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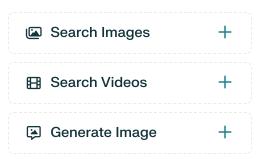








Search for scientific literature on effective post-wildfire recovery strategies, focusing on public safety and environmental restoration in Sangre De Cristo Mountains.



### Sources

Restoring Watersheds, and Hope, After New...

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**Using Spatial Analysis Tools for** Wildfire Recovery...



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# Answer

The Sangre de Cristo Mountains in New Mexico have faced significant challenges due to wildfires, particularly the largest-ever wildfire in the state's history that burned over 340,000 acres in 2022 1. Post-wildfire recovery strategies in this region focus on public safety and environmental restoration, employing various scientific approaches:



#### **Watershed Restoration**



Watershed restoration is a critical component of post-wi in the Sangre de Cristo Mountains. Local organizations, su Hermit's Peak Watershed Alliance (HPWA), are using small-scale,



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nature-based approaches to restore the Gallinas watershed <sup>1</sup>. These efforts include:

- 1. Building structures with on-site materials like stones and fallen timber to slow flooding and collect sediment 1.
- 2. Using damaged or burned trees in restoration projects, aligning with Indigenous knowledge of maximizing local resources 1.
- 3. Creating ponds and other structures to spread out erosive surges and deposit sediment over a broad area, enhancing floodplain resilience 1.











Post-wildfire landscapes are prone to erosion and flooding due to unstable, water-repelling soils. Scientific literature suggests several strategies to address this issue:

- 1. Contour felling: Cutting down burned trees and placing them perpendicular to the slope's incline to create natural dams that slow water runoff <sup>1</sup>.
- 2. Seeding and mulching: Applying quick-growing or native plant species and mulching with certified weed-free straw or wood chips to protect high-value resources <sup>7</sup>.
- 3. Installing erosion control measures at critical sites to prevent soil loss and protect cultural resources 7.

## Landscape-Scale Forest Restoration

To enhance long-term resilience and reduce the risk of fu'





landscape-scale forest restoration is crucial:

- Capitalizing on areas that experienced beneficial fire effects by using prescribed burns to maintain these healthier forest conditions <sup>2</sup>.
- 2. Implementing strategic fuels reduction in high-severity burn areas to protect remaining live forests from future high-severity fires <sup>2</sup>.
- 3. Focusing on slope analysis to identify areas between 20% and 55% slope, which are more prone to erosion and require prioritized stabilization efforts 3.











Protecting water resources is essential for both public safety and environmental health:

- 1. Assessing and treating micro-watersheds (approximately 250 acres) to ensure proper scale and design of conservation measures <sup>3</sup>.
- 2. Modifying or removing culverts to allow drainage to flow freely and constructing drainage dips or emergency spillways to prevent roads and bridges from washing out during floods ?

# **Strategic Reforestation**

While large-scale replanting may not be feasible, strategic reforestation can aid in long-term recovery:

 Identifying and seeding areas where trees have the best chances of surviving, focusing on high-elevation locations to natural seed dispersal downstream <sup>1</sup>.





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2. Monitoring and supporting the natural regeneration of vegetation, such as aspen trees and scrub oak, which are already emerging in some areas of the burn scar <sup>6</sup>.

These strategies, based on scientific literature and local experiences, aim to restore the Sangre de Cristo Mountains' ecosystems while prioritizing public safety and long-term environmental resilience. Implementing these approaches requires collaboration between federal agencies, local organizations, and community members to ensure effective and sustainable recovery efforts.

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