

Secretary of State **AUDIT REPORT**

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Oregon Department of Forestry: Review of Selected Fire Suppression Aircraft Expenditures



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Summary

PURPOSE

The purpose of this audit was to determine whether the Oregon Department of Forestry (department) could reduce its fire suppression costs by acquiring selected aircraft through the Federal Excess Property Program (FEPP) rather than leasing them.

BACKGROUND

The 2002 fire season was among the most costly in state history. During that year, the department spent more than \$46 million to suppress 1,178 wildfires on 99,000 acres of state-protected forestland. Of this, more than \$8 million was spent on leasing aircraft. Because the department had not centrally compiled or automated its fire expenditure records, we did not attempt an in-depth cost-benefit analysis of all aircraft types used during the 2002 fire season. However, we were able to obtain enough information on medium-sized helicopters, which accounted for approximately \$1.3 million to \$1.6 million of the total aircraft lease expense for that year.

RESULTS IN BRIEF

The department could potentially reduce its fire suppression costs by acquiring, equipping for firefighting, and deploying medium-sized helicopters available through the Federal Excess Personal Property (FEPP) program rather than leasing them. The department does not own any medium-sized firefighting helicopters and currently contracts out for this service.

Several other states have found it advantageous, in terms of cost and responsiveness, to operate firefighting helicopters

themselves and to supplement their needs with private contract operators. The states of Washington, Montana, Maine, Nevada, Florida, and California have acquired helicopters for firefighting from the FEPP program. For each of these states, the hourly costs to operate and maintain medium-sized firefighting helicopters (averaging \$730 per hour) were significantly less than the rates the department paid to private operators for similar equipment (averaging \$1,900 per hour). If the department was to incur costs similar to those reported by other states and average 200 hours of use per year, we estimate it could save nearly \$1 million over a five-year period operating its own medium-sized FEPP helicopter.

RECOMMENDATION

We recommend that the department consider the cost and benefit of acquiring at least one medium-sized helicopter from the FEPP program, properly equipping the aircraft, and deploying it for firefighting operations. We also recommend that the department improve its financial data collection and documentation processes so that an in-depth cost-benefit analysis can be performed for all classes of aircraft utilized by the department for firefighting activities. The department should own and operate all such aircraft deemed safe and cost-effective for the state.

AGENCY RESPONSE

The Oregon Department of Forestry generally agrees with the recommendations.

Introduction

The Oregon Department of Forestry (department) provides fire prevention and control for nearly 16 million acres of private, state and federal forestland in Oregon.

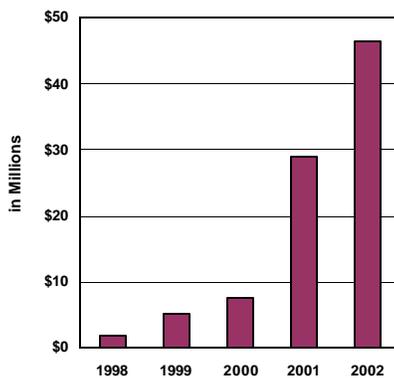
The goal of the department's fire protection program is to create and use environmentally sound and economically efficient strategies that minimize the total cost to protect Oregon's forests from all types of loss caused by wildfires.

Program services are delivered through 13 forest protection districts, including three locally managed Forest Protective Associations. The department pays for their firefighting costs using three primary sources; regular district operating budgets for base level protection, the Oregon Forest Land Protection Fund for emergency suppression costs, and an insurance policy for suppression of catastrophic fires.

Background

As shown in Figure 1, the department spent more than \$46 million to suppress wildfires during the 2002 fire season. The department controlled 1,178 wildfires, which burned more than 99,000 acres of state-protected forestland. Some of the largest fires were the Timbered Rock (26,945 acres in Jackson County), Sheldon Ridge (12,761 acres in Wasco County), Toolbox Complex (24,719 acres in Lake County), and Winter (9,102 acres in Lake County) fires.

Figure 1: ODF Annual Fire Suppression Costs



Audit Results

The department could potentially reduce its fire suppression costs by acquiring, equipping, and deploying medium-sized helicopters available through the ¹Federal Excess Personal Property (FEPP) program.

Several other states have found it advantageous, in terms of costs and responsiveness, to operate firefighting helicopters themselves, and to supplement their needs by contracting with private operators. According to six states we contacted, the average cost to operate and maintain a medium-sized firefighting helicopter from the FEPP program was roughly \$730 per hour. This is \$1,170 per hour less than the rate paid by the department to private operators for similar equipment during the 2002 fire season. If the department was to incur costs similar to those reported by other states and average 200 hours of use per year, we estimate it could save nearly \$1 million over a five-year period operating its own medium-sized FEPP helicopter properly equipped and deployed for firefighting.

¹ Under the FEPP program, Federal property, originally purchased for use by a Federal agency, but no longer needed by that agency, is acquired by the U.S. Forest Service (USFS) for loan to the states or the territories for use in rural or wildland fire protection programs.

High Costs Associated with Contracted Services

The department contracts with private operators for most of its aerial firefighting work². These services are acquired on a call-when-needed basis. During the 2002 fire season, the department paid more than \$8 million for these services.

The department maintains hard-copy fire expense records at field offices throughout the state. Because these records were not centrally compiled or automated, we determined that we could not efficiently conduct an in-depth cost-benefit analysis of all aircraft used during the 2002 fire season. However, through the department's accounting system we were able to gather usable summary data on medium-sized helicopter vendors and expenses. By using cost information reported by other states, contracted rates of service, and available accounting information, we were able to identify the potential for cost savings if the department were to acquire rather than lease medium-sized helicopters.

Our analysis showed that hiring a private operator to fly a medium-sized helicopter cost approximately \$1,900 per hour. These rates did not include fees paid by the state for items such as overnight stays and service truck mileage. These rates also did not include pilot stand-by time that may be necessary to ensure an aircraft will be available when needed. Stand-by costs for an operator of a medium-sized helicopter ranged from \$4,000 to \$19,000 per day.

We reviewed the costs of hiring private helicopter operators used during some large fires (100 acres or more in size) that occurred in 2002.

² In addition to using private operators, the department contracts with the USFS for the transport and delivery of fire retardant. Generally, fire retardant operations are performed using heavy fixed-wing airtankers.

We found the department paid approximately \$1.3 million to contractors who had operated medium-sized helicopters on the Timbered Rock, East Antelope, Sheldon Ridge, and Winter fires. This represented approximately 20 percent of the total aircraft rental expenditures incurred for these fires. This translates to approximately 600 hours of flight time.

Applying these percentages to the total aircraft expense for 2002 we estimate a lease expense of \$1.6 million, which equates to approximately 850 hours of medium-sized helicopter flight time.

Acquisition of Aircraft Could Usefully Supplement Contracted Services

The department does not own any medium-sized helicopters and relies on contracted operators using a call-when-needed hiring process. We found that acquiring FEPP aircraft could cost-effectively supplement contracted services.

Other states including Washington, Montana, Maine, Nevada, Florida, and California have acquired medium-sized FEPP helicopters for their aerial firefighting operations. Each state found it advantageous, in terms of costs and responsiveness, to both operate their own firefighting helicopters and to contract with private operators. For instance, the average hourly rate to operate and maintain a medium-sized FEPP helicopter, as reported by other states, was approximately \$730 per hour based on 200 hours of flight time per year. This is roughly \$1,170 per hour less than the department's average cost for hiring this type of aircraft during the 2002 fire season.

If the department were to obtain a medium-sized FEPP helicopter, incur the expense to equip it for firefighting duty (approximately \$340,000), and accrue 200 hours of flight time for each fire season, we estimate that the department could

average annual savings of nearly \$200,000 in aircraft rental expenditures over a five-year period. For this five-year period, which equates to the average time between major overhauls, total savings could reach \$1 million per helicopter.

Strategic Advantages with Acquiring Aircraft

In addition to cost savings, other states cited strategic advantages in acquiring and maintaining their own helicopters. Advantages include having the aircraft available when needed, having direct control over the use of the aircraft, and the ability to locate the aircraft in high fire danger areas for rapid initial attack.

Studies have also shown that over the past two decades in western forests, medium-sized, rapid-striking helicopters are very effective fire control tools during the initial attack phase of fire suppression. Further, when dispatched with the normal pre-planned resources of ground personnel and equipment, fires have been controlled quickly and the number of fires escaping and moving into extended or large, "project type" fires has been reduced.

While the department asserts that neither availability nor response time has been a problem in the past when hiring contractors, maintaining aircraft would lessen the uncertainty inherent in acquiring services on a call-when-needed basis.

We recommend that the department consider the cost and benefit of acquiring at least one medium-sized helicopter from the FEPP program, properly equipping the aircraft, and deploying it for firefighting operations. We also recommend that the department

improve its financial data collection and documentation processes so that an in-depth cost benefit analysis can be performed for all classes of aircraft utilized by the department for firefighting activities. The department should own and operate all such aircraft deemed safe and cost-effective for the state.

Agency Response:

Staff from the Oregon Department of Forestry (ODF) have reviewed the draft audit report referenced above and generally agree with the recommendations. However, our interests will be better served by expanding the scope of the recommended reviews and actions.

During discussions between Audits Division and ODF staff regarding this recommendation, we shared concerns about whether initial start-up costs were included in the analysis and the political uncertainty currently surrounding acquiring aircraft through FEPP. For those and other reasons, the department will also be reviewing additional alternatives during this cost-benefit analysis. We estimate that this analysis will be completed in the spring of 2005. Bill Lafferty, Protection From Fire Program Director, will be the lead staff person at ODF responsible for conducting the cost-benefit analysis for aircraft acquisition.

Regarding the recommendation for improved data collection, we recognize both the need and benefits of collecting this data, and this improvement work has already been included in the Protection From Fire Program's Strategic Plan for the biennium. An internal committee is working on this issue and will be making recommendations to Mr. Lafferty by the spring of 2004. Agency managers will then evaluate

these recommendations and formulate an implementation strategy that is aligned with agency-wide data management plans and within current budget constraints.

Objectives, Scope and Methodology

The objective of this audit was to determine whether the Oregon Department of Forestry (department) could reduce its fire suppression costs by acquiring selected aircraft through the Federal Excess Property Program (FEPP) rather than leasing them.

To accomplish our objective, we:

- Reviewed and evaluated fire suppression costs incurred by the department for the 2002 fire season;
- Reviewed authoritative guidance, including state laws, rules, policies and procedures;
- Interviewed department staff and management; and
- Surveyed other state agencies with wildfire protection responsibilities to identify usual practices involving the use of aircrafts during annual fire suppression activities. Those states included Alaska, Washington, California, Montana, Idaho, Nevada, Utah, Wyoming, Colorado, Arizona, New Mexico, Texas, North Dakota, Minnesota, Maine and Florida.

We conducted this audit according to generally accepted government auditing standards.

This report, which is a public record, is intended to promote the best possible management of public resources. Copies may be obtained by mail at Oregon Audits Division, Public Service Building, Salem, Oregon 97310, by phone at 503-986-2255 and 800-336-8218 (hotline), or internet at Audits.Hotline@state.or.us and <http://www.sos.state.or.us/audits/audithp.htm>.

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The courtesies and cooperation extended by the officials and staff of the Oregon Department of Forestry were commendable and much appreciated.

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