

Better building blocks

11 states share the effectiveness of their wildfire mitigation programs, focusing on how to reduce home losses.

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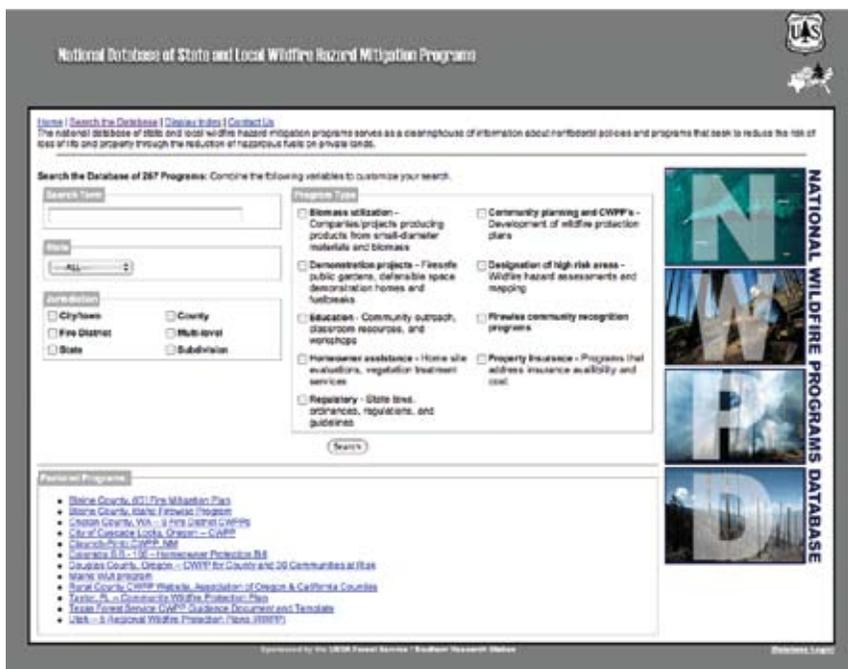
As researchers for the National Database of State and Local Wildfire Mitigation Programs, we began cataloging programs to reduce wildfire risk on private land in 2001. Over the years, more than 250 programs in 35 states were described at www.wildfireprograms.usda.gov, and we wondered about their relative success. Was there one type of program that wildfire managers would agree was the most effective? Did different programs work for different people in different states? Did states begin using one type of program and then, over a period of

years, refine them because they found that something worked better? What forces are at play to make one program more effective than another?

To explore these questions, in 2008 the researchers surveyed 11 state-level managers of wildfire risk-reduction programs in 11 states: Alaska, California, Florida, Georgia, Maine, Montana, Oregon, Utah, Virginia, Washington and Wisconsin.

All of those interviewed were extremely helpful, showing great enthusiasm for the jobs they are doing. The average length of time the managers have worked in the wildfire field in their state is 16 years. The goal of this research was to learn from the managers' years of experience and to obtain in-depth opinions on what works in terms of reducing wildfire risk in their states. The questions were open-ended; most could not be answered with short answers. The information we sought to gather was primarily qualitative — not quantitative — in nature, as effectiveness is the ability to get a desired change in real-world conditions.

The researchers conducted two prior studies in 2003 and 2005 to determine a framework for evaluating effectiveness. This study attempted to examine the concept with a few in-depth cases rather than in a large-scale statistical framework.



The Wildfire Programs Database

Table 1

Pre-NFP program types											
State	AK	CA	FL	GA	ME	MT	OR	UT	VA	WA	WI
Education		x	x			x		x	x	x	x
Handbook		x				x		x		x	x
Plans									x		
Tech Assistance						x					
Equipment				x							
Risk Assessment					x				x		
Inspections											x
Regulations							x				
Fuel Reduction Project			x								

PRE-NFP PROGRAMS

Of the 11 states, all had programs in existence prior to National Fire Plan. Most of the states started programs after a major fire had destroyed many homes. The predominance of the early programs centered on public-education programs, with many producing a handbook for homeowners and builders. Table 1 (above) shows the pre-NFP programs by program type.

Most of the managers described these early programs as being somewhat effective, primarily in the area of raising awareness. Standalone education programs in Alaska, California, Montana, Utah and Washington were all judged to be low in effectiveness. The Alaska manager described the effectiveness most succinctly with one-word answers. She described the early programs as “rudimentary” and their effectiveness level as “somewhat.”

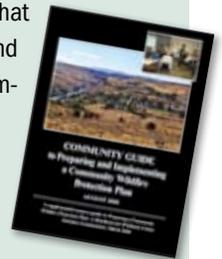
Interestingly, initial state efforts to mitigate wildfire risk varied greatly in approach. The primary emphasis was on homeowner education and fuel treatments in Florida, increased firefighting capacity in Georgia,

educating fire officials working with the public in Maine, legislation creating a regulatory compliance program in Oregon, implementing a wildfire hazard risk-assessment program in Virginia, and an individual home inspection program in Wisconsin. Reflections of the state managers about their early mitigation efforts show how varied these programs were at the outset and how they continued to influence the development of more complex programs over time.

Two of the most highly developed pre-NFP programs were in California and Oregon. California began with education, and over time expanded to include the wide range of approaches seen in many states today — homeowner assistance, demonstration projects, risk assessments, regulations, fire plans and Firewise communities. The state’s initial defensible space regulations went into effect in 1965. In 1995, the California Fire Plan, similar to the more recent Community Wildfire Protection Plans, or CWPPs, involved communities in risk-reduction planning and was judged as very effective.

Tips to enhance the effectiveness of the CWPP process

The *Community Guide to Preparing and Implementing a Community Wildfire Protection Plan* is an essential resource for research on wildfire mitigation. It has compiled links to Web sites and organizations that offer information and support to help communities develop a CWPP and monitor its effectiveness.



The guide offers information on several topics:

- **Collaboration:** how to get and keep people involved.
- **Reducing structural ignitability and strengthening community fire preparedness:** methods of motivating homeowners to reduce fuels and replace combustible building materials. Includes tips on improving firefighting preparedness.
- **Identifying and prioritizing fuels treatments and restoration projects:** includes case studies of successful projects.
- **Monitoring evaluation:** identifies local and national monitoring considerations.

The guide is available for download at <http://www.forestsandrangelands.gov/communities/documents/CWPP_Report_Aug2008.pdf>.

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Left: A house without defensible space; Right: A house with defensible space.



The California manager said, “Over the years, we have been doing better, partly because we have been doing the same thing for 40 years.” Oregon described its first program as “exceptional; it involves individual homeowners, establishes county-by-county classification committees and requires homeowners to certify their houses.” Oregon passed the Oregon Forestland–Urban Interface Fire Protection Act of 1997 after citizens and emergency service managers went to the legislature asking them to pass an interface law.

As enthusiastic as some managers were about the effectiveness of pre-NFP programs, they all said that the early programs were severely limited by funding.

The program managers were unanimous in describing the advent of the National Fire Plan as being very helpful by increasing the funding for their programs. Six of the 11 respondents said that the NFP did not affect their overall plan for reducing risk, but it increased their productivity and thereby their effectiveness. For example, the Florida manager said, “It didn’t affect our plan. It allowed us to do more because we had more money for the mitigation teams. NFP allowed us to beef up our education program. Overall, it allowed us to ramp up the program.” And Virginia’s representative said, “NFP came along and added funding to a program that was floundering by the late 1990s.”

A few states did point to a change in program direction as a result of the National Fire Plan. These managers talked about the NFP’s emphasis on planning and implementation of mitigation projects. For example, the Utah manager said, “We undertook fuels-modification projects and we developed science-based, user-friendly education information. The planning process was formalized, and we implemented projects from a planning perspective.” The Georgia manager agreed, saying, “I think the NFP guidelines, which force us into mitigation, have caused us to be more creative in that arena.”

POST-NFP PROGRAMS

The 11 state program managers were asked to describe their current programs by answering the question, “What is your state doing now to reduce wildfire risk?” This question gave managers a chance to talk about programs that do not fit neatly into one of the categories. The California manager pointed to the series of regulations that California has in place, including statewide zoning of high-fire-hazard zones, development and building standards, fire prevention codes, weed-abatement ordinances, defensible-space ordinances requiring 100 foot clearances around homes, and the 2008 ignition-resistant building codes. Oregon, too, focused on regulation, saying, “The Oregon Forestland-Urban Interface Fire Protection Act is the nucleus of our entire program and is the anchor point we moved from as existing programs and NFP programs ... began to fill in as important aspects of our interface efforts.”

The Montana representative talked about FireSafe Montana, www.firesafemt.org, “a statewide FireSafe Council whose mission is to prevent losses due to fires in the interface. The group hosts events, provides educational materials and serves as a clearinghouse for all things related to the [wildland urban interface].” And the Georgia manager talked about a pilot program called 32-county fire prevention. “This involves stepped-up fire prevention in any Georgia county that exceeds 100 wildfires a year.



Homes near ladder fuels.

Instead of having a general fire prevention program in these counties, we have written specific plans to address the fire causes directly.”

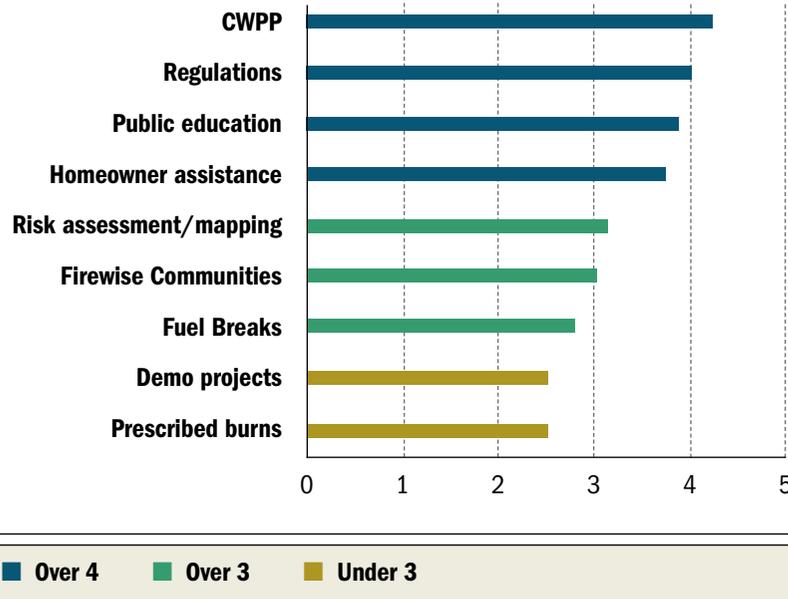
When asked if the current programs are effective, nine of 11 state managers said they are. Two managers gave a qualified yes, saying that they did not

have enough funding or volunteers to do as much as they would like to do. And the California manager said, “They will be effective over time.”

The Wisconsin manager said, “Firewise Communities and CWPPs are effective. The communities get so excited, they start implementing the strategies

Chart 1

Relative rankings of effectiveness of wildfire mitigation program elements



before the CWPP is complete. The staff gets excited, too; the ability to provide funding for fuels-reduction projects helps.”

PROGRAM EFFECTIVENESS

To elicit program managers’ insight into the effectiveness of a range of wildfire mitigation efforts, managers were provided a list of nine program elements identified in earlier research efforts. These included CWPPs, homeowner assistance, public education, regulations, risk assessment and mapping, Firewise and FireSafe communities, fuel breaks, demonstration projects and prescribed burning. Managers ranked the elements that were a component of their program for effectiveness on a scale of 1 to 5, with 5 being the most effective. The number of program elements identified by

each manager ranged from six to nine, with an average of seven elements in each state program. Managers did not describe any mitigation efforts that did not fall into one of the nine categories. (refer to Chart 1)

Four program elements — CWPPs, regulations, homeowner assistance and public education — were ranked above four in effectiveness, with only a small difference in the average ranking among them. Risk assessment and mapping, Firewise and FireSafe communities, and fuel breaks around communities also were viewed as important, with a highly effective ranking by at least four states' respondents.

Demonstration projects and prescribed burning received the lowest ranking of the provided program elements. Only Florida, California and Wisconsin considered prescribed burning more than moderately effective in



Ladder fuels in a Florida subdivision.

reducing wildfire risk, and three state respondents ranked prescribed burning as very low in effectiveness. This is likely due to the complexity and cost of burning in the WUI in many states.

Interestingly, all the listed program elements received high scores from at least three managers, indicating that the mix of program elements viewed as most effective varies among the states.

FURTHER REDUCTIONS

Finally, the respondents were asked: “What kind of programs do you feel are needed to further reduce home losses to wildfire?” Of the 11, eight respondents called for regulations to reduce fuels around homes. The Georgia program manager suggested that our regulatory programs may continue to evolve over time. “We may need to evolve into outdoor fire safety programs that are parallel to the indoor fire programs,” he said. “It took us 100 years to develop code for occupancy limits on meeting rooms and restaurants, proper number and location of exits, fire-resistant carpet and drapes, indoor sprinklers, etc. We will do the same for outdoor fire safety when the problem gets to the point necessary.”

Most managers were optimistic about the effectiveness of their current

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mitigation strategies. Respondents reported that wildfire mitigation efforts in their states have evolved from an initial focus on education and one or two other elements to today's multifaceted approaches that tackle wildfire risk on multiple fronts.

CWPPs provide goals and objectives to guide mitigation efforts over the long term. Risk assessments allow officials to focus efforts on areas of highest risk, while homeowner assistance through individual property assessments, defensible space creation and debris removal

brings the concept of defensible space into homeowners' backyards. Firewise Communities USA involves neighbors in reducing fuels around their homes and building community capacity. Regulations for fire-safe development create more defensible communities in high-risk areas.

Since the inception of the National Fire Plan, state-level wildfire mitigation programs have evolved into complex programs that appear to work synergistically to motivate homeowners to take action to protect their lives and their property. Is there a single most effective approach? Our research shows that the state managers agree that a multifaceted approach is the most effective method for reducing the risk of wildfire to homes. **W**

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