



# Examining the influence and effectiveness of communication programs and community partnerships on public perceptions of smoke management: A multi-region analysis

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*Year One Project Summary: California 2011*

## ***Investigative Team***

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## *Introduction*

Larger scale and more frequent wildland fires over the past decade have made fire and its relationship to forest fuel conditions a significant challenge for land managers. Prescribed fire is one viable tool to address this issue and manage fuel loads. However, smoke from fires (prescribed or wild) affects air quality regardless of boundaries, sometimes at great distances and has the potential to impact communities beyond actual fire ignition zones. Because public acceptance and tolerance of smoke can influence their willingness to support the use of prescribed fire as a management tool, it is important to better understand how agencies communicate with communities during wildland fire and smoke events. This study aims to identify communication programs and the presence of fire-related citizen-agency partnerships and to better understand how these tactics influence citizen tolerance of smoke.

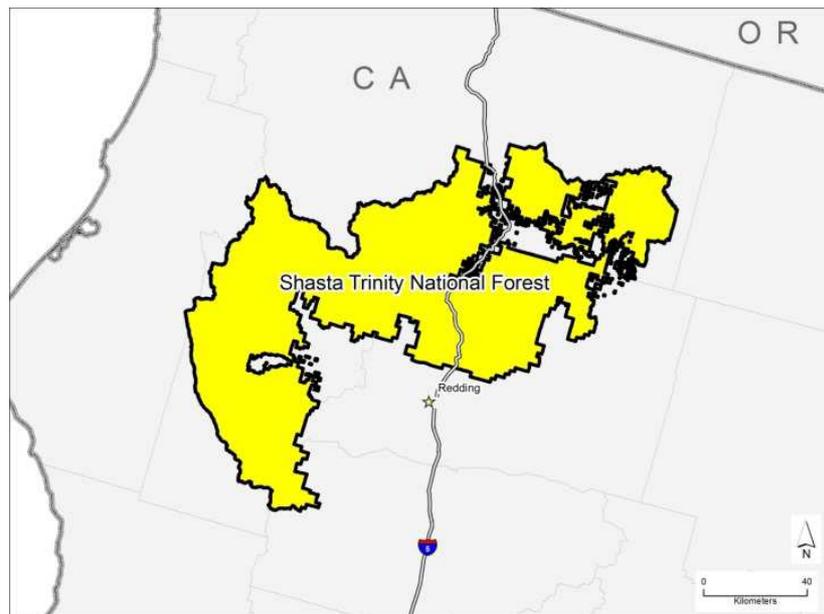
This report summarizes findings from research conducted in northern California on the topic of smoke and communications related to smoke. These findings are from the first year of a three-year study. Funding for this research was provided by the Joint Fire Science Program.

## *Study Area*

This research focused on communities within and nearby the 2.1 million-acre Shasta-Trinity National Forest (STNF) in northern California. Well over half of the land base in this area is publicly owned, and many of the communities historically had economies based on the timber industry. The STNF is managed for multiple objectives including enhancement of wildlife habitat, timber production, healthy watersheds, and mitigating wildfire risk. The forest and mountains in the area attract a large number of recreationists, who contribute significantly to the local economy. Hiking, horseback riding, camping, boating, fishing, snowmobiling, and skiing are all popular on and around the STNF.

Air quality is managed in California across three governance levels; the U.S. Environmental Protection Agency (EPA), the State of California Air Resource Board, and local air pollution control districts. Poor air quality can be detrimental to the viewscape and potentially reduce tourism visits to the local communities.

The local topography ranges from the large basin where



Redding is situated, to rugged mountains, steep gradients, and wilderness areas which make fire management particularly challenging. Dry summer months frequented by lightning storms makes this region especially prone to wildfire events. The average return interval for large scale wildfire is approximately every 10 years in the Shasta-Trinity Region.

## *Interviews and Selection of Participants*

Interviews were conducted in Shasta, Trinity, and Siskiyou Counties (California) from May 17<sup>th</sup> through May 20<sup>th</sup> 2011, including visits to the communities of Mt. Shasta, Redding, Weaverville, and Hayfork. Participants were chosen based on key knowledge, ability to address the research topics, and variability in perspectives and experiences with smoke. Most participants were involved in forest and land management, air quality & policy regulation or with citizen engagement and communication. Across Shasta, Trinity, and Siskiyou Counties, a total of 9 key individuals were interviewed, with interviews lasting between 45 minutes and two hours. At the conclusion of these interviews, no new information was being discovered, suggesting that the necessary data to answer our research questions had been successfully collected.

### **Participant Breakdown**

(2) Timber Industry

(1) Non-Governmental Organization

(1) Air Quality

(1) Local Governance

(4) State or Federal Agency

**9 total Participants**

## *General Interview Observations*

With the major exception of Redding, most of the communities visited exhibited a small town, rural feel. Evidence of declining economies was common; local shop closures and abandoned homes or land plots were visible throughout the communities. Interview participants expressed the perception that many rural residents were opposed to prescribed burning because they had previously been involved in the timber industry, and they would rather see trees harvested than burned. One agency participant commented, *“I don’t know if those people are just anti-smoke impacts or just due to the logging industry, felt that we needed to be logging more on public lands.”*

Additionally, many smaller town individuals classified themselves as “local,” and because of this tie to the local environment, felt they had a very comprehensive understanding of forest management practices. These same individuals often felt that newcomers to an area lacked this same knowledge and, as a result, had a lower tolerance for fire and smoke. Commenting on the differences between locals and newcomers, one participant said: *“The public is becoming more and more urban-oriented and [is more out of] touch with the rural areas.”*

Nearly every participant discussed how policies and regulations affect on-the-ground management decisions. Specifically referring to the National Environmental Policy Act (NEPA) process, some participants expressed the view that these policies were in need of re-examination. *“We should really look at what we need to do to get a good assessment without endless appeals and litigations.”* Although

not always vocally expressed, an underlying frustration and exhaustion was perceived regarding the challenges imposed by regulation and litigation.

The collaborative efforts between air quality and federal agency personnel were of particular interest at this site. One effort resulted in a daily conference call during burn season that brought together regional large scale burners and air quality regulators, opening up information and communication lines regarding fire and smoke management. While valuable information was shared each day during these phone calls, the working relationships was fortified and extended because of that initial call contact. Rather than the traditional, compartmentalized roles often characteristic between land management agency personnel and air quality regulators, these specific relationships in the STNF area seemed to be open for information sharing and joint public education efforts. When difficult decisions arose, knowledge from both ends was called upon and utilized in problem solving. From a forest manager's perspective: *"We had to develop relationships with air quality control boards so we could develop trust, and they knew we were doing the best we could."*

## ***Emerging Findings from Interviews***

This section provides additional details discussed during the interviews. It is broken into several themes, with specific items bulleted under those themes. These lists are not all-inclusive; rather, the findings presented here represent some of the most frequently mentioned or interesting findings for each topic.

### **Concerns Associated with Fire and Smoke**

- Being inundated with smoke (not wanting to endure smoke over an extended period of time)
- Negative effects on health, especially in respiratory-compromised individuals
- Burns could escape, fires could get large or out of control
- Personal safety associated with fire (risk of injury)
- Both fire and smoke could have negative impacts on recreation and aesthetics
- Smoke and fire will alter daily activities (nuisance factor)
- Liability

### **Perspectives and Perceptions**

- Other managers not realizing smoke drift and community impact implications
- Public does not understand what constitutes good management practices
- Public does not know how to differentiate between agency entities or boundaries
- Suspect many citizens do not believe they are at risk from fire or smoke; "it won't happen to me"
- See some citizens recognize trade-off opportunities: treatment now means less risk later
- If public understands the goals and outcome of practice, they are more likely to accept it

### **Public Communication**

- Early communication about projects or possible community impact considered essential

- Identify ahead of time the person who is responsible for maintaining communication lines within the agency and with the public
- Train individuals who interface with the public
- Identify well-respected community members and work with them to spread news
- Utilize visuals when possible (pictures, maps, etc.)
- Make smoke and fire education and outreach programs a priority for agency investment
- Be honest and transparent

### **Partnerships and Collaboration**

- Partnerships were viewed as contributing to several benefits, including:
  - Increased communication across all levels (interagency, agency to public)
  - Increased ability to make better and more effective management decisions
  - Improved working relationships among stakeholders
  - Assisted in bringing together groups with similar missions and management objectives
  - Provided an avenue for sharing resources and information
  - Helped to get everyone involved on the same page
- Having a facilitator allowed partnership or collaborative to run more smoothly
- Often acknowledged that collaborations and the establishment of partnerships did not come easily; they required time and commitment. Works better if participants are open to unique or new ideas.
- One example of regional collaborative effort seen as having a positive impact in the area: Northeast Air Alliance Smoke Management Program (NEAA)

### **Challenges**

- Maintaining coordination among agencies for projects and objectives
- Historical lack of communication between agencies and the public
- Air quality regulations were perceived as not always transparent or fair
- Depressed local economies
- Local and national policies seen as complex, not uniformly applied
- Forest management vocabulary and terminology always changing, challenge for communication
- Clean air attainment and regulation compliance
- “Let Burn” practice is a source of conflict and debate
- Communication with public requires a lot of time; public not familiar with locating fire information

### **Opportunities**

- Fairly comprehensive local public knowledge and experience level with fire and smoke
  - Likelihood that many individuals will be open to fuels treatment if impacts are minimized
- Many residents are already involved in, or interested in becoming involved in, or neighborhood and community fire and smoke programs
- Develop collaborative strategic planning for smoke communication

## Take Away Messages

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### ***Utilize existing collaborative resources to their fullest potential***

Through the use of collaborative groups, an avenue is opened for the sharing of experience and expertise which in turns creates the opportunity for individual projects and districts to become more effective in their planning and implementation. The Northeast Air Alliance (NEAA) is one model. By maintaining communication lines (e.g., daily conference call for the NEAA), participants must consider potential smoke impacts to neighboring regions. Inadvertently, working relationships that may not have otherwise developed are established. Take full advantage of the opportunities and resources that exist in these already developed collaborative groups.

### ***Develop a communication plan tailored to the local context and available expertise***

Taking local social and ecological conditions into consideration when making communication plans can assist managers in reducing complaints and building public trust. Establishing who will take the lead as primary communicator allows for the selection of an individual who can deliver honest and transparent interactions. With a designated point person identified to the public, this also provides community members with information on how and to whom they can make contact with questions and concerns. Appearing at town meetings, local events, or even supporting local causes provides opportunities for meaningful face-to-face interactions. Message delivery that takes a more passive form (e.g., signs or newsletters) should include visual imagery or maps as information reinforcement whenever possible.

### ***Be consistent with public communication; negative responses are not the end of the conversation***

Equally important to upfront communication is the continued interaction during and after projects commence. This enables community members to feel that they have an understanding of what is happening in the forests surrounding their homes and businesses. The presence of smoke instills very tangible concerns. Even if smoke acceptance levels are initially very low, continued efforts and commitment on the part of managing agencies can lead to improved relationships and possible increases tolerance down the line. Particularly in areas that are frequented by fire and smoke, citizens are apt and often willing to learn more about the processes and management approaches that have the potential to affect later risks of fire and smoke.



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Thank you to the participants in Libby and Eureka for making this study possible. ***For more information, please contact Dr. Christine Olsen at 541-737-8669 or [christine.olsen@oregonstate.edu](mailto:christine.olsen@oregonstate.edu).***