



# RESEARCH BRIEF SERIES WEATHER READY

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*This research brief is part of a call designed to help advance knowledge regarding how diverse community members perceive wildfire risk, prepare for wildfire threats, understand fire weather observations and forecasts, receive fire weather alerts and warnings, make evacuation decisions, and respond to and recover from the impacts of a wildfire.*

## LAND USE STRATEGIES FOR WILDFIRE RISK REDUCTION DURING POST-FIRE RECOVERY IN THE WESTERN UNITED STATES

### SUMMARY

With the rising frequency of catastrophic wildfires and the need for mitigation-focused recovery strategies, the integration of land use planning shows promise for building wildfire resilience in the Western United States. There is a critical window of opportunity during the wildfire recovery period when local governments and community members may be more open to adopting regulatory changes to enhance resilience. However, these strategies remain underutilized in recovery planning.

This study explored the integration of land use strategies in wildfire recovery plans prepared by 15 communities impacted by recent wildfire events in four states: California, Colorado, Hawaii, and Oregon. We analyzed land use approaches like building regulations, vegetation management, subdivision regulations, zoning regulations, and preventative land use management strategies. We also interviewed planners and public officials for insights into influencing factors, benefits, and challenges associated with land use planning in recovery efforts.

The role of land use planning in post-wildfire recovery remains underexplored. This research addresses this gap by examining the extent to which land use planning strategies are integrated into recovery plans across the Western United States and identifying key factors influencing their adoption. This research aims to provide actionable insights into enhancing wildfire recovery processes, ultimately supporting the development of more resilient, fire-adapted communities.



*Aerial view of the aftermath from Marshall fire in Superior, Colorado on January 17, 2022.*

*Photo credit: Gabe Shakour, Shutterstock.*

### KEY FINDINGS

- Subdivision regulations—like evacuation access and transportation, water availability, open space standards, and lot and block design—and vegetation management approaches—such as defensible spaces and fuel reduction initiatives—were the most frequently integrated strategies in wildfire recovery plans.
- More transformative approaches, such as zoning changes and preventative strategies, remain limited due to political, financial, jurisdictional, and geographic challenges.

- Major factors influencing the adoption of land use strategies in wildfire recovery planning included policy constraints and institutional frameworks; financial challenges and economic realities; logistics and practical challenges; community perception and social dynamics; and long-term recovery as a continuous process.
- Community support for safety measures tends to surge due to the immediate impact of the disaster. Preventative land use management strategies, such as buyouts, community relocations, and Transfer/Planned Development Rights schemes, show relatively higher levels of integration across recovery plans, which reflects how post-fire recovery contexts created momentum for using such strategies.
- Recovery planning in many communities remains informal or poorly documented. Recovery plans often lack the structure and comprehensiveness seen in mitigation or preparedness plans.



New home construction after the 2018 Camp Fire in Paradise, California.  
Photo credit: Cavan Images, Shutterstock.

## RESEARCH IMPLICATIONS

- Strategies like codifying subdivision access and water standards, requiring fire-resistant construction, and applying zoning overlays, setbacks, and density controls have the potential to steer rebuilding out of high-risk wildland urban interface areas.

- Stronger institutional support, such as state-level funding mechanisms, clear legal frameworks, and communication strategies to build public trust, are necessary for local governments to advance zoning reforms or managed retreat, even when communities recognize the long-term wildfire risks.
- Advancing recovery planning as a formalized process would help ensure comprehensive documentation of strategies and reduce the current inconsistencies across communities. Coordinated efforts among local, state, and federal agencies are particularly important for vegetation management, where jurisdictional challenges often impede implementation. Financial incentives, such as enhanced insurance discounts for compliance with fire-safe building codes, could also alleviate household financial burdens and encourage adoption of resilient practices.
- While initial post-fire support for fire safety measures is strong, sustaining engagement over time proves challenging as new residents enter the community and memories of the disaster fade. Recovery plans must evolve to provide a more comprehensive and practical guide for post-disaster rebuilding, one that not only addresses immediate reconstruction but also integrates long-term resilience measures.

## AUDIENCE

This research is useful for city planners and public officials interested in formalizing and improving wildfire recovery plans by integrating land use policies for long-term resilience.

**Full report:** Isaba, T., Chandrasekhar, D., Ganapati, N. E., & Bhandari, S. (2026). *Land Use Strategies for Wildfire Risk Reduction During Post-Fire Recovery in the Western United States*. (Natural Hazards Center Weather Ready Research Report Series, Report 21). Natural Hazards Center, University of Colorado Boulder. [hazards.colorado.edu/weather-ready-research/land-use-strategies-for-wildfire-risk-reduction-during-post-fire-recovery-in-the-western-united-states](https://hazards.colorado.edu/weather-ready-research/land-use-strategies-for-wildfire-risk-reduction-during-post-fire-recovery-in-the-western-united-states)



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