

The Cost of Protecting Homes from Wildfires in the Sierra Nevada

Full research paper at <http://headwaterseconomics.org/wildfire>



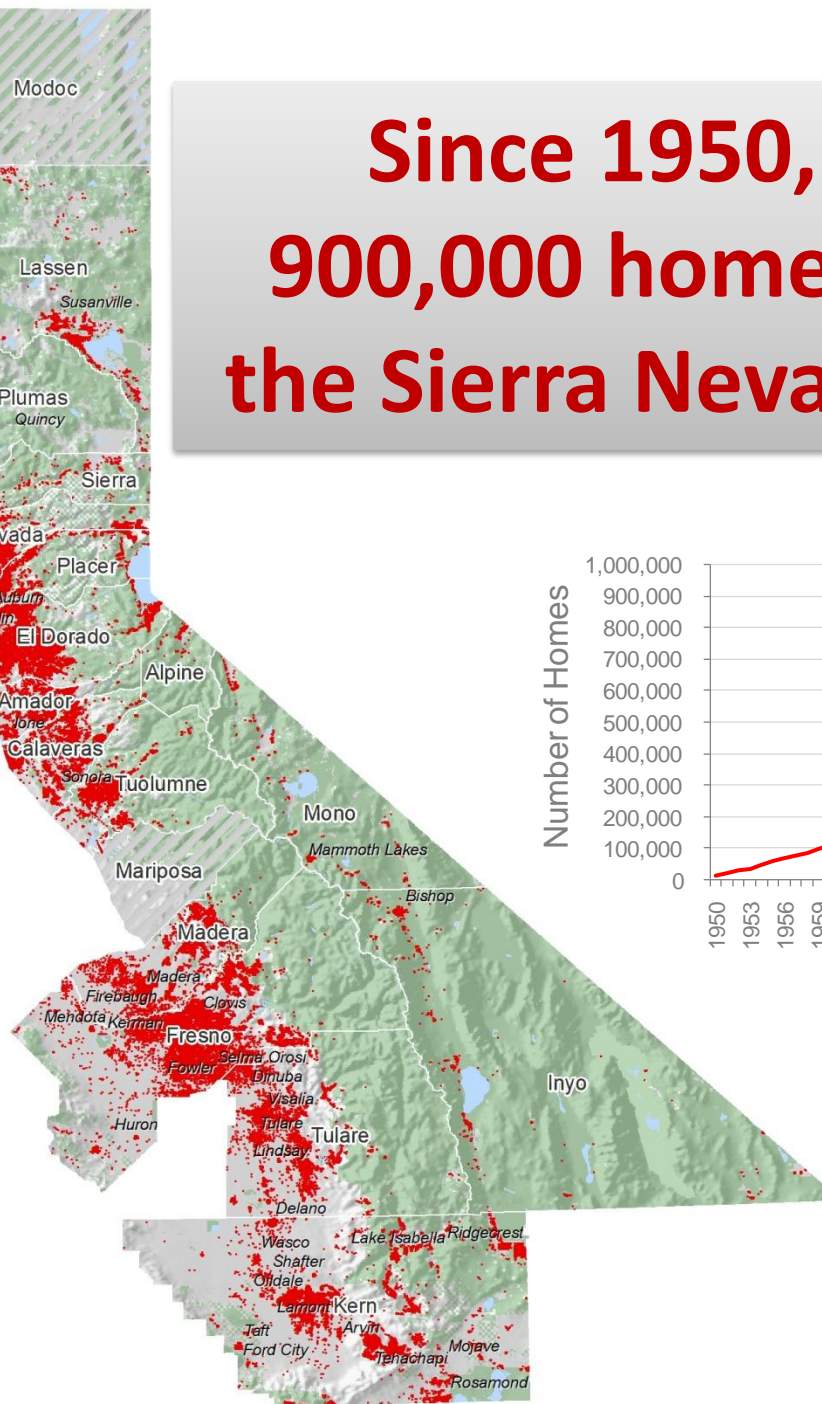
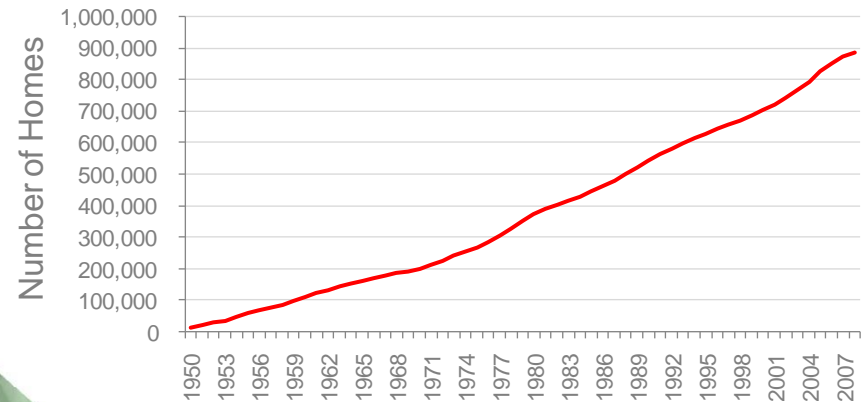
Patty Gude

patty@headwaterseconomics.org

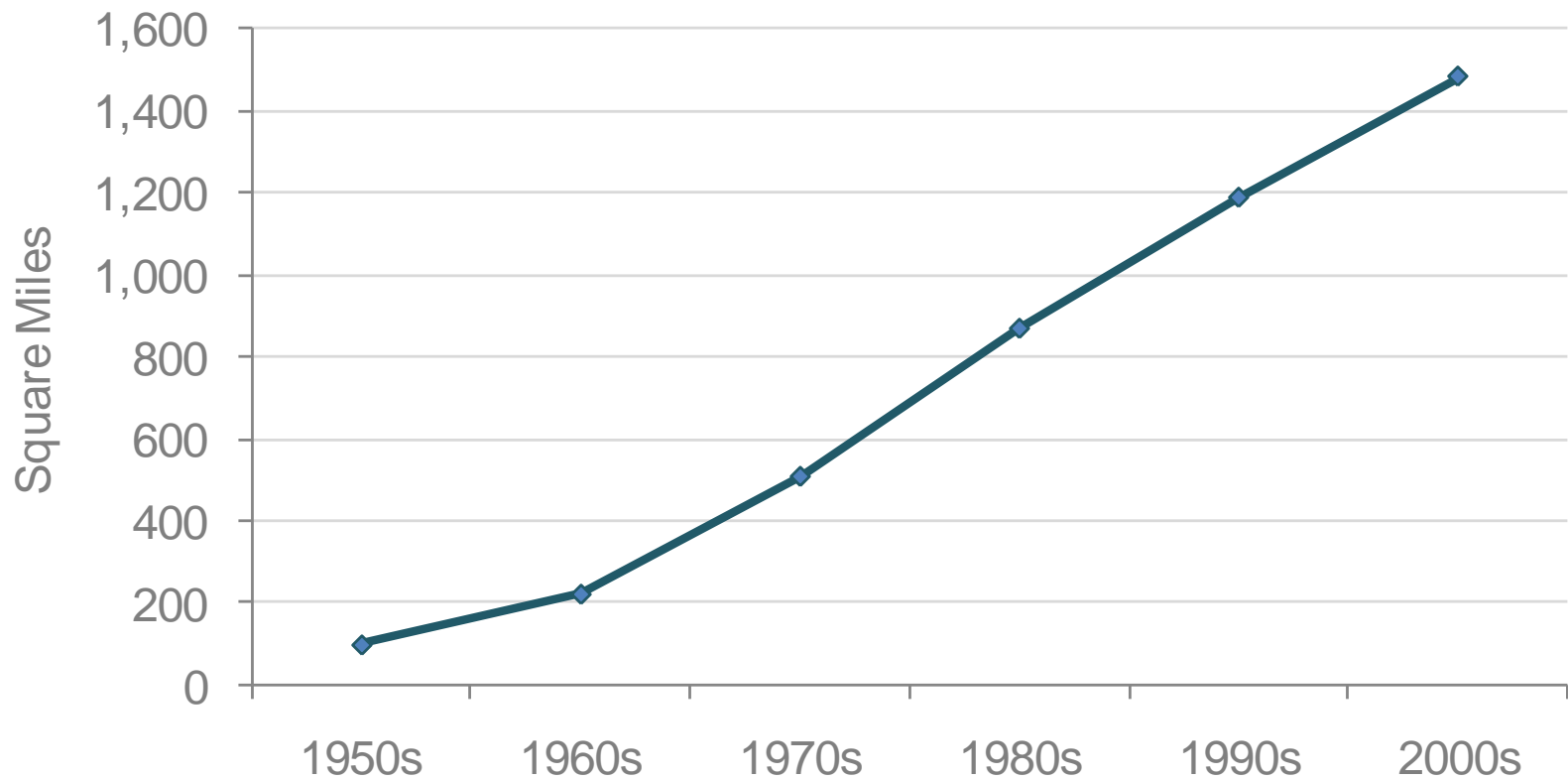
**Since 1950, more than
900,000 homes were built in
the Sierra Nevada study area.**

2010

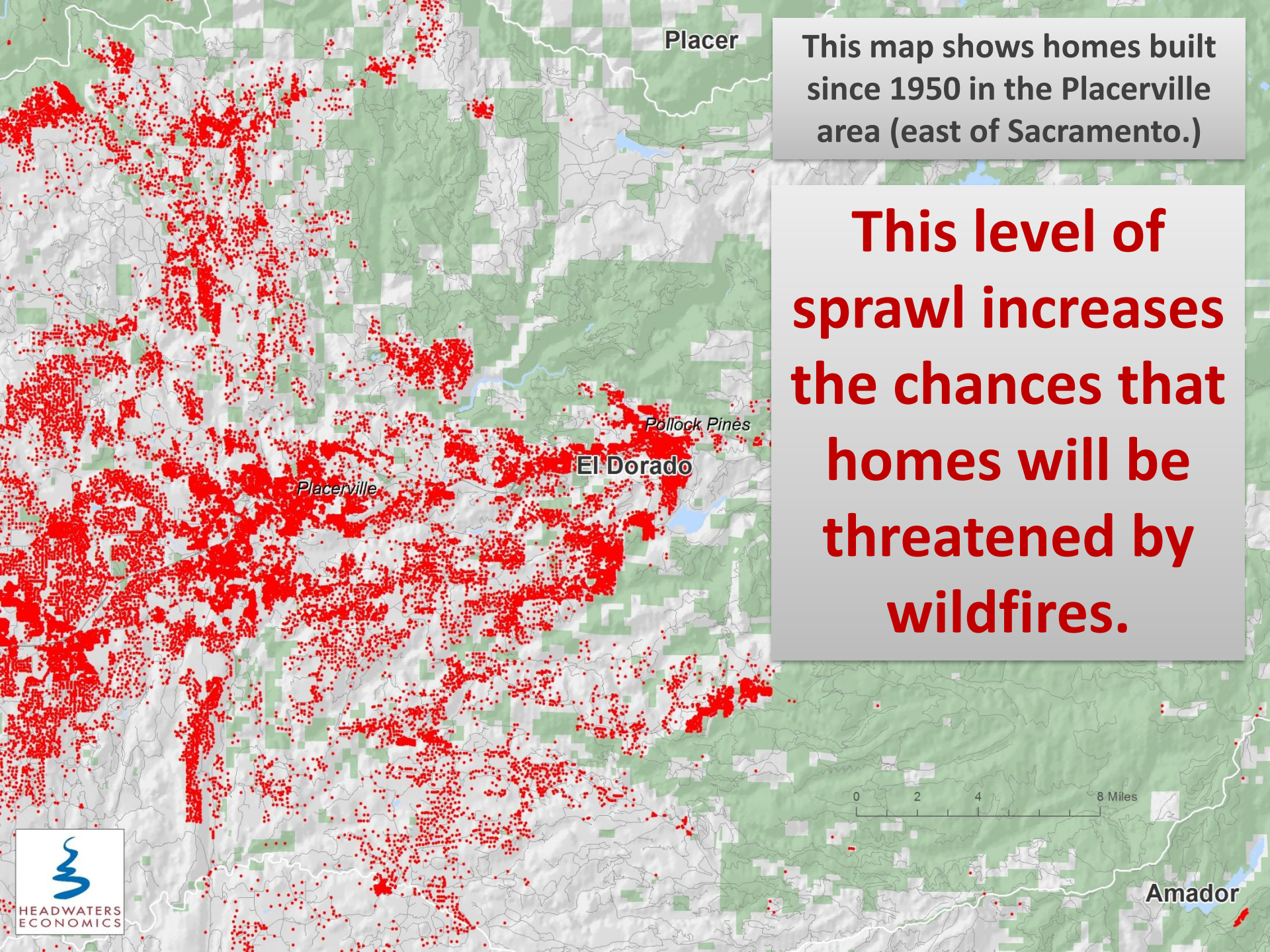
- Homes
- Public Land
- Private Land
- Data not available



Change in Area of Low Density Development Since 1950 in the Sierra Nevada Area



Since 1950, 1,500 square miles of undeveloped private land has been converted to low density development in the Sierra Nevada area.



Placer

This map shows homes built since 1950 in the Placerville area (east of Sacramento.)

This level of sprawl increases the chances that homes will be threatened by wildfires.

Pollock Pines

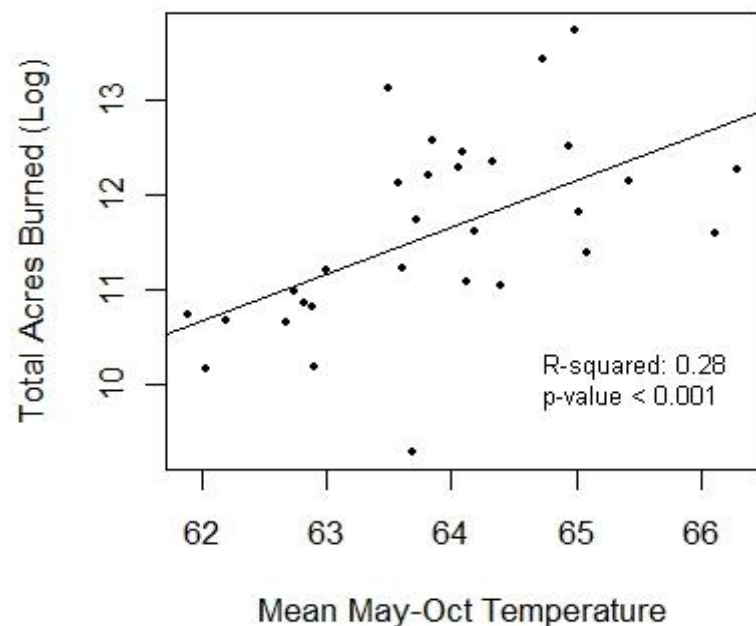
El Dorado

Placerville

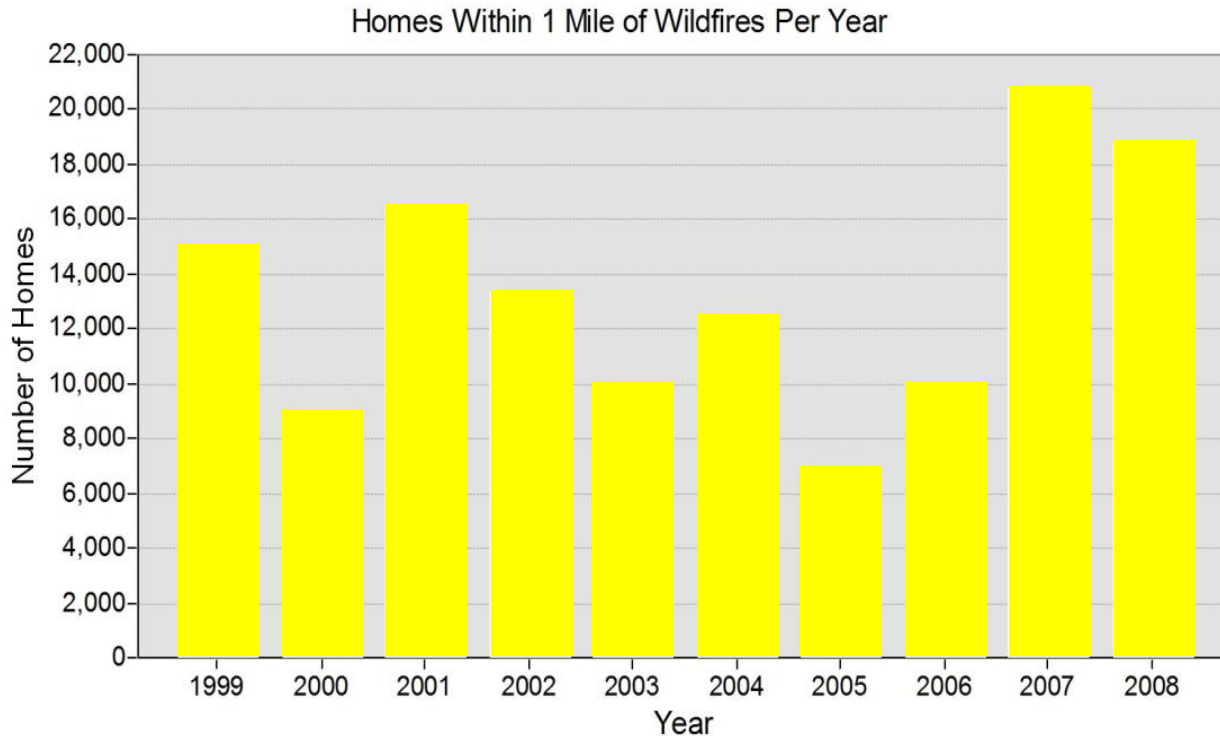
0 2 4 8 Miles

Amador

Warming temperatures and drought are strongly related to increases in wildfires.



In the past 10 years, 13,000 homes on average were threatened annually by wildfires.

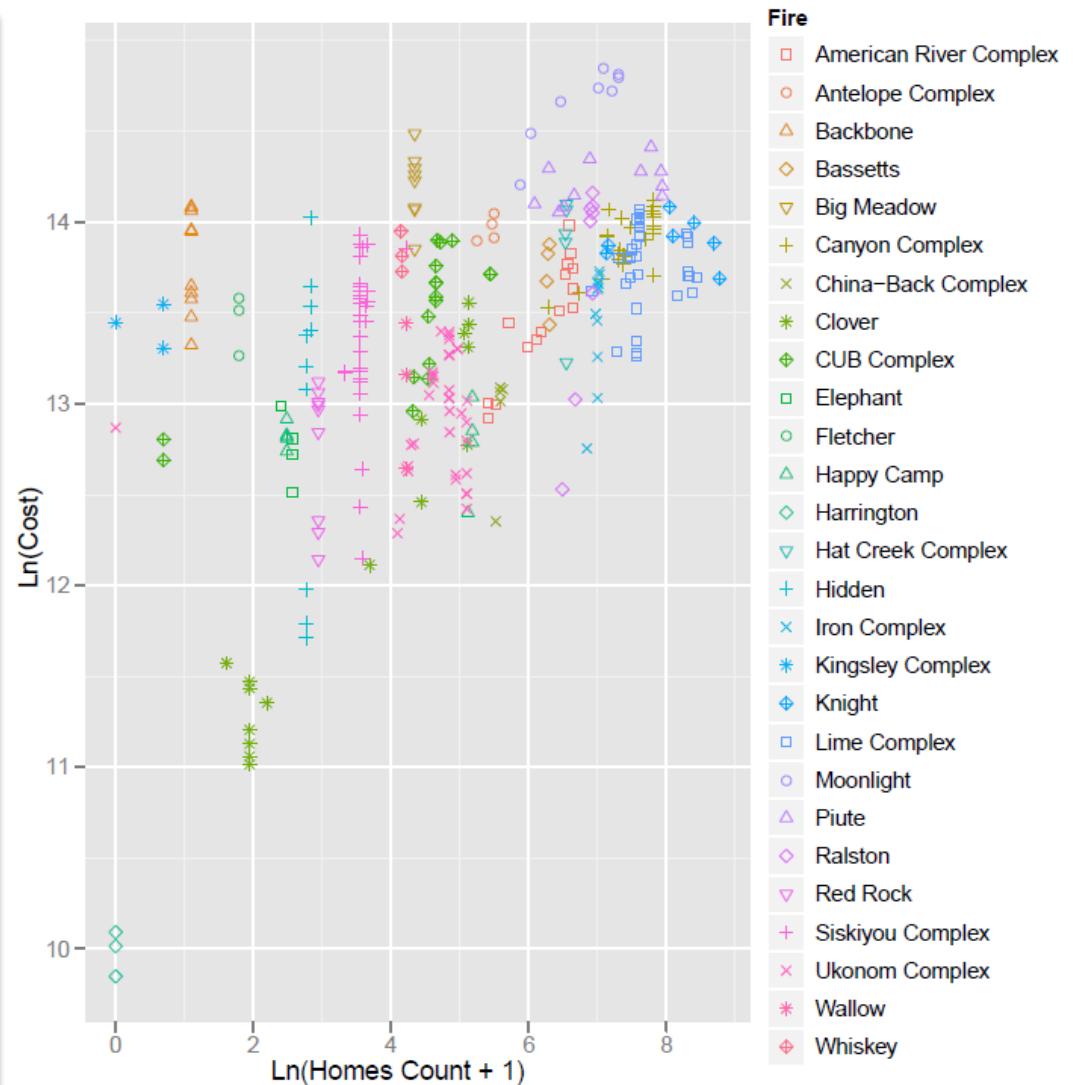


This is more than twice the number threatened during the 1980s and 90s due to the increase in area burned by wildfires and sprawl.

We analyzed how homes affected daily firefighting costs.

The best model of costs included 5 factors:

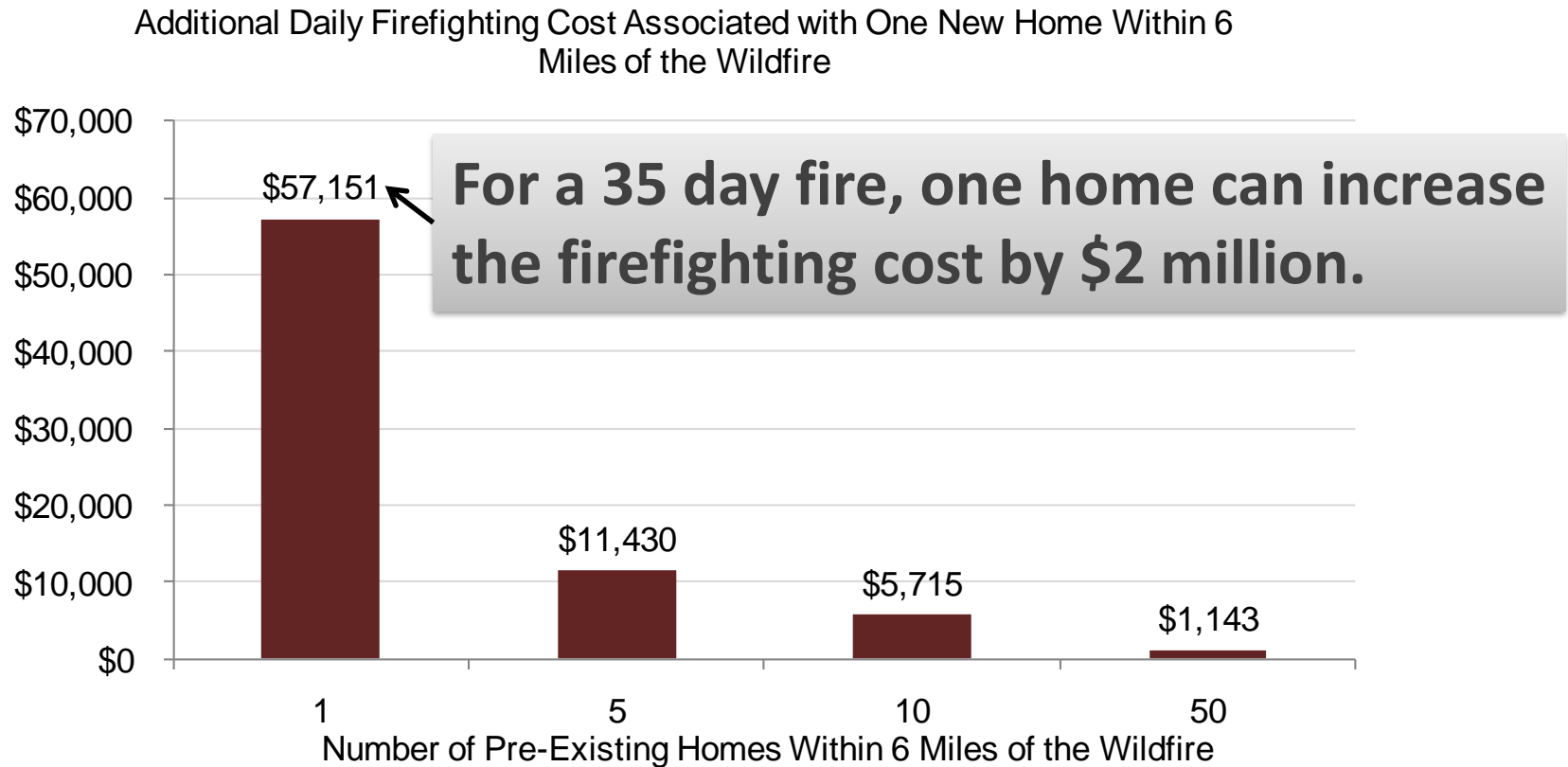
- Count of Homes
- Fire Size
- Fire Growth Potential
- Habitat (% Forest Cover)
- Time (% of Fire Complete)



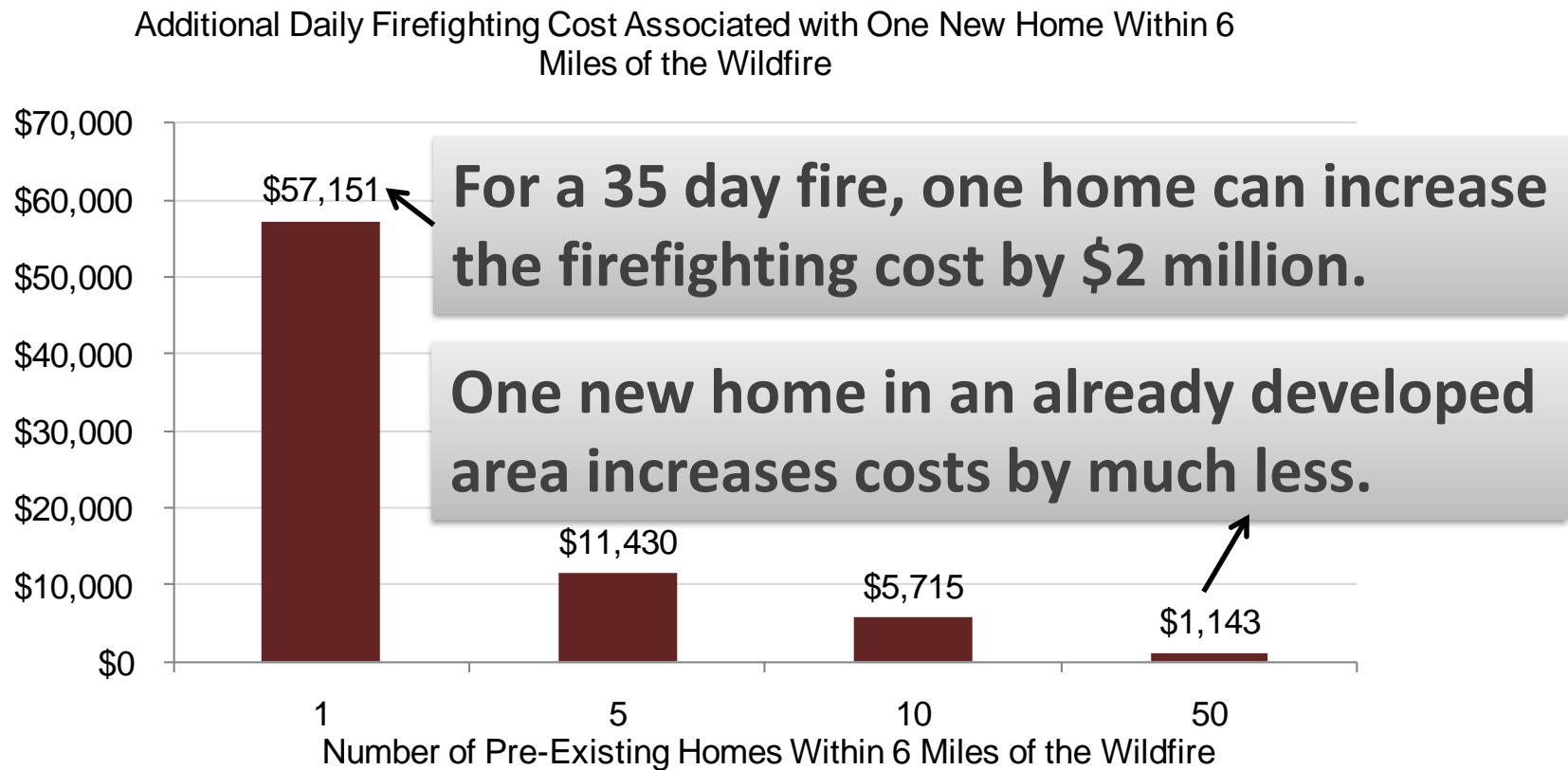
This figure shows a clear relationship: firefighting costs go up when more homes are present around the fire.

What we found:

In low density areas, the per home cost can be incredibly high.



When there are hundreds of homes around, the cost of each additional home is less (fire managers are probably already doing all they can to stop the fire).




Keeping development within the existing “footprint” would reduce future firefighting costs by millions.

Policy Implications:

As firefighting costs rise, future policies will need to focus on covering the additional costs related to new housing.

If the costs were borne, in part, by those who build at-risk homes, or by local governments who permit them, rather than by the federal and state taxpayer, development rates in high risk areas may slow.


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 Independent nonpartisan research

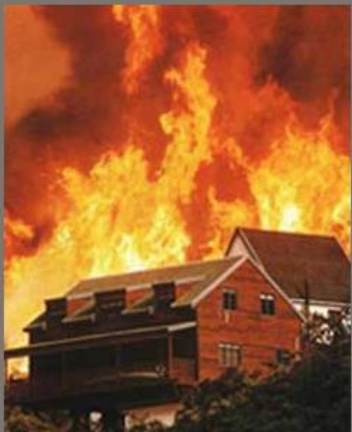
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IN FOCUS
Controlling Fire Suppression Costs

The rising expense of wildland firefighting, which now costs the federal government more than \$3 billion annually and is likely to increase dramatically.

[Download the white paper](#)
[Read news release](#)
[Read an article on wildfire costs](#)



Socioeconomic Profiles

Use EPS-HDT to compare your region to the rest of the country. Includes socioeconomic data pulled from several sources.

What We're Reading


Slave Lake Fire is Second Costliest Insurance Disaster in Canadian History

National Wildfire Coordinating Group

Journal Paper on Future Increased Fires in Yellowstone Region ([pdf link](#))

GAO: Agencies Must Do More for Wildland Fire Management


Featured Research



Northern California, Homes, and Cost of Wildfires

This Headwaters Economics study analyzes the impact of housing and climate on the costs of fighting forest fires in the twelve national forests of the Sierra Nevada.

[» More](#)



Montana Wildfire Cost Study- Technical Report

This report examines how residential development adds to the costs of fighting wildfires, using Montana as a case study.

[» More](#)

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What's Coming

Study on how western counties performed during the recent recession.

Email Updates

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<http://headwaterseconomics.org/wildfire>