



Western Forestry Leadership Coalition Issue Brief

True Costs of Wildfire 5/9/08

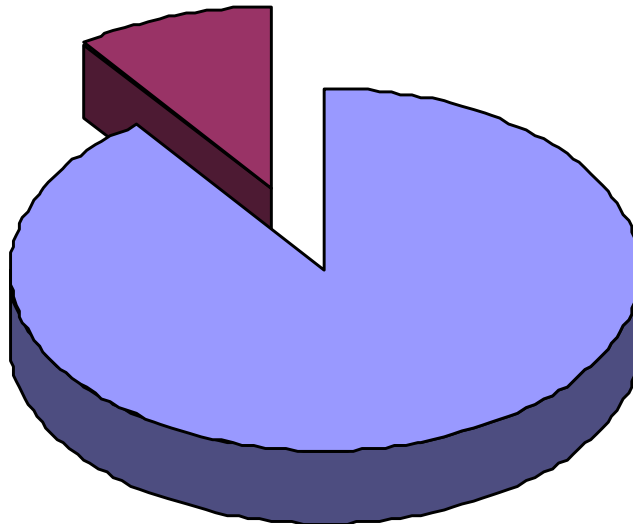
Background on the Issue

Wildfire has become a year-round disturbance event in the West. Many wildfires have significant negative social, economic, and ecological impacts that threaten the long-term sustainability of these systems. In an effort to help illustrate both short-term and long-term impacts of wildfire, preliminary research has quantified the impacts of wildfires in economic terms. This issue brief is intended to serve as a primer on the issue. A more in-depth report that explores the issues in greater detail is in the WFLC work plan for 2009.

Defining the “True Costs” of Wildfire

Discussions of wildfire costs are usually limited in their scope, short term in their perspective, and fail to account for costs other than suppression expenditures. The true costs of wildfire are almost always more far-reaching than is usually reported. These costs include both short and long term costs, direct and indirect costs, and market and non-market losses to social, economic, and ecological systems. Although efforts have improved in recent years, little data is kept on the true costs of wildfire by federal, state, and local agencies and little research exists on this topic in general. In particular, data on expenditures by public, private, and non-profit sectors as well as market and non-market economic costs resulting from wildfires are scarce. Now more than ever it is imperative that the true costs of wildfire are examined to demonstrate wise and efficient investment in both suppression and pre-suppression activities, as well as better articulate, in economic terms, the extensive negative impacts of wildfire.

Expenditures on Suppression Represent Only a Fraction of the True Costs of Wildfire



The true costs of wildfire reach far beyond out-of-pocket suppression expenditures during an incident. The following is a partial list of short and long term, direct and indirect, and market and non-market ecological, social, and economic costs associated with wildfires that contribute to the overall ‘true’ costs:

- Insured and un-insured property losses
- Post-fire flooding impacts
- Water quality impacts
- Air quality impacts
- Impacts on ecosystem services: carbon emissions/loss of sequestration capability; habitat losses for endangered species; etc.
- Healthcare costs
- Injuries and fatalities
- Lost revenues to private sector businesses during and after incidents
- Lost revenue and costs to displaced evacuees
- Infrastructure shutdowns (highways, airports, railroads, etc)
- Non-profit sector expenditures (Red Cross, etc.)
- Loss of use public use of burned lands

Calculating the ‘True Cost Ratio’ for Wildfires using Case Studies

Although research in this area is scant, a few case studies documenting the true costs of wildfire exist. Using these case studies, we can begin to glean an average true cost of wildfire, or the average ‘true cost ratio’ for wildfires in the West. A few case studies are highlighted below:

Fire Name	Year	True Cost ¹	Suppression Cost	True Cost Ratio
Cerro Grande	2000	\$1 billion	\$34 million	29:1
Hayman	2002	\$200 million	\$39 million	5:1
Old/Grand Prix ²	2003	\$2 billion	\$61 million	30:1

Using these figures, the ‘true cost ratio’—the ratio of true costs to suppression costs—can be calculated. A reasonable estimate of the average ‘true cost ratio’ for these wildfires is likely anywhere between 5:1 and 20:1. Thus true costs are on average 5 to 20 times greater than the costs to suppress them.

Next Steps

A report will be produced that investigates in greater detail the true costs of wildfire in the West. Although very little information has been gathered on the true costs of wildfire, a few case studies do exist. Unfortunately these case studies use very different methodologies so making generalizations across cases will be challenging. Summarizing the true costs using case studies may be an effective way to illustrate the points made in this issue brief. Additionally, this approach will serve as a platform to analyze and discuss the policy implications of a true cost approach to wildfire management activities.

¹ Totals are approximate and severely limited by the availability of data. Additionally, non-market values such as impacts on a variety of ecosystem services are not included.

² True cost totals for the Old/Grand Prix fire are some of the most extensive and accurate of any wildfire cost calculation to date due to the availability of data and research methods employed. The true cost ratio for the Old/Grand Prix is likely the most accurate of the three case studies used in the table.