were highly entertained by this sight. It was not a very good use of resources, but its one of those things when they get that big sometimes, those things happen.

"The National Guard was there. It was very common back then to use Wyoming National Guard to haul crews because a lot of the crews back then would come by buses, and there was no way to transport them on those kinds of roads. So they would load them in the back of two-and-a-half-ton or five-ton vehicles and haul them to where they were going to work, so it was pretty common to see National Guard folk in camp. We do that rarely anymore, because so many of the crews come with Suburbans or pick-ups. That's all I can think of right off the bat anyway."

*Interviewer:* "How about more on the resources? I was just kind of wondering, you know, they just started coming out of nowhere, how did the superintendent—you know, he didn't call up Carolina and tell them guys to come. He didn't call up Arizona and tell them guys to come. How does all that go about?"

*Wenke:* "Well that's all through the dispatch centers. So for instance, each one of the regions has a main dispatch center and then each smaller area does. Like, Wyoming has four different dispatch center areas. We've got one in Cody, there's one in Rawlins, there's one in Casper, and there's one in Jackson. And then a group of states will be called a region. So our region is Wyoming, Colorado, North and South Dakota and Nebraska. There's a regional dispatch center that's in the Denver area. And so, for instance, if there's a fire in the Cody area, then the Cody area dispatch center would try to find any local stuff. If they couldn't find any, then they could go to one of the neighboring ones, or they could go to the Rocky Mountain regional one in the Denver area. And they would be reaching out to any of our states, and then if they can't find anything, they go to Boise, Idaho where the national one is, and they can reach out to any place in the country.

"Now, of course, it's computerized; back then it was all on paper. But they have lists of engines, crews, supervisors -- overhead, we call them. Helicopters, air tankers, all those kinds of things. Generally speaking, it's whoever or whatever meets the need that's the closest to the fire that's needing resources. So, that's how they get pulled in. So, you know it's pretty large, and they're really stretching when they're getting resources from that far away. However, we've sent engines as far as Florida. Texas has been a pretty common one, and then all over the western states. As individual firefighters, I've been from Texas to Alaska, Utah to Washington State. Wherever they need someone who has the qualifications. They just look for someone who is available at the time."

*Interviewer:* "I think a lot of that push, there were a lot of world-renowned names that started to come under danger."

*Wenke:* "That's for sure. And you know, a lot of times when it's a very visible fire, and you start talking about things like Old Faithful, they go pretty crazy



getting resources even though the excess is really not accomplishing anything. You're absolutely right, when important things to people start getting threatened, then the whole world gets ordered."

*Interviewer:* "Yeah, they got pretty uptight there at Old Faithful."

*Wenke:* "Yeah, that's my understanding. Interestingly enough, I had a doctor's appointment this morning. I don't even remember how we got on the subject, but my doctor was working at the lake hospital during the fires of '88."

*Interviewer:* "That's really crazy. Small world."

*Wenke:* "That's for sure."

*Interviewer:* "There again, it just defined a lot of careers. It's really an important thing on a lot of people's résumés. It spawned a lot of fire science, and changed a lot of things."

*Wenke:* "It did. It really did get the federal agencies, in my mind, on-center about how to manage fires better and when to make decisions on when to allow fire to burn in its natural state and when to, maybe, it's not a good idea to do it. It has given them a lot more opportunities to do those kinds of things. And I would've been the first in 1988 to say, 'Oh man, it's burned up way too much of Yellowstone. It's never going to be the same.' But I'm also one of the first now to point out to people how it has come back and it is a natural thing. A lot of the forests around here that hasn't burned for a hundred years or better, the beetles have all come in and killed it anyway. So now, it's standing dead from beetles instead of standing dead from fire. So now, we're having some extreme fire conditions when we do have fires. It's a natural thing, so anytime man gets in there and thinks he's in control, he's not."

*Interviewer:* "No, trying to stop a big fire is like trying to stop hurricanes and tornados."

*Wenke:* "That's right. "

*Interviewer:* "So, when you were on the fires, you probably get too much of the media, but did you ever get to see news reports or opinion columns or stuff like that? What did you think of those?"

*Wenke:* "You know, you're pretty good at jogging my memory about things. That was one thing that did happen. Probably two days after the snowstorm, we were working right along the highway in the Crandall area. That was when I was still just assigned to the engine -- I wasn't back again as strike team leader. We were out there mopping something up, and we look up on the highway and this TV news crew on the highway pulls up. We're assuming that they've got some appointment with somebody important there. We're back working and pretty soon somebody taps me on the shoulder, and I turn around and the camera lens is right in my face. I'm a twenty-seven year old firefighter, and they said, 'How do you feel about all of the snow we've got, and how do you think it'll affect things?' I was pretty much, just like, 'Uh, and uh.' (laughs) I felt like I made a total idiot out of myself. Well this was way back before Internet and smart phones or anything of that nature. Well I spent the biggest share of that summer never seeing a TV. Well that was one of the nights we were staying in the highway maintenance camp. We had TV, and guess who was on TV for all of my buddies to watch: me making an idiot of myself in front of the camera.

"They tried to get newspapers, even back then they tried to get newspapers into camp. That's the other thing. They had a telephone tent set up and I believe even as large as that camp was, they only had three or four phones. It had to be either a credit card call or a collect call, and you could go in and stand in line and you had like ten or fifteen minutes or something to call home. We stood in line

for who knows how long to get a few minutes to call back home to the wife and kids. Back then it was not uncommon that they'd only hear from me either once a week or they'd hear from me in two weeks when I got off the assignment. It just depended where I happened to be, which was very common back then. Like I said, they set up a movie tent. I don't remember if I ever went to a movie in it, but it was available. Most of the time, we were working long enough hours, we were pretty much interested in eating and going to bed."

*Interviewer:* "Well going back to the papers, I think I read through about two hundred opinion columns. Letters to the editor talking about the fires. You definitely see a lot of Yellowstone has burned down, it's gone. You mentioned this a little bit, but how much did you agree with that opinion at that point and how much do you agree with it now?"

*Wenke:* "I probably generally agreed at that point. You know it was 'Fire's bad. Putting fire out is good.' That kind of attitude. And of course, I was a firefighter. We put out fire, that's what we did. Now that I've spent a career in the Fire Service I've learned a whole lot about fire ecology. I have seen the effects of excluding fire from the environment, and trying to manage fire correctly. I've been involved in a lot of prescribed burns. I don't feel that way at all anymore. I think there were probably some mistakes made with some of the fires in Yellowstone. I think some of them should of maybe been controlled. They probably didn't have as much expertise and didn't take into account some of the conditions of that year as to whether or not it was even a good year to attempt something like that. Now we get involved. Right now the Shoshone National Forest has a fire that they're trying to manage for resource management benefits. They're long-term, they're difficult, they're probably going to threaten some of our lands. We're going to have to deal with that, but I completely believe you've got to let fire do its thing at times. You've got to pick your battles. There's a lot of them that you've got no business putting firefighters in there in the first place

for safety reasons. In the second place, are we trying to save standing, deadwood timber? Are we going to let fire do what it should be doing once in a while anyway? My opinion has completely turned around from then."

*Interviewer:* "Another big issue that you find in there that I've heard about is that now a days there are more houses in these sort of wilderness-like areas. Maybe not in national parks, but on the borders of national forests. So what we've heard is that wildland firefighters are saying that they have to do more structure protection than they used to."

*Wenke:* "Oh, that's absolutely correct. It has gone from where most of the time when we fought fires, it was pretty much in the backcountry, to where now we're sleeping in a town. We're on the edges of towns. Lots of politics because structures are threatened, private lands are threatened, view sheds are threatened. There's one guy who lives down there who doesn't want to look at a black hillside. It's a huge difference. It makes it very difficult to try and focus on doing the right thing on wildland fire when you have to make it a priority to protect somebody's property. There are a lot of cases where those folks can be doing things where their property can pretty much protect itself. We battle it all the time here and try to convince people that they need to take steps, but they're not willing to. They're not willing to cut down any trees or trim anything back. There're some pretty easy things to accomplish, but they're just not willing to."

*Interviewer:* "In the worst case, it's probably pretty hard to tell someone that they built their house in the wrong area."

*Wenke:* "It is. In the heat of the battle I've had to tell people, 'We're not going to be here. I'm sorry, but I'm not going to put a firefighter in here. It's not safe to put him in here.' But it is. It's difficult, and a lot of these people, that's their dream home and that was their dream spot. They just don't give a whole lot of thought to it. Generally speaking, it's not just wildland fire, human nature is to

say that it's not going to happen to me anyway. I'm not going to have a fire. This place isn't going to burn. If it wasn't human nature, we would all be scared all the time."

*Interviewer:* "So back in Yellowstone, another thing that carried on there was light-on-the-land training. Do you see that carrying on with other firefighting too? A don't damage the forests kind of thing. Is there a little bit of let it burn?"

*Wenke:* "There's been a lot of change in tactics sometimes. They've realized over the years that the tactics that we used to stop a fire may of done worse damage than the fire. You know, for instance, putting in dozer lines where they're going to erode, they're not going to get the natural vegetation back, or those kinds of things where the firefighting effort did more damage than had we let the fire burn. I've been very involved since in a lot of fires in the wilderness where they asked us to use MIST standards: minimum impact suppression tactics. And to construct no more line than we absolutely have to. Those kinds of things with the idea that if the fire burns through there, it's a natural thing. When we're trying to stop it, that isn't a natural thing. Generally speaking, people don't want their wilderness experience on a trail that has all kinds of trees cut. There's been a change in that, a big change in tactics. I'm fine with that as well, as long as it doesn't create an additional threat to the firefighter."

*Interviewer:* "Even going back to Yellowstone, fire being a natural process, you saw grasses and sprouts starting to come up a week after the fire had moved through an area."

*Wenke:* "Yeah, it doesn't take any time at all. You'll see elk and deer in there when it's still smoldering. Especially some of the stuff that really loves fire will come up very quickly. Fireweed and some of the grasses really like any kind of disturbance and, yeah, you bet."

*Interviewer:* "You know, you mentioned elk. Do you have any interesting wildlife stories?"

*Wenke:* "Not that I can really think of. I've spent a lot of time in areas where we had to deal with bears. I've never had a bear incident on a fire. I guess I had one where I was incident commander. One of my crews was out answering nature's call, and a bear came wandering by. I'm not sure who was the most scared. But I've never really had an incident. But we do spend a lot of time preparing for that in this country because we do have grizzly bears. No. I've seen a lot of wildlife on fires, but never really had any particular incidents."

*Interviewer:* "What's your position down there now?"

*Wenke:* "I'm the administrator for Park County Fire District 2, and we basically cover the northwest corner of Park County, right up against Yellowstone. About 3,200 square miles. We've got six stations with about sixty volunteers and four full-time staff."

*Interviewer:* "We had Dick Rothermel as one of our interviews. He's a fire scientist. We just learned about his creation of modeling. What do you use?"

*Wenke:* "Actually, a lot of what I would use if I was on the ground doing it is just knowing what to expect in those kinds of situations from previous experience. We've definitely had the fire behavior classes where we studied his fire prediction equations, learning how to use the BEHAVE program. But that's not my expertise on a fire. If it's a large fire, I'm going to depend on a fire behavior analyst to use those programs and give me some predictions. But I am familiar with his work. That goes way back."

*Interviewer:* "What do you remember most from the whole experience? What did you really take away from the fires of '88?"

*Wenke:* "Some of the things I remember was just the enormity of it at the time. I think things like they talked about the amount of smoke in the air would cause the lights to come on in downtown Cody in the middle of the day. They'd have burnt pine needles on their cars at times. I actually remember the night when we were first dispatched up to Pahaska during the night. East of Cody even, it had to be eighty miles from the edge of the fire, driving up there that night—I was in a blazer behind the engine—the engine was kicking up ash off the road into the headlights. It looked like when you have a light skip of snow on the highway and the vehicle in front of you is kicking up the snow. That's what the ash looked like, and this was probably eighty miles east of the fire. Some of those things, just the enormity of it."

*Interviewer:* "That's kind of the fun thing to hear about. It was just the biggest that everybody had seen. Like you said, the darkest smoke, the tallest flames and horizontal vertices, just all kinds of stuff discovered."

*Wenke:* "Right, it was some of the earliest extreme fire behavior that I had. Actually earlier that year, I was on a fire assignment where we had extreme fire behavior in the Bighorns. I remember my supervisors who had been in fire for probably twenty years at that point, he said, 'This is the kind of fire behavior that you may see once in your lifetime.' Well truly, from '88 on it's the kind of fire behavior that we've come to expect in a lot of cases. It was pretty unique for a lot of seasoned veterans to see those kinds of behaviors."

*Interviewer:* "Yeah, with everything being put out by ten o' clock before that, it was the first big fire. For the public, too."

*Wenke:* "Right, we'll go put that out. But then they realize that it's spotting a mile ahead of you. You can't put something out that's spotting a mile ahead of you."

*Interviewer:* "Yeah, we learned about downbursts. Several miles out in front, three and a half mile spotting, fifteen mile runs a day. Crazy. Can you think of anything else we can get down on record?"

*Wenke:* "Nothing else comes to mind."

*End of interview*



*Larry Whelan*

Interviewed by telephone on July 14, 2014

by Todd Jensen, Andrea Yaeger, and Garrett Smith

*Interviewer:* “Do you want to give us a short background on yourself and how you got into fires and then the Yellowstone Fire?”

*Whelan:* “I went to Forestry School at the University of Montana. I worked in Region 1 there for quite a while, and then got a promotion and transferred down to Region 3 in Lincoln National Forest. Fire was my secondary, forestry management was my first. I had many fire assignments along the way. When I went to Lincoln, I went as fire and timber staff officer. I did that for four or five years, and then I was transferred with promotion to the Inyo National Forest [?] as fire staff officer. That was the assignment that I was in 1988 and I actually retired in 1989 so that was just a year later that I retired.

“In 1988, I was qualified in Type 1 safety and logistics, fire behavior, Type 2 operations and section chief, and incident commander. I kind of traveled around. I went to a fire in eastern Montana in 1988 on the Crow Reservation. Then when they let me go from that fire, they transferred me to the fire on the Yellowstone and that is how I got there.

“I was operations sections chief and they actually called it a Type 2 assignment, but it was obviously not. I took the assignment and I was there for a little over three weeks on the Yellowstone itself.”

*Interviewer:* “What was your assessment when you got there? Were you a newcomer and was it already started?”

*Whelan:* “No, I was part of a replacement team. It was the Southern Fire Complex. I am not sure whom I had replaced. It had been going on for over a month, and I’m not sure how long exactly. As the operations and sections chief they can call it a Type 2, which it was obviously not, it was a Type 1 assignment whether anyone agrees or not. Then we had quite a few restrictions on it, you know, they were trying to let the fire take its natural course. We had quite a few restrictions on us for what we could do. Of course, that is part of the assignment so we did our best with that.”

*Interviewer:* “If this was toward the end of your career, I am guessing that it was a once in a lifetime event. It was the biggest moment in a lot of firefighter’s history. Can you describe some portions of the fire, the size of the flame, the amount of smoke compared to other fires?”

*Whelan:* “It was the Southern Fire Complex, so it covered a very large area. They had re-sectioned it and when I first got there, we were using natural barriers, Yellowstone Lake, or the highway, or existing trails, or those kind of things, and that presented quite a few problems.

“I don’t want anybody to get into trouble over this, but there was poor communications with the Park Service itself. We were told, for example, that the road was closed, so we put our engines and hoses and scattered everything out, and tried to hold the road itself as a fire line. Then a whole bunch of cars would come along. Most of them were happy to come along and wait and take pictures and stuff, but some of them had dates or appointments that they had to keep and needed to get through—some got kind of nasty with us over that. We would have them wait a while. Then at the right time, we would move our engines to some turnouts in the road and picked up our hose and stuff like that. That was kind of a rough part of the assignment there. Not the greatest communication. My incident commander -- there again I don’t want this to be held against

anyone personally, or I will fire you -- he was a Park Service employee himself, and I would say all planning meeting, and he would just approve it. Then when morning would come along, he would say he had somewhere to go and I was in charge. So, I was actually the incident commander there the way it went. It was quite a challenge, and it was quite an assignment.

“We had all kinds of trouble getting resources. When we would order something, they would just say this is not available and that is not available. We had people that, for various reasons, medical reasons sometimes or they had to get someplace. We would put in for a replacement, and they would say no one is available. It got to the point that I got on the phone myself and called people that I knew that were qualified, and saw if they were available. Then I made a request to the regional office to get them picked up, assigned, and taken to the fire. That applies to me, too. My port supervisor told me that I was gone long enough, and I needed to get home and do my job. I kept telling him that I had put in for that and they kept telling me, that there is no one available. So he said to tell them, ‘Either make someone available or I am just going to pull you back.’ So, I got on the phone the same way that I had for other positions, so I arranged for my own replacement. After he showed up, I went back home.”

*Interviewer:* “Did you have any experience with the military at all?”

*Whelan:* “Not that I recall. I have a bear story if you would like to hear that? It was a grizzly bear thing. We were told emphatically how we were to handle situations. When the bear was sighted, we pulled our people back into a safe area and just watched things until we figured the bear had moved on or not. Then we would go back to work and the fire actually did okay during those periods. We had a lot of good people there doing a lot of good work. Over all I was very pleased with the online stuff other than the road closures and stuff like that. Eventually they actually lifted the restrictions so we could build hand lines

and that helped us. Overall, with that Southern Complex we did a pretty good job and basically no big major runs or anything. So overall, I think it went pretty well.”

*Interviewer:* “With North Fork Fire, 15,000 acres was called a slop over. Is that typical, do things like that happen in Arizona fires?”

*Whelan:* “That was very unique to Yellowstone. That was not a slop over. The whole thing is that was a Type 2 fire and all these restrictions. I did the fire planning for the Coconino, I was fire-behavior qualified. The whole thing was to let the fire take its natural course. We had a practice in place on the Forest Service. When a fire started, if it was burning within a preplanned prescription with intensity, all the fuel and wind was taken into account, and there was a prescribed fire plan in place for the area. If it was burning in prescription, then we called it a prescribed fire. Anytime a fire left the prescription it immediately became a wildfire and we took fire suppression tactics against it. Once it became a wildfire, it could not go back into prescribed. Well in the park, the whole thing about letting it take its natural course, and don’t do this and don’t do that stuff. I thought there could have had far better planning going into that. There again, I would not like anybody to take that personally, but that is just my own opinion.”

*Interviewer:* “Did you receive any light on the land training?”

*Whelan:* “That fits basically to what the whole situation was about. We were trying to let the fire take its natural course. We eventually got approval to build hand lines, which helped. We would build hand line, the burnout, and we were able to contain a large portion of the fire. We also used Yellowstone Lake, highways, and any natural barriers -- we tried to maximize their use.

“You know, I came from that area. I met my wife in West Yellowstone. I have been through the park many times. Not just on fire. Overall, I was very pleased

with the flexibility that I had. The only other thing again was some of things I had already mentioned about getting help, materials, and that sort of thing.”

*Interviewer:* “There were horizontal vortexes reported being seen. Can you explain things like that or the crowning or the advancement of the fire?”

*Whelan:* “Yes, we did. But we just responded appropriately and stayed out of the way. If it was headed toward the highway or lake or something like that, we would just get out of the way and let it run its course. The horizontal things, we actually followed some of those in that were spinning and clean up behind them.”

*Interviewer:* “Any comments on the media?”

*Whelan:* “No, I don’t remember any problems with the media at all. There were people taking notes and stuff, and they were told to stay out of the way. There were a lot of people taking pictures but I don’t know if that was media or tourist. I am not sure which is which.”

*Interviewer:* “I am still amazed that the park was still open and let tourist go through when the fire were going on.”

*Whelan:* “I was told very emphatically that the road was closed and then all these people, there must have been twenty or thirty cars, showed up. We went down the line and told them what the deal was. A lot of them were okay with it, got out, and were taking picture and such, but there were others that were very angry and wanted to get through. We did our best to accommodate them the best we could.”

*Interviewer:* “I can’t imagine trying to fight fires and deal with the tourists on top of it.”

*Whelan:* “I have had that experience on quite a few fires.”

*Interviewer:* “In 1988, they said the fire behavior book was written. The veterans are starting to retire. Are the people that were not involved missing anything by not having that experience?”

*Whelan:* “We had good fire behavior courses going on during my tenure here on the Coconino. We have the National Fire Center down in Southern Arizona, and I have taught fire behavior several times and there was a very good book on it. We used all that information when doing our fire planning on the forests. I have said repeatedly over the years since I have retired, that when they would come up with a problem with this or a problem with that, we had all ready dealt with that and made decisions about that. I am not talking about Yellowstone Park here, but the big fire problems that they had here in the last X number of years. There is a lot of things that would have been put into practice, just the decisions that I made while I was still on active duty, I think they could have avoided a lot of problems.”

*Interviewer:* “Where does that come from, just out of curiosity? Is it lack of experience and people don’t have that so they just don’t include it in the next session?”

*Whelan:* “I think that is part of it. When I was, I don’t want anyone to take this personally either, but when I joined the Forest Service everybody in the Forest Service in a decision-making position had to be a forester by profession and then would have to come up through the ranks all the way to the chief of the Forest Service themselves. So everyone in a decision-making position had on-the-ground experience with fire and cleaning up outhouses and everything you do when you first join the outfit, and then come up through the ranks. Then when we got into the situation of equal employment opportunity, and I have sisters and daughters so don’t get me wrong, but with equal employment, we started putting good people in decision-making positions that had no experience

whatsoever on the ground. That kind of gave way to that. The questions were coming up and they did not know about all of the plans that were already in place. The whole thing that you have to be a forester and a graduate from the forestry school and a forester gets the basic education in all the aspects of forest management. Then when you see a problem, when you see a wildlife problem, you call in the wildlife biologist and that sort of thing. When we started promoting good people just because they were in place and stuff, we lost a lot of that on-the-ground experience and knowledge and we are getting the consequences of that today.”

*Interviewer:* “There is a lot of camaraderie and pride from being involved with the 1988 fires.”

*Whelan:* “I would have to consider myself a part of that group then.”

*Interviewer:* “When you arrived it was an unstoppable fire. What were your thoughts throughout the day of going to work on an unstoppable fire?”

*Whelan:* “First of all, I don’t agree that there is such a thing that there is an unstoppable fire. It all depends on how you go about it. I got there and took a helicopter ride around the whole complex there and looked everything all over and listened to all the reports that everyone was giving me. I would not say overwhelming, but certainly challenging. Then we got going and dealt with the problems as they came up. We did the best we could. I thought overall we had reasonably good success.”

*Interviewer:* “Were you on any structure fires or protection?”

*Whelan:* “There were some cabins, they were non-occupied kinds of things and we took pains to protect them the best we could.”

*Interviewer:* “How fast were operations changing on a daily basis?”

*Whelan:* “There again, we had a good plan. We got the information from the park on what we could do and what we could not do. Then we built a plan. That is standard procedure when you go on a wildfire assignment. You meet with the person in charge of the area, you talk to him about what you can do and what you can’t do, and you build plans accordingly. And that is exactly what we did and then implemented those plans on a day-to-day basis. That is kind of an ongoing thing. I thought we did pretty well overall.”

*Interviewer:* “Well it turned out well over the years. The media had a lot to do with all the negativity but they did not talk to people like you. Maybe firefighters on the line got confusing answers and ran with those.”

*Whelan:* “The media tailors their news to what will sell. They are more concerned about their advertising than the news. That is still going on today.”

*Interviewer:* “Anything special that stands out with the fires or anymore stories that you want to tell?”

*Whelan:* “Well when we tried to replace people, I actually had people bring equipment with them when I got people to come from Coconino Forest here, actually. I had them bring equipment that we could not get from supply. On a regional level whoever was in charge of that overall thing, I think could have been a lot better, but then again I don’t want anyone to feel bad or look bad.”

*Interviewer:* “You are fine. That was the nature of it. It grew so fast. We are winding down, Larry. We got some good information from a true firefighter and you are recorded in the archives here in Yellowstone National Park.”

*End of interview*



