

**GAO**

Testimony

Before the Committee on Energy and  
Natural Resources, U.S. Senate

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For Release on Delivery  
Expected at 10:00 a.m. EDT  
Tuesday, July 21, 2009

# WILDLAND FIRE MANAGEMENT

## Federal Agencies Have Taken Important Steps Forward, but Additional Action Is Needed to Address Remaining Challenges

Statement of Patricia Dalton, Managing Director  
Natural Resources and Environment



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Highlights of [GAO-09-906T](#), a testimony before the Committee on Energy and Natural Resources, U.S. Senate

## Why GAO Did This Study

The nation's wildland fire problems have worsened dramatically over the past decade, with more than a doubling of both the average annual acreage burned and federal appropriations for wildland fire management. The deteriorating fire situation has led the agencies responsible for managing wildland fires on federal lands—the Forest Service in the Department of Agriculture and the Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and National Park Service in the Department of the Interior—to reassess how they respond to wildland fire and to take steps to improve their fire management programs. This testimony discusses (1) progress the agencies have made in managing wildland fire and (2) key actions GAO believes are still necessary to improve their wildland fire management. This testimony is based on issued GAO reports and reviews of agency documents and interviews with agency officials on actions the agencies have taken in response to previous GAO findings and recommendations.

## What GAO Recommends

GAO is making no new recommendations at this time. The agencies have generally agreed with GAO's previous recommendations, but have yet to implement several key recommendations GAO believes could substantially assist them in capitalizing on the important progress they have made to date.

View [GAO-09-906T](#) or [key components](#). For more information, contact Patricia Dalton at (202) 512-3841 or [daltonp@gao.gov](mailto:daltonp@gao.gov), or Robin Nazzaro at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov).

# WILDLAND FIRE MANAGEMENT

## Federal Agencies Have Taken Important Steps Forward, but Additional Action Is Needed to Address Remaining Challenges

### What GAO Found

The Forest Service and Interior agencies have improved their understanding of wildland fire's ecological role on the landscape and have taken important steps toward enhancing their ability to cost-effectively protect communities and resources by seeking to (1) make communities and resources less susceptible to being damaged by wildland fire and (2) respond to fire so as to protect communities and important resources at risk while also considering both the cost and long-term effects of that response. To help them do so, the agencies have reduced potentially flammable vegetation in an effort to keep wildland fires from spreading into the wildland-urban interface and to help protect important resources by lessening a fire's intensity; sponsored efforts to educate homeowners about steps they can take to protect their homes from wildland fire; and provided grants to help homeowners carry out these steps. The agencies have also made improvements that lay important groundwork for enhancing their response to wildland fire, including adopting new guidance on how managers in the field are to select firefighting strategies, improving the analytical tools that assist managers in selecting a strategy, and improving how the agencies acquire and use expensive firefighting assets.

Despite the agencies' efforts, much work remains. GAO has previously recommended several key actions that, if completed, would substantially improve the agencies' management of wildland fire. Specifically, the agencies should:

- Develop a cohesive strategy laying out various potential approaches for addressing the growing wildland fire threat, including estimating costs associated with each approach and the trade-offs involved. Such information would help the agencies and Congress make fundamental decisions about an effective and affordable approach to responding to fires.
- Establish a cost-containment strategy that clarifies the importance of containing costs relative to other, often-competing objectives. Without such clarification, GAO believes managers in the field lack a clear understanding of the relative importance that the agencies' leadership places on containing costs and are therefore likely to continue to select firefighting strategies without duly considering the costs of suppression.
- Clarify financial responsibilities for fires that cross federal, state, and local jurisdictions. Unless the financial responsibilities for multijurisdictional fires are clarified, concerns that the existing framework insulates nonfederal entities from the cost of protecting the wildland-urban interface from fire—and that the federal government would thus continue to bear more than its share of the cost—are unlikely to be addressed.
- Take action to mitigate the effects of rising fire costs on other agency programs. The sharply rising costs of managing wildland fires have led the agencies to transfer funds from other programs to help pay for fire suppression, disrupting or delaying activities in these other programs. Better methods of predicting needed suppression funding could reduce the need to transfer funds from other programs.

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Mr. Chairman and Members of the Committee,

I am pleased to be here today to discuss wildland fire management by the federal wildland fire agencies—the Forest Service within the Department of Agriculture and four agencies within the Department of the Interior—including key actions that we believe the agencies should take to improve their management of wildland fires and help contain the rising costs of preparing for and responding to fires. The nation’s wildland fire problems have worsened dramatically over the past decade, threatening communities as well as important natural and cultural resources. Both the average acreage burned annually and federal appropriations for wildland fire management activities have more than doubled, with appropriations reaching more than \$2.9 billion annually, on average, during fiscal years 2001 through 2007. A number of factors have contributed to these increases. Uncharacteristic accumulations of vegetation that can fuel wildland fires, due in part to past fire suppression policies and land management practices, and severe regional weather and drought have led to higher-intensity fires and longer fire seasons. At the same time, continued development in and near wildlands, an area often called the wildland-urban interface, has placed more homes at risk. A series of damaging wildland fires in the 1990s led the Forest Service and the Interior agencies to reassess their approach to managing fire. It also prompted a sustained effort, known as the National Fire Plan,<sup>1</sup> on the part of federal agencies and Congress to improve fire suppression capabilities, reduce fuels, restore fire-adapted ecosystems, and help communities better withstand wildland fire. Growing recognition of the long-term fiscal challenges facing the nation has also led Congress, the agencies, and others to focus on ensuring that federal wildland fire activities are appropriate and carried out in a cost-effective manner.

My testimony today summarizes our previous findings and recommendations related to wildland fire, and also includes preliminary information from our ongoing work examining the extent to which the agencies have improved their wildland fire programs in response to our

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<sup>1</sup>The National Fire Plan is a joint interagency effort to respond to wildland fires. Its core comprises several strategic documents, including (1) a September 2000 report from the Secretaries of Agriculture and the Interior to the President in response to the wildland fires of 2000; (2) congressional direction accompanying substantial new appropriations for fire management for fiscal year 2001; and (3) several strategies and plans to implement all or parts of the plan.

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previous work.<sup>2</sup> Specifically, I will focus on (1) the progress the Forest Service and the Interior agencies have made in managing wildland fire and (2) key actions we previously recommended and believe are still necessary to improve the agencies' management of wildland fire. To address these objectives, we reviewed previous GAO reports and agency documents and interviewed agency officials in Washington, D.C.; at the National Interagency Fire Center in Boise, Idaho; and elsewhere. We expect to issue a report later this year that will address these objectives in more detail.

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## Background

Wildland fires triggered by lightning are both natural and inevitable and play an important ecological role on the nation's landscapes. These fires shape the composition of forests and grasslands, periodically reduce vegetation densities, and stimulate seedling regeneration and growth in some species. Over the past century, however, various land use and management practices—including fire suppression, grazing, and timber harvesting—have reduced the normal frequency of fires in many forest and rangeland ecosystems and contributed to abnormally dense, continuous accumulations of vegetation. Such accumulations not only can fuel uncharacteristically large or severe wildland fires, but also—with more homes and communities built in or near areas at risk from wildland fires—threaten human lives, health, property, and infrastructure.

The Forest Service and four Interior agencies—the Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and National Park Service—are responsible for wildland fire management. These five agencies manage about 700 million acres of land in the United States, including national forests, national grasslands, Indian reservations, national parks, and national wildlife refuges.

The federal wildland fire management program has three major components: preparedness, suppression, and fuel reduction.<sup>3</sup> To prepare for a wildland fire season, the agencies acquire firefighting assets—

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<sup>2</sup>Our previous reports and ongoing work are performance audits being conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

<sup>3</sup>Other fire program components include prevention; science, research, and development; and assistance to nonfederal entities.

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including firefighters, engines, aircraft, and other equipment—and station them either at individual federal land management units (such as national forests or national parks) or at centralized dispatch locations. The primary purpose of these assets is to respond to fires before they become large—a response referred to as initial attack—thus forestalling threats to communities and natural and cultural resources. The agencies fund the assets used for initial attack primarily from their wildland fire preparedness accounts.

When a fire starts, current federal policy directs the agencies to consider land management objectives—identified by land and fire management plans developed by each local unit, such as a national forest or a Bureau of Land Management district—and the structures and resources at risk when determining whether or how to suppress it. A wide spectrum of fire response strategies is available to choose from, and the manager at the affected local unit—known as a line officer—is responsible for determining which strategy to use. In the relatively rare instances when fires escape initial attack and grow large, the agencies respond using an interagency system that mobilizes additional firefighting assets from federal, state, and local agencies, as well as private contractors, regardless of which agency or agencies have jurisdiction over the burning lands. Federal agencies typically fund the costs of these activities from their wildland fire suppression accounts.

In addition to preparing for and suppressing fires, the agencies attempt to reduce the potential for severe wildland fires, lessen the damage caused by fires, limit the spread of flammable invasive species, and restore and maintain healthy ecosystems by reducing potentially hazardous vegetation that can fuel fires. The agencies generally remove or modify hazardous vegetation using prescribed fire (that is, fire deliberately set in order to restore or maintain desired vegetation conditions), mechanical thinning, herbicides, certain grazing methods, or combinations of these and other approaches. The agencies fund these activities from their fuel reduction accounts.

Congress, the Office of Management and Budget, federal agency officials, and others have expressed concern about mounting federal wildland fire expenditures. Federal appropriations to the Forest Service and the Interior agencies to prepare for and respond to wildland fires, including appropriations for reducing fuels, have more than doubled, from an average of \$1.2 billion from fiscal years 1996 through 2000 to an average of \$2.9 billion from fiscal years 2001 through 2007 (see table 1). Adjusting for inflation, the average annual appropriations to the agencies for these

periods increased from \$1.5 billion to \$3.1 billion (in 2007 dollars). The Forest Service received about 70 percent and Interior about 30 percent of the appropriated funds.

**Table 1: Forest Service and Interior Wildland Fire Appropriations, Fiscal Years 1996 through 2007**

Fiscal year	Total appropriations (millions of dollars)	
	Nominal	Inflation-adjusted <sup>a</sup>
1996	\$772.4	\$984.2
1997	1,432.1	1,793.3
1998	1,116.7	1,381.7
1999	1,159.3	1,415.9
2000	1,598.9	1,914.2
2001	2,859.9	3,344.7
2002	2,238.8	2,569.0
2003	3,165.1	3,560.2
2004	3,230.6	3,541.6
2005	2,929.8	3,144.0
2006	2,701.4	2,775.4
2007	3,047.0	3,047.0

Source: GAO analysis of Congressional Research Service data.

<sup>a</sup>We adjusted the appropriations amounts for inflation, using the chain-weighted gross domestic product price index with fiscal year 2007 as the base year.

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## Agencies' Efforts to Implement a New Approach to Managing Wildland Fire Have Better Positioned Them to Respond to Fire Effectively

The Forest Service and the Interior agencies have improved their understanding of wildland fire's role on the landscape and have taken important steps toward improving their ability to cost-effectively protect communities and resources. Although the agencies have long recognized that fire could provide ecological benefits in some ecosystems, such as certain grassland and forest types, a number of damaging fires in the 1990s led them to develop the Federal Wildland Fire Management Policy.<sup>4</sup> The policy formally recognizes not only that wildland fire can be beneficial in some areas, but also that fire is an inevitable part of the landscape and, moreover, that past attempts to suppress all fires have been in part responsible for making recent fires more severe. Under this policy, the agencies abandoned their attempt to put out every wildland fire, seeking instead to (1) make communities and resources less susceptible to being damaged by wildland fire and (2) respond to fires so as to protect communities and important resources at risk but also to consider both the cost and long-term effects of that response. By emphasizing firefighting strategies that focus on land management objectives, rather than seeking to suppress all fires, the agencies are increasingly using less aggressive firefighting strategies—strategies that can not only reduce costs but also be safer for firefighters by reducing their exposure to unnecessary risks, according to agency fire officials.

To help them better achieve the federal wildland fire management policy's vision, the Forest Service and the Interior agencies in recent years have taken several steps to make communities and resources less susceptible to damage from wildland fire. These steps include reducing hazardous fuels, in an effort to keep wildland fires from spreading into the wildland-urban interface and to help protect important resources by lessening a fire's intensity. As part of this effort, the agencies reported they have reduced fuels on more than 29 million acres from 2001 through 2008. The agencies have also nearly completed their geospatial data and modeling system, LANDFIRE, as we recommended in 2003.<sup>5</sup> LANDFIRE is intended to

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<sup>4</sup>U.S. Department of Agriculture and U.S. Department of the Interior, *Federal Wildland Fire Management Policy and Program Review* (Washington, D.C., December 1995). This policy was subsequently reaffirmed and updated in 2001. Department of the Interior, Department of Agriculture, Department of Energy, Department of Defense, Department of Commerce, Environmental Protection Agency, Federal Emergency Management Agency, and National Association of State Foresters, *Review and Update of the 1995 Federal Wildland Fire Management Policy* (Washington, D.C., January 2001).

<sup>5</sup>GAO, *Wildland Fire Management: Additional Actions Required to Better Prioritize Lands Needing Fuels Reduction*, [GAO-03-805](#) (Washington, D.C.: Aug. 15, 2003).

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produce consistent and comprehensive maps and data describing vegetation, wildland fuels, and fire regimes across the United States.<sup>6</sup> Such data are critical to helping the agencies (1) identify the extent, severity, and location of wildland fire threats to the nation's communities and resources; (2) predict fire intensity and rate of spread under particular weather conditions; and (3) evaluate the effect that reducing fuels may have on future fire behavior. LANDFIRE data are already complete for the contiguous United States, although some agency officials have questioned the accuracy of the data, and the agencies expect to complete the data for Alaska and Hawaii in 2009.

The agencies have also begun to improve their processes for allocating fuel reduction funds to different areas of the country and for selecting fuel reduction projects, as we recommended in 2007.<sup>7</sup> The agencies have started moving away from "allocation by tradition" toward a more consistent, systematic allocation process. That is, rather than relying on historical funding patterns and professional judgment, the agencies are developing a process that also considers risk, effectiveness of fuel reduction treatments, and other factors. Despite these improvements, further action is needed to ensure that the agencies' efforts to reduce hazardous fuels are directed to areas at highest risk. The agencies, for example, still lack a measure of the effectiveness of fuel reduction treatments and therefore lack information needed to ensure that fuel reduction funds are directed to the areas where they can best minimize risk to communities and resources. Forest Service and Interior officials told us that they recognize this shortcoming and that efforts are under way to address it; these efforts are likely to be long term involving considerable research investment, but they have the potential to improve the agencies' ability to assess and compare the cost-effectiveness of potential treatments in deciding how to optimally allocate scarce funds.

The agencies have also taken steps to foster fire-resistant communities. Increasing the use of protective measures to mitigate the risk to structures from wildland fire is a key goal of the National Fire Plan. The plan

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<sup>6</sup>A fire regime generally classifies the role that wildland fire plays in a particular ecosystem on the basis of certain characteristics, such as the average number of years between fires and the typical severity of fire under historic conditions.

<sup>7</sup>GAO, *Wildland Fire Management: Better Information and a Systematic Process Could Improve Agencies' Approach to Allocating Fuel Reduction Funds and Selecting Projects*, GAO-07-1168 (Washington, D.C.: Sept. 28, 2007).



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encourages, but does not mandate, state or local governments to adopt laws requiring homeowners and homebuilders to take measures—such as reducing vegetation and flammable objects within an area of 30 to 100 feet around a structure, often called creating defensible space, and using fire-resistant roofing materials and covering attic vents with mesh screens—to help protect structures from wildland fires. Because these measures rely on the actions of individual homeowners or homebuilders, or on laws and land-use planning affecting private lands, achieving this goal is primarily a state and local government responsibility. Nonetheless, the Forest Service and the Interior agencies have helped sponsor the Firewise Communities program, which works with community leaders and homeowners to increase the use of fire-resistant landscaping and building materials in areas of high risk.<sup>8</sup> Federal and state agencies also provide grants to help pay for creating defensible space around private homes.

In addition, the agencies have made improvements laying important groundwork for enhancing their response to wildland fire, including:

- **Implementing the Federal Wildland Fire Management Policy.** The Federal Wildland Fire Management Policy directs each agency to develop a fire management plan for all areas they manage with burnable vegetation. Without such plans, agency policy does not allow the use of the entire range of wildland fire response strategies, including less aggressive strategies, and therefore the agencies must attempt to suppress a fire regardless of any benefits that might come from allowing it to burn. We reported in 2006 that about 95 percent of the agencies' 1,460 individual land management units had completed the required plans. The policy also states that the agencies' responses to a wildland fire are to be based on the circumstances of a given fire and the likely consequences to human safety and natural and cultural resources. Interagency guidance on implementing the policy, adopted in 2009, clarifies that the full range of fire management strategies and tactics are to be considered when responding to every wildland fire, and that a single fire may be simultaneously managed for different objectives. Both we and the Department of Agriculture's

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<sup>8</sup>The Firewise Communities program is the primary national effort to educate homeowners about wildland fire risks. The program is jointly sponsored by the International Association of Fire Chiefs, National Emergency Management Association, National Association of State Fire Marshals, National Association of State Foresters, National Fire Protection Association, Federal Emergency Management Agency, U.S. Fire Administration, Forest Service, Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and the National Park Service. Numerous state and local fire and forestry officials also participate in the program. See <http://www.firewise.org/> for more information.

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Inspector General had criticized the previous guidance,<sup>9</sup> which required each fire to be managed either for suppression objectives—that is, to put out the fire as quickly as possible—or to achieve resource benefits—that is, to allow the fire to burn to gain certain benefits such as reducing fuels or seed regeneration. By providing this flexibility, the new guidance should help the agencies better achieve management objectives and help contain the long-term costs of fire management.

- **Improving fire management decisions.** The agencies have recently undertaken several efforts to improve decisions about firefighting strategies. In one such effort, the agencies in 2009 began to use a new analytical tool, known as the wildland fire decision support system. This new tool helps line officers and fire managers analyze various factors—such as the fire’s current location, adjacent fuel conditions, nearby structures and other highly valued resources, and weather forecasts—in determining the strategies and tactics to adopt. For example, the tool generates a map illustrating the probability that a particular wildland fire, barring any suppression actions, will burn a certain area within a specified time, and the structures or other resources that may therefore be threatened. Having such information can help line officers and fire managers understand the resources at risk and identify the most appropriate response—for example, whether to devote substantial resources in attempting full and immediate suppression or to instead take a less intensive approach, which may reduce risks to firefighters and cost less. Other efforts include (1) establishing experience and training requirements for line officers to be certified to manage fires of different levels of complexity, and (2) forming four teams staffed with some of the most experienced fire managers to assist in managing wildland fires. The Forest Service has also experimented in recent years with several approaches for identifying ongoing fires where suppression actions are unlikely to be effective and for influencing strategic decisions made during those fires, in order to help contain costs and reduce risk to firefighters. Although these efforts are new, and we have not fully evaluated them, we believe they have the potential to help the agencies strengthen how they select firefighting strategies. By themselves, however, these efforts do not address certain critical shortcomings. We reported in 2007, for example, that officials in the field have few incentives to consider cost containment in making critical decisions affecting suppression costs, and that previous studies had found that the lack of a clear measure to evaluate the benefits

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<sup>9</sup>GAO, *Wildland Fire Management: Lack of Clear Goals or a Strategy Hinders Federal Agencies’ Efforts to Contain the Costs of Fighting Fires*, [GAO-07-655](#) (Washington, D.C.: June 1, 2007).

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and costs of alternative firefighting strategies fundamentally hindered the agencies' ability to provide effective oversight.<sup>10</sup>

- **Acquiring and using firefighting assets effectively.** The agencies have continued to make improvements—including better systems for contracting with private vendors to provide firefighting assets and for dispatching assets to individual fires—in how they determine the firefighting assets they need and in how they acquire and use those assets, although further action is needed. For example, although the agencies in 2009 began deploying an interagency budget-planning system known as fire program analysis (FPA) to address congressional direction that they improve how they determine needed firefighting assets, our 2008 report on FPA's development identified several shortcomings that limit FPA's ability to meet certain key objectives.<sup>11</sup> FPA was intended to help the agencies develop their wildland fire budget requests and allocate funds by, among other objectives, (1) providing a common budget framework to analyze firefighting assets without regard for agency jurisdictions; (2) examining the full scope of fire management activities; (3) modeling the effects over time of differing strategies for responding to wildland fires and treating lands to reduce hazardous fuels; and (4) using this information to identify the most cost-effective mix and location of federal wildland fire management assets. We reported in 2008 that FPA shows promise in achieving some of the key objectives originally established for it but that the approach the agencies have taken hampers FPA from meeting other key objectives, including the ability to project the effects of different levels of fuel reduction and firefighting strategies over time. We therefore concluded that agency officials lack information that would help them analyze the extent to which increasing or decreasing funding for fuel reduction and responding more or less aggressively to fires in the short term could affect the expected cost of responding to wildland fires over the long term. Senior agency officials told us in 2008 that they were considering making changes to FPA that may improve its ability to examine the effects over time of different funding strategies. The exact nature of these changes, or how to fund them, has yet to be determined. Officials also told us the agencies are currently working to evaluate the model's performance, identify and implement needed corrections, and improve data quality and consistency. The agencies intend to consider the early results of FPA in developing their budget requests for fiscal year

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<sup>10</sup>GAO-07-655.

<sup>11</sup>GAO, *Wildland Fire Management: Interagency Budget Tool Needs Further Development to Fully Meet Key Objectives*, GAO-09-68 (Washington, D.C.: Nov. 24, 2008).

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2011, although officials told us they will not rely substantially on FPA's results until needed improvements are made. As we noted in 2008, the approach the agencies took in developing FPA provides considerable discretion to agency decision makers and, although providing the flexibility to consider various options is important, doing so makes it essential that the agencies ensure their processes are fully transparent.

In addition, previous studies have found that agencies sometimes use more, or more-costly, firefighting assets than necessary, often in response to political or social pressure to demonstrate they are taking all possible action to protect communities and resources. Consistent with these findings, fire officials told us they were pressured in 2008 to assign more firefighting assets than could be effectively used to fight fires in California. More generally, previous studies have found that air tankers may be used to drop flame retardants when on-the-ground conditions may not warrant such drops. Aviation activities are expensive, accounting for about one-third of all firefighting costs on a large fire. We believe that providing clarity about when different types of firefighting assets can be used effectively could help the agencies resist political and social pressure to use more assets than they need.

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## Agencies Have Yet to Take Certain Key Actions That Would Substantially Improve Their Management of Wildland Fire

Despite the important steps the agencies have taken, much work remains. We have previously recommended several key actions that, if completed, would improve the agencies' management of wildland fire. Specifically, the agencies need to:

- **Develop a cohesive strategy.** Completing an investment strategy that lays out various approaches for reducing fuels and responding to wildland fires and the estimated costs associated with each approach and the trade-offs involved—what we have termed a cohesive strategy—is essential for Congress and the agencies to make informed decisions about effective and affordable long-term approaches for addressing the nation's wildland fire problems. The agencies have concurred with our recommendations to develop a cohesive strategy but have yet to develop a strategy that clearly formulates different approaches and associated costs,<sup>12</sup> despite our

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<sup>12</sup>Although the agencies issued a document titled *Protecting People and Natural Resources: A Cohesive Fuels Treatment Strategy* in 2006, this document did not identify long-term options or associated funding for reducing fuels and responding to wildland fires, elements we believe are critical to a cohesive strategy.

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repeated calls to do so.<sup>13</sup> In May 2009, agency officials told us they had begun planning how to develop a cohesive strategy but were not far enough along in developing it to provide further information.

Because of the critical importance of a cohesive strategy to improve the agencies' overall management of wildland fire, we encourage the agencies to complete one and begin implementing it as quickly as possible. The Federal Land Assistance, Management, and Enhancement Act, introduced in March 2009 and sponsored by the chairman of this committee, would require the agencies to produce, within 1 year of the act's enactment, a cohesive strategy consistent with our previous recommendations.<sup>14</sup> Although they have yet to complete a cohesive strategy, the agencies have nearly completed two projects—LANDFIRE and FPA—they have identified as being necessary to development of a cohesive strategy. However, the shortcomings we identified in FPA may limit its ability to contribute to the agencies' development of a cohesive strategy.

- **Establish a cost-containment strategy.** We reported in 2007 that although the Forest Service and the Interior agencies had taken several steps intended to help contain wildland fire costs, they had not clearly defined their cost-containment goals or developed a strategy for achieving those goals—steps that are fundamental to sound program management.<sup>15</sup> The agencies disagreed, citing several agency documents that they argued clearly define their goals and objectives and make up their strategy to

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<sup>13</sup>GAO, *Wildland Fire Management: Federal Agencies Lack Key Long- and Short-Term Management Strategies for Using Program Funds Effectively*, [GAO-08-433T](#) (Washington, D.C.: Feb. 12, 2008); *Wildland Fire Management: Update on Federal Agency Efforts to Develop a Cohesive Strategy to Address Wildland Fire Threats*, [GAO-06-671R](#) (Washington, D.C.: May 1, 2006); *Wildland Fire Management: Important Progress Has Been Made, but Challenges Remain to Completing a Cohesive Strategy*, [GAO-05-147](#) (Washington, D.C.: Jan. 14, 2005); *Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildfire Threats*, [GAO/RCED-99-65](#) (Washington, D.C.: Apr. 2, 1999).

<sup>14</sup>S. 561, 111th Cong. (1st sess., 2009); H.R. 1404, 111th Cong. (1st sess., 2009).

<sup>15</sup>[GAO-07-655](#).

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contain costs.<sup>16</sup> Although these documents do provide overarching goals and objectives, they lack the clarity and specificity needed by land management and firefighting officials in the field to help manage and contain wildland fire costs. Interagency policy, for example, established an overarching goal of suppressing wildland fires at minimum cost, considering firefighter and public safety and importance of resources being protected, but the agencies have established neither clear criteria for weighing the relative importance of the often-competing elements of this broad goal, nor measurable objectives for determining if the agencies are meeting the goal. As a result, despite the improvements the agencies are making to policy, decision support tools, and oversight, we believe that managers in the field lack a clear understanding of the relative importance that the agencies' leadership places on containing costs and—as we concluded in our 2007 report—are therefore likely to continue to select firefighting strategies without duly considering the costs of suppression. Forest Service officials told us in July 2009 that although they are concerned about fire management costs, they are emphasizing the need to select firefighting strategies that will achieve land management objectives and reduce unnecessary risks to firefighters, an emphasis they believe may, in the long run, also help them contain costs. Nonetheless, we continue to believe that our recommendations, if effectively implemented, would help the agencies better manage their cost-containment efforts and improve their ability to contain wildland fire costs.

- **Clearly define financial responsibilities for fires that cross jurisdictions.** Protecting the nation's communities is both one of the key goals of wildland fire management and one of the leading factors contributing to rising fire costs. A number of relatively simple steps—such as using fire-resistant landscaping and building materials—can dramatically reduce the likelihood of damage to a structure from wildland fire. Although nonfederal entities—including state forestry entities and tribal, county, city, and rural fire departments—play an important role in protecting communities and resources and responding to fires, we reported in 2006 that federal officials were concerned that the existing framework for sharing suppression costs among federal and nonfederal

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<sup>16</sup>Department of the Interior, Department of Agriculture, Department of Energy, Department of Defense, Department of Commerce, Environmental Protection Agency, Federal Emergency Management Agency, and National Association of State Foresters, *Review and Update of the 1995 Federal Wildland Fire Management Policy* (Washington, D.C.: January 2001). Department of Agriculture, Department of the Interior, and Western Governors' Association, *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10-Year Strategy Implementation Plan* (Washington, D.C.: December 2006).

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entities insulated state and local governments from the cost of providing wildland fire protection in the wildland-urban interface.<sup>17</sup> As a result, there was less incentive for state and local governments to adopt laws—such as building codes requiring fire-resistant building materials in areas at high risk of wildland fires—that, in the long run, could help reduce the cost of suppressing wildland fires. We therefore recommended that the federal agencies work with relevant state entities to clarify the financial responsibility for fires that burn, or threaten to burn, across multiple jurisdictions and develop more specific guidance as to when particular cost-sharing methods should be used. The agencies have updated guidance on when particular cost-sharing methods should be used, although we have not evaluated the effect of the updated guidance; the agencies, however, have yet to clarify the financial responsibility for fires that threaten multiple jurisdictions. Without such clarification, the concerns that the existing framework insulates nonfederal entities from the cost of protecting the wildland-urban interface from fire—and that the federal government, therefore, would continue to bear more than its share of that cost—are unlikely to be addressed.

- **Mitigate effects of rising fire costs on other agency programs.** The sharply rising costs of managing wildland fires have led the Forest Service and the Interior agencies to help pay for fire suppression, disrupting or delaying activities in these other programs. Better methods of estimating the suppression funds the agencies request, as we recommended in 2004,<sup>18</sup> could reduce the likelihood that the agencies would need to transfer funds from other accounts, yet the agencies continue to use an estimation method with known problems. A Forest Service official told us the agency had analyzed alternative methods for estimating needed suppression funds but determined that no better method was available. Because the agencies have had to transfer funds in each of the last 3 years, however, a more accurate method for estimating suppression costs may still be needed. To further reduce the likelihood of transferring funds from the agencies' other programs to cover suppression costs, our 2004 report also noted, Congress could consider establishing a reserve account to fund emergency wildland firefighting. Congress, for example, could provide either a specified

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<sup>17</sup>GAO, *Wildland Fire Suppression: Lack of Clear Guidance Raises Concerns about Cost Sharing between Federal and Nonfederal Entities*, [GAO-06-570](#) (Washington, D.C.: May 30, 2006).

<sup>18</sup>GAO, *Wildfire Suppression: Funding Transfers Cause Project Cancellations and Delays, Strained Relationships, and Management Disruptions*, [GAO-04-612](#) (Washington, D.C.: June 2, 2004).

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amount (known as a definite appropriation) or as much funding as the agencies need to fund emergency suppression (known as an indefinite appropriation). Establishing a reserve account with a definite appropriation would provide the agencies with incentives to contain suppression costs within the amount in the reserve account, but depending on the size of the appropriation and the severity of a fire season, suppression costs could still exceed the funds reserved, and the agencies might still need to transfer funds from other programs. An account with an indefinite appropriation, in contrast, would eliminate the need for transferring funds from other programs but would offer no inherent incentives for the agencies to contain suppression costs. Furthermore, both definite and indefinite appropriations could raise the overall federal budget deficit, depending on whether funding levels for other agency or government programs are reduced. The Federal Land Assistance, Management, and Enhancement Act proposes establishing a wildland fire suppression reserve account; the administration's budget overview for fiscal year 2010 also proposes a \$282 million reserve account for the Forest Service and a \$75 million reserve account for the Interior to provide funding for firefighting when the appropriated suppression funds are exhausted.

We are making no new recommendations at this time. Rather, we believe that our previous recommendations—which the agencies have generally agreed with—could, if implemented, substantially assist the agencies in capitalizing on the important progress they have made to date in responding to the nation's growing wildland fire problem. We discussed the factual information in this statement with agency officials and incorporated their comments where appropriate.

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Mr. Chairman, this concludes my prepared statement. I would be pleased to answer any questions that you or other Members of the Subcommittee may have at this time.

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## GAO Contact and Staff Acknowledgments

For further information about this testimony, please contact me at (202) 512-3841 or [daltonp@gao.gov](mailto:daltonp@gao.gov), or Robin M. Nazzaro, Director, at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Steve Gaty, Assistant Director; David P. Bixler; Ellen W. Chu; Jonathan Dent; and Richard P. Johnson made key contributions to this statement.



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# Related GAO Products

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*Wildland Fire Management: Interagency Budget Tool Needs Further Development to Fully Meet Key Objectives.* [GAO-09-68](#). Washington, D.C.: November 24, 2008.

*Wildland Fire Management: Federal Agencies Lack Key Long- and Short-Term Management Strategies for Using Program Funds Effectively.* [GAO-08-433T](#). Washington, D.C.: February 12, 2008.

*Wildland Fire Management: Better Information and a Systematic Process Could Improve Agencies' Approach to Allocating Fuel Reduction Funds and Selecting Projects.* [GAO-07-1168](#). Washington, D.C.: September 28, 2007.

*Wildland Fire Management: Lack of Clear Goals or a Strategy Hinders Federal Agencies' Efforts to Contain the Costs of Fighting Fires.* [GAO-07-655](#). Washington, D.C.: June 1, 2007.

*Wildland Fire Suppression: Lack of Clear Guidance Raises Concerns about Cost Sharing between Federal and Nonfederal Entities.* [GAO-06-570](#). Washington, D.C.: May 30, 2006.

*Wildland Fire Management: Update on Federal Agency Efforts to Develop a Cohesive Strategy to Address Wildland Fire Threats.* [GAO-06-671R](#). Washington, D.C.: May 1, 2006.

*Wildland Fire Management: Important Progress Has Been Made, but Challenges Remain to Completing a Cohesive Strategy.* [GAO-05-147](#). Washington, D.C.: January 14, 2005.

*Wildfire Suppression: Funding Transfers Cause Project Cancellations and Delays, Strained Relationships, and Management Disruptions.* [GAO-04-612](#). Washington, D.C.: June 2, 2004.

*Wildland Fire Management: Additional Actions Required to Better Identify and Prioritize Lands Needing Fuels Reduction.* [GAO-03-805](#). Washington, D.C.: August 15, 2003.

*Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildfire Threats.* [GAO/RCED-99-65](#). Washington, D.C.: April 2, 1999.

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