

Evolving the Policy Framework: Budget Strategies, Legislative Authorities, and Management Strategies to Facilitate Federal Forest Adaptation and Collaborative Partnerships

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***Abstract:** Some of the greatest challenges to the management of federal forests in the United States result from inadequate public and private investment in proactive forest restoration projects. This situation has been exacerbated by the growing fiscal and logistical demands of wildfire suppression activities, which currently consume at least 40 percent of the U.S. Forest Service's total budget. This paper presents some near-term policy, funding and collaborative management options that would enhance the ability of citizens and agencies to increase the pace and scale of beneficial forest treatments, resulting in healthier, more resilient forests and communities.*

INTRODUCTION

This paper offers some near-term policy options, which would have beneficial impacts on the ability of federal forests, and associated non-federal forests and communities, to become more resilient, especially to wildfire. Twelve years ago the Congress, the Administration and the states established a National Fire Plan through which they increased actions to reduce wildfire risks to communities, improve efficiencies in wildfire response, and restore more resilient forest conditions (USDA Forest Service and USDOJ 2001).

The recent release of the Final Phase in the Development of the National Cohesive Wildland Fire Management Strategy provides some updated and coordinated strategies for action at all levels of government (USDA Forest Service and USDOJ 2014). There are a myriad of possibilities for water utilities, recreation and tourism sectors, forest-based businesses and other private interests to also contribute to the management and sustainability of forests from which all sectors derive significant benefits. Policy options discussed below can effectively support



both essential emergency wildfire preparedness and response and the proactive fuels reduction and forest restoration that are needed to reduce the demand for emergency expenditures in the future. Our current approach to wildland fire and forest management in the U.S. creates a false choice, pitting the viability of one against the other. During this time of tight federal budgets and pressing forest restoration needs, limited resources should be invested both strategically and proactively in order to maximize the benefit for people, water and wildlife, while also reducing the costs for future generations.

BACKGROUND

Forests are vital for America. Our forests cover more than a third of our nation and they store and filter half our nation's water supply. They are a significant source of employment, providing jobs to nearly a million forest product workers. Likewise, they generate more than \$13 billion in recreation and other related economic activity on Forest Service lands alone. Moreover, important considerations in the Anthropocene is that they absorb 13 percent of our nation's fossil fuel carbon emissions and provide habitat to thousands of wildlife and plant species.

However, the societal, environmental and fiscal costs of wildfire in our nation's forests continue their precipitous climb. During the 2012 wildfire season, alone, a relatively small 68,000 fires burned across nearly 10 million acres (4.05 million ha) and resulted in a \$1.9 billion bill for federal wildfire suppression (on top of the nearly \$1.5 billion required to staff the federal fire programs) (National Interagency Fire Center 2013). The real economic and social impacts of uncharacteristic wildfires are not fully known, but we do know that the annual cost of fire suppression alone is at least \$4.7 billion (\$2.5 billion for federal agencies, \$1.2 billion for State agencies and about \$1 billion for local governments) (International Association of Fire Chiefs 2013). The cost of wildfire management currently consumes more than 40 percent of the U.S. Forest Service budget, leaving an ever smaller pool of funds to support hazardous fuels reduction, timber management, wildlife habitat improvement, recreational access, watershed protection and the wide variety of other important services that the American people value and expect (Tidwell 2013).

We also know that the cost of fire suppression is only a small part of the direct cost of fires. Recent analysis of 6 wildfires showed that fire suppression expenditures were as little as 3 percent or 5 percent of the direct financial impact of the fire (Western Forestry Leadership Coalition 2010). More research is needed to help us understand and plan for the true costs of fire. Currently, much of the federal fire funding policy and decision space has focused only on costs of fire suppression and not all of the other fiscal and societal impacts. As Scott Stephens and colleagues recently wrote in *Science*: "Policy focused on fire suppression only delays the inevitable" (Stephens and others 2013).

Climate change is exacerbating the fire problem, as our forests are becoming warmer, dryer and subject to both more extreme weather events and longer fire seasons. 2012 was the third biggest fire year since 1960, with 9.3 million acres (3.76 million ha) burned. The Forest Service itself expects severe fires to double by 2050 (Finley 2013). We are already seeing these impacts: the Four Corners region has documented temperature increases of 1.5-2 degrees Fahrenheit over the last 60 years (Robles and Enquist 2010).

The recent comprehensive climate science synthesis for the U.S. forest sector suggests that, whereas currently forests sequester fully 13 percent of the nation's fossil fuel carbon emissions, trends in forest cover loss due to fire, urbanization and other impacts will make forests a net emitter of carbon by the end of the century (Vose and others 2012). Besides all the historic and substantial benefits of forests mentioned above, maintaining forest cover is probably one of the most cost effective ways to mitigate climate change, simply by helping forests adapt and become more resilient.

THE NATURE CONSERVANCY APPROACH TO FOREST RESTORATION

The Nature Conservancy strongly supports the goal of accelerating restoration in our Nation's forests as described in the February 2012 report, *Increasing the Pace of Restoration and Job Creation on Our National Forests* (USDA Forest Service 2012a). In this report, the agency acknowledges that the pace and scale of restoration must dramatically increase if we are going to get ahead of the growing threats facing our forest ecosystems, watersheds and forest-dependent communities. The Conservancy's work across North America is guided by an ambitious vision that involves developing nature-based solutions to some of humanity's most pressing global challenges. Among our primary North American priorities is our *Restoring America's Forests* program, which aims to foster a dramatic increase in the proactive, science-based, collaborative restoration of our nation's federal forests, thereby reducing the tremendous human and environmental costs associated with unnaturally large and damaging megafires (The Nature Conservancy 2013a).

In short, we are convinced that science-based collaboration and open, public processes can foster community and economic conditions that create the social license allowing more forest treatments to be done, with locally based goals and benefits to local communities, water, and wildlife. Creating a new method of funding emergency fire suppression, could ensure funds are available to meet those needs without continuing to jeopardize the important restoration, fire risk reduction and other vital conservation projects that are essential for sustaining our forests and communities into the future. It may also set the stage for encouraging other sectors of society to invest in and share the benefits of proactive forest management and community preparedness.

KEY RECOMMENDATIONS

The Nature Conservancy has been working on a broad policy platform to enhance forest resilience. Much of the Conservancy's proposed policy framework is focused on wildfire issues, since fires are having such a huge impact on forests, communities and especially on funding available for conservation action. The summary paper by Sample and Topik (Sample and Topik, this volume) goes into more detail explaining the policy ramifications and summarizes some of the science behind these recommendations. Additional details of these recommendations were presented in recent Congressional testimony (Topik 2013a; Topik 2013b; Topik 2013c).

Budgetary Policy Strategies

Budgetary policy suggestions that could be considered include: (1) increased federal funding for hazardous fuels reduction, (2) Support for Collaborative Forest Landscape Restoration projects, (3) associated proactive federal land management operations and science, and (4) creating and

funding a new federal fire suppression funding mechanism. Each will be discussed in more detail below.

(1) There are a variety of tools available, including controlled burns and mechanical treatments, to help managers proactively reduce hazardous fuels while also enhancing natural ecosystem processes and overall forest resistance and resilience to disturbance if additional funds were available to do so. The post-fire assessment of Arizona's record-setting 2011 Wallow Fire is a typical example that clearly demonstrated that homes and forest were saved in and around the town of Alpine by management treatments applied in tandem with FireSafe practices near structures. A detailed reconnaissance flight over the entire Wallow Fire burn, courtesy of Project Lighthawk in 2012, clearly showed a complicated and complex burn pattern over the half a million acre (202, 340 ha) site (Topik personal observation 2012). It was clear that the extensive tree thinning treatments around the town of Alpine caused the fire to reduce in intensity so that firefighters, including the Conservancy's own Southern Rockies Wildland Fire Module, could protect extensive infrastructure.

(2) The CFLR Program has been a valuable vehicle for prioritizing and testing a variety of collaborative, science-based approaches to forest restoration that both reduce wildfire risks and contribute to local jobs and economic opportunities. In just three short years since its inception, the CFLR Program has provided support to 20 projects in 14 states, with an additional 3 high priority restoration projects receiving support from non-CFLR funds (CFLR Steering Committee 2012). Many CFLRPs, especially in the West, are engaging with thinning and prescribed fire to achieve landscape-scale forest restoration. Hazardous fuels reduction near communities has become a high priority for many collaboratives, reducing the potential for mega-fire near outlying residential areas (Bixler 2014). It is a very promising new legal and institutional tool that could be monitored, emulated, and expanded in the future.

The current and recent budgetary stresses to Forest Service management have taken a real toll as evidenced by the substantial reduction in the agency's overall staffing for non-fire personnel (cite?). One attempt to enhance efficiency is the (3) Integrated Resource Restoration (IRR) strategy that attempts to increase budgetary efficiency and flexibility by blending funding sources for a variety of forest, watershed and wildlife habitat programs. The IRR is being employed in three regions on a pilot basis (Northern, Southwest and Intermountain). These pilots are encouraging but there is little evidence available yet to determine if the IRR approach actually increases efficiency and produces meaningful outcomes on the ground. Continuing this approach on a pilot basis, with careful monitoring by both the agency and external partners, could be considered.

Another significant policy option to consider is to (4) create and fund a new federal fire suppression funding mechanism to free up resources for proactive management. During the past decade there have been repeated instances during which emergency wildfire suppression costs have far exceeded the available funding, so the Forest Service and the Department of the Interior have had to transfer non-fire funds to support immediate emergency needs. This fire borrowing has had effects on the ability of land managers to plan and execute a normal program of work. Even the threat of fire borrowing has made normal contracting and staff planning difficult (cite?). Furthermore, the need to use discretionary operation funds to support emergency activities has been a drain on the ability of federal funds to support basic land management. At a time when we could be investing in up-front forest restoration to reduce the intensity and impacts of wildfire

we find the opposite happening. This new proposed mechanism could be modeled on the way other disasters have budget caps.

One potential option lies in establishing a new, separate federal funding source that ensures vital fire suppression activities are funded distinct from existing land management requirements. Legislation, named the “Wildfire Disaster Funding Act, has been proposed very recently on a bi-partisan basis in both the US Senate (Senate Bill S. 1875) and U.S. House of Representatives (H.R. 3992). Such legislation or other approaches could help ensure that emergency wildfire suppression needs are supported while also allowing for investments in forest treatments that enhance forest resilience and reduce wildfire risk.

Another opportunity, currently being pursued in Congress, lies in increasing the ability of the Federal Emergency Management Agency (FEMA) to provide states impacted by wildfire with additional resources for fuel hazard mitigation. As discussed in item 1 above, broadening and diversifying the investments in proactive management and mitigation activities may be more cost-effective than continuing to focus tremendous resources on emergency response.

Legislative Authority Strategies

A recent legislative effort was the permanent authorization of stewardship contracting. Stewardship contracting is a tool that allows the U.S. Forest Service and Bureau of Land Management to implement projects that restore and maintain healthy forest ecosystems, foster collaboration and provide business opportunities and local employment (Pinchot Institute for Conservation 2013). Stewardship contracts are the only administrative tool that can ensure up to 10-year supplies of timber, a level of certainty that encourages job creation and long-term industry investment. Permanent authority for stewardship contracting and agreements was provided in the Agricultural Act of 2014 (February 7, 2014, Public Law 113-79). This authority provides stability and flexibility to accomplish a wide range of forest and habitat improvements. Land managers and stakeholders can now work together to ensure that the authority is effectively and appropriately applied in a variety of landscapes.

However, more could be done in terms of working with local communities. Forest management and preparation for fire may require close coordination with state and local governments, and with communities, for long-term success. There are a variety of existing state and federal programs aimed at establishing and increasing state and local fire management and planning capacity, but clearly this is an area where additional attention could be focused. There are many good examples of positive work in community and social science, including the efforts of the Fire Learning Network and the Fire Adapted Communities education coalition. The Nature Conservancy has partnered with the Forest Service, Department of the Interior, and scores of other governmental, non-profit and community entities to help communities better understand fire and its role in local forest management. Additional information is available (USDA Forest Service 2013a; The Nature Conservancy 2013b). The Fire Adapted Communities coalition (see www.fireadapted.org) brings a wide range of partners together along with specialized education skills to help communities and various industries improve their ability to live with fire. An additional new partnership, the Fire Adapted Communities Learning Network (The Nature Conservancy 2013c) is testing innovative ways of working with communities to enhance their ability to live with fire.

Additionally, increased research on economic, social and ecological impacts of forest investment will be necessary if we desire to evaluate the return on investment of these actions. The forest and wildfire management issues and arena involve billions of dollars of expenses every year yet there is comparatively small investment in basic and applied science and monitoring to develop better methods and encourage innovation. Given the new frontiers in fire operations, fire ecology and social science, small investments could bring large benefits to society.

Management Strategies

Several management strategies can support the accelerated forest restoration that is needed. In order to facilitate this accelerated rate of treatment, we must make effective use of all available management tools and explore opportunities to increase the efficiency of planning and implementation processes. These suggestions include: (1) improving the NEPA process, (2) increasing commitment by state and local governments, (4) increasing multi-sectorial participation, and (5) increasing use of fire as a management tool.

Policy adjustments that foster innovation and improvement in (1) NEPA implementation could be sought, thereby increasing the scale and quality of resulting projects and plans. The principles of public engagement and environmental review embodied in the National Environmental Policy Act (NEPA) facilitate open and informed federal decision making. The Nature Conservancy believes that the full public participation and transparency of federal decision making based on science and public discourse, as required by NEPA, results in better management decisions that in the long run are more effective and efficient. There may be opportunities to increase the efficiency of these processes through targeted adjustments in policy and implementation.

(2) State and local governments can play vital roles in helping communities, as well as public and private landowners, adjust their planning and land management strategies to be more compatible with the changing environment that forests in the United States face in future decades. Authoritative assessments for the US Forest Sector (Vose et al 2012; USDA Forest Service 2012b) indicate just how much change is likely under most climate and economic development scenarios. Greater public participation in planning and local collaboration concerning both the structural conditions of communities and the conditions of wildlands in and around communities may be needed.

Ultimately the conditions of our forests have tremendous impact on a myriad of ecosystem services that are vital for society as a whole. This is why (3) enhanced participation of additional sectors of society, such as water and power utilities, recreation and tourism, public health, and industrial users of clean water, in forest restoration could be beneficial. Diverse and sustainable sources of non-governmental funding could provide an effective complement to federal, state and local land management resources, thereby facilitating an overall increase in landscape-scale forest restoration on American forests. A broad coalition of citizen and commercial sectors and interests in various forest restoration issues would need to be developed and expanded. This effort would recognize the enhanced value and services to the public and nature that could accrue from a new restoration oriented economy. Several models already exist, such as water funds, and there is opportunity for innovative solutions that could guide more sectors to unite for common forest improvement purposes. Several options are summarized elsewhere in this volume (Sample and Topik).

Finally, (4) there could be enhanced use of fire as a management tool. Much of North America includes forests that have evolved with fire as a common and important ecosystem process (Nelson and others 2013), however, much of the current sub-optimal forest condition in the United States is partially the result of overly aggressive fire suppression that has not allowed fire to function as a normal and natural ecological disturbance. Prescribed fires and controlled burns are efficient, cost-effective and ecologically beneficial tools to reestablish healthy forests, as is the managed use of wildfire for resource benefit. The U.S. fire community has a constantly changing view of this issue, and even the terminology changes frequently. What was called ‘wildland fire use’ and limited to natural fire events (USDA Forest Service and USDOJ 2004) is now called ‘manage wildfire for resource objectives’ and is being encouraged as a way to manage fire-adapted ecosystems and achieve fire-resilient landscapes (USDA Forest Service and USDOJ 2013). Increasing the safe and effective use of both controlled burns and managed wildland fire may require operational improvements by firefighters as well as improvements in community involvement and education on risk acceptance.

CONCLUSION

The 2013 wildfire season, punctuated by devastating losses of life and property, brought into sharp focus the costs of damaging wildfire. Finding a way to effectively support both essential emergency wildfire preparedness and response, and the proactive fuels reduction and forest restoration that are needed to reduce the demand for emergency expenditures in the future is challenging. Our current approach to wildland fire and forest management creates a false choice, pitting the viability of one against the other. In reality, we must do both. Science-based, cost-effective and meaningful options exist for changing our nation’s approach to forests and wildfire. The policy approaches described above, if enacted, could set us on a positive course toward realizing a more sustainable and resilient future.

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