# Braiding Indigenous Knowledge and Western Science for Climate-Adapted Forests

EXECUTIVE SUMMARY | OCTOBER 2023

THE PROBLEM: North American forests are experiencing unprecedented challenges due to extreme wildfires, pathogen and insect outbreaks, heat stress, drought, rapid development, and invasive species. Exacerbated by climate change, these threats collectively diminish economic values, cultural values, and habitat. Particularly because of fire exclusion, contemporary and historical management policies are root causes of current forest conditions.

RECIPROCALLY STEWARDED LANDSCAPES: Historically, many forests occurred as mosaics of meadows, shrublands, and open woodlands. Fires were frequent because cultural burning was frequent, resulting in fires far less severe than those we see today.
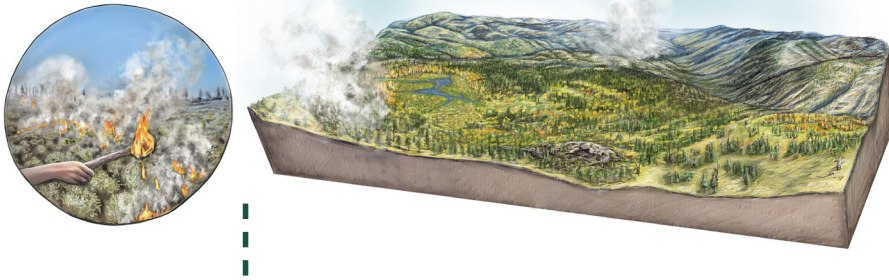
CONTEMPORARY DEPARTED LANDSCAPES: Modern fire management suppresses most fires but does not effectively return proactive fire use. Without active stewardship through forest thinning, fuel reduction, and the intentional use of fire, forests grow dense.
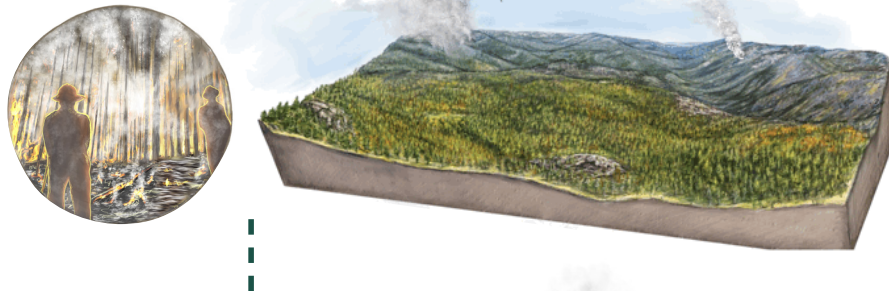
EXTREME WILDFIRES: Under hot, dry, windy conditions, wildfires evade suppression, burning through dense forests, exploding in size and severity. Proactive stewardship restores forest landscape resilience to future wildfires.

Miriam Morrill
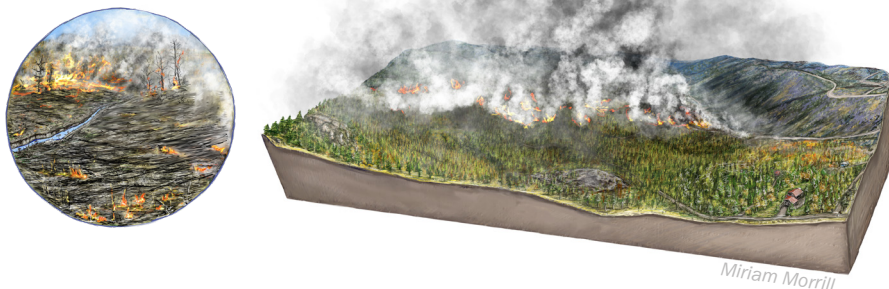
WHO WE ARE: *We are an intercultural, interdisciplinary team of Indigenous and Western scholars and practitioners. We focus on place-based strategies for adapting NA forest landscapes to climate change. As we consider the work of restoring resilience to forest landscapes for future generations, we believe it is essential to respectfully acknowledge the vital, longstanding role of humans in forest community sustainability. To learn more about our team, visit: bit.ly/ForestAdaptation and forestry.oregonstate.edu/inro*

FIVE RECOMMENDATIONS

Coupling Indigenous Knowledge (IK) with Western Science (WS) can catalyze proactive approaches to address threats to NA forests at meaningful scales. We recommend the following adaptive strategies to restore forest landscape resilience.[1]

1. Adopt proactive stewardship. Invest intentionally in the expanded use of cultural and prescribed burning, forest thinning, and other active forest management at the pace and scale needed to address the broad influence of modern destructive wildfires, restore resilience, and reduce reliance on fire suppression and disaster response.

2. Provide the flexibility to steward for dynamic landscapes and navigate uncertainties under rapidly changing conditions. Managing for static landscape conditions has been ineffective on many fronts. Especially under climate change, high-severity fire, drought, and other disturbances cannot be prevented in areas prioritized for mature and old-growth forest conservation. All landscapes, even those in designated reserves, are dynamic.

3. Ground agency planning and land and resource stewardship policies in ethics of reciprocity and responsibility to future generations. Through active stewardship, people benefit from and provide for the ecosystems that support them for generations.

4. Catalyze innovative approaches to forest stewardship by effectively funding adaptive forest stewardship and long-term monitoring at stand to landscape scales. This is at the heart of adaptive stewardship: learning what works best as conditions change to inform the modification of best practices.

5. Recognize and respect Tribal Sovereignty and Indigenous Knowledge. Establish and support Government-to-Government co-stewardship partnerships with Tribal Nations at all stages of policy development, planning, monitoring, decision-making, and adaptive stewardship. Common elements of co-management include: (1) recognition of Tribes as sovereign governments; (2) incorporation of the federal government's trust responsibilities to Tribes; (3) legitimation structures for Tribal involvement; (4) meaningful integration of Tribes early and often in the decision-making process; (5) recognition and incorporation of Tribal expertise; and (6) dispute resolution mechanisms.[2]

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[1]Resilience is a measure of a forest landscape's ability to adapt to a range of interacting disturbances, while maintaining climate-adapted fire regimes and vegetation patterns.

[2]Mills and Nie 2021. Bridges to a New Era: A Report on the Past, Present, and Potential Future of Tribal Co-Management on Federal Public Lands. Public Land & Resources Law Review. scholarworks.umt.edu/plrlr/vol44/iss1/2