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Public Acceptance of Wildland Fire Conditions and Fuel Reduction Practices: Challenges for Federal Forest Managers

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Federal forest managers today are faced with unprecedented, complex challenges. Risks to our national forests, affected by years of fire suppression, drought, increased stand density, insect outbreaks, and human population growth at the wildland-urban interface, present a technical challenge perhaps greater than any other confronted by our natural resource agencies (Grote 2000). Furthermore, the last two decades of forest management have been fraught with legal challenges and public protests, reflecting serious problems with public acceptance, a critical element to successful implementation of any action on the ground. Most recently, major wildfire events have attracted national media coverage which can raise public awareness but also tend to exaggerate risks and distort information. Fire professionals in the western U.S. are experiencing such interest as they attempt to determine appropriate levels of salvage operations and rehabilitation in the aftermath of large fires in both 2002 and 2003. Throughout all this, resource professionals are increasingly called on to manage forest ecosystems in ways that simultaneously sustain biophysical, economic, and social aspects of those systems (Dombeck 1996, Clark 1999).

Public acceptance has always been a major factor in the ability of federal agencies to effectively manage forests (Shindler et al. 2002), and is especially important now that the National Fire Plan (NFP) and the Healthy Forest Restoration Act (HFRA) have directed personnel to improve forest conditions through fuel reduction activities. In the current socio-political climate the scrutiny of bureaucratic actions runs high and questions of trust and credibility are the subject of each decision. Over the last two decades (but particularly in the last three years), a substantial amount of research has been conducted to advance our understanding of public concerns, knowledge, and attitudes about fire management activities. Drawing from this research, this chapter outlines the social acceptability concept and describes a set of common, but specific challenges to agency fuel reduction efforts. The analysis aims to contribute to more durable decisions by helping structure management's response for gaining public acceptance and support.

The importance of social acceptability

The concept of social acceptability in natural resource management can be traced to the work of Firey (1960) and Clawson (1975) who sought to understand why certain policies and practices persisted in society over time. They concluded that adoption and retention of any resource program depends on the extent to which it is physically possible (consistent with ecological processes), economically feasible (practices generate revenue or benefits in excess of costs), and culturally adoptable (consistent with prevailing social customs and norms). Much emphasis has been placed on increasing knowledge and developing practices that meet the first two criteria; however, until recently research on the third component has been sparse. Yet, practices lacking this criterion—societal acceptance and approval—will ultimately fail regardless of their technical or economic merit (Firey 1960, Vaske et al. 2001).

Shindler, Brunson, and Stankey (2002) delineated several specific reasons why attention needs to be paid to social acceptability of public forest management. First, values play a role in decisions. Though technical and economic information is important, few management decisions are limited to "objective science." Science alone cannot tell us what ought to be or how to balance difficult tradeoffs. To gain public acceptance, decisions must also account for public values. This requires involving citizens and understanding their interests. Second, people have a right to participate in decisions that affect them. American citizens are the ultimate owners of public forests; residents of the wildland-urban interface bordering forests, in particular, have legitimate concerns and thus, a stake in forest management. Finally, in a democracy, it is a simple fact that social acceptability matters. Power ultimately rests with citizens. In the case of federal forest management, it has been delegated to agencies like the Forest Service and the Bureau of Land Management. If policies are inconsistent with public values, over time this delegated power will be taken away by citizens who work to modify, postpone, or prevent the implementation of plans. They can circumvent agency authority through the courts, their legislators, and the media (Shindler et al. 1993). The results can include higher management costs, inability to implement projects, and frustration among all parties involved.

Citizen support is an essential component of effective fire management programs, particularly fuel reduction activities that typically occur at the wildland-urban interface. Whether it is over the use of prescribed fire or thinning treatments, the public has legitimate concerns about practices that occur close to their homes or other places they care deeply about. What else could we expect? Most citizens grew up being told repeatedly by Smokey Bear that suppressing all forest fires is good and is a normal part of forest management. More recently, what many have heard about the use of prescribed fire has come from high-profile escapes that destroy homes such as the Cerro Grande Fire in Los Alamos in 2000 (Grote 2000). As for thinning, much of the public is unable to distinguish this treatment from harvesting—an unpopular activity in many places (Shouse 2002). Other fuel reduction practices exist (e.g., mowing, livestock grazing, chaining, herbicides) but their application is relatively limited or they are considered too contentious for most settings.

Social acceptability can be difficult to understand and to gain. For example, numerous factors play a role in judgments regarding fire and fuel reduction, including: beliefs regarding the outcome of an activity, values, knowledge, emotions, issue importance, context, trust, personal experience, perception of risk, and visual quality (Winter et al. 2002; Bright et al. 2002; Wagner and Flynn 1998; McCool and Stankey 1986). Moreover, the *process* of arriving at a decision is as important as the decision itself. Further complicating social acceptability is its dynamic nature, it is a continuing process, not an outcome or end result (Shindler et al. 2002). As scientists, managers, and citizens learn more, or factors change, judgments also can change (Shindler and Toman 2003). Because citizens will continue to judge the implementation of actions, managers must continue to pay attention to public acceptance.

Challenges to Building Public Acceptance

In light of the critical role citizens play in an agency's ability to implement fuel reduction practices, improving our understanding of the factors that contribute to public acceptance seems essential. This chapter relies on primary research to examine common challenges to fuel managers across the country. Although each situation may stem from a unique set of circumstances, the nature of public

responses about fire management suggests they can be organized and subjected to critical thinking. For example, locations where agencies have been able to move forward with treatments are typically in communities where residents are fairly sophisticated in their knowledge of fire issues and where personnel have built trustworthy relations (Winter et al. 2002; Shindler and Toman 2003).

One of the difficult choices managers face is which "public" to pay attention to; local, regional, and national publics often have different perspectives about natural resources problems (Brunson and Steel 1996). When a forest practice occurs "somewhere else," it may be a non-issue or at least have little impact on people's lives. This appears to be the case for fuel reduction, where recent research shows that urban publics seem less concerned about the threat of wildfire and have a low level of awareness of treatments compared to rural residents (Kneeshaw et al. 2004a, Shindler and Brunson 2002). An initial implication in this synthesis is that individuals more directly affected by fire will be the first to judge management actions. This is congruent with legislative directives (i.e., NFP and HFRA) that place importance on community-based approaches and encourage partnerships with local citizens. Therefore, this analysis focuses primarily on the community level where fuel reduction practices are planned and implemented. The purpose is to encourage thoughtful consideration of these challenges as they both constrain and facilitate acceptance of fire management programs.

Public understanding and management context

Since the shift in federal forest policy from suppression of all fires to using fire as a management tool some 25 years ago, citizens have generally come to understand that fire is a natural, normal part of ecosystems. For example, in a national survey of the general population more than 60% recognized the benefits of wildfire or the role that wildfire plays in our forests (Shindler and Brunson 2002). At the same time, media coverage of large fires has also broadened public awareness of risks. But a confounding factor is that the relevancy of forest fire and fuel reduction is not evenly distributed. Fire management issues are a low level concern for many citizens, particularly urban residents (Shindler and Brunson 2002, Shindler and Wilton 2002). Achieving wide-spread understanding of associated problems and support for

fuel reduction programs is hindered by this imbalance. For instance, Shindler and Brunson (2002) also found that more than a quarter of the general public believe that that all fires should be put out, regardless of the fires' origin, and most of these individuals reside in urban areas. Thus, the importance of an issue in peoples' lives plays a role in acceptability (Bright and Manfredo 1996, 1997). Judgments about fire management can be strong, especially in rural forest communities where fire has become an important issue and is personalized by proximity and the likelihood that outcomes will affect a valued place or individual livelihoods (Kneeshaw et al. 2004b).

Although knowledge of fire in general is growing, people still understand far less about the management practices intended to reduce forest fuels and maintain healthy conditions. It follows then that the ability of fire professionals to specify conditions, outline treatment alternatives, and engage citizens in discussion about the nature of the options is essential. But the trend in forest management has been towards large-scale, one-size-fits-all management solutions. Citizens may have difficulty identifying with large landscapes or a regional fire plan; instead, they identify with places that have personal meaning (Stankey and Shindler 1997). Citizens are acutely aware of the local context in which decisions are made; that is, the unique characteristics of places, how places have evolved over time, and what expectations they (or their community) have for local resources (Williams and Stewart 1998). At this level citizens may not readily support new (or different) forest practices such as prescribed fire because they do not have much personal experience by which to judge them (Shindler et al. 1996). Expectations play a role in acceptance of practices. When citizens believe there will be positive outcomes, they are more likely to have positive attitudes towards restoration and fuel treatments (Bright et al. 2002; Winter et al. 2002).

Although wildfire hazard reduction is a universally accepted goal, researchers have found geographic variations in citizens concerns about the use of specific treatments (Kneeshaw et al. 2004a, Winter et al. 2002). For example, in a four-state study Brunson and Shindler (2004) found the use of prescribed fire and thinning to be highly acceptable in Oregon but much less so in Utah where livestock grazing was the preferred treatment. In a separate study, Shindler and Toman (2003) noted that residents

in Oregon understood significantly more about the effects of thinning than they did about prescribed fire. Taylor and Daniel (1984) observed that favorable attitudes about prescribed fire did not lead to support of the practice in recreation areas. Researchers have noted that differences in acceptance are largely about how the goal is achieved and if it reflects public sentiment (Kneeshaw et al. 2004a). Thus, paying particular attention to community conditions and helping residents understand how potential impacts will affect personal property, local economies, and valued places is important. Citizens may be generally accepting of fuel reduction practices, but tend to sit up and take notice—often becoming vocal for the first time—when it involves identifiable places and resources. Specific attention at this level makes sense because local residents are directly and disproportionately affected by fuel reduction treatments applied at the interface. Planning for local circumstances can often mean the difference between public acceptance and resentment of management policies (Shindler et al. 2002, Steelman and Kunkel 2004).

Knowledge and information delivery

Knowledge of fire and fuel management is a primary factor in public acceptance of agency programs. Numerous studies in the last 25 years provide evidence of a link between knowledge and acceptance of fuel management activities (e.g., Gardner et al. 1987, Cortner et al. 1990, Parkinson et al. 2003). For example, Manfredo et al. (1990) noted a correlation between knowledge of fire and fire policy and support for prescribed burning. Loomis et al. (2001) saw positive effects from introducing educational materials; respondents became more knowledgeable and tolerant of prescribed fire and more confident that prescribed fire would reduce wildfire risk. They also perceived a reduction in risk and potential problems from smoke. A related contribution comes from Bright and Manfredo (1997) who found that information influenced the strength of attitudes (believers became more positive), but not necessarily the direction of attitudes (change peoples' mind).

It is easy for such findings to lead to a management attitude of "if people just understood the facts," followed by attempts to "educate" the public. Unfortunately, this idea oversimplifies the role and nature of knowledge. Certainly technical information is useful to citizens, but information alone is rarely

enough to change people's opinions or their behaviors (Stankey 1995). Essential elements in information delivery and the credibility of the information provider are often overlooked. How and where people get information matters greatly; facts do not speak for themselves. They must be appreciated and interpreted by individuals (Jamieson 1994).

Serious thought must be given to what it means to "educate" the public about fire management and fuel reduction. People tend to respond to meaningful examples in recognizable places, instead of anonymous information that comes from brochures, newspaper articles, written plans, and so forth. For example, studies of citizen-agency interactions (e.g. Cortner et al. 1998; Shindler and Neburka 1997) show that people do not react favorably to traditional one-way forms of communication such as agency meetings for scoping purposes commonly used to satisfy NEPA requirements. Such approaches provide for little genuine participation by citizens and little commitment in either the fire plans or the process by which they were developed (Stankey and Shindler 1997). Citizens prefer more interactive forms of information exchange (Daniels et al. 1996; Parkinson et al. 2003). In recent surveys citizens rated interactive approaches, such as guided field trips, small informal workshops, interpretive centers, and school programs as the most useful in understanding fuel reduction problems (Shindler and Toman 2003).

Because context is important, the public also requires information specific to their situation. In a three-state study by Winter et al. (2002) the size of fuel treatments, planning (whether treatments were part of larger plans), cost-effectiveness, staff qualifications, and treatment locations were all important to citizens. Similarly Shelby and Speaker (1990) posited that providing specific information about the reasons for, location, time, and effects of a prescribed burn resulted in greater acceptance. Expanding the issue to forest restoration, Hull and Gobster (2000) argued the discussion could be elevated if restoration goals were articulated and if people understood the consequences of specific actions. They recommended that managers spell out the benefits of restoration in terms of human health and enhancements to communities. Indeed, McCool and Stankey (1986) concluded that those who favored a prescribed fire

policy saw specific benefits to the ecological resource. In sum, Daniels et al. (1996) stressed that people need a common base of knowledge about fire management to effectively participate in decision making.

Finally, information about fire management needs to come from a credible source as well as be scientifically sound (Shelby and Speaker 1990). There is discouraging longitudinal data that citizens are paying less attention to Forest Service fire information than they did several years ago (Shindler and Toman 2003). One reason is that few people agree the agency contributes to public understanding of the costs and benefits of fuel reduction or does a good job of providing information about its fire management activities. In contrast, the most positive public responses typically come from situations where resource managers are able to articulate in clear terms the purpose of a particular practice, including the ecological basis for it (Shindler and Neburka 1997). In these cases citizens can engage in genuine discussion about fuel reduction strategies and determine for themselves which treatments are most appropriate for local problems. Also, these settings often are places where decision-makers (e.g., District Ranger) have some visible presence in the deliberations; participants view this as legitimizing their own efforts and time spent. Effectively reaching citizens depends not only in how they interpret information, but also in how they feel about the information providers and the methods used to communicate it.

Decision making processes

Concerns about public acceptance of fire management and fuel reduction activities often focus on final decisions and their "objective" quality. The rationale has often been that if a decision is technically sound and economically feasible—and if citizens are allowed to review and comment or attend a public meeting—then it should be socially acceptable. However, research throughout the last decade has repeatedly shown that the public's idea of a legitimate management plan corresponds to the quality of decision-making procedures used (e.g. Winter et al. 2002, Shindler et al. 2002, Lawrence et al. 1997). Of particular importance in forest communities is the opportunity for citizens to participate in each phase of the planning process, especially when practices such as prescribed fire and thinning operations are viewed with uncertainty or skepticism. In the southwestern U.S., Steelman and Kunkel (2004) observed that the

decision process provides a useful framework for evaluating how structural responses (e.g., building codes, fuel programs, buffer zones) and social responses (e.g., management and planning techniques) work together in a community's response to the threat of wildfire.

Today most forest agencies are attempting some form of "collaborative planning" for fire management. The Healthy Forest Restoration Act even ties certain types of funding to community-based fire plans. The upshot is that many management units are struggling with collaborative approaches because personnel are so familiar with the highly mechanistic, impersonalized NEPA scoping format used in most forest planning. This traditional form is often denigrated by participants as an ineffective, sterile, rule bound, one-way exchange (Cortner et al. 1998, Shindler et al. 2002).

Thus, along with questions about how much area to treat and which treatment to use, fire managers also should be asking questions about their local constituents. For example, who should be included in the planning discussion, what is the public's role in this project, and what do people need to know to participate? This approach reflects a more thoughtful strategy and can help structure the planning process in advance (Delli Priscoli and Homenuck 1990). Only after agency managers first deliberate and agree on planning objectives, how decisions will be made, and who the public is for a given project, should a particular planning process be initiated. These deliberative steps help avoid costly problems later on. It also makes it easier to engage the public by forcing the planning team to discuss their expectations about the public's involvement, helps them determine which team members are best suited for the public contact role, and helps develop buy-in on the eventual process.

It is clear that citizen participation in planning is most useful when people have an understanding of the consequences of the choices. Gaining public acceptance often relies on the ability of fire managers to frame options in clear and meaningful terms, usually through personal contact. Managers have had success using forums such as meetings and field tours with homeowner associations, "friends" groups, and local watershed councils (Winter et al. 2002, Shindler and Toman 2003). In these settings, people can actively engage one another to talk through their concerns, actually walk the particular landscape to

be treated, examine the risks and consequences of various choices, and work out acceptable strategies to unique local problems—all with the likelihood that greater trust will be built among those involved.

Trustbuilding

Trust in public agencies to carry out fire management and fuel reduction practices is a central requirement of effective programs. There is new evidence that trust in agencies like the Forest Service to implement a responsible fuel management program may be eroding (Shindler and Toman 2003, Shindler et al. 2003). However, these studies also suggest citizens' negative feelings frequently stem from frustration with the federal bureaucracy in general and not necessarily with personnel on local management units. These feelings often are attributable to the tension over adherence to agency policies set at the national (or regional) level and the public's view about the need to manage forest conditions at the community level. Successful plans will require visible administrative leadership to structure the organizational approach for improving citizen-agency interactions (Shindler et al. 2002). Trust in agency personnel is most apparent when they focus on specific local concerns. Trust is the most significant predictor of agency effectiveness for managing fire and fire risk (Winter and Cvetkovich 2003).

Across forest communities, Winter et al. (2002) identified several aspects of citizens' trust in land management agencies. First, people are concerned with the professional skill of land managers, including experience, education, and training. In other words, people want assurance that fuel treatments will be carried out by professionals who "know what they are doing." Beebe and Omi (1993) also found that citizens want competent professionals to manage (or eliminate) risk. Second, many people question managers' ability to control wildfire, which in turn influences their attitudes toward prescribed fire. Beebe and Omi (1993:20) pointed out that high profile wildfire events remind people that "fire persistently confounds attempts at control or containment."

Another important trust factor is how residents view an agency's efforts to communicate about fuel treatments (Winter et al. 2002, Winter and Cvetkovich 2003). For example, a majority of Georgia residents surveyed preferred that nearby residents be warned before a prescribed fire was lit, rather than

forgoing notification to take full advantage of good weather (Gilbert and Brunson 2002). Yet, most had never been contacted before a prescribed fire. Oregon residents who agreed that the Forest Service provided good information about management activities were more likely to be supportive of prescribed fire (Shindler and Toman 2003). In an extensive examination of citizen-agency interactions Shindler and Aldred-Cheek (1999) concluded that effective trusting relations could be organized around six common factors: 1) inclusiveness, 2) sincere leadership, 3) innovative and flexible communication, 4) early commitment and continuity, 5) sound planning skills, and 6) efforts that result in action.

Forest agencies should recognize that managers need better tools for engaging the public; by any standard, the existing "tool kit" is antiquated (Shindler et al. 2002). At the same time, field personnel must be given adequate authority to lead at the community level. An organizational commitment to multi-partner cooperation is prerequisite to improving relations and building public trust. This concept should be no stretch for fire management organizations; county, state, and federal agencies cooperate with one another all the time. The final link involves citizen partners. Success will depend on whether the leadership on federal forests is serious about genuine involvement of stakeholders and how well the actions of fire management and outreach personnel reflect this philosophy. Currently, most collaborative efforts and building trust remain the job of personnel at the lowest organizational levels, where relationships are established and face-to-face interactions can make a difference in communities. Thus far, success can usually be traced to single individuals with strong interpersonal skills and a commitment to communication (Yaffee and Wondolleck 1997). They seem to know that "trust is built by leaning forward when we listen, not when we speak" (Putnam 2001:48). Broad-scale progress will occur in a meaningful way only when agencies promote these ideas and support personnel in their outreach efforts.

Visual quality and perceptions of "natural conditions"

Citizens' concerns about fire management and fuel reduction activities are often studied and expressed in terms of values, risk, smoke and air quality, and so on. But aesthetics may be the first and one of the few pieces of information by which citizens judge management activities. A central problem is

that many of our forests now encompass different age classes, stocking levels, and stand densities than what professional foresters believe are healthy, but are considered "natural" by the public (Brunson and Reiter 1996). While the initial basis for personal judgments of forest conditions is visual, it is clear that a more comprehensive, holistic form of public evaluation is needed.

A management approach based on visual quality seems limiting, largely because many other contextual (e.g., ecological) factors are not accounted for (Gobster 1996, Shindler et al. 2002). A preferable approach would be one that encourages people to look beyond the scenic to the ecological perspective (Hull and Gobster 2000). Yet, changing the public's mind about what they observe will be difficult. For example, participants involved in on-the-ground evaluations of prescribed fire and thinning treatments in Oregon felt the most important consideration was the visual impact and not the information they received about the treatment (Toman et al. 2004). However, once these visitors spent time on a treated site, they also considered the extent to which managers had accomplished their fuel management objectives. In other cases, positive aesthetic judgments were linked with information about the scientific basis for practices (Ribe 1999) and the extent to which practices met community objectives for economic benefits or recreation uses (Bliss et al. 1994). Therefore, one approach is to help citizens evaluate forest settings not only by what is there, but also why it is there (Shindler et al. 2002). Fire managers can provide opportunities to raise awareness of fuel objectives and show people what treatment outcomes look like, both initially and over time.

One challenge will be to further delineate the goal—prominent among forest management agencies today—of achieving "natural" conditions. After 250 years of manipulation, what Americans perceive to be "natural" about their forests is not necessarily what is natural. Fire suppression has changed forests in all western states, creating severe consequences for forest health and fire conditions. But while Smokey Bear's message decreed suppressing any forest fire was normal, fire managers now tell people that such conditions are not natural and they need to intervene to return "the balance of nature" (Shindler et al. 2002). Forestry professionals attempt to mimic natural conditions; sometimes this

involves reintroducing fires that reflect historic patterns or using silvicultural treatments that look like small, natural disturbances or to create open, park-like stands in ponderosa pine forests. Although preliminary research indicates public reaction to such treatments is generally favorable (Brunson and Shelby 1992, Toman et al. 2004), not everyone accepts these approaches. Some groups see thinning as a contrived excuse to commercially harvest forests while other individuals are concerned about prescribed fire creating smoke or risk to property.

Thus, legitimate questions arise about what natural conditions are and how we should achieve them. The answers may vary from one setting to another, but reaching agreement on them must include citizens. To start, Daniel (2003:13) says simply "fire managers should get their story straight." We can expect public resistance when current conditions are perceived, accurately or not, as "natural." After all, we are asking people to accept the premise that forests require active manipulation by managers to restore natural conditions. This may also require admitting that these manipulations (including years of fire suppression) have created something other than natural, healthy forests.

Risk and Uncertainty

Fuel reduction programs are largely about reducing risk—risk of wildfire, risk to natural systems, risk to life and property. But fuel management also involves much uncertainty about how forests work as well as how they will respond to practices intended to achieve certain conditions. In general, there is a correlation between risk perception and the acceptability of forest management activities (Wagner and Flynn 1998, Kneeshaw et al. 2004b). In the case of prescribed fire, Shindler and Brunson (2002) found in their national survey that citizens were most concerned about damage to private property, loss of wildlife habitat, increased smoke, and affects on their water supply. As might be assumed, acceptance was higher for prescribed fire away from homes and private property. Additional concerns involve the perceived risk of an escaped, catastrophic wildfire (Winter et al. 2002). In areas where residents have previously experienced a wildfire, the perceived risk of a prescribed fire going out of control can be much higher (Winter and Fried 2000, Shindler et al. 2003). Also, hazards that are communicated in the media can

seem more threatening than they actually might be (Beebe and Omi 1993). Dramatic fire events attract a high level of media coverage, reinforcing the public's tendency to overestimate risks.

Although fuel reduction activities are often associated with risk, the real concern can stem from the uncertainty surrounding them. Citizens may associate new management activities with risk because they are unfamiliar (uncertain) about the outcomes. Most notable are concerns about thinning and the ecological effects on the forest ecosystem (Bliss 2000). For many, the risk here is often associated with allowing (trusting) managers to harvest trees in the name of fuel reduction. While prescribed fire may be viewed as a short-term risk because the fire is out quickly, smoke dissipates and green-up occurs soon thereafter, thinning can be considered a longer-term question (Shindler et al. 2002). Simply, the final results of a harvest operation may not be known for years.

Findings about the risk of natural hazards (e.g., floods, earthquakes and so on) by McCaffrey (2004) are particularly interesting for how they put concerns about fire into social context. As hazards go, the risk of wildfire failed to score high with the public because 1) years of fire suppression has created a feeling of control, 2) the extent of most wildfires is reasonably limited, 3) there is generally enough warning for evacuation to avoid fatalities, and 4) outright denial ("it won't happen to me"). Wildland-urban interface residents are aware of wildfire risks, but are often willing to trade off these risks for the benefits and values they derive from living at the interface (Winter and Fried 2000, McCaffrey 2004). "Public reaction to wildfire suggests that many Americans want competent professionals to manage fire flawlessly, reducing the risk to life, property, and public lands to nil" (Beebe and Omi 1993:24).

Fire managers face a difficult conundrum. On the one hand, there is a need to sensitize people to wildfire risks so that they take actions to minimize losses (e.g., creating a defensible space). On the other hand, overemphasizing fire risks could lead to public hostility towards fire, even the use of prescribed fire (Beebe and Omi 1993). Winter and Cvetkovich (2003) described this as a gap between expert knowledge and public understanding. Kumagai et al. (2004) warned that such misunderstanding between managers and citizens puts property owners in fire-prone areas at risk. Bridging the gap requires explanations that

take into account public concerns, different levels of understanding, and presenting the logic behind choices as opposed to standard messages that merely gloss over detail and treat all audiences the same (Winter and Cvetkovich 2003). Ehrenhaldt (1994) recognized that for people to make a rational choice about a policy they have to understand the consequences of the choices. To the degree that managers can tell them, people want to know specifics about what is likely to happen, where it will happen, who will be affected, and how uncertain we are about the outcomes (Shindler et al. 2002). Currently, few forums exist where discussions occur to help citizens understand the risks, allow them to weigh the tradeoffs, and thus increase the acceptability of fuel reduction activities.

Conclusion

These challenges represent a growing body of knowledge about the relationship between federal forest managers and public acceptance of fuel reduction programs. The role that fire management personnel are being asked to play today is much different from that of the past, when citizen participation was minimal and technical expertise was foremost. In this new role, greater public acceptance will be achieved by being responsive to the suite of ecological and social factors affecting fuel management. The ability of fire management professionals to engage citizens in discussion about the nature of the options is just as important as providing technical details. Expectations are high because fire management often becomes very personalized for citizens. Our communications should reflect that we understand their concerns and are committed to a long-term relationship in forest communities.

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