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Report to the Chairman, Subcommittee  
on Public Lands and Forests,  
Committee on Energy and Natural  
Resources, U.S. Senate

May 2006

# WILDLAND FIRE SUPPRESSION

## Lack of Clear Guidance Raises Concerns about Cost Sharing between Federal and Nonfederal Entities





Highlights of [GAO-06-570](#), a report to the Chairman, Subcommittee on Public Lands and Forests, Committee on Energy and Natural Resources, U.S. Senate

## Why GAO Did This Study

Wildland fires burn millions of acres each year, requiring substantial investments of firefighting assets. Since 2000, federal suppression costs alone have averaged more than \$1 billion annually. Wildland fires can burn or threaten both federal and nonfederal lands and resources, including homes in or near wildlands, an area commonly called the wildland-urban interface. Cooperative agreements between federal and nonfederal firefighting entities provide the framework for working together and sharing costs. GAO was asked to (1) review how federal and nonfederal entities share the costs of suppressing wildland fires that burn or threaten both of their lands and resources and (2) identify any concerns that these entities may have with the existing cost-sharing framework.

## What GAO Recommends

GAO recommends that the Secretaries of Agriculture and the Interior, working with relevant state entities, provide more specific guidance on when to use particular cost-sharing methods and clarify the financial responsibilities for fires that burn or threaten to burn across multiple jurisdictions. The Forest Service and Interior generally agreed with the findings and recommendations. The National Association of State Foresters disagreed, stating that the recommendations would not provide the flexibility needed to address the variability in local circumstances and state laws.

[www.gao.gov/cgi-bin/getrpt?GAO-06-570](http://www.gao.gov/cgi-bin/getrpt?GAO-06-570).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Robin M. Nazzaro at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov).

# WILDLAND FIRE SUPPRESSION

## Lack of Clear Guidance Raises Concerns about Cost Sharing between Federal and Nonfederal Entities

### What GAO Found

Federal and nonfederal entities used a variety of methods to share the costs of fighting wildland fires affecting both of their lands and resources. Cooperative agreements between federal and nonfederal firefighting entities—which are developed and agreed to by the entities involved—provide the framework for cost sharing and typically list several cost-sharing methods available to the entities. The agreements GAO reviewed, however, often lacked clear guidance for federal and nonfederal officials to use in deciding which method to apply to a specific fire. As a result, cost-sharing methods were applied inconsistently within and among states, even for fires with similar characteristics. For example, GAO found that in one state, the costs for suppressing a large fire that threatened homes were shared solely according to the proportion of acres burned within each entity's area of fire protection responsibility. Yet, costs for a similar fire within the same state were shared differently. For this fire, the state agreed to pay for certain aircraft and fire engines used to protect the wildland-urban interface, while the remaining costs were shared on the basis of acres burned. In contrast to the two methods used in this state, officials in another state used yet a different cost-sharing method for two similar large fires that threatened homes, apportioning costs each day for personnel, aircraft, and equipment deployed on particular lands, such as the wildland-urban interface. The type of cost-sharing method ultimately used is important because it can have significant financial consequences for the entities involved, potentially amounting to millions of dollars.

Both federal and nonfederal agency officials raised a number of concerns about the current cost-sharing framework. First, some federal officials were concerned that because guidance is unclear about which cost-sharing methods are most appropriate in particular circumstances, it can be difficult to reach agreement with nonfederal officials on a method that all parties believe distributes suppression costs equitably. Second, some nonfederal officials expressed concerns that the emergence of alternative cost-sharing methods is causing nonfederal entities to bear a greater share of fire suppression costs than in the past. In addition, both federal and nonfederal officials believed that the inconsistent application of these cost-sharing methods has led to inequities among states in the proportion of costs borne by federal and nonfederal entities. Finally, some federal officials also expressed concern that the current framework for sharing costs insulates state and local governments from the increasing costs of protecting the wildland-urban interface. Therefore, nonfederal entities may have a reduced incentive to take steps that could help mitigate fire risks, such as requiring homeowners to use fire-resistant materials and landscaping. On the basis of a review of previous federal reports and interviews with federal and nonfederal officials, GAO believes that these concerns may reflect a more fundamental issue—that federal and nonfederal entities have not clearly defined their financial responsibilities for wildland fire suppression, particularly those for protecting the wildland-urban interface.

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# Contents

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<b>Letter</b>		<b>1</b>
	Results in Brief	3
	Background	4
	Unclear Guidance and Inconsistent Application of Cost-Sharing Methods Can Have Significant Financial Consequences for Entities Involved	9
	Current Cost-Sharing Framework Raises Several Concerns	19
	Conclusions	27
	Recommendations for Executive Action	28
	Agency Comments and Our Evaluation	28
<b>Appendix I</b>	<b>Scope and Methodology</b>	<b>31</b>
<b>Appendix II</b>	<b>Characteristics of the Eight Fires That GAO Reviewed</b>	<b>34</b>
<b>Appendix III</b>	<b>Comments from the USDA Forest Service</b>	<b>35</b>
	GAO Comments	37
<b>Appendix IV</b>	<b>Comments from the Department of the Interior</b>	<b>38</b>
<b>Appendix V</b>	<b>Comments from the National Association of State Foresters</b>	<b>39</b>
	GAO Comments	41
<b>Appendix VI</b>	<b>GAO Contact and Staff Acknowledgments</b>	<b>43</b>
<b>Table</b>		
	Table 1: Master Agreements for 12 Western States Varied in the Cost-Sharing Methods Specified	10

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## Figures

Figure 1: The Varied Cost-Sharing Methods Used for Eight Similar Fires We Reviewed	13
Figure 2: Distribution of Costs under the Actual Cost-Sharing Method Used Compared with an Acres-Burned Method	17

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## Abbreviations

FEMA	Federal Emergency Management Agency
IMT	incident management team
NASF	National Association of State Foresters

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United States Government Accountability Office  
Washington, DC 20548

May 30, 2006

The Honorable Larry E. Craig  
Chairman, Subcommittee on Public Lands and Forests  
Committee on Energy and Natural Resources  
United States Senate

Dear Mr. Chairman:

Wildland fires burn millions of acres of land each year. Although wildland fires triggered by lightning are a natural, inevitable, and necessary ecological process, past federal fire suppression policies have led to an accumulation of fuels and contributed to larger and more severe wildland fires. In addition, as human development continues to expand in or near wildlands—an area commonly known as the wildland-urban interface—wildland fires increasingly threaten not only federal lands and public resources, such as forests and watersheds, but also nonfederal lands and resources, including homes and other structures.

Fighting wildland fires—which can burn across federal, state, and local jurisdictions—requires significant investments of firefighting personnel, aircraft, equipment, and supplies, resulting in substantial and increasing fire suppression expenditures. Since 2000, federal suppression expenditures alone have averaged more than \$1 billion annually. In addition, nonfederal entities, such as state and local governments, can spend hundreds of millions of dollars during severe fire years. Firefighting efforts are mobilized through an interagency incident management system, which depends on the close cooperation and coordination of federal, state, tribal, and local fire protection entities. At the federal level, five principal agencies are involved in firefighting efforts—the Forest Service within the Department of Agriculture and four agencies within the Department of the Interior.<sup>1</sup> Federal and nonfederal firefighting entities share their personnel, equipment, and supplies and work together to fight fires, regardless of which entity has jurisdiction over the burning lands. Agreements between cooperating entities, commonly referred to as master agreements, govern

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<sup>1</sup>The four agencies within the Department of the Interior responsible for wildland firefighting are the Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and National Park Service.

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these cooperative fire protection efforts and include general provisions for sharing firefighting costs. According to federal officials, these provisions, and the guidance on available cost-sharing methods, have been changing over the years, in part, to address the continuing expansion of the wildland-urban interface and the resulting increase in nonfederal resources at risk from wildland fire.

In this context of both the increasing size and severity of wildland fires and the rising costs of suppressing fires and protecting federal and nonfederal lands and resources, you asked us to (1) review how federal and nonfederal entities share the costs of suppressing wildland fires that burn or threaten both of their lands and resources and (2) identify any concerns federal and nonfederal entities may have with the existing cost-sharing framework. To address these objectives, we reviewed federal statutes governing cooperative fire protection activities; federal and interagency wildland fire policies and procedures; master agreements between federal and nonfederal entities governing cooperative fire protection in 12 western states that frequently experience wildland fires;<sup>2</sup> and federal, state, and nongovernmental entities' reviews of recent large fires or other reports related to wildland fire suppression costs. We also interviewed national, regional, and local firefighting officials from the Forest Service and Department of the Interior agencies as well as state officials from Arizona, California, Colorado, and Utah. In addition, for two recent fires that burned or threatened both federal and nonfederal lands and resources in the 4 states, we reviewed the records listing the firefighting resources deployed, their costs, and the methods chosen to share these costs.<sup>3</sup> We determined that these data were sufficiently reliable for the purposes of this report. Appendix I contains a more detailed description of our scope and methodology, and appendix II contains additional information on the fires we reviewed. We performed our work in accordance with generally accepted government auditing standards from May 2005 through May 2006.

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<sup>2</sup>These 12 states were Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. Although wildland fires can affect all states, we selected these western states because they have substantial federal lands and often experience wildland fires.

<sup>3</sup>The 12 master agreements reviewed, 4 states visited, and two wildland fires reviewed within each visited state are all nonprobability samples. Therefore, the results from these samples cannot be used to make inferences about all master agreements, states, or wildland fires.

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## Results in Brief

Federal and nonfederal entities used a variety of methods to share the costs of fighting wildland fires affecting both of their lands and resources, but they applied these varied methods inconsistently to fires with similar characteristics. Master agreements between firefighting entities provide the framework for cost sharing and, typically, list several cost-sharing methods available to the entities. The agreements we reviewed, however, often lacked clear guidance for federal and nonfederal officials to use in deciding which method to apply to a specific fire. As a result, cost-sharing methods were applied inconsistently within and among states, even for fires with similar characteristics. For example, we found that in one state, the costs for suppressing a large fire that threatened homes were shared solely according to the proportion of acres burned within each entity's area of fire protection responsibility. However, costs for a similar fire within the same state were shared differently. For this fire, the state paid for certain aircraft and fire engines used to protect the wildland-urban interface, while the remaining costs were shared on the basis of acres burned. In contrast to the two methods used in this state, officials in another state used yet a different cost-sharing method for two similar large fires that threatened homes, apportioning costs each day for personnel, aircraft, and equipment deployed on particular lands, such as the wildland-urban interface. The type of cost-sharing method ultimately used is important because it can have significant financial consequences for the entities involved, potentially amounting to millions of dollars.

Federal and nonfederal agency officials we interviewed raised a number of concerns about the current cost-sharing framework. First, some federal officials were concerned that because guidance is unclear about which cost-sharing methods are most appropriate in particular circumstances, it can be difficult to reach agreement with nonfederal officials on a method that all parties believe shares suppression costs equitably between affected federal and nonfederal entities, particularly for fires threatening the wildland-urban interface. For example, different cost-sharing methods were used for two fires we reviewed in one state, even though both fires required substantial suppression effort to protect the wildland-urban interface. Nonfederal officials agreed to pay a higher proportion of the suppression costs for one fire—primarily because most of the nonfederal share of the fire's costs were eligible for reimbursement by a Federal Emergency Management Agency (FEMA) grant program—but they would not agree to do so for the second fire. Second, nonfederal officials were concerned that the emergence of alternative cost-sharing methods is causing state and local entities to bear a greater share of suppression costs than in the past. Moreover, both federal and nonfederal officials were concerned that the inconsistent application of cost-sharing methods has

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created inequities among states in the proportion of suppression costs borne by federal and nonfederal entities. Finally, some federal officials also expressed concern that the current framework for sharing costs—combined with the availability of funds from FEMA to reimburse nonfederal entities in certain cases—insulates state and local governments from the increasing costs of protecting the wildland-urban interface. Consequently, nonfederal entities may have a reduced incentive for requiring the use of fire-resistant building materials and landscaping, which can help mitigate fire risks in the wildland-urban interface and thereby help reduce the costs of protecting it. On the basis of our review of previous federal reports and interviews with federal and nonfederal officials, we believe that these concerns may reflect a more fundamental issue—that federal and nonfederal entities have not clearly defined their financial responsibilities for wildland fire suppression, particularly those for protecting the wildland-urban interface.

To strengthen the framework for sharing wildland fire suppression costs, we are recommending that the Secretaries of Agriculture and the Interior, working in conjunction with relevant state entities, (1) provide more specific guidance as to when particular cost-sharing methods should be used and (2) clarify the financial responsibilities for suppressing fires that burn or threaten to burn across multiple jurisdictions. In commenting on a draft of this report, the Forest Service and Interior generally agreed with our findings and recommendations. The National Association of State Foresters (NASF) also provided comments on the report and generally did not agree with the recommendations. NASF stated that developing national guidance specifying appropriate cost-sharing methods and clarifying financial responsibility for fire suppression costs would not provide the flexibility needed by local federal and nonfederal officials to address the variability in local circumstances and state laws. We agree that a certain amount of flexibility is needed, however, without more explicit guidance to assist local federal and nonfederal officials responsible for developing cost-sharing agreements for individual fires, the inconsistencies in how suppression costs are shared within and among states are likely to continue, along with concerns about perceived inequities. Comments from the Forest Service, Interior, and NASF are reprinted in appendixes III, IV, and V, respectively.

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## Background

Wildland fires triggered by lightning are both natural and inevitable, and they play an important role on our nation's lands. Many ecosystems have adapted to periodic wildland fires, which help control vegetation levels and stimulate seedling regeneration and growth. Past land management



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practices, including effective fire suppression, have disrupted the historic frequency of wildland fires. As a result, a decrease in the number of acres burned nationwide during much of the twentieth century has led to an accumulation of dense vegetation that now fuels larger, more severe, and sometimes catastrophic wildland fires.

In recent years, both the number of acres burned by wildland fires and the costs to suppress fires have been increasing. From 1995 through 1999, wildland fires burned an average of 4.1 million acres each year; from 2000 through 2004, the fires burned an average of 6.1 million acres each year—an increase of almost 50 percent. During the same periods, the costs incurred by federal firefighting entities to suppress wildland fires more than doubled, from an average of \$500 million annually to more than \$1.3 billion annually.<sup>4</sup> Although efforts to fight these larger, more severe fires have accounted for much of the increase in suppression costs, the continuing development of homes and communities in areas at risk from wildland fires and the efforts to protect these structures also contribute to the increasing costs. Forest Service and university researchers estimate that about 44 million homes in the lower 48 states are located in areas that meet or intermingle with wildlands—commonly referred to as the wildland-urban interface.<sup>5</sup> When fire threatens the wildland-urban interface, firefighting entities often need to use substantial resources to fight the fire and protect homes, including firefighters, fire engines, and aircraft to drop retardant. Although firefighters are able to protect many homes threatened by wildland fires, these fires have burned an average of about 850 homes each year in the United States since 1984.

Because one firefighting entity alone cannot handle all wildland fires that may occur in its jurisdiction, federal and nonfederal entities work together to protect lands and resources and to fight fires. At the federal level, five principal agencies are involved in fire suppression—the Forest Service within the Department of Agriculture and the Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and National Park Service within the Department of the Interior. In addition, nonfederal entities—including state forestry entities and tribal, county, city, and rural

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<sup>4</sup>These dollars have been adjusted for inflation using the gross domestic product price index, with fiscal year 2005 as the base year.

<sup>5</sup>Susan Stewart et al., *Mapping the Wildland Urban Interface and Projecting Its Growth to 2030: Summary Statistics, January 2005*, <http://www.silvis.forest.wisc.edu/Library/Stats/uswuistats.pdf> (downloaded May 5, 2006).

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fire departments—play an important role in protecting resources and fighting fires. Federal and nonfederal entities enter into master agreements that govern their cooperative fire protection activities, including wildland fire suppression, and provide for sharing the costs of these efforts.<sup>6</sup> To share suppression costs for a specific fire, local representatives of federal and nonfederal firefighting entities responsible for protecting lands and resources affected by the fire decide which costs will be shared and for what period. They document their decisions in a cost-sharing agreement for that fire. These local representatives can include federal officials from a national forest, a Bureau of Land Management district office, or a national park and nonfederal officials from the state or other entities. In developing the cost-sharing agreement for a specific fire, these officials are guided by the terms of the master agreement.

As wildland fire suppression costs have continued to rise, increasing attention has focused on how suppression costs for multijurisdictional fires are shared. According to federal officials, in the past these cooperating entities often shared suppression costs on the basis of the proportion of acres burned in each entity's protection area. These officials explained that this method is relatively easy to apply and works well when the lands affected by a wildland fire are similar. In 2000, federal officials updated interagency policy to include, among other things, additional information about alternative cost-sharing methods. According to a federal official, the interagency policy was updated, in part, in response to requests for additional guidance on cost sharing.<sup>7</sup> In addition to the acres-burned method, the policy describes two alternative methods for sharing the costs of fire suppression efforts.<sup>8</sup> Under the first alternative—you order, you pay—each entity pays for the firefighting personnel, aircraft,

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<sup>6</sup>Cooperative fire protection agreements for the Forest Service are executed principally under the following five laws: The Granger-Thye Act of 1950, the Reciprocal Fire Protection Act of 1955, the Cooperative Funds and Deposits Act of 1975, the Cooperative Funds Act of 1914, and the Cooperative Forestry Assistance Act of 1978, as amended. Cooperative fire protection agreements involving Department of the Interior agencies are executed, among other authorities, under the Reciprocal Fire Protection Act of 1955.

<sup>7</sup>National Wildfire Coordinating Group, *Interagency Incident Business Management Handbook* (Boise, Id.: 2004).

<sup>8</sup>According to the *Interagency Incident Business Management Handbook*, an acres-burned method should be used when entities' responsibilities, objectives, and suppression costs are similar. The handbook also lists a fourth method, which addresses sharing costs for a fire controlled during initial fire suppression efforts. This fourth method did not apply to our study because none of the fires we reviewed were controlled during the initial "attack" period.

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and equipment it orders, regardless of where these resources are deployed during a fire. Under the second alternative—cost apportionment—entities share total fire costs according to the assignment or actual use each day of firefighting personnel, aircraft, and equipment in federal or nonfederal protection areas. Indirect costs can then be shared in the same proportions as these direct costs.<sup>9</sup> According to the interagency policy, however, the cost-sharing terms of the master agreements take precedence.

To facilitate an effective response to wildland fires—including those affecting both federal and nonfederal jurisdictions—firefighting entities in the United States use an interagency incident management system. This system provides an organizational structure that expands to meet a fire’s complexity and demands and allows entities to share firefighting personnel, aircraft, and equipment. When a fire is first detected, firefighting entities normally follow a principle of “closest available resource,” whereby, regardless of jurisdiction, the closest available firefighting personnel and equipment respond to the fire. The firefighter managing the suppression efforts is called the incident commander. Typically, when a fire is first detected, it is classified as a type 5—the least complex—or type 4 fire, depending on the fire and the number of firefighters needed to fight it. If additional firefighting assets are needed, the incident commander orders them through a three-tiered system of local, regional, and national dispatch centers. Federal, state, tribal, and local entities and private contractors supply the firefighting personnel, aircraft, equipment, and supplies, which are coordinated and dispatched through these centers. If the fire escapes initial suppression efforts, officials may request a type 3 incident commander and additional firefighting assets. The fire may grow in size or complexity into a type 2 or type 1 fire, the latter being the most complex. For such fires, officials may request an incident management team that includes not only an incident commander but a cadre of personnel to handle command, planning, logistics, operations, and finance functions. Nationally, there are 17 type 1 incident management teams available to manage the most complex fires. An additional 38 type 2 teams are available to manage large fires that are less complex.

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<sup>9</sup>Direct costs include the costs for firefighters, aircraft, and equipment deployed to fight the fire. Indirect costs include the costs for fire managers, fire camps, and other support services.

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In 2000, in response to a decade of severe wildland fires, the Departments of Agriculture and the Interior developed a National Fire Plan. This plan comprises several strategic documents that together address how to respond to wildland fires, reduce the impacts of these fires on communities and the environment, and ensure sufficient firefighting resources for the future.<sup>10</sup> The National Fire Plan encourages collaboration and cooperation among a variety of stakeholders, including federal, state, and local firefighting and other government entities; nongovernmental entities; and property owners. The plan includes a 10-year comprehensive strategy and an associated implementation plan that outline a collaborative approach for reducing wildland fire risks to communities and the environment. The implementation plan includes steps addressing four key areas—improving fire prevention and suppression, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance—and identifies parties to help carry out these steps. For example, to help protect structures and communities, state and local entities are encouraged to develop and adopt local land-use plans and ordinances to help reduce the wildland fire risks to homes and other structures. To help meet National Fire Plan goals, Congress provided funding for programs to assist not only federal firefighting entities but also nonfederal entities and communities. For fiscal years 2001 through 2005, assistance to nonfederal entities and communities totaled \$436 million (\$462 million adjusted for inflation). These funds—in the form of grants or other assistance administered by the Departments of Agriculture and the Interior—were used to train state and local firefighters and acquire firefighting equipment, carry out hazardous fuel treatments, conduct hazard assessments and assist communities in developing community wildland fire protection plans, and educate homeowners and others on preventive steps to help reduce their risk from wildland fires.

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<sup>10</sup>The various documents making up the National Fire Plan include (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 in fiscal year 2001, and (3) several strategies to implement all or parts of the plan. For a description of these strategy documents, including the National Fire Plan, and their contents, goals, and relationships to one another, see GAO, *Severe Wildland Fires: Leadership and Accountability Needed to Reduce Risks to Communities and Resources*, [GAO-02-259](#) (Washington, D.C.: Jan. 31, 2002).

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## Unclear Guidance and Inconsistent Application of Cost-Sharing Methods Can Have Significant Financial Consequences for Entities Involved

Federal and nonfederal entities included in our review used a variety of methods to share the costs of fighting fires that burned or threatened both federal and nonfederal lands and resources. Although master agreements between federal and nonfederal entities provided the framework for cost sharing and, typically, listed several cost-sharing methods, the agreements often lacked clear guidance for officials to follow in deciding which cost-sharing method to apply to a specific fire. Consequently, for eight fires we reviewed in four states, we found varied cost-sharing methods used and an inconsistent application of these methods within and among states, although the fires had similar characteristics. The type of cost-sharing method chosen is important because it can have significant financial consequences for the federal and nonfederal entities involved.

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## Master Agreements Provided Cost-Sharing Framework, but Those We Reviewed Lacked Clear Guidance

Master agreements provide the framework for federal and nonfederal entities to work together and share the costs of fighting wildland fires. The master agreements we reviewed for 12 western states all directed federal and nonfederal entities to develop a separate agreement, documenting how costs were to be shared for each fire that burned—or, in some cases, threatened to burn—across multiple jurisdictions. The master agreements also listed one or more methods that could be used for sharing costs (see table 1). The master agreement for Idaho was the only one of the agreements reviewed that did not cite any specific methods for sharing multijurisdictional fire suppression costs. Three other master agreements—for Alaska, Arizona, and New Mexico—provided that firefighting entities should distribute suppression costs exclusively or primarily on the basis of the percentage of acres burned in each entity’s jurisdiction, although two of the agreements permitted another method if all parties agreed to use it. The master agreements for the remaining 8 states listed a variety of methods that could be used to share suppression costs. Although, the specific methods varied from agreement to agreement, they included acres burned, cost apportionment, or variations of these or other methods.

**Table 1: Master Agreements for 12 Western States Varied in the Cost-Sharing Methods Specified**

State	Cost-sharing method specified in master agreement		
	No specific method	Acres burned was the primary or only method	Multiple methods
Alaska		✓	
Arizona		✓	
California			✓
Colorado			✓
Idaho	✓		
Montana			✓
Nevada			✓
New Mexico		✓	
Oregon			✓
Utah			✓
Washington			✓
Wyoming			✓

Source: GAO analysis of data provided by the Forest Service.

The master agreements we reviewed provided a framework for cost sharing, but they did not provide clear guidance for federal and nonfederal officials to follow in deciding which method to use for a specific fire. Only one master agreement, the agreement for Alaska, clearly stated that an acres-burned method should always be used. The agreement noted, however, that this method may distribute suppression costs disproportionately to the cost of protecting lands and resources in a particular jurisdiction. The acres-burned method spreads fire suppression costs evenly across the affected landscape, a distribution that may not recognize extra fire suppression costs incurred to protect lands and resources in one entity’s jurisdiction. Most of the master agreements we reviewed for the remaining 11 states listed multiple, alternative cost-sharing methods but did not provide clear guidance on when each method should be used. For example, master agreements for several states defined three cost-sharing methods, including cost apportionment. These master agreements noted that the cost-apportionment method was “the most equitable method and should be used when a type 1 team is assigned” to manage a wildland fire, but they provided no further guidance about when the other methods should be used. Similarly, the master agreement for another state, Montana, suggested that an acres-burned method be used when entities’ responsibilities, objectives, and suppression costs are

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similar, but the agreement did not describe when the other three listed methods should be used. Finally, the joint master agreement for Oregon and Washington<sup>11</sup> listed five possible cost-sharing methods. The agreement stated that some of the cost-sharing methods described were typically used on “smaller, less complex” fires and others were typically applied to “larger, more complex” fires. It did not define, however, at what point a fire crosses the threshold from smaller and less complex to larger and more complex.

Two other master agreements prescribed a primary cost-sharing method but allowed the use of alternative methods without explicitly stating under what circumstances an alternative method would be appropriate. The master agreements for these states—Arizona and New Mexico—stipulated that firefighting entities share suppression costs on an acres-burned basis unless federal and nonfederal officials jointly agreed to use an alternative method. But the agreements for these states did not clearly delineate the circumstances that would warrant use of such an alternative. The master agreement for New Mexico, for example, cited “extra suppression effort,” and the agreement for Arizona referred to “an unusually high amount” of suppression activity as prerequisites for distributing suppression costs on a basis other than acres burned. The agreements did not define what constitutes “extra suppression effort” or an “unusually high amount” of suppression activity.

In addition to providing limited guidance on cost-sharing methods, the master agreements we reviewed also provided unclear guidance on whether estimated or actual costs should be shared between federal and nonfederal entities. Although estimated costs can be more quickly determined than actual costs—often by the end of a fire—estimated costs can be incomplete or inaccurate. For example, federal and nonfederal officials with whom we spoke in California said that in their experience, estimated costs could differ from actual costs by as much as 30 percent. Such discrepancies can occur because not all costs are available and entered into the accounting system at the time of a fire. In addition, some costs entered into the accounting system at the time of a fire, such as federal personnel costs, are in fact estimated costs. According to federal

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<sup>11</sup>Instead of having a separate master agreement for each state, federal and state officials in Oregon and Washington developed a joint master agreement for fire protection in both states.

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officials, actual cost data may take from several weeks to several months to become available.

For several of the fires we reviewed, total actual fire costs were much higher than the costs estimated immediately after the fire. For one fire we reviewed in Colorado, for example, total estimated fire costs increased from \$5.4 million at the end of the fire to \$7 million as of February 2006—an increase of 29 percent. Federal and state officials have been using actual costs to finalize federal and nonfederal entities' shares. In another example, for a fire we reviewed in Arizona, total costs increased from an estimated \$17.3 million at the end of the fire to \$19.4 million as of February 2006—an increase of more than 12 percent. In this case, nonfederal entities' share of costs was agreed to on the basis of estimated costs. As a result, federal entities will bear the total increase.

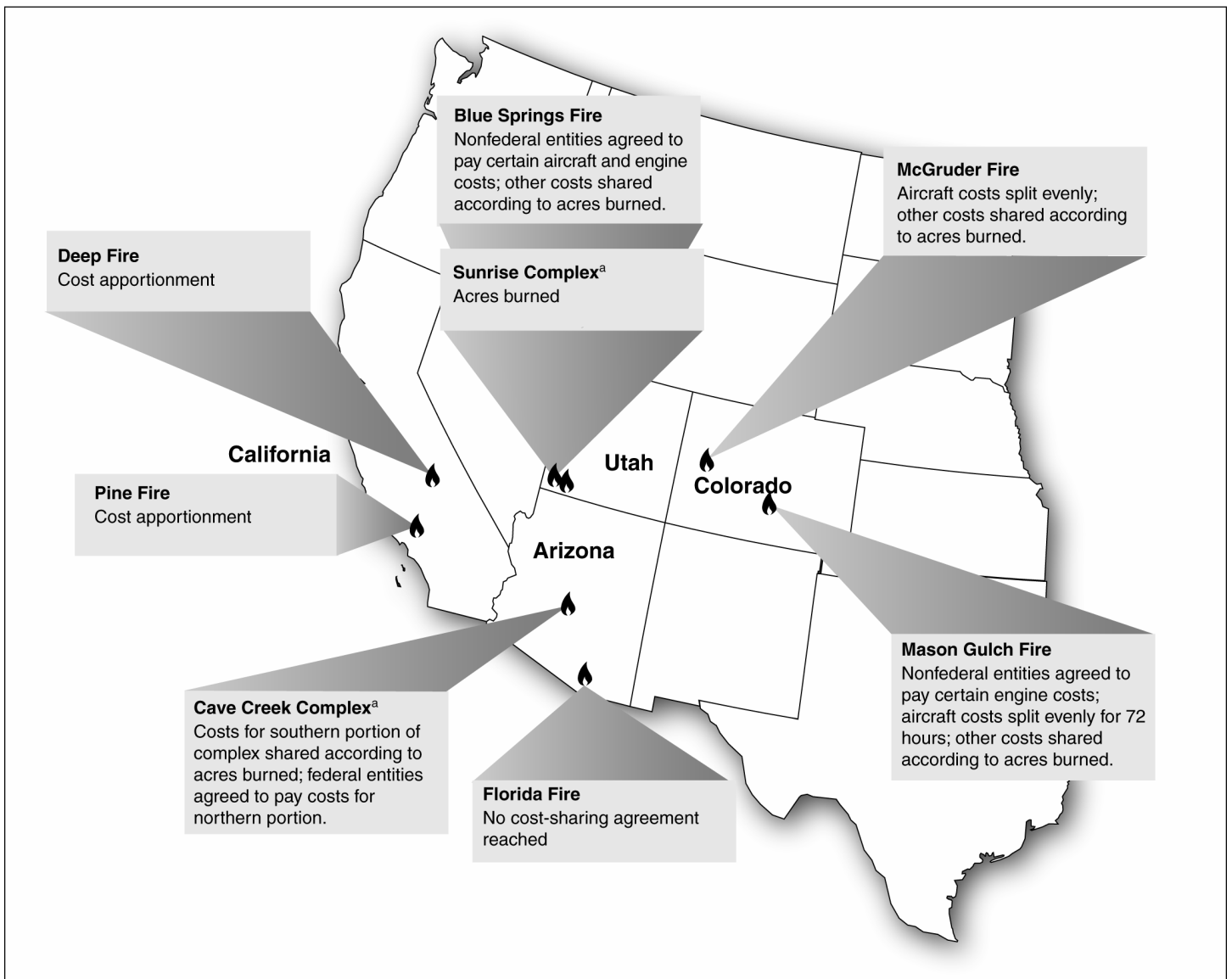
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### Cost-Sharing Methods Were Inconsistently Applied for the Eight Fires We Reviewed

Federal and nonfederal entities used varied cost-sharing methods for the eight fires we reviewed, although the fires had similar characteristics. As shown in figure 1, the cost-sharing methods used sometimes varied within a state or from state to state.



**Figure 1: The Varied Cost-Sharing Methods Used for Eight Similar Fires We Reviewed**



Sources: GAO representation of data provided by the Forest Service and the Department of the Interior; MapArt (map).

<sup>a</sup>A complex consists of two or more individual fires located in the same general area and managed by a single incident commander.

The costs for the two fires that we reviewed in Utah were shared using two different methods, although both fires had similar characteristics. For the Blue Springs Fire, federal and nonfederal officials agreed that aircraft and engine costs of protecting an area in the wildland-urban interface

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during a 2-day period would be assigned to the state and that the remaining costs would be shared on the basis of acres burned. Federal and state officials explained that, because the Blue Springs Fire qualified for assistance from FEMA, state officials agreed to bear a larger portion of the total fire suppression costs.<sup>12</sup> In contrast, state officials were reluctant to share costs in the same manner on the Sunrise Complex of fires. Although these fires also threatened the wildland-urban interface, they did not meet the eligibility requirements for FEMA reimbursement of nonfederal costs. Consequently, federal and nonfederal officials agreed to share costs for the Sunrise Complex on the basis of acres burned.

The costs for the two fires we reviewed in Arizona were also treated differently from each other. For the Cave Creek Complex, federal and state officials agreed to share suppression costs using an acres-burned method for the southern portion of the fire, which encompassed federal, state, and city lands and required substantial efforts to protect the wildland-urban interface. The federal government paid the full costs for the northern portion of the fire, which burned almost exclusively on federal land although some efforts had also been taken on federal lands to protect an area of wildland-urban interface northeast of the fire. Forest Service regional officials who conducted a postfire review expressed concern about the method chosen for the Cave Creek Complex because they believed that it did not equitably share the fire suppression costs among the affected entities, especially the costs of protecting the wildland-urban interface. The Arizona state forester explained, in contrast, that he and local forest officials agreed to use an acres-burned method because they did not believe that an unusually high amount of suppression effort had gone toward protecting nonfederal lands and resources.

Unlike the Cave Creek Complex, federal and nonfederal officials were unable to reach any agreement on how to share costs for the Florida Fire in Arizona. Officials from the affected national forest had proposed a cost-

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<sup>12</sup>Under its Fire Management Assistance Grant Program, FEMA provides financial assistance to nonfederal entities for the mitigation, management, and control of any fire on public or private forest land or grassland that would constitute a major disaster. Under this program, nonfederal entities can be reimbursed for 75 percent of the allowable fire suppression costs. FEMA evaluates the threat posed by a fire or fire complex according to the following criteria: (1) threat to lives and improved property, including threats to critical facilities/infrastructure, and critical watershed areas; (2) availability of state and local firefighting resources; (3) high fire danger conditions, as indicated by nationally accepted indexes such as the national fire danger ratings system; and (4) potential major economic impact.

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sharing agreement, whereby the state would pay the costs of firefighting personnel, equipment, and aircraft used to protect the wildland-urban interface, and all other fire suppression costs would be paid by the federal government. The state forester, however, did not agree with this proposal. He explained that he believed that the Forest Service, not the state, was responsible for protecting areas of the wildland-urban interface threatened by the Florida Fire and that he was not authorized to agree to the terms of the proposed agreement.<sup>13</sup> Federal and state officials were not able to reach agreement, and, according to federal officials, no further discussions were planned.

Methods used to share suppression costs for fires with similar characteristics also varied among states. For example, costs for the fires we reviewed in California and Colorado were shared using methods different from those used for similar fires we reviewed in Arizona and Utah. In California, federal and nonfederal officials agreed to share the costs of two fires using the cost-apportionment method—that is, costs were apportioned on the basis of where firefighting personnel and equipment were deployed. Officials said that they had often used this method since the mid-1980s because they believed that the benefit it provides in more equitable cost sharing among affected firefighting entities outweighs the additional time required to apportion the costs. In contrast, federal and state officials in Colorado shared suppression costs for both of the fires we reviewed in that state using guidance they had developed and officially adopted in 2005, called “fire cost share principles.”<sup>14</sup> Under these principles, aviation costs for fires burning in the wildland-urban interface are shared equally for 72 hours,<sup>15</sup> and other fire suppression costs, such as firefighting personnel and equipment, are shared on the basis of acres burned. State officials said that they developed the principles because they did not want firefighting officials to be reluctant to order needed resources due to concerns about which entity would pay for them. They added that using the principles is less labor-

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<sup>13</sup>Specifically, the state forester said that under Arizona law, the state had no responsibility to protect the private lands and resources in the wildland-urban interface threatened by the Florida Fire because the fire did not threaten state lands, and the private properties that the fire threatened were not covered by cooperative fire agreements with the state.

<sup>14</sup>These principles were adopted in 2005, but the basic framework contained in the principles was also used for the McGruder Fire in 2004. For the McGruder Fire, however, equal sharing of aviation costs was not limited to 72 hours.

<sup>15</sup>The 72-hour count generally begins after a fire escapes initial suppression efforts, or initial attack.

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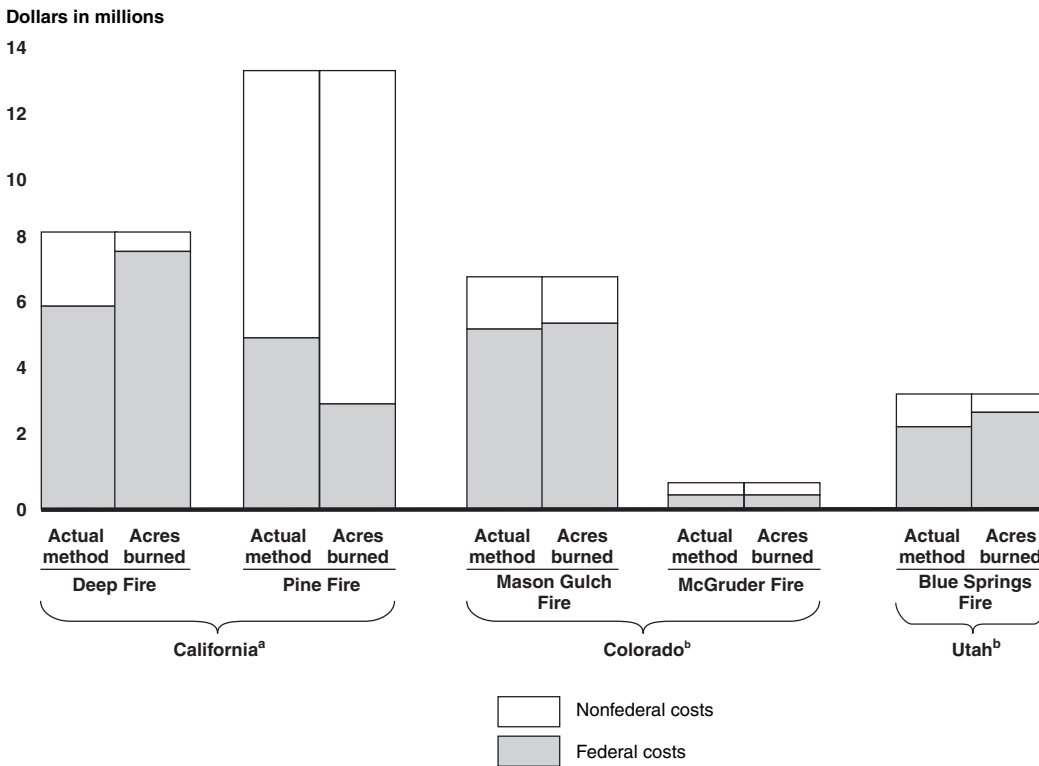
intensive than cost apportionment and better distributes the cost of expensive aviation assets than an acres-burned method alone. In addition, for the Mason Gulch Fire, Colorado officials agreed to pay for some fire engines that were used to protect homes in the wildland-urban interface during one operational period.

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**The Cost-Sharing Method  
Used Can Lead to  
Significantly Different  
Financial Outcomes**

Having clear guidance as to when particular cost-sharing methods should be used is important because the type of method ultimately agreed upon for any particular fire can have significant financial consequences for the firefighting entities involved. To illustrate the effect of the method chosen, we compared the distribution of federal and nonfederal costs for the five fires we reviewed in which the actual cost-sharing method used was not acres burned with what the distribution would have been if the method used had been acres burned (see fig. 2).

**Figure 2: Distribution of Costs under the Actual Cost-Sharing Method Used Compared with an Acres-Burned Method**



Source: GAO analysis of data from the Forest Service; Department of the Interior; and Utah Division of Forestry, Fire and State Lands.

Note: For each illustrated fire, we estimated costs under an acres-burned method by multiplying the total costs for each fire by the percentage of affected acres under nonfederal and federal protection, respectively. Dollars were not adjusted for inflation.

<sup>a</sup>Data for these California fires, which occurred in 2004, reflect total actual suppression costs.

<sup>b</sup>Data for these Colorado and Utah fires—which, according to the fire officials involved, were the best available as of March 2006—reflect a combination of actual suppression costs and estimated costs, when actual costs were not available. Because final actual shares of the costs had not been determined for the Mason Gulch Fire at the time of our review, we worked with federal officials to estimate the federal and nonfederal shares on the basis of the fire’s actual cost-sharing agreement. The federal and nonfederal shares of total costs calculated at final settlement by firefighting entities involved in the Mason Gulch Fire may differ from these estimates.

We found that the distribution of costs between federal and nonfederal entities differed, sometimes substantially, depending on the cost-sharing method used. Of the five fires included in our review, the largest differences occurred for the two fires in California. Officials shared the costs for each of these fires using a cost-apportionment method. For the Deep Fire, federal entities paid \$6.2 million, and nonfederal entities paid \$2.2 million. Had the costs been shared on the basis of acres burned, federal entities would have paid an additional \$1.7 million, and nonfederal

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entities would have paid that much less because most of the acres burned were on federal lands. According to federal and state officials, the nonfederal entities bore a larger share of the cost than they would have under an acres-burned method because (1) substantial aircraft, fire engines, and personnel were used to protect nonfederal lands and resources, primarily in the wildland-urban interface, and (2) the costs for protecting these nonfederal lands and resources were assigned to the nonfederal entities. In contrast, for the other California fire we reviewed, the Pine Fire, federal firefighting entities would have paid about \$2 million less, and nonfederal entities would have paid that much more under an acres-burned method. Under the cost-apportionment method, federal entities paid \$5.2 million, and nonfederal entities paid \$8.1 million. According to a federal official who worked on apportioning costs for that fire, the higher costs that the federal entities paid under cost apportionment were largely due to extensive firefighting efforts on federal land to ensure that the fire was extinguished.

In Colorado and Utah, which for three fires used cost-sharing methods other than cost apportionment and acres burned, the differences in federal and state entities' shares between the methods used and the acres-burned method were less pronounced. This is likely because the cost-sharing methods used still relied heavily on acres burned. In each case, federal entities' shares would have been more and nonfederal shares less had an acres-burned method been used, due to the efforts to protect the wildland-urban interface. For example, the federal share of costs for the Blue Springs Fire in Utah would have been about \$400,000 more and the nonfederal share that much less if an acres-burned method had been used for the whole fire. In Colorado, we estimated that the federal share of costs for the Mason Gulch Fire would have been about \$200,000 more and the nonfederal share that much less under an acres-burned method. For the McGruder Fire, where the number of federal and nonfederal acres burned were nearly identical and the total fire cost of about \$800,000 was much less than the cost of other fires we reviewed, the change in the distribution of costs between the method used and acres burned—about \$30,000—was much less than for the other fires.

For two other fires we reviewed in which federal and nonfederal entities had agreed to use the acres-burned method, nonfederal entities might have borne a greater proportion of the costs had a different cost-sharing method been used. For these two fires, in Arizona and Utah, federal and state officials we interviewed had identified many aviation and ground firefighting assets that went toward protecting nonfederal lands and resources. Although we were unable to fully estimate a distribution of

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costs using an alternative method due to limitations in the data available, our analysis suggested, and many of the officials we interviewed acknowledged, that the nonfederal entities would have borne a larger share of the costs.

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## Current Cost-Sharing Framework Raises Several Concerns

Federal and nonfederal agency officials we interviewed raised a number of concerns about the current cost-sharing framework. First, some federal officials said that because master agreements and other policies do not provide clear guidance about which cost-sharing methods to use, it has sometimes been difficult to obtain a cost-sharing agreement that they believe shares suppression costs equitably. Second, nonfederal officials were concerned that the emergence of alternative cost-sharing methods has caused nonfederal entities to bear a greater share of fire suppression costs than in the past. Finally, some federal officials expressed concern that the current framework for sharing costs insulates state and local governments from the cost of protecting the wildland-urban interface, thereby reducing their incentive to take steps that could help mitigate fire risks and reduce suppression costs in the wildland-urban interface. On the basis of our review of previous federal reports and interviews with federal and nonfederal officials, we believe these concerns may reflect a more fundamental issue—that federal and nonfederal entities have not clearly defined their financial responsibilities for wildland fire suppression, particularly for the wildland-urban interface.

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## Lack of Clear Guidance Can Lead to Difficulties in Sharing Costs

Some federal officials said that the lack of clear guidance can make it difficult to agree to use a cost-sharing method that they believe equitably distributes suppression costs between federal and nonfederal entities, particularly for fires that threaten the wildland-urban interface. For example, different cost-sharing methods were used for the two fires we reviewed in Utah, even though both fires required substantial suppression efforts to protect the wildland-urban interface. For the Blue Springs Fire, nonfederal officials agreed to pay a higher proportion of the suppression costs than they would have paid had an acres-burned method been used, because they recognized the substantial effort undertaken to protect the wildland-urban interface and because most of the state's costs for that fire were eligible for FEMA reimbursement. For the Sunrise Complex, the federal official who negotiated the cost-sharing agreement said that using a method other than acres burned might have better recognized and distributed the costs of the suppression effort necessary to protect the wildland-urban interface. Nonfederal officials, however, said they were not willing to pay a higher proportion of costs for the Sunrise Complex.

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because for that fire, the state was ineligible for financial assistance from FEMA. The federal official said that because of the state officials' unwillingness to use a method other than acres burned, and because of the lack of clear guidance about which cost-sharing method should be used, he agreed to use an acres-burned method and did not seek a cost-sharing agreement that would have assigned more of the Sunrise Complex's costs to the nonfederal entities. Some federal officials in Arizona expressed similar views, saying that the lack of clear guidance on sharing costs can make it difficult to reach agreement with nonfederal officials. For example, federal and state officials in Arizona did not agree on whether to share costs for the Florida Fire in that state.

Officials from NASF and the Utah Division of Forestry, Fire and State Lands raised a related issue—that existing guidance does not specify how costs should be shared when one entity's management goals alter fire suppression strategies and increase costs. For example, these officials said that federal agencies may restrict the use of mechanized equipment in wilderness areas or in sensitive wildlife habitat and increase the use of aircraft instead. The officials did not believe that nonfederal entities should have to pay for the resulting higher costs. Utah officials said that although they have been able to reach cost-sharing agreements they believe are appropriate in such cases, guidance should be improved to recognize these situations.

Officials from the Forest Service's and the Department of the Interior's national offices agreed that interagency policies for cost sharing could be clarified to indicate under what circumstances particular cost-sharing methods are most appropriate. They said that the acres-burned method, for example, is likely not the most equitable method to share costs in cases where fires threaten the wildland-urban interface. But they also said that it would be difficult to develop universal guidance requiring a particular cost-sharing method for fires with certain characteristics. They explained that the organization, responsibilities, and funding of state and local firefighting entities vary from state to state, and flexibility is therefore needed. The National Fire and Aviation Executive Board was developing a template for both master and cost-sharing agreements.<sup>16</sup> As of May 2006,

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<sup>16</sup>The National Fire and Aviation Executive Board is made up of the fire directors from the five federal land management agencies and a representative from NASF. The board reports to the Wildland Fire Leadership Council, which is a group established to support the implementation and coordination of the National Fire Plan and the federal wildland fire management policy.



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this template had not been finalized, but our review of a draft version indicated that the template might not provide additional clarity about when each cost-sharing method should be used.<sup>17</sup>

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### Nonfederal Officials Were Concerned about Increased Costs and Equity among States

While federal officials expressed the need for further guidance on how to share costs, nonfederal officials were concerned that the emergence of alternative cost-sharing methods was leading state and local entities to bear a greater share of suppression costs than in the past, and they questioned whether such an increase was appropriate. Nonfederal officials also said that wildland fire suppression costs already posed budgetary challenges for state and local entities and that using alternative cost-sharing methods more often could exacerbate the situation. State officials said that if a state's suppression costs in a given year exceed the funds budgeted, they must seek additional state funds, which can be difficult. Moreover, they said, in many states, protecting structures is primarily a local responsibility, and many local entities are unable to pay the costs of fighting a large fire that threatens the wildland-urban interface.<sup>18</sup> Although clarifying guidance about which cost-sharing methods are most appropriate for particular circumstances could cause nonfederal entities to bear more wildland fire suppression costs, over the long term, such clarification would also allow each entity to better determine its budgetary needs and take steps to meet them.

In addition to their concerns about increased costs, nonfederal as well as federal officials were concerned that the federal government was treating nonfederal entities in different states differently, thereby creating inequities. Federal and nonfederal officials said that because some states use particular cost-sharing methods more often than other states, the proportion of costs borne by federal and nonfederal entities likely varies from state to state, resulting in nonfederal entities' paying a higher proportion of costs in some states and a lower proportion in other states. For example, nonfederal officials in Utah said that even though they agreed to pay certain aircraft and fire engine costs to protect the wildland-

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<sup>17</sup>The draft template was very similar to the joint master agreement for Oregon and Washington. The template described several cost-sharing methods that can be used, but it did not specify that certain methods be used for certain types of fires.

<sup>18</sup>Some states have provisions whereby wildland fires exceeding the logistic and financial capabilities of local entities can be managed and paid for by the state, but officials said that state funds to do so are also limited.

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urban interface on the Blue Springs Fire, they were uncertain if this method was equitable, particularly if nonfederal entities were not paying for similar costs in other states. Clarifying which cost-sharing methods should be used in particular situations could increase nonfederal officials' assurance that the federal government is treating them equitably relative to other states.

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### Cost-Sharing Framework May Reduce Incentives to Mitigate Fire Risks in the Wildland-Urban Interface

In addition to the concerns raised about obtaining equitable cost-sharing agreements and about the increased costs to nonfederal entities, federal officials said that the current cost-sharing framework insulates state and local governments from the cost of protecting the wildland-urban interface. A variety of protective measures are available to help protect structures from wildland fire, although they are not consistently used in areas at risk. Some federal and nonfederal officials noted that the current framework for sharing costs—combined with the availability of funds from FEMA for some emergency fire suppression costs—may reduce the incentive for state and local governments to require that such measures be taken.

### Measures Are Available to Mitigate Fire Risks in the Wildland-Urban Interface, but They Are Not Consistently Used

Firefighting officials and researchers have identified a variety of measures that can mitigate the risk to structures from wildland fire. As we have previously reported, key among these measures are (1) reducing vegetation and flammable objects within an area of 30 to 100 feet around a structure, often called creating a defensible space, and (2) using fire-resistant roofing materials and covering attic vents with mesh screens.<sup>19</sup> In addition, fire-resistant windows and building materials can help prevent structures from igniting. Other measures, such as designing communities to ensure an adequate water supply for fighting fires and access for emergency vehicles, can assist fire suppression efforts and further reduce the risk to structures. Taken together, these measures can help reduce the likelihood that a wildland fire will damage a structure.

Increasing the use of protective measures to mitigate the risk to structures from wildland fire is a key goal of the National Fire Plan. This plan—developed by federal wildland fire agencies and state governors—encourages, but does not mandate, state or local governments to adopt

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<sup>19</sup>GAO, *Technology Assessment: Protecting Structures and Improving Communications during Wildland Fires*, [GAO-05-380](#) (Washington, D.C.: Apr. 26, 2005).

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laws requiring homeowners and homebuilders to take measures to help protect structures from wildland fires. Because these measures rely on the actions of individual homeowners or on laws and land-use planning affecting private lands, achieving this goal is primarily a state and local government responsibility. The National Association of Counties supports this goal.

Federal and nonfederal officials told us that the use of measures to help protect structures from wildland fires has become more common, but that such measures are not consistently used in areas at risk. The increased use of these measures in recent years is due in part to continuing federal and nonfederal efforts to educate homeowners in the wildland-urban interface and to state and local governments' adopting laws requiring that such measures be used. Education efforts, such as the Firewise Communities program,<sup>20</sup> seek to increase the voluntary use of such measures by working with community leaders and individual homeowners. As wildland fires have become more severe and the number of damaged homes has grown, more state and local governments have adopted laws requiring homeowners or homebuilders to use measures to reduce the risk to structures from wildland fires. Nevertheless, federal and nonfederal fire officials told us that protective measures are not used consistently in many areas at risk from wildland fire. Some homeowners and homebuilders, for example, resist using fire-resistant landscaping and roofing because they are concerned about aesthetics, time, or cost. As a result, federal and nonfederal officials said, it can be politically difficult for state and local governments to adopt—and enforce—laws requiring such measures, and many at-risk areas have not done so. In 2004, the Western Governors' Association reported that greater use of protective measures was urgent, but the progress made was unknown.<sup>21</sup>

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<sup>20</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, NASF, National Fire Protection Association, FEMA, U.S. Fire Administration, Forest Service, Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and National Park Service. Numerous state and local fire and forestry officials also participate in this program. See <http://www.firewise.org/> for more information.

<sup>21</sup>Western Governors' Association, "Letter to the Secretary of Agriculture and Secretary of the Interior," December 16, 2004, <http://www.westgov.org/wga/initiatives/fire/tempe-report04.pdf> (downloaded May 8, 2006).

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The states and communities we visited exhibited various degrees of progress in adopting laws requiring protective measures. Since 1965, for example, California has required homeowners in the wildland-urban interface to maintain 30 feet of defensible space around their homes, a requirement that was increased to 100 feet in 2005. This law applies to existing homes as well as to new construction and specifically allows local jurisdictions to adopt stricter standards. In areas at particularly high risk from wildland fires, California regulations also require new structures to be constructed with fire-resistant roofing materials and vents. The other states we visited do not have such statewide requirements, but they are taking a variety of steps to require or encourage protective measures. Utah, for example, passed a law in 2004 requiring its counties to adopt standards for landscaping and building materials if they want to be eligible to receive state funds to assist with fire suppression costs. According to state officials, exactly what will be required under these standards was still being determined, but once final, the standards will apply only to new construction, not existing structures. Similarly, Arizona did not have any statewide requirements, although it adopted a law in 2004 explicitly granting local governments the authority to establish codes to mitigate wildland fire risk in the wildland-urban interface. Finally, in Colorado, laws requiring protective measures have been adopted primarily at the local, not state, level. Although some counties, such as Larimer County, required owners of new structures in the wildland-urban interface to use measures to help mitigate fire risk, others—including the three counties affected by the wildfires we reviewed—were educating homeowners about measures they can use to reduce their risk, without requiring that such measures be used.

**Cost-Sharing Framework and Federal Assistance May Reduce the Incentive to Require the Use of Protective Measures**

Although measures are available to help protect structures in the wildland-urban interface from wildland fires, federal officials expressed concern—and some nonfederal officials acknowledged—that the use of cost-sharing methods that assign more costs to federal entities, and the availability of federal emergency assistance, insulate state and local governments from the cost of providing wildland fire protection. These federal officials pointed out that wildland fires threatening structures often require added suppression effort, such as an increased number of aircraft and fire engines or firefighters to remove vegetation around individual structures. Under some cost-sharing methods, such as acres burned, federal entities often end up paying a large proportion of the costs for these efforts. Some federal and nonfederal officials also noted that the availability of FEMA assistance to nonfederal entities—which can amount to 75 percent of allowable fire suppression costs for eligible fires—further insulates state and local governments from the cost of protecting the wildland-urban

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interface. Of the eight fires included in our review, nonfederal officials were seeking reimbursement for the allowable costs of the five fires that FEMA determined met eligibility requirements.

Federal officials suggested that to the extent that state and local governments are insulated from the cost of protecting the wildland-urban interface, these governments may have a reduced incentive to adopt laws requiring homeowners and homebuilders to use protective measures that could help mitigate fire risks. Homeowner and homebuilder resistance make it politically difficult to adopt and enforce such laws. Both federal and nonfederal officials noted, however, that greater use of fire-resistant building materials and landscaping could help reduce the cost of protecting the wildland-urban interface. Some officials also said that by requiring homeowners and homebuilders to take such measures, more of the cost of protecting the wildland-urban interface would then be borne by those who chose to live there. The Colorado State Forest Service, for example, has reported that the expansion of the wildland-urban interface has increased wildland fire suppression costs, but that these costs have not been equitably divided because all taxpayers—not just those who live in areas threatened by wildland fire—fund the cost of suppression.<sup>22</sup>

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### Officials' Concerns May Reflect Ambiguity over Financial Responsibilities

On the basis of our review of previous federal reports and interviews with federal and nonfederal officials, we believe that the concerns we identified may reflect a more fundamental issue—that federal and nonfederal firefighting entities have not clearly defined their financial responsibilities for wildland fire suppression, particularly those for protecting the wildland-urban interface. Federal officials said that the continuing expansion of the wildland-urban interface and rising fire suppression costs for protecting these areas have increased the importance of resolving these issues. First, federal wildland fire management policy states that protecting structures is the responsibility of state, tribal, and local entities; but the policy also says that, under a formal fire protection agreement specifying the financial responsibilities of each entity, federal agencies can assist nonfederal entities in protecting the exterior of structures

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<sup>22</sup>Colorado State Forest Service, *State of Colorado Wildfire Hazard Mitigation Plan, Colorado Multi-Hazards Mitigation Plan* (Denver, Colo.: July 2002).

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threatened by wildland fire.<sup>23</sup> Forest Service guidance defines actions to protect the exterior of structures to include removing fuels in the vicinity of structures and spraying water or retardant on structures or surrounding vegetation. Federal and nonfederal officials agreed that federal agencies can assist with such actions, but they did not agree on which entities are responsible for bearing the costs of these actions. Federal officials told us that the purpose of this policy is to allow federal agencies to use their personnel and equipment to help protect homes but not to bear the financial responsibility of providing that protection. Nonfederal officials, however, said that these actions are intended to keep a wildland fire from reaching structures, and financial responsibility should therefore be shared between both federal and nonfederal entities.

Second, the presence of structures adjacent to federal lands can substantially alter fire suppression strategies and raise costs. A previous federal report and federal officials have questioned which entities are financially responsible for suppression actions taken on federal lands but intended primarily or exclusively to protect adjacent wildland-urban interface. Fire managers typically use existing roads and geographic features, such as rivers and ridgelines, as firebreaks to help contain wildland fires. If, however, homes and other structures are located between a fire and such natural firebreaks, firefighters may have to construct other firebreaks and rely more than they otherwise would on aircraft to drop fire retardant to protect the structures, thereby increasing suppression costs. For example, for the Sunrise Complex fires in Utah, federal and nonfederal officials agreed that if structures had not been present, they could have used easily accessible roads to contain the fire and would not have used as many aircraft. Nonfederal officials in several states, however, questioned the appropriateness of assigning to nonfederal entities the costs for suppression actions taken on federal lands. These officials, as well as NASF officials, also said that accumulated fuels on federal lands is resulting in more severe wildland fires and contributing to

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<sup>23</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 the National Association of State Foresters, *Review and Update of the 1995 Federal Wildland Fire Management Policy* (Washington, D.C.: January 2001).

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the increased cost of fire suppression.<sup>24</sup> They also said that federal agencies are responsible for keeping wildland fires from burning off federal land and should, therefore, bear the costs of doing so. Federal officials in the states we visited recognized this responsibility, but some also said that with the growing awareness that wildland fires are inevitable in many parts of the country, policy should recognize that wildland fires will occur and are likely to burn across jurisdictional boundaries. In their view, those who own property in areas at risk of wildland fires share a portion of the financial responsibility for protecting it. Previous federal agency reports have also recognized this issue and have called for clarifying financial responsibility for such actions.<sup>25</sup>

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## Conclusions

Wildland fires are an enduring part of the landscape, and they will continue to affect both federal and nonfederal lands and resources. Federal, state, and local firefighting entities have taken great strides to develop a cooperative fire protection system so that these entities can effectively work together to respond to these fires. Nevertheless, where federal and nonfederal lands and resources are adjacent or intermingled, particularly in the wildland-urban interface, different views prevail about which entity is responsible for the costs of protecting these lands and resources. Without explicit delineation of each entity's firefighting financial responsibilities, federal and nonfederal entities' concerns about how these costs are shared are likely to continue. In addition, lack of clarity about respective financial responsibilities can also make it more difficult for both federal and nonfederal entities to accurately forecast and plan for future budget needs. As the wildland-urban interface continues to become a more prominent feature of the fire suppression landscape, contributing to rising suppression costs, the need for clarity is becoming more acute. Improved guidance that clearly delineates federal and

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<sup>24</sup>GAO has previously reported on fuel conditions on federal lands. See GAO, *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); and *Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildfire Threats*, GAO/RCED-99-65 (Washington, D.C.: Apr. 2, 1999).

<sup>25</sup>Department of Agriculture, *Secretary of Agriculture Independent Cost-Control Review Panel: FY 2004 Large Cost Wildfires Report* (Washington, D.C.: Mar. 23, 2005); and Department of Agriculture and Department of the Interior, *Consolidation of the 2003 National and Regional Large Incident Strategic Assessment and Oversight Review Key Findings* (Washington, D.C.: Sept. 22, 2003).

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nonfederal entities' financial responsibilities for suppressing wildland fires could assist all entities in better planning for, and during, a fire season.

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## Recommendations for Executive Action

To strengthen the framework for sharing wildland fire suppression costs, we recommend that the Secretaries of Agriculture and the Interior, working in conjunction with relevant state entities, take the following two actions:

- provide more specific guidance as to when particular cost-sharing methods should be used and
- clarify the financial responsibilities for suppressing fires that burn, or threaten to burn, across multiple jurisdictions.

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## Agency Comments and Our Evaluation

We received written comments on a draft of this report from the Forest Service and Interior. Both agencies generally concurred with our findings and recommendations. The Forest Service stated that it will clarify the guidance to the field regarding the most appropriate cost-share method to use in a given situation, which will serve as a place to begin negotiations with its partners. We recommended, however, that the Secretaries of Agriculture and the Interior work in conjunction with relevant state entities to develop more specific guidance. If the Forest Service independently clarifies guidance without engaging state entities that also will be affected by any changes, there is no assurance that these state entities will agree to the changes in cost-sharing methods. Interior stated, however, that it would work closely with the Forest Service and state agencies to clarify such guidance to the field.

The Forest Service also stated that its financial responsibilities are clearly defined in policy. Several federal officials with whom we spoke during our study disagreed, however, stating that these policies do not clearly delineate federal entities' financial responsibility for fire protection, especially in regards to the wildland-urban interface. Although Forest Service policy states that structural fire suppression is the responsibility of tribal, state, or local governments and the Forest Service's primary responsibility and objective for structure protection is to suppress wildland fire before it reaches structures, it does not clearly define what this would constitute. Officials told us that such actions could include efforts on Forest Service lands to keep fire from crossing jurisdictional boundaries or suppression actions in closer proximity to a structure, such as removing vegetation or other flammable objects. Without a clear



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definition of each entity's protection and related financial responsibilities, it will be difficult to determine how to appropriately share the costs of the efforts. The Forest Service also provided additional comments that we have incorporated in this report where appropriate. The Forest Service's and Interior's letters are reprinted in appendixes III and IV, respectively, along with our evaluation of specific Forest Service comments in appendix III.

In addition to these federal agencies, we also sought comments from NASF because of our report's potential financial implications for states and other nonfederal entities. NASF provided both oral comments and a written response to our report. NASF did not agree with our recommendations, stating that developing national guidance specifying appropriate cost-sharing methods and clarifying financial responsibility for fire suppression costs would not provide the flexibility needed by local federal and nonfederal officials to address the variability in local circumstances and state laws. We agree that a certain amount of flexibility is needed. However, without more specific guidance to assist federal and nonfederal officials when developing cost-sharing agreements for particular fires, inconsistencies in the methods used—as well as perceived inequities in how costs are shared between federal and nonfederal entities, as expressed by many officials with whom we spoke—are likely to continue. A copy of NASF's letter and our evaluation of its specific comments are included in appendix V.

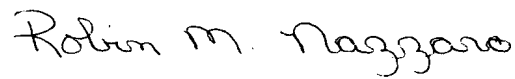
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As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to interested congressional committees, the Secretaries of Agriculture and the Interior, the Chief of the Forest Service, the Director of the Bureau of Land Management, and other interested parties. We will also make copies available to others upon request. In addition, this report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

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If you or your staff have questions about this report, please contact me 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 report. Key contributors to this report are listed in appendix VI.

Sincerely yours,

A handwritten signature in black ink that reads "Robin M. Nazzaro". The signature is written in a cursive style with a large, prominent 'R' and 'N'.

Robin M. Nazzaro  
Director, Natural Resources  
and Environment

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# Appendix I: Scope and Methodology

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To determine the general framework for how federal and nonfederal entities share suppression costs when fires burn or threaten both their lands and resources, we reviewed federal laws and interagency policies governing cost sharing for cooperative fire protection efforts. To identify similarities and differences in the cost-sharing framework and available methods from state to state, we obtained and reviewed master agreements between federal and nonfederal entities for 12 western states.<sup>1</sup> Although wildland fires can affect all states, we focused our review on these western states, which have substantial federal lands and often experience wildland fires.

To identify how cost-sharing methods are applied in different states, we selected a nonprobability sample of four states—Arizona, California, Colorado, and Utah—that used a variety of different methods to share wildland fire suppression costs between federal and nonfederal entities. In each of the four states, we selected a nonprobability sample of two fires that occurred in 2004 or 2005 and were managed by either the Forest Service or the Bureau of Land Management.<sup>2</sup> The eight fires all burned or threatened to burn both federal and nonfederal lands, burned or threatened both natural resources and wildland-urban interface areas, and were of sufficient size and complexity to require type 1 or type 2 incident management teams for a portion of the fire. For each of the eight fires, we reviewed available records on firefighting personnel, aircraft, and equipment used for fire suppression efforts; reviewed fire cost data; reviewed the cost-sharing agreement that federal and nonfederal officials negotiated, if any; interviewed federal and nonfederal officials to identify the process used to select the cost-sharing method; and obtained agency estimates of total suppression costs that were based on data collected by federal agencies for each fire. Using this information and working with federal and nonfederal officials, we estimated the federal and nonfederal shares of the suppression costs. To determine the effect of the cost-sharing method selected on the relative proportion of costs borne by federal and nonfederal entities—for the five fires that used a cost-sharing method other than acres burned—we compared the estimated federal and nonfederal shares of costs resulting from the cost-sharing agreement to our estimate of what the federal and nonfederal shares of costs would

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<sup>1</sup>These states were Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

<sup>2</sup>Of the federal firefighting agencies, the Forest Service and the Bureau of Land Management spend the most funds each year on wildland fire suppression.

have been if an acres-burned method had been used. We used estimates of suppression costs for some of the fires because the entities had not yet determined the actual total cost for all eight fires we reviewed. To determine the reliability of the data used, we reviewed previous audits of the federal financial systems used for the accounting of fire costs; interviewed federal officials knowledgeable about these systems to identify how data are entered into the system and what steps are taken to help ensure accuracy; and, working with federal and nonfederal officials, reviewed data on the specific firefighting assets used and the related costs for the eight fires. Because we were primarily interested in the relative proportions of fire costs borne by federal and nonfederal entities using different cost-sharing methods, we determined that these data were sufficiently reliable for the purposes of this study. The 12 master agreements reviewed, the four states visited, and the two fires we reviewed within each state are all nonprobability samples. The results of these samples, therefore, cannot be used to make inferences about all master agreements, states, or wildland fires.

To identify concerns that federal and nonfederal entities may have about the existing cost-sharing framework, we reviewed previous reports on wildland fire suppression, including large fire cost reviews conducted by the Departments of Agriculture or the Interior, a series of reports by the National Academy of Public Administration, and reports by state entities. We interviewed federal officials from the Department of the Interior's and Forest Service's national offices and the National Interagency Fire Center in Boise, Idaho; Forest Service officials from the four regional offices and other Forest Service officials involved with the fires we reviewed; and Bureau of Land Management officials from the two state offices and several district offices involved with the fires we reviewed. We also interviewed additional federal officials in other regions and states to obtain a broader perspective on any concerns with the cost-sharing framework. Nonfederal officials that we interviewed included state—and, in some cases, local—officials from the four states we visited, as well as officials from Montana, Oregon, and Washington. We also reviewed reports by or interviewed officials from the National Association of State Foresters (NASF), the Western Governors' Association, and the National Association of Counties. To better understand the concern officials raised about the cost-sharing framework and incentives to increase the use of protective measures, we reviewed federal policies and reports on protecting the wildland-urban interface, including the National Fire Plan and the federal wildland fire management policy; federal laws and regulations governing Federal Emergency Management Agency (FEMA)

assistance; and reports by GAO,<sup>3</sup> the American Planning Association,<sup>4</sup> and state audit entities.

We performed our work in accordance with generally accepted government auditing standards from May 2005 through May 2006.

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<sup>3</sup>GAO, *Technology Assessment: Protecting Structures and Improving Communications during Wildland Fires*, [GAO-05-380](#) (Washington, D.C.: Apr. 26, 2005).

<sup>4</sup>James Schwab et al., *Planning for Wildfires* (Washington, D.C.: American Planning Association, 2005).

# Appendix II: Characteristics of the Eight Fires That GAO Reviewed

State/Fire	Date	IMT type <sup>a</sup>	Number of acres burned (percentage of total)		Total acres burned	Total cost
			Federal	Nonfederal		
Arizona						
Cave Creek Complex	June-July 2005	1	231,171 (94%)	15,543 (6%)	246,714	\$19,413,000
Florida Fire	July 2005	1	22,549 (97)	634 (3)	23,183	6,217,000
California						
Deep Fire	August 2004	1	2,928 (93)	220 (7)	3,148	8,412,000
Pine Fire	July 2004	1	4,180 (24)	13,238 (76)	17,418	13,311,000
Colorado						
Mason Gulch Fire	July 2005	1	9,124 (80)	2,233 (20)	11,357	7,054,000
McGruder Fire	July 2004	2	1,404 (50)	1,402 (50)	2,806	805,000
Utah						
Blue Springs Fire	June-July 2005	2	10,331 (84)	1,955 (16)	12,286	3,497,000
Sunrise Complex	July 2005	2	18,186 (85)	3,272 (15)	21,458	2,043,000

Source: GAO analysis of data from the Forest Service and the Department of the Interior.

<sup>a</sup>Incident management teams (IMT) are assigned to manage wildland fire suppression efforts on the basis of fire size and complexity. Type 1 IMTs typically handle the most complex fires. The IMTs listed in the table represent the IMT type on each fire during its peak size and complexity.

# Appendix III: Comments from the USDA Forest Service

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



Forest Service  
Washington Office

1400 Independence Avenue, SW  
Washington, DC 20250

File Code: 1420/1310/1930

Date: APR 18 2006

Ms. Robin Nazzaro  
Director, Natural Resources and Environment  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Ms. Nazzaro:

Thank you for the opportunity to review and comment on the draft Government Accountability Office (GAO) report, GAO-06-570, "Wildland Fire Suppression: Lack of Clear Guidance Raises Concerns about Cost Sharing among Federal and Nonfederal Entities." The Forest Service generally agrees with the findings and recommendations in the report and believes that GAO accurately highlighted some of the complexities associated with large, multi-jurisdictional wildland fires.

There are a few points that the Forest Service would like to see clarified.

- The heading "Unclear Guidance and Inconsistent Application of Cost-Sharing Method Can Be Costly for Entities Involved" seems to imply that clearer guidance and consistent application of cost share methods would result in reduced wildland fire costs. However, the question is reduced costs for whom? Wildland fires in the urban interface are expensive regardless of the cost sharing methods used. We suggest the following modification "Unclear Guidance and Inconsistent Applications of Cost-Sharing Method Can Lead to an Inequitable Apportionment of Costs."
- Under the heading "Cost-Sharing Method Used Could Lead to Significantly Different Financial Outcomes", the report states that "For two other fires we reviewed in which federal and nonfederal entities had agreed to use the acres-burned method, nonfederal entities might have borne a greater proportion of the costs had a different cost-sharing method been used". This statement seems to imply that the Forest Service should choose the cost-sharing method that results in the states paying a greater share.

The report recommends that the Secretaries, working with relevant state agencies, provide more specific guidance as to when particular cost-sharing methods should be used and clarify the financial responsibilities for fires that burn or threaten to burn across multiple jurisdictions. The Forest Service will clarify the guidance to the field regarding the most appropriate cost-share method to use in a given situation. This guidance will serve as a place to begin negotiations with our partners. The final cost-sharing method chosen will take into account a multitude of factors that will be determined at the incident. The Forest Service's financial responsibilities are clearly defined in our policy. Reiteration of these financial responsibilities will occur as Master Fire Agreements with states are updated.



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See comment 1.

See comment 2.

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**Appendix III: Comments from the USDA  
Forest Service**

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Ms. Robin Nazzaro, Director, Natural Resources and Environment

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If you have any additional questions or concerns, please contact the Forest Service audit lead, Sandra Cantler, Fire and Aviation Management, at 202-205-1438, or Sandy T. Coleman, Assistant Director for GAO/OIG Audit Liaison staff, at 703-605-4699.

Sincerely,

  
for DALE N. BOSWORTH  
Chief

cc: Sandra Cantler, Jesse L King, Sandy T Coleman, Clarice Wesley



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The following are GAO's comments on the USDA Forest Service's letter dated April 18, 2006.

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## GAO Comments

1. We modified the language of our report to clarify that the cost-sharing method chosen can have significant financial consequences for the entities responsible for providing fire protection to the lands involved. Although we agree that fires affecting the wildland-urban interface may be costly, regardless of the method used, it is precisely these high costs that make it critical for federal and nonfederal entities to agree on appropriate cost-sharing methods.
2. We modified the language of our report to clarify that for the two fires discussed, nonfederal entities would likely have borne a greater proportion of the costs if another cost-sharing method had been used that better recognized the many aviation and ground firefighting assets that went toward protecting nonfederal lands and resources. We are not implying that costs should be shifted to the state or nonfederal entities without any basis. Rather, federal and nonfederal partners need to agree on cost-sharing methods that appropriately distribute wildland fire suppression costs on the basis of the federal and nonfederal lands and resources requiring fire protection and the extent of firefighting assets used to protect each.

# Appendix IV: Comments from the Department of the Interior



## United States Department of the Interior

OFFICE OF THE ASSISTANT SECRETARY  
POLICY, MANAGEMENT AND BUDGET  
Washington, D.C. 20240

**APR 27 2006**

Ms. Robin Nazzaro  
Natural Resources and Environment  
United States General Accounting Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Ms. Nazzaro:

Thank you for giving us the opportunity to review the draft report, *Wildland Fire Suppression: Lack of Clear Guidance Raises Concerns about Cost Sharing among Federal and Nonfederal Entities (GAO-06-570)*. We agree with the fundamental premise of the report that there is a need for more guidance as to when particular cost sharing methods should be used to clarify an entity's financial responsibilities.

The report recommends that the Secretaries of Interior and Agriculture, working with relevant state agencies, provide more specific guidance as to when particular cost-sharing methods should be used and clarify the financial responsibilities for fires that burn or threaten to burn across multiple jurisdictions. The Department of the Interior will work closely with the Forest Service and state agencies to clarify guidance to the field regarding the most appropriate cost-share method to use in a given situation.

In addition, as pointed out in the report, the capacity to correctly share wildland fire suppression cost incurred by the Federal Government (Forest Service, Department of the Interior, and Federal Emergency Management Agency (FEMA)) with nonfederal entities may be challenged by the competing Federal statutes and policies, such as FEMA's reimbursement of nonfederal entities in certain cases. We have seen this issue arise several times already this year when states, affected by the early fire season, requested and then released Federal firefighting resources seemingly based solely on whether or not a Federal reimbursement was available.

In closing, I would like to express my appreciation for a balanced and thorough examination of the issues surrounding cost sharing among Federal and nonfederal entities. The Department of the Interior will use this report as a point of reference as we deal with cost sharing issues in the future.

Sincerely,

R. Thomas Weimer  
Assistant Secretary

# Appendix V: Comments from the National Association of State Foresters

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



**NATIONAL ASSOCIATION OF STATE FORESTERS**  
444 North Capitol Street, NW, Suite 540, Washington, DC 20001

May 5, 2006

Robin M. Nazzaro  
Director, Natural Resources and Environment  
U.S. Government Accountability Office  
441 G Street, NW Room 2T43  
Washington, DC 20548

Dear Ms. Nazzaro:

On behalf of the National Association of State Foresters (NASF), I would like to thank you very much for providing us the opportunity to meet with you and other GAO staff earlier this week. Our delegation greatly appreciated the chance to review and offer our views on the findings and recommendations in your draft report, "Wildland Fire Suppression: Lack of Clear Guidance Raises Concerns about Cost Sharing among Federal and Nonfederal Entities". We recognize that this opportunity was unusual for a nonfederal organization. The cooperative federal-state partnership is essential to effective and efficient wildland fire suppression, and we took our assignment very seriously.

During the discussion our delegation offered a number of suggestions and observations regarding the report. They included identifying minor factual errors, suggestions for clarifying certain points, and providing additional background on others. We hope that you found our suggestions to be both informative and helpful, and that they will lead to adjustments in your final report. I will not repeat them in this correspondence.

As our delegation indicated during their meeting with you, NASF also wishes to formally respond to your recommendation for executive action, which reads: "To strengthen the framework for sharing wildland fire suppression costs, GAO recommends that the Secretaries of Agriculture and the Interior, working in conjunction with relevant state entities, *provide more specific guidance as to when particular cost-sharing methods should be used and clarify the financial responsibilities* for suppressing fires that burn or threaten to burn across multiple jurisdictions." (Emphasis added.)

First, in regard to providing more specific guidance on using cost-share methods, we believe that the national template for Master Cooperative Agreements currently being developed by the National Fire and Aviation Executive Board will provide appropriate guidance for cost-share agreements. As your report notes, this draft template identifies the requirement for a cost-share agreement and defines the various options available to Line Officers. Although the guidance in the template is not definitive regarding which option to use under any specific set of circumstances, it provides the necessary flexibility needed by

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See comment 1.

TEL: 202/624-5415

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Appendix V: Comments from the National  
Association of State Foresters

Robin M. Nazzaro  
May 5, 2006  
Page 2

Line Officers to effectively address local variability in terms of terrain, fuels, values at risk, and local protection responsibilities. We believe that further efforts to define the specific circumstances that would warrant the selection of one cost-share method over another, or identify the point at which a fire crosses some arbitrary threshold, will neither be productive nor helpful. Federal and state Line Officers need the flexibility to jointly craft cost-share agreements appropriate to the complexity of the incident, not attempt to apply rigid, national guidelines that may not fit their local circumstances.

See comment 2.

Second, we strongly believe that it is not the responsibility of the Secretaries of Agriculture and the Interior to "clarify financial responsibilities for suppressing fires that burn or threaten to burn across multiple jurisdictions". The Secretaries clearly have the responsibility to clarify federal responsibilities on federal lands which, in fact, they have done. The 1995 Federal Wildland Fire Policy, as revised in 2001, accurately defines federal fire protection responsibilities, including operations in the wildland-urban interface. We believe that federal responsibilities on federal lands are clear: federal agencies have an obligation to keep fires originating on their lands from spreading off federal lands to other ownerships. On the other hand, it is the responsibility of state and local government to define their financial obligations through state law and local ordinances and codes. And, as states are independent entities, their laws, ordinances and codes are frequently different from state to state. Therefore, we believe that it is neither feasible nor appropriate to attempt to define at the national level the financial responsibilities for suppressing wildfires that burn across federal/nonfederal jurisdictional boundaries. Federal agencies must recognize that differences in state laws require that financial decisions on sharing suppression costs must be determined on a state-by-state basis.

Thank you again for the opportunity to review the draft and provide our comments for your consideration prior to completion of the final report. Our delegation members express their appreciation for your patience and courtesy. Please contact Jeff Jahnke, chair of our Forest Fire Protection Committee, if you have any questions on our comments or need any clarification. Jeff can be reached at the Colorado Forest Service at 970/491-6303, or by email at [jjahnke@lamar.colostate.edu](mailto:jjahnke@lamar.colostate.edu).

Sincerely,



James B. Hull  
President

CC: Jeff Jahnke (CO), Chair, NASF Fire Committee  
Kirk Rowdabaugh (AZ), Treasurer, NASF  
Don Artley, NASF Fire Director  
Anne Heissenbuttel, NASF Executive Director

The following are GAO's comments on NASF's letter dated May 5, 2006.

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## GAO Comments

1. NASF stated that it believes that the national template currently being developed for master cooperative agreements will provide appropriate guidance for cost-sharing agreements. As NASF noted, the draft template lists several options for sharing suppression costs but does not provide definitive guidance as to when each cost-sharing method should be used. NASF stated that it does not believe that further efforts to define the specific circumstances that would warrant the selection of one cost-sharing method over another would be either productive or helpful. We continue to believe that more specific guidance—which could consider local characteristics and conditions—would assist local federal and nonfederal officials in negotiating cost-sharing agreements for individual fires. Without such guidance, inconsistencies in how costs are shared are likely to continue, along with perceived inequities within and among states.
2. NASF strongly believes that it is not the responsibility of the Secretaries of Agriculture and the Interior to clarify the financial responsibilities for suppressing fires that burn or threaten to burn across multiple jurisdictions. We agree with NASF that the Secretaries alone cannot clarify these responsibilities, and for that reason, we recommended that the Secretaries do so in conjunction with relevant state entities. Further, NASF stated that it is neither feasible nor appropriate to attempt to define at the national level the financial responsibilities for these fires. Ultimately, however, one or more entities will end up paying for the costs of fighting a particular fire, whether by explicit agreement beforehand or by negotiation afterward. To avert decision making after the fact, we maintain that federal and nonfederal entities—which have developed an effective cooperative firefighting relationship—need to further clarify their respective financial responsibilities in guidance articulated in advance of the fire season.

In addition to written comments, NASF also commented orally about two other issues discussed in our report. First, NASF officials expressed concern about our example illustrating the influence of FEMA assistance on the selection of a cost-sharing method for a particular fire. They said that, in their experience, the availability of FEMA assistance does not influence a state's willingness to use certain cost-sharing methods, some of which may lead states to pay higher costs. Although we did not attempt to determine how often the availability of FEMA assistance affected a state's choice of cost-sharing method, we believe that our example illustrates how, without specific guidance, costs for similar fires have been

shared in different ways. In its written comments, Interior also raised a related concern about federal assistance such as FEMA's. Interior commented that it has already seen the issue arise several times this year, when states have requested, then canceled, federal firefighting resources seemingly on the sole basis of whether federal reimbursement was available. Second, with regard to state and local governments' incentives for protecting the wildland-urban interface, NASF officials said that reducing the potential loss of life and property provides sufficient incentive for state and local governments to adopt laws requiring the use of protective measures against wildland fire. As we noted here and in a previous report, however, many jurisdictions at risk from wildland fire have not yet adopted such laws. We have incorporated other NASF comments into our report as appropriate.

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# Appendix VI: GAO Contact and Staff Acknowledgments

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## GAO Contact

Robin M. Nazzaro (202) 512-3841 or nazzaror@gao.gov

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## Staff Acknowledgments

In addition to the contact named above, David P. Bixler, Assistant Director; Ellen W. Chu; Jonathan Dent; Janet Frisch; Timothy Guinane; Kevin Jackson; Richard Johnson; Chester Joy; Winchee Lin; Tom Moscovitch; and Jena Sinkfield made key contributions to this report.

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