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WILDLAND FIRE COMMUNICATION



United States Department of Agriculture
Forest Service

This Issue...

The articles in this issue, *Communicating About Wildland Fire*, were compiled by the National Wildfire Coordinating Group's Wildland Fire Education Working Team. Three themes emerged from the articles.

1. Knowledge Is Power.

Whether it's a home that is imminently threatened by wildfire or a child far away worrying about the fate of wild animals during a fire, people want and need information about fire issues. When well informed, people are more likely to support fire management. Knowing what our audiences need and want helps to make us better communicators.

2. Trust Fosters Good Communications.

Listening to, understanding, and enlisting the help of local folks is an effective way to spread the word. How well *messages* are received often depends on how well the messenger is trusted.

3. Details Matter.

Everything we say and do—from the words we choose to the way we dress or act—influences our communications. People respond better to everyday language, and they appreciate direct interaction and hands-on activities with fire experts.

To paraphrase Jim Hubbard, Deputy Chief of State and Private Forestry, in his interview with Maureen Brooks (see page 13), "If fire prevention and education is important then maybe it is not just one person's job—maybe it is everyone's job." We hope that this issue will help you do your job of communicating about wildland fire.

—Catherine J. Hibbard, *issue coordinator*

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On the Cover:



Top left: Press conference held in Pinewood Springs, CO, during the 4,000-acre (1,619-ha) Big Elk Fire. Photo: Forest Service Arapahoe-Roosevelt National Forest, 2002.

Top right: Information Officer, Catherine Hibbard, informs interested people who were attending the Stars and Stripes Spectacular celebration in Suffolk, VA, on July 4, 2008, about the ongoing South One Fire burning in Great Dismal Swamp National Wildlife Refuge. Photo: Mark Hebb, Fish and Wildlife Service, 2008.

Bottom left: Texas Forest Service employee, Mary Leathers, explains Firewise concepts using an interactive display at "Texpo" in Conroe, TX. Photo: Jan Amen, Texas Forest Service, 2007.

Bottom right: Vickie Carson briefs a shop owner during Rombo Mountain Fire near Sula, MT. Photo: Jan Amen, Texas Forest Service, 2007.

The USDA Forest Service's Fire and Aviation Management Staff has adopted a logo reflecting three central principles of wildland fire management:

- **Innovation:** We will respect and value thinking minds, voices, and thoughts of those that challenge the status quo while focusing on the greater good.
- **Execution:** We will do what we say we will do. Achieving program objectives, improving diversity, and accomplishing targets are essential to our credibility.
- **Discipline:** What we do, we will do well. Fiscal, managerial, and operational discipline are at the core of our ability to fulfill our mission.



Firefighter and public safety is our first priority.

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by Tom Harbour
Director, Fire and Aviation Management
Forest Service

TRUST THROUGH COMMUNICATION

This issue of *Fire Management Today* centers around communication—the ability to do so, the tremendous benefits you reap if you are proactive and effective, and the residual effects if you don't. The same LCES—Lookouts, Communication, Escape routes, and Safety zones—that have applied to us in wildland firefighting for decades also apply to the communication requirements of today.

As we all know, LCES are vital links to fire safety during any incident—they've repeatedly proven themselves effective. Just as in the midst of any wildland fire it is imperative that we establish good, clear lines of communication and test them, it is equally important to plan and implement effective communication strategies before and after the incidents. Good communication is essential. As LCES were established to help ensure safety of fire personnel on the fireline, in a broad sense, they relate to what we do when managing fire and aviation's communication efforts as well.

The wildfire with the least risk is the one that doesn't occur, so we use "lookouts" 365 days a year to help us take the appropriate actions to prevent or mitigate fire through the least costly, most efficient means available. We partner with other Federal, State, and local agencies to accomplish mitigation work on the ground. This not only

reduces hazardous fuels and lessens the risk of wildfire but also restores fire to fire-adapted ecosystems, responds to the effects of a changing climate, and achieves a sustainable environment.

We provide community assistance through grant programs to build capacity for suppressing and reducing losses from wildfires. Our ongoing prevention and educational programs have helped to reduce the number of human-caused wildfires over the past several years.

Decisions for managing fires are informed using the best available science and technology while the Nation's communities and resources are protected through safe, efficient, and effective wildland fire and aviation management and emergency response. The common thread, our most potent tool, is communication.

Obviously, people's need for ongoing, updated, real-time information during an incident is enormous. Whether a small community or a large urban area, the requirement for timely communication does not differ. Less obvious to some is the

The common thread,
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is communication.

need to establish good communication lines prior to the incident. It's what we do before the incident happens that sets the stage for how things will go during the ensuing incident and after its conclusion.

Along with communication, credibility is essential. We must have credibility with our partners, stakeholders, publics, and regulatory agencies. Communication, both the giving and the taking, is an extraordinary simple word with complex underpinning. We have to be knowledgeable, mean what we say, and say what we mean—be accountable.

We need to reach out and communicate with people at all levels, in all walks of life—keeping in mind everyone's needs are different. We've built the capacity to communicate during an incident, but as professionals, we recognize the importance of conveying easily

Further Information

InciWeb may be accessed at <http://165.221.39.44/>.

Forest Service employees may access Tom Harbour's Blog by accessing <http://fsweb.wo.fs.fed.us/>, clicking on *FS Blog*, entering e-authentication, clicking on the tab labeled *Directory of Blogs*, and then click on *Tom's Blog*.

Tom Harbour is the director of Fire and Aviation Management, Forest Service.

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understandable information and focusing on prevention.

This past fire season, we continued the use of InciWeb and our Web sites to provide our internal and external audiences the most recent fire information. We successfully completed our 2007 Fire and Aviation Management Year in Review, which documents and demonstrates our accountability

and accomplishments. We expanded our internal communication efforts by establishing my blog. I am committed to continuing this evolution and will capitalize on opportunities as appropriate to meet demands for enhanced communication.

Now, I’m sure you are all wondering just how escape routes and safety zones fit into the realm of communication. Our escape routes

evolve as we reach out and build relationships, trust, and credibility with our stakeholders and the public. These efforts will eventually bring us all to the ultimate safety zone—where fire-adapted ecosystems are resilient to disturbance and communities are protected throughout the Nation. With effective communications, strengthened relationships, trust, and credibility, we will achieve our mission of sustaining the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations. ■



Homeowner meetings and press conferences promote trust through communication. Photo: Arapaho and Roosevelt National Forests and Pawnee National Grassland.

PRESCRIBED FIRE: BAD-TASTING MEDICINE?



Catherine J. Hibbard and Eleanor Morris

Imagine waking up tomorrow morning and suddenly realizing that you speak a language different from your friends, your family, your neighbors, and your whole community. No matter how many times you repeat yourself, or how loud you talk, they just don't understand your words. That's what happened to 40 fire management and communications experts at a workshop held in April 2008 by Partners in Fire Education (PIFE), a group of Federal, State, and local land management agencies, nonprofits, and other stakeholders. The purpose of the workshop was to:

- Share results of a national public opinion survey on perceptions about fire. Commissioned by PIFE, the Democratic polling firm of Fairbank, Maslin, Maullin, and Associates conducted the survey together with the Republican polling firm of Public Opinion Strategies.
- Create building blocks for a public education program to emphasize fire's role in ecosystems.
- Discuss the benefits of fire management to public health and safety.

In response to the survey on perceptions about fire, one participant of the workshop stated, "My reaction was visceral." Heads bobbed

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The research revealed a painful truth—we often talk to people about fire using words they don't understand.

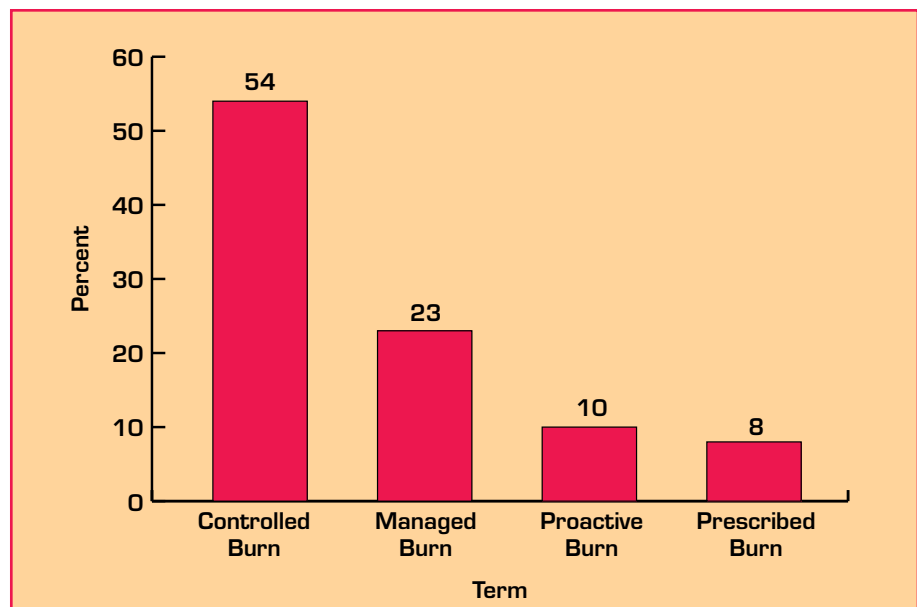
in agreement because the research revealed a painful truth—we often talk to people about fire using words they don't understand. It's not that we're saying something wrong, but we could say it better by using the same language the public uses.

The best example is how we talk about prescribed fires. Some agencies use the term *prescribed fire* in their external communications rather than *controlled burn*. Research found that controlled burn resonates far more favorably

(54 percent) with people than other descriptors, especially *prescribed burn* (8 percent). The figure below illustrates the percentages of favorable fire terms.

People understand that *controlled* burns occasionally get out of control, but they want to know that someone is *trying* to control it. They questioned the term *prescribed* and wondered if they were getting the right medicine.

Should we stop saying *prescribed fire*? No, messaging experts advise that we should start saying *controlled* burning when addressing the public. Every industry and profession has its own vocabulary understood among peers, so there is nothing wrong with using different terms for internal and external audiences.



Favorable response to fire terms based on a national public opinion survey (Partners in Fire Education 2008).

One of the biggest mistakes companies or organizations make is using internal vocabulary in their marketing messages; unfortunately, this vocabulary can be confusing to lay people. Language that is more commonplace can immediately create compelling and persuasive communication with an external audience.

Changing how we speak to the public can be difficult, especially when we have well-entrenched programs. Fortunately, it's never too late to change. Based on the research results, recommendations for communicating favorable fire messages with people include:

1. Don't use acronyms and technical jargon. For example, talk about "fire teams" because people feel more confident if more than one person is making decisions about fire. Use the term *burn* rather than *fire* because a burn is seen as smaller, less "wild," and more able to be controlled than a "fire" (see sidebar).
2. Incorporate people into all communications; demonstrate how their quality of life will be affected by fire management. Research indicates greater success if outcomes from fire management strategies:
 - Protect people, property, and communities;
 - Safeguard the health and regeneration of natural areas;
 - Use controlled burns to clear fuel while managing safety;
 - Save taxpayer money through controlled burns;
 - Protect our air and water by protecting the health of forests and natural areas; and
 - Give plants and wildlife the exposure to fire they need to survive.



Photos can convey the safe implementation of controlled burns.
Photo: Gale Gire, Black Hills National Forest.

People understand that controlled burns occasionally get out of control, but they want to know that someone is trying to control it.

3. Use words like "safely" and emphasize that safety of the public, firefighters, and property is the chief priority. While this is not new to fire communications, it encourages people to listen to the rest of the fire message.
4. Be aware that fire is seen as dangerous and unpredictable, and avoid trying to confront the fear factor. Phrases like "It is natural for people to be afraid of fire" do not resonate with people.
5. Avoid "tough love" messages to homeowners whose homes may not be protected. People recognize that protecting all properties may be impossible. Most survey respondents agreed that, at times, during large, severe fires

Favorable Fire Terms

Use:

Natural areas
Homes near natural areas
Fire teams
Controlled burns
Cut/remove/thin trees and brush
Managing natural fires where safe

Instead of:

Wildland, ecosystem, landscape
Wildland-urban interface
Fire managers, management teams
Prescribed fire or prescribed burns
Mechanical thinning
Wildland fire use/appropriate management response

near homes, firefighters might have to let a home burn if no lives are at risk. However, most also agreed that during large, severe fires near homes, firefighters should do everything they can to try to save all properties.

6. Recognize that people understand and accept that fire can be beneficial (more than three-quarters of the population nationally agree with this concept) and that putting out all fires can lead to faster moving fires that are more out of control. People value the health of natural areas, particularly those nearby, or famous ones such as Yellowstone National Park.
7. Use credible messengers who people perceive as being on the front lines, including firefighters, park rangers, State foresters, and Forest Service employees. Don't use Smokey Bear for messages other than preventing human-caused fires.
8. Avoid putting too much blame on past fire policy for current conditions.
9. Show images of green-up after fires; these were popular with people. ■

Collaborative Public Education Efforts

“A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-year Strategy” was approved in 2001 to reduce the impact of unwanted fires. The implementation plan for the strategy, developed in 2002 and updated in 2006, outlined four goals. One goal was the restoration and post-fire recovery of fire-adapted ecosystems. A task under this goal was to “[f]urther develop and implement a public education campaign, such as the National Wildfire Coordination Group (NWCG) Wildland Fire: a Natural Process to complement Smokey Bear’s message of fire safety. The campaign will emphasize fire’s role in ecosystems and the benefits of fire management to ecosystems and public health and safety.”

The Wildland Fire Leadership Council assigned the project to a collaborating group of Federal, State, local, and nongovernmental organizations. The Nature Conservancy and The Wilderness Society took the lead on developing this interagency collaboration, which became PIFE. PIFE hired the Democratic polling firm of Fairbank, Maslin, Maullin, and Associates and the Republican polling firm of Public Opinion Strategies in 2007 to conduct national opinion research regarding the ecological role of fire and various approaches to fire.

This research included six focus groups in fire-prone communities around the country and a national survey of 2,000 individuals. Survey results were from four samples: a representative national sample of all Americans, residents of fire-prone counties near and in forested areas in the Southeast and West, residents of fire-prone counties in shrub and grasslands in the Rocky Mountain and Plains States, and residents of southern California.

For the complete research highlights, visit <http://www.tncfire.org/documents/PIFE_Research_Summary.pdf>.

CRUCIAL FACTORS INFLUENCING PUBLIC ACCEPTANCE OF FUELS TREATMENTS



Sarah McCaffrey

An important component of the wildland fire problem in the United States is the growing number of people living in high fire hazard areas. How people in these areas contribute to fire risk—or potentially decrease it—will be shaped by their attitudes and beliefs toward different fuel treatment approaches. Understanding the issues and concerns that influence public acceptance of different fuels management methods, whether on public or private land, is crucial information for any fire and fuels management effort.

Several research studies sponsored by the National Fire Plan and Joint Fire Science Program have examined social responses to wildland fire hazards and fuels-treatment methods. Table 1 is a summary of information about key studies discussed in this article (more detailed findings on many of the studies can be found in McCaffrey [2006]).

A number of common themes that are reasonably consistent across diverse ecosystems and different regions of the country can be identified in the studies:

- A significant portion of the population in the study areas support thinning and prescribed burning as management tools to reduce fire risk.
- Most people in fire-prone areas undertake defensible space activities.

- Actively involving individuals and communities in the management discussion helps increase understanding and acceptance of fuels treatments.

Support for Fuels Treatments

A number of studies have explored the understanding and acceptance of prescribed burning and thinning practices. Roughly 70 to 80 percent of respondents found each practice an acceptable management tool. In surveys that explored strength of support, roughly 30 percent of respondents indicated strong approval, and another 40 to 50 percent gave qualified approval (Blanchard 2003, Bright and Carroll 2004, Shindler and others 2003, Winter and others 2005).

Several concerns shaped degree of acceptance, including where treatments were being done and a lack of trust in the agencies implementing the treatments. For thinning, Monroe and others (2002) found

A number of studies have explored acceptability of prescribed burning, thinning practices, and defensible space and have found that most respondents were supportive of the practices.

that respondents who gave qualified approval were concerned with issues of why the thinning was being done, what and how much was being removed, and how it was removed and disposed.

Winter and others (2002) found two exceptions to the general pattern of 30-percent strong approval for treatments. In Florida, where prescribed burning is common, 40 percent of respondents held an extremely positive attitude of the method, while in Michigan, only 10 percent of respondents held an extremely positive view. This last is generally attributed to the 1980 Mack Lake Fire—a prescribed burn that escaped, killed a firefighter, and destroyed 44 houses.

Familiarity and Knowledge of Fuels Treatments

The studies found that people's familiarity with a practice is associated with greater acceptance of the practice. This fits with findings from earlier wildland fire social science studies (Carpenter and others 1986, Gardner and Cortner 1988, Loomis and others 2001, McCaffrey 2002). More recent studies found a similar link between knowledge and support for a treatment method. Shindler and others (2003) found that support for both mechanical treatment and use of prescribed burning was significantly associated with the respondent's natural resource knowledge: more knowledge was associated with greater support, as well as more

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confidence in the agency implementing the treatments.

In another study, Blanchard and Ryan (2004) found that knowledge levels were the most significant factor determining support for prescribed burning. People with some knowledge of prescribed burning were less likely to be concerned about its being used near a home, or about smoke, aesthetics, or effects on animals and their habitat. Similarly, a series of focus

groups exploring smoke issues found that tolerance for prescribed burning increased as participants learned about the practice during discussion, particularly among members of an anti-smoke group (Weissaupt and others 2006).

Defensible Space Ordinances

Similar dynamics were found with defensible space. Most studies have shown that a majority of people surveyed have removed vegetation

from their property (Bright 2003, McCaffrey 2002, Nelson and others 2004). The positive relationship between familiarity with a practice and acceptance is also evident. Of the three States studied by Winter and others (2002), only California had active defensible space ordinances. Ninety-one percent of Californians had removed flammable vegetation from their property, compared to 44 percent of Florida and 42 percent of Michigan respondents. Californians were also more

Table 1: Summary of referenced research studies

Primary Investigator(s)	Where	Who	Method
Bright and Carroll	Colorado Front Range, Southern Illinois, Chicago metropolitan area	Residents near national forests and random Chicago households	Mail survey
Carroll and Weissaupt	Montana, Washington	Native Americans, urban and rural residents and an anti-smoke group	Focus groups
McCaffrey	Nevada	Incline Village homeowners	Mail survey
Monroe, Nelson, and Fingerman Johnson	Minnesota, Florida	Homeowners in fire-prone communities	Interviews
Ryan and Blanchard	Massachusetts, Long Island, New York	Local residents in pine barren areas	Mail survey
Shindler and Toman (2003)	Wisconsin, Michigan, Minnesota	Residents of communities adjacent to national forests	Mail survey
Shindler and Toman (2006)	Arizona, California, Colorado, Idaho, Oregon, Utah	Residents and education program participants	Mail surveys
Winter, Vogt, and Fried	California, Florida, Michigan (Missouri added in 2005)	Homeowners near forested lands	Focus groups and mail survey

likely to have a more positive attitude about the effect of defensible space on the scenery, saving money, and improving wildlife habitat.

Understanding defensible space measures is not just a question of learning the “how to” of creating defensible space, but also of learning how effective the actions will be in reducing fire risk (Nelson and others 2004). Bright’s 2003 study found that whether full-time residents did anything to improve defensible space depended on their belief about the direct advantages and disadvantages of the practice. Concerns about the effectiveness of defensible space can also be seen in a respondent’s comment: “It’s hard to know what to believe. Who is to say that keeping 30 feet (9 m) around a building is going to keep that building from burning?” (Fingerman Johnson and others 2002). This suggests that, while the respondent understands the need for defensible space, exactly *how* the 30 feet (9 m) of vegetation management would protect their structure has not necessarily been communicated well.

Trusting the Agencies

Another factor that influences acceptance is trust in the individuals and agencies implementing the treatment. Nelson and others (2004) found that most respondents felt treatments were acceptable provided they were done by knowledgeable, preferably local, people. Similarly, Winter and others (2006) found that trust was significantly related to acceptance across study sites. The authors concluded that if a treatment practice is established, and there is high trust *in those* who are implementing the treatment, acceptance will be high.

Involving Individuals and Communities

Finally, research indicates that interactive and open communication is crucial for public acceptance of fuels treatments. Social marketing and natural hazards studies have found such methods to be most effective at changing attitudes and behavior because they allow people to question and clarify new information (Monroe and others 2005, Toman and others 2006). In their study of various fire communication efforts, Toman and others

People with some knowledge of prescribed burning were less likely to be concerned about its being used near a home, or about smoke, aesthetics, or effects on animals and their habitat.

(2006) found that interactive communication efforts, such as guided field trips and conversations with agency personnel, were more effective than unidirectional methods, such as brochures and radio. They also found that outreach programs that emphasize interaction can help build trust.

In summary, the most effective means of increasing public understanding are interactive techniques that involve affected individuals and communities in ongoing discussions of the fuels management process. Although such work, particularly targeted educational efforts, takes time, the research shows that increased support for fuels and agency management makes these efforts highly worthwhile.

References

- Blanchard, B. 2003. Community perceptions of wildland fire risk and fire hazard reduction strategies at the wildland-urban interface in the northeastern United States. Thesis. Amherst, MA: University of Massachusetts.
- Blanchard, B.; Ryan, R.L. 2004. Community perceptions of wildland fire risk and fire hazard reduction strategies at the wildland-urban interface in the northeastern United States. In: Murdy, J., comp. ed. Proceedings of the 2003 Northeastern Recreation Research Symposium; Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeast Forest Experiment Station: 285–294. <http://www.fs.fed.us/ne/newtown_square/publications/technical_reports/pdfs/2004/317papers/blanchard317.pdf> (accessed 23 October 2008).
- Bright, A. 2003. Public attitudes toward forest management in the north central region of the United States: An examination of the effects of residence on conducting Firewise activities on private property. Unpublished report on file at: U.S. Department of Agriculture, Forest Service, Northern Research Station, Evanston, IL. 11 p.
- Bright, A.; Carroll, J. 2004. An assessment of public perceptions of fuel reduction activities on national forests. Unpublished report on file at: U.S. Department of Agriculture, Forest Service, Northern Research Station, Evanston, IL. 92 p.
- Carpenter, E.H.; Taylor, J.G.; Cortner, H.J.; [and others]. 1986. Targeting audience and content for forest fire information programs. *Journal of Environmental Education*. 17(3): 33–41.
- Fingerman Johnson, J.; Nelson, K.C.; Monroe, M. 2002. Homeowner perceptions of defensible space and the use of prescribed fire in Minnesota’s fire prone ecosystems. Unpublished report on file at: U.S. Department of Agriculture, Forest Service, Northern Research Station, Evanston, IL. 76 p.
- Gardner, P.D.; Cortner, H.J. 1988. An assessment of homeowner’s perceptions of wildland fire hazards: A case study from southern California. In: Whitehead, E.B., ed. *Arid lands today and tomorrow*. Boulder, CO: Westview Press: 643–657.
- Loomis J.B.; Bair, L.S.; Gonzalez-Caban, A. 2001. Prescribed fire and public support: Knowledge gained, attitudes changed in Florida. *Journal of Forestry*. 99(11): 18–22.
- McCaffrey, S.M. 2002. For want of defensible space a forest is lost: Homeowners and the wildfire hazard and mitigation in the residential wildland intermix at Incline Village, Nevada. Dissertation.

- Berkeley, CA: University of California. 300 p.
- McCaffrey, S.M. (tech. ed.). 2006. The public and wildland fire management: Science findings for managers from National Fire Plan Research. Gen. Tech. Rep. GTR NRS-1. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 202 p. <http://www.fs.fed.us/nrs/pubs/gtr/gtr_nrs1.pdf> (accessed 23 October 2008).
- Monroe, M.C.; Bowers, A.W.; Nelson, K.C. 2002. Public perceptions of defensible space and the use of prescribed fire in Florida's wildland-urban interface. Unpublished report on file at: U.S. Department of Agriculture, Forest Service, Northern Research Station, Evanston, IL. 41 p.
- Monroe, M.C.; Pennisi, L.; McCaffrey, S.M.; Mileti, D. 2005. Social science to improve fuels management: A synthesis of research related to communicating with the public on fuels management efforts. Gen. Tech. Rep. GTR-NC-267. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 42 p.
- Nelson, K.C.; Monroe, M.C.; Fingerman Johnson, J.; Bowers, A. 2004. Living with fire: Homeowner assessment of landscape values and defensible space in Minnesota and Florida, USA. *International Journal of Wildland Fire*. 13(4): 413–425. <http://www.publish.csiro.au/view/journals/dsp_journal_fulltext.cfm?nid=114&f=WF03067> (accessed 24 October 2008).
- Shindler, B.; Leahy, J.; Toman, E. 2003. Public acceptance of forest conditions and fuel reduction practices: A survey of citizens in communities adjacent to national forests in Minnesota, Wisconsin, and Michigan. Unpublished report on file at: U.S. Department of Agriculture, Forest Service, Northern Research Station, and the Joint Fire Science Program, Evanston, IL.
- Toman, E.; Shindler, B.; Brunson, M. 2006. Fire and fuel management communication strategies: Citizen evaluations of agency outreach activities. *Society and Natural Resources*. 19: 321–336.
- Weisshaupt, B.R.; Carroll, M.S.; Blatner, K.A.; Jakes, P.J. 2006. Using focus groups to engage in resource management: Investigating perceptions of smoke as a barrier to prescribed forest burning. In: McCaffrey, S.M., tech ed. The public and wildland fire management: Science findings for managers from national fire plan research. Gen. Tech. Rep. GTR-NRS-1. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station: 177–186.
- Winter, G.; Vogt, C.; Fried, J.S. 2002. Demographic and geographic approaches to predicting public acceptance of fuel management at the wildland-urban interface. Unpublished final survey data report prepared for College of Natural Resources, University of California, Berkeley, and North Central Research Station. On file at: U.S. Department of Agriculture, Forest Service, Northern Research Station, Evanston, IL. 38 p.
- Winter, G.; Vogt, C.; McCaffrey, S.M. 2005. Community views of fuels management on the Mark Twain National Forest and comparisons to other study sites. Unpublished survey data report on file at: U.S. Department of Agriculture, Forest Service, Northern Research Station, Evanston, IL. 59 p.
- Winter, G.; Vogt, C.; McCaffrey, S.M. 2006. Residents warming-up to fuels management: Homeowners' acceptance of wild-fire and fuels management in the WUI. In: McCaffrey, S.M., tech ed. The public and wildland fire management: science findings for managers from national fire plan research. Gen. Tech. Rep. GTR-NRS-1. Newtown, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station: 19–32. ■

Fire Communication and Education Products

A Communicator's Guide to Wildland Fire is available from the National Wildfire Coordinating Group (NWCG) Web site at <http://www.nifc.gov/preved/comm_guide/wildfire/index.html>.

Interagency publications, training courses, and audiovisual materials may be ordered from the NWCG National Fire Equipment System Catalog and may be downloaded from <<http://www.nwcg.gov/teams/wfewt/products.htm>>. A partial list of products includes the following.

- Education cooperative programs and partnerships guide,
- Communication and education guide,
- Education exhibits and displays,
- Prevention and the media guide,
- Prevention sign and poster guide, and
- Prevention marketing guide.

Fire messaging materials, public service announcements, and links to other resources are posted at the NWCG Web site at <<http://www.nwcg.gov/teams/wfewt/wfewt.htm>>.

Smokey Bear items can be ordered from the National Symbols Program at <<http://www.symbols.gov/>> by clicking on “National Symbols Catalog” and then “Fire Education.”

Burning Issues is an interactive multimedia developed by Florida State University and the Bureau of Land Management for middle and high school students to learn the role of fire in ecosystems and the use of fire in managing natural areas. These media along with other fire educational products may be ordered from the National Interagency Fire Center prevention and education site at <<http://www.nifc.gov/preved>>.



A CONVERSATION WITH JAMES E. HUBBARD, DEPUTY CHIEF OF STATE AND PRIVATE FORESTRY

Maureen Brooks

Jim Hubbard's career has spanned more than 40 years of service at the State and Federal level. From seasonal employee, to program supervisor, to State forester, to Director of the Office of Wildland Fire, he is now the Forest Service Deputy Chief of State and Private Forestry.

Jim Hubbard has been involved with fire education throughout his career. He has seen fire management in the United States evolve from suppression only to a complex program that includes suppression, wildland fire use, and prescribed fires. In 1974, he became involved in large fire organizations and extended his local firefighting experience throughout the Western United States, working on interagency project fires. Hubbard spent most of his career in Colorado.

Q – In your 34 years with the Colorado State Forest Service (CSFS), what stood out about the wildland fire education and prevention efforts?

Maureen Brooks is a community fire planner for the Forest Service, Northeastern Area State and Private Forestry in Newtown Square, PA.

The Hayman Fire was pivotal—it clearly could happen again, and we knew another fire like it could not be tolerated.

A – Colorado is a popular tourist destination, and residents are very active outdoors. Efforts to connect people with the environment, while at the same time providing fire awareness, were the main focus for CSFS. These efforts reached a turning point when the dynamics of wildfires throughout Colorado and the West changed due to climate change and occupancy.

Up until the 1990s, Colorado's forests were often thought of as an asbestos forest because of temperature and elevation. Most fires occurred in the higher elevations where the environment was more suitable for lightning fires. However, in the 1990s, a change began to take shape. Lower elevation fires threatened homes and people.

In 1994, Storm King saw unusual fire behavior for the region and drew public and political attention. In 2002, the Hayman Fire burned 19 miles (31 km) in one day and destroyed more than 600 structures. At this time, fire became more important, and prevention messages and use of fire messages became critical. Climate change

and occupancy are the two factors we face across the Nation that dramatically affect the way we do business.

Q – Did the Hayman Fire have an impact on your philosophy about how we deal with wildland fire?

A – It clearly did for me. Hayman followed some other large fires that had severe impact on the landscape. The Hayman Fire was pivotal—it clearly could happen again, and we knew another fire like it could not be tolerated. After Hayman, fire became a top priority and everybody's business. Colorado focused on ways to reduce the risk of large fires in all programs: urban and community forestry, forest management, and fire management. This message became everyone's message. It was important to connect and engage community leaders and homeowners.

Q – How do you react when people blame today's wildland fire problems on past suppression and prevention efforts?

A – I accept that. In Colorado, there was never a major timber industry—recreation, wildlife, and water were the priorities for forest management. Because of these values, management and fire suppression activities were expected—we wanted to keep fire out of the forest. Had past practices been different, we still would have seen the change in fires from high elevation

to lower elevations. Even if we had taken a different approach, it wouldn't have changed the reality of where we are today.

Because of changes in temperature, moisture regimes, and humidity, we have different conditions. We also have changes in population. We need to consider the magnitude of these factors and deal with them—not dwell on past mistakes or what we should have done.

Q – Considering the multifaceted world of fire management today, where we are geared up to suppress wildland fires, manage wildland fire use fires, and put fire on the land

prediction. Armed with these decision support tools, we can manage fires in a different way—regardless of the category. We can better predict the effectiveness of the suppression methods and the results of our actions.

Q – What contributions can a wildland fire education program make to some of the large issues facing wildland fire management today, like cost containment, community protection, and fuels treatments?

A – We need to connect humans with ecosystems. Education needs to promote what is happening in our system, along with the results.

We also need to look at the historical activities of people and their use of fire. People need to understand that we are seeing changed conditions and they have to be more vigilant than ever. We still respond and suppress 98 percent of fires through initial attack. Again, climate change and occupancy have affected fire behavior and our ability to manage fire.

Q – In light of reduced budgets and personnel, often the first to go in organizations are prevention and education efforts. What is your advice on how we can continue to educate the public during these lean times?

A – Recognize the reality of it. We will always be asked to fight fire. Ask organizations how important their prevention and education efforts are in terms of risk and exposure. If they are important, maybe it is not one person's job—maybe it is everyone's job. It comes down to prioritization, where we've made investments, and where we will get a return on investments.

Q – What does Forest Service leadership need from the field to assist in keeping funding and positions in place?

A – We need to hear about your successes. We need to be able to show the sustained change—a change in the dynamic is not fast. We need to show increased coordination and homeowner responsibility. We need to highlight, support, and, more importantly, grow these situations that start to make a cultural change on the landscape. ■

Ask organizations how important their prevention and education efforts are in terms of risk and exposure. If it's important, maybe it is not one person's job—maybe it is everyone's job.

with prescribed fire, what does a comprehensive wildland fire education program look like to you?

A – The program would answer the questions: What role should fire play in a natural system? How should we respond to any fire? How should we intentionally put fire back in the system that is altered by climate and occupancy? The program would inform the public that (1) we want to protect values and get results, and (2) we have decision support tools to manage fire that are based on proven research and tested models.

We can now make decisions we could not make before. We have confidence in the reliability of the

People need to understand that conditions are different today, and exposure to large fires will continue. Fire management is very costly and will continue to cost us. We will be evaluating all fires to determine the necessary response with the understanding that there is different fire behavior and more exposure.

Smoke and human health issues are important factors in wildland fire education. If we are going to protect communities, whether we are suppressing fire or conducting forest management activities, smoke is an important issue. How and when we manage smoke is important for people to know.

COMMUNICATING FOR COMPLIANCE: OREGON'S APPROACH TO WILDLAND- URBAN INTERFACE REGULATION



Rick Gibson

A basic principle of communication is “know your audience.” The Oregon Board of Forestry kept this in mind when drafting regulations for the wildland-urban interface (WUI). Oregon considered site-specific conditions, science, and the wants and needs of Oregonians to write regulations that “bucked the trend,” but were geared for compliance.

Oregon is no stranger to large wildfires. The four fires of the Tillamook Burn (1933, 1939, 1945, and 1951) collectively burned 642,000 acres (259,808 ha). In 2002, the Biscuit Fire was the largest in the Nation burning nearly 500,000 acres (202,343 ha). The losses of structures have been minimal compared to other Western States and Canadian provinces. No single fire in Oregon has burned more than 55 homes in more than 50 years.

Research from the Forest Service's Missoula Fire Sciences Laboratory found that, nationwide, most WUI wildfire structure losses occurred without additional loss of adjacent trees. Airborne embers and spreading ground fire is the primary ignition source for most structural losses. Also, due to stringent land use planning laws and regulations protecting forests and agricultural lands from development, the WUI

Rick Gibson is the fire prevention manager for the Oregon Department of Forestry in Salem, OR.

Due to stringent land use planning laws and regulations protecting forests and agricultural lands from development, the WUI areas are not expanding as rapidly in Oregon as in other States.

areas are not expanding as rapidly in Oregon as in other States.

With this background and knowing how Oregonians love their trees, Oregon enacted the *Oregon Forestland–Urban Interface Fire Protection Act* (Act), commonly known as Senate Bill 360. The Board of Forestry knew landowners would consider any WUI regulation proposing to remove trees as “dead on arrival” so they opted to address measures that landowners would be more willing to embrace.

Using research from the Missoula Fire Sciences Lab, Oregon focused on the treatment of ground and ladder fuels, and dispensed with tree removal and crown separation standards found in WUI regulations of other States. The act was adopted in 1997 and is now in place in the State's most wildland fire-prone counties. It allows the retention of mature trees—even those that overhang a structure. Such trees must be “substantially” free of dead

material, must not encroach on a chimney or stovepipe by less than 10 feet (3.048 m), and must be part of a treated fuel break.

Allowing trees in close proximity to structures promotes their benefits of providing shade, lowering ground fuel temperature, slowing fuel moisture loss, inhibiting ground and ladder fuels, and impeding movement of embers, while appearing to only minimally increase the risk of spreading fire to the structure.

Oregon also considered the acceptance of its constituents in choosing how to enforce WUI regulations. Across the United States, many laws, regulations, and codes require WUI residents to create fuel breaks around their homes or face fines for failing to do so. For example, California's Public Resources Code requires that owners and residents establish a 30- to 100-foot (9.144- to 30.48-m) firebreak around occupied dwellings and structures. Failure to do so results in a fine ranging from \$100 to \$500 and authorizes local agencies to do the work immediately and then levy a lien against the owner for the costs.

Like California, Oregon also asks owners and residents to establish a 30- to 100-foot (9.144- to 30.48 m) fuel break, but does not make inspections for compliance or issue fines for violations. Also, Oregon does not authorize government

entities to do the work and then levy a lien.

Oregon notifies landowners of their obligations under the act and gives them 2 years to bring their property into compliance. During the 2-year window, landowners must self-certify to the State that they have met the standards set forth under the act. Fines are not issued, but landowners who do not certify automatically become statutorily liable for up to \$100,000 of certain costs for suppressing any fire that

starts on their property and spreads from or through the fuel-break area.

Compliance is achieved not only by landowners seeking to avoid liability, but also by homeowner association covenants, restrictions, and neighborhood peer pressure. Insurance companies have also become more aggressive at educating their customers about the need to adopt adequate fuel breaks and other needed mitigation measures in WUI settings.

These “enforcement” mechanisms have saved the Oregon Department of Forestry from having to fund and staff a large inspection and compliance monitoring effort. By knowing its audience and proclaiming unconventional regulations to encourage compliance in the WUI, Oregon has saved time, money, and resources, allowing it to focus on other fire information and education efforts. ■

Web Sites on Fire*

Following is a sampling of Web sites containing information and resources for wildland fire education. For additional resources, see “Innovative Fire Education in the Classroom,” page 29.

Information for use in the classroom, outdoors, or in a virtual setting is available on the Bureau of Land Management environmental education Web site at <http://www.blm.gov/education/index.html>.

The Forest Service fire and education Web page at http://www.fs.fed.us/fire/prev_ed/index.html has links to the Living with Fire interactive game for children and *FireWorks* and educational program for children and young adults.

National Park Service fire education resources are available for students and teachers, including lesson plans at <http://www.nps.gov/fire/educational/education.cfm>.

The *Green Ranger* interactive children’s Web site includes fire prevention information at http://www.oregon.gov/ODF/FIRE/fire.shtml#Fire_Program.

Fire ecology curriculum is available on the Discovery Channel Web site at <http://school.discoveryeducation.com/lessonplans/programs/forestfires/>.

For information on The Nature Conservancy’s Global Fire Partnership and Fire, Landscapes, and People: A Conservation Partnership, go to <http://www.nature.org/initiatives/fire>

For a virtual wildfire field trip for grades 6 through 9, visit <http://www.field-trips.org/trips.htm>.

College-level students can learn about wildfires using a case study of the Yellowstone Fires at <http://www.cotf.edu/ete/modules/yellowstone/YFmain.html>.

* Occasionally, *Fire Management Today* briefly describes Web sites brought to our attention by the wildland fire community. Readers should not construe the description of these sites as in any way exhaustive or as an official endorsement by the Forest Service. To have a Web site described, contract the managing editor, Karen Mora, at 970-295-5715, <kmora@fs.fed.us>.

WORKING WITH COMMUNITIES DURING INCIDENTS



Traci Weaver

Communication takes on a new level of importance during a disaster, especially to those most affected—the victims, who commonly feel powerless and in the dark. In times of disaster, accurate and timely information becomes a basic need, much as food, water, and shelter. People don't just want to know what is happening. They *need* to know. As incident managers and responders, understanding that need for information helps us do our job more effectively.

In the past, public information officers (PIOs) were not a part of all incident management teams (IMTs). Although PIOs are more commonly included now, this inclusion might be more due to the need to respond to the 24/7 news cycle rather than as a public service.

Regardless of how PIOs find their niche on IMTs, PIOs are an essential component of incident management teams. Community relations is a key aspect of their job. Relying solely on the media to disperse information often leaves the public frustrated. Those most impacted need more than the snippet of information the nightly news provides. They need information before it is printed in the local paper. They need specific information about their neighborhood, to know who can they talk with, and when can they talk to them. IMTs can do their

jobs more effectively when they understand the individual needs for accurate and timely information.

Get the Message to Those Most Affected

PIOs learned years ago the importance of getting the message to people who need it the most. "Traplines" allow PIOs to post information in locations frequented by locals and to gauge local attitude toward the incident managers. Running a trapline means getting out into the community and meeting residents on their turf; this could require a staffed information table in front of the local hangout.

"Traplines are an opportunity for one-on-one mingling with the public," said Pete Buist, type 1 PIO

Communication takes on a new level of importance during a disaster, especially to those most affected—the victims.

from Alaska. "I gather my trapline PIOs and tell them—getting to know the people, what their concerns are, and what their perception of the incident is. I want them out talking to regular folks, not just the agencies involved."

Certain information, however, may not be appropriate for traplines. One well-meaning PIO posted an entire Incident Status Report

Lessons Learned from Hurricane Katrina

Hurricane Katrina is perhaps the best example of failed community relations—those most affected received the least information. With power outages and more than half of the city flooded, most victims had no television or Internet access for the latest information.

The Lone Star State IMT provided ice, water, and rations at several locations in southeast Louisiana. After the first day, crews asked PIOs for a handout for people who were desperate to know what was happening, where to go for help, and what to do. The PIOs created a flier with consolidated information—names, addresses, phone numbers, and Web sites of churches and other organizations offering hot meals and various types of assistance.

While this flier did not provide an ideal solution, victims were thankful because the information—no matter how limited—empowered them. Crews distributed 20,000 fliers the first day and asked for more. FEMA published its first disaster newsletter more than 2 weeks after Katrina hit.

Traci Weaver is a National Park Service fire communication and education specialist, serving parks in Montana and Wyoming, and chair of the National Public Information Office Working Group.

around a community in Georgia. After the local emergency management director saw his town listed in the 12- to 24-hour POTENTIAL threats, he unnecessarily evacuated the whole community. Information without an appropriate explanation can be confusing.

Those “Dreaded” Community Meetings

Although community meetings can be a strain, they provide timely and accurate information and allow the affected public to see and speak with incident managers.

“The most common complaint from people is ‘we don’t know what’s going on, and we can’t get good intelligence,’” Buist said. “Oftentimes when a team is doing a transfer of command, the team finds out a community meeting is already scheduled. It’s important to have a meeting early on, introduce the team to the public, and open that line of communication. Be honest with the public, even if it’s too early for the team to have much information. It’s more comforting than not hearing anything at all.”

The 2007 Jocko Fire at Seeley Lake, MT, is a prime example. The Alaska type 1 team immediately began holding community meetings, sometimes two per night. The fire had all the makings of a community relations disaster from the beginning: early rumors of the fire being mismanaged, evacuations and re-evacuations, and the main highway being closed through a tourism-dependent community.

“It turned out to be a huge community relations success story,” Buist said. “I attribute that to the frame of mind of the people, as much as to our efforts and the fact that we saved the town. We had standing

Community Meeting Tips

Community meetings are an excellent way to provide timely and accurate information while allowing the affected public to see and speak with incident managers. Type 1 PIO Pete Buist offers the following tips:

- Plan a community meeting early, even if little information is available. An early meeting offers the opportunity for people to begin engaging with the incident management team and vice versa.
- The meeting location should be easily accessible, have adequate parking, chairs, a sound system, a place to display maps, and so forth. If necessary, vary meeting locations to reach more people.
- Choose the right person to lead the meeting; a PIO is not automatically qualified. The meeting facilitator must be calm, efficient, and compassionate.
- Be honest. Give people enough credit to understand and accept the situation. If things aren’t going well, tell them, and then tell them how you’re going to fix it.
- Always have a question-and-answer session at the end of the meeting. Even if some key people have to leave early, keep someone there to answer questions for as long as necessary.
- Remember you are the professionals, but a citizen might have a better idea. Don’t be afraid to listen. Also, don’t back down if the crowd gets cranky. Be confident, but avoid being defensive or unapproachable.
- Hold community meetings as often as the public is interested. Some incidents won’t require community meetings, but some will require multiple daily public briefings. Be flexible.
- Consider using an open-house format for handling controversial topics that could draw a large, potentially hostile crowd. Individual stations staffed by PIOs or knowledgeable agency personnel provide locations where people can go for specific information and ask questions one-on-one. Staff the open house for several hours to accommodate various schedules.

evacuations at every community meeting. They gave us a key to the city and the gymnasium was plastered with signs that said things like ‘(Incident Commander) Lynn Wilcock for Mayor.’” Members of the Alaska IMT and residents formed such strong relationships

that several people from Seeley Lake visited their new firefighter friends the following winter at the Winter Carnival in Fairbanks, AK.

Involving the Public

Information officers have learned to be creative and think of new ways to keep the public involved and give them ownership during an incident. A good example is the August 2007, 48,000-acre (19,425-ha) Castle Rock Fire in Ketchum, ID. The IMT worked with local government entities to staff a joint information center with volunteers,

Don’t assume
everybody is getting
accurate information
when it’s needed.



Community meeting at Seeley Lake Elementary School, Jocko Lakes Incident, Flathead Agency, Seeley Lake, MT. Photo: Angie Kimmel, Wild Blue Yonder Photography. 2007.

residents with voices that were often familiar to callers.

One or two PIOs oversaw the center, trained volunteers as they reported for duty, and answered media calls, but most phone calls were answered by the volunteers. A local volunteer coordinator supervised the effort by organizing schedules and keeping the center adequately staffed. PIOs were also available to answer questions for the volunteers.

“It really worked well,” said type 2 PIO Bob Beanblossom of West Virginia. “Volunteers were familiar with the area and local places, and they often knew the callers. It offered a sense of comfort to the callers and empowerment to the volunteers.”

At least twice, the fire prompted large-scale evacuations. Center managers quickly brought in additional volunteers to handle the increased call volume.

PIOs briefed the volunteers every shift change and when significant events occurred. They provided

talking points, fact sheets, fire maps—whatever was needed for the volunteers to do the job well. Bulletins boards in front of the center were established and staffed so local residents could find the latest fire information without disturbing the volunteers.

PIOs need to put themselves in the victims' shoes long enough to determine the best means for effective communication.

“When people are involved, they don’t feel so much like victims,” Beanblossom said. “Several individuals were evacuated, many for long periods, but they regularly reported for duty. They were where they wanted to be: helping others and hearing the latest information firsthand.”

While a volunteer-run center may not work everywhere, it was a success in Ketchum, a community of about 5,000 year-round residents. “Plenty of volunteers had time to give, and many returned day after day.” Beanblossom said. “And

I think they gained a wonderful perception of the incident management teams and agencies involved. Later, we offered camp tours that drew hundreds of individuals.”

Although evacuees can work well as volunteer information officers, PIO Peter Buist cautions, “It’s best not to hire locals who are directly impacted by the incident because they can be emotionally involved, even to the point of abandoning their duties to protect their own property.”

However, hiring locals sometimes is essential. Buist’s team made this decision while working on the Rodeo-Chedeski Fire. The team—from Alaska—was working in a village with a large population of Apaches who did not speak much English. Hiring Apache-speaking locals was essential to reaching the affected people. “Locals knew the

language, the geography, the politics, and each other,” Buist added. Libraries, schools, and even grocery stores are good places to find individuals available to volunteer or work on an incident.

The Reward of Listening

Listening is often more important than talking, which is an invaluable lesson for PIOs and incident managers. Many times an angry victim just wants someone to listen, to hear what is said, regardless if it is accurate or deserved.

People who were most affected by an incident won't necessarily remember what the media said, but how they were treated by an IMT.

A homeowner in Alaska was disrupting a public meeting during the Boundary Fire in 2004 until the PIO stood by to let the person unload. The woman complained about everything and everybody, then stopped suddenly, looked at the PIO and said, "I just needed someone to hear me out. Thanks for listening."

While it is easy to be defensive during those circumstances, it is usually best just to listen. People want to be heard. When we listen, they know someone actually cares. Take time to listen to people, hear what



A public information officer explains the evacuation plan. Attendance at the nightly meetings during the Jocko Lakes Incident ranged from 250 to 650 people, depending on fire activity that day. Seeley Lake, MT. Photo: Angie Kimmel, Wild Blue Yonder Photography. 2007.

they say, and provide the information they need. Information without empathy can seem callous and commonly is ignored.

Buist stressed the importance of two-way communication. "As a lead PIO, I don't care if I have a type 1 or

a type 3 trainee PIO, but I do want someone who can communicate well with the citizens," he said.

Final Thoughts

In an age where Internet and the media dominate, it is easy to overlook the importance of face-to-face communication. While PIOs should use all of the tools available, they need to put themselves in the victims' shoes long enough to determine the best means for effective communication. Don't assume everybody is getting *accurate* information *when* it's needed. Ask for feedback frequently and adjust tactics to provide information and meet human needs.

People who were most affected by an incident won't necessarily remember what the media said, but how they were treated by an IMT. They will remember whether the team met their community's needs in a timely, accurate manner. ■



Thank-you sign near Harpers Lake Base Camp, Jocko Lakes Incident, Flathead Agency, Seeley Lake, MT. Photo: Angie Kimmel, Wild Blue Yonder Photography. 2007.

COMMUNICATING ABOUT FIRE WITH TRIBAL ORGANIZATIONS



Germaine White and
Pat McDowell

A significant portion of forest land in the United States—particularly in the arid and fire-prone West—lies within or adjacent to Indian reservations. Even more lies within native aboriginal territories considered by tribes to be areas of special concern. With increased size, intensity, and complexity, fires are more likely to burn in areas important to tribes. In addition, many tribes have fire crews who work on large wildfires. Therefore, it is crucial that Federal and State agencies develop good working relationships with tribes to manage wildfires more effectively, efficiently, and most importantly, appropriately.

Everything that occurs within fire management, and especially during an incident, involves communication, the act of sharing information. Many tribes maintain well-trained, capable fire management organizations, with years of experience and vast knowledge of conditions on the ground. Each tribe can be a valuable source of information and a natural ally for communicating wildland fire messages. Good communication and good working relationships go hand-in-hand to promote successful fire management.

Germaine White is an information and education specialist with the Confederated Salish and Kootenai Tribes in Pablo, MT. Pat McDowell is a wildland fire prevention specialist with the Bureau of Indian Affairs, Oklahoma Fire Center, in Oklahoma City, OK.

Each tribe can be a valuable source of information and a natural ally for communicating wildland fire messages.

The key to working effectively with tribes is the ability to build trust and to respect differences. Unfortunately, all too often, fire managers make critical mistakes when dealing with tribal governments, tribal people, and tribal fire teams. It is easy to assume that the same ways of seeing things and communicating—the same cultural norms of interaction—exist among Indians and non-Indians. Tribal views about fire, for example, can be quite different from modern western views. For the Salish and Pend d'Oreille Tribes of western Montana, fire is a gift from the Creator brought to the people by animals. Fire is a blessing that is the heart of spiritual practice and at the very center of traditional ways of life. When used respectfully in a manner consistent with traditional knowledge, fire enriches the world of these tribes, which have a long

tradition of spring and fall burning and adapting to, rather than fighting, lightning-caused fires.

It's easy to assume that all tribes are the same; however, an approach that is effective for working with one tribe will not necessarily work with another. In addition, fire managers sometimes become so attentive to cultural differences that they forget they are also dealing with individuals, each of whom is unique, and each of whom is, after all, another human being. All of these assumptions can lead to major blunders.

Fortunately, by following some basic approaches to cross-cultural communication, you can reduce the chance of unintentional offense and increase the chance of creating a mutually respectful, productive, and rewarding relationship.

The Gift of Fire

According to the traditional beliefs of the Salish, the Creator put animal beings on the Earth before humans. But the world was cold and dark because there was no fire on Earth. The animal beings knew that, one day, human beings would arrive. The animals wanted to make the world a better place for the humans. So the animals set off on a great quest to steal fire from the sky world and bring it to the Earth. This story reminds us that while fire can be a destructive force, it is also a gift from the Creator brought to us by the animals.

- Be aware of the potential challenges of cross-cultural communication. Make a conscious effort to address these issues.
- Accept that you might make mistakes or be unsuccessful in certain efforts. Try to figure out what went wrong, why your effort didn't succeed, and adjust your approach or behavior accordingly.
- Be aware that the issue of language is complicated. Many native homes use English as their primary language. Others primarily use their native language. Some use a mix. Some Indian people may appear to be less conversant in English than they actually are; others may appear more conversant than they are, or may use English in ways unique to their culture or community. That is to say, their frame of reference is based on a common cultural understanding that may not be apparent to outsiders. A translator or tribal member liaison who is familiar with both cultures can be helpful. They can translate both the substance and the manner of what is said, even if the dialogue is conducted entirely in English.
- Listen. Listening well is crucial to effectively communicating with tribal organizations. Communications are often based on relationships and respect, rather than positions or authority. One technique is respectful listening, in which you repeat your understanding of what you have been told to make sure the speaker is satisfied he or she has been heard accurately. Keep in mind, however, that if words are used differently between languages or cultural groups, even respectful listening can sometimes fail to reveal subtle misunderstandings. This point is especially important

The key to working effectively with tribes is the ability to build trust and to respect differences.

- when meeting with tribal leaders, elders, and cultural advisors.
- Learn what you can about the history and culture of the particular tribe with which you are working. Knowledge of other cultures is often better acquired by direct experience rather than by study, so attend any cultural education activities that the tribe might offer to visitors. Take time to visit with tribal political and cultural leaders, historians, elders, and educators. Learn from books, tapes, and videos, particularly from those produced or recommended by tribal institutions. No single, all-inclusive reference book likely exists.
 - Understand that each tribal governing system is unique, and working with tribes is not always as simple as it may appear. Besides differences in governance structures between different tribes, there are sometimes differences between the administrative

The Confederated Salish and Kootenai Tribes created an interactive educational Web site *Fire on the Land: Native Peoples and Fire in the Northern Rockies* as part of their Fire History Project. The site contains information about fire ecology, the traditional use of fire by the tribes, today's efforts to restore landscapes by reintroducing fire, and other compelling topics and useful resources. Visit <http://www.cskt.org/fire_history.swf>.

- and cultural leadership within the tribal governance structure. Recognize the legitimacy of both groups when working with tribal governments. Therefore, fire managers may need to confer with two or more councils or groups when working with a single tribe. Communities often contain a number of distinct cultural groups, which may be changeable. On some reservations, a single tribe and a single native language may exist with a number of distinct bands or clans. Some reservations in the Northwest are home to confederations of tribes speaking distinct and unrelated languages.
- Consider the wide variation among tribes in governmental authority, capability, and sovereignty. Likewise, the formality of the business organizations within tribes varies widely. Some tribes resemble large corporations, while others may more closely resemble family-owned businesses. The fire manager must know that just because a tribal organization is "different" from the nontribal society does not mean it is any less sophisticated. Fire managers should seek expert advice from each individual tribe.
 - Understand the value at risk. For many tribal cultures, the lands that firefighters defend are sacred landscapes that have been tribal homelands for millennia. The profound age of tribal habitation on the landscape is understood through oral tradition that is passed from generation to generation, sometimes for tens of thousands of years. Homeland protection may have a very different meaning for tribes.
 - Be prepared to accept and attempt to understand that tribes may have valid alternate

viewpoints on fire issues. What seems logical and important in one culture may seem irrational and unimportant in another. Being aware of this can help avoid unintentional ethnocentrism.

- Show respect for tribal elders. Elders commonly carry significant but informal authority within the tribe, and their approval can make or break the success of a project. In many communities, elders are a special group of people to be identified and communicated with early in the process. That engagement should

be maintained throughout the project.

- Dress appropriately for the occasion and organization. Being a little overdressed can be perceived as a sign of respect while being dressed too casually (for example, wearing ball caps) can be seen as a lack of respect.

Finally, fire managers should embrace the opportunity to work with tribes as an opportunity for personal, as well as professional, growth. Understanding and respecting cultural differences in

communications is essential to forging long-term effective working relationships. Achieving these cross-cultural communications goes well beyond short-term practical gains while managing an incident on tribal lands. The process of developing these cross-cultural understandings can leave the fire manager with a more complete appreciation for the role of fire, the impact of human connections to the landscape, and the knowledge gained about the use of fire by native cultures over thousands of years. ■

Selected Fire Communication Research

Matters of Trust and Trust Matters

The key to successful partnerships is trust. Josh McDaniel has written several articles on the importance of communication, education, and public involvement in promoting acceptance of fire management. To read more, visit <http://wildfiremag.com/mag/matters_trust/>.

Communicating About Fire With Wildland-Urban Interface Communities

Wildfire communication needs of people in wildland-urban interface communities and explored agency response to those needs were examined in this study. The study assessed communications before, during, and after fires in the San Bernardino Mountains. Rapid response research methods included informal discussions and focus groups, content analysis, and participant observation. For more information, visit <http://www.fs.fed.us/psw/topics/recreation/studies/fire_rapid_response.shtml>.

Fire Meanings and Messages

Internalizing the wildfire threat is an important first step for homeowners who increase Firewise behaviors. This study evaluated how people receive, interpret, and reconstruct wildfire messages, especially with respect to educational programs such as Firewise or Smokey Bear. For more information, visit <http://www.fs.fed.us/psw/topics/recreation/studies/fire_fire_meanings.shtml>.

Homeowner Attitudes About Fire

Those who live within or nearby national forests in three States were surveyed to understand public attitudes about fire. Survey participants included year-round and seasonal homeowners and special use permittees with cabins on Forest Service land. For more information, visit <http://www.fs.fed.us/psw/topics/recreation/studies/fire_baer_reports.shtml>.

Communicating With Homeowners about Fuels Management

This report focuses on how managers can effectively communicate with the public about fuels management efforts. It summarizes persuasive communication programs and identifies characteristics of effective programs. For more information, visit <http://nrs.fs.fed.us/pubs/gtr/gtr_nc267.pdf>.

Human Dimensions of Wildfire

A collection of papers highlights research findings from studies supported by the National Fire Plan. These studies focus on the human dimensions of wildfire and examine perceptions and actions of individuals, homeowners, and communities as they try to make sense of, live with, and be proactive about wildfire management. For more information, visit <http://www.ncrs.fs.fed.us/pubs/gtr/gtr_nc231.pdf>.

WANT TO BE A GREAT MEDIA SPOKESPERSON? REMEMBER LCES AND OTHER FUNDAMENTALS

Bob Panko

As an incident commander and operations section chief, I have always been comfortable standing up in front of a crowd and talking about incident and fire situations. But what happens when you suddenly realize that your crowd is a few million people in a major population center who are being affected every day by smoke or other threats from your fire? You know that your words are taken as

Avoiding the media is probably instinctive. But remember, the media is our outlet to the world.

“gospel” by this large viewing audience—your credibility and that of your team are on the line. Instead of looking at friendly firefighter faces, you are looking at reporters, microphones, and television camera lenses. With Internet streaming, the whole world could be watching you. The situation is an easy place to choke.

I have always admired and observed how experienced incident commanders and operations section chiefs deal with the media.

Bob Panko recently retired from his career with National Park Service. He was the fire and aviation management officer in Everglades National Park for the last 11 years of his career and has served as an operations section chief, liaison officer, and incident commander on Southern Area Incident Management Teams. Panko remains actively involved in fire and incident management and training.



Bob Panko uses the briefing map as his anchor point for television interviews at the South One Fire, Great Dismal Swamp National Wildlife Refuge. Photo: Catherine J. Hibbard, Fish and Wildlife Service, 2008.

Fortunately, I have watched and learned from some of the best, and I try to make a habit of their successful traits.

What We Do and What We Practice Becomes Habit

Dealing with the media is much like dealing with an operational period briefing or planning meeting. You must know your stuff without prompting. Relate the facts:

- What was the most significant event that happened today?
- What are the particular challenges and risks?
- What are the potential consequences of actions (or inactions) in managing the fire?

You don't need references to cover these facts during your interview. Credibility comes from speaking straight from your head and your heart.

There are many good tools for teaching folks how to conduct an interview regarding body language. Public information officers recommend that you to stay relatively still, look into the eyes of the reporters rather than the cameras, present a calm demeanor, and don't wear sunglasses.

For me, I like the audience to see a little excitement. Hey, it's an exciting and risky business and the audience likely has a lot at stake in the outcome. So, I try not to

present myself as a “stogie fuddy duddy.” I want the audience to look at me and think, “Wow, he sure has a lot of energy. No wonder he is leading such a large and important effort. I can trust this guy.”

You can, however, get carried away with enthusiasm. I recently watched myself in an interview on the 11 o'clock news. While talking about crew's near miss from a falling tree, I got a little carried away. As I watched the interview, I said to myself, “Just who is that wind-milling his arms like crazy?” So, energy is good, but some restraint is needed.

Another habit to develop is consistently doing an “after action review.” You don't learn if you don't watch yourself. Listen to what the media actually reported based on what you said, and consider what key points they wanted to know. Get immediate feedback and recommendations from the public information officers based on their observations. You can take away lessons for the next time.

Remember Your Fundamentals

Just like fireline work, media interviews have Lookouts, Communication, Escape routes, and Safety zones (LCES) needs. Reporters will ask questions that might not seem important to you.

Just as being proactive is a fundamental of fire management, we must be cooperative and proactive with the media.

They will ask about things that you might not have paid exact attention to with everything else going on in your busy job. They expect you to know the answers. Examples include exact numbers of resources or people on the fire or the current total costs. They will ask strategic or tactical questions that they don't understand. Even though the subject is second nature to you, you need to do a bit of explaining.

My *Lookouts* and *Communication* before an interview are to ask the reporter exactly what questions will be asked before the camera is rolling. To have my *Safety Routes* and *Escape Zones* ready, I bring a copy of the current Incident Status Summary (ICS 209) with key points highlighted. I refresh myself on those key kinds of questions before the interview, especially if the reporter lets you know questions about specific information in advance.

Create an effective anchor point. Just as you anchor a fire, you need to anchor your media interview. One of the best ways to do this is to

conduct your interview in front of a briefing map. Television is a visual media. Most people don't know their northeast from the southwest any more than they know the exact mileage to their local gas station. So, it works better if you can point to a location on the map. For example, while pointing to the southeast corner on a map, you could say something like, “Our most critical concern is right here. We want to prevent this fire from going into Dismal Swamp State Park, which you can see is immediately to our southeast.”

Avoiding the media is probably instinctive. Reasons usually center on your own nervousness, your fear that they will take your words out of context and portray the wrong message, or just the fact that you feel too busy. But remember, the media is our outlet to the world. They are the ones positioned to deliver your message better than anyone else. Just as being proactive is a fundamental of fire management, we must be cooperative and proactive with the media. They can be our best friends in getting the right messages out. Remember that you are the expert—if you weren't, you wouldn't be doing what you are doing for a living. Work with the media and express yourself with confidence, energy, and sincerity, and you will most likely have a good outcome. ■

MYTH BUSTING ABOUT WILDLIFE AND FIRE: ARE ANIMALS GETTING BURNED?



Karen Miranda Gleason and
Shawn Gillette

Emotions run high and perceptions diverge from reality when most people imagine wildlife encountering fire. A generally accepted belief that fire poses a danger to animals has been unwittingly reinforced by 65 years of Smokey Bear, a singed cub turned fire prevention icon, and more than 50 years of Disney's Bambi and friends running in fear from fire. Without being balanced by factual information, the influence of these familiar characters mixed with

Scientific studies and anecdotal evidence indicate:

- Fire does not negatively impact wildlife populations,
- Wildlife respond and adapt to fire in a variety of ways, and
- Many wildlife species benefit from fire, directly and indirectly.

Focus on Populations, Not Individuals

Successful wildlife management focuses on health of animal populations, not individuals. Wildlife

managers have been using fire since the 1930s to improve habitat conditions, even at the risk of harming individual animals. While wildlife mortality in any fire event is possible, the overall impact on wildlife populations is considered minimal. Fire will kill a few *individuals*, but not entire *populations*. This is the case even with rare populations in isolated geographic areas.

An example is the Jemez Mountain salamander, found only in the moist microclimates of the Jemez Mountain Range in New Mexico. In 2001, fire swept through all known sites inhabited by this amphibian. Biologists discovered that many of them survived because the natural

While wildlife mortality in any fire event is possible, the overall impact on wildlife populations is generally minimal.

strong public support for protecting wildlife fosters counterproductive sentiments about fire.

Public discomfort with fire, including prescribed burning, bolsters the exclusion of wildland fire from natural areas. The avoidance of fire inadvertently leads to overgrown vegetation, which generates more hazardous conditions and more dangerous wildland fires. It also continues to increase risk and decrease benefits to both wildlife and people.

Karen Miranda Gleason is the national fire outreach coordinator for the U.S. Fish and Wildlife Service, National Interagency Fire Center, in Boise, ID. Shawn Gillette is the chief of visitor services at the Bosque del Apache National Wildlife Refuge in San Antonio, NM. Both are public information officers who serve on wildland fires.



Snow geese flock near Marsh Master vehicle during a prescribed burn, Pea Island National Wildlife Refuge, NC. Photo: U.S. Fish and Wildlife Service.

Deer stands in the black on China Ten Fire, Nez Perce National Forest, ID. Photo: U.S. Fish and Wildlife Service.



areas used by the species, usually under logs or rocks, did not carry the full heat of the fire. While a few succumbed, the entire population did not, and the species continues to thrive. In fact, there is no known case of an entire wildlife population or species being destroyed by fire. In many cases, the short- and long-term effects of fire are positive for wildlife.

No Strangers to Fire

Available data and many first-hand accounts from the fireline paint a picture of wildlife reacting in ways very different than in *Bambi*. Wildlife species have evolved with fire in natural areas and know how to respond to it. Animals, like people, know all the ways in and out of their homes and have a range of reactions to fire. An animal's response to fire depends on the species, its habitat, and the fire's behavior.

Most animals have the ability to move away from fire if necessary. Birds fly. Land mammals walk and run. Amphibians and reptiles retreat into wet areas, burrow under logs or rocks, or escape to underground burrows.

Wildlife don't always flee from fire, however. Slow-creeping ground fires actually provide an opportunity to forage and hunt. Elk, deer, and bobcat have been seen returning to burned areas minutes after a fire has passed. Bear and raccoon will scout along an active flame front for snakes and other small animals that are moving ahead of the fire. Raptors typically circle over fires looking for mice exposed on the ground or insects caught up in a smoke column. Fire crews have observed these predators catching and killing prey—in some cases, only a few feet from a fire's edge.



Moth lands in burned area on Harris Fire, San Diego National Wildlife Refuge, CA. Photo: U.S. Fish and Wildlife Service.

Endangered whooping cranes forage on a prescribed fire burned area, Matagorda Island Aransas National Wildlife Refuge, TX. Photo: U.S. Fish and Wildlife Service.



Elk seek out new green shoots in Northern New Mexico on the Ponil fire, 2002. Photo: Brent Woffinden, U.S. Fish and Wildlife Service.

When fire is excluded from natural areas, overgrown vegetation creates a greater risk of wildlife being burned in large, damaging fires.

Some species of wasps, wood-boring beetles, and flies, attracted by chemical compounds in smoke, will search out fires. They seek trees weakened by fire as a source of food, a rallying point for mass mating, or a place to lay their eggs. After the fire passes, these same insects play an important role in the recovery process by attracting predator species. Shortly after a fire, armadillos and birds will return to the burned area in search of these insects.

Healthy Natural Areas

Fire generally increases biodiversity and strengthens the health of natural areas by attracting a variety of fire-seeking insects and predators, creating a mosaic of burned and unburned landscapes, and stimulating new plant growth. By exposing reliable sources of prey and creating new nesting areas, fire benefits and helps sustain wildlife.

The elimination of naturally occurring wildland fire due to fire

suppression and fragmentation of the landscape by agriculture and urban development has led to a decline in diversity, abundance, and nutritional value of habitats. The overgrowth of brush and trees in natural areas and the increased likelihood of large, damaging fires have the potential to do substantial harm to wildlife. Fast-moving fires can overwhelm or trap younger and slower animals, just as these fires pose a great threat to human life and property. High-intensity fires may decimate plants serving as food sources and delay repopulation of wildlife in burned areas.

Fire remains a critical tool for the management of wildlife habitat. Fire managers plan prescribed burns that cleanse and rejuvenate natural areas and present less of a threat to wildlife than large, fast-moving, high-intensity wildland fires. Prescribed burns can be designed to burn slower and at lower intensity than wildland fire. Prescribed burns also ensure escape routes for wildlife and can be timed to avoid mating and nesting seasons.

The Bottom Line

While some individual animals perish during wildland fires, most remain unharmed and many benefit. More animals are burned in large, fast-moving, high-intensity wildland fires than during slow-moving ground fires or prescribed burns. Whether by using their speed, ability to fly, or other means to escape, or by taking advantage of opportunities to hunt, mate, lay eggs, or nest, wild animals are no strangers to fire.

Although fire sometimes kills individual animals, it doesn't destroy populations or species. Most wild-

Animals, like people, know all the ways in and out of their homes and have a range of reactions to fire.

life survive fire and enjoy improved living conditions afterwards. When we exclude fire from natural areas, we put animals and people at increased risk. Only by raising public comfort with fire can we hope to sustain long-term, ecologically sound, and fiscally responsible fire management.

References

- Box, T. 2006. Listening to the land: Smokey's altered habitat. *Rangelands*. 28(2): 38–39.
- Fire Effects Information System (FEIS). FEIS home page. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. <<http://www.fs.fed.us/database/feis/>> (accessed 23 October 2008).
- Gleason, P.A. 1996. Personal communication. Fire ecologist. Arapaho and Roosevelt National Forests, Fort Collins, CO.
- Jenkins, J.L. 2000. Wildfire tipsheet. University of Missouri–Columbia. <<http://web.missouri.edu/~news/archives/tipsarchive/wildfiretipsheet.html>> (accessed 30 October 2008).
- Kaufmann, M.R.; Shlisky, A.; Marchand, P.; 2005. Good fire, bad fire: How to think about forest land management and ecological processes. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 16 p.
- Langford, R. 2007. Personal communication. Fire management officer. Sherburne National Wildlife Refuge, Sherburne, MN.
- Leenhouts, W.P. 2007. Personal communication. Fire ecologist. U.S. Fish and Wildlife Service, National Interagency Fire Center, Boise, ID.
- Longleaf Alliance. 2002. These animals play it cool when fire sweeps through the woods. Teacher/kid's guide. <http://www.auburn.edu/academic/forestry_wildlife/longleafalliance/teachers/teacherkit/escapefire.htm> (accessed 23 October 2008).
- Lyon, J.L. 1978. Effects of fire on fauna. National fire effects workshop, 10–14 April 1987, Denver, CO. Gen. Tech. Rep. WO-6. Washington, DC: U.S. Department of Agriculture, Forest Service. 22 p.
- Main, M.B.; Tanner, G.W. 1999. Effects of fire on Florida's wildlife and wildlife habitat. WEC-137. Gainesville, FL: University of Florida, Institute of Food and Agricultural Sciences Extension Digital Information Service (EDIS). <<http://edis.ifas.ufl.edu/UW132>> (accessed 23 October 2008).
- Metz, D.; Weigel, L. 2008. Results of Qualitative Research Groups. Presentation at workshop: Partners in Fire Education Workshop; 15–17 November, 2008; Boise, ID. <http://www.myfirecommunity.net/uploads/Fire_focus_groups_key_findings_2-5-08.doc> (accessed 30 October 2008).
- Myers, R.L. 2006. Living with fire—sustaining ecosystems and livelihoods through integrated fire management. Global Fire Initiative. Tallahassee, FL: The Nature Conservancy. 28 p. <http://www.tncfire.org/documents/Integrated_Fire_Management_Myers_2006.pdf> (accessed 23 October 2008).
- Pyne, S.J. 2002. How plants use fire (and are used by it). NOVA online. <<http://www.pbs.org/wgbh/nova/fire/plants.html>> (accessed 23 October 2008).
- Russell, K.R.; Van Lear, D.H.; Guynn, D.C. 1999. Prescribed fire effects on herpetofauna: Review and management implications. *Wildlife Society Bulletin*. 27(2): 374–384.
- Smith, S. 2007. Positive effects to wildlife after wildfire. Ardmore, OK: The Samuel Roberts Nobel Foundation. <http://www.noble.org/Ag/TeamContribution/NF3/Wildfires/Wildfires_-_Wildlife.html> (accessed 23 October 2008).
- Stoddard, H.L. 1925. Report on cooperative quail investigation, 1924. Washington, DC: U.S. Biological Survey, Committee Representing the Quail Study Fund for Southern Georgia and Northern Florida. 62 p.
- Swanson, S. 2007. Personal communication. Firefighter. Tulelake National Wildlife Refuge, Tulelake, CA.
- Tweit, S.J. 2001. The secrets of fire. *Audubon*. May–June: 103. <<http://audubonmagazine.org/truenature/truenature0105.html>> (accessed 23 October 2008). ■

INNOVATIVE FIRE EDUCATION IN THE CLASSROOM

John Owens

How do you teach young people about wildland fires?

- grade-appropriate curricula
- student text books
- teachers who have been exposed to wildland fire topics
- all of the above
- none of the above

If you answered “all of the above,” you make the grade!

Using all of these techniques is ideal, but unfortunately, “none of the above” often reflects reality. Wildland fire is not a topic typically included in State student curricula, textbooks, or college classes offered to prospective teachers. So how do we overcome these obstacles? Innovative programs promoting fire education in the classroom exist at national, State, and local levels. These programs and a vast array of other materials may be adopted or modified to meet specific needs.

Project Learning Tree

The U.S. Department of the Interior, in cooperation with the National Interagency Fire Center, established a fire education initiative as part of Project Learning Tree. The premise is that teachers will teach what they know. Using hands-on activities, teachers learn from fire education professionals

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(visit <http://www.plt.org/cms/pages/21_23_25.html>).

Project Learning Tree coordinators provide information and activities to make teachers feel comfortable teaching about wildland fire issues. Fire education workshops, lasting from 8 hours to a full week, cover topics such as the role of fire in ecosystems, prescribed fire, the wildland-urban interface, wildland fuels, fire suppression, fire prevention, and careers in wildland fire and resource management. Fire education materials are provided for teachers to use in their classrooms. Teachers learn how to use these activities, including an interactive computer-based inquiry program.

Since 2000, more than 6,800 teachers have received wildland fire education training and materials for use in the classroom.



Teachers create an unhealthy ponderosa pine forest before determining a management plan to restore health. Photo: Michelle Youngquist, Project Learning Tree, 2004.

Piloted in a few Western States, this initiative has expanded to 25 States from Alaska to Florida. Since 2000, more than 6,800 teachers have received wildland fire education training and materials for use in the classroom.

Alaska Program

The U.S. Fish and Wildlife Service and several other partners developed the “Role of Fire in Alaska,” a State fire education program (visit <<http://alaska.fws.gov/fire/role>>). The curriculum was developed in 1995 and revised in 2003. Using materials from Project Learning Tree, FireWorks (see sidebar), and items created specifically for Alaska, this program is used to train hundreds of Alaskan teachers. Both local and distance-learning workshops are presented to reach the widest audiences. All lesson plans meet Alaska State Content Standards.

Local Projects and Programs

The “FIRE-UP for Summer” project at Meridian, ID, is the result of a partnership among the Meridian School District, Hewlett-Packard, Northwest Nazarene University, and the Bureau of Land Management. High school students collect field data for research topics related to wildland fire, such as fire threats to small rural communities and pre- and post-burn analyses of prescribed fires. (For more information, e-mail shelley_davis-brunner@blm.gov.)

Another fire education program for





schools is in Eagle, AK, which was virtually surrounded by wildfires in June 2004. Fire specialists from the National Park Service and students and faculty of Eagle schools developed a program to help the community better understand the effects of fire in their area. Each September, students, faculty, and fire specialists visit established plots to take measurements and photographs. They evaluate the data and report on how the burned area is recovering.

These are just a few cases of the fire education programs (see sidebar for more examples). If such a program does not exist in your area, rest assured that many resources are available. Materials can be modified to fit your local needs. ■

Using “matchstick” forests, teachers explore the effects of slope and tree density on fire behavior. Photo: Michelle Youngquist, Project Learning Tree, 2002.

Various Fire Education Programs for Children and Young Adults

Fire in the Pacific Northwest, Grades 7 through 12, Pacific Northwest Wildfire Coordinating Group, <<http://pnwfireprevention.com/teachers/curriculum>>.

Fire education program for the Children’s Forest, Grades 1 through 6, San Bernardino National Forest (southern California), <<http://www.sbnfa.com/chindex.php>>.

Burning Issues II, DVD, Grades 6 through 10, Bureau of Land Management and Florida State University (john_owens@nifc.blm.gov).

FireWorks curriculum focusing on ponderosa, lodgepole, and white bark pine forests; Grades 1 through 10; Forest Service, Rocky Mountain Research Station, Missoula, MT; <http://www.fs.fed.us/rm/pubs/rmrs_gtr65.html>.

Fire in Florida Ecosystem; Grades 3 through 12; State of Florida, <http://www.fl-dof.com/training_education/FIFE>.

School fire education programs in response to recent nearby fires; Kindergarten through Grade 8; Los Alamos, NM, and San Diego County, CA, <<http://interwork.sdsu.edu/fire>>.

School fire programs funded by Toyota Corporation and The National Science Teachers Association TAPESTRY grants including:

- Education program following the 2003 Old Fire in Etiwanda, CA,
- Monitoring of prescribed fire effects in Yosemite National Park, and
- Investigating native plant restoration after fires in the Great Basin region.

Who You Gonna Call?



Bernie Andersen

If there's fire danger in your neighborhood, *who you gonna call?* If there's heat and drought and it doesn't look good, *who you gonna call?* Wildland Fire Prevention and Education Teams, or WFPETs! The name and acronym doesn't roll off the tongue like "Ghostbusters," but these teams are even more effective than the specter-purging squad of cinematic fame. WFPETs thwart trouble before it starts by helping local agencies prevent human-caused fires.

Who Are WFPETs?

WFPETs are groups of fire prevention and education experts from one or more agencies. They have been around since 1996. Team members include a leader, one or more fire prevention specialists, a public affairs or public information officer, and other members as required, such as law enforcement, agency liaison, and support for administration, finance, and logistics.

What Do WFPETs Do?

WFPETs can support and coordinate fire prevention education programs over large geographic areas before and during high fire danger or fire activity. Their role in fire prevention education is similar to that of type 1 and 2 incident management teams. WFPETs give operational and logistical support for incidents when the capabilities of local organizations have been exceeded. These teams do not, however, carry out the normal fire prevention activities of a unit.

Bernie Andersen is the fire management chief for the Kentucky Division of Forestry.



Lloyd Cress, former Deputy Secretary for the Kentucky Environmental and Public Protection Cabinet, speaking at a media event in October 2007 to highlight the severe drought and wildland arson problem in Kentucky. Photo: Kentucky Division of Forestry, 2007.

Responsibilities of WFPETs depend on the specific needs of the ordering agency. The teams spend much of their time attending community events such as town meetings, fairs, and sports events to spread

the word about fire prevention. WFPETs may develop products such as a communication plan, an ongoing fire prevention plan, brochures, posters, bumper stickers, media releases, and fact sheets.

Common WFPET Services

- Conduct fire risk assessments.
- Determine severity of fire situation.
- Facilitate community awareness and education in fire prevention (including ecosystem benefits of prescribed burning).
- Coordinate announcements of interagency fire restrictions and closures.
- Coordinate fire prevention efforts with groups, agencies, and elected officials.
- Promote community and individual responsibilities for preventing fire in the wildland-urban interface.
- Plan for fire protection.
- Prepare a final report.

When Are WFPETs Most Effectively Used?

- Conditions escalate beyond the means of local prevention and education resources.
- Interagency coordination is operating at a high level.
- Special political, social, cultural, economic, or ecological considerations exist.
- Wildland fires could cause large losses of life, property, and natural resources.
- Elevated levels of preparedness exist and firefighting resources are limited or previously committed.

How Are WFPETs Ordered and Funded?

WFPETs are ordered through the Resource Ordering and Status System. Like incident management teams, WFPETs work for the ordering agency under a delegation of authority. Team members usually rotate every 2 or 3 weeks for as long as the severe situation lasts or the requesting agency needs help. For more details about ordering WFPETs and team rotation, see the National Mobilization Guide posted at <http://www.nifc.gov/nicc/mob-guide>.

For Federal agencies, WFPETs are funded by severity funds. As extreme conditions develop or worsen, wildland fire prevention

WFPETs can support and coordinate fire prevention education programs over large geographic areas before and during high fire danger or fire activity.

and education resources are often overlooked. WFPETs can be mobilized in advance of fires and are an appropriate use of severity dollars. Other types of grant funds, fire preparedness, or fire mitigation funds may be available for funding a WFPET.

Why Use WFPETs?

The old adage—an ounce of prevention is worth a pound of cure—is true. By helping prevent human-caused fires, WFPETs can:

- Increase safety for the community and fire personnel; fewer fires means fewer chances for fire-related deaths and injuries.
- Reduce property and resource loss.
- Reduce cost of suppression.
- Increase peoples understanding of prescribed burns.
- Increase people's awareness of fire danger.
- Improve agency relations with community and fire departments.
- Provide framework and products for future fire prevention and education efforts.

Proactive fire management saves lives, money, and resources. As the WFPET assigned to Texas in 1998 concluded, "The best fire to fight is the one that never starts."

So now...*who you gonna call?* ■

WFPETs Versus Firewise Teams

WFPETs and the Firewise Communities program share a common goal to protect people, property, and natural resources from the risk of wildland fire—before a fire starts.

Firewise emphasizes community and individual responsibility for safer home design and construction, landscaping, and maintenance.

WFPETs commonly use Firewise messages and products in outreach efforts. The ordering agency can request a structural protection team member as needed. The ordering agency also determines the amount of emphasis on Firewise activities that the WFPET should use.

For more information about WFPETs, visit http://www.nwccg.gov/teams/wfewt/fpe/fpe_main.htm.

SMOKEY TURNS 65 WITH A NEW LOOK



Helene Cleveland

The Advertising Council in partnership with the Forest Service and the National Association of State Foresters (NASF) launched a new series of wildfire prevention public service announcements (PSAs) in June 2008 featuring a modern Smokey Bear. Not only is his look different, but Smokey also is asking people to intervene if they see people being careless with fire, as well as to be responsible themselves. The “Get Your Smokey On” campaign includes an intervention message, urging young adults to practice fire safety habits and to step in when others act carelessly. Through computer-generated imagery, people “transform” into Smokey, thus getting their Smokey on. At the end of the PSAs, Smokey Bear appears with a new look designed to appeal to young adults and the voice is that of actor Sam Elliot.

Since 1944, Smokey has had various changes in his image, but his message remains the same. “Our Wildfire Prevention campaign with Smokey Bear is one of the longest and most successful campaigns in advertising history,” said Peggy Conlon, President and CEO of the Advertising Council. “Smokey’s enduring message is as critical today as it was when he was introduced in 1944, and I am confident that his new look and intervention message will resonate with young adults throughout the country.”

A second series of PSAs was developed in partnership with the Walt

Helene Cleveland is the fire prevention program manager for the Forest Service, Washington, DC.

The “Get Your Smokey On” campaign includes an intervention message, urging young adults to practice fire safety habits and to step in when others act carelessly.

Disney Company. The ads feature characters from the classic film “*Sleeping Beauty*” and aim to reach parents and children. The combination of the new Smokey Bear and *Sleeping Beauty* PSAs will hit every age group.

“State foresters and Smokey Bear have a long history of working together to teach people of all ages about the importance of wildfire prevention,” says NASF Executive

Director Jay Farrell. “The new campaign is a reminder that we all play a part in protecting the health of America’s forests and the safety of our communities.”

The PSAs direct audiences to visit a redesigned Web site for more information about wildfire prevention. You can view the current and historic video PSAs, as well, on that Web site at <<http://www.smokeybear.com>>. And to keep up with the Internet generation, Smokey has his own fan page on <<facebook.com>>.

Using the Advertising Council’s model, the PSAs are airing and running during advertising times that are donated by the media. The wildfire prevention campaign has received more than \$1 billion in donated advertising time and space since 1980. This campaign is the longest running PSA campaign in U.S. history. ■

Smokey has his own fan page on
<<http://facebook.com>>





NARRATOR: The Forest



is special...



magical...



and very precious.



One careless act caused by people,



and its beauty could be gone for a lifetime.



Protect our friends in the forest.



FLORA: We'll all pitch in.



SMOKEY: Only you can prevent forest fires



NARRATOR: To find out more, log on to SmokeyBear.com

© Walt Disney

This 30-second wildfire prevention public service announcement is aimed to reach parents and children. The public service announcement was prepared by Disney, a volunteer advertising agency for the Advertising Council, Inc., 2008.

NEW MARKETING TACTIC INCREASES FIRE PREVENTION AWARENESS

Brienna Pinnow

A new fire prevention campaign that targets landowners, ranchers, and farmers in rural Nebraska was recently developed by the University of Nebraska–Lincoln (UNL) Nebraska Forest Service. The campaign, made possible through a grant from the Federal Emergency Management Agency, is aimed toward educating residents about forest thinning, brush cleanup, and fuel-break techniques that could prevent or retard a forest fire. Taking note of a similar successful project in Texas, it was decided that a mobile marketing unit would ful-

fill the campaign goals, specifically a graphically wrapped and technologically enhanced trailer.

“We had anticipated that the forest fuel situation was getting pretty serious with the drought and wanted to get out and tell people about how they can be safer,” UNL Nebraska Forest Service and fire program leader, Donald Westover said. “We hope that people will be able to make their forest homes firewise and will also be able to implement fuel reduction practices on their forested land,” he said.

The mobile marketing unit has traveled to county fairs, Firewise workshops, and local events throughout the State.



The trailer is covered with graphic wraps of actual images of wildfire damage and Smokey Bear. Audio-visual equipment, chairs, extra display panels, and fire prevention brochures are stored inside the trailer.

Brienna Pinnow is a marketing consultant for Pickering Creative Group in Lincoln, NE.

Taking the Next Step

Unsure of the scope of work and best way to utilize the trailer, the UNL Nebraska Forest Service turned to Pickering Creative Group, a marketing firm in Lincoln, NE. “They talked with us about the images and messages we should use and how these would help us with our communication goals,” stated Westover. “Working with such a different medium, they really helped us reach our target audience.”

The message of fire prevention is hard to miss. The trailer is covered in eye-catching graphics that wrap around the entire unit.

“The graphics and messages draw a lot of people. The pictures of dramatic forest fires, fire prevention tips, and Smokey Bear always catch people’s eyes. Even as we’re driving along, other people on the road stare, wave, and honk,” added Westover.

A Glimpse Inside

The trailer, which provides 24 feet (7.3 m) of display space, is also equipped with a portable generator for self-power, a state-of-the-art sound system, a rear projector, and projection screen. The design of the trailer allows for a sensory experience that engages the audience.

“We have nine videos that play throughout the trailer. We tailor the videos to the audience we are visiting that day,” commented Westover. “At the events, people will often pull up a chair and watch more than one of the videos. I

would rate the trailer's effectiveness as very high."

Since the trailer's completion, the mobile marketing unit has traveled to county fairs, Firewise workshops, and local events throughout the State. This has exposed thousands of Nebraska residents to the UNL Nebraska Forest Service and its important fire prevention information.

"It's energizing when you can see your ideas take shape," proclaimed Westover. In fact, the trailer has had an energizing effect on volunteers as well. The UNL Nebraska Forest Service's "Partners in Prevention" are fire prevention volunteers who are excited and influenced by the trailer; one volunteer used the trailer at locations throughout the State for nearly a month.

Expanding Expertise

This marketing tactic has positioned the UNL Forest Service as

Fire Prevention Trailer Features

- Portable generator provides power for the projector, television, and sound.
- Eye-catching graphics that wrap around the entire trailer.
- Trailer offers 24 feet (7.3 m) of display space.
- Magnetic graphic display panels inside the trailer easily click securely into place.
- Rear projection unit plays nine different videos or slideshow presentations.
- State-of-the-art sound system.

The message of fire prevention is hard to miss.

a fire prevention expert. "Seeing a rise in the volunteers' eagerness to provide training and seminars on a national level reaffirms our accomplishment," stated Chad Pomajzl, president of Pickering Creative Group.

Fire prevention and forestry organizations in other States, such as Colorado and Washington, are looking to create mobile marketing trailers as part of their fire prevention campaigns.

For more information about designing your own trailer or fire prevention project, contact Chad Pomajzl at Pickering Creative Group at 402-423-5447 or e-mail <chad@pickeringcreative.com>. ■



The UNL Nebraska Forest Service trailer draws visitors with its displays and dynamic graphics. Between each fold-out panel is a rear-projection screen. The trailer is equipped with a 100-foot (31-m) extension cord for local power hookup, as well as a generator for events where a power source is not available.

KEY MESSAGES FOR COMMUNICATING ABOUT WILDLAND FIRE



Catherine J. Hibbard

In 2004, the National Wildfire Coordinating Group (NWCG) approved key messages for communicating about wildland fire. These messages, developed by the Wildland Fire Education Working Team and the Fire Use Working Team, are umbrella statements to incorporate into discussions, print materials, and other resources for communication, education, information, and prevention efforts. The NWCG encourages you to use these messages in your own words, making the information relevant to your situation. In light of recent research about public opinions about fire (see Prescribed Fire: Bad-Tasting Medicine on page 6 of this issue), NWCG may slightly reword these messages, but the concepts remain valid. NWCG key messages and the talking points for each message follow.

Wildland Fire Is an Essential, Natural Process

Fire has shaped our wildlands for thousands of years and is important for the survival of many plants and animals.

- Fire reduces accumulation of vegetation that can inhibit plant growth.
- Some plants and animals depend on fire for survival. Periodic fire

Catherine J. Hibbard is a wildlife refuge specialist in the Fire Management Program of the Northeast Region of the U.S. Fish and Wildlife Service in Hadley, MA, and represents the U.S. Fish and Wildlife Service on the NWCG Wildland Fire Education Working Team.

The NWCG encourages you to use these messages in your own words, making the information relevant to your situation.

stimulates growth, reproduction of plants, and provides wildlife habitat.

- Use local or regional examples, such as lodgepole pines need fire to warm their cones, which allows them to open and drop seed.

Fire behaves differently throughout the country.

- In addition to fuels (vegetation), fire behavior is affected by weather and terrain.
- Virtually all vegetation types in the United States can experience wildland fire.
- Use local or regional examples.

Society's Influence Has Altered Historic Fire Cycles, Leading to a Dangerous and Difficult Build Up of Vegetation in our Wildlands
Social and cultural approaches to wildland fire over the past century have focused on preventing and suppressing all wildland fire. We continue to learn and now have a more complete understanding of the essential role of fire in our environment.

When paired with the right terrain and weather conditions, dense buildup of vegetation leads to fires that burn hotter, last longer, and spread faster. These fires are difficult to manage and can threaten areas of residential development.

- Excess vegetation and lack of fire in some areas are threatening plant and animal life.
- Use local or regional examples.

Land Management Agencies Are Committed to a Balanced Fire Program That Will Reduce Risks and Realize Benefits of Fire

Safety of firefighters and the public is the top priority.

Fire management programs are customized for specific wildland areas to restore the land to more natural conditions, maintain already healthy ecosystems, and protect neighboring communities. These programs balance needs for fire suppression, prevention, and fire use. The need for prevention and suppression to protect people and communities will always exist.

Fire is a management tool used to accomplish specific objectives in a plan such as removal of excess vegetation or stimulating plant growth and regeneration.

- Naturally occurring fires are either suppressed or allowed to burn in a closely monitored and confined area, based on the fire plan for the area.

Key Messages for All Audiences

- Wildland fire is an essential, natural process.
- Society's influence has altered historic fire cycles, leading to a dangerous and difficult buildup of vegetation in our wildlands.
- Land management agencies are committed to a balanced fire program that will reduce risks and realize benefits of fire.
- Improving the health of the land and reducing risks to communities requires partnerships among Federal and State agencies, tribal governments, fire departments, communities, and landowners.

Key Message for Internal Audiences

- Public education is necessary to the success of fire management programs.

reduce your community's fire vulnerability—before a fire starts.

- The more populated and closer a community is to fire-prone areas, the greater the need for proactive fire management.
- Smoke from prescribed fire is a sign that steps are being taken to reduce risks and realize benefits of fire. The more land management agencies can plan and manage fire, the more they can reduce smoke impacts.

Public Education Is Necessary to the Success of Fire Management Programs

The following points are intended for internal audiences within land management agencies.

Fire is an important issue for the public, and public understanding is key to our ability to effectively manage wildland fire.

- People have learned to fear and avoid fires of all kinds in wildland areas—whether they are natural or started by people.
- Individuals act based on their *perceptions*. Understanding the role of fire will help people appreciate and support the efforts of fire management organizations. Every year, millions of people visit and use wildland areas across this country. People are fascinated with fire, so introduce these visitors to its benefits and role.
- Landowners and land users can mitigate fire hazards on private property, use recreational fire safely, and support fire management efforts. With sufficient motivation, these efforts will ultimately reduce loss of life, property, and natural resources.

- Sometimes it may be necessary and beneficial for land managers to start fires in a closely monitored and confined area. These fires are referred to as “prescribed fires.”
- A fire program also may include nonfire treatments to prepare the land before natural or prescribed fire can be applied safely and effectively.
- *Use local or regional examples.*

Fire use is a managed process with comprehensive guidelines that prioritize safety and direct the planning and operations of the activity.

Improving the Health of the Land and Reducing Risks to Communities Requires Partnerships among Federal and State Agencies, Tribal Governments, Fire Departments, Communities, and Landowners
Fire burns where conditions are right. Fire does not acknowledge jurisdictional boundaries of Federal, State, and local agencies; tribes; or private landowners.

Agencies, tribes, and communities are working together to understand and accept what it means to live in a fire-prone area and to realize the benefits of managing fire in the wildlands.

- Agencies and tribes are managing public and tribal lands through overarching fire management plans and programs.
- Agencies and tribes also are working to educate local governments and property owners of ways to make their land and property more defensible against wildfire.
- *Use local or regional examples.*

People who live and recreate in fire-prone lands assume a certain level of risk and responsibility due to the condition of the surrounding environment.

- People can live compatibly with fire, if actions are taken to be aware of—and prepared for—local fire conditions.
- Contact your local, State, or Federal agencies, or tribal fire management organization for fire conditions and tips to

The role of wildland fire must be communicated with our neighbors in a consistent, simple, and memorable way.

- We should demonstrate the importance of fire management by continually showing support for these practices. Agencies should educate internally to ensure that staff understand and support fire management and public education efforts.
- Our communications about both the benefits and risks of wildland

fire must be clear.

- We should use local or regional examples, such as highlighting the benefits of fire management while acknowledging the health effects associated with smoke. Examples should recognize that smoke always poses a risk to people with severe respiratory problems.
- We must recognize that people's perception of fire commonly is shaped by the media. Ensure that the media understand the role of fire by providing comprehensive

information about fire and the management issues facing fire management organizations.

The Wildland Fire Education Working Team and the Fire Use Teams are represented by the Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Fish and Wildlife Service, Forest Service, National Association of State Foresters, and The Nature Conservancy. For more information about NWCG Working Teams, visit <http://www.nwcg.gov/>. ■

Contributors Wanted

We need your fire-related articles and photographs for *Fire Management Today!* Feature articles should be up to about 2,000 words in length. We also need short items of up to 200 words. Subjects of articles published in *Fire Management Today* include:

Aviation	Firefighting experiences
Communication	Incident management
Cooperation	Information management (including systems)
Ecosystem management	Personnel
Equipment/Technology	Planning (including budgeting)
Fire behavior	Preparedness
Fire ecology	Prevention/Education
Fire effects	Safety
Fire history	Suppression
Fire science	Training
Fire use (including prescribed fire)	Weather
Fuels management	Wildland-urban interface

Contribution guidelines are posted at <http://www.fs.fed.us/fire/fmt/guide1/html>.

Correction

Issue 68(3) misspelled the name of 2007 photo contest judge, Lane Eskew. *Fire Management Today* apologizes for the mistake

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