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U.S. DEPARTMENT OF AGRICULTURE



# Rocky Mountain Research Station Science You Can Use *(in 5 minutes)*

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## Misconceptions Around Strategy: Managing Fire Response and Public Communication to Support Risk-Based Decisionmaking

The 2021 Tamarack Fire in California, started by lightning in a national forest wilderness area, burned nearly 70,000 acres and eventually destroyed 24 structures. Because properties were damaged, the public and media scrutinized the fire management response. This fire exemplifies not only the challenges of fire management in land and resource management, but also how shortcomings in the fire response reporting system can make way for misperceptions to dominate the public narrative.

The initial response to the Tamarack Fire was to observe the incident remotely due to high hazards to firefighters and a perception of limited risk to valuable resources and assets. On the U.S. National Incident Management System Incident Status Summary (ICS-209), fire managers labeled this early response as “monitoring”. Without context, this label potentially communicates a passive approach to wildfire management and obscures the complex factors involved in the decision. It fails to communicate that while modeling, managers are actively identifying conditions when actions will be taken and for what reasons. Lacking that additional

context, many in the public viewed this approach as the USDA Forest Service “letting it burn.” Ultimately, this misperception contributed to controversy around the response to the Tamarack Fire. The public expectation of direct and aggressive fire suppression, especially in hindsight after the damage was done, was not tempered with the awareness of the decision being driven largely to protect firefighter safety.

In response to this event, Rocky Mountain Research Station’s (RMRS) fire management specialist Brad Pietruszka and colleagues wanted to understand how often fires like the Tamarack Fire occur, the driving factors behind the initial decisions in those fires, and, in turn, how they may feed the “let burn” misperception. With perspective as a fire manager, Pietruszka suspected a communication failure; and as a researcher, he turned to empirical research to investigate this question. “We wanted to see how often this type of outcome has occurred to understand what may be informing the ‘let burn’ dialogue,” Pietruszka says.

Pietruszka and team found that from 2009 to 2020, only 32 out of 940 large, lightning-caused fires

*A column of smoke rises from the Tamarack Fire in Nevada. USDA Forest Service photo.*



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originating on NFS lands resembled the Tamarack Fire in cause, extent, and duration. In 26 of these “analog” fires, the initial strategic decision was driven by severe hazards to firefighters that necessitated longer, more indirect management approaches—the same set of criteria documented in the Tamarack Fire initial decision in the Wildland Fire Decision Support System (WFDSS). Only in the remaining six fires was the decision driven by pursuing resource objectives such as improving forest health. That is, only 0.6 percent of large lightning-caused fires with similar characteristics to the Tamarack Fire over the time period examined had strategies driven by the pursuit of resource objectives.

Public perception of a wildfire response can be heavily influenced by the extent of fire damage. In the subset of all similar fires, the researchers found that the 32 analog lightning-caused fires were responsible for 62 percent (386) of structures lost by this same subset. While these fires in total destroyed a significant number of structures, all 940 fires within the subset destroyed only 626—a number which pales in comparison to the 29,661 structures lost from human-

caused wildfires over the same timeframe. This finding supports other research that shows that most damage to structures results from human-caused ignitions, specifically those originating on nonfederal lands. In other words, the research does not lend credence to the “let burn” narrative.

Pietruszka and his coauthors found that the simple and often misunderstood definitions of strategy in the ICS-209 reporting system may lead decisionmakers to choose fire exclusion strategies that are more easily communicated as a way of avoiding the appearance of inaction. He says, “The way the ICS-209 strategies are used as a shorthand for a unique wildfire management strategy makes it difficult to communicate the tradeoffs managers are making in their decisions. What managers are allowed in the reporting systems doesn’t help communicate what they are doing, what tradeoffs they are making, or why. Essentially, our strategic vocabulary has contributed to this communication issue—which, in turn, has contributed to our wildfire crisis.”

## KEY MANAGEMENT CONSIDERATIONS

- These results suggest a communication failure. Simple definitions of strategy such as those reported within the ICS-209 lack clarity and may increase sociopolitical pressure on the agency to continue aggressive fire exclusion strategies.
- Lightning-ignited wildfires that could have resulted in sociopolitical controversy are rare, and those with strategies driven by resource objectives are even rarer. More commonly, risks posed to firefighters from terrain, snags, or accessibility are the primary factors driving strategy, even when fires ignite within wilderness areas.
- How land and fire management organizations prepare and manage for low-probability, high-consequence events is critical to informing their risk tolerance. Defining consistent and durable risk tolerances of land management agencies is necessary to increase society’s support of local manager decisions and ultimately to shift its relationship with fire.

## PROJECT LEAD

**Brad Pietruszka** is a Fire Management Specialist with the Human Dimensions program at the Rocky Mountain Research Station.

## FURTHER READING

Pietruszka, Bradley M.; Young, Jesse D.; Short, Karen C.; St. Denis, Lise A.; Thompson, Matthew P.; Calkin, David E. 2023. [Consequential lightning-caused wildfires and the “let burn” narrative](#). *Fire Ecology*. 19: 50–64.

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Downing, William M.; Dunn, Christopher J.; Thompson, Matthew P.; Caggiano, Michael D.; Short, Karen C. 2022. [Human ignitions on private lands drive USFS cross-boundary wildfire transmission and community impacts in the western U.S.](#) *Scientific Reports*. 12: 2624.

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