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Overcoming Barriers to Prescribed and Cultural Fire in California

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<https://escholarship.org/uc/item/8zj4g94s>

Author

Dresser, Eloise Victoria

Publication Date

2026-04-01

Peer reviewed



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Executive Summary

California's long history of fire suppression has led to a massive accumulation of fire fuels. An increasingly warming climate promises the increased occurrence of severe and intense wildfires. California natural resource agencies and other stakeholders recognize the importance of fuels reduction efforts, as made evident by recent policy development focused on expanding the use of prescribed and cultural fire. Due to the complex nature of implementing prescribed burning projects, barriers will have to be addressed in order to drastically up-scale acres treated. This brief aims to highlight current advancements in prescribed fire policy, and to provide recommended actions to actualize goals.

Background

California once had a regular pattern of fire that naturally removed vegetation build-up. Natural fires once occurred more often, at much smaller scale and intensity (Cova et al., 2023). Indigenous peoples stewarded the land since time immemorial through their practices of cultural burning - the intentional setting of fires as an act of spirituality and land renewal (Attebury, 2024). European colonization led to the disruption of California's natural fire regime in several ways. Various fire suppression policies, [including bans on tribal/Indigenous practices of cultural burning](#), have hindered tribes' ability to practice cultural burning. The introduction of invasive plant species has also contributed to increased fuel loading (Brooks, 2024). As a result of the decades of fuel buildup, we now have highly intense, severe wildfires. We can expect to see the frequency of such devastating wildfires increase due to climate change (Wasserman & Mueller, 2023). While fire suppression will continue to be necessary to protect human life and natural resources, it has been increasingly recognized that fire prevention and mitigation efforts should be scaled up in order to reduce the intensity and severity of wildfires.

A proven method of reducing the intensity and severity of wildfires is through fuel reduction efforts (Davis et al., 2024, Miller et al., 2025). Fuel reduction entails the strategic removal of biomass in wildfire-susceptible areas with the goals of improving fire containment rates and improving firefighter operations (CALFIRE, 2025).

Prescribed and cultural fire involves low intensity and contained fires. Cultural burning is more accurately described as a spiritual practice of land stewardship, whereas prescribed burning is focused on hazard reduction (Adlam et al, 2022). Both often result in similar ecological outcomes: increased biodiversity and ecosystem health, and the minimization of wildfire size and intensity (Matsypura et al., 2018).

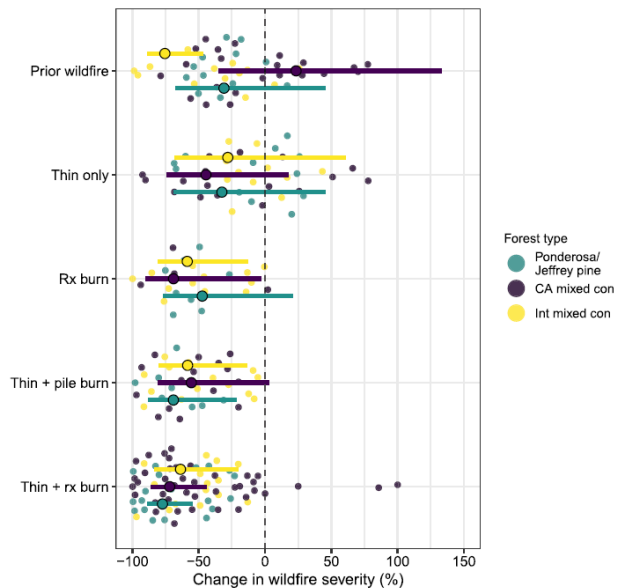


Fig. 1: Meta-analysis of the overall reduction in severity of wildfires in response to previous fire and various fuel reduction treatment combinations (Fig. 4 from Davis et al., 2024, p 6). “Black outlined points represent the point estimate, the line represents the 95% confidence interval, and the colored points represent individual observations (averaged across treatment age)” (Davis et al., 2024, p 6).

The California Department of Forestry and Fire Protection (CALFIRE) has been tasked with leading state fuel reduction efforts, including the



development of the [“Burn Boss” burn practitioner certification program](#), the facilitation of prescribed burn partnerships, and provision of grant funding for prescribed burn projects. CALFIRE maintains a [Fuel Treatment Effectiveness \(FTE\) database](#) that provides details of fuel reduction projects, including where fuel treatments have occurred and the types of fuel reduction activities utilized (i.e., burning, chipping, limbing, and mastication).

The FTE database contains responses to a qualitative survey collected from on-the-ground firefighters assigned to the wildfire incident. The survey is designed to evaluate whether or not treatment area(s) involved in a wildfire incident had any positive impact on fire behavior, firefighter operations, or public safety (i.e. slowed fire spread, reduced tree mortality, acted as a containment line, or supported ingress/egress, facilitated public evacuation). The determination of whether the treatment(s) had any positive impacts is based on the vetted observation of firefighter personnel, selected as evaluators based on their experience in wildfire behavior.

The FTE survey results suggest that the majority of incidents with a treatment involved (81%) were positively impacted by fuel reduction treatments. Approximately 70% of all treatments that resulted in positive impacts utilized prescribed burning in some capacity (see figure 2 for a breakdown of positive impacts).

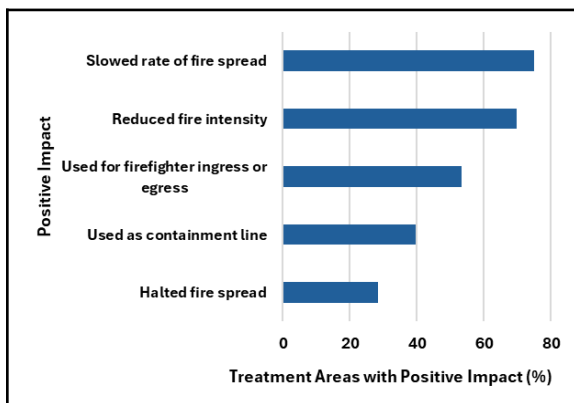


Fig 2: Top 5 observed positive impacts from CALFIRE's fuel treatment effectiveness (FTE) survey results, June 2024 – November 2025. Treatments can

slow/halt the rate of fire spread, and reduce fire intensity by simply reducing the amount of available fuel. Treatments can minimize spread to roads/trails, helping firefighters in ingress/egress. The wildfire may also be contained to an area bordered by the treatment and function as a containment line. Data sourced from CALFIRE, [Fuels Treatment Effectiveness Reporting \(FTE\) database public view](#).

[California's Strategic Plan for Expanding the Use of Beneficial Fire](#) aims to scale up fuel reduction and set the goal of burning 400,000 acres per year by 2025. [Governor Newson's March 2025 state of emergency declaration](#) recognizes the need to streamline and expand fuels reduction efforts, especially prescribed and cultural burning. However, this is a complex task, and collaborative decision-making across many public agencies and regional stakeholders is essential to ensuring burns are safe and effective (Miller et al., 2020). Several barriers are impeding the implementation of fuels reduction at an increased scale.

Issue Analysis

Liability

One of the most often cited barriers to implementing prescribed burns is liability insurance. 99.8% of prescribed burns, as reported by USFS in 2022, remain contained (USDA Forest Service, 2022). Even with adequate credentials, there is a chance that the prescribed burn may escape containment. This can lead to property damage and potential lawsuits from individuals affected. Therefore, liability insurance is required for all prescribed burns. These insurance policies can cost up to [\\$100,000 per year](#) for 1 million dollars worth of coverage (Sherfinski, 2023). This is a major disincentive for private landowners, tribes, and smaller organizations to scale-up prescribed burns (Blow, 2023).

Capacity

In order to minimize potential fire escape and ensuing liability, fuel reduction crews need to have adequate training. Becoming a prescribed or cultural burn practitioner takes a significant amount of training and expertise. The current capacity for implementing burns is rising, but the issue persists. [SB-310 \(Prescribed fire: civil](#)



[liability: cultural burns, 2024](#)) is a promising step forward for the currently 109 federally recognized tribes: it recognizes tribal sovereignty for cultural burns and allows tribes to bypass lengthy regulations through written agreements with the California Natural Resources Agency. However, this bill excludes the approximately 65 non-federally recognized tribes. The omission of non-federally recognized tribes from this bill significantly limits cultural burning.

Regulatory and Weather Hurdles

Prescribed burns are also subject to the often-lengthy processes of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) (CALFIRE, 2025). Due to these regulations, it can be time-consuming for prescribed burn projects to be approved. The timeline is further delayed by the need for ideal weather conditions to minimize smoke and potential for fire escape.

Policy Recommendations

Build Capacity to Maximize Burn Windows

The expansion of educational opportunities for prescribed burn training is needed. By building a robust prescribed burn workforce, prescribed burn windows can be maximized. Increasing the amount of burn crew practitioners will require expansions in training infrastructure and funding (California Wildfire & Forest Resilience Task Force, 2022).

- Increase funding for [CALFIRE's Vegetation Management Program](#) in order to treat more acres with existing practitioners.
- Establish a Prescribed Fire Training Center as outlined in [CA Prescribed burn strategic plan](#).

Expand Indigenous-led Burns and Tribal Partnerships

As demonstrated, Indigenous-led burns are an essential component to California's fire regime. It will be vital for state and federal agencies to continue to facilitate burn partnerships, and to prioritize Indigenous-led burning.

Acknowledging the cultural significance and benefits of cultural burning affirms Indigenous knowledge and land stewardship.

- Increase Indigenous-led burns and Tribal partnerships.
- Develop Co-Management/Co-Authority plans for the use of beneficial fire between tribes and Federal/State agencies.
- Expand SB 310 exemptions to non-federally recognized tribes that have demonstrated "Cultural Burn Practitioner" status.

Lower Liability Concerns

Increased funding for liability insurance will enable and empower potential burners to increase prescribed burning. California has already taken significant steps to increase coverage by establishing the pilot program, the [Prescribed Fire Claims Fund \(SB 926, 2022\)](#). In order to obtain support past 2028, and to potentially expand the fund's budget, it will be vital to document fuel treatment success/effectiveness. This could be accomplished through the continued use and development of CALFIRE's FTE Reporting database.

Further reading

- Richard Attebury, 2024: [California can right a historic wrong by recognizing tribal authority for cultural burns](#)
- Miller et al, 2020: [Barriers and enablers for prescribed burns for wildfire management in California](#)
- Davis et al, 2024: [Tamm review: A meta-analysis of thinning, prescribed fire, and wildfire effects on subsequent wildfire severity in conifer dominated forests of the Western US](#)

Authorship

This policy brief was prepared by [Eloise Dresser](#), Master's Student, [Environmental Policy and Management](#), evdresser@ucdavis.edu



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