

Postfire Communications: The Influence of Site Visits on Local Support

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ABSTRACT

The prevalence of large wildfires has increased in recent years. In many cases, agency personnel have little prior experience to draw from to organize their postfire response to uncharacteristically large events. However, local residents look to resource managers to provide the necessary leadership to work through these difficult decisions. In particular, methods to create meaningful discussion of management priorities with local citizens are essential. This article reports results from a telephone survey of participants in a US Forest Service–led tour after the Booth and Bear Butte Complex Fires in central Oregon. Findings indicate that the tour provided local residents with useful information and contributed to improved understanding of potential actions. Participants also expressed a high level of support for active management to restore forest conditions. The most striking outcome was the substantial goodwill generated by the tour among participants. Responses showed a high level of appreciation for and improved confidence in local US Forest Service personnel.

Keywords: postfire planning, agency outreach, communication, social acceptability

There has been an increase in the extent and severity of wildfires in the United States in recent years. The average acres burned annually from 1995 to 2004 increased by 33% (to 5.3 million ac) over the previous 10-year period (National Interagency Fire Center 2006). More than 9 million ac burned nationwide in 2006, the highest levels since the modern era of fire suppression began. In addition, there has been a trend toward larger fires (Calkin et al.

2005). From 2000 to 2005, 34 fires burned 100,000 ac or more. As a result, resource professionals are faced with difficult decisions regarding fire prevention and suppression as well as recovering from uncharacteristically large fire events.

Over the past 100 years our federal land-management agencies have developed a rigorous and organized response to managing wildland fires; however, less is known about how to approach management in the

fire's aftermath. Burned Area Emergency Rehabilitation teams typically are on site immediately after a fire to implement erosion control, flood mitigation, or other resource stabilization projects. By design, such activities meet important short-term needs; nevertheless, they leave many follow-up questions and issues of wider concern unanswered. In most cases, these long-term decisions fall to local management personnel—many who have little prior experience with fire events on the magnitude of 100,000+ ac (Olsen and Shindler 2007). Simply, post-fire planning at this scale may be a once-in-a-lifetime occurrence for both managers and local communities.

Large fires not only result in ecological changes but also can have wide-ranging social impacts (Kumagai et al. 2004a). These include direct financial losses from damaged property or lost revenue to local businesses, disruption of local social networks when residents are displaced, and a sense of devastation among citizens who have strong connections to the surrounding landscape. For example, the most frequently cited local im-

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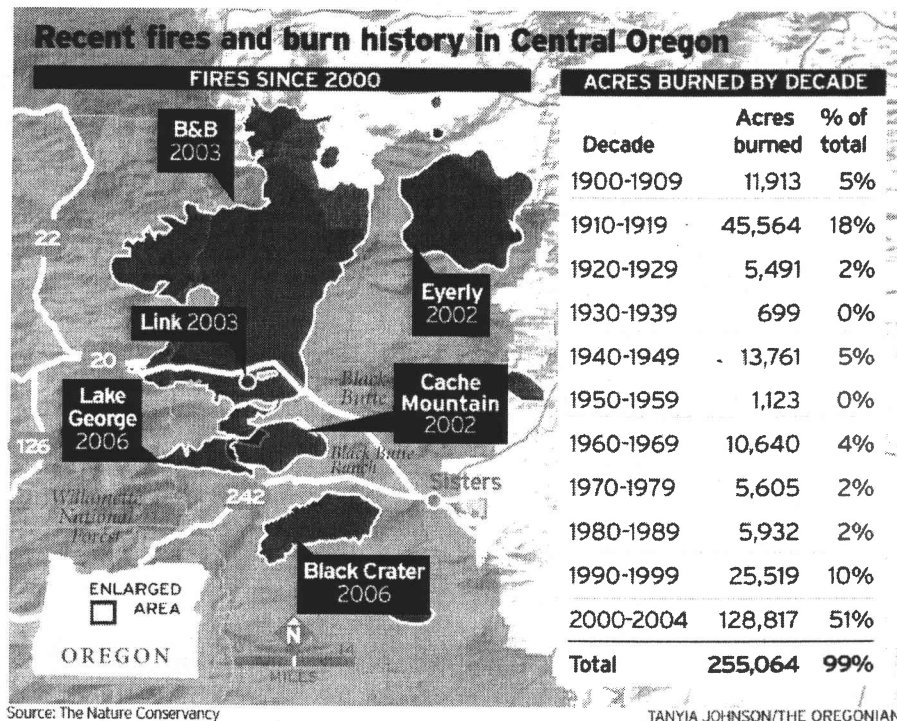


Figure 1. Fire activity in the Sisters area. (Source: The Nature Conservancy; reprinted with permission from the *Oregonian*, Aug. 27, 2006.)

part of the Hayman Fire in Colorado was the “loss of the forest resources and physical beauty of the area” (Kent et al. 2003, p. 359). Naturally, residents have questions about the extent of damage and the change in conditions to familiar places. Postfire decisions can have high stakes for local citizens who may view restoration of the burned landscape as an important part of their own recovery. Additional concerns about the protection of remaining forest resources also are likely to emerge. Thus, restoration activities must be balanced against other management priorities including the reduction of fuels on adjacent lands to reduce the risk of future wildfire events. Support among the surrounding community is essential to the effective planning and timely implementation of postfire activities.

Citizens will look to agency personnel to provide leadership to navigate the uncertainties of the planning process (Shindler et al. 2002). However, the recent increase in the number of large fires has exposed an information gap. There is limited on-the-ground management experience about how to build understanding and agreement with communities regarding potential agency responses. The purpose of this article is to explore the effectiveness of one approach used by personnel on the Deschutes National Forest after the Booth and Bear Butte

(B&B) Complex Fires in central Oregon—a guided field trip to the burned area just 3 weeks after the fire. In a region with substantial wildfire activity, this is the first time a resource agency had taken such prompt action to engage residents in the fire zone.

Management Context

The forests surrounding the community of Sisters in Central Oregon illustrate the challenges created by the increase in fire activity. Since 2002, six fires have burned more than 140,000 ac of ponderosa pine (*Pinus ponderosa*) and mixed-conifer forests in the immediate area (see Figure 1). The impacts have been felt acutely by local residents as the fires have changed the surrounding landscape and, in many cases, threatened homes and private property. Two homes were lost in 2002 when the Cache Mountain Fire burned into the western edge of the Black Butte Ranch community. The largest single fire occurred in 2003, as the B&B Complex Fires covered 90,769 ac and prompted the evacuation of several hundred area residents. Although 2004 and 2005 were relatively quiet years, three fires burned more than 21,000 ac and resulted in the evacuation of 1,500 people in 2006.

By the time of containment on September 26th, the B&B Fires had burned for several weeks and covered large areas of the

Deschutes and Willamette National Forests (including a section of the Mount Jefferson Wilderness Area) as well as state, private, and tribally owned lands. There are three main communities in the area with approximately 2,000 full-time residents—Sisters, Camp Sherman, and Black Butte Ranch; all are within the wildland-urban interface (WUI). The region also is widely known for recreation opportunities on National Forest lands. Similar to other forest communities, these amenities have prompted substantial population growth, particularly among retirees, in recent years. During the fire, several hundred residents were evacuated and a multiday closure of Highway 20, the primary transportation corridor in the area, was imposed.

In late October, personnel on the US Forest Service’s Sisters Ranger District in cooperation with a local conservation group, the Friends of the Metolius, organized two bus tours of fire-affected lands that thus far had been closed to public access. The guided trips were publicized in a local store, in the community newspaper, and to the membership of community groups. Over 2 days, 68 area residents participated in a 6-hour field trip led by the District Ranger and key agency resource specialists. Participation was allocated on a first-come, first-serve basis and nearly all participants were local residents, many with a history of prior involvement in National Forest planning. The purposes of the tour were to (1) ease local concerns about the extent and severity of impacts, (2) enable citizens to observe and learn about fire effects, and (3) provide an opportunity to discuss questions and concerns with agency personnel about potential next steps. Discussion points included future management activities with an emphasis on restoration work and fuel reduction treatments. These tours also provided researchers a valuable opportunity to examine agency communication with attentive, local residents in the aftermath of a large fire event.

Methods

Approximately 7 weeks after the tour, our research team conducted a telephone survey of participants. This delayed assessment was used to explore the enduring effects of the field trip. Of the 68 tour participants, 50 residents were contacted and agreed to participate; the remainder were away for an extended period or could not be reached after numerous attempts. Survey measures included assessment of the useful-

ness of the tour and information provided, influences on participant understanding and opinions toward fuel treatments, potential restoration activities, and confidence in agency personnel. The survey included both closed-choice measures (participants selected from among a set of provided responses) and open-ended questions that encouraged participants to describe their experiences in their own words. Closed-choice responses are listed as percentages in the tables that follow. Open-ended responses were coded to identify emerging themes and selected quotes are used to illuminate key points.

It is important to note potential limitations of this study design. First, field trip participants were self-selected and, as noted previously, most also had a prior history of involvement in National Forest issues. Accordingly, responses may not be representative of the broad, general public. In addition, expressed opinions are limited to the postfire setting. The research team took the opportunity to survey field trip participants; thus, direct comparison with prefire attitudes was not possible. While acknowledging these shortcomings, we believe findings reported here provide useful insight to help inform current discussions regarding postfire management. Although the research design limits our ability to draw conclusions beyond the individuals sampled, attentive, local residents, such as those studied here, are a particularly important population for postfire management activities. These individuals are those most directly affected and likely the first to respond to proposed actions (Shindler et al. 2002), and findings here provide an opportunity to examine one approach to create meaningful dialogue with this critical population.

Findings

All study participants were residents of local communities and included a range of interests from those affiliated with environmental groups to others with economic ties to natural resource industries. Nearly one-half (46%) were women. They also were well educated; 44% had received a bachelor's degree and another 29% had pursued postgraduate studies.

Field Trip Evaluations. Participants were first asked to provide an overall assessment of the field trip experience. Responses were very positive about the guided tour as a method for communicating about the fire and its effects. Table 1 shows that nearly all

Table 1. Participants' assessment of guided field trip.

How would you rate the usefulness of the tour?	Very/moderately	98%
	Not/slightly	2%
Was the information		
Fair and well balanced or one-sided?	Well balanced	98%
	One-sided	2%
Easy to understand?	Yes	98%
Trustworthy?	Yes	100%

rated the tour as moderately or very useful and agreed the information provided by agency personnel was fair, well balanced, and easy to understand. In addition, 100% of participants agreed the information was trustworthy.

Open-ended questions prompted participants to provide a more in-depth explanation of these ratings. When asked to indicate any positive or negative aspects of the tour, only two negative comments were raised (one wanted increased involvement of firefighters and biologists and another wished more people could attend).

In contrast, nearly all were able to identify one or more positive aspects of the trip. Overall, two primary themes emerged. First, about two-thirds of respondents noted the value of this opportunity to gain firsthand experience in the burned area. These participants appreciated seeing the extent of fire impacts with many observing the "mosaic pattern" of how the fire varied across the landscape, with some areas scorched and others untouched. A number of participants said the burn pattern confirmed the value of fuel treatments as previously thinned areas appeared to have burned at a lower intensity. Others noted the surprising regrowth of grass and ferns that had occurred in only 3 weeks since the fire. Both of these observations seemed to reduce apprehension regarding the extent of the fire's impact. As one participant stated, "observing the mosaic pattern [demonstrated] the fire was not as devastating as expected." Another individual had "heard rumors [about total destruction within the burned area] and it was good to see with my own eyes." Similarly, another suggested this direct observation provided a "different viewpoint from media stories suggesting that everything was destroyed."

The second theme to emerge was the value of personal interactions with the US Forest Service. Indeed, these on-the-ground discussions often were cited as the best aspect of the tour. Many individuals voiced appreciation for local agency personnel, in particular the District Ranger, for organiz-

ing a "very thorough tour with clear information" and the opportunity to have a "face-to-face conversation about the fire and other forest policies." Participants also noted appreciation for the resource specialists and fire managers on hand to answer specific questions. As one remarked, "It was great hearing from the guys who had been on the fire." Another suggested the interaction prompted by the tours contributed to a "great community feeling" while others noted the "cooperative nature and lack of hostility" among participants. Last, one indicated the "the District's interest in getting the public involved confirmed their commitment to work with local residents."

Other positive assessments of the tour were revealed in responses to the final survey question that asked participants for additional comments. Nearly one-half expressed appreciation for the US Forest Service for hosting the tour, specifically noting "this type of public involvement really is great."

Tour Influences on Understanding and Attitudes. As researchers, we were interested in whether participants felt differently about fire management and postfire decisions as a result of the field tour (Table 2). Thus, we were careful to attribute tour influences only to questions that included the phrase "as a result of the tour." We recognized local residents had experienced fires previously; regardless, most indicated they now felt more knowledgeable about restoration strategies (78%) as well as fuel reduction practices (62%). Likewise, two-thirds (68%) indicated they were more supportive of fuel treatments and 60% were more confident in the US Forest Service's ability to implement an effective fuel reduction program. Last, a strong majority (84%) had greater confidence that the US Forest Service would incorporate citizen concerns into future plans.

Participants also were asked if the tour had influenced their opinion of three common fuel reduction practices (Table 2). More than one-half (56%) indicated thinning was now more acceptable to them. Al-

though change was less dramatic in the case of prescribed fire and understory mowing, a substantial proportion still showed increased acceptance of these practices (34 and 26%, respectively).

Postfire Management Activities.

Planning postfire restoration activities is an essential management task. Now that participants had been to the fire zone, we asked them about five common actions the agency could pursue on National Forest lands, excluding wilderness areas. Although there has been considerable controversy surrounding management decisions after other recent fire events (Duncan 2002, Preusch 2004), responses in Table 3 indicate a generally high level of agreement among our study participants. Ninety percent or more were supportive of both erosion control efforts and replanting burned areas. Perhaps surprisingly, three-fourths also were willing to support the commercial harvest of remaining trees on nonwilderness lands. These responses were confirmed further by the strong majority who disagreed that trees should be removed only if they posed a threat to safety. Last, 84% disagreed with a policy of no management intervention on burned lands.

Additional responses also provide a sense of participants' priorities for postfire management. Specifically, they were asked to indicate whether the US Forest Service should concentrate their resources on reducing fuels in unburned areas or restoring forestland burned in the fire. A majority (56%) favored emphasizing fuel treatments while slightly fewer (44%) preferred a balance between the two types of activities. Only 2% preferred managers focus their efforts solely on restoration-oriented projects.

Local Participation in Decisionmaking. In an open-ended question, participants were asked to comment on the appropriate level of involvement for the public in deciding what should happen to burned areas. While several themes emerged, the overwhelming sentiment expressed by nearly all participants was that local residents expect to play a meaningful role in the planning process. As one respondent stated, "it is our forest and [we] should be involved in planning." Many participants also recommended specific methods to facilitate their involvement. Suggestions included traditional approaches, such as public meetings and hearings, as well as methods that encourage direct interaction with US Forest Service personnel, including additional guided field trips, workshops, and individ-

Table 2. Influence of the guided field trip on participant opinions.

	More (%)	No change (%)	Less (%)
As a result of the tour, are you more or less			
Knowledgeable of forest restoration strategies?	78	20	2
Knowledgeable about fuel reduction practices?	62	38	0
Supportive of fuel reduction programs?	68	32	0
Confident in the ability of the US Forest Service to implement an effective fuel reduction program?	60	40	0
Confident that the US Forest Service will incorporate citizen concerns into future plans?	84	16	0
Following the tour, are these fuel treatments more or less acceptable?			
Forest thinning	56	44	0
Prescribed fire	34	64	2
Understory mowing	26	70	4

Table 3. Participant opinion of potential postfire activities.

Proposed management activity	Agree (%)	Neutral (%)	Disagree (%)
Erosion control	96	4	0
Replanting	90	4	6
Harvest and sell what they can	78	10	12
Only remove trees that are a safety concern	28	6	66
No intervention, let nature take its course	6	10	84

ual or informal interactions. Interestingly, one-fourth of the participants indicated that the general public needs to become better informed before participating in planning sessions. These respondents were concerned that "much of the public makes decisions based on sound bites rather than more meaningful information."

Moreover, while recognizing the value of public involvement many participants also indicated the US Forest Service should have the final authority to make decisions for the burned areas. These comments were characterized by two primary concerns. First, many expressed that implementation of postfire management practices is often delayed by lengthy planning and appeal processes. Although many saw the value of participation by local citizens, others felt there should be limits on the involvement of special interest groups who were "too skewed" in one direction or the other. These respondents wanted agency professionals to "carry out plans in a timely manner . . . and not get bogged down in litigation."

Second, many participants recognized that high levels of citizen trust are necessary for the US Forest Service to be given such authority. In particular, participants noted they need confidence that "the agency is truly considering citizen input and making

decisions with an open mind." As responses in Table 2 indicate, trust levels are high for local managers. Open-ended comments here provide further insight. One participant stated, although there is a "question of trust regionwide, locally it is good." Another indicated, he "trusts the local group" and specifically mentioned the credibility of the Sister's District Ranger. Others attributed these strong relationships to the efforts of local US Forest Service personnel with comments such as, "the Sisters group is very good, cooperative, and involved with the public."

Discussion

The postfire environment is considerably complex and each situation has its own set of challenges. Although there is no single solution to successful planning, this article explores one approach used by resource professionals to communicate the fire message and build community support. We acknowledge this study represents one experience but we believe findings here suggest guided field trips can provide a useful tool in building understanding and agreement with local citizens. Several important points are noteworthy.

First, the guided field trips provided a valuable learning opportunity for partici-

pants, even in a region where citizens had previous experience with wildfires. Residents of forest communities have complex relationships with the surrounding landscape and are likely to feel a sense of loss, particularly after WUI fires (Kumagai et al. 2004a). Before the B&B tours, roads had been closed and participants were concerned about the extent and severity of impacts. Observing the fire effects firsthand helped reduce this uncertainty and enabled local residents to assess the amount of damage to "their forest." Concerns eased as they saw the differential pattern of the burn and visible signs of returning wildlife and vegetation. Although a relatively small percentage of local residents were able to participate in the tours, the benefits are likely to reach a larger audience as community members discuss their experiences with friends and neighbors (Rogers 2003).

Second, the tours provided a meaningful context to discuss potential postfire actions. Being on site changed the conversation from an abstract discussion of culvert replacement, erosion control, and board feet removal to addressing visible needs on the landscape. Although many participants suggested citizens need to become better informed before taking part in planning, it is our view that the responsibility ultimately lies with resource professionals to provide proper forums where the public can learn about new ideas before they are implemented on a large scale (Jamieson 1994, Shindler et al. 2002). People are more likely to support management actions when they understand the rationale behind their use as well as potential outcomes (Shindler et al. 1999). Overall, it is the personal interaction between residents and agency personnel that is more likely to build this understanding than traditional methods that simply rely on a one-way flow of information (Toman et al. 2006). Results here suggest guided field trips can be an effective method to promote meaningful interaction and discussion among local residents.

The most striking point to emerge from this research was the substantial goodwill generated by the tours. The willingness with which participants volunteered positive comments about their interactions with agency members points to the value of the tour as more than a tool for information provision, but also for its ability to strengthen citizen-agency relations during the potentially sensitive postfire period. Other management units have reported similar experi-

ences. After a record 2003 fire season, Glacier National Park and the Flathead National Forest combined to host a series of field trips. As with the findings reported here, the tours contributed to improved relations with stakeholders (Glacier National Park 2003). Solid citizen-agency relationships are central to successful implementation of fire management activities (Winter et al. 2002, Shindler and Toman 2003). However, it can be particularly challenging to build citizen trust after a fire as residents assess the management of the fire, cope with losses, and even look for ways to assign blame (Kumagai et al. 2004b). Nevertheless, findings here suggest the give and take of interactive exchanges provided by field trips may offer a means to build relationships. An important component of citizen trust is the belief that agency personnel will consider and incorporate public input into management plans (Blahna and Yonts-Shepard 1989, Wondollock and Yaffee 2000). The tours appeared particularly effective at ensuring participants that agency personnel take their concerns and ideas seriously.

However, we need to be clear that guided field tours do not offer a quick fix for lost credibility. The issue of citizen trust is far too complex to be resolved simply by touring the burned area with local residents. Citizen-agency interactions do not occur in isolation; they are influenced by the long-term history between citizens and agency personnel (Shindler et al. 2002). For better or worse, the effects of these interactions are cumulative over time. In this case, the guided field trips represent one in a series of substantive interactions between the local communities and agency personnel (Shindler and Toman 2003). One essential lesson here is that prefire relationships influence the success of postfire activities (Kent et al. 2003, McCool et al. 2006). Fire management is a process of interrelated activities extending from pre- to postfire situations. By investing in communication and outreach activities before a fire event, managers can help create more resilient relations among communities that will become even more important in the highly charged postfire environment. Indeed, while important for all management issues, trust in decisionmakers is particularly necessary during disaster recovery efforts (Pettersson 1999).

One last caveat involves the issue of salvage logging. Interestingly, a strong majority of our respondents agreed with the commercial harvest of remaining burned trees, a

practice that has been the center of postfire controversy in other locations (Duncan 2002, Preusch 2004). These responses need to be viewed with caution because our study design does not allow inferences to be drawn to the broader public, particularly for this issue. Moreover, the acceptability of postfire salvage likely will be influenced by the situational context and location where work is to be conducted (Ryan and Hamin 2006), as well as the specific planning process used to determine sale conditions (Olsen and Shindler 2007). In our study, many participants indicated their support was strongly dependent on where the harvesting would occur and responses were specifically limited to nonwilderness lands. Ultimately, the salvage question is substantially complex and will require more focused study to develop a comprehensive understanding of the factors that influence public judgments.

Conclusion

To be successful, planning in a postfire environment will need to encompass both ecological and social considerations. These forest landscapes are different from those resource professionals typically manage. After a fire there is substantial uncertainty, and decisions have high stakes for the recovery of local communities. Residents look to management agencies for leadership and often are moved to voice their concerns with decisions that affect areas they are familiar with and care deeply about. Gaining public support for restoration plans can benefit from innovative ideas to build understanding and agreement on management priorities. This study explores the positive outcomes that can result from using guided field trips to promote meaningful discussion with local residents early in the planning process.

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