

Chapter 15 Special Topics: Wildland Fire Economics Policy, Budget and Performance

This chapter focuses on the Department of the Interior's (DOI's) fire program and provides a background on economics, policy, budget and performance issues in fire program management. Four DOI Bureaus – Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), U.S. Fish and Wildlife Service (FWS), and National Park Service (NPS) – have wildland fire management responsibilities that they integrate into their stewardship missions. DOI's Office of Wildland Fire (OWF) develops Department-wide policies and allocates appropriated funds to the bureaus.

Fire policies and land management have evolved considerably over the last century to incorporate scientific and technological advances, changing management philosophies, and social values. Despite the advances, the literature reflects widespread concern that fire program initiatives do not adequately address the issues and are not cost effective. A literature review prepared by DOI's Office of Policy Analysis (2012) focused on six topics relevant to fire program management, and found the following:

Policy – Policy changes have been the norm for DOI's Wildland Fire Program. Implementing Congress's call (2012) to shift the emphasis of hazardous fuel reduction funding from the Wildland-Urban Interface to the highest priority projects and areas, will likely require time to fully implement. Intergovernmental cooperation in firefighting has improved significantly. However, legal, institutional, and fiscal issues remain.

DOI Budget Trends – DOI's annual obligations have fluctuated depending on the extent of wildland fires and other factors.

Performance Measures – Performance measures have evolved with changing policies. The number of annual performance measures for DOI's Wildland Fire Program has been reduced in recent years. The literature calls for improving performance measures to more effectively capture the intent of program goals and objectives.

Economic Analysis – Economists have played a key role in evaluating wildland fire programs' costs and benefits. This is likely to continue, as the 2012 Appropriations Act directed DOI "to complete an assessment of all Department Wildland Fire programs to determine the most cost effective and efficient means of providing comprehensive fire management services in support of Department and bureau missions."

Models – Recent advances in modeling show promise in reducing uncertainties related to fire behavior and fire effects, and in describing potential values at risk. Together these should help better understand and identify trade-offs associated with various decisions related to fire management.

Data Availability – While progress has been made, additional actions are needed to improve data quality, availability, and accessibility.

Figure 15-1 shows how DOI budgets have been allocated across several categories since 1999. Suppression activities represent a large and increasing share, exceeding one-third of the budget for the past five years. Figure 15-2 shows DOI-managed wildland acres burned since 1997 (both figures are based on DOI data). There is no significant trend in the data; fluctuations in the number of acres burned each year reflect factors such as short-term and long-term weather, fuel accumulations, infestations, etc. Figure 15-3 shows DOI wildland fire suppression costs since 1997. There is no significant trend in the data; suppression cost fluctuations reflect differences in fire locations and the values being protected: higher suppression costs are typically incurred for protecting more highly valued resources such as designated critical habitat, or developed campgrounds in National Parks. Suppression expenditures are generally lower (per acre) for fires located in remote areas with lower values at risk, while fires in the wildland-urban interface threatening lives and property result in higher suppression costs.

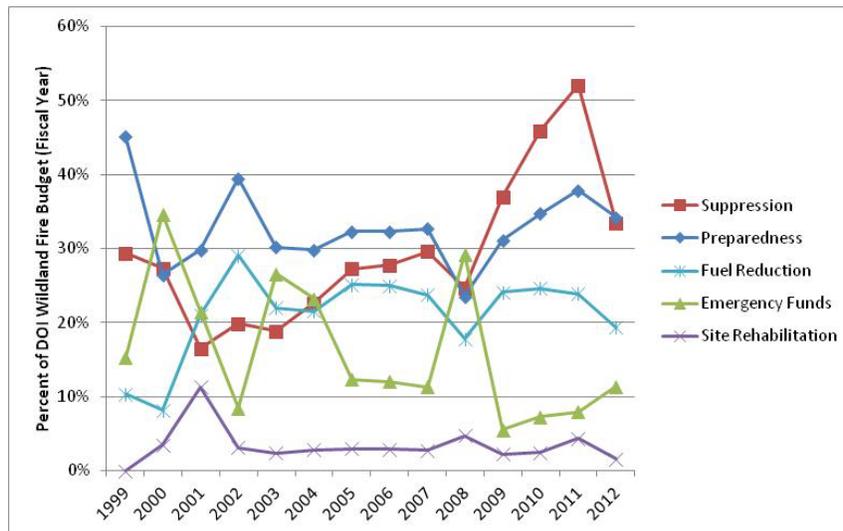


Figure 15-1. Interior Appropriations, 1999-2012 (CRS, 2011)

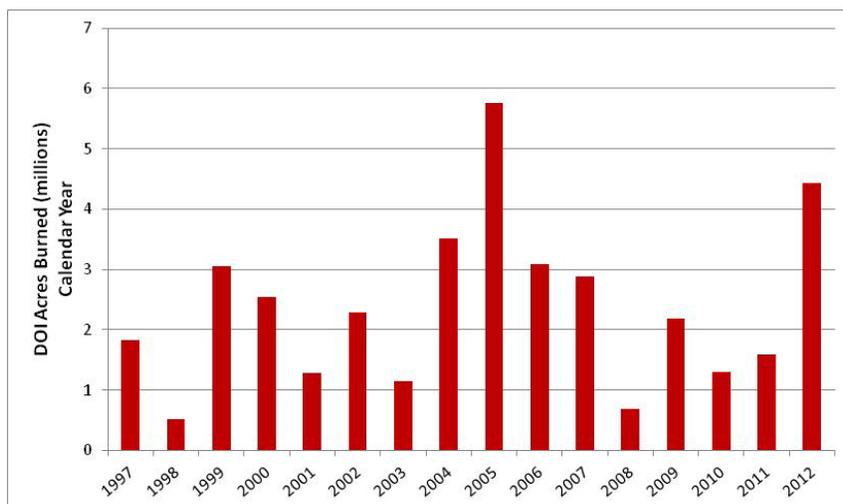


Figure 15-2. Annual DOI Wildfire Acres Burned, 1997-2012

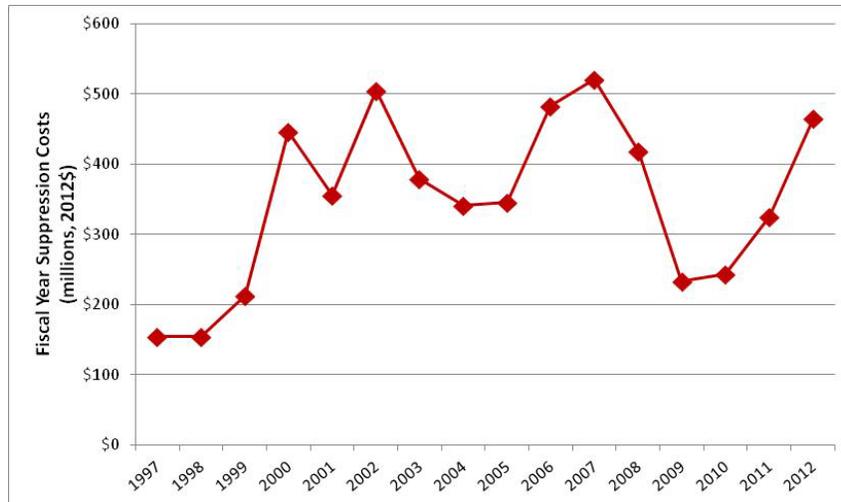


Figure 15-3. Annual DOI Wildfire Suppression Costs, 1997-2012

Source: DOI data.

The Strategic Issues Panel on Fire Suppression Costs (2004) found that 60% of total suppression obligations can be attributed to the largest 1% of wildland fires. Strauss et al. (1989) found that between 80 and 90% of wildfire acres burned in the Western U.S. are attributable to 1% of wildfires. More research may be able to illuminate a relationship between suppression costs and acres burned, which could in turn allow forecasts of acres at risk of burning to inform budget forecasts.

Focusing solely on direct expenditures related to avoiding and suppressing wildfire presents an incomplete description of social costs, which would ideally include values for all resources at their opportunity cost. One of the greatest challenges with comparing costs and benefits is in characterizing everything in terms of a common metric, such as dollars, especially as nonmarket goods and services often are difficult to quantify and monetize. Decision makers may never have comprehensive, succinct ledger entries to show the economic value of protecting resources like human health, cultural sites, and wildlife habitat. The evolving literature of benefit-cost analysis, cost effectiveness analysis, and highly valued resources constitutes a valuable source of information for decision makers concerning the tradeoffs they face.

For additional details on this topic see:

http://www.doi.gov/ppa/upload/Wildland_fire_literature_review_060812FINAL.pdf

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