LANDOWNER FUEL REDUCTION GUIDE

SHASTA, TRINITY, AND SISKIYOU COUNTIES

Help protect lives, property, and ecosystems by managing the hazardous vegetation on your own property

VESTRA

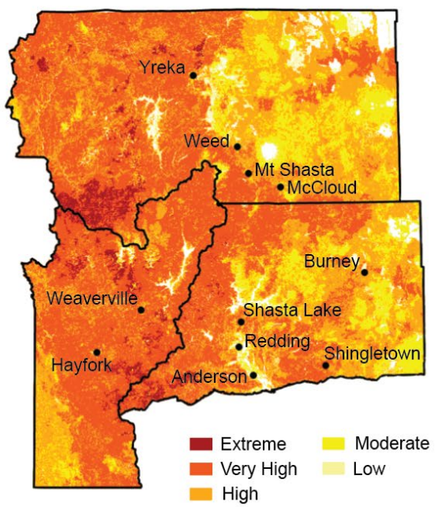
THE MCCONNELL FOUNDATION

INTRODUCTION

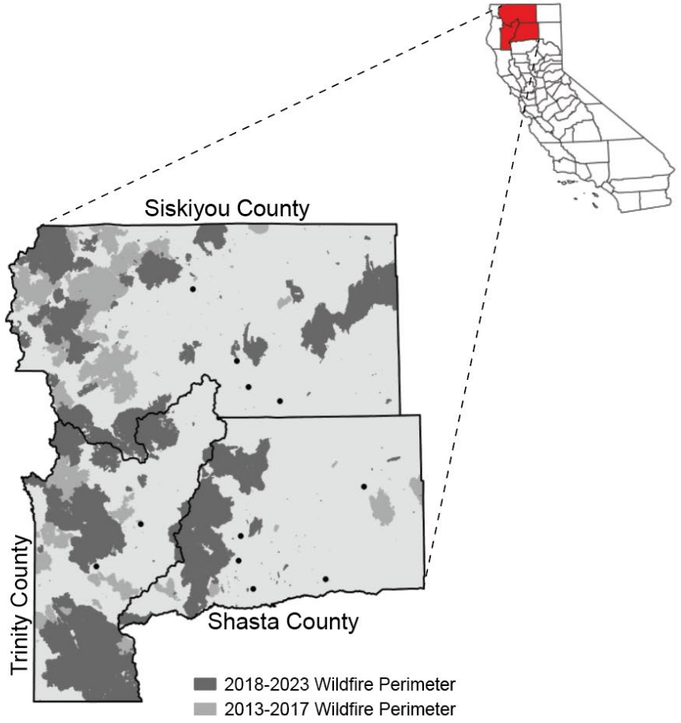
The risk of losing a home in a wildfire is high in this region. It is very important to prepare your home and the vegetation on your property for a wildfire event. Many landowners struggle with thick brush and dense trees on their property. This guide is focused on ways to reduce the flammable vegetation on private property. It is not focused on home hardening or firescaping.

REGION OF FOCUS

Shasta, Siskiyou, and Trinity Counties include many areas of Very High and Extreme Wildfire Risk. All three counties have experienced significant wildfires in the last couple of decades. It is essential that landowners prepare their property for future wildfires to increase the fire resilience of their property and surrounding community.



USDA Wildfire Risk to Communities



CAL FIRE Wildfire Perimeters 2013-2023

CONTEXT & HISTORY

WHY ARE WILDFIRES THREATENING OUR COMMUNITIES?

Fire is a natural part of the our local landscape. Long before human presence in California, lightning ignited frequent wildfires. Later, indigenous people lit fires to improve foraging, hunting, and the overall health of the land. These lightning and human caused fires were so prevalent that it is estimated that over 4.4 million acres of California's burned each year prior to the early 1800s, or about 4% of California's total land area.

However, the removal of indigenous ignitions together with fire suppression practices has resulted in a significant decrease in fire activity on the landscape over the last 150 years. Between 1950-2000, an average of only ~280,000 acres burned annually in California, or 6% of the historical estimate.

The removal of fire from the landscape has resulted in an increase in fuels across the landscape. Frequent fires consumed trees, shrubs, litter, and debris, limiting the buildup of flammable material.

This increase in fuels, together with drought conditions and extreme fire weather in recent years, has led to larger fires that are more intense and severe. Each year, these large fires burn wildlands, neighborhoods, and rural properties, leading some people to lose their homes.

CASE STUDY:
HOW FUEL REDUCTION TRANSFORMED A PROPERTY

This three acre property in Old Shasta was thick with toyon, white-leaf manzanita, knobcone pine, and live oak before it burned in the Carr Fire in 2018. After the fire, the property was covered in snags and dead brush, with just a few mature oaks left standing near the residence.

The landowner started pile burning and removing hazardous snags. Over the next few years re-sprouting shrubs and trees grew in fast, creating a landscape that could easily carry another wildfire. To reduce the threat of another fire on the land, the property owner signed up for a grant-funded fuels reduction project.

The landowner met with project staff to develop a plan. Then in March of 2024, a hand crew chipped and thinned the vegetation. They came back in June to spray herbicide on the re-sprouting shrubs and trees.

The three acres is now at a state where the landowner can maintain the fuels by hand clearing, pile burning, and weed eating each fall and spring.

Neighborhood pre-Carr Fire

Post-Carr Fire

Post-Carr Fire landscape around residence

Hand crew chipping near road

Hand crew thinning & scattering small woody material

After fuels reduction project

The landowner is able to keep the property fire resilient through regular pile burning and weed eating

FUEL HAZARD REDUCTION OPTIONS

Fire behavior is driven by three factors: fuel, weather, and topography. Since we cannot change the weather or topography, we must reduce fuel to reduce fire intensity.

Timber harvest/logging reduces tree densities. Fuels reduction harvests focus on small diameter trees and recently dead or dying trees, retaining large fire resilient trees.

Prescribed fire, livestock grazing, and pile burning can be used to maintain a fire resilient landscape.

Herbicide can be used to eliminate undesirable weeds and woody plants that re-sprout following mechanical or manual treatments.

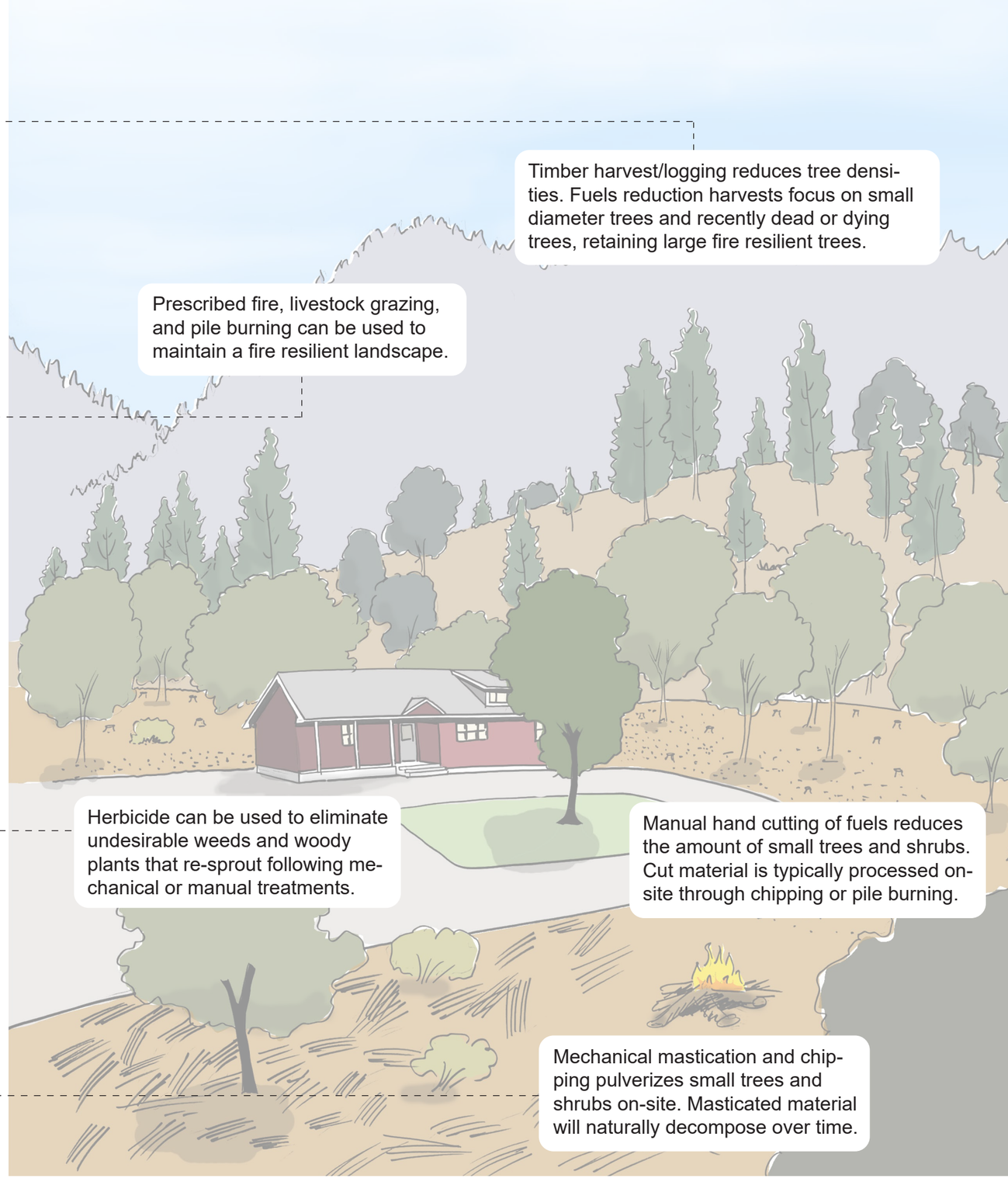
Manual hand cutting of fuels reduces the amount of small trees and shrubs. Cut material is typically processed on-site through chipping or pile burning.

Mechanical mastication and chipping pulverizes small trees and shrubs on-site. Masticated material will naturally decompose over time.

BEFORE

AFTER

FUEL HAZARD REDUCTION OPTIONS



FUEL HAZARD REDUCTION OPTIONS COMPARISON CHART

	Cost/Acre	Treatment Effectiveness	Remove Woody Plants	Remove Small Shrubs	Remove Grass	Suppress New Plants
Mechanized	$$	5-7 years	x	x		
Herbicide	$-$$	5-7 years		x	x	x
Grazing	$$-$$$	1-3 years		x	x	x
Prescribed Fire	$	1-7 years		x	x	x
Manual (hand)	$$$	1-2 years	x	x		

DEFINITIONS OF KEY TERMS

FUEL: Anything that will burn, such as vegetation (grass, leaves, ground litter, plants, shrubs, and trees) or structures (wood, plastic, etc.)

FIRE SUPPRESSION: All activities concerned with controlling and extinguishing a fire following its detection.

FIRE INTENSITY: The amount of heat energy released by a fire. Wildfires are classified as low, medium, or high intensity.

FIRE SEVERITY: The magnituge of the effect that the fire has on the soil, vegetation, and other ecosystem components. This includes the effects during the fire, as well as the effects during the months and years that follow.

FIRE BEHAVIOR: The manner in which a fire reacts to the influences of fuel, weather and topography.

SURFACE FUEL: Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branchwood, downed logs, and stumps interspersed with or partially replacing the litter.

LADDER FUEL: Live and dead plant materials that provide a link between the surface fuels and crown fuels in a tree stand, thus contributing to the ease of torching and crowning. Understory shrubs, attached dead stems on dominant and suppressed trees, and canopies of small understory trees form the majority of ladder fuels.

CROWN FUEL: Live branches or foliage of a tree or shrub that contribute to a crown fire, which spreads independently of a surface fire.

LOCAL RESOURCES

Trinity County Resource Conservation District
Website: www.tcrcd.net
Email: info@tcrcd.net

Trinity County Fire Safe Council
Website: firesafetrinity.org
Phone: (530) 623-6004 x214

Shasta Valley Resource Conservation District
Website: www.svrcd.org
Email: info@svrcd.org

Siskiyou County Fire Safe Council
Website: www.firesafesiskiyou.com
Phone: (530) 925-1156

Western Shasta Resource Conservation District
Website: www.westernshastarcd.org
Email: info@westernshastarcd.org
Phone: (530) 365-7332

Shasta Fire Safe Council
Website: www.shastafiresafe.org
Email: shasta.fsc@shastafiresafe.org
Phone: (530) 360-0120

Fall River Resource Conservation District
Website: www.fallriverrcd.org
Email: fallriverrcd@citlink.net
Phone: (530) 336-6591

Lassen County Fire Safe Council
Projects in SE Shasta County
Website: www.lassenfiresafecouncil.org
Phone: (530) 250-4449

UC Integrated Pest Management - Pesticide Information
www.ipm.ucanr.edu/GENERAL/pesticides.html

UC Integrated Pest Management - Weed Photo Gallery
www.ipm.ucanr.edu/PMG/weeds_intro.html