



Fire in the wildland-urban interface creates an attentive audience. Credit: Bruce Shindler.

Changes in Public Responses to Wildland Fuel Management Over Time

Summary

This study compared citizen responses to surveys in 2002 and 2008 about fuels reduction programs by federal land management agencies. The researchers attempted to identify factors that influence public opinion and promote citizen support for agency actions. The study design allowed comparisons over time among individuals and in seven locations in the Midwest and western U.S. The researchers found key commonalities and differences in responses among sites. They identified important fire-related activities (e.g., significant fires, fuel treatments, formation of citizen groups, community wildfire protection planning) at each location in the years between the two surveys to understand what effect the activities may have had on survey responses. The research team also examined more recent concerns expressed by managers since the initial 2002 studies.

Key Findings

- Where wildfire is more frequent and agencies have been applying fuels reduction treatments over time on the ground, many citizens have come to understand the need for this, and they respond with support for management activities.
- Over the study period respondents' acceptance of prescribed fire and mechanical vegetation removal remained stable, with slightly more support for both in 2008. Citizen acceptance of treatments and assessments of interactions with federal land managers were generally higher in the West than the Midwest, although Minnesotans often aligned more closely with western states than Michigan and Wisconsin.
- Agencies and communities benefit the most through collaborative approaches to forest health problems. Where strong, multigroup partnerships have taken hold, community support for fuels treatments and public trust in federal land managers were highest.
- Ongoing personal interactions between citizens and managers are central to building trust among stakeholders.

Assessing public opinions about wildfire fuels management techniques

Collaborative stakeholder relationships are becoming more important for federal land managers. The more managers understand citizens' views about wildfire and fuels management, and their knowledge about associated treatments and risks, the better prepared they are to implement successful fuels management programs. This type of information can help managers evaluate the success of fuels reduction programs and predict support for future treatments. It will also help them understand the effect of outreach programs and those factors that contribute to citizen trust in land managers.

In 2001–2002 Bruce Shindler, Professor of Forest Ecosystems and Society at Oregon State University; Eric Toman at Ohio State University; Mark Brunson at Utah State University; and Sarah McCaffrey, with the Forest Service Northern Research Station, conducted the first half of this project—a mail survey of more than 1,100 residents of communities bordering federal forest, range, or park land in seven states (Arizona, Colorado, Michigan, Minnesota, Oregon, Utah, and Wisconsin). The survey assessed citizen attitudes about wildfire, wildfire management on federal lands, and the federal agencies (i.e., Forest Service [USFS], Bureau of Land Management [BLM], or National Park Service [NPS]) that manage these sites.

“Six years later,” Shindler says, “we did the study in the same 7 states—the same locations with the same people, and that’s an important component of this research. Surveying the same individuals over time is a panel study, which is the best method for evaluating social change.”

This methodology is quite rare. The research team was prompted to do the follow-up because ecologists often resample the same sites after a period of time to monitor changes, but social scientists don’t often do this.

Specifically, Shindler’s group wanted to assess people’s attitudes about fuels reduction practices such as prescribed burning and mechanical vegetation removal, or thinning. “We also wanted to look at the interactions between agencies and communities to see what makes a difference in people’s views and how citizens respond to agency plans and decisions,” he notes.

Through site visits and interviews with land managers, the research team also attempted to assess the influence of local fire events and agency management activities in the years between the two surveys so they could understand important themes and key influences at each location. As expected, wildfires were more prevalent in the West during the study period. At these sites more than two-thirds of participants said that a wildfire had occurred in their area during the intervening years, although few were evacuated and none had property damage. Some discomfort from smoke was common.

Despite the relatively localized samples, Shindler says that many managers around the country may be able to adapt ideas and suggestions to their own situations.

Community study sites (and corresponding agencies):

- Central Arizona Highlands—Yavapai County (USFS)
- Colorado Front Range—Boulder and Larimer counties (USFS, NPS)
- Central Oregon—Jefferson and Deschutes counties (USFS, BLM)
- Utah—Salt Lake City and Tooele county (USFS, BLM)
- Minnesota, Wisconsin, and Michigan—all counties adjacent to national forests (USFS)

Highlights of attitudes about fuels treatments

In both the 2002 and 2008 surveys, more than 80 percent of study participants approved of prescribed fire and thinning treatments. They agreed that these practices could be used either with full discretion by managers or sparingly in carefully selected areas. The latter is already the common approach among management agencies.

More than half of survey respondents agreed that prescribed fire and thinning are effective in reducing risk of wildfire, restoring forest health, cutting future wildfire fighting costs, and improving wildlife habitat.

Respondents viewed thinning more favorably than prescribed fire. There was a small but significant increase in support for thinning in 2008. The level of support for thinning surprised the researchers. “This tells us that more

people are getting the idea that dense forest stands may not be healthy forests,” Shindler says.

Survey results in both 2002 and 2008 showed that “the acceptance of these treatments themselves is quite strong,” says Shindler, “especially in the West, where there are large expanses of federal land and a long history of wildfire.

“But we also have places like Michigan,” Shindler continues, “where a prescribed fire that escaped 15 years ago is still influencing how people view what the agencies do.” The frequency of wildfire in the Midwest is not high. Homeowners may not be as worried about a fire, and urgency about fuels reduction is not as great. Additionally, the management agencies in the region have had fewer resources to put toward community outreach.

The surveys revealed declines over the study period in public concern about the potential risks of prescribed fire. All but one cause for concern about this practice fell. In 2008 citizens were less concerned about damage to personal property, wildlife habitat, public water supplies, and recreation places. The one increasing concern was loss of useable timber.

Another positive finding is that most respondents felt that smoke is an unavoidable inconvenience of prescribed fire, but not great enough so that prescribed fire should not be used.

Shindler stresses that despite many commonalities among findings in the seven study sites, it is important for managers to view the survey findings in the context of their local forest and human communities. Citizens want to feel that managers are actually taking into account their specific concerns, rather than just implementing a federal policy.

Attitudes about federal land management agencies and citizen-agency interactions

Although respondents were generally supportive of fuel treatments, there was substantial skepticism about managers’ ability to effectively implement the techniques. Despite use of treatments in all locations during the intervening years, there was no improvement in respondents’ confidence levels of the management agencies. In 2008, about 30 percent of all participants expressed limited or no confidence in managers’ ability to effectively use either prescribed fire or thinning. A 70 percent support rating may seem high, but when almost one-third are in disagreement, it suggests a sizeable gap with stakeholders.

The 2008 survey assessed the most important factors in people’s judgments about land managers’ actions and decisions. These factors included:

- Involvement of local citizens in planning,
- Knowledge of proposed management action objectives,
- Trust in the decision maker,
- Maintenance of recreation access,
- Effect of the decision on one’s personal property, and
- Contribution toward maintenance or restoration of healthy forest conditions.



Application of prescribed fire near public roads is routine on some management units. Credit: Bruce Shindler.

The importance of trust

Asked about changes in their general trust in local federal land managers between 2002 and 2008, about 75 percent of respondents said their trust level had not changed. More of the remaining 25 percent said that their trust had increased than decreased. These individuals cited improved citizen-agency interactions, more fuels treatment activities, and success in fighting recent fires contributed to building trust.

“The strongest influence on acceptance of fuel reduction practices was citizen trust in agency managers to effectively implement treatment activities,” Shindler and his coauthors wrote in their final project report. Additionally, study participants who thought the local agency put out credible information about their management plans were more likely to support treatments.

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“In the case of land management,” says Shindler, “we have learned that trust building is continual—the job is never over.” For example, there is always an influx of new residents to the wildland-urban interface, plus people change their minds depending on the last management decision or where a specific action is planned.

And it’s not just the citizens who change. Some issues with trust may stem from frequent moves by personnel to climb the government career ladder. Shindler notes, “I’ve talked to old timers in various communities who said, ‘Yeah, we’ve had to break in five or six different District Rangers over the years.’” Continuity among policies and programs seems essential.

But trust is a complex concept. People are very distrusting these days—of big government, of big business, of the Internet. Agency managers are operating in a difficult time with much skepticism about government motives.

Interacting and communicating

The 2008 survey asked participants to assess their interactions with locally based federal land managers and the effectiveness of various outreach methods. About one-third of respondents had no personal experience with agency

personnel. Those who had direct experience with agency personnel were lukewarm in their assessments. Slightly less than half of respondents agreed with the following statements:

- “The agency is open to public input and uses it to shape management decisions.”
- “Managers build trust and cooperation with local citizens.”
- “Managers do a good job of providing information about management activities.”

Even fewer respondents said that there are sufficient opportunities for citizen input about agency plans and decisions.

A bright note is that most study participants reported that the Forest Service is their main source of information about wildfire and prevention, indicating that personnel can have a substantial level of influence in communities. Yet, skepticism still remains among one-third of those surveyed, suggesting a continuing need to pay attention to how information is conveyed to local publics.

The survey indicates that personal interactions are most important to building trust, understanding, and acceptance of fuels reduction practices. For example, Shindler cites a Forest Service bus tour (including technical specialists) with local residents into an area where fire had just burned more than 90,000 acres; it was a “home run” for the agency. When people can actually see what a wildfire looks like and exchange ideas with agency personnel about options for recovery, a real connection occurs.

Shindler advises managers to consider the results presented in this study and then to ask key constituencies in their communities whether the findings identified apply to them. It’s a good way to start a discussion about specific concerns and potential outcomes. “It just makes sense to target communities with the kinds of outreach programs that are most relevant to local citizens,” he says.

Expand the role of citizen groups

From the numerous studies his research group has conducted, Shindler sees value in managers expanding fire-safe programs in the wildland-urban interface to include property-owner groups and other local organizations. He notes their research has found that where agencies have adopted a partnership role in forest communities there is greater support for fuel treatments and higher levels of trust. “I think it’s important for managers to capitalize on the existing public awareness of fire and the support that exists for management programs,” he says. “They can’t do the job alone. In many communities there are opportunities where citizens simply have not been engaged. There is fruitful ground for establishing positive relationships and letting local groups and homeowners help carry the fire message.”

Public meetings

The need to revise the way public meetings are handled came through loud and clear in the survey results. Seventy-five percent of respondents said that public meetings as currently run are of limited or no value. “In

many places,” Shindler says, “people tell us it feels like the agency is meeting with them just so they can check off a box.” In many places property owners have stopped attending “public meetings.” However, local residents are more likely to respond when the manager attends a meeting in their neighborhood, such as a homeowners’ group or other community organization.

Shindler names two important steps that can improve public meetings. The first is “getting organized within your organization. Too many times an agency says, ‘Well, we need to involve the public.’ So they just open the door and let the public in, but without fully being prepared. Some questions should be addressed internally first. Why are we inviting them in? What specific problems do we want to talk about? What role are we going to let them play? How are the final decisions going to be made?” Answering these questions ahead of time is an essential preparation step, and ultimately looks like real leadership. The second element to improving public meetings is choosing the right person to lead outreach activities—someone who truly believes in the value of engaging the public and has the skills to do so.

“These are often difficult tasks for agency personnel,” Shindler admits. “It may seem risky to empower citizens, but managers still can—and by law, must—maintain the power to make decisions. But for many citizens, it’s about their ability to have access to the planning process, and feeling there is genuine concern for local values.

Additional factors influencing public acceptance of agency programs

The surveys revealed definite differences in perceptions about citizen-agency interactions across the communities. Arizonans overall expressed the most satisfaction with this relationship, and Michigan residents typically rated the local agency’s interactions much lower.

Residents of western states were generally more accepting of fuel management activities and perceived less risk in them than did Midwesterners. However, Minnesotans tended to align more closely with westerners than with Michigan and Wisconsin residents. This may stem from agency outreach programs initiated after a 300,000-acre blowdown event in the last decade. The survey tends to show that where wildfires and treatments are more common, people begin to understand the need for them and accept them. The same trend holds true in places where strong multigroup fire management partnerships have taken root, such as the research sites in Arizona, Colorado, and Oregon.

In the study age and gender were not significantly correlated with public acceptance of agency programs. However, respondents’ level of education was associated with support for prescribed fire. The more education people had, the more accepting they were of the practice.

Another important finding of the study was that support for fuels reduction treatments is highly associated with how people perceive the outcomes of the treatments. “It’s important to emphasize specific outcomes of the different fuel management activities,” Shindler explains, “so

people understand the potential benefits.” He advocates that managers find ways to let citizens see the treatments on the ground and even help homeowners implement programs within their own neighborhoods.



A citizen-agency partnership on the Deschutes National Forest resulted in a long-term demonstration project. Credit: Bruce Shindler.

Among people who perceived more favorable outcomes of fuel treatments, support for these practices was significantly higher. Outcomes that positively influenced support were beliefs about reduction of wildfire risk, restoration of forest health, reduced costs of wildfire fighting in the future, and improvement in wildlife habitat.

Next up: Follow the success stories

Through a separate Joint Fire Science Program (JFSP) project, Shindler’s group is producing a DVD and field guide spotlighting six locations where managers—often several agencies working together—have developed community support through public partnerships. The visual format of a DVD can “help managers see how their peers are using multi-party efforts for improving forest health and achieving fuel reduction targets,” he explains.

Shindler and his research team would also like to follow these success stories over time to see if they are being sustained, and if so, how. He wants to know what holds these kinds of partnerships together: “Is it a long-term commitment by managers, or one key community leader, or is it the strength of the community’s social networks?” he asks.

“I think the central message here,” says Shindler, “is that agencies and communities benefit the most when fuels reduction and forest health are shared objectives built on a partnership among stakeholders. Where we’ve really seen so many good things happening is where multiple agencies are working with property-owner groups. This is especially true in the wildland-urban interface where property owners have a real stake in the outcomes.

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Management Implications

- The survey found fairly strong consistent support across regions for fuel treatments, especially thinning. One strategy is for managers to focus on engaging this existing base of supportive stakeholders in future planning efforts.
- The greatest influence on public acceptance of fuel management activities was trust in agency managers. Shindler points to the “lackluster ratings given to citizen-agency interactions—in some, but not all locations—and the relatively low levels of confidence in agency managers” as the most challenging problems among the survey findings.
- The research also uncovered frustration in most locations with a lack of meaningful opportunities for citizen involvement in management decisions. When they are affected personally, citizens most often want a greater role beyond the typical public scoping meeting.
- Managers can test the relevancy of these findings in their local community by sitting down with key stakeholders. Together they can determine which planning approaches and outreach programs are likely to be most effective in meeting local concerns.

Further Information: Publications and Web Resources

- Shindler, B.A., E. Toman, and S.M. McCaffrey. 2009. A longitudinal analysis of wildland fire and fuel management: examining citizen responses from 2002-2008. JFSP Research Report. Oregon State University. Corvallis, OR. www.firescience.gov/projects/06-4-1-26/project/06-4-1-26_longitudinal_summary_of_fuels_and_fire_mgt.pdf
- Shindler, B.A., E. Toman, and S.M. McCaffrey. 2009. Longitudinal analysis of public responses to wildland fuel management: Measures to evaluate change and predict citizen behaviors in agency decision processes. http://www.firescience.gov/projects/06-4-1-26/project/06-4-1-26_final_report_06-4-1-26.pdf
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Scientist Profiles

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