

Hayman Fire - Colorado, 2002

Dry, windy conditions combined with drought and heavy fuel loads resulted in the massive Hayman Fire on the Front Range of the Rocky Mountains 95 miles southwest of Denver, CO, in 2002. The fire spread fast through pine and fir forests on thick surface fuels of pine needles, short grasses, and shrubs.

Prized for their scenery and recreational opportunities, the Front Range mountains and forests are also critical sources of water for communities and cities downstream, including Denver. Following the fire, the greatest risk to the soil and water resource was erosion of burned areas and resulting sedimentation of streams and reservoirs.

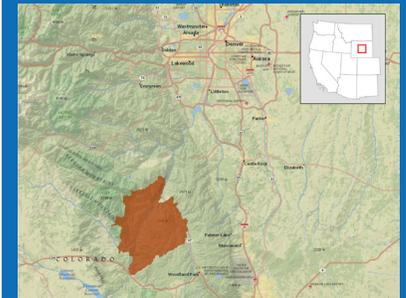
DATA COLLECTION

At the request of a Colorado congressman, a team of federal, state, and local experts was assembled to analyze information about socio-economic and ecological impacts of the fire as well as fire behavior and land rehabilitation. The report was peer-reviewed and published in 2003.¹ The socio-economic impacts chapter² was based on academic literature, workshops with an impacted homeowners association, and interviews of residents and representatives of governmental and nonprofit organizations.

EXPENSES AND DAMAGES

Fire suppression alone cost the federal government \$42,279,000; another \$1,015,741 of suppression costs were paid by the state and counties.³ Suppression plus additional 2002 costs (listed below) totaled more than \$207 million. Immediate additional costs included property insurance claims, private property losses, damaged power lines, and tourism impacts:⁴

- \$38.7 million for insured property loss (600 structures)
- \$4,851,552 for federal grants and loans for uninsured private property losses
- \$880,000 for power lines lost
- \$56,600 for U.S. Forest Service recreation facilities lost
- \$37 million for decreases in water storage
- \$34 million value of timber loss (\$47 million for National Forest resource losses (including \$3.7 million for timber)
- \$2 million for FEMA reimbursements, State of CO, American Red Cross relief (\$765,940)
- \$39,930,000 for rehabilitation projects, primarily erosion control, paid by the federal government
- \$2,691,601 for impacts such as tax revenue losses, sales tax and business losses at a guest ranch, youth camps, and campground concessionaires



SUMMARY

Date: June-July 2002

Setting: The Ponderosa pine forests on the mountains and drainages of Pike National Forest between Denver and Colorado Springs, CO.

Burned area: 137,759 acres

Buildings destroyed:

- 132 residences
- 468 other structures

Land ownership:

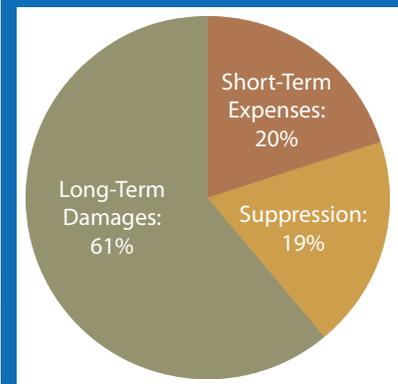
- 85% federal
- 15% state and private

Estimated costs: \$207,700,049

Most expensive costs:

- Home & property loss
- Suppression costs (Federal)
- Tax, business, & natural resource loss

Proportional Costs of Wildfire





The Hayman Fire was the largest in Colorado history, burning 138,000 acres and destroying 600 structures. Photo: <http://cusp.ws/>

- \$18 million for deaths of five firefighters and an asthma victim
- \$679,614 plus more than 10 jobs for loss of wilderness values
- \$10,850,000 annually for loss of endangered butterfly habitat

In addition, economic data on the Hayman Fire was collected for another year. The costs detailed for 2003 included: ⁵

- \$548,915 for property tax revenue losses to counties
- \$7,997,972 for land rehabilitation costs incurred by federal agencies, the Denver Water Board, the state, and a coalition of private citizens
- \$810,608 for flood damages to public property paid by counties and the state Department of Transportation, plus \$730,000 for flood damages to private property
- \$414,000 for loss of business for a guest ranch and a fishing business
- \$11,529,613 for loss of endangered butterfly habitat and loss of wilderness and roadless area values

COSTS NOT EVALUATED

- Loss of South Platte River trout fishery value
- Public health including physical and mental injury, stress, and trauma incurred during the fire and in succeeding years
- Ecosystem services such as water filtration, food provisioning, raw materials, medicinal resources, soil formation, and science and education.

WHO PAYS

Costs of the Hayman Fire were not broken down by who paid. However, the literature indicates that the federal government (Forest Service, FEMA, Small Business Administration, U.S. Geological Survey, National Resources Conservation Service) paid much of the immediate cost of the fire, most of which burned on federal lands. The state and counties also paid, however, particularly in succeeding years for business loss, flooding, and ongoing rehabilitation. Losses to habitat and ecosystem services are paid by all.

1 Graham RT, ed. 2003. *Hayman Fire Case Study*. Gen. Tech. Rep. RMRS-GTR-114. Ogden, UT: USDA Forest Service Rocky Mountain Research Station. https://www.fs.fed.us/rm/pubs/rmrs_gtr114.pdf.

2 Kent B, Gebert K, McCaffrey S, Martin W, Calkin D, Schuster E, Martin I, Bender HW, Alward G, Kumagai Y, Cohn PJ, Carroll M, Williams D, and Ekarius C. 2003. Social and Economic Issues of the Hayman Fire. In Graham RT, ed. 2003. *Hayman Fire Case Study*. Gen. Tech. Rep. RMRS-GTR-114. Ogden, UT: USDA Forest Service Rocky Mountain Research Station. https://www.fs.fed.us/rm/pubs/rmrs_gtr114/rmrs_gtr114_315_395.

3 Lynch DL. 2004. What Do Forest Fires Really Cost? *Journal of Forestry* 102(6): 42-49. (The author served as a reviewer on the socioeconomic chapter of the report referenced above. His paper draws heavily from that report.)

4 Ibid (Lynch)

5 Ibid (Lynch)