

Fire suppression costs: federal crews versus contract crews

Escalating costs

The frequency and intensity of large wildfires in the western United States are increasing, as is the cost of suppressing them. For example, federal suppression expenditures exceeded one billion dollars during the 2000 and 2002 fire seasons. Consequently, more attention is being focused on examining and controlling suppression costs.



One expenditure that has raised questions is contract crews, which the Forest Service has been using more frequently. A recent interagency report, drawn from national reviews of five large fires that occurred in 2003 in the western U.S., found that it was unclear how this increased reliance on contract crews has affected incident costs. At first glance, it appears that contract crews are significantly more expensive, but this does not take into consideration various additional expenses for federal crews such as workers' compensation claims, retirement plans, or equipment costs. The report recommended a comparison of the full costs of contract crews and federal crews to strengthen cost management strategies. This study answers that information need.

Comparing Forest Service and contract fire crews

This study estimates the full cost of 33 type II federal fire crews dispatched from five national forests in Oregon and Washington during the 2003 fire season and compares them to contract crew costs from that same period.

To estimate federal crew costs many factors had to be considered, including employment status (permanent, temporary, or administratively determined hires), hazard pay, overtime, health insurance, retirement benefits, social security, Medicare, vacation, training costs, equipment costs (including everything from Nomex clothing to ear plugs to Pulaskis), workers' compensation and unemployment costs, human resource support, and transportation costs. When these costs are combined, a mean daily cost can be determined for each crew. Assuming a 14-hour workday and continuous work throughout the fire season, the mean cost of the 33 crews under study was \$5,539 — compared to \$7,791 for a contract crew. This doesn't necessarily show that federal crews are cheaper than contract crews across the board, however. Changes in workday length, the number of productive days in a fire season, the availability of alternative work when crews are not dispatched to fire (such as trail maintenance or fuels management), and the wage grade mix of personnel can change both the absolute and relative costs of a Forest Service crew.



Factors affecting cost

After an initial cost comparison, sensitivity analysis was used to estimate the effect of changes in length of fire season, workday length, and the availability of alternative work. The analysis showed that reducing the number of productive days in a fire season, or reducing the availability of alternative work, increases the relative cost of a Forest Service crew, as shown in the table below.

	Productive days in season		
	90	60	30
Alternative work available on 100% of nonsuppression days	71.1	73.2	79.6
Alternative work available on 50% of nonsuppression days	71.1	79.1	102.9
No alternative work	71.1	84.9	126.3

The daily cost of a Forest Service crew as a percentage of the price of a contract crew under different assumptions about the number of productive days in a fire season and the availability of alternative work.

Key points

- Results show that if a federal crew has continuous work, then its daily cost is approximately 70% that of a contract crew. In general, the cost advantage of federal crews is greatest when nonproductive days are fewest.
- The most substantial impact on the variation in daily costs of federal crews is the grade mix of employees on the crew. For example, the majority of the 33 crews studied cost between \$5,200 and \$5,700 a day; however, the most expensive crew cost \$7,500 a day. This price variation was due to differences in the grade mix of the crew members, with higher grade (GS-7 and above) permanent employees significantly increasing costs.
- Because of difficulties in obtaining the necessary data, this analysis is limited to the Pacific Northwest Region (Region 6 — Oregon and Washington) of the Forest Service. However, the methodology could be applied elsewhere.

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