

PIONEER FIRE INQUIRY

It's just a fire. That in itself was a reason the Pioneer fire was getting a closer look. It was day 51 when the inquiry team arrived in Boise, Idaho. A thousand people were still on the fire. It had covered over 180,000 acres, and the cost of corralling it was marching towards \$100 million. The seventh incident management team since the fire's ignition on July 18, 2016, was taking its turn. The magnitude of the Pioneer Fire was a little unusual for Region 4 of the U.S. Forest Service, but certainly not outside the realm of the wildland fires now regularly seen in the west. It wasn't even the biggest fire the Boise National Forest had experienced, and nothing remarkable had happened.

There had been a good safety record, especially considering the size and duration of the fire. The Leader's Intent delivered by the Forest Supervisor was clear and consistent, following Life First principles. Local and Regional leadership remarked on communication and alignment up and down the organization. Interagency cooperation had gone very well, most notably with the Boise County Sheriff's Office, whose newly appointed Sheriff had been on the job less than three months when his trial by fire, so to speak, began. Boise and Valley Counties' residents, who are well-versed in wildland fire, were largely supportive of the decisions that had been made during management of the Pioneer Fire, and had quieted dissenters among them.

So maybe, in fact, something remarkable *had* happened. That all was going well when the inquiry team arrived on September 6, almost two months into this marathon fire, might itself be worth a closer look. As with every fire, there were lessons to be learned. Even the Forest Fire Management Officer, who was now conducting his seventh team in-briefing and had been involved with the Pioneer Fire daily since its ignition, admitted not knowing the whole story. Certainly there were little known events and overarching themes of key importance that could be revealed. Those were the stories the inquiry team set out to find, with a mission to push our learning organization forward in new ways. The Pioneer Fire was just the place to do that, because after all, it's just a fire.

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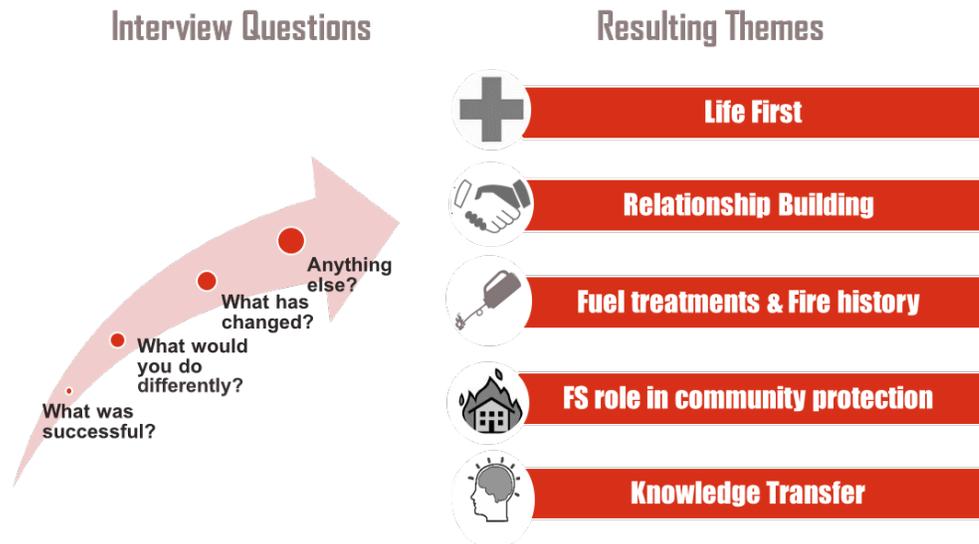
INTRODUCTION

WHAT IS AN INQUIRY?

An inquiry is not an inquisition. It is not a review or an investigation in the traditional sense. An inquiry takes a closer look at incident by asking questions, with the objective of learning as the central theme. At the lowest level (Level 1), the fire inquiry is answering a questionnaire to identify strengths and weaknesses of the wildland fire system. Level 2 and 3 fire inquiries add additional questions that are more difficult to answer and accompany a higher degree of discussion and documentation. A Level 4 inquiry, such as that conducted on the Pioneer Fire, is the closest to the traditional fire review, with the key difference that it is more of a freeform learning process, and not necessarily focused on fires that had tragic outcomes.

THE INQUIRY PROCESS

Following a series of briefings, the inquiry team spent two days gathering information and conducting interviews. Although the short timeline was restrictive, it did allow the team to identify themes that rose to the top without getting deep into a more investigative process. The team interviewed personnel at local and regional levels, including representatives of the Forest Service Fire and Aviation Management (FAM), line officers, cooperators, Incident Management Teams (IMTs), and firefighters. Utilizing a set of simple, open-ended questions, five main themes emerged from the interviews:



Certainly on a fire the size and duration of the Pioneer Fire, opportunities exist to take a more in depth look. It was not within the scope of the project to conduct a statistically valid scientific study, nor to document the complete story of the fire. Also not considered is the story after the fire. At the time of the inquiry, the Pioneer Fire was still burning, and the burned area emergency response (BAER) and suppression repair efforts were ongoing. Ecological effects and impacts to communities and local economies will not be fully realized until an extended time after the fire.

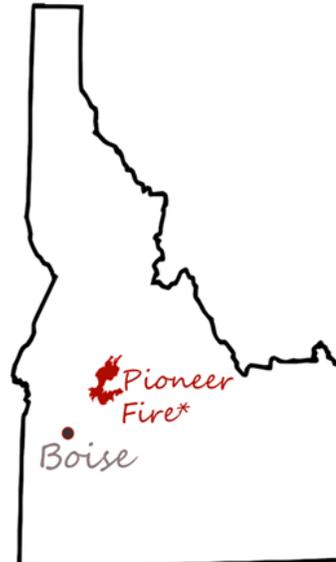
Although efforts were made to validate assertions made by interviewees, it should be noted that much of the information contained herein is based on initial observations of the interviewees and inquiry team. Statements have not been scientifically validated. This is especially important when considering topics such as effects of fuels treatments of fire behavior or severity of fire effects. Further, maps utilized in this document are graphical displays to convey general information, and should not be considered precise GIS representations.

The outcome of this inquiry will not include recommendations. The goal is to provide a quick, easy to absorb learning tool that can be used by individuals and groups for consideration, discussion, and further learning at a system level.

ABOUT THE PIONEER FIRE

The story of the Pioneer Fire begins well before its ignition on July 18, 2016, with considerable internal and external relationship building, and a history of fires across the landscape. The Pioneer Fire burned within the counties of Boise and Valley, Idaho, and within the protection area of the Boise National Forest (NF), as identified in the Idaho Cooperative Fire Protection Agreement. The fire started on the Idaho City Ranger District, approximately 26 miles northeast of Boise, and spread onto the Lowman and Emmett Ranger Districts. The communities of Idaho City, Pioneerville, Centerville, Lowman, and Garden Valley were threatened or directly impacted by the fire.

At the start of the inquiry on September 6, the Pioneer Fire covered over 180,000 acres with a perimeter exceeding 400 miles. Seven IMTs have managed the fire, including one Type 3, two Type 2, and four Type 1 teams. The fire was temporarily divided into north and south zones, using a Type 1 and Type 2 IMT to facilitate command and control.

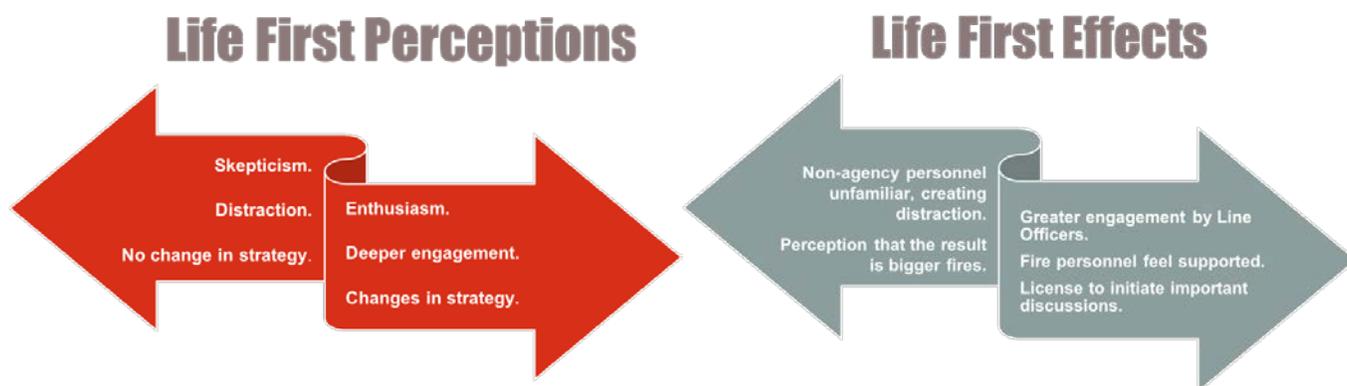


* Pioneer Fire location approximate, 26 mi. NE of Boise, ID. Not to scale.

EMERGING THEMES

LIFE FIRST

As part of the Life First conversations, FAM leadership committed to conducting learning reviews on large fires. Although the Pioneer Fire inquiry was initiated as part of that effort, the inquiry team did not set out to focus on Life First, and preferred to allow themes to organically emerge through the open-ended questions. From the first briefing and throughout the interviews, however, Life First was an ever-present topic.



PERCEPTIONS

The leader's intent from the Forest was very specific in emphasizing Life First during the incoming team briefings and in all aspects of the management of the fire. The Forest Supervisor and District Rangers were in alignment with this messaging and the value they placed on Life First. Building on Life First, leadership adapted their planned approach to in-briefings by putting greater stress on lives over resources: "Let me be clear, the critical resource values we identified are just things; nothing, and I mean nothing, is more important than the lives of our firefighters."

As would be expected with any new initiative, opinions of Life First among the Forest Service personnel ranged from skeptical to enthusiastic. Some fire personnel thought it was "business as usual" and "just another buzz word: life and safety of firefighters has always been our first priority." One late-career firefighter thought it was just a way for people in the Washington (DC) Office to feel like they are doing something. In contrast, a module leader said he had observed a greater level of thoughtful discussion about fire line assignments, as well as consideration of the impacts of job and home life on each other. Early-career firefighters noted feeling a higher level of support and caring from upper leadership than they had in the past.

An important perspective comes to light whenever there is an opportunity to talk with firefighters. Firefighters “do this all the time” in terms of having a dialog about what they see on the ground and how to approach the fire. Life First put a voice to the good decisions that were already being made. This was a common thread with the firefighters who were interviewed. One firefighter thought of Life First as being a “hard reset” to review our firefighting practices and make adjustments as needed. “The most dangerous phrase in wildland firefighting is ‘we’ve always done it that way.’”

Perceptions also varied among non-agency personnel. A Type 2 Incident Commander (IC), a BLM employee, was unaware of Life First messaging prior to the in-briefing, and it was difficult for some to talk about a concept they had not received training in. Although he took time to learn about Life First, the IC stated his team did not change strategies specifically as a result. A local agency cooperater was aware of Life First due to pre-season interagency training. He was supportive of the concept, but believed it caused a change in strategy, resulting in the fire getting larger and having greater impacts to private land.

EFFECTS

Although perceptions of Life First vary, it is clear that one positive impact on Boise NF is greater engagement of line officers in wildland fires, and increased dialog up and down the organization both before and during incidents. Because line officers are more engaged, they are recognizing the importance of medical and safety personnel on the fire line. They perceive more dialog among crew bosses, squad bosses, and first year firefighters based on Life First principles. Rangers for the three districts in the Pioneer Fire feel successful because there were few serious accidents, despite the amount of exposure from firefighting, driving, snags, and aviation use.

If the metric of safety is no serious injuries or fatalities, then the Pioneer Fire has had a good safety record, especially considering fire behavior, terrain, size, and duration. Although there were numerous hospital transports, few were for serious injuries. However, data on the exact number and nature of the injuries had not been compiled at the time of the inquiry. (The most serious injury to receive public attention was to a firefighter who experienced burns as a result of a chainsaw fuel geysers.) Forest- and Regional leaders attribute this success to the infusion of Life First principles into both words and actions before and during the incident. A Hotshot superintendent thought the Pioneer Fire was one of the most aggressively fought

THE BOISE NF HAS A ROBUST HOSPITAL LIAISON PROGRAM, SINCE THE CITY OF BOISE HAS THE ONLY TRAUMA CENTER IN IDAHO AND EASTERN OREGON. THE PIONEER FIRE HAD OVER 70 MEDICAL TRANSPORTS, MOSTLY FOR MINOR INJURIES, AND THE HOSPITAL LIAISONS WERE USED EXTENSIVELY OVER THE COURSE OF THE INCIDENT. THE FOREST'S EMPHASIS OF THIS PROGRAM IS A DIRECT REFLECTION TO THE LIFE FIRST PRINCIPLES OF CARING FOR EMPLOYEES.

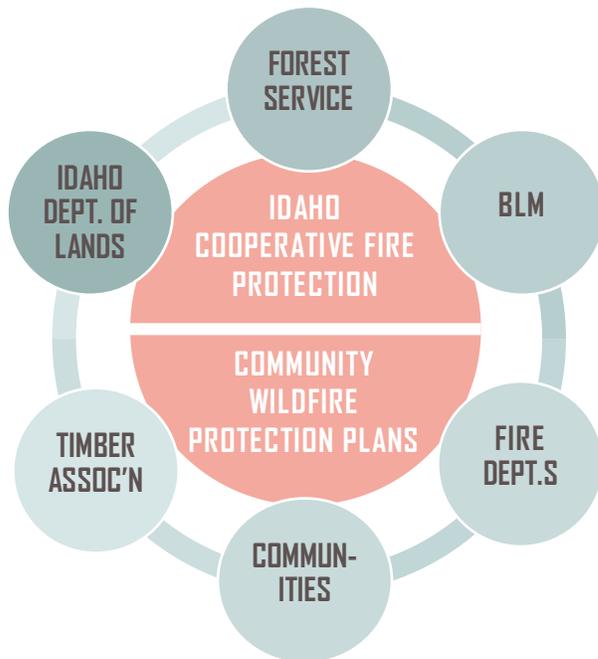
fires he had been on this season, especially when the fire was south of the river and had not yet crossed Highway 21 to the east. Given the number of variables that contribute to safe outcomes, some of which cannot be directly observed or measured, and the lack of record keeping (e.g. how aggressive strategies were implemented on the ground), we cannot with certainty associate Life First and the safety record of the Pioneer Fire.

The emphasis in the Life First messaging may have diverted some attention of the above-mentioned IC from other aspects of the fire, but it is unknown if this had an adverse impact to management of the fire. Similarly, an in-depth study of decision making and fire behavior throughout the incident would be needed in order to determine if there is any evidence to validate the perception that applying Life First principles ultimately results in a larger fire or a safer fire.

PRE-FIRE RELATIONSHIPS

Relationships that were established and strengthened prior to the Pioneer Fire were able to endure through the incident, and facilitated communication, trust, and decision making. Preseason efforts have contributed to:

- Effective cooperation and coordination between the Forest Service and other partners.
- Strong community support and trust for fire program and incident management.
- Communication of leaders’ intent and Life First goals, both internally and externally.



PARTNERSHIPS

Boise NF experiences a great deal of wildland fire. The area counties are dominated by public lands, and there is limited organized community structure protection capacity. Thus, the Forest Service assumes perhaps some additional responsibility for community protection, as is common in many states where private property is intermixed with National Forest lands. This adds to the large focus on pre-season relationship building with partners, stakeholders, communities, and emergency service providers. Interagency collaborative efforts are manifested in the Idaho Cooperative

Fire Protection and the Boise County Community Wildfire Protection Plan. Meetings, training, and scenarios conducted by the Boise NF were instrumental in building trust and

support among employees, partners, cooperators, and local stakeholders, which carried into successful cooperation during the Pioneer Fire.

COMMUNITIES

Pre-season engagement has helped to build social acceptance of fire. Communities such as Lowman have faced pre-evacuations, evacuations, and road closures, yet show support for the management of the fire. The District Rangers sense communities trust them: “I believe they understand I wouldn’t manage a fire [for resource benefits] or suppress a fire without doing my homework about historic weather and fire occurrence.”

INTERNAL

Training scenarios, Life First engagement sessions, staff rides, and pre-season dialog has helped Boise NF build internal relationships and trust among line officers and fire personnel. The District Rangers discussed how well they work together prior to emergencies, which allowed them to work as a team in support of each other through the long-duration Pioneer Fire.

FUELS TREATMENTS AND FIRE HISTORY

One interviewee noted that while fuels treatments in this area are effective for point protection of communities, at the landscape level, the only truly impactful treatment is other wildland fires. This observation clearly played out on the Pioneer Fire. In fact, one Type I IC summarized the defining story of the Pioneer fire as “burn scars.”

FUELS TREATMENTS

The primary communities threatened by the Pioneer fire included Idaho City, Pioneerville, Centerville, Lowman, and Garden Valley. As the fire suppression effort progressed, Lowman was the only community the Pioneer Fire directly impacted. This community is surrounded by the Boise NF and is no stranger to wildland fire. Many structures

PRE-FIRE ACTIONS

COOPERATORS’ FIELD SIMULATION TRAINING

Each year the Forest organizes emergency response and fire exercises that involve numerous cooperators. They practice responding to fires, evacuations, medical emergencies, etc. This helps build relationships, competencies, and trust.

F.L.T. DIALOG

The Forest Leadership Team conducts annual training scenarios or staff rides. Partners are invited to attend, advancing relationships and understanding.

LIFE FIRST ENGAGEMENT SESSIONS

The Forest Supervisor attended 7 of the 12 sessions sponsored by the Forest. There was clear feedback from participants that they felt valued, which increased their commitment to the agency.

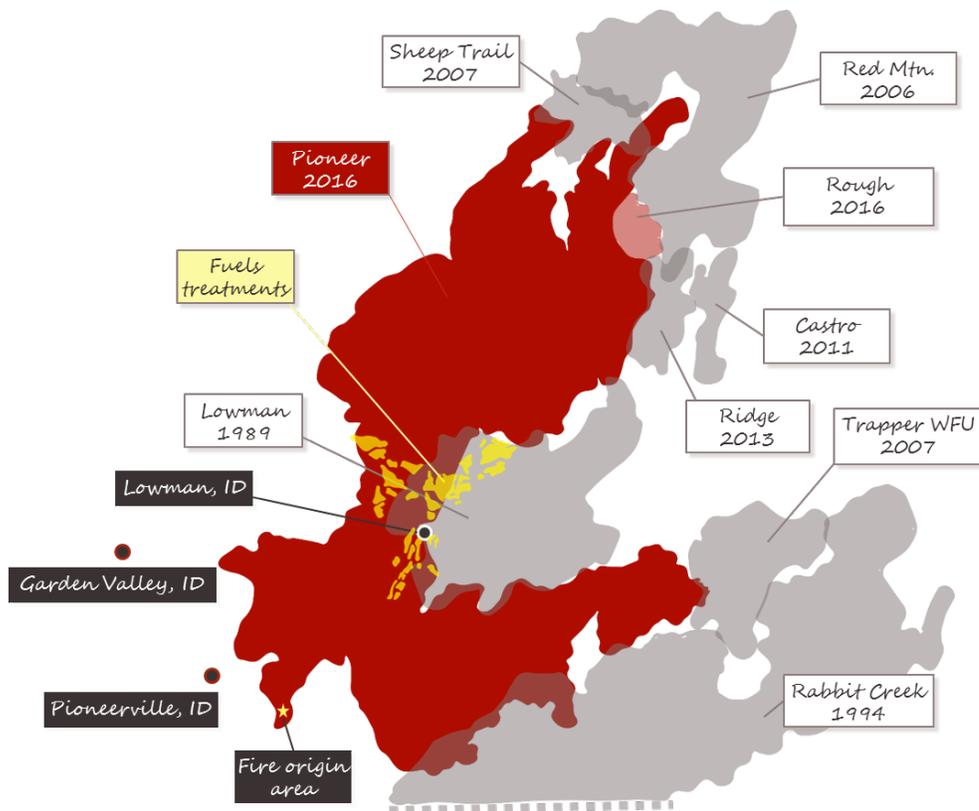
PRE-SEASON VIDEO

Each year the Forest develops a fire training video that is shared widely with all employees, cooperating agencies, and county commissioners. This year’s video shows strong alignment with Life First objectives, supporting dialog about risk versus gain.



within the community were lost in the 1989 Lowman Fire. Although much of the town was partially protected by the Lowman Fire, the Pioneer Fire threatened the town primarily from the west. The Forest indicated that the fuels treatments implemented around the town of Lowman since 2000 were a part of a successful firefighting effort to protect structures.

However, an employee observed it is hard to have a significant effect on a 2.5 million acre forest with a 10,000 acre yearly fuels target. Delays in the NEPA process created additional challenges. One project was authorized by a 2003 Environmental Impact Statement and then reaffirmed by a 2016 Supplemental Information Report, while another project was started in 2003 and the Record of Decision was signed in 2016. They included both timber sales and prescribed burn units. Several timber sales planned for 2016 were consumed by the fire along with planned prescribed fire units. Employees who had worked for years on the projects were saddened when the project areas burned in the Pioneer Fire. Although the burned stands represented a loss of economic value and countless hours of hard work, it is unknown if implementation of the projects would have had altered fire behavior and effects.



* Locations and shapes of perimeters are not precise and are intended for illustration only.

LARGE FIRE HISTORY

In recent years, the Boise NF has burned tens of thousands of acres in wildland fires. It is estimated that 60% of the Forest has burned in the last 36 years (1,526,187 ac). The Pioneer Fire burned across one of the largest unburned tracts of land in the heart of the Boise NF. The ecological effects have not yet been assessed, but several interviewees believe the effects are likely to be severe. Considerable efforts were made to contain the fire, but in the end it was the large, previously burned areas that played a critical role in checking fire spread.

PREVIOUS FIRE	YEAR	SIZE (AC)	EFFECT ON THE PIONEER FIRE
TRAPPER RIDGE WILDAND FIRE USE	2007	18,348	FORWARD SPREAD HALTED AFTER 23 MILE RUN TO THE EAST.
RABBIT CREEK	1994	153,859	CHECKED FLANKING AND BACKING SPREAD FOR ABOUT 17 MILES, LIKELY DUE TO HIGH LIVE FUEL MOISTURE IN THE SHRUBS AND YOUNG TREES.
LOWMAN	1989	44,170	PROHIBITED FIRE SPREAD INTO LOWMAN, ID AND THE HIGHWAY 21 CORRIDOR TO THE NORTH AND SOUTH FOR APPROXIMATELY 27 MILES.
RIDGE	2013	4,865	CHECKED FIRE SPREAD TO THE NORTHEAST AND EAST
RED MOUNTAIN	2006	35,493	CHECKED FIRE SPREAD TO THE NORTHEAST AND EAST FOR APPROXIMATELY 10 MILES.
SHEEP TRAIL	2007	8,730	CHECKED FIRE SPREAD TO THE NORTH FOR APPROXIMATELY 6 MILES.
CASTRO	2011	4,855	CHECKED FIRE SPREAD TO THE NORTHEAST AND EAST

The Ridge and Castro Fires are worthy of particular mention, as they were wildfires managed by the Boise NF during moderate conditions. Fire managers, supported by their leadership, had the foresight to utilize these fires to create a network of barriers to impede future fires, such as the Pioneer Fire, from entering the Highway 21 corridor towards the Salmon-Challis National Forest and Stanley, ID.

WHAT THE PIONEER FIRE CAN TEACH US ABOUT CREATING RESILIENT LANDSCAPES

FUELS TREATMENTS CAN BE EFFECTIVE FOR POINT PROTECTION, SUCH AS AROUND COMMUNITIES.

MANAGING FIRES DURING MODERATE CONDITIONS OR LATER IN THE SEASON CAN PROVIDE RESOURCE BENEFITS AND AID WITH MANAGEMENT OF FUTURE EXTREME EVENTS.

IN A SUPPRESSION STRATEGY, CONSIDER USING PREVIOUS BURNS IN CONCERT WITH LONG-TERM ANALYSIS AND POINT PROTECTION.

OVER TIME, THE LANDSCAPE WILL START SELF-REGULATING—A FIRE ADAPTED ECOSYSTEM—WITH REDUCED FIRE SIZE, INTENSITY, AND RESISTANCE TO CONTROL.

FOREST SERVICE ROLE IN COMMUNITY PROTECTION

A 2006 Office of Inspector General (OIG) audit identified 50-95% of federal wildfire suppression expenditures as associated with community protection. The audit noted that, in practice, the Forest Service was not giving natural resources and private property equal consideration. While this is indeed a system reality, interviewees, including fire personnel and line officers, frequently expressed concern for ecological effects of the Pioneer Fire and suppression actions. It does appear, however, that a significant portion of federal expenditures on the Pioneer Fire were allocated for resources committed to community protection. This is not a unique situation; it is common on many fires where communities are threatened.

Despite policy and guidance stating that structure protection is not the responsibility of federal wildland fire agencies, questions still arise about responsibilities, and if the presence of structures affects intensity of fire suppression

1995 Federal Fire Policy (2001 Update) on WUI

- “The operational roles of the federal agencies as partners in the wildland urban interface are wildland firefighting, hazard reduction, cooperative prevention, education, and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments. Federal agencies may assist with exterior structural fire protection activities under formal protection agreements that specify the mutual responsibilities of the partners, including funding.”

National Wildland Cohesive Strategy

- Provides framework for cooperation amongst all stakeholders.
- The three tenets are resilient landscapes, fire adapted communities, and safe and effective emergency response.

2016 Red Book, Chapter 5

- Fire suppression actions on structures that are outside federal jurisdiction, outside the scope of wildland firefighting training, or beyond the capability of wildland firefighting resources are not appropriate roles for the Forest Service.
- Local government has the responsibility of for emergency response, including structure protection, within their jurisdiction.

efforts or willingness of firefighters to accept additional risk. The Pioneer Fire provides examples of this. An Operations Chief and a Hotshot crew were discussing how to build direct line near Burns Ridge to protect structures. An interviewee recalled, “There was a lot of discussion about the houses. There would have been a time [in the past] to make a gallant stance with firefighters. Even the Hotshots thought it was a little scary to go that direct. After some dialogue, they did a risk analysis and decided to still go direct but build the line a little further out. We still protected the structures. They are really proud of that decision. They didn’t put people in harm’s way.”

During the Pioneer Fire, some structure protection was provided by the local fire departments. Other resources were ordered for community protection by the IMTs to minimize threats to values at risk in the wildland urban interface (WUI), including homes and other infrastructure. However, different IMTs had different views of structure protection, and consequently different tactics. For example, one IMT ordered additional engines for direct structure protection, whereas a subsequent IMT found this beyond the scope of federal responsibility and did not leave those resources in place.

Statewide offset protection maps were updated in 2016. As a result, the Boise NF assumed suppression responsibility for both state jurisdiction lands and National Forest lands within the Pioneer Fire in 2016. The Boise NF has averaged about 10,000 acres of fuels treatments per year for the last five years. Over 70% of these treatments are in the WUI. Similarly, the BLM’s Fire Management Plan directs suppressing fires on its lands in the Pioneer Fire area due to the density of WUI.

KNOWLEDGE TRANSFER

Over a long duration fire, numerous personnel cycle through. Smaller details and early events can start to blur for local staff such as fire managers and line officers. Even more challenging is the transference of knowledge between incident management teams. How suppression strategies evolve over the life of an incident is a complex balancing of fire behavior, suppression opportunity and effectiveness, relative risk to values being threatened, and managerial experience. Information can become difficult to track and transfer due to both the time and magnitude of the incident, at times critical information may be lost or misinterpreted. Challenges with knowledge transfer were woven through many recollections of the Pioneer Fire.

LIFE FIRST

Interviews revealed consistent themes around “Life First.” This was deemed to be of highest priority to agency leadership (i.e. clear articulation of leader’s intent and the role of Life First). Firefighters indicated that Life First empowered them to ask questions about the “why” in the strategy of a fire and opened up lines of communications with line officers. This helped firefighters assess values and risks for themselves.

FIRE BEHAVIOR

Early in the incident, the human factor of being overly optimistic about likelihood of success, coupled with weather and fuels conditions at a temporary low, may have led to the general belief that the fire could be caught at a relatively small size. Early fire spread simulations may have re-enforced this belief. However, recognition of the fire’s potential began to emerge as local knowledge of the fire behavior improved, fire weather worsened, and the fire evaded suppression.

Forest leaders expressed knowing early on that the fire had a potential to get very large and to reach or pass key landmarks. It is unclear how these changes were communicated within WFDSS or to the early IMTs, and if recognition of the fire’s potential translated into altered strategy. It is clear that WFDSS model results improved over time and showed the potential of the fire to expand to the east and north with good accuracy. Specifically, although near-term fire runs did an adequate job estimating the potential timing of the fire crossing Highway 21, it was repeatedly stated that the first IMT was continually “playing catch up.” It does appear there were gaps in knowledge transfer between local knowledge, fire behavior modelling results, and the IMTs. However, a detailed review of what information was available on predicted fire behavior and when, and how it was translated into strategies and tactics is well beyond the scope of this inquiry.

RISK

Had the Boise NF not made the conscious decision to manage several wildland fires for resource benefit over the last eight years, the impacts of the Pioneer Fire may have been worse. These efforts were challenging both internally and externally. Assuming such a risk, despite its potential significant gains, is an action that has traditionally been poorly rewarded within the organization. Yet the role of these past wildland fires in reducing the potential consequences from the Pioneer Fire cannot be understated. The culture of the

THE FIRE FORMERLY KNOWN AS PRESCRIBED NATURAL FIRE



Differences in terminology are causing confusion not just on the Pioneer Fire, but throughout our fire management system. The most obvious problem, for many years now, is what to call fires that are allowed to perform their natural function in the ecosystem, and suppression is not the sole strategy. Similarly, the terminology of “contained” (referring to suppression line construction), or the new terminology “completed” (connoting a fire that is being “used” rather than fully suppressed) is not only difficult to understand, but has ramifications. The Pioneer Fire inquiry revealed challenges with internal and external communications when attempting to use “correct” terminology that accurately reflected strategy. IMTs on other fires have reported difficulty in filling resource requests if a fire’s status was changed from “full suppression” to a fire with multiple objectives.

Forest Service does not consistently reward those line officers and fire managers who are willing to assume the risks of a longer duration fire that ultimately will reduce the threat of a future large, unwanted and destructive wildfire.

Challenges with communicating known risks were observed on the Pioneer Fire, and is a knowledge transfer gap system-wide. For example, a Hotshot crew evaluated an area of the fire, determined it was too hazardous to work there, and mitigated the risk by making a different plan. However, later in the fire and not having this same information and possibly less experience to draw from, a BAER team went into the same area to conduct surveys. Although we have successful examples of after-the-fact learning tools (e.g., SafeNet, SafeCom, and the Lessons Learned Center), we do not have an established and consistent mechanism to record and transfer knowledge of observed risks and potential mitigations within the scope of an incident. This becomes especially important on long-duration incidents where numerous resources come and go over weeks or months, and there is no opportunity for direct communication.

CONCLUSION

The Pioneer Fire was managed appropriately, aggressively, and with a pre-eminent focus on Life First. Throughout the event the ecological effects were deemed undesirable, such that every effort to extinguish the fire that could safely be implemented was pursued. Several interviewees were very clear that the management of the Pioneer Fire is simply “the cost of doing business.” Every indication is that the management and outcomes, both ecologically and economically, are a result of the fire system we have in place. It is our hope that this inquiry will facilitate increased dialogue and learning on how we can provide for the safety of our firefighters, while improving the value of our public lands and the safety of the communities that surround them.

ACKNOWLEDGEMENTS

We thank all of the employees of the Boise National Forest, the Incident Management Teams, the Region 4 Regional Office staff, cooperators, and others who had a role on the Pioneer Fire. We appreciate the candor, transparency, and rich conversations that we had with personnel. The results of those productive conversations have provided the themes and discussion in this report.

This type of learning inquiry can only be successful when those involved in the incident provide honest and candid input so that all of us can learn from these events.

TEAM

Dave Calkin, Research Forester, Rocky Mountain Research Station

Bea Day, R3 Risk Operations Officer

Pete Duncan, R5 Risk Operations Officer

Steve Goldman, R9 FAM Assistant Director, Fuels

Beth Rands, WO FAM Program Specialist

Rick Stratton, R6 Regional Fire Analyst

Sherry Tune, Forest Supervisor, Allegheny NF

Bill Van Bruggen, R3 FAM Director

Dan Williams, Research Social Scientist, Rocky Mountain Research Station