

# Schultz Fire - Arizona, 2010

The hot, wind-blown Schultz Fire quickly spread across the steep eastern slopes of the San Francisco Peaks in the Coconino National Forest northeast of Flagstaff, AZ, in June 2010. The fire burned 15,000 acres over three weeks. No private residences were destroyed but more than 700 properties were evacuated. Moderate- to high-severity burns impacted watershed drainages that provided approximately 20 percent of Flagstaff's summer water.<sup>1</sup>

The fire was soon followed by monsoon rains that resulted in heavy flooding of residential areas downstream from charred hillsides. Flooding caused one casualty and extensive damage to homes, property and infrastructure up to four miles from the burn.<sup>2</sup>

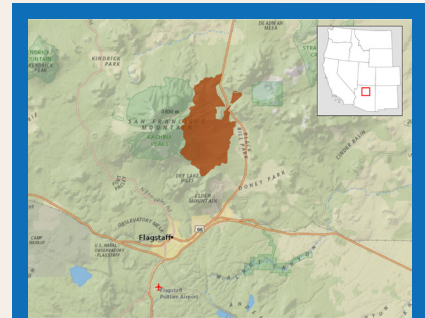
## DATA COLLECTION

Northern Arizona University conducted a comprehensive study of the Schultz Fire's costs.<sup>3</sup> Surveys were sent to 1,339 households in the fire/flood area. Researchers also consulted the county assessor's records and official reports from city, county, state, and federal government agencies.

## EXPENSES AND DAMAGES

Fire and flood response and mitigation costs were officially reported to be close to \$60 million. However, according to a study conducted afterwards by Northern Arizona University, total impact of the Schultz Fire was between \$133 million and \$147 million.<sup>4</sup>

- \$59,104,394 for fire and flood response (2010) followed by flood mitigation actual (2011-2012) and projected (2012-2014) by city, county, and federal government agencies and utilities
- \$1,825,127 for cleanup of mud, ash, polluted soils, noxious weeds
- \$1,516,103 for unpaid labor by homeowners, friends, and family
- \$823,100 for armoring against flooding after the fire
- \$223,572 for fire evacuation including emergency food and lodging, and boarding of livestock and pets
- \$59,353,523 for loss in personal wealth due to reduced property values
- \$3,097,978 for structural damage to homes
- \$198,034 for flood insurance premiums (new annual cost)
- \$400,000 to \$14,200,000 for destruction of habitat including significant loss of habitat for the federally threatened Mexican spotted owl
- \$6,000,000 for loss of life in post-fire flooding



## SUMMARY

**Date:** June 2010

**Setting:** Steep slopes covered with Ponderosa pine and mixed conifer forests adjacent to a metropolitan area, and the City of Flagstaff. Post-fire flooding significantly impacted the city.

**Burned area:** 15,000+ acres

**Land ownership:**

- 100% federal

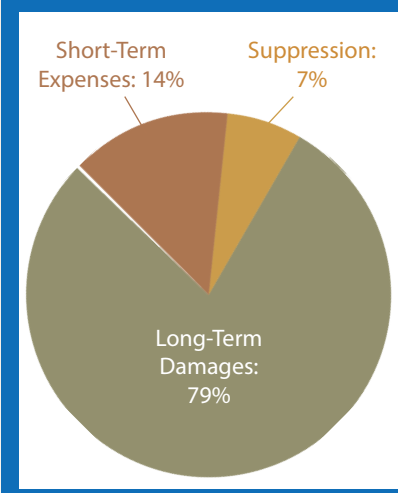
**Estimated costs:**

\$133 million to \$147 million

**Most expensive costs:**

- Depreciated property values
- Long-term rehabilitation
- Immediate stabilization
- Suppression costs (Federal)

## Proportional Costs of Wildfire





*Day 4 of the Schultz Fire, Flagstaff, Arizona. At this point, the fire has consumed over 12,000 acres, including parts of the Schultz Pass area and northern flanks of the Dry Lake Hills and most of the eastern side of the San Francisco Peaks. Photo: Deborah Lee Soltesz*

## **COSTS NOT EVALUATED**

- Volunteer work by nonprofits
- Damage to recreation areas and archaeological sites
- Loss of timber and other forest products
- Public health including physical and mental injury, stress, and trauma incurred during the fire and in succeeding years
- Degraded viewshed (beyond effects on property values)
- Long-term effects on region's amenity-based economy
- Loss of ecosystem services such as water filtration, food provisioning, raw materials, medicinal resources, soil formation, and science and education.

## **WHO PAYS**

Authors of the Schultz Fire report<sup>5</sup> concluded that the loss in personal wealth due to reduced property values – borne by homeowners, businesses, and non-governmental agencies – amounted to more than 50 percent of the true cost of the fire. More than 23 percent of the cost was paid by federal agencies. The county covered 10 percent and the state almost 3 percent. The City of Flagstaff and utilities paid four percent, and the remaining 9.7 percent – the value of the habitat destroyed – is borne by the general public. Many expenses such as public health were not evaluated.

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1 Koestner K, Youberg A, and Neary DG. 2011. Field Trip Guide to the 2010 Shultz Fire Burn Area. Flagstaff, AZ: Arizona Hydrological Society  
[https://www.fs.fed.us/rm/pubs\\_other/rmrs\\_2011\\_koestner\\_k001.pdf](https://www.fs.fed.us/rm/pubs_other/rmrs_2011_koestner_k001.pdf).

2 Ibid (Koestner et al.)

3 Combrink T, Cothran C, Fox W, Peterson J, and Snider G. 2013. *A Full Cost Accounting of the 2010 Schultz Fire*. Flagstaff, AZ: Northern Arizona University. <http://nau.edu/cr/banner/schultz-fire/>.

4 Ibid (Combrink et al.)

5 Ibid (Combrink et al.)