

Rural land use policies curb wildfire risks—to a point

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Washington State University researcher Travis Paveglio has found moderately restrictive land-use policies can dramatically curb wildfire risks. Credit: Washington State University

Using Montana's fast-growing Flathead County as a template, a Washington State University researcher has found that moderately restrictive land-use policies can significantly curb the potential damage of rural wildfires. However, highly restrictive planning laws will not do much more.

"Effective land-use planning can reduce [wildfire](#) risk," says Travis Paveglio, a clinical assistant professor in the Edward R. Murrow College of Communication whose research focuses on wildfire, environmental hazards and natural resource management. "However, it's one of a suite of influences and you have to take all of those influences together to understand its impact."

Paveglio's study, which was funded by the National Science Foundation, appears in the latest *Journal of Environmental Management*.

Working with colleague Tony Prato at the University of Missouri and others, Paveglio built a model predicting future wildfire-related losses based on current development trends, fire patterns and projected climate change up to the year 2059. The county has grown dramatically in the past two decades, with many people drawn to environmental amenities like Glacier National Park, Flathead Lake, national forests and ski resorts.

"You can be in a portion of Flathead County and be as rural as you would expect anywhere in the Northwest," says Paveglio, "but you can also be up by Whitefish and be around one of the early financiers of Google."

Rural residents have been threatened by blistering wildfires, including two 50,000-acre-plus fires in 2003 and the 99,090-acre Chippy Creek Fire in 2007.

Paveglio and his colleagues focused on current land-use policies and built a model estimating potential wildfire-related residential losses. The model predicted that, under the land-use policies of 2010, residential losses would increase 17-fold by 2059 with cumulative losses of more than \$79 million.

Under increased but still "moderately restrictive" policies, residential losses from wildfire increased 10-fold. Highly restrictive policies showed a nine-fold increase in losses—less than with the other two policies, but not much improvement over the moderately restrictive ones.

The findings apply only to Flathead County, not other parts of the West, says Paveglio. But the researchers' model can be applied to other places using data specific to those regions, he says.

Paveglio says the researchers focused on the county's overall land-use policies with an eye toward building a flexible tool that can consider wildfire risk in concert with more typical planning criteria like environmental concerns and aesthetics.

"For any planner, there are going to be a lot of trade-offs," he says. "Fire is just one of the things that they have to deal with. So this is one tool that they can look at, but ultimately they're going to be making a decision based on a lot of things."

If communities want to concentrate on just the impact of wildfire, they will need to look at a different set of tools besides conventional land-use planning.

"This is an effective first step in showing that land-use policies can help," he says. "Now we need to explore how much fire-specific policies contribute to reducing residential losses."

Provided by Washington State University

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