

GAO

Testimony

Before the Subcommittee on Interior,
Environment, and Related Agencies,
Committee on Appropriations, House of
Representatives

For Release on Delivery
Expected at 10:00 a.m. EST
Tuesday, February 12, 2008

WILDLAND FIRE MANAGEMENT

Federal Agencies Lack Key Long- and Short-Term Management Strategies for Using Program Funds Effectively

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Highlights of [GAO-08-433T](#), a testimony before the Subcommittee on Interior, Environment, and Related Agencies, Committee on Appropriations, House of Representatives

Why GAO Did This Study

The nation's wildland fire problems have worsened over the past decade. Recent years have seen dramatic increases in the number of acres burned and the dollars spent on preparing for and responding to wildland fires. As GAO has previously reported, a number of factors have contributed to worsening fire seasons and increased firefighting expenditures, including an accumulation of fuels due to past land management practices; drought and other stresses, in part related to climate change; and an increase in human development in or near wildlands.

Recent GAO reports have identified shortcomings in the approach to wildland fire management taken by the responsible federal agencies—the Department of Agriculture's Forest Service and four agencies within the Department of the Interior. GAO was asked to testify on agency efforts to (1) develop a cohesive strategy for preparing for and responding to wildland fire, (2) contain federal expenditures related to wildland fire, and (3) improve the processes used to allocate funds for reducing accumulated fuels and to select fuel reduction projects. GAO also is providing preliminary findings from its ongoing review of an interagency budget allocation and planning model known as fire program analysis (FPA). This testimony is based on issued GAO reports, reviews of agency documents related to the development of FPA, and discussions with agency officials.

To view the full product, including the scope and methodology, click on [GAO-08-433T](#). For more information, contact Robin M. Nazzaro at (202) 512-3841 or nazzaror@gao.gov.

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What GAO Found

In recent years, GAO has recommended a number of actions federal wildland fire agencies should take to better diagnose the extent of the nation's wildland fire problems and develop a strategic approach for addressing them. The agencies have taken some steps to respond to GAO's recommendations, but have not completed other needed steps. Specifically, the agencies should

- **recommit to developing a cohesive strategy that identifies options and associated funding to reduce fuels and address wildland fire problems.** In several reports dating to 1999, GAO recommended that a cohesive strategy be developed that identifies the available long-term options and associated funding for reducing hazardous fuels and for responding to wildland fires. Such a strategy would assist Congress and the agencies in making informed decisions about effective and affordable long-term approaches to addressing the nation's wildland fire problems. As of January 2008, the agencies had not developed such a strategy and, in fact, had retreated from earlier commitments to do so.
- **establish clear goals and a strategy to help contain wildland fire costs.** In 2007, GAO reported that the agencies had taken several steps to contain wildland fire costs, including developing new decision support tools to help officials select the most appropriate strategy for fighting wildland fires, but lacked clearly defined cost-containment goals and a strategy for achieving them. As a result, we believe managers in the field lacked a clear understanding of the relative importance agency leadership placed on containing costs and were therefore likely to select firefighting strategies without duly considering the costs of suppression. Although the agencies have continued to implement individual cost-containment steps, they still have not developed clear goals or a strategy for achieving them.
- **continue to improve their processes for allocating fuel reduction funds and selecting fuel reduction projects.** Also in 2007, GAO recommended several improvements to the agencies' processes for allocating fuel reduction funds to field units and selecting projects. Specifically, GAO recommended that the agencies use a more systematic allocation process, improve the information they use to make allocation decisions, and clarify the relative importance of the various factors they consider when allocating funds. The agencies are currently taking steps to implement these improvements, although none have yet been completed.

In addition, GAO's ongoing review of FPA suggests that the current model, which the agencies expect to complete in June 2008, may not allow the agencies to meet all of the key goals established for FPA. Specifically, preliminary results from GAO's review suggest that the model will not allow the agencies to analyze long-term trade-offs between annual fuel reduction treatments and future expected suppression costs for large fires. GAO intends to conduct a full assessment of FPA once it is completed.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss key actions that we believe the federal wildland fire agencies—the Forest Service within the Department of Agriculture and four agencies within the Department of the Interior (Interior)—should take to improve their management of wildland fires and help contain the rising costs of preparing for and responding to fires. Our nation’s wildland fire problems have worsened in the past decade. Appropriations for wildland fire management activities tripled from about \$1 billion in fiscal year 1999 to more than \$3 billion in fiscal year 2007, while, on average, the acreage burned annually by wildland fires has increased by approximately 70 percent since the 1990s. As we have previously reported, a number of factors have contributed to worsening wildland fires and the increasing cost of managing fires, including an accumulation of fuels due in part to past fire suppression policies; severe weather and drought in some areas of the country, related in part to climate change; and growing numbers of homes built in or near wildlands, an area often called the wildland-urban interface. Concerns about the increasing cost of managing wildland fires, along with growing recognition of the long-term fiscal challenges facing the nation, have led Congress, GAO, and others to focus attention on ways to contain growing fire expenditures and to ensure that the agencies’ wildland fire activities are appropriate and carried out in a cost-effective and efficient manner.

My testimony today summarizes findings from several of our recent reports, which identified key weaknesses in the agencies’ management of wildland fires and recommended actions the agencies should take if they are to respond effectively. Specifically, I will focus on the agencies’ efforts to (1) develop a cohesive strategy for preparing for and responding to wildland fires, (2) contain federal expenditures for preparing for and responding to wildland fires, and (3) set priorities and allocate funds for fuel reduction treatments. I will also discuss preliminary results from our ongoing work on the agencies’ efforts to complete the interagency budget allocation and planning model known as fire program analysis (FPA), a key component of a cohesive strategy.

To evaluate these issues, we reviewed selected reports we have issued since 1999, and interviewed agency officials to identify recent actions the agencies have taken in the areas discussed in these reports. We also reviewed pertinent agency plans, policies, reports, and other documents, and interviewed federal and nonfederal officials, to obtain information on the development and status of FPA. The previous reports we reviewed, and our current performance audit—which was conducted from

September 2007 to February 2008—were 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.

Summary

In recent years, GAO has recommended a number of actions the federal wildland fire agencies should take to better understand the extent of, and address, the nation's wildland fire problems. These actions could also help contain the rising federal expenditures for responding to wildland fires. However, the agencies have not completed all needed actions. Specifically, we believe the agencies should

- ***recommit to developing a cohesive strategy that identifies options and associated funding to reduce fuels and address wildland fire problems.*** Despite our repeated calls for a cohesive wildland fire strategy, the agencies have not developed one—and do not intend to do so. In 1999, to address the problem of excess fuels and their potential to increase the severity of wildland fires and cost of suppression efforts, we recommended that a cohesive strategy be developed to identify the available long-term options for reducing fuels and the associated funding requirements.¹ By laying out various potential approaches for addressing wildland fire, the approximate costs associated with each approach, and the trade-offs involved among the various approaches, such a strategy would help Congress and the agencies make informed decisions about effective and affordable long-term approaches to addressing the nation's wildland fire problems. Six years later, in 2005, we reiterated the need for a cohesive strategy and broadened our recommendation's focus to better address the interrelated nature of fuel reduction efforts and wildland fire response.² However, although the agencies had consistently concurred with our recommendation to develop such a strategy, the Department of Agriculture's Under Secretary for Natural Resources and Environment testified in 2007 that he did not think completing these steps would be beneficial because it is too difficult to predict future vegetative conditions

¹GAO, *Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildfire Threats*, [GAO/RCED-99-65](#) (Washington, D.C.: Apr. 2, 1999).

²GAO, *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).

and agency priorities. Agency officials told us in January 2008 that they have no plans to develop the cohesive strategy we have called for.

- ***establish clear goals and a strategy to help contain wildland fire costs.*** In 2007, we reported that the Forest Service and Interior agencies were taking a number of steps intended to help contain wildland fire costs, including improving their decision support tools for helping officials select strategies for fighting wildland fires, but had not clearly defined their cost-containment goals or developed a strategy for achieving those goals—steps that are fundamental to sound program management.³ In commenting on a draft of that report, the Forest Service and Interior identified several documents that they argue provide clearly defined goals and objectives that make up their strategy to contain costs.⁴ However, these documents lack the clarity and specificity needed by officials in the field to help manage and contain wildland fire costs, and we therefore 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.
- ***continue to improve their processes for allocating fuel reduction funds and selecting fuel reduction projects.*** Also in 2007, we identified several shortcomings in the agencies' processes for allocating fuel reduction funds to field units and selecting fuel reduction projects, shortcomings that limit the agencies' ability to ensure that funds are directed where they will reduce risk most effectively.⁵ The agencies have begun to take steps to improve the processes they use to allocate fuel reduction funds, but these efforts are incomplete and not fully coordinated. For example, several agencies are developing and implementing computer models to assist them in making allocation

³GAO, *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).

⁴Department 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).

⁵GAO, *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).

decisions, rather than relying primarily on historical funding patterns and professional judgment. Not all of the agencies have models, however, and none consistently uses models at national, regional, and local levels. The agencies also are taking steps to improve the information they use in allocating funds and selecting projects—including information on wildland fire risk and fuel treatment effectiveness—and to clarify the relative importance of the various factors they consider when making allocation decisions. We urge the agencies to continue their efforts to improve their funding allocation and project selection processes so that they can more effectively use their limited fuel reduction dollars.

In addition, preliminary results from our ongoing work indicate that the FPA budget allocation model, which the agencies expect to complete in June 2008, may not allow the agencies to meet all of the key goals established for it. Specifically, our preliminary results suggest that FPA will not allow the agencies to analyze long-term trade-offs between annual fuel reduction treatments and the estimated costs of suppressing future large fires. GAO intends to conduct a full assessment of FPA once it is completed.

Background

Although its effect on communities can be devastating, wildland fire is a natural and necessary process that provides many benefits to ecosystems, such as maintaining habitat diversity, recycling soil nutrients, limiting the spread of insects and disease, and promoting new growth by causing the seeds of fire-dependent species to germinate. Wildland fire also periodically removes brush, small trees, and other vegetation that can otherwise accumulate and increase the size, intensity, and duration of subsequent fires. Over the past century, however, various management practices—including fire suppression, grazing, and timber harvest—have reduced the normal frequency of fires in many forest and rangeland ecosystems and contributed to abnormally dense, continuous accumulations of vegetation, which can fuel uncharacteristically large or severe wildland fires. Federal researchers have estimated that unnaturally dense fuel accumulations on 90 million to 200 million acres of federal lands in the contiguous United States place these lands at an elevated risk of severe wildland fire.

In response to the growing wildland fire problem, the five federal agencies responsible for managing wildland fires—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—adopted the 1995 federal wildland fire

management policy, which formally recognized the essential role that fire plays in maintaining natural systems. This policy was subsequently reaffirmed and updated in 2001. Two important implications of the new policy are that the agencies recognized that (1) they needed to reduce accumulated vegetation that could fuel intense wildland fires and (2) it was not appropriate to continue attempting to suppress all fires.

Acknowledging the problem caused by accumulated fuels, Congress substantially increased appropriations for fuel reduction treatments—appropriating more than \$3.2 billion to the Forest Service and Interior since 2001—and, in 2003, passed the Healthy Forests Restoration Act,⁶ with the stated purpose of, among other things, reducing wildland fire risk to communities, municipal water supplies, and other at-risk federal land. After receiving its annual appropriation, the Forest Service allocates funds to its nine regional offices, which in turn allocate funds to individual national forests and grasslands. Interior, upon receiving its annual appropriation, allocates funds to its four fire management agencies—with the Bureau of Land Management receiving the largest share, about 50 percent of Interior’s funding. Interior’s agencies then allocate funds to their regional or state offices, which in turn allocate funds to individual field units, such as national parks or wildlife refuges. Forest Service and Interior agency field units are generally responsible for selecting individual fuel reduction projects to undertake, which are typically conducted through mechanical treatments (using chainsaws, chippers, mowers, and the like) or by using prescribed fire (which land managers deliberately set to restore or maintain desired vegetative conditions). The agencies used the tools and fuel reduction funding provided by Congress to treat more than 18 million acres from 2001 through August 2007.

Over the last decade, Congress, the Office of Management and Budget, federal agency officials, and others have expressed concerns about mounting federal wildland fire expenditures. These concerns have led GAO, the Department of Agriculture’s Office of Inspector General, the Forest Service, Interior, and others to conduct numerous reviews of the federal wildland fire program. These reviews identified many issues the agencies needed to address if they are to contain costs—issues generally related to reducing accumulated fuels, acquiring and using firefighting personnel and equipment, and selecting firefighting strategies.

⁶Pub. L. No. 108-148 (2003).

Land managers and incident management teams (specialized fire-response teams that include personnel to handle command, planning, logistics, operations, and finance functions) have a wide spectrum of strategies available to them when responding to wildland fires, some of which can be significantly more costly than others. These strategies range from having a few personnel monitor a fire while allowing it to burn to achieve ecological benefits—a practice known as wildland fire use—to mobilizing all available personnel and equipment to try to control the entire perimeter of a fire or otherwise suppress it as quickly as possible. In selecting a strategy for a particular fire, land managers are required to consider the cost of suppression, the value of structures and other resources threatened by the fire, and the potential ecological effects of the fire. The agencies use the term “appropriate management response” for a strategy that considers these factors. Recent reports by GAO and others, however, have identified barriers to the agencies increasing their use of less aggressive strategies, which often cost less.

Agencies Need a Cohesive Wildland Fire Strategy to Manage Limited Resources Effectively, but Have Retreated from Their Commitment to Develop One

If the agencies and Congress are to make informed decisions about an effective and affordable long-term approach for addressing wildland fire, the agencies need a cohesive strategy that identifies the long-term options and associated funding for reducing excess vegetation and responding to fires. We first recommended the development of a cohesive strategy for addressing excess vegetation in 1999. By 2005, the agencies had yet to develop such a strategy, and that year we reiterated the need for such a strategy and broadened our recommendation’s focus to include options not only for reducing fuels but also for responding to wildland fires when they do occur, in order to better address the interrelated nature of the two activities. We repeated our call for a cohesive strategy in 2006 and 2007.⁷

Although the agencies had consistently concurred with our recommendation to develop a cohesive strategy, in 2007 they retreated from their commitment to develop one. The Department of Agriculture’s Under Secretary for Natural Resources and Environment testified before the Senate Committee on Energy and Natural Resources in January 2007, and before the House Subcommittee on National Parks, Forests and Public Lands in June 2007, that he did not think it useful to provide specific

⁷GAO, *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); and *Wildland Fire Management: Lack of Cohesive Strategy Hinders Agencies’ Cost Containment Efforts*, [GAO-07-427T](#) (Washington, D.C.: Jan. 30, 2007).

funding estimates for fuel treatments years into the future because conditions on the ground change over time and may change priorities in future years. Forest Service and Interior officials subsequently told us in January 2008 that they have no plans to develop a cohesive strategy that identifies long-term options and associated funding requirements.

Despite the agencies' retreat from their commitment to develop a cohesive strategy, a strategy of this sort nevertheless remains fundamental if the agencies and Congress are to fully understand the potential choices, and associated costs, for addressing wildland fire problems. We also believe the agencies have mischaracterized our recommendation to develop long-term options, and associated funding, for reducing fuels. Our intent was not to have the agencies identify the specific areas they would treat each year into the future, but rather that they develop broad options for reducing fuels, including estimated costs, and analyze the effects of the different options on the predicted costs of preparing for and responding to wildland fires in the future. One such analysis was developed in 2002 by a team of Forest Service and Interior experts, who produced an estimate of the funds needed to implement each of eight different fuel reduction options for protecting communities and ecosystems across the nation over the next century.⁸ The team determined that effectively reducing the risks to communities and ecosystems across the nation could require an approximate tripling of fuel reduction funding, to about \$1.4 billion annually, for an initial period of several years. These initially higher costs for fuel reduction would decline after fuels had been sufficiently reduced to allow less-expensive prescribed burning methods in many areas. More importantly, the team estimated that the reduction in fuels would allow the agencies to suppress more fires at lower cost and would reduce total wildland fire management costs and risk after 15 years. Alternately, the team concluded that maintaining the then-current level of investment in fuel reduction would increase costs as well as risks to communities and ecosystems in the long term. However, the Office of Management and Budget raised concerns about the accuracy of the long-term funding estimates used by the study; as a result, agency officials told us in 2006 that they needed to improve the data before they could develop a cohesive strategy. Now, however—and despite agency efforts to improve their

⁸Wendell Hann, et al, *A Cohesive Strategy for Protecting People and Sustaining Natural Resources: Predicting Outcomes for Program Options* (a paper presented at the Fire, Fuel Treatments, and Ecological Restoration Conference, a meeting on national wildland fire experts convened by the Forest Service's Rocky Mountain Research Station, Fort Collins, Colorado, April 2002).

data—this concern appears to be moot, as the agencies have abandoned their commitment to develop the strategy.

Lack of Clear Goals or a Strategy Hinders Federal Agencies' Efforts to Contain the Costs of Fighting Fires

We reported in 2007 that although the Forest Service and 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. As we reported, the agencies are implementing a number of steps designed to help them contain wildland fire costs—such as improving how they acquire and use firefighting assets, updating policies to require officials to consider the full spectrum of available strategies when selecting a firefighting strategy, and developing new decision support tools that help officials select the most appropriate strategy. However, we also found that the agencies had neither clearly defined the goals of their cost-containment efforts nor developed a clear plan for how the various steps they are taking to help contain costs fit together. Without such a strategy, we believe the agencies will have difficulty determining whether they are taking the most important steps first, as well as the extent to which the steps they are taking will help contain costs.

As a result, we recommended that the agencies take several steps to improve the management of their cost-containment efforts, including establishing clearly defined goals and measurable objectives and a strategy to achieve them. Because of the importance of these actions and continuing concerns about the agencies' response to the increasing cost of wildland fires—and so that the agencies could use the results of these actions to prepare for the 2008 fire season—we recommended the agencies provide Congress with this information no later than November 2007, a step they have yet to take. The Forest Service and Interior, in commenting on a draft of that report, generally disagreed with the characterization of many of our findings, but they neither agreed nor disagreed with our recommendations. In particular, they identified several agency documents that they argue provide clearly defined goals and objectives and that make up their strategy to contain costs. Although the documents cited by the agencies 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. Agency policy, for example, established an overarching goal of suppressing wildland fires at minimum cost, considering firefighter and public safety and the importance of resources being protected, but the agencies have established neither clear criteria by which to weigh the

relative importance of the often-competing elements of this broad goal nor measurable objectives by which to determine if the agencies are meeting the goal. As a result, despite improvements the agencies continue to make 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 due consideration of the costs of suppression. 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.⁹

Better Information and a Systematic Process Would Improve Agencies' Approach to Allocating Fuel Reduction Funds

In 2007, we also identified several shortcomings in the agencies' processes for allocating fuel reduction funds to field units and selecting fuel reduction projects, which the agencies should correct in order to use their fuel reduction funds more effectively. Specifically, we noted that the agencies (1) did not consistently use systematic allocation processes—that is, processes that are based on criteria and applied consistently—in all agencies or at all levels, often relying instead on historical funding levels and professional judgment to allocate funds and select projects; (2) did not consistently consider the potential risk from wildland fire or the potential effectiveness of fuel reduction treatments when allocating funds and selecting projects; and (3) had not clarified the relative importance of the numerous factors they consider when allocating funds and selecting projects, including factors (such as funding stability or the use of forest products resulting from fuel reduction treatments) unrelated to risk or effectiveness.

⁹State and local governments also play an important role in containing fire suppression costs. As we have noted, protecting the increasing number of homes in the wildland urban interface at risk from wildland fire has contributed significantly to the increased cost of managing wildland fires. See 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). We reported that federal officials were concerned, and some nonfederal officials acknowledged, that the framework federal and nonfederal agencies use to share the costs of suppressing wildland fires affecting both federal and nonfederal land—combined with the availability of federal emergency funding to reimburse nonfederal agencies for the cost of fighting such fires—insulates state and local governments from the cost of providing fire protection. A bill introduced in the Senate in November 2007, S. 2390, would provide an incentive to local governments by allowing for greater federal reimbursement of firefighting costs in communities that adopt a model fire ordinance, including requirements for fire-safe building materials and maintenance of defensible space around homes.

Accordingly, we recommended that the agencies improve their allocation processes in three areas. First, we recommended that the agencies develop and routinely use a systematic allocation process that is based on criteria, applied consistently, and common to all the agencies. Second, we recommended that the agencies work to improve the information they use to make allocation decisions, particularly information on wildland fire risk and fuel treatment effectiveness. Third, we recommended that the agencies clarify the relative importance of the various factors they consider when allocating funds. Without improvements in these three areas, we noted that the agencies would likely continue relying on “allocation by tradition”—that is, allocating fuel reduction funds on the basis of past funding levels rather than on calculated need.

Some agencies have begun implementing systematic processes for allocating funds. In 2007, the Forest Service began using a computer model to influence funding allocations to its nine regions, and it continues to refine and expand its use of the model, including introducing improved data about the likelihood of fire in a particular area. In addition, all nine Forest Service regions are required, beginning in 2008, to use the model as part of their process for allocating funds to national forests. Interior is developing a similar computer model for allocating funds to its agencies, in part based on the Forest Service’s model. For fiscal year 2007, Interior allocated 5 percent of its fuel reduction project funds to its four agencies using the model; for fiscal year 2008, according to an Interior official, Interior will use the model to allocate all of its fuel reduction project funds to its four agencies, within constraints designed to reduce the potential impact of funding changes.¹⁰ Officials from both the Forest Service and Interior told us that the agencies are working closely with each other on model development. Of Interior’s agencies, the Bureau of Land Management is developing a model similar to Interior’s for allocating funds to its state offices; the Fish and Wildlife Service uses its own computer model when allocating funds to regional offices; the Bureau of Indian Affairs allocates funds to its regions using a formula that considers past performance and proposed work; and the National Park Service allocates funds to its regions primarily on the basis of historical funding levels. However, Interior is working to standardize the allocation process within these agencies as well; a department official told us that Interior plans to

¹⁰In order to minimize budget-related disruptions resulting from significant funding changes, Interior will limit such changes to no more than 15 percent of each agency’s budget.

use its model to allocate funds down to the agencies' state and regional levels in fiscal year 2009.

Although the models some of the agencies are developing represent substantial steps forward in systematically allocating funds, these steps are incomplete and not fully coordinated. Specifically, not all the agencies have models; none consistently uses models at the national, regional, and local levels; and the models that are in use are not common to all agencies. Further, the models, even where used, often exert only a small influence on allocation decisions, partly because the agencies do not yet have full confidence in the models' data. Until the models serve as the foundation for allocation decisions, such decisions will continue to rely mainly on historical funding patterns and professional judgment. Accordingly, we urge the agencies to continue developing an allocation process that is systematic and that is common to all agencies.¹¹

The agencies are also continuing to investigate ways to develop and use measures of risk and treatment effectiveness. Forest Service and Interior officials told us, for example, that researchers are looking at areas burned in past wildland fires to assess the extent to which fuel treatments altered fire behavior. Although efforts such as these are likely to be long-term undertakings and involve considerable research investment and activity, developing such measures would improve the agencies' ability to assess and compare the cost-effectiveness of potential treatments in deciding how to optimally allocate scarce funds. Finally, such information could also help the agencies address our third recommendation—that is, to clarify the relative importance of the various factors they consider when allocating funds. Such an effort is already under way at Interior, according to an Interior official, and the agency hopes to complete its work before the 2008 fire season. A Forest Service official stated that the Forest Service is also working to prioritize the various factors, but did not provide a timetable for completing this effort.

¹¹As we noted in our 2007 report, although we believe the agencies should use a common allocation process, the process may need to be customized to reflect differences among the agencies, including differences in scale, variety of ecosystems managed, agency mission, and other factors.

Agencies Plan to Complete the FPA Model in 2008, but the Extent to Which It Will Help Ensure Cost-Effective Fire Management Decisions Is Uncertain

Agency officials plan to complete the FPA model by June 30, 2008, but preliminary results from our ongoing review raise questions about the extent to which the current model will be able to meet all of the key goals established for FPA. FPA—a common interagency performance-based system for program planning and budgeting for the full scope of fire management activities, including preparedness, large fire suppression, and fuel reduction treatments—was proposed and funded to address shortcomings that Congress, GAO, and the Office of Management and Budget identified in the agencies’ existing budget allocation frameworks. FPA also is critical to developing and implementing a cohesive strategy,¹² and to the agencies’ efforts to contain wildland fire costs. Development of FPA commenced in 2002. According to a 2001 report commissioned by the agencies that serves as the foundation of FPA,¹³ FPA was intended to establish a common framework for the agencies to

- determine national budget needs by analyzing budget alternatives at the local level—using a common, interagency process for fire management planning and budgeting—and aggregating the results;
- determine the relative costs and benefits for the full scope of fire management activities, including potential trade-offs among investments in fuel reduction, fire preparedness, and fire suppression activities; and
- identify, for any given budget level, the most cost-effective mix of personnel and equipment to carry out these activities.

In addition, because responding to wildland fires often requires coordination and collaboration among federal, state, tribal, and local firefighting entities to effectively protect lives, homes, and resources, the agencies were directed to develop FPA in conjunction with their nonfederal partners and to recognize the availability of adjacent nonfederal firefighting resources when determining the appropriate amount and location of federal resources.

¹²Other elements critical to developing the cohesive strategy include LANDFIRE—a geospatial data and modeling system designed to generate comprehensive maps of vegetation, fire, and fuel characteristics nationally—and fire management plans, which are local plans developed by individual agency management units (such as wildlife refuges or national forests) to define each unit’s program to prepare for and respond to wildland fires.

¹³U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior, *Developing an Interagency, Landscape-Scale Fire Planning Analysis and Budget Tool* (Washington, D.C., November 2001).

FPA program and senior agency officials told us that, when completed, FPA will allow the agencies to meet the key goals established for it, but preliminary results from our ongoing review have raised questions about FPA's ability to do so. In particular, FPA likely will analyze only 5 years of fuel reduction treatments when modeling the effect such treatments will have on future large fire events, according to FPA program officials, although they have not yet made a final determination on the number of years to be analyzed. The officials said that it is not possible to identify fuel treatment projects more than 5 years into the future with sufficient accuracy to include in the analysis. Such a limited time frame, however, substantially impairs the ability of the model to analyze long-term trade-offs between annual fuel reduction treatment costs and future expected suppression costs for large fires, a key goal of FPA. Officials say that the FPA model expected to be completed in 2008 is the first step in an iterative development process and can be improved to increase its capability to analyze the trade-offs, but they could not provide a time frame for doing so.

In addition, in 2006, after 4 years of model development, the agencies initiated substantial changes to the process FPA will use to analyze needed firefighting resources and determine where best to locate these resources; they are also still deciding how senior officials will use the model's output to allocate funds between agencies and geographic regions of the country. It is not clear at this time the extent to which FPA will meet the key goal of identifying the most cost-effective allocation of resources for a given budget level, because the agencies are still developing the FPA model and determining how it will be used. A full assessment of FPA cannot be conducted, however, until the agencies complete the model; at that time, we plan on assessing the extent to which FPA will meet the key goals established.

Conclusions

Faced with an incendiary mix of accumulated fuels, climate change, and burgeoning development in fire-prone areas, and constrained by our nation's long-term fiscal outlook, the federal wildland fire agencies need to commit to a more considered, long-term approach to managing their resources in order to address the wildland fire problem more effectively and efficiently. They have taken an important first step by establishing and updating federal wildland fire policy. Development of strategies and management tools for agency officials to use in achieving the policy's vision, however, has been uneven. The agencies are making progress in certain areas, including improving funding allocation processes for reducing fuels and requiring appropriate management response to fires

that occur. In addition, the agencies are continuing to develop FPA, which, if implemented appropriately, could significantly improve the agencies' ability to allocate their resources effectively. But broader efforts have stalled—as in the development of cost containment goals and objectives—or even lost ground, as evidenced by the agencies' retreat from their earlier commitment to develop the cohesive wildland fire strategy we have called for. If the agencies are to achieve lasting results in their efforts to address the wildland fire problem, they will need a sustained commitment by agency leadership to developing both a long-term strategy that identifies potential options (and their costs) for managing wildland fires and the tools for carrying out such a strategy.

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.

GAO Contact and Staff Acknowledgments

For further information about this testimony, please contact me at (202) 512-3841 or 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 Johnson made key contributions to this statement.

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