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GAO

Report to Congressional Requesters

April 2004

BISCUIT FIRE

Analysis of Fire Response, Resource Availability, and Personnel Certification Standards

GAO-04-426

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GAO Accountability • Integrity • Reliability

Highlights

Highlights of GAO-04-426, a report to congressional requesters

Why GAO Did This Study

In 2002, the United States experienced one of the worst wildland fire seasons in the past 50 years—almost 7 million acres burned. These fires included the largest and costliest fire in Oregon in the past century—the Biscuit Fire. Following a lightning storm, five fires were discovered in the Siskiyou National Forest over a 3-day period beginning July 13. These fires eventually burned together to form the Biscuit Fire, which burned nearly 500,000 acres in southern Oregon and Northern California and cost over $150 million to extinguish. GAO evaluated (1) whether policies and procedures were in place for acquiring needed firefighting resources during the initial days of the Biscuit Fire, and the extent to which these policies and procedures were followed when the fire was first identified; (2) what resource management issues, if any, affected the ability of personnel to fight the fire; and (3) what differences, if any, existed in key certification standards for personnel among federal and state agencies and whether these differences affected efforts to respond to the fire.

In commenting on a draft of this report, the Forest Service stated that the report appears to be accurate and the agency generally agrees with its contents. The Department of the Interior did not provide comments.

www.gao.gov/cgi-bin/getrpt?GAO-04-426.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Barry T. Hill at (202) 512-3841 or hillbt@gao.gov.

What GAO Found

National policies and procedures were in place and provided the framework to guide personnel in the local interagency dispatch center in Grants Pass, Oregon, who were responsible for acquiring resources to fight the Biscuit Fire. These policies and procedures provide for a multilevel dispatching system where, if sufficient firefighting personnel and equipment are not available locally, resource requests can be elevated to other dispatch centers at the regional and, if necessary, national level. To facilitate the swift suppression of new fires, local dispatch center personnel can contact neighboring centers directly, including those in adjacent regions, before elevating resource requests. When the first two fires were found on July 13, the Grants Pass dispatch center did not have sufficient firefighting resources available locally. Grants Pass personnel requested resources from the responsible regional center in Portland, as well as from a dispatch center in central Oregon, but no resources were immediately available in the region due to other higher priority fires that were threatening lives and property. Grants Pass personnel did not request resources from a neighboring interagency dispatch center in Fortuna, California, located in an adjoining dispatch region, because they believed the center had no available resources due to fire activity there. State officials working at the Fortuna dispatch center later said that a Fortuna-based helicopter fighting fires in Northern California near the first of the five Biscuit fires could have been made available to suppress this fire. However, Forest Service officials working with Fortuna personnel disagreed, saying that the helicopter had been needed to fight fires in California. Because no request was made, there was no discussion on that first day about whether the Biscuit Fire would have been the best use of the helicopter, and it is unclear, in any case, what the outcome of such a request would have been.

Following the initial days of the Biscuit Fire, delays in obtaining needed personnel hampered efforts to fight the rapidly growing fire. Specifically, officials faced problems obtaining (1) highly experienced management teams to direct suppression strategies and crews to carry the strategies out, (2) supervisors to manage crews and equipment, and (3) support staff to monitor the training and experience of contracted crews. An unusually severe fire season, with many other higher priority fires, affected the availability of personnel needed to fight the Biscuit Fire.

Finally, while some differences exist in certification standards for personnel between federal and state agencies responsible for fighting wildland fires, these differences did not appear to affect efforts to respond to the Biscuit Fire.

Contents

Abbreviations

CDF	California Department of Forestry and Fire Protection
NIFC	National Interagency Fire Center
NWCG	National Wildfire Coordinating Group
ODF	Oregon Department of Forestry

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United States General Accounting Office
Washington, D.C. 20548

April 12, 2004

The Honorable Greg Walden
Chairman, Subcommittee on Forests and Forest Health
Committee on Resources
House of Representatives

The Honorable Peter DeFazio
House of Representatives

The Honorable Scott McInnis
House of Representatives

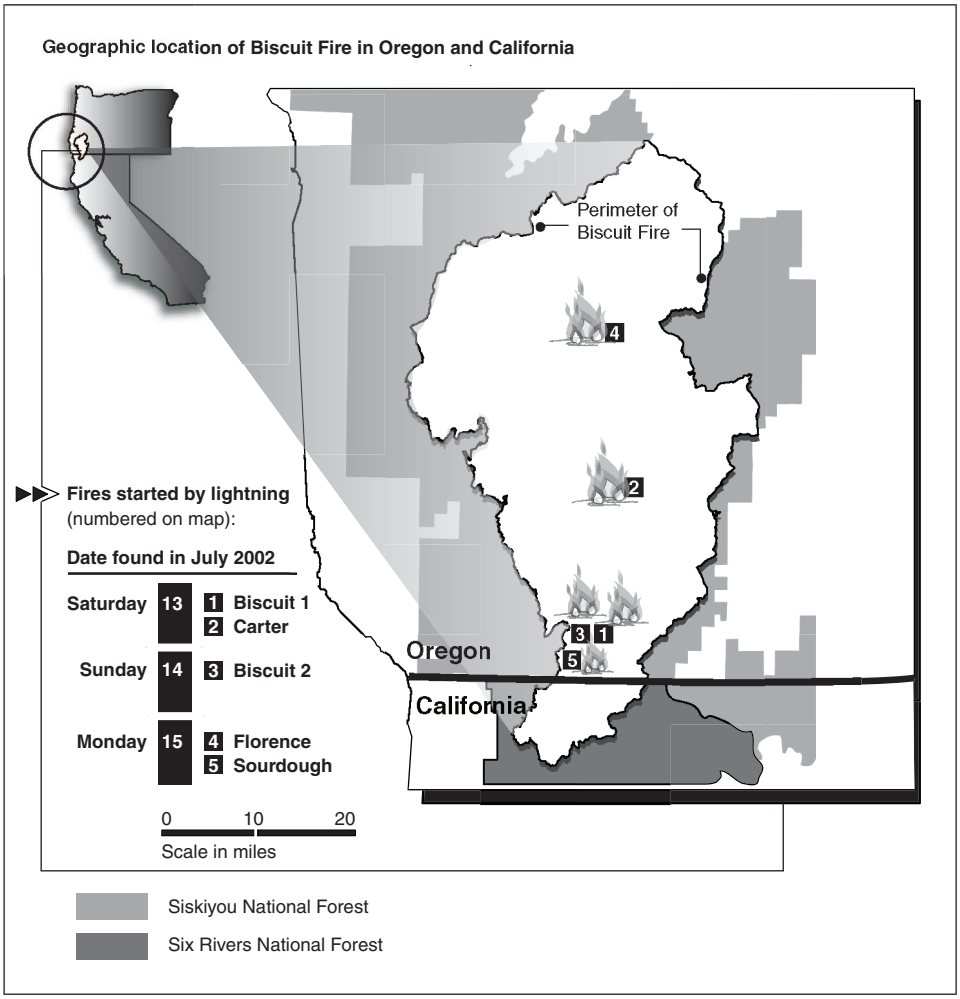
In 2002, the United States experienced one of the worst wildland fire seasons in the past 50 years. In total, the federal government spent more than $1.6 billion to suppress fires that burned almost 7 million acres. These fires included the largest and costliest fire in Oregon in the past century—the Biscuit Fire.[1] The fire season in 2002 began early, with major fires in Arizona, Colorado, and New Mexico draining many firefighting resources out of the Pacific Northwest during early summer. As a result, when lightning storms hit California and Oregon from July 12 to 15, there were limited resources available to fight the hundreds of ongoing fires, including five fires that eventually burned together to form the Biscuit Fire. While no lives were lost, the Biscuit Fire burned almost 500,000 acres, including much of the biologically diverse 180,000-acre Kalmiopsis Wilderness. The Biscuit Fire was not declared extinguished until December 31, 2002, more than 5 months after it began. In all, the Biscuit Fire destroyed 4 primary residences and 10 other structures, resulted in about 15,000 residents being put on evacuation notice, required thousands of firefighters and other resources, and cost over $150 million to fight.

All five fires began in the Siskiyou National Forest in southwest Oregon over a 3-day period, beginning July 13, 2002. On the first day, two fires were found—one approximately 4 miles north of the California-Oregon border, named Biscuit 1, and another, the Carter Fire, 16 miles north of the state border within the Kalmiopsis Wilderness (see fig. 1). The Carter Fire was the first fire Siskiyou Forest officials took action to suppress, and it was contained within a few days. On July 14, the third fire—Biscuit 2—was

[1]Federal agencies select names for wildfires based upon nearby geographic features. For example, the Biscuit Fire started near Biscuit Creek in southern Oregon.

found near Biscuit 1, and on July 15, the last two fires—Florence and Sourdough—were found (see fig. 1). The Florence Fire was located almost 30 miles north of Biscuit 1 and 2, and by early August it had burned 244,000 acres, about one-half of the total acreage ultimately burned by the entire Biscuit Fire. The Sourdough Fire was located near Biscuit 1 and 2, and by July 22, the three had burned together to form one fire. By August 7, the Florence Fire had burned south and merged with the other fires to form what was later called the Biscuit Fire.

Figure 1: Locations and Final Perimeter of the Five Fires That Became the Biscuit Fire



Source: GAO analysis of Forest Service data.

Note: The names of the fires changed as they progressed. Initially, each of the fire starts was named individually. As these fires burned together, the names were modified. Ultimately, the fires merged to become one—the Biscuit Fire.

Since no one agency alone can handle all wildfires that may occur in its jurisdiction, especially when large fires like the Biscuit Fire occur, the United States uses an interagency incident management system that depends upon the close cooperation and coordination of federal, state, tribal, and local fire protection agencies. At the federal level, there are five

agencies involved in firefighting efforts—the Forest Service, within the Department of Agriculture; and the Bureau of Indian Affairs, the Bureau of Land Management, the Fish and Wildlife Service, and the National Park Service, all within the Department of the Interior. The Forest Service is the predominant firefighting agency among these in terms of the amount of resources devoted to firefighting. In addition to the federal agencies, state, tribal, and local firefighting agencies also play an important role in fighting wildland fires and share firefighting personnel, equipment, and supplies to facilitate cost-effective firefighting. Private companies are increasingly providing contracted crews and equipment to supplement those of federal, state, and local agencies.

To coordinate the firefighting efforts of these agencies, the National Wildfire Coordinating Group (NWCG) was established. This group adopted an interagency incident management system and firefighting standards for responding to wildland fires. This system provides an organizational structure that includes command, planning, logistics, operations, and finance functions to meet the complexity and demands of wildland fires. Needed personnel, aircraft, equipment, and supplies for wildland fires are ordered through a system of local, regional, and national dispatch centers. These dispatch centers are staffed or funded by federal or state agencies, or a combination of those agencies. Federal, state, local, or tribal agencies or private contractors supply the firefighting resources dispatched at these centers. If resources in the local dispatch area close to a wildland fire are insufficient, dispatch center personnel forward the requests to the responsible regional dispatch center[2] that locates and sends additional firefighting resources from within the region. If necessary, the regional dispatch center can forward the request to the National Interagency Coordination Center in Boise, Idaho, which locates and assigns the closest available resources to the fire. This center is staffed jointly by Bureau of Land Management and Forest Service personnel. This incident management system was used to respond to the Biscuit Fire.

Concerns about the response to the Biscuit Fire surfaced as the fire rapidly grew and began to threaten lives, homes, and businesses. These concerns included whether firefighting resources were available across the border in California, which could have been used during the critical early days of the fires, and whether better management of firefighting resources could have

[2]There are 11 regional dispatch centers nationwide, called geographic area coordination centers, each of which serve a specific geographic portion of the United States.

improved suppression efforts. In this context, we reviewed (1) whether policies and procedures were in place for acquiring needed firefighting resources during the initial days of the Biscuit Fire, and the extent to which these policies and procedures were followed when the fire was first identified; (2) what resource management issues, if any, affected the ability of firefighting personnel to effectively fight the Biscuit Fire; and (3) what differences, if any, existed in key personnel certification standards at federal and state agencies involved in fighting wildland fires—particularly in Oregon—and whether any such differences affected efforts to respond to the Biscuit Fire.

To address these questions, we reviewed firefighting policies and procedures that included interagency standards for fire and fire-aviation operations, interagency personnel certification standards, the national mobilization guide, and the local mobilization guide and mutual aid agreement for the dispatch center in Grants Pass, Oregon,[3] which was responsible for acquiring resources to respond to the Biscuit Fire. We interviewed headquarters, regional, and local firefighting officials from the Forest Service and Department of the Interior agencies, as well as state officials from California, Oregon, and five other Western states. We reviewed Biscuit Fire records, including daily fire reports, resource orders, and transcripts of key radio transmissions during the initial days of the Biscuit Fire. We conducted our work in accordance with generally accepted government auditing standards.

Results in Brief

National policies and procedures were in place and provided the framework to guide personnel in the local dispatch center in Grants Pass, Oregon, responsible for acquiring firefighting resources for the Biscuit Fire. Guided by these policies and procedures, dispatch centers use a three-tiered dispatching system—local, regional, and national—to locate and send resources to wildland fires. If sufficient resources are not available locally, a dispatch center requests additional resources from its regional dispatch center. If sufficient resources are not available within the region,

[3]In the case of the Biscuit Fire, the local dispatch center was the Grants Pass Interagency Fire Center in Grants Pass, Oregon. The Siskiyou National Forest has contracted with the Oregon Department of Forestry (ODF) to operate this center. ODF personnel staff the center, but the operating costs are shared between ODF and the Forest Service. The regional dispatch center responsible for the Biscuit Fire was the Northwest Interagency Coordination Center in Portland, Oregon.

the request is then elevated to the national level. However, to facilitate the swift suppression of new fires—called the initial attack phase of a fire—these policies also permit dispatch centers to contact neighboring centers directly for resources, including those in adjacent regions, before elevating resource requests to a higher level. For the Biscuit Fire, the Grants Pass dispatch center did not have sufficient resources available and took steps to locate resources to fight what began as five separate fires in the Siskiyou National Forest, found over a 3-day period beginning July 13, 2002. Grants Pass dispatchers contacted their regional dispatch center in Portland about the availability of resources, including helicopters, on the first day of the Biscuit Fire. There were no resources immediately available due to other higher priority fires burning in the region. In making these inquiries, Grants Pass personnel did not request resources from the Fortuna dispatch center,[4] a neighboring center located in the adjoining dispatch region in Northern California. Grants Pass personnel believed that Fortuna had no available resources, based on daily fire situation reports, because Northern California was also fighting numerous fires. Concerns were later expressed by state and local officials in California that a helicopter, under the control of the Fortuna dispatch center, was fighting fires in Northern California near one of the five fires in the Siskiyou National Forest—Biscuit 1—and could have been made available to fight it. However, Forest Service and California state officials working in the Fortuna dispatch center expressed differing viewpoints on whether they could have provided the helicopter for the Biscuit Fire, had Grants Pass requested it. State officials at the dispatch center said that the helicopter could have been sent to Oregon. However, Forest Service dispatchers disagreed, stating that the helicopter was needed to fight fires in Northern California. Because no request was made, there was no discussion on that first day about whether the Biscuit Fire would have been the best use of the helicopter, and it is unclear, in any case, what the outcome of such a request would have been.

Following the initial efforts to suppress the Biscuit Fire, fire officials faced delays obtaining (1) highly experienced management teams to direct fire suppression strategies, along with sufficient crews to carry out fire plans; (2) supervisors to manage crews and equipment; and (3) support staff to monitor the training and experience of contracted crews. These delays

[4]The Fortuna Interagency Emergency Command Center, which we will refer to as the Fortuna dispatch center, is an interagency center staffed by Forest Service and California Department of Forestry and Fire Protection (CDF) personnel. The center serves Six Rivers National Forest, Redwood National Park, the CDF Humboldt-Del Norte Unit, and the Hoopa Indian Reservation.

were primarily due to the severe fire season—there were many higher priority fires within and outside the region. By the time the most highly experienced type of management team had arrived at the fire, the fire had grown from a few hundred acres to almost 200,000 acres. Difficulties in filling supervisory positions for managing firefighting crews hindered the effectiveness of firefighting efforts. Insufficient personnel to supervise crews and equipment resulted in the inability to use crews to carry out planned actions, and as a result, fire suppression progress was delayed. Insufficient support personnel meant that thousands of contracted personnel could not be adequately monitored to determine if they met applicable training and experience requirements. As a result, some insufficiently trained or inexperienced contractor crews were not always able to carry out planned operations, resulting in the need to postpone or alter some tactical firefighting operations.

Finally, while some differences exist in certification standards for personnel between federal land management agencies and state agencies responsible for fighting wildland fires, these differences did not appear to have affected efforts to respond to the Biscuit Fire. In 1993, the National Wildfire Coordinating Group—an interagency group comprising federal and state representatives—established minimum training and experience standards for personnel assigned to fight interagency wildland fires outside their home region. Federal land management agencies, as well as firefighting agencies in five of the seven states we contacted in and around the Northwest Region, have adopted these standards as the minimum requirements for all of their fire personnel. The state firefighting agency in Oregon—the Oregon Department of Forestry—uses these standards for firefighting personnel assigned to fight interagency fires outside their home region, although the state maintains its own certification standards for personnel assigned to state fires or interagency fires within the Northwest Region. Finally, the California state firefighting agency—the California Department of Forestry and Fire Protection—has maintained its own requirements and certification system for fire personnel, but state officials said that these standards meet or exceed those established by the National Wildfire Coordinating Group. We did not find any evidence of problems at the Biscuit Fire that stemmed from these differing standards, based on our review of relevant documents and interviews with knowledgeable officials.

We provided a draft of this report to the Secretaries of Agriculture and of the Interior for review and comment. The Forest Service commented that the report appears to be accurate and the agency generally agrees with its

contents. The Forest Service's comment letter is presented in appendix II. The Department of the Interior did not provide comments.

Background

A severe drought in many Western states set the stage for an early and intense fire season. By mid-June, several major fires were burning, including the Rodeo-Chediski Fire in Arizona and the Hayman Fire in Colorado. These fires siphoned both aerial and ground firefighting resources from the Pacific Northwest, including helicopters, air tankers, agency and contract fire engines, smoke jumpers, highly trained agency crews (called "hot shot" crews), and contract firefighting crews. By June 21, the National Interagency Fire Center (NIFC) in Boise, Idaho, was reporting a preparedness level of 5, the highest level, indicating that the nation had the potential to exhaust all agency firefighting resources. When lightning storms passed through California and Oregon on July 12 and 13, igniting hundreds of fires, including the Biscuit Fire, more than 30 large fires were already burning across the nation and firefighting resources available for initial attack were limited.

The Biscuit Fire began as five separate fires in the Siskiyou National Forest[5] in southwest Oregon. The Siskiyou Forest, encompassing more than 1 million acres, contains diverse topography, including the Siskiyou Mountains, the Klamath Mountains, the Coast Ranges, and the 180,000-acre Kalmiopsis Wilderness. Steep terrain, together with many roadless areas, presented accessibility and logistical challenges for managers directing fire suppression efforts at the Biscuit Fire. To complicate the situation, the fires were also located almost 30 miles apart. As the fires rapidly grew during late July and early August, the southern fire burned south and crossed the state border into the Six Rivers National Forest in Northern California. While the Biscuit Fire burned primarily federal forestland, by early August, it threatened a number of communities in Oregon and California. Figure 2 shows Biscuit 1 burning on a steep hill on July 14, 2002.

[5]The Siskiyou National Forest and the Rogue River National Forest are separate forests but are administered jointly. However, because the Biscuit Fire burned only in the Siskiyou Forest, we will only refer to the Siskiyou National Forest.

Figure 2: Biscuit 1 Burning on Steep Terrain on July 14, 2002

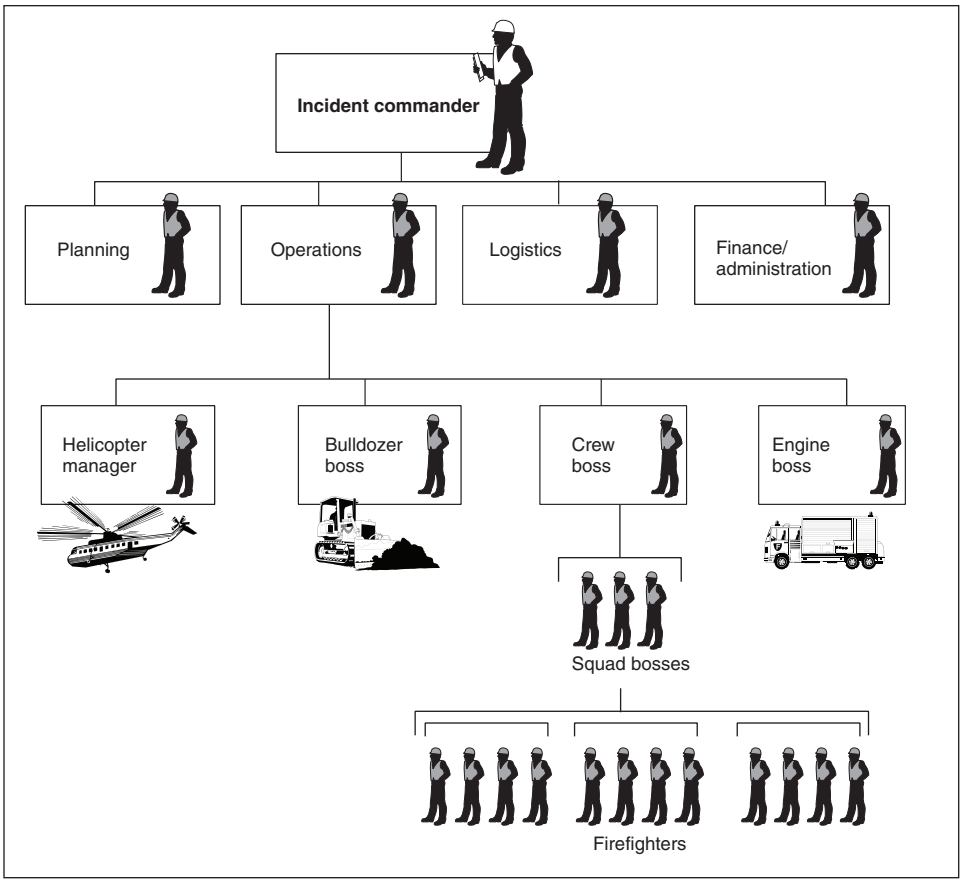
Source: Forest Service.

To understand the response to the Biscuit Fire, it is important to understand the phases of fire suppression efforts and the nature of interagency wildland firefighting. On a large wildland fire, such as the Biscuit Fire, fire suppression efforts generally fall into two phases. The initial attack phase is defined as efforts to control a fire during the first operational period, usually within 24 hours. Local fire managers direct these initial firefighting efforts. In fiscal year 2002, firefighters were successful in suppressing about 99 percent of wildland fires in federal, state, and local jurisdictions during the initial attack phase. If a fire has not been contained or will not be contained during this period or additional firefighting resources are ordered, firefighting efforts move into the extended attack phase.[6] In this phase, key fire management officials

[6]Fire managers may order more experienced leadership immediately based on the initial assessment if it appears that the fire will become a more complex incident.

prepare a Wildland Fire Situation Analysis that describes the situation and objectives, and compares multiple strategic wildland fire management alternatives. Additional management and firefighting resources may be requested. Figure 3 shows an example of a firefighting organization involved in an extended attack, although the specific positions filled depend on the complexity of the fire.

Figure 3: Example of an Extended Attack Firefighting Organization



Source: GAO analysis of National Wildfire Coordinating Group data.

The Forest Service and its interagency firefighting partners employ an incident management system that is designed to provide the appropriate management and leadership team capabilities for firefighting efforts. The complexity of the fire determines the type of leadership team and

firefighting resources assigned. There are five types of incidents—type 1 being the most complex (see table 1). For example, to manage a type 5 incident, the incident commander may be a local district employee with adequate experience to direct initial attack efforts on a small fire with two to six firefighters. In contrast, for a type 1 incident, such as the Biscuit Fire, the incident commander is just one member of a highly qualified management team. While both type 1 and type 2 incident management teams have a standard composition of 28 members, type 1 team members receive additional training and experience in handling the most complex incidents.

Table 1: The Five Types of Incidents

Type	Source of incident commander/team	Description
5	Local	Up to 10 firefighters
4	Local	Up to 50 firefighters
3	Local	Up to 100 firefighters
2	Regional	Operations personnel normally do not exceed 200 at any one time
1	National	Operations personnel often exceed 500 at any one time

Source: GAO analysis of National Interagency Fire Center and National Academy of Public Administration data.

Incident management teams manage a variety of firefighting resources. These include highly trained "hot shot" crews, agency and contracted crews, air tankers, helicopters, fire engines, and bulldozers. Federal agencies, such as the Forest Service, provide a large number of the personnel that work on fires. These federal agencies rely on a "militia" strategy to fight wildland fires whereby personnel within each agency are trained to serve in fire suppression or support roles, when needed and requested, in addition to performing their normal day-to-day work responsibilities. However, many factors, including past downsizing within the federal government, have reduced the pool of employees qualified to work on fires. Increasingly, private contractors provide crews and firefighting equipment, including engines and helicopters.

National Policies and Procedures Were in Place to Guide the Process for Acquiring Firefighting Resources

National policies and procedures[7] were in place and provided the framework to guide personnel in the local dispatch center in Grants Pass, Oregon, who were responsible for acquiring firefighting resources for the Biscuit Fire. Guided by these policies and procedures, dispatch centers use a three-tiered dispatching system—local, regional, and national—to locate and send resources to wildland fires. During the initial attack phase of a fire, these policies also permit dispatch centers to contact neighboring dispatch centers directly for resources, including resources in adjacent regions, before elevating resource requests to a higher level. For the Biscuit Fire, the Grants Pass dispatch center did not have sufficient resources available and took steps to locate needed resources to fight what began as five separate fires in the Siskiyou National Forest. Grants Pass dispatchers contacted their regional dispatch center in Portland about the availability of resources, including helicopters, on the first day of the Biscuit Fire. In making resource inquiries, Grants Pass personnel did not request resources from the Fortuna dispatch center, a neighboring center located in the adjoining dispatch region in Northern California. Grants Pass personnel believed that Fortuna had no available resources, based on daily fire situation reports, because Northern California was also fighting numerous fires. Concerns were later expressed by state and local officials in California that a helicopter, under the control of the Fortuna dispatch center, was fighting fires in Northern California, just across the border from the first of the five Biscuit fires, and could have been provided to fight it. Forest Service and state dispatchers working in the Fortuna dispatch center expressed differing viewpoints on whether they could have provided a helicopter for the Biscuit Fire, had Grants Pass requested it.

National Policies and Procedures Provide the Framework for Acquiring Firefighting Resources

The National Interagency Mobilization Guide includes policies and procedures to help ensure the timely and cost effective mobilization of firefighting resources. Federal, state, tribal, and local firefighting agencies share their firefighting personnel, equipment, and supplies, following a standardized process to coordinate responses to fires and mobilize resources. When local dispatch center personnel are notified of a fire, they send available firefighting resources based on a preplanned response. If fire managers need additional resources, they send a request to the local dispatch center identifying the type and amount of resources needed. If the dispatch center personnel cannot fill a request locally, they can forward the

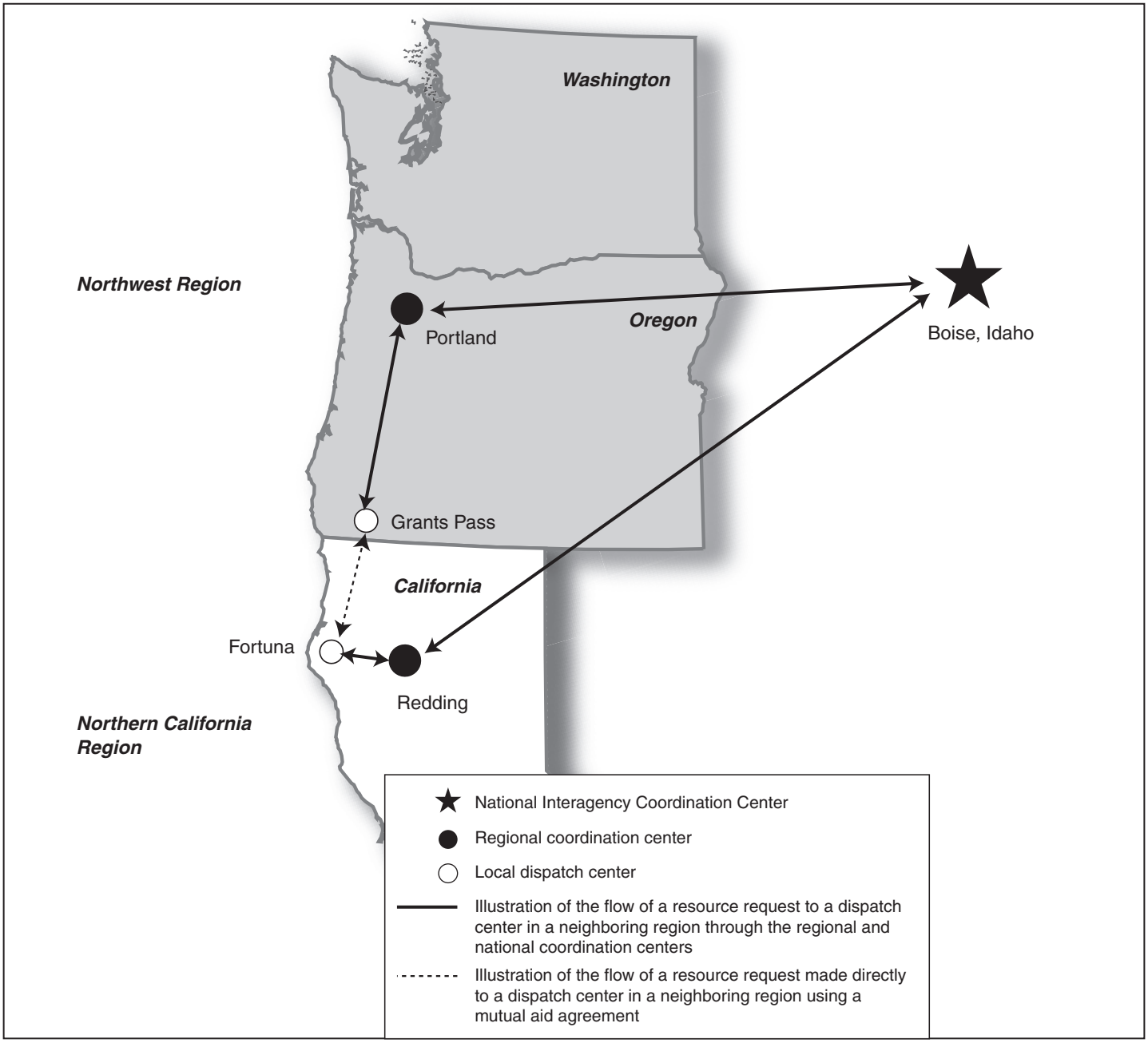
[7]National Interagency Mobilization Guide (Feb. 1, 2002).

request to the responsible regional dispatch center. If the regional center cannot fill the request with resources from within the region, the request is sent to the National Interagency Coordination Center in Boise, Idaho, the primary support center for coordinating and mobilizing wildland firefighting resources nationally. When requests exceed available resources, the fires are prioritized, with those threatening lives and property receiving higher priority for resources. To facilitate the swift suppression of new fires—called the "initial attack" phase of a fire—local dispatch center personnel can first contact neighboring dispatch centers directly, including those in adjacent regions, before elevating resource requests to the regional or national level. For resource sharing between neighboring dispatch centers in adjoining regions, a formalized agreement, such as a mutual aid agreement and local operating plan, is needed.

Existing policies and procedures encourage the sharing of resources between local dispatch centers. The national guidance states that local dispatch centers should use mutual aid agreements whenever possible to obtain resources directly from neighboring units. In the case of the Biscuit Fire, a regional mutual aid agreement between the state of California and federal agencies in California, Nevada, and Oregon establishes the protocols for interagency coordination and cooperation for wildland fire protection in California, which includes the areas along the Nevada and Oregon borders.[8] Local, state, and federal agencies jointly develop local operating plans that identify the specific resources that can be shared under the mutual aid agreement and the provisions for cost sharing. One of these plans allows the Grants Pass dispatch center in Oregon and the Fortuna dispatch center, located in the neighboring region in Northern California, to request resources directly from each other. (See fig. 4.) The Grants Pass dispatch center operates under a contract between the Siskiyou National Forest and the Oregon Department of Forestry (ODF). ODF operates and staffs the center, and the Forest Service reimburses the department for a portion of the center's operating costs, according to a Siskiyou official. The Fortuna dispatch center is operated by the Six Rivers National Forest and the California Department of Forestry and Fire Protection (CDF) and is staffed by personnel from both agencies.

[8]This mutual aid agreement, the Cooperative Fire Protection Agreement, involved the Bureau of Land Management, California and Nevada; National Park Service, Pacific West Region; Forest Service, Regions 4, 5, and 6; and California Department of Forestry and Fire Protection.

Figure 4: Illustration of the Flow of Resource Requests between the Local Dispatch Centers Involved in the Initial Attack of the Biscuit Fire

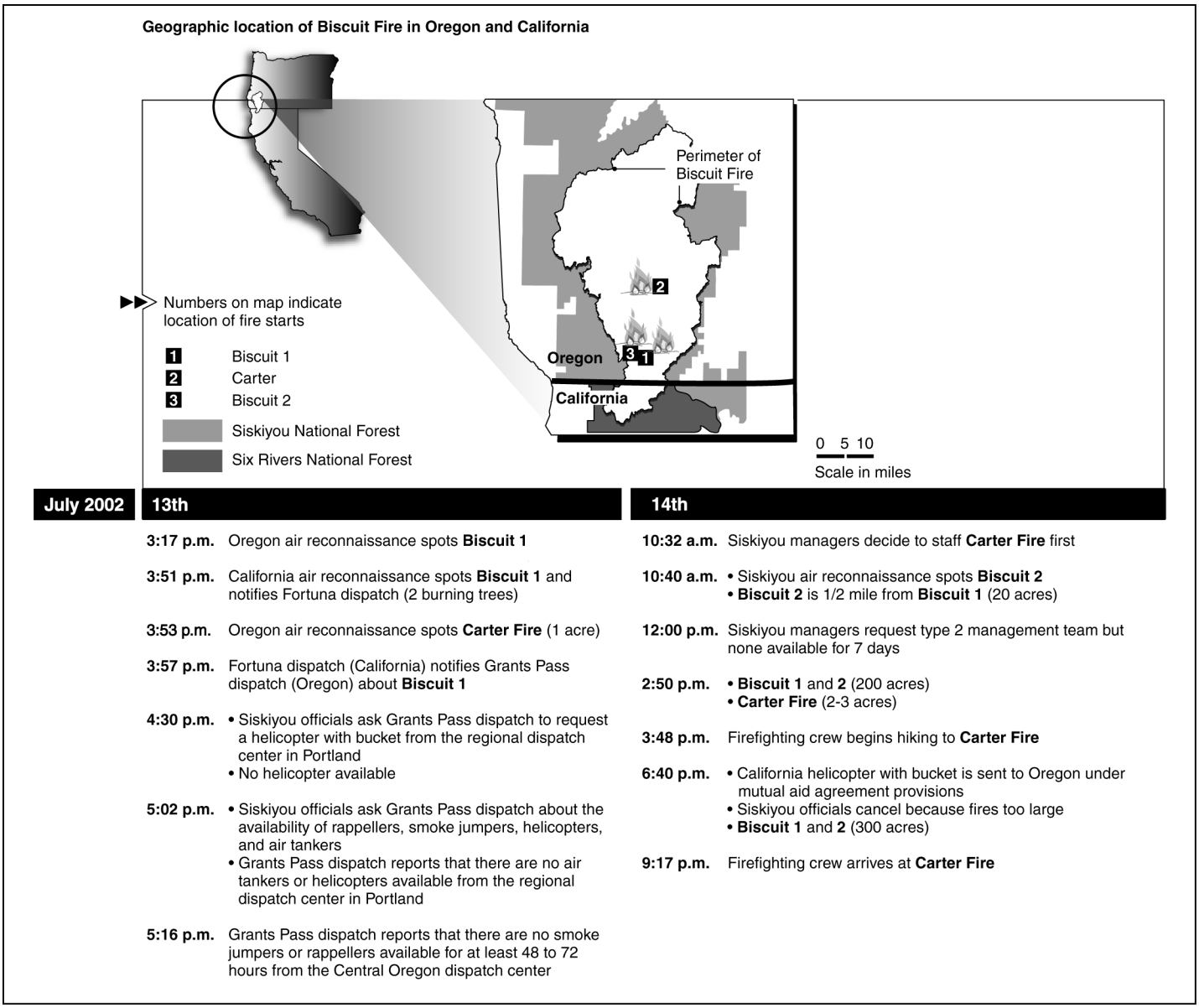


Source: GAO analysis of National Interagency Fire Center data.

Grants Pass Dispatch Center Personnel Sought a Variety of Firefighting Resources for the Initial Attack of the Biscuit Fire

When the first two fires were found on the afternoon of July 13, 2002, the Grants Pass dispatch center did not have the firefighting resources needed locally to fight the fires. Many resources, including the helicopter normally stationed at Grants Pass, had been sent to other higher priority fires that were threatening lives and property. The fires, located in the Siskiyou National Forest, were initially small—two trees and 1 acre. Biscuit 1 was a few miles north of the California-Oregon border, and the Carter Fire was about 12 miles north of Biscuit 1. Figure 5 provides information about the initial attack on the fires.

Figure 5: Key Events on July 13 and 14, 2002, Related to the Biscuit Fire



July 2002	13th	14th
	3:17 p.m. Oregon air reconnaissance spots **Biscuit 1**	**10:32 a.m.** Siskiyou managers decide to staff **Carter Fire** first
	3:51 p.m. California air reconnaissance spots **Biscuit 1** and notifies Fortuna dispatch (2 burning trees)	**10:40 a.m.** • Siskiyou air reconnaissance spots **Biscuit 2** • **Biscuit 2** is 1/2 mile from **Biscuit 1** (20 acres)
	3:53 p.m. Oregon air reconnaissance spots **Carter Fire** (1 acre)	**12:00 p.m.** Siskiyou managers request type 2 management team but none available for 7 days
	3:57 p.m. Fortuna dispatch (California) notifies Grants Pass dispatch (Oregon) about **Biscuit 1**	**2:50 p.m.** • **Biscuit 1** and **2** (200 acres) • **Carter Fire** (2-3 acres)
	4:30 p.m. • Siskiyou officials ask Grants Pass dispatch to request a helicopter with bucket from the regional dispatch center in Portland • No helicopter available	**3:48 p.m.** Firefighting crew begins hiking to **Carter Fire**
	5:02 p.m. • Siskiyou officials ask Grants Pass dispatch about the availability of rappellers, smoke jumpers, helicopters, and air tankers • Grants Pass dispatch reports that there are no air tankers or helicopters available from the regional dispatch center in Portland	**6:40 p.m.** • California helicopter with bucket is sent to Oregon under mutual aid agreement provisions • Siskiyou officials cancel because fires too large • **Biscuit 1** and **2** (300 acres)
	5:16 p.m. Grants Pass dispatch reports that there are no smoke jumpers or rappellers available for at least 48 to 72 hours from the Central Oregon dispatch center	**9:17 p.m.** Firefighting crew arrives at **Carter Fire**

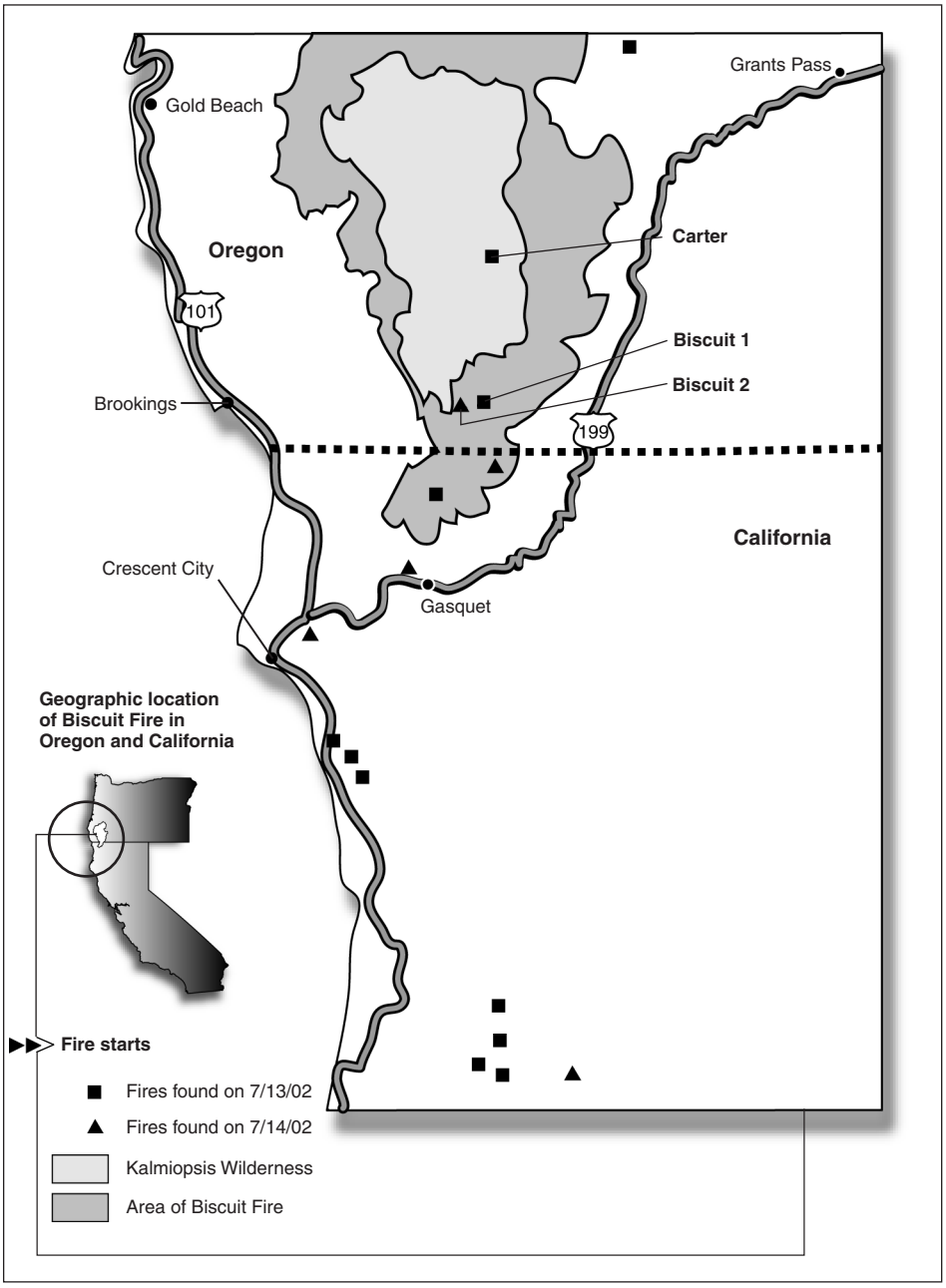
Source: GAO analysis of Forest Service data.

Note: For the Oregon air reconnaissance, ODF personnel used a Siskiyou National Forest reconnaissance aircraft.

Biscuit 1 was the first fire found. At 3:17 p.m. on July 13, a Siskiyou Forest Service aircraft being used by ODF personnel to perform reconnaissance spotted Biscuit 1. The aerial observer reported the fire to Grants Pass dispatch. At 3:53 p.m., air reconnaissance spotted the Carter Fire 12 miles north of Biscuit 1.

Soon after Grants Pass and Siskiyou officials became aware of the first fire, firefighting personnel in California also spotted the fires. At 3:51 p.m., a CDF reconnaissance airplane, assisting the Six Rivers National Forest, spotted smoke columns to the north while circling a fire in Northern California. The airplane was directing the activity of a CDF helicopter and crew of six firefighters assigned to a fire in the Six Rivers National Forest in Northern California, just south of the California-Oregon border. At the request of a Six Rivers National Forest official, the CDF airplane flew north to investigate the smoke in Oregon. Reconnaissance personnel reported Biscuit 1 and the Carter Fire to the Six Rivers official and to the Fortuna dispatch center—an interagency center staffed by CDF and Six Rivers National Forest personnel. Since the helicopter and crew were close to finishing up their assignment in California, the CDF reconnaissance personnel suggested to Fortuna dispatch that the helicopter and crew could next take action on the fire in Oregon. The Forest Service dispatcher at Fortuna informed the reconnaissance airplane to continue patrolling while, in accordance with normal dispatching protocol, Fortuna notified the Grants Pass dispatch center about the fire. Grants Pass told Fortuna that it already had reconnaissance aircraft in the area. Because of the lack of communications between the CDF and Oregon aircraft, the Fortuna dispatch center advised the CDF airplane to leave the area to ensure air safety. At 4:15 p.m., CDF air reconnaissance reported another three lightning-caused fires in Northern California, and at 4:36 p.m., the CDF helicopter and crew were sent to fight these fires. Figure 6 shows the new fires found in southern Oregon and Northern California on July 13 and 14.

Figure 6: New Fire Starts Identified in the Vicinity of the Biscuit Fire on July 13 and 14, 2002



Source: GAO analysis of Forest Service data.

At the request of Siskiyou National Forest officials, Grants Pass dispatch personnel began to try to locate needed firefighting resources. At 4:30 p.m., Grants Pass dispatch personnel requested a helicopter (with a bucket for water drops) from the dispatch center in Portland, Oregon. Shortly after 5 p.m., Siskiyou officials asked the Grants Pass dispatch center to check on the availability of smoke jumpers, rappellers, helicopters, and air tankers. Dispatchers checked with the regional dispatch center in Portland and were told that no helicopters or air tankers were available. Dispatchers contacted the Central Oregon dispatch center and were told that no smoke jumpers or rappellers were available for the Biscuit Fire for 48 to 72 hours because of higher priority fires elsewhere. Grants Pass personnel relayed this information to Siskiyou officials.

By the next morning, July 14, the fires had grown. Shortly after 10:10 a.m., Siskiyou Forest officials directing firefighting efforts departed on a reconnaissance flight. They flew over the Carter Fire and decided to staff this fire as soon as possible because of its proximity to a trail that would allow access to the fire and because there were natural safety zones for firefighters. A type 2 crew began to hike to the Carter Fire later that afternoon. Siskiyou officials next flew over Biscuit 1 and found it was about 7 acres. They also spotted a third fire, named Biscuit 2, which was about 20 acres and located about one-half mile from Biscuit 1. Siskiyou Forest officials believed that the Biscuit 1 and 2 fires would burn together in the afternoon and had a high probability of getting significantly larger. Due to safety concerns, limited accessibility, wind and fire behavior, and insufficient firefighting resources, forest officials decided not to staff Biscuit 1 and Biscuit 2 at that time. Siskiyou officials requested that Grants Pass dispatch personnel order additional firefighting resources, including a type 2 incident management team, air tankers, and other equipment for the fires. However, due to higher priority fires elsewhere, many of these resource orders could not be filled by the regional dispatch center in Portland for several days or longer, and the request for air tankers was never filled.

Shortly before noon, a CDF helicopter and crew were on duty in Northern California performing reconnaissance and responding to reported fires. A Six Rivers Forest official helping to direct the helicopter crew's activities requested that the crew check the fire in Northern California they had worked the previous day to ensure it was out. She also requested that the crew, on the way, fly by a campground near the Biscuit 1 and Biscuit 2 fires to ensure no campers were there. None were seen. The helicopter then landed near the site of the fire they had worked the previous day in

Northern California, and the crew hiked to the fire to ensure it was extinguished. At 2:17 p.m., the CDF helicopter reported the fire was cold, and the helicopter was assigned to another incident in California.

At 6:40 p.m., in response to the July 13 request for a helicopter, a regional dispatch official in Portland working with officials in the Northern California regional dispatch center in Redding, the Fortuna dispatch center, and the Grants Pass dispatch center arranged for a CDF helicopter with a water bucket to respond to the Biscuit fires, as allowed under the provisions of the mutual aid agreement. The helicopter had been working on fires in Northern California. However, a few minutes later, as the helicopter was en route to Oregon, Siskiyou officials canceled the request because at that point the fires had spread to more than 300 acres, and officials stated that the helicopter would have been of limited use on a fire that size. Officials explained that without ground resources available to fight the fire, water drops alone are usually of limited value.

On July 15, the last two fires that would make up the Biscuit Fire—Sourdough and Florence—were discovered. The Sourdough Fire was found near Biscuit 1 and Biscuit 2. The Florence Fire was located almost 30 miles north of these fires. Siskiyou officials requested the Grants Pass dispatch center to order numerous resources on July 15, including helicopters, engines, and crews. Most of these requests were not able to be filled for several days or longer. By July 16, the Northwest's Multi-Agency Coordination Group in Portland, Oregon, which is responsible for prioritizing fires and allocating firefighting resources in the region, ranked the Biscuit Fires as priority 12 out of 18 large fires in the region. The Florence Fire went on to burn almost 250,000 acres before merging with the other fires on August 7.

Concerns were later expressed by state and local officials in California that a CDF helicopter, fighting fires in Six Rivers National Forest on July 13, just across the state border from Biscuit 1, could have been provided earlier to assist on the Biscuit Fire. Grants Pass personnel explained that they did not request assistance from the Fortuna dispatch center on July 13 because, based on the daily fire situation reports, they believed no resources would be available due to the fires in Northern California. California was also fighting numerous fires ignited by the same lightning storm that passed through Oregon. When we asked the Fortuna dispatch center about this issue, the Forest Service and state of California dispatchers working there expressed differing viewpoints on whether they could have provided a helicopter on the first day of the Biscuit Fire if such a request had been

made. A CDF dispatcher working at the Fortuna dispatch center said that if the Grants Pass dispatcher had requested the helicopter at that time to launch an initial attack on the Biscuit Fire, he believed he would have provided it to them. However, a Forest Service official also working at Fortuna to dispatch firefighting resources had a differing opinion, saying that even if Fortuna had sent the helicopter to Oregon, he believes that it likely would have been diverted back to California to suppress other higher priority fires in Fortuna's direct protection area. Because Grants Pass dispatch did not request assistance from Fortuna on the first day of the Biscuit Fire, there was no discussion at that time about whether this would have been the best use of the helicopter. In the final analysis, it is unclear what the outcome of such a request would have been.

Reduced Availability of Key Personnel Hampered the Ability to Effectively Fight the Biscuit Fire

Following the initial attack of the Biscuit Fire, delays in obtaining needed personnel hampered efforts to effectively fight the Biscuit Fire in three key ways. First, neither a management team with adequate experience to strategically plan and manage firefighting efforts nor sufficient highly trained crews to carry out the plans were initially available for the Biscuit Fire due to their need on higher priority fires. By the time a highly experienced management team became available and was assigned to the Biscuit Fire in late July, the fire had increased from a few hundred acres to almost 200,000 acres. Second, key supervisors needed to direct the tactical efforts of firefighting crews and equipment were unavailable at critical points in July and August as the fire was growing in size and intensity. As a result, the ability to implement aggressive fire suppression tactics was compromised due to concerns about the safety of fire crews. Finally, some fire support positions, such as contracting technical representatives, also were unavailable to play a key role in monitoring contracted crews.

Delayed Availability of a Top Management Team Affected Initial Firefighting Efforts

Siskiyou Forest officials directing the firefighting effort had difficulty obtaining both a highly trained incident management team with the necessary level of experience to plan and direct firefighting efforts on the Biscuit Fire, as well as needed crews to carry out such plans. Within one day after the initial fires were discovered, Siskiyou district fire managers determined that the fire would likely grow larger and require a more experienced incident management team to direct the firefighting effort than was currently available at the forest. They requested a type 2 team and numerous type 1 crews and other firefighting resources during the initial days. However, because of the high level of fire activity both in the Pacific

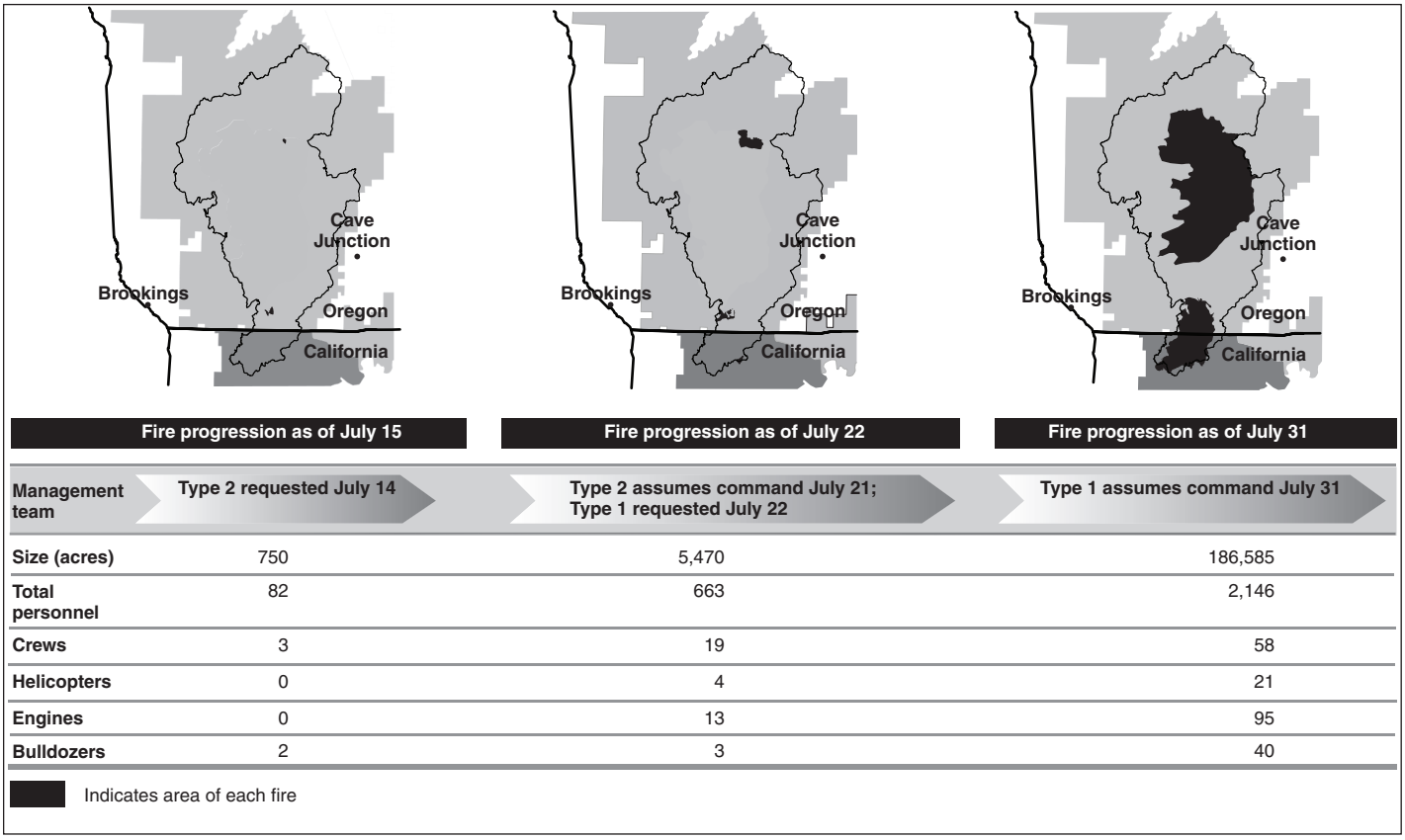
Northwest, as well as in other Western states, higher priority fires meant that no type 2 incident management teams or highly experienced crews were immediately available for assignment to the Biscuit Fire. Siskiyou officials' request for a team was not filled for 7 days, by which time the acres burned had grown from about 700 to more than 5,000.

When a type 2 management team assumed command of the Biscuit Fire on July 21, they quickly realized that the fire had grown beyond the scope of a type 2 team and that a more experienced type 1 team was needed to handle the increasingly complex situation. A type 1 team was ordered on July 22, but the Northwest's Multi-Agency Coordination Group in Portland prioritized the Biscuit Fire, on this day, as priority 6 of 15 fires burning in the region. This was largely because the Biscuit fires were not threatening lives and property. As a result, most requests for management, crews, and equipment for the Biscuit Fire went unfilled.

In the case of the management team, rather than assigning the type 1 team requested, two other type 2 management teams were assigned in late July to assist in managing firefighting efforts on the southern fire,[9] including the portion that had crossed into California. As these teams tried to direct the firefighting efforts of crews and equipment, the fires—especially the Florence Fire in the north—grew rapidly. Winds and low humidity contributed to the fires' intensity. Between July 27 and August 1, the size of the Florence Fire grew from 18,000 acres to 164,000 acres, and the size of the southern fire—the Sour Biscuit Fire—grew from 7,000 acres to 38,000 acres. Finally, on July 31, 9 days after first requested, two type 1 management teams arrived and assumed command of fighting the Biscuit Fire. Type 1 firefighting crews and many other resources continued to be listed as critical resource needs throughout August. Figure 7 shows the dates management teams were requested or assumed command, the personnel and equipment assigned to the fire, and the growth of the fires.

[9]The southern fire resulted from the merging of the Biscuit 1, Biscuit 2, and Sourdough Fires. The southern fire was named the Sour Biscuit Fire.

Figure 7: Fire Size on Key Dates When Fire Management Teams Were Requested and Received



	Fire progression as of July 15	Fire progression as of July 22	Fire progression as of July 31
Management team	Type 2 requested July 14	Type 2 assumes command July 21; Type 1 requested July 22	Type 1 assumes command July 31
Size (acres)	750	5,470	186,585
Total personnel	82	663	2,146
Crews	3	19	58
Helicopters	0	4	21
Engines	0	13	95
Bulldozers	2	3	40

Indicates area of each fire

Source: GAO analysis of Forest Service data.

Note: The fire size information was not available for July 14.

The first type 2 incident commander assigned to the Biscuit Fire said that not having a type 1 management team and other needed resources slowed the progress of the firefighting effort. He said that while he understood the Portland group's decision not to assign a type 1 team at that time, it nonetheless was difficult to effectively fight fires located almost 30 miles apart with the limited resources available. The available management and other resources were split between the fires. He added that the type 2 team's firefighting strategies were the same as those of a type 1 team—initially to improve access to the site of the fires. However, without needed resources, tactics had to be modified, and progress was slower. His operations section chief said that the complexity of the fire, coupled with

the lack of a type 1 management team, type 1 crews,[10] and equipment, meant that firefighters could not attack the fire directly and had to use more indirect methods, such as using bulldozers to build a firebreak, in an effort to slow the spread of the fire. The incident commander and operations section chief said that generally, when a fire is a high priority and qualifies for a type 1 management team, it is also more likely to be assigned other needed firefighting resources. In the case of the Biscuit Fire, a type 1 team and additional type 1 crews and other resources might have improved the chances of stopping the fire before it burned southeast to an area called Oak Flat, according to the incident commander. However, Forest Service headquarters officials said that in a severe fire season such as 2002, difficult decisions have to be made about where to assign limited resources. Fires are prioritized, and those presenting the greatest threat to life and property receive firefighting resources first.

Reduced Availability of Supervisors Slowed Biscuit Fire Suppression Efforts

Even as top management teams and increasing numbers of crews and equipment were assigned to the Biscuit Fire, some critical supervisory positions were not filled as quickly as needed or remained unfilled at the end of the fire. In all, over 200 requests for supervisory positions were never filled. The primary cause for reduced availability of supervisory personnel was the demand for these staff to work more than 30 other large fires throughout the nation, including other fires in Oregon. Fire managers and a Forest Service review[11] of the Biscuit Fire stated that delays in obtaining needed supervisors affected their ability to implement aggressive fire suppression tactics or use equipment until sufficient supervision became available. Federal officials, however, did take some action to mitigate these problems, including obtaining personnel from Australia and New Zealand to fill certain supervisory positions. Officials emphasized that the difficulties in obtaining personnel to serve as supervisors was not a problem unique to the Biscuit Fire and that such issues have affected numerous fires in recent years.

Biscuit Fire managers identified a number of key supervisory positions that went unfilled for a period of time in July or August when the fire was rapidly growing and that were critical for effective fire suppression efforts. These included government managers of contracted helicopters and

[10]A crew normally consists of 20 persons.

[11]*Final Draft Biscuit Fire Review*, USDA Forest Service, PNW Region (Jan. 31, 2003).

bulldozers (known as helicopter managers and dozer bosses); government supervisors directing tactical operations for a division or segment of crews (known as strike team leaders); and government supervisors (known as division supervisors) directing the activities of strike team leaders.

Although it was not possible to measure the specific effect on fire suppression efforts, such as the number of additional acres burned, from unfilled supervisory positions, Biscuit Fire managers provided a number of examples to illustrate the difficulty they faced in carrying out plans without sufficient supervisors for aircraft or for equipment and firefighting personnel. For example, an incident commander and an incident business advisor working at the fire said that some bulldozers sat idle for a few days and could not be used on fire suppression efforts because of the lack of a dozer boss to manage and direct the equipments' use. Interagency requirements state that one dozer boss is required to safely manage the operations of each dozer. However, dozers and dozer bosses are ordered separately and may arrive at a fire at different times. If a dozer arrives first, it may sit idle until a dozer boss is available to supervise its operation. According to an interagency Fire and Aviation Safety Team Review,[12] it was appropriate to not use all available resources, including dozers, if safety would have been compromised because of insufficient supervision.

In the case of helicopters, fire officials told us that for one or two days several helicopters may have sat idle due to insufficient helicopter managers. However, fire records indicate, and agency officials agreed, that the major reason helicopters did not fly was due to poor visibility as a result of weather or smoke. To minimize the impact of helicopter manager shortages, fire officials used a waiver system so that, under certain circumstances, one helicopter manager could manage two type 1 or type 2 helicopters rather than only one, as permitted by interagency policy.[13] Using this waiver process, six waivers were granted for helicopter managers working at the Biscuit Fire. In addition, National Interagency

[12]*Final Report: Fire & Aviation Safety Team Review of Northwest Geographic Area* (July 19 through Aug. 1, 2002).

[13]According to the *Interagency Helicopter Operations Guide* (January 2002), two type 1 or type 2 helicopters may be designated as "limited use" and managed by one qualified helicopter manager when (1) a second qualified helicopter manager is on order, and there are active efforts to fill the position; (2) both helicopters are physically side-by-side at the same helibase; (3) a helibase manager is assigned; (4) aerial supervision is provided; and (5) approval has been granted by the appropriate agency aviation manager.

Fire Center officials requested and received numerous supervisors from Australia and New Zealand, including eight helicopter managers.

The inability to fill government strike team leader positions also resulted in delays in fire suppression actions, according to a Biscuit Fire operations manager. In one effort to mitigate this shortage, three qualified staff were transferred from a hot shot crew to work as strike team leaders supervising contracted crews, according to the division supervisor. The supervisor said, however, this move lowered the firefighting effectiveness of the hot shot crew. In another case, a shortage of division supervisors resulted in the inability to provide adequate supervision in two of the four fire zones for about one week, according to an operations section chief. The lack of needed supervision resulted in the inability to use crews to carry out planned actions, and as a result, fire suppression progress was delayed.

Our findings on the reduced availability of personnel to fill critical staff positions were confirmed by an internal Forest Service review of the Biscuit Fire as well as Forest Service reviews of other wildland firefighting efforts. The Forest Service review of the Biscuit Fire concluded that opportunities to halt the spread of the fire had to be abandoned because of limited resources, and as a result, the fire grew larger and threatened more communities on both the western and eastern perimeters. The Forest Service's January 2000 report, *An Agency Strategy for Fire Management*, highlighted the shortage of federal staff for both fire suppression and fire support positions. Also, during July 2002, the Northwest Multi-Agency Coordination Group in Portland, Oregon, reviewed ongoing fires in the Pacific Northwest, including the Biscuit Fire, and the effects of the reduced availability of personnel to fill critical supervisory positions for fire suppression. The group noted that some crews and equipment had been suspended from fire suppression efforts because of a lack of appropriate supervision.

Shortage of Personnel to Effectively Monitor Contractors Working on the Biscuit Fire

Contracted resources played a key role in the Biscuit Fire—at its peak over 1,600 contracted firefighters and over 400 pieces of contracted equipment and helicopters were assigned to the fire. Interagency fire managers acknowledged, however, that there was little, if any, monitoring of private contractors to ensure that contracted crews assigned to the Biscuit Fire met established training and experience requirements. Instead, fire managers generally relied on contractors to certify that their crews met these requirements, as stated in their contract. Despite contractors' assurances that their crew met all requirements, Biscuit Fire officials told

us that some insufficiently trained or inexperienced contracted crews negatively impacted firefighting efforts because these crews were not always able to carry out planned operations. In contrast, contracted engines and other equipment had fewer problems.

Fire managers participating on the Biscuit Fire said that poorly trained and inexperienced contracted crews presented significant operational concerns. They cited examples of contracted crews that were unable to carry out planned firefighting operations. Managers said that they postponed or changed some tactical firefighting operations because it was not safe using these crews in more aggressive fire operations. Crews that could not be used as planned were assigned minimal firefighting responsibilities, such as "mop up" activities at a considerable distance from intensive fire activity. Although the limitations on how the crews could safely be used likely affected progress of firefighting, the actual effect cannot be measured.

Communication to and between crews also adversely impacted the use of contracted crews on the Biscuit Fire. There were instances where crew and squad bosses for contracted crews were unable to communicate in English with government supervisors, as required in the interagency crew agreement. The lack of fluency in English caused safety concerns and resulted in crews being assigned to far less technical tasks than planned. Fire managers told us that, even when assigned minimal fire tasks, some private crews required above normal supervision, which in turn resulted in supervisors having less time available to plan and implement higher priority fire suppression tasks.

Under a cooperative arrangement between the federal government and the states of Oregon and Washington, ODF has oversight responsibility for private crew contractors in the Northwest. Typically, the monitoring of crew qualifications should take place before the start of the fire season. An ODF official, however, said that insufficient funding and personnel have resulted in few, if any, evaluations of crews' qualifications prior to the start of the fire season. Alternatively, interagency support personnel, such as contracting officers or their technical representatives, can perform contract crew qualification assessments. We found that during the Biscuit Fire, however, these key support positions were identified as a critical, but unfilled, resource need. According to federal firefighting managers, about 90 individuals have been trained as technical representatives to work with firefighting management teams, but at any given time during recent fire seasons, only about 10 percent of these trained technical representatives

were available to serve on incident management teams. The ODF official having oversight responsibility for contracted crews in the Northwest concluded that because of these shortages and the significant numbers of contracted crews, it is likely that there was minimal monitoring of contract crews at the fire. Finally, we noted that these shortcomings in the monitoring of contracted crews were not limited to the Biscuit Fire. The importance of monitoring crew training and experience was also cited in an interagency fire and aviation safety report issued in 2002.[14] The review stated that deficiencies in the physical fitness and job skills of crews raised concerns about the validity of qualifications of some contracted resources.

Some Differences in Certification Standards Exist between State and Federal Firefighting Agencies, but No Effect Was Identified

There are some differences in certification standards for personnel between state and federal wildland firefighting agencies, but these differences did not appear to have affected efforts to respond to the Biscuit Fire.

In 1993, the National Wildfire Coordinating Group (NWCG)—an interagency group comprising federal and state representatives—established minimum training and experience standards[15] for personnel assigned to fight interagency wildland fires outside their home region. These standards, which were updated in 2000, have been adopted by five federal land management agencies, including the Forest Service.[16] Five of the seven states that we contacted in and around the Northwest Region have also adopted these standards as the minimum requirements for all their firefighting personnel.[17] The Oregon Department of Forestry (ODF) meets these standards for personnel on interagency wildland fires outside the Northwest Region. For fires under state management and for

[14]*Final Report: Fire & Aviation Safety Team Review of Northwest Geographic Area* (July 19 through Aug. 1, 2002).

[15]This system is the Wildland and Prescribed Fire Qualifications System, commonly referred to as 310-1.

[16]The Forest Service has supplemented NWCG (310-1) standards with additional requirements that apply only to Forest Service personnel.

[17]We spoke with wildland firefighting officials in California, Idaho, Montana, Nevada, Oregon, Utah, and Washington.

interagency fires within the region,[18] ODF has maintained its own certification standards. These standards are nearly identical to the 1993 version of NWCG standards.[19] In 2000, NWCG added some course and experience requirements. ODF officials are currently working to incorporate many, but not all, of these changes into state standards. For example, ODF requirements for many positions rated type 2 or below will meet NWCG standards. For type 1 positions, including incident commander, some of the most advanced courses will not be required. An ODF official explained that he believed, for state-managed fires, these additional courses were not necessary. The California Department of Forestry and Fire Protection (CDF) has maintained its own firefighting certification system for its firefighting personnel. CDF shares many of the same standards as those established by NWCG, including the combination of coursework and experience requirements for firefighting certification,[20] but requires state-specific courses for some positions. Under an agreement with federal land management agencies, California state personnel assigned to interagency fires in supervisory roles within the state are required to be certified to a level equivalent to NWCG standards.[21] For national mobilization, NWCG requires that participating agencies certify that their personnel meet the established interagency qualification standards. In the case of California, CDF officials stated that state certification requirements meet or exceed the standards established by NWCG. In addition, National Interagency Fire Center officials said they have no concerns about the adequacy of the standards used by CDF.

[18]A 1998 agreement between Oregon, Washington, and federal land management agencies recognizes each agency's standards as reasonable, prudent, and acceptable for firefighting on lands under private, state, or federal protection.

[19]Although Oregon standards differ from those set by NWCG, approximately 70 percent of the state's roughly 600 permanent firefighting personnel are certified in one or more interagency incident command positions, according to an ODF official. In addition, another roughly 300 seasonal employees are brought in each year that, by their job duties, must be interagency certified.

[20]California's Office of Emergency Services coordinates the sharing of local emergency personnel, including wildland firefighters, through the state's municipal aid program. The standards used are based on NWCG standards, and these personnel are shared with interagency efforts.

[21]A May 2002 agreement between California and federal land management agencies specifies that supervisory personnel responding to interagency fires in the state and some adjacent areas shall meet either NWCG training requirements or those of the California Incident Command Certification System, which is based on NWCG standards. The agreement also provides recommended qualifications for engine crews.

There was no apparent impact on the response to the Biscuit Fire as a result of different agency firefighting certification standards. As with other interagency fires, personnel that were dispatched to fight on interagency fires outside their home region were required to meet these standards. Within the Northwest Region, ODF maintains its own standards for state fires and interagency fires, although only NWCG-qualified personnel were dispatched to the Biscuit Fire, according to an ODF official. While CDF utilizes an independent set of requirements, NIFC officials said they had no concerns about the adequacy of the certification system used by CDF. In addition, for the portion of the Biscuit Fire that was located in California, CDF supervisory personnel assigned to the fire were required by agreement to be certified to a level equivalent with NWCG standards. Finally, our review of relevant documents and discussions with knowledgeable federal, state, and local officials did not identify any evidence that the differences between these systems created difficulties during the response to the Biscuit Fire.

Conclusions

The cornerstone of wildland fire policy is interagency cooperation and coordination among federal, state, tribal, and local firefighting agencies. Central to that cooperation and coordination is a system that includes managers and personnel from many different agencies and that crosses jurisdictional boundaries. Such a system is facilitated by good communication between personnel at all levels to help ensure clarity of firefighting goals, strategies, and tactics. Communication is also important for those working in various dispatch centers to obtain firefighting resources. These personnel must communicate in a timely—sometimes immediate—fashion to other dispatch centers the resources they need to fight new or ongoing fires in their area. In the case of the Biscuit Fire, Grants Pass dispatch personnel did communicate resource needs to their regional dispatch center in Portland, but no resources were immediately available due to other higher priority fires in the region. However, personnel did not communicate the need for initial attack resources to a neighboring dispatch center in Fortuna, California, although this was an option available to Grants Pass personnel. Whether this would have resulted in any resources being provided for the initial attack of the Biscuit Fire is unclear because personnel in the Fortuna dispatch center disagree on whether any resources could have been spared, given that fires were also burning in Northern California at the time. Since no request was made, the priority of the Biscuit Fire relative to other ongoing fires within the Fortuna dispatch center's direct protection area was not discussed on the

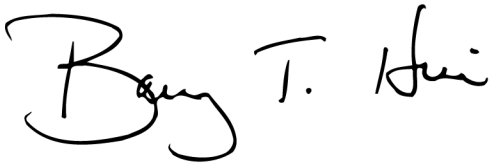
first day of the Biscuit Fire, and the outcome of such a request, had it been made, remains unclear.

Agency Comments and Our Evaluation

We provided a draft of this report to the Secretaries of Agriculture and of the Interior for review and comment. The Forest Service commented that the report appears to be accurate and the agency generally agrees with its contents. The Forest Service's comments are presented in appendix II. The Department of the Interior did not provide comments.

As arranged with your offices, unless you publicly announce the contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies of this report to other interested congressional committees. We will also send copies to the Secretary of Agriculture; the Secretary of the Interior; the Chief of the Forest Service; the Directors of the Bureau of Land Management, the National Park Service, the Fish and Wildlife Service, and the Bureau of Indian Affairs; and other interested parties. We will 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.

If you or your staff have any questions about his report, please contact me at (202) 512-3841. Key contributors to this report are listed in appendix III.



Barry T. Hill
Director, Natural Resources and Environment

Scope and Methodology

To determine whether policies and procedures were in place for acquiring needed firefighting resources during the initial days of the Biscuit Fire, and the extent to which these policies and procedures were followed when the fire was first identified, we reviewed national policies and procedures that included the National Interagency Standards for Fire and Fire Aviation Operations and the National Interagency Mobilization Guide. We reviewed the interagency mobilization guides in 9 of the 11 regions.[1] We also reviewed the local mobilization guide covering the Grants Pass dispatch center and the mobilization guides for three other local dispatch centers.[2] We reviewed the mutual aid agreements governing resource sharing for the Siskiyou National Forest. We spoke with officials at the National Interagency Fire Center (NIFC) in Boise, Idaho; Forest Service headquarters in Washington, D.C.; Forest Service Regions 5 and 6 regional offices; Bureau of Land Management, Oregon State Office and the Medford District Office; the Siskiyou and Six Rivers National Forests; the Oregon Department of Forestry (ODF); and the California Department of Forestry and Fire Protection (CDF). We visited three dispatch centers in Oregon (the Grants Pass Interagency Fire Center, the Medford Interagency Fire Center, and the Northwest Interagency Coordination Center in Portland) and one in California (the Fortuna Interagency Emergency Command Center) to discuss dispatch center operations. We also reviewed Biscuit Fire records stored at Siskiyou National Forest headquarters in Medford, Oregon, and records kept at Fortuna, including resource orders and transcripts of key radio transmissions during the initial days of the Biscuit Fire. The Forest Service provided the data used to generate the fire progression maps. We took steps to assess the reliability of the mapping data and determined that it was sufficiently accurate for our purposes.

To determine what resource management issues, if any, affected the ability of firefighting personnel to effectively fight the Biscuit Fire, we reviewed a variety of information, including resource orders and daily incident reports showing firefighting resources requested and obtained, incident action plans showing firefighting strategies and tactics, close-out reports discussing firefighting progress and problems, and Forest Service reviews of the Biscuit Fire. We interviewed a number of federal and state personnel knowledgeable about the Biscuit Fire, including officials from the Siskiyou

[1]These were the Northwest, Northern California, Southern California, Western Great Basin, Eastern Great Basin, Southwest, Northern Rockies, Rocky Mountain, and Eastern regions.

[2]These dispatch centers were the Central Washington Interagency Communications Center, the Casper Interagency Dispatch Center, and the North Dakota Interagency Dispatch Center.

and Six Rivers National Forests, ODF, and CDF, and the management teams and other key support staff that were assigned to the Biscuit Fire. We discussed resource management issues, their effect on the fighting of the Biscuit Fire, and the reasons for these issues or problems. We also reviewed assessments of other wildland fires to determine if the issues identified were limited to the Biscuit Fire or were more widespread.

To determine what differences, if any, existed in key personnel certification standards at federal and state agencies involved in fighting wildland fires—particularly in Oregon—we reviewed the interagency qualification standards established by NWCG. We also contacted officials from Oregon and California, where the Biscuit Fire burned, and five other states—Idaho, Montana, Nevada, Utah, and Washington—to discuss the certification standards they use, and whether they differ from those established by NWCG. In addition, we reviewed state firefighting standards for ODF and CDF and compared them with those established by NWCG. To determine what effect any differences may have had on the response to the Biscuit Fire, we spoke with federal officials with NIFC, the Forest Service, the Bureau of Land Management, and the National Park Service; officials with the National Association of State Foresters; and state and local officials in Oregon and California, including officials from ODF, CDF, and the California Office of Emergency Services.

We conducted our work from April 2003 through February 2004 in accordance with generally accepted government auditing standards.

Comments from the Forest Service

United States Department of Agriculture | Forest Service | Washington Office | 14th & Independence SW
P.O. Box 96090
Washington, DC 20090-6090

File Code: 1420
Date: APR - 5 2004

Mr. Barry T. Hill
Director, Natural Resources and Environment
U.S. General Accounting Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Hill:

Thank you for the opportunity to review and comment on the draft U.S. General Accounting Office (GAO) report entitled, "BISCUIT FIRE: Analysis of Fire Response, Resource Availability, and Personnel Certification Standards," GAO-04-426. In general, the Forest Service agrees with the contents of the draft report. Any issues or concerns raised previously have been adequately addressed. The report appears to be accurate and represents a substantial effort on the part of GAO. The report contains no recommendations for further action.

If you have any questions or concerns, please contact Sandy Coleman, Agency Audit Liaison, at 703-605-4940.

Sincerely,

Sally Collin

DALE N. BOSWORTH
Chief

cc: Laura L Perrett, Sandra Cantler, Alice R Forbes, Ron Knowles

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GAO Contact and Staff Acknowledgments

GAO Contact

Barry T. Hill, (202) 512-3841 or hillbt@gao.gov

Staff Acknowledgments

Andrea W. Brown, John Delicath, Cliff Fowler (retired), Janet Frisch, Molly Laster, Paul E. Staley, Stanley G. Stenersen, Amy Webbink, and Arvin Wu made key contributions to this report.

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