

Is Wildfire Policy in the United States Sustainable?

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ABSTRACT

Beginning in 2000, wildfire policy in the United States shifted from focusing almost exclusively on suppression to embracing multiple goals, including hazardous fuels reduction, ecosystem restoration, and community assistance. Mutually reinforcing, these policy goals have the potential to result in an ecologically, socially, and economically sustainable wildfire policy that can mitigate the long-term risk of wildfires for human and ecological communities alike. Six years into this new policy, we evaluate the evidence to determine how well the multiple goals are being served. We conclude that suppression and hazardous fuels reduction receive greater attention and resources relative to ecosystem restoration and community assistance. This provides an incomplete solution to mitigating the long-term risk of wildfire, thereby running the risk of perpetuating it.

Keywords: wildfire policy, hazardous fuels reduction, suppression, ecosystem restoration, community assistance

Since 2000, wildfire policy in the United States has undergone significant change. Once driven almost solely by an emphasis on suppression, recent policy has been broadened to include goals for hazardous fuels reduction, ecosystem restoration, and community assistance, in addition to fire suppression and protection. Reducing hazardous fuels before wildfires occur allows managers to put fire back on the land while minimizing risks to people and reestablishing natural fire regimes. Rehabilitating and restoring fire-adapted ecosystems after wildfire occurrence benefits wildlife and habitats, protects watersheds, combats invasive species, and could save millions of dollars in fire suppression costs over the long-term while also minimizing risks to communities, the environment, and

firefighters. Promoting community assistance provides support for the industries and workforce that engage in and benefit from ecosystem restoration and hazardous fuels reduction, while also building community capacity to mitigate the wildfire threat. Mutually reinforcing, these policy goals have the potential to reduce the long-term risk of wildfire and result in an ecologically, socially, and economically sustainable wildfire policy. If the building blocks for the new wildfire policy are suppression, hazardous fuels reduction, ecosystem restoration, and community assistance, then the mortar intended to hold them together is collaboration. Congressional direction stipulates that federal agencies, state interests, county officials, and local citizens should work together through collaborative decisionmaking to

implement this long-term vision. The rationale is that without communication and collaboration across multiple issues and jurisdictions, implementation would be disjointed and inefficient. Six years after these policy changes were initiated at the national level, we evaluate whether the multiple goals are being met. Our evaluation suggests that although progress has been made, many obstacles remain if the United States is to move toward a more long-term, sustainable wildfire policy.

What Is the Wildfire Problem?

The total amount of forest and rangeland burned each year has risen in recent decades compared with the mid-1900s, and particularly bad fire years are occurring more frequently. More than 2.5 million ha burned each year in 1988, 1996, 2000, 2002, and 2004 (Dombeck et al. 2004). With the increase in acreages burned, more people, property, and infrastructure are at risk.

Natural and social conditions have collided to create the current wildfire problem. In the past 100 years, land-use changes across the country, including fire suppression, logging, road building, and livestock grazing, have led to uncharacteristically high fuel loads, a shift toward severe, stand-replacing wildfires, and an inability of the land to heal itself after disturbance (Dombeck et al. 2004). Recent changes in climate and

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precipitation exacerbate these trends. Drought conditions ranging from abnormally dry to exceptional drought have occurred throughout large portions of the Intermountain west and southeast for the last 6 years (US Drought Monitor 2006). This is expected to continue as climate change projections forecast warmer temperatures and increased precipitation across North America (Intergovernmental Panel on Climate Change [IPCC] 2001). Even with increased rainfall, higher temperatures boost rates of evaporation and transpiration through plants, increasing the severity of drought and, in turn, the probability, intensity, and severity of wildfire.

Another factor contributing to increased wildfire risk is the growth of human communities living in the wildland-urban interface (WUI)—the place where forests and humans come together. From 1990 to 2000, the greatest increases in houses in the WUI were in the Rocky Mountains and the South (Stewart et al. 2005). Not only are more people and property at risk, but homeowners in these areas expect protection from fire, posing additional challenges and safety risks to firefighters. The final exacerbating factor is what has been termed the “process predicament” or “analysis paralysis” faced by USDA Forest Service decisionmakers. The Forest Service has asserted that it is severely constrained in its ability to develop and implement projects that could reduce the wildfire threat to communities by the procedural requirements mandated by various environmental laws, such as the National Forest Management Act and National Environmental Policy Act (NEPA; USDA Department of Agriculture Forest Service [2002]). Claims have been made that environmentalists use procedural protocols to delay action (Little 2003). Others claim that Forest Service resistance in addressing legitimate problems with proposed projects results in appeals and holdups (Little 2003). In either case, the excessive time, resources, and effort put toward ensuring the agency is working within its regulatory and administrative framework is preventing the actual on-the-ground work from being completed.

Recent Wildfire Policy Changes

Given the multifaceted nature of the wildfire problem, a policy that focused only on wildfire suppression was inadequate and in need of reform (Busenberg 2004). In the fall of 2000, the Secretaries of the Interior and Agriculture submitted a report to then President William J. Clinton, making recommendations

for responding to severe wildfire, reducing the impact of wildfires to communities and the environment, and ensuring sufficient firefighting resources in the future (National Fire Plan [NFP]). These recommendations and the attendant congressional appropriations resulted in an array of technical and financial strategies, guidelines, and projects that became known as the National Fire Plan (NFP), which was, in essence, a \$10 billion, 10-year effort to restore forest ecosystems and protect communities. In the 2001 Interior and Related Agencies Appropriations Act (PL 106-291), Congress directed the Secretaries to work with the Western Governors’ Association (WGA) to develop a coordinated national 10-Year Comprehensive Strategy for implementing the NFP.

The NFP and the WGA 10-Year Comprehensive Strategy identify four primary goals to reduce the risk of wildfire and build collaboration among all levels of government: (1) improve fire prevention and suppression, (2) reduce hazardous fuels, (3) restore fire adapted ecosystems, and (4) promote community assistance (WGA 2001). The recognition of the need for a comprehensive, integrated approach to wildfire management signifies a critical shift from reactionary policy that focused on wildfire suppression toward a more proactive policy that focused on long-term ecosystem and community health.

In 2002, President George W. Bush announced the Healthy Forests Initiative (HFI), which bolstered the hazardous fuels reduction goal of the NFP by expediting certain projects. The HFI entailed both administrative reforms to reduce procedural delays in implementing fuels reduction projects and legislative action to streamline and prioritize forest health projects. The HFI’s central premise was to address the “process predicament” by limiting environmental analysis and the administrative appeals process, thereby allowing the agencies to respond to wildfire risks in a timelier manner (Davis 2004). To that end, the Bush administration issued four administrative changes in December 2002. The first authorized two new “categorical exclusions”—one for high-priority forest health projects and the other for environmental stabilization and rehabilitation projects. This designation eliminates the requirement for lengthy environmental analysis and documentation of project impacts under the NEPA. However, projects must be consistent with the collaborative framework of the 10-Year Comprehensive Strategy, which requires that national, regional, and local authorities and interests work together on technology transfer and decisionmaking to facilitate ac-

complishments at the local level (WGA 2001). The other three administrative actions amended the rules for project appeals to speed review of forest health projects, to facilitate the Endangered Species Act (ESA) of 1973 review of fuels treatment projects, and to conduct pilot tests on the effectiveness of expedited environmental assessments (USDA Forest Service, White House Council on Environmental Quality, and US Department of the Interior 2002).

In November 2003, Congress passed the Healthy Forests Restoration Act (HFRA) (PL 108-148), comprising the legislative portion of the HFI. The HFRA received strong bipartisan support and passed with a 286–140 vote in the House and an 80–14 vote in the Senate, despite several controversial provisions. Title 1, Hazardous Fuels Reduction on Federal Land, encompassed the majority of the controversy and therefore received the bulk of the attention during congressional debate.

The HFRA directs the Forest Service and Bureau of Land Management (BLM) to conduct hazardous fuels reduction projects on up to 20 million ac of federal land, using fire and mechanical methods such as crushing, thinning, and pruning to reduce forest fuels (PL 108418). Prescribed fire or wildland fire use (WFU) can be used to reduce fuels and maintain and restore ecosystems. Prescribed fire is ignited by humans, whereas WFU uses naturally ignited wildland fires to accomplish specific resource management objectives. Use of prescribed fire or WFU to reduce fuels is a controversial issue because although it is extremely cost-effective, it also carries significant risk. Under the HFRA, priority areas for fuels reduction projects include the WUI, defined as areas within or adjacent to an at-risk community. The law authorizes \$760 million annually for hazardous fuels reduction projects and directs the agencies to spend one-half of what Congress appropriates each year in the WUI. In addition, the agencies are encouraged to focus thinning on small-diameter trees, retaining the larger trees that are most resistant to fire.

A centerpiece of the HFRA is the Community Wildfire Protection Plan (CWPP). To receive funding from the HFRA, a community must have a CWPP. These CWPP planning efforts bring together residents; property owners; local, state, and federal agencies; and others to create and prioritize a vision for addressing hazardous fuels treatments in the WUI. CWPPs recognize the importance of community involvement in successful wildfire risk-reduction efforts and

Table 1. Funding for comprehensive wildfire policy activities.

| | Comprehensive wildfire policy funding (\$000) | | | | |
|--|---|----------------------|-----------------------------------|------------------------|-----------------------------------|
| | FY 2005 (enacted) | FY 2006 (enacted) | Percent change FY 2006–FY 2005 | FY 2007 (requested) | Percent change FY 2007–FY 2006 |
| Forest Service | | | | | |
| Suppression | 1,043,302 | 690,186 | –34% | 746,176 | 8% |
| Hazardous fuels reduction | 262,593 | 281,793 | 7% | 291,792 | 4% |
| Rehabilitation and restoration | 12,819 | 6,188 | –52% | 1,980 | –68% |
| Community assistance | | | | | |
| Economic action program | 19,032 | 0 | –100% | 0 | 0% |
| Forest health management (federal lands) | 14,792 | 14,780 | 0% | 6,802 | –54% |
| State fire assistance | 73,099 | 78,746 | 8% | 56,075 | –29% |
| Volunteer fire assistance | 13,806 | 13,683 | –1% | 13,668 | 0% |
| BLM | | | | | |
| Suppression | 218,445 | 230,721 | 6% | 257,041 | 11% |
| Hazardous fuels reduction | 201,409 | 208,113 | 3% | 199,787 | –4% |
| Rehabilitation and restoration | 23,939 | 24,116 | 1% | 24,286 | 1% |
| Community assistance | | | | | |
| Rural fire assistance | 9,861 | 9,852 | 0% | 0 | –100% |
| Total | | | | | |
| Suppression | 1,261,747 | 920,907 | –27% | 1,003,217 | 9% |
| Hazardous fuels reduction | 464,002 | 489,906 | 6% | 491,579 | 0% |
| Rehabilitation and restoration | 36,758 | 30,304 | –18% | 26,266 | –13% |
| Community assistance | 130,590 | 117,061 | –10% | 76,545 | –35% |

allow for more comprehensive collaboration than the NEPA public involvement processes alone. The NEPA collaborative processes typically focus on federal, state, and local agencies and tribes (NEPA Task Force 2003). The intention of the CWPPs is to give communities affected by wildfire a say in public land-management plans and to provide communities a leadership role in identifying the areas for priority hazardous fuels treatment (Newman 2004). The alternatives recommended in the CWPPs are to be adopted by the Forest Service in their NEPA process for subsequent projects.

One of the most debated provisions of the HFRA amended the NEPA to give the agencies a streamlined alternatives analysis procedure (cf. 16 USC 6512 Section 102-108). For each fuels project authorized by the HFRA, the relevant agency must consider the proposed action, a no-action alternative, and one additional action alternative. Where the proposed project is within the WUI, the agency only has to examine the proposed action and one additional action alternative. For projects within the WUI and within 1.5 mi of the community at risk, no alternative analysis is required at all.

Simplification of the administrative appeals and judicial review processes drew criticism from opponents of the Act. Eligibility for appealing a fuels reduction project is limited to those who submit specific written comments on the proposal during the public comment period, perhaps shrinking the pool of contestants, but also establishing consequences for

failing to participate early in the decisionmaking process (Davis 2004). Courts are encouraged to expedite judicial review of challenges to hazardous fuels reduction projects, and temporary injunctions pending appeal are limited to 60 days. In reviewing a project, courts must consider the short- and long-term effects of both implementing and not implementing the agency action, thereby favoring action in an at-risk situation.

Together, the regulatory and legislative actions of the HFI/HFRA take a significant step toward freeing the agencies from the analysis and red tape that they say is delaying or prohibiting implementation of hazardous fuels reduction projects. An evaluation of the accomplishments and shortfalls in implementing the four aspects of the NFP, HFI, and HFRA—fire suppression, hazardous fuels reduction, ecosystem restoration, and community assistance—helps us understand whether and how we are moving to a more long-term sustainable wildfire policy.

Evaluating Wildfire Policy Progress

Progress has been made, particularly in the area of planning, funding, and executing hazardous fuels reduction projects. Planning activities are underway to facilitate implementation of hazardous fuels reduction. In 2004 the USFS and BLM issued an interim field guide to help resource managers understand the procedural changes made under the HFI and HFRA (USDA Forest Service 2004).

LANDFIRE, a landscape-scale fuels-mapping project that will aid in identifying and prioritizing hazardous fuels reduction projects, has been initiated by the Forest Service and is scheduled for completion in the continental United States in 2008 (US Geological Survey 2006). The HFI administrative reforms are actively being used to expedite hazardous fuel reduction projects. The Forest Service conducted 669 hazardous fuels reduction projects that used the new NEPA categorical exclusion between October 2004 and July 2006 (Bosworth 2006). In 2004–2005 the BLM used the HFI categorical exclusions to treat 230,000 ac, and anticipated using categorical exclusions on 1,000 projects covering over 200,000 ac in FY 2006 (Hatfield 2006). Regulations for streamlining Section 7 consultations under the ESA have been finalized; over 830 Forest Service employees have been trained and certified and, through July 2006, over 100 projects have used the new process (Bosworth 2006).

Funding for hazardous fuel reduction has increased, but has not kept pace with the amounts recommended by Congress in the HFRA. For FY 2006, Congress appropriated \$907.4 million for implementation of the HFI (this does not include preparedness and suppression spending), including almost \$490 million for hazardous fuels reduction, a \$25.9 million increase over the previous year's budget (USDA Forest Service 2006). For FY 2007, the Bush administration requested \$912.5 million for implementation of the HFI, including \$491 million for hazardous fuels reduction (Table 1).

Millions of acres have been treated by the Forest Service and BLM since the initiation of the new wildfire policy. Most of this work has taken place under the HFI, rather than HFRA authorizations. Since 2003 through July 2006, the Forest Service has treated 6 million ac for hazardous fuels reduction and 2.5 million ac for landscape restoration for a total of 8.5 million ac (Bosworth 2006). Of the total acres treated, 65% were in the WUI. In comparison, the number of acres treated using the HFRA Title I authority has been small. In FY 2005 the Forest Service used HFRA authorities to treat 23,000 ac in 71 projects, and in FY 2006 the agency planned to treat 62,000 ac in 138 treatments (Bosworth 2006). Since 2002, the Department of Interior has treated 7 million ac, including 5.9 million ac through hazardous fuels reduction and 1.1 million ac in landscape restoration (Hatfield 2006). Like the Forest Service, the number of acres treated using the HFRA authorities has been limited on BLM lands. In FY 2005, 52 treatments were performed on 9,968 ac and in FY 2006 the agency intended to perform 66 projects on 28,000 ac (Hatfield 2006). For the Forest Service and BLM, most of the HFRA work has taken place using prescribed fire or WFU (Duncan 2006).

The Society of American Foresters and several other organizations developed and distributed a handbook to help communities prepare CWPPs in compliance with the guidelines of the HFRA. As of March 2006, more than 654 CWPPs covering an estimated 2,700 communities had been completed and approved, with an additional 600 in progress (Bosworth 2006). Stewardship contracting authority has been expanded to allow timber and biomass removal in exchange for services that improve forest health, creating economic incentives for restoration in some places. Since 2003, the Forest Service has awarded 206 stewardship contracts, and the BLM has awarded 114 (Healthy Forests 2006). Two \$1 million biomass utilization projects were initiated in the southeast in FY 2004; in FY 2005 \$4.4 million in grants were awarded to 20 projects to accelerate the adoption of biomass technologies and create community-based biomass enterprises and in FY 2006 18 grants were awarded for a total of \$4.2 million (Bosworth 2006, Duncan 2006).

In spite of these gains and the stated shift toward a more integrated, sustainable fire policy, a hierarchy remains that drives fire management activities. Fire suppression continues

to be the top priority. The second priority is hazardous fuels reduction, as emphasized in the HFI and HFRA. This emphasis comes at the expense of restoring fire-adapted ecosystems and promoting community assistance.

Identifying Wildfire Policy Shortfalls

Budgets, funding, performance measures, and traditional bureaucratic practices all reinforce the primacy of fire suppression and hazardous fuels reduction over the other wildfire policy goals. A comprehensive analysis of fire funding allocated to Arizona, Colorado, and New Mexico revealed that in 2001 and 2002, the majority of NFP funding in each state went to suppression purposes and hazardous fuels treatments (Stelman et al. 2004). Significantly smaller portions of funding went to ecosystem restoration and community assistance. Moreover, the current agency budget structure and congressional appropriations favor suppression and hazardous fuels reduction. For instance, the ability of the Forest Service to borrow funds from other accounts to cover suppression costs threatens to overwhelm land managers' ability to plan for and address other aspects of the wildfire problem proactively (WGA 2004). Consider, for instance, that in 2002 federal agencies overspent their firefighting budget by more than 50%, forcing them to tap other accounts, including those for community assistance, forest thinning, and restoration programs, to pay suppression costs (Reese 2002).

In FY 2007 the Bush administration budget request cut funding for the programs that provide community assistance and assist in ecosystem restoration (Table 1). Although funds for fire suppression and hazardous fuels reduction increased, programs like the Economic Action Program, Forest Health Management, and State Fire Assistance were either eliminated or cut 29–54% from their previous year's allocation (Table 1). Rehabilitation and ecosystem restoration funds were cut 68%. Ecosystem restoration and community assistance programs provide the social and economic capacity to sustain hazardous fuels reduction and ecosystem restoration into the future. Restoring the natural processes and resiliency of forests through thinning, WFU, and other means, although initially a costly undertaking, saves money and effort in the long run by enhancing the ability of ecosystems to recover from natural and human disturbances (Aplet and

Wilmer 2003). Offering grants and assistance to communities provides the support to build skills, strategies, and businesses to make these communities self-sustaining. For example, the Economic Action Program has funded marketing research and projects for forest-based microbusinesses in communities adjacent to public lands (Sustainable Northwest 2005).

Considering the more than \$500 million difference between what Congress authorized annually for hazardous fuels reduction in the HFRA and what has been appropriated each year to date, it is evident that federal coffers can not provide enough funding to reduce all the hazardous fuels that currently threaten communities. In 1999, the Government Accounting Office estimated that it would cost \$725 million annually to treat the 39 million most at-risk acres in the United States, using a rather optimistic cost of \$300/ac (Gorte 2006). It is not unreasonable for hazardous fuels reduction work to cost \$1,000–2,000/ac depending on slope, vegetation, and removal options. Since the 1999 estimates, the number of high-risk acres has climbed to 51 million. If the Forest Service and BLM were to treat all moderate and high-risk acres, the annual cost would climb to \$4.3 billion/year, using the same \$300/ac treatment cost (Gorte 2006). Without adequate federal funding or the creation of local economic capacity, the Forest Service risks becoming overly dependent on stewardship contracting to fund hazardous fuels treatment projects (Daly 2004). Until feasible markets for low-value forest restoration products are developed, the incentive is for contractors to take larger trees to cover the cost of the work, stressing timber harvest over ecosystem restoration.

Forest Service performance measurements also favor the achievement of hazardous fuels reduction goals over ecosystem restoration and community economic assistance. Tracking "acres treated in hazardous fuels reduction" has become the hallmark of agency success in its new wildfire policy, although clear definitions of ecosystem restoration still have to be identified (WGA 2004). Current performance indicators such as acres treated may not be the best proxy for assessing whether long-term risk is mitigated. Reducing fuels is only one factor in addressing the current wildfire problem. Measuring performance based on tangible outputs diverts managers from performing tasks that are equally important but less concrete, such as building community capacity through economic assistance or estab-

lishing partnerships to promote ecosystem restoration (Gregory 2005, DeIaco 2006). Pressure to meet measurable targets results in treating “easy” acres rather than acres that can prevent the greatest damage from being inflicted on communities (DeIaco 2006). A focus on acres treated also may lead to misleading reports. For example, acres that are mechanically treated in one year and then prescribe burned in the next year are counted twice in performance reports (Gregory 2005). Without complete and accurate reporting, land managers, Congress, and the public can not evaluate whether and how resources are being spent to mitigate the long-term risks of wildfire.

The collaborative framework, a centerpiece of implementation of the NFP and the 10-Year Comprehensive Strategy, is not being used consistently at the local, state, and national level (WGA 2004). Collaborative planning was the intended method by which communities could reconcile the multiple, sometimes conflicting, goals for wildfire policy. By spending the time and resources up front to coordinate information exchange, cooperate on goal setting, and communicate about implementation strategies, agencies could avoid the ill will, appeals, and litigation associated with the process predicament. However, collaborative efforts have been criticized at the state and regional levels as not broadly inclusive, often ignoring those with different interests and objectives, and at the national level as not providing for meaningful participation by nonfederal stakeholders (Daly 2004, WGA 2004, Gregory 2005, DeIaco 2006). Projects from CWPPs, which are meant to help prioritize wildfire mitigation approaches in each locale, are not being implemented on the ground in meaningful numbers (Jensen 2006). At present, there are no data on how many federal land projects identified under a CWPP have resulted in on-the-ground projects, and there is no process to track them (Jensen 2006). Impediments, such as a shortage of financial support and technical resources, lack of national-level recognition of collaborative efforts, inexperience of agency employees, and resistance to change within the Forest Service are preventing implementation of the collaborative ideal (Daly 2004, Gregory 2005, DeIaco 2006).

Finally, the progress that has been made in expediting hazardous fuels treatments faces legal challenges. In spring 2006 Chief US District Court Judge Donald Malloy declared the use of the categorical exclusion provision in the HFI/HFRA unlawful. Malloy stated that the

exclusions violated the 1992 Forest Service Decision Making and Appeals Reform Act, which requires a public notice and comment process for any national forest project (Scott 2006). In the same ruling, the HFRA predecisional objection process also was invalidated based on an insufficient basis for the public to submit substantive comments on proposed Forest Service projects. The upshot is that some of the procedures for expediting hazardous fuels reduction projects rest on dubious legal ground, thereby jeopardizing their future use.

Policy Implications

By moving away from a strategy based primarily on fire suppression to one that integrates components of fire suppression and prevention, hazardous fuels reduction, restoration and rehabilitation of fire-adapted ecosystems, and community assistance, federal policy seeks to create a more integrated solution to mitigate the long-term risk of wildfire. On paper, the policies put forth in the NFP, the WGA 10-Year Comprehensive Strategy, and the HFI/HFRA are well balanced and address the multiple conditions that contribute to the wildfire problem. But in practice only parts of these policies are being implemented effectively. The focus on suppression and hazardous fuels reduction comes at the expense of the other goals articulated in the NFP and the WGA 10-Year Comprehensive Strategy. Without adequate emphasis on the restoration of ecosystems and the development of capacity and incentives through community assistance, it is unclear how sustainable, long-term solutions to the wildfire problem will be feasible.

Hazardous fuels reduction is a necessary but not sufficient solution to the wildfire problem. Without ecosystem restoration, which reestablishes the natural role of fire on the land to result in more sustainable ecological conditions, and community assistance, which establishes local economic foundations for the continued removal of hazardous fuels and ecosystem restoration practices, the federal government and Forest Service will need to provide billions of dollars per year in perpetuity to address the wildfire problem. A sustainable solution must integrate the multiple goals intended in the NFP while giving communities the opportunity to shape them to their specific needs. New policies are not necessary; rather greater attention to the equitable implementation of the existing policy could remedy the current problems. In addition, improved evaluation of the policies and processes will help document whether all the stated goals are served.

What can be done to address these current implementation problems? The first step is recognizing that the NFP, HFI, and HFRA, despite making some important changes, have fallen short of their intended goals. Multiple factors contribute to the current wildfire problem including fire regime disturbance, changes in climate and precipitation, communities expanding the WUI, and gridlock within federal land-management agencies. Fire suppression and hazardous fuels reduction are only pieces of a more comprehensive policy. Greater emphasis must be placed on ecosystem restoration, community assistance, and collaboration to more fully address the complexity of the wildfire issue.

Changes to the institutional infrastructure that support wildfire policy are necessary to achieve the new, diverse goals put forth in the NFP, HFI, and HFRA. These changes need to take place within and among the Bush administration, Congress, and the multiple levels of the public land-management agencies. First, the Bush administration, Congress, and the public land-management agencies need to treat all goals—suppression, hazardous fuels reduction, ecosystem restoration, and community assistance—as equally important, and show this support through more equitable resource commitments. Second, Congress and the Forest Service should restructure current budget and funding arrangements to support, or at the very least not undermine, the other wildfire policy goals. Creating separate accounts for ecosystem restoration and community assistance that are insulated from suppression spending could help secure funding and foster longer-term, programmatic decisionmaking that is not subject to reductions in bad fire years.

Third, Congress and the public land-management agencies should place more equitable emphasis on the measurement of all goals of the wildfire policy. Acres should count after the initial treatment is complete and the land is ready for long-term maintenance burning (DeIaco 2006). Performance measures should link project planning with CWPPs and federal agencies need to provide direction to line workers to prioritize CWPP identified projects (Jensen 2006). Not only will community, state, and environmental interests be served by better accountability, but Congress and the administration will benefit from knowing what is being achieved and what is not being achieved with the money and effort directed to our nation's public lands. Finally, the Bush administration and Congress should allocate more re-

sources to ensure legitimate collaboration as intended by the WGA, especially at the state and local levels, including financial and technical resources and training workshops. Without commitment to the collaborative processes laid out in the policies, wildfire policy will never develop the social infrastructure needed to enable it to be self-sustaining. Tangible evidence that collaboration increases efficiency or reduces the chances of litigation would help make the case that collaboration is worth the time and effort.

Although the Bush administration, Congress, and the public land-management hierarchies are important participants in wildfire policy, they are not the only ones that matter when it comes to implementing policy change. There are numerous examples around the country of efforts to create more sustainable human and natural communities while reducing the risk of catastrophic wildfire (Jakes et al. 2003, Kruger et al. 2003, Steelman and Kunkel 2004). Researchers and practitioners have much to learn from these examples where communities often succeed in spite of existing institutional problems that prohibit a more integrated approach to wildfire management. Documenting these cases, harvesting their experience, and diffusing this information widely can show others how public land-management agencies, state foresters, local fire officials, and various community members can work together to foster place-appropriate change.

In conclusion, wildfire policy is at a crossroads. Progress has been made, but more needs to be done to address the multiple causal factors that contribute to the wildfire problem. The current favored alternatives—suppression and hazardous fuels reduction—provide an incomplete solution to the wildfire challenge, thereby running the risk of perpetuating it. Institutional change supplemented by practical lessons from the grassroots can help breathe life into a policy that exists on paper but still has to be given the chance to succeed in practice.

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