

# COMMUNICATION AND COORDINATION DURING WILDFIRE INCIDENTS 2010 SUMMARY BRIEF OF LESSONS LEARNED

Branda Nowell, Ph.D \* Toddi Steelman, Ph.D. \* Deena Bayoumi, MPA. \* Caitlin Burke, Ph.D. Anne-Lise Velez, MPA.\*  
Jason Briefel, M.S. - North Carolina State University  
Sarah McCaffrey, Ph.D. – USFS Northern Research Station

## Overview:

This brief summarizes key findings and lessons from communication research conducted on three fires in 2010<sup>1</sup>. Effective communication and coordination are important to manage fires in the wildland urban interface (WUI). At present, little empirical work exists to document communication efficacy during a fire event and to identify effective management practices for establishing a coordinated response. In this research, we used surveys, interviews, and social network analysis to better understand communication and coordination processes for fire management. This study was guided by the following questions:

1. How well are Incident Management Teams (IMT), local forest representatives, and local cooperators communicating with the broader public before and during the fire?
2. How well are IMTs, local forest representatives, and local cooperators communicating among themselves?
3. What factors contribute to effective communication during wildfire responses?

## Methods:

Complete data were collected from three full suppression WUI wildfires in NM (Tecolote Fire), AZ (Shultz Fire), and CA (Bull Fire) during the summer of 2010. This research took place in two phases. The first phase consisted of in-person interviews and social network data collection with IMT staff, local forest representatives, and local cooperators from each fire. Phase 1 data was collected from a total of 110 respondents. Phase 2 surveyed residents in each community about their communication needs before and during the fire. Surveys data was collected from 587 residents.

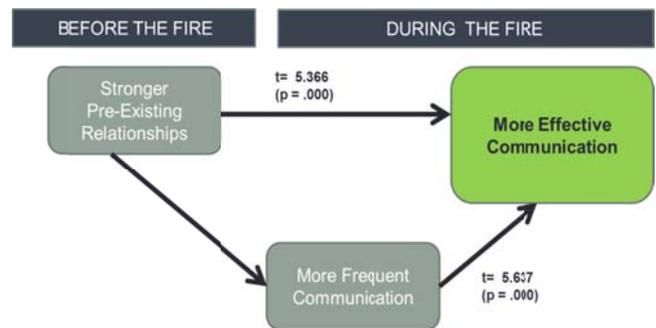
## Research Sites:

- ❖ The Tecolote Fire started on the Santa Fe National Forest June 6, 2010 with the Van Bruggen Type 1 SW Area IMT assuming command from June 13 until June 21. The fire covered 812 acres and cost \$5.5 million to suppress. A total of 122 residences were threatened. No structures were lost.
- ❖ The Schultz Fire started on the Coconino National Forest on June 18, 2010 with the Hughes Type 1 Southwest Area IMT assuming command from June 21 until July 1. The fire covered 15,000 acres and cost \$8.6 million to suppress. Two-thousand residences were threatened. No structures were lost.
- ❖ The Bull Fire started on the Sequoia National Forest on July 26, 2010 with Opliger Type 1 California Interagency IMT4 assuming command from July 27 until August 3. The fire covered 16,442 acres and cost \$10.2 million to suppress. Twelve hundred residences were threatened. Eight residences were lost, along with six outbuildings.

## LESSONS LEARNED

### PRE-FIRE

- ❖ **Build local forest and cooperator relationships before the fire starts.** Pre-fire planning and relationship-building among local forests and cooperators can improve communication and coordination during the fire. When informants were asked about factors that facilitated an effective response, the most commonly identified were the number and quality of relationships among responders prior to the incident. Stronger pre-fire relationships were significantly and positively related to *more effective* communication and *more frequent* communication during the fire.
- ❖ **Familiarize cooperators and key forest personnel with IMT structure.** Responders who had worked with IMTs in the past described having an advantage in understanding how to work with an IMT effectively. Conversely, those without this experience often described confusion. Preparedness efforts that could improve communication and coordination during the fire include: training in the basics of ICS (incident command systems) for all cooperators and local government representatives; clarification of support and services an IMT is able to provide during an incident, and suggestions for how to work most effectively with the IMT.
- ❖ **Establish cost share protocols.** IMTs and local forests can spend a lot of time sorting out cost share. Having these agreements worked out ahead of fire season could save valuable time during the incident.



<sup>1</sup> Findings reports for each fire will be available in May 2011.

- ❖ **Provide more pre-fire information to residents.** Survey responses indicate that residents want information about fire hazards and concerns, defensible space/FIREWISE, and hazardous fuel reduction before a fire, but that a substantial portion of residents either did not receive such information or felt it was inadequate.
- ❖ **Increase contact with local information providers.** Residents are most trusting of information from official sources. However, the information sources they use during the fire are those that they were most familiar with before the fire. Increasing outreach by local fire department, local law enforcement, and local Forest Service in the community before the fire may facilitate greater use of these sources during the fire.
- ❖ **Prepare information for potential IMTs.** IMT efforts were aided when they had up-to-date and accurate information in the in-brief packet and in the WFDSS. Updated maps of values at risk and current names and contact information for all local cooperators and major land owners were identified as particularly valuable.

## DURING THE FIRE

- ❖ **The home-team advantage is significant.** Pre-fire relationships significantly improved communication and coordination during a fire. These findings suggest that IMTs working outside of their regions, where they likely have few if any pre-existing relationships with the local forest or cooperators, may need to invest greater time and effort in relationship-building in order to manage the incident effectively.
- ❖ **Use LOFRs.** One or more dedicated liaison officers (LOFRs) were important to identify cooperators and help organize a coordinated response.
- ❖ **Hold daily cooperators' meetings.** Daily cooperator meetings facilitated communication and coordination both with the IMT as well as between cooperators and local forest staff.
- ❖ **Invite people in.** Inviting local cooperators to attend the in-brief and IMT planning and strategy briefings enabled greater information sharing and organization between the IMT, local forest, and cooperators. Ensuring the incident command post is both accessible and welcoming of cooperators and local forest personnel can facilitate coordination and communication during the fire.
- ❖ **Leadership needs to engage.** Command staff and section chiefs being accessible and pro-actively engaging local forest and local cooperators to inform and coordinate operations is key. Ensuring each cooperator has the name and direct contact information of one or more members of the IMT can facilitate the flow of information. LOFR, Information Officer (PIO), Incident Commander (IC), Deputy IC, and Operations are key points of connection.
- ❖ **Utilize local knowledge.** Having individuals with local connections and local knowledge serving in key roles on the IMT can facilitate relationship-building and the transfer of local knowledge. In doing this, it is important that roles and responsibilities are clarified so as to preemptively manage any conflict of interest between a member's role on the IMT and their responsibility to their home organization.
- ❖ **Involve cooperators in community meetings.** When community meetings are held in collaboration with cooperators and the local forest, it demonstrates an organized and coordinated response to the public.
- ❖ **Address information needs of key groups.** In more complex incidents, LOFRs or PIOs may need to be assigned to manage the information needs of specific groups (e.g., law enforcement, policy makers, emergency operations).
- ❖ **Leverage "official" and "interactive" information sources.** Residents trust and find information that comes from direct communication with local fire department representatives, IMT members, local law enforcement, and local Forest Service personnel most useful.
- ❖ **Frame decisions in risk management terms.** Residents understand and are sympathetic to risk factors like fire fighter and public safety. Explaining management decisions to them in these terms is likely to resonate.

## CONSISTENT CHALLENGES: EVACUATION AND ROAD CLOSURES

- ❖ **Establish evacuation and road closure procedures before the incident.** There are frequent communication and coordination challenges in managing evacuations and road closures that can be minimized through preparedness efforts that establish protocols between and among local cooperators and the local forest before the fire season. Practice drills, face to face meetings, and on-going conversations are key.
- ❖ **Explain decision trigger points.** Residents want to understand the decision process related to evacuation and road closures so they can gauge expectations appropriately.
- ❖ **Make use of local resources but release them in a timely manner.** Manpower is often short, particularly for road closures. Tapping into resources from law enforcement and wildlife agencies as well as VFDS can extend sparse resources when closing public and Forest roads. However, cooperation can put a significant strain on cooperators' own operations and they may need those resources to be released back to them as soon as possible. Perspectives differ in terms of what is timely. Clear communication about time needed and decision processes related to release of resources can build trust and facilitate cooperation.