

Recreation Supporting a Fire-Resilient Future

The Fire-Hardened Trails prescription is a forward-thinking approach that not only protects trails and communities from the increasing threat of high-severity wildfires but also promotes the resilience of the entire forest ecosystem through collaboration, community empowerment, partnership and equity. By aligning trail development with forest management and wildfire mitigation, the Sierra Buttes Trail Stewardship's **Fire-Hardened Trails Prescription** can enhance both recreational opportunities and the long-term sustainability of California's natural and cultural resources.

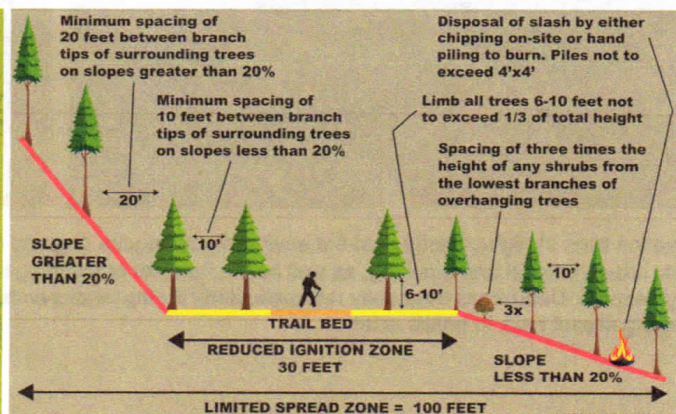
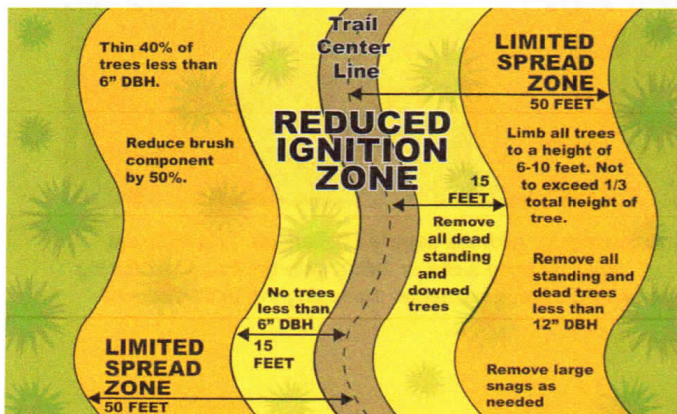
During the NEPA (National Environmental Policy Act) and CEQA (California Environmental Quality Act) process, a 100-foot wide corridor is identified as being the optimum location for a recreational trail and is then surveyed by resource specialists for impacts to archaeology, botany, wildlife and hydrology. The Fire-Hardened Trails Prescription maximizes the 100-foot wide trail corridor as a fuel break that is conducive for trails as a fireline. The Fire-Hardened Trails Prescription includes the following activities:

Reduced Ignition Zone - Within 15 feet of both sides of centerline of the trail:

- Remove all dead standing or downed trees and all brush.
- Remove all trees less than 6 inch DBH.

Limited Spread Zone - From 15 to 50 feet of both sides of the centerline of the trail:

- Thin 40 percent of trees less than 6 inch DBH and reduce brush components by 50 percent.
- Remove all dead standing trees less than 12" DBH.
- Leave trees will have a minimum spacing of 10 feet between branch tips of surrounding trees on slopes less than 20% and will have 20 feet of spacing on slopes greater than 20%.
- Limb all trees to a height of 8 feet, not to exceed $\frac{1}{3}$ the total height of the tree.
- Maintain a spacing of three times the height of any shrubs between the shrubs and the lowest branches of overhanging trees.
- Disposal of slash will be accomplished either through chipping on site or hand piling not to exceed 4'x4' piles to be burned by the US Forest Service.



Design Criteria Specific to Post-Fire Environments

In High Severity Environments - The post fire recovery environment represents an excellent opportunity to manage the Fire Hardened Trail areas immediately following a wildfire. Care should be taken to recognize and manage special habitats appropriately.

- Retain all live conifer trees greater than or equal to 16" diameter at breast height (dbh).
- Retain all live hardwood trees greater than or equal to 6" diameter dbh.
 - Live trees greater than these limits would only be removed/mitigated if they qualify as a hazard under the Region 5 FHP Hazard tree guidelines.
- Any dead, dying, or fire injured tree of sufficient probability of mortality and located in distance and arrangement making it capable of striking the trail system should be removed according to the following:
 - All dead trees less than 14" diameter shall be felled and piled for burning.
 - Dead trees greater than 14" dbh should be felled if they pose a striking hazard to the trail and slash piled for burning.
- Fire-injured trees that have crown scorch that equates to a probability of mortality of 50% or greater (respective to species and diameter per USFS Hood and Cluck Guidelines) could be removed to manage the development of future hazard trees or fuel profiles.
- Maintain shrub fuels according to the Reduced Ignition and Limited Spread zone prescriptions as the shrubs regrow through use of mechanical, machine or herbicide treatment methods.
- Pile and burn or chip slash or biomass debris.
- Treat up to 80% of the 10 and 100 hour naturally occurring ground fuels within 50 feet from both sides of the centerline of the trail.
- Consider trailside planting of conifers in a clustered or micro-sited arrangement to mimic a wild forest aesthetic.
 - Tree stocking could be lower density ranging from 50-75 trees per acre.
- Consider thinning or pruning and re-sprouting hardwoods to expedite the development of larger stems and individuals.



Recreation trails in high-severity post-fire environments require ongoing maintenance to address several challenges. This includes regular brush removal and trimming, as well as the removal of standing dead trees that pose a risk of falling onto the trail and causing safety hazards. Dead trees frequently fall, particularly during wind events, rendering trails impassable, damaging the trail tread and posing significant risks to public safety.