

ience, please visit the Climate Impacts Group (<https://cig.uw.edu/>) and the Fire Adapted Learning Network (<https://fire-adaptednetwork.org>).

In dry, fire-prone forests, one of our very best wildfire mitigation tools is the proactive use of fire. After yet another smoky summer, this may be unwelcome news to some. However, prescribed burning (sometimes called controlled burning) is conducted under strict prescription windows to reduce the chance of fire escapes and to find burning windows that limit smoke impacts to communities. Escaped wildfires from prescribed burns are exceptionally rare, even though they catch a lot of media attention when they happen. Only about 0.3 percent of prescribed burns ever escape containment lines. The science supporting prescribed burning is particularly strong—forests that were recently burned (i.e., in the past 10-15 years) have significantly lower tree mortality and severe wildfire effects than unmanaged forests.

Indigenous cultural burning practices are also being revitalized and supported throughout the US and Canada as a vital part of forest and community resilience. Because these burning practices are part of Indigenous cultures and are conducted for a range of meanings and purposes, they are not considered prescribed burns, which are generally conducted for specific land management objectives of forest resilience and wildfire mitigation.

In many dry, fire-prone forests that have not experienced fire for many decades, stands are overly crowded and need to be thinned to increase forest health and reduce mortality associated with drought, insect and disease outbreaks. Prescribed burning, which is conducted under mild weather conditions, is often not enough to thin trees on its own. In addition, some forests are now so crowded with small and medium-sized trees (termed ladder fuels by wildland fire scientists) that they often need to be thinned before reintroducing fire. With rapid warming, there is also urgency to this work, and forest health collaboratives that engage diverse stakeholders including the forest industry and long-term contracts can be highly effective at making large landscape-scale resilience

work a reality.

Recent large wildfires are now presenting some management challenges of their own. To become climate and fire-resilient, post-fire forests may need to be thinned to reduce the amount of dead wood on site that could carry a long-duration, high-intensity reburns. In patches of high post-burn tree mortality, we also need to consider innovative tree planting approaches with lower density targets and species and/or genetic mixes that are likely to survive in a drier climate.

Within higher elevation forests of the inland Pacific Northwest, including lodgepole pine, Engelmann spruce and subalpine fir forests, active thinning and

prescribed burning in forest understories is generally not appropriate. These tree species have thin bark and retain their lower branches; as such, they are susceptible to burning and mortality even under prescribed burning windows. Due to a long absence of fire, these forests are still very departed from historical conditions. One of the best ways to create more resilient landscapes is to allow early and late-season wildfires to burn under mild weather conditions. Small to medium-sized fires will restore a patchwork of differently aged forests with different susceptibilities to burning. As fire returns to high-elevation forests of the inland PNW, quaking aspen and birch forests

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Editor's Note

By Andrea Watts

During my childhood, wildfire wasn't regarded as a significant concern in eastern Grays Harbor County since the mature forests surrounding the family property remained moist year-round except for August and September. If the risk of wildfire did register, it would happen on someone else's property, not my family's. Even as recently as 2017, when I updated the forest management plan for the family tree farm, the wildfire management practices section consists of one paragraph where I discuss building more trails to increase vehicle access throughout the property and reducing stand density where applicable.

My concern level elevated following the 2018 WSSAF Annual Meeting because of Dr. Daniel Donato's presentation "Fires in Western Washington." Under the right weather and environmental conditions even the tree farm could burn. The 2020 wildfire season especially highlighted the property's vulnerability to a cigarette flicked out the window. It's on my to-do list to update the forest management plan to include the new wildfire management practices that we've adopted, but I struggle with how to mitigate the risk when it means thinning 80+ year old western redcedar to increase the defensive space around the houses. Fortunately, this year bought me time to make a decision, but how long can I delay?

This issue explores the future of wildfire in the Pacific Northwest, a topic all of us grapple with since wildfires affects all aspects of our lives, from diminished air quality to the threat of forests burning. Wildfire is discussed through several lenses, from the landscape view in "A Future of More Wildfires in Alaska" to the community view in "How Oregon is Implementing the Community Wildfire Defense Grant." As foresters and natural resources professionals our inclination is focusing mitigating wildfire risk or restoring the landscape, as is discussed in "The Future is with Wildfire" and "Reforestation after High-Severity Wildfire." Yet we cannot overlook the value of the social aspects of wildfire, which is explored in the "Adapting to Wildfire through Education" and "Navigating the Trauma of Wildfire."

In spite of this being an expanded issue, there are topics or voices on wildfire that weren't included. I'll do my best to ensure they're included in future issues. With this issue bringing 2022 to a close, thank you again to the authors, SAF members, and advertisers who made it possible to produce the *Western Forester*. *WF*

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