THE PHOTOGRAPHER'S FRAME

Wilderness Fire

The Beauty of Fire-Prone Landscapes

Mark Kreider

The Selway-Bitterroot Wilderness, a vast 1.3-million-acre expanse in western Montana and eastern Idaho, is a landscape deeply intertwined with fire. As author and long-time US Forest Service employee Bud Moore wrote, the Selway-Bitterroot "is big fire country, its diverse landscapes laced with vegetation spawned by both ancient and recent fires" (Moore 1996). For thousands of years, Indigenous Peoples, including the Nez Perce (Nimiipuu) and Salish (Séliš) Kootenai, inhabited these lands and used fire as a tool to shape the landscape, clearing travel corridors, enhancing wildlife habitat, and selecting for beneficial plant species (Lake et al. 2017). However, the forced removal of these Indigenous communities halted their fire stewardship, and naturally ignited fires were increasingly suppressed.

In 1940, the Selway-Bitterroot witnessed the world's first parachute jump to combat a fire, ushering in a new era of fire suppression across the western US. Thanks to a cool, wet climate in the mid-20th century, these intensive suppression tactics were quite effective, extinguishing nearly all ignitions (Berkey et al. 2021). However, in the 1960s and 1970s scientific understanding of fire's role in ecosystems grew, along with the belief that wilderness management should allow naturally ignited fires to burn (Kreider et al. 2023). In a historic move, the Forest Service designated a portion of the Selway-Bitterroot Wilderness where fires would be allowed to burn under close observation, and in 1972, a lightning-ignited fire became the first to burn in this "White Cap Wilderness Fire Study" (Smith 2014).

Today, this rugged wilderness area has one of the most active fire regimes in the contiguous US. (Jaffe et al. 2023), and continues to be a "natural laboratory" for us to understand how fire interacts with forests, especially in a time of changing climate. I have spent two summers in the heart of the Selway-Bitterroot as part of research teams from the University of Montana, gathering data from and creating images of this unique area. These images reveal a landscape where fire is an agent of destruction but also one of stability and rejuvenation—a balancing force that creates space for new growth and adaptation.

We can learn from these landscapes to address the growing wildfire crisis across the country and co-exist with fire (Moritz et al. 2014). We need to increase the amount of low- and moderate-intensity fire—the type of fires that have created the diverse patchwork in the Selway-Bitterroot. This means using less aggressive suppression tactics when safe (Kreider et al. 2024) and increasing the amount of prescribed fire and cultural burning (Prichard et al. 2021). These types of fires reduce fuel and future fire risk while producing less smoke than high-severity fires (Schweizer et al. 2019). Part of the solution is changing our relationship with fire (Pyne 2022). As we appreciate the ecological role of fire and its history as a land management tool for millennia, we can learn to see the beauty of burned landscapes and the new life that fire can usher in.

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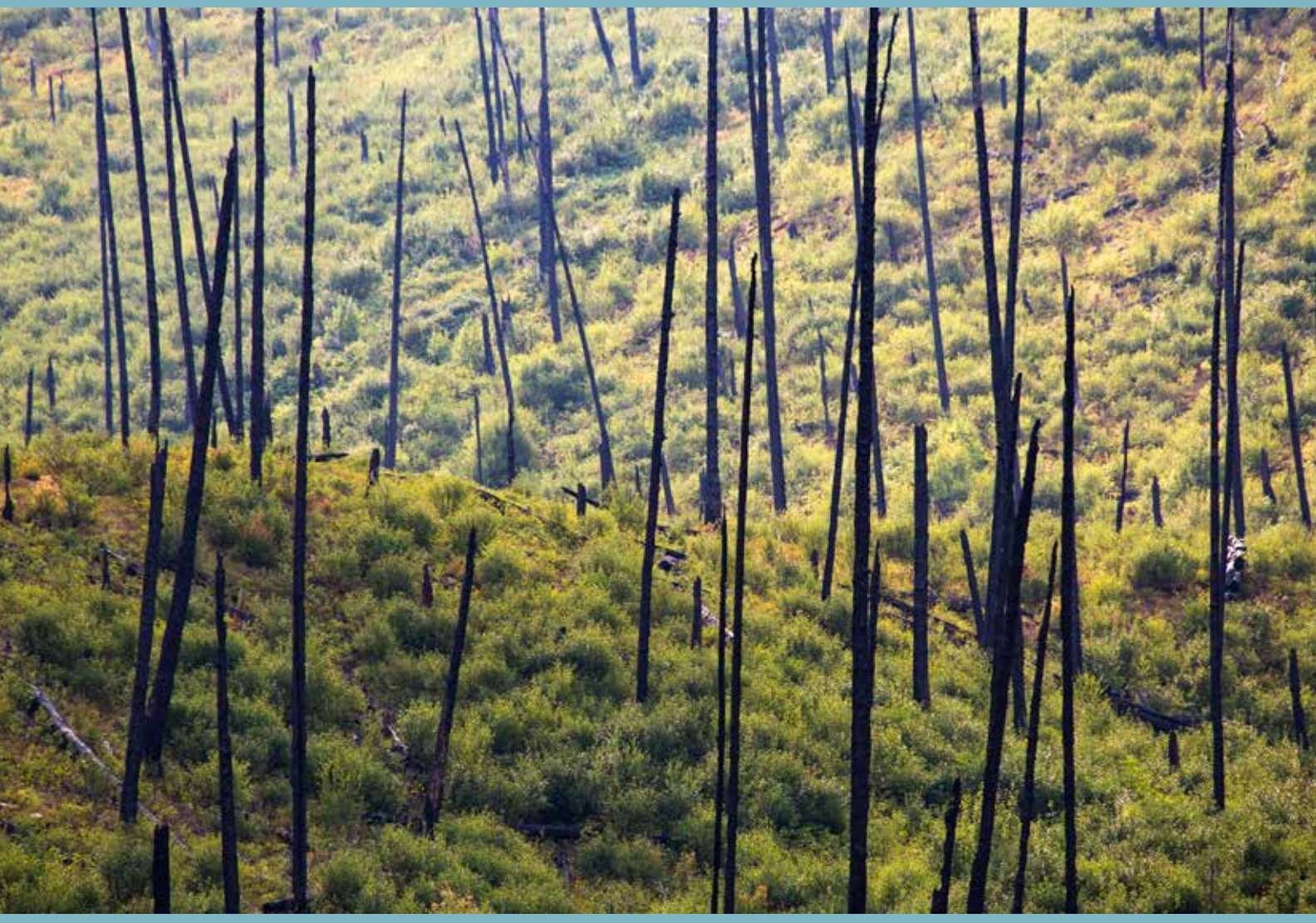
Overleaf **Morning light over a recently burned ridge.**
The Selway-Bitterroot Wilderness is a landscape deeply connected with fire. Indigenous groups have used fire to manage this land for millennia, and today it has one of the most intact and active fire ecologies of any forested location in the contiguous US.

Fire and forest patchworks.
A robust history of fire has created a diverse mosaic of vegetation. In this photo, forests of many different ages help to increase biodiversity and create fuel breaks that prevent a single fire from becoming too large.

Old-growth cedar with fireweed.
Fireweed blooms in an old-growth cedar grove after a recent low-intensity fire.
Historical Indigenous fire management helped to reduce fuel and sustain groves such as these.

Burned ponderosa pine.
Ecosystems have evolved with fire for millennia, and numerous species have adaptations that help them survive or respond to fire. The thick bark of ponderosa pine helps to insulate the trees, allowing them to survive low-intensity surface fires.

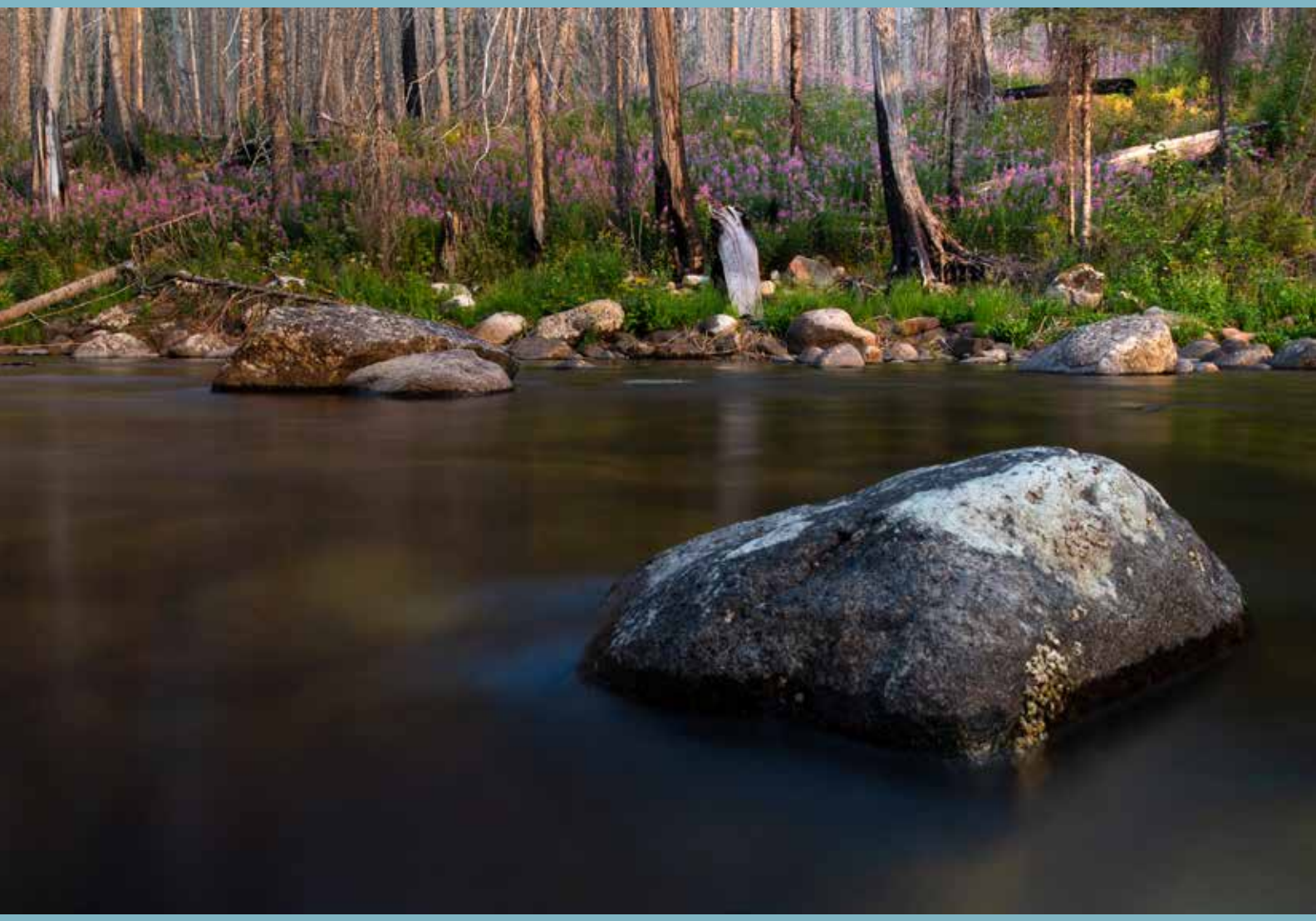


High-severity fire.
Hotter and drier conditions in the western US, as well as higher fuel loads from a century of fire suppression, have increasing the likelihood that forests burn at high severity. Without living trees to provide seeds, these burned areas may not return to forests, instead converting into shrub or grass ecosystems.

Charred snag and burned trees.
Remaining snags and stumps can provide some shade, helping regenerating seedlings survive the often hot and sunny conditions following a fire. These "biological legacies" can help provide threads of continuity and support the return of forest after even severe fires.

Fireweed after fire.
One of the solutions to learning to live with fire is to increase the use of low- and moderate-intensity wildfire, including prescribed fire and cultural burning. Here, fireweed blooms following a recent low-intensity fire. These fires leave plenty of surviving trees, allowing for seed sources to regenerate new seedlings.

Fire scar, with smoke from nearby active fire.
Smoke from a nearby active fire mingles with trees killed in a previous year's fire. Learning to co-exist with fire means finding ways to manage smoke, such as ensuring that everyone has access to portable air cleaners and clean air spaces. Low- and moderate-intensity fires, such as most prescribed fires, produce much less smoke than wildfires burning under extreme weather conditions.



Fireweed and burned cedars.
While burned landscapes are often characterized as destroyed or ugly, they are a normal and important part of natural processes. Learning to appreciate the ecological role of fire reveals ecosystems of resilience and beauty.

10. **Charred wood on the inside of a hollowed-out stump of an old-growth cedar.** Areas like the Selway-Bitterroot Wilderness and other locations where fire is allowed to fulfill its ecological role provide important places to study and learn from fire.

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