Colorado State University
Public Lands Policy Group

Research Brief for Practitioner Paper #17
Spring 2023

ASSESSING HOW FUEL TREATMENTS ARE CONSIDERED DURING INCIDENT RESPONSE

Michelle Greiner, Katie McGrath Novak, and Courtney Schultz

We investigated how incident management teams consider and incorporate US Forest Service (USFS) fuel treatments into wildfire response. Our goals were to: 1) understand how forest and fire personnel communicate about existing treatments; 2) understand what treatment characteristics they look for to meet different objectives; and 3) gather recommendations for improving fuel treatments to support incident management. We conducted 59 interviews with fire and fuel personnel in the western United States. This work included seven case studies of 2020 and 2021 wildfires where existing fuel treatments were considered in incident response. Herein we report on our key findings.

Key Findings

Fire management personnel and fuels planners agreed that existing fuel treatments are useful during incidents for tactical advantage (e.g., initial fire assessment, burnout operations, visibility, and access points) regardless of whether the fire directly intersected the treated area. In some cases, treatments are used for contingency planning. Most interviewees also stated that fuel treatments allow for increased time efficiencies, responder safety, and enhanced containment opportunities.

Fuel treatment information is typically shared during the initial incident briefing and then informally passed along to new incident management teams (IMTs). During incidents, the process of sharing information about existing treatments varied based on individual personalities, experience in the local fuel type, leadership direction, and team culture and composition. Most interviewees encouraged the use of existing decision support tools (e.g., PODs, WFDSS) to support communication about treatments between the agency and other response partners, even before fires start. Interviewees did not recommend a formal agency-wide process to distribute local fuel data, but they did recommend that forests have readily available treatment information to share with incoming teams.

When deciding to utilize a treated area during an incident, interviewees said they consider characteristics such as the fuel treatment's age, (which affects whether fuels have grown back), proximity to roads or other sites, connectivity, and scale of treatments. Strategic treatment placement and ongoing maintenance are also key elements for optimal treatment utility during a fire. Interviewees emphasized that contextual factors such as weather, fire behavior, wildfire location, resource and staff availability, and unit dynamics also influence the decision to use a fuel treatment.

Our findings revealed that consistent treatment maintenance, the culture of communication about treatments, local expert knowledge, and unit/team composition are important components of how fuel treatments are evaluated and integrated during incident response. Ongoing challenges for fully capitalizing on fuel treatment utility during incidents include a lack of investment in staffing and equipment required to implement and conduct regular maintenance. Interviewees said divergence in forest-level leaders' acceptance and willingness to support strategically implementing and using fuel treatments was another barrier.

Recommendations

The following is a synthesis of the key recommendations our interviewees offered regarding how to best support the integration of existing fuel treatments into wildfire incident response:

- To support fire incident response and integration of treatments, communication among USFS staff members and potential fire response personnel (including state and local fire response partners) builds relationships, trust, and understanding of the local fuel management plans; this is important to do before fire season starts.
- Direct and purposeful communication among fuels planners and IMTs (i.e., between IMTs and fuels planners, and from one IMT to the next) would allow for more consistent information transfer during incidents.
- The USFS as an organization and forest-level leadership should encourage the integration of decision support tools and resources designed to support coordinated communication during incidents and provide easily accessible fuel treatment information.
- The USFS should commit resources to address staffing and equipment limitations to support strategic fuels planning, implementation, and regular maintenance of treatments to create and maintain fuels treatments that can be useful during future incidents.

More Information

Find reports and other publications about this research at:
https://sites.warnercnr.colostate.edu/courtneyschultz/plpg-practitioner-papers/

For more information about this project, contact:
Dr. Courtney Schultz
Courtney.Schultz@colostate.edu
Colorado State University
Fort Collins, CO 80521-1472

This study is made possible through funding from the USFS Washington Office of Fire and Aviation Management.
All photos used are public domain from the USDA Forest Service Flickr site.