Fighting fire with fire in the Methow Valley

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Wildfires have changed the landscape in and around the Methow Valley. Credit: Mark Stone/University of Washington

Agencies that are well practiced in putting out wildfires are now learning a new skill: how to set the spark and fan the flames.

That's the case for the state Department of Natural Resources, which is

starting to use prescribed burning as part of its strategy for fighting wildfires.

"The DNR is good at putting out fires," said Susan Prichard, a University of Washington researcher who lives and works in the Methow Valley, an area prone to wildfires. "Now they're laying the groundwork to use more intentional burning in dry forests."

That's what will happen along Wolf Creek in the Virginia Ridge Timber Sale, a 671-acre area below Sun Mountain Lodge near Winthrop, Wash. The forest has been thinned and pyres of forest debris are seasoning. They're scheduled to burn the piles in late 2020 and are considering options for prescribed underburning of the thinned forests.

This kind of forest management is important, say key community stakeholders.

"Prescribed burning is an essential tool that our community continues to look to, along with other forest management practices, to ensure our forested areas are healthy and resilient for future generations," Twisp Mayor Soo Ing-Moody said. "I appreciate Susan's participation at the table when it comes to sustainable best practices for forest management in our community."

The importance of forest restoration and management is vital to this region, said Jasmine Minbashian, executive director of Methow Valley Citizens Council, a conservation group.

"We want to go at it in a way that's consistent with the latest science," Minbashian said. "So having Susan helping us and guide us and giving us a really strong foundation of science to enable us to evaluate these projects has been hugely helpful."

How prescribed fires can play an important role in restoring forests to health is pivotal to Prichard's work, which is gaining recognition both from her neighbors and, increasingly, a national audience. She's been quoted in *Outside* magazine, *Nature* and other high-profile publications.

"I like to think about fire in a complex way," she said. "We can't just sit back and be passive about fire." Increasingly, Prichard said, her message is: How do we work with fire?

"Because it's going to be here," she said. "It's not a matter of if, it's when. So can we bring in some fire now to prevent the destructive fire later?"

It's a question she's been studying for nearly two decades, using the forests around her as a laboratory. And its answers can mean a vital link between surviving wildfires and fighting off the devastation that wildfires bring, experts agree.

Before white settlers displaced Native peoples in the Methow Valley, fire was a regular part of the landscape, Prichard said. Forests were burned, either by lightning strikes or by people. It wasn't until European settlers moved in that humans started suppressing fire, building up fuels in the forests.

Now, Prichard is advocating a return to intentional use of fire in these forests.

She's studying the buildup of carbon—in the form of forests—and how to mitigate climate change, while restoring forests to their more natural conditions. Through the study of how past thinning and prescribed burning worked in large wildfire events, Prichard and colleagues have proven evidence that dry forest restoration, including thinning and burning, can make forests more resilient to fire with much higher tree

survivorship than in untreated forests.

Prichard, 50, grew up on Whidbey Island and spent time hiking in the Cascades and Olympics. As a young teen she saw the scarred landscapes left behind by logging companies.

"Clear cutting really bothered me," she said. It was then she knew that she wanted to be an environmental scientist. "That idea latched onto my 13-year-old brain and I never let it go."

After graduate work at the UW (MS '96; PHD '03), she moved to the Methow, where she conducts research as part of the Pacific Wildland Fire Sciences Laboratory and a research scientist at the UW School of Environmental and Forest Sciences.

In 2006, she believed the Tripod Complex Fire would be the worst she ever saw. That was before 2014 when the Carlton Complex erupted.

All the signs were there that year, Prichard said. Dry winter, hot spring, low snow pack, gusting winds.

Then, on July 17, 2014, with sustained winds of more than 35 mph, lightning struck and ignited the forest near Carlton and Cougar Flats. Fueled by the winds, "the fires took a huge walk," Prichard said, some 40 miles to the banks of the Columbia River.

"I've never seen anything like it," she said. "This entire valley was lit up and glowing."

Smoke rose 25,000 feet into the atmosphere. Flames destroyed more than 350 homes and burned some 256,000 acres. It remains the largest wildfire in Washington state history, running a tab of about $98 million.

But despite the destruction, there's a flip side to fire.

"Fires often are renewal agents," Prichard said. They burn accumulated fuels—the scientific term for combustible biomass in the form of live and dead vegetation—and prepare the ecosystem to start over.

That renewal can be true for people, too.

Scientific knowledge about fires also is spread over soup at the dinner table. That's where—in pre-COVID times—neighbor and friend, Derek Van Marter, shared a meal and news of the valley.

Van Marter's home burned in 2014, the same year of Carlton Complex Fire. Feeling trapped among smoke and debris from the massive Carlton Complex wildfire, Van Marter and his family had fled to Port Angeles for some downtime away from the smoke. That's when another fire, the Rising Eagle Road Fire, erupted near his home.

The news that his home was destroyed came via phone calls. By the time he returned to the Methow, only burning embers remained.

"We came back and it was just a waste land," he said. "It was like an alien wasteland."

The house, including cats and chickens, imploded on itself just because of the heat of the fire, Van Marter said. Firefighters reported that the fire burned hotter than 2,000 degrees F.

"It was devastation," Van Marter said.

It also was a pivot point. Van Marter, his wife, daughter and dog survived the fire. They could—and did—rebuild. And today, like many in the Methow Valley, they've rebuilt being "FireWise."

He's adapted his new home for fire, growing an irrigated lawn, cutting back tall shrubs and "limbing up" the nearby trees—that's making sure the limbs are trimmed so only the tree's canopy thrives. It's all meant to reduce fire fuels and protect property.

Being prepared isn't just prudent, it's neighborly, Van Marter said. "The more you can do as a property owner, the better neighbor you are."

Here in the Methow, that kind of fire thinking is the stuff people talk about in the grocery store. It's also exactly what the community needs—and actively is doing, Prichard said.

"I'm surrounded by fire experts," she said.

Fire here is personal and the community is deeply engaged in understanding the need for forest management.

"I believe we need to continue to have the valuable conversations needed to make informed decisions about wildfire management at the local level," Ing-Moody said. "Having Susan here enables us to have the dialogue needed to ensure our forests are managed in a healthy way."

Provided by University of Washington