

Firewise Landscaping



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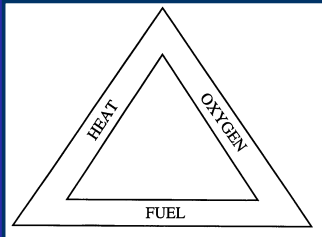


https://www.nifc.gov/fireInfo/fireInfo_statistics.html



Fire Behavior Basics

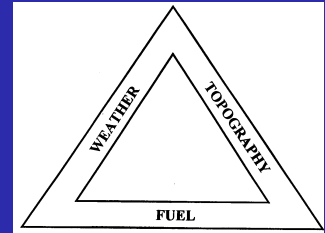
- Take one element away and the fire goes out.



Fire Triangle

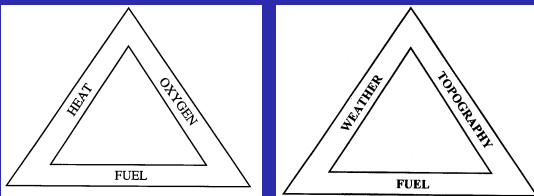
Fire Behavior Basics

- Change one element and the behavior of the fires changes: intensity and rate-of-spread



Fire Behavior Triangle

Fire Behavior Basics



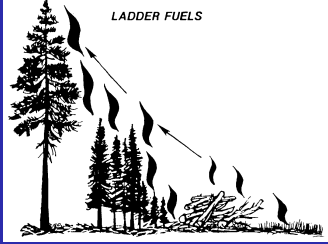
The common denominator between these two triangles is **FUEL**, and it's the one element we can influence!

Fuel is anything that burns:

- Trees
- Shrubs
- Grass
- Structures:
 - Homes
 - Fences, Decks
 - Lawn furniture



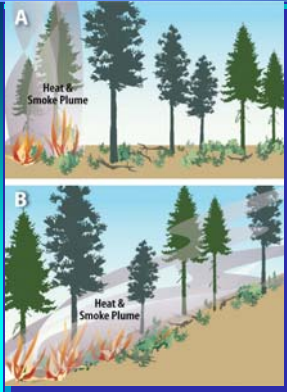
Fuel



LADDER FUELS

- Created when vegetation of different heights is close enough to allow a surface fire to become a crown fire.

Topography



A. On flat ground, smoke and flame rise straight up

B. Slope allows flames to *preheat* fuels above the fire, thus burning faster uphill

Slope Clearance




Clearance preserves mature vegetation, and removes ladder fuels

Suggested Distances for Modifying & Reducing Fuels Around Homes

Percent Slope	Up Slope Distance	Down Slope Distance
Flat	30'	30'
10	35	40'
20	40	50'
30	45'	60'
40	50	75'
50+	55	100+'

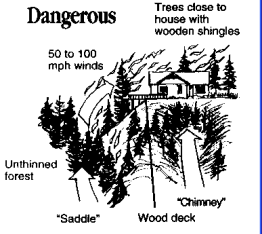
DEFENSIBLE SPACE

RECOMMENDED DISTANCES—STEEPNESS OF SLOPE

VEGETATION TYPE	Flat to Gentle Sloping (0 to 25%)	Moderately Steep (21% to 40%)	Very Steep (>40%)
Grass	30 feet	100 feet	100 feet
Wildland grasses (such as cheatgrass), weeds, and widely scattered shrubs with grass understorey.			
Shrubs	100 feet	200 feet	200 feet
Includes shrub dominant areas (such as sagebrush, juniperbrush, manzanita) and pinyon-juniper.			
Trees	30 feet	100 feet	200 feet
Includes forest areas of the Sierra. If substantial grass or shrub understorey is present, use those values shown above.			

Applied Fire Behavior Basics

Dangerous



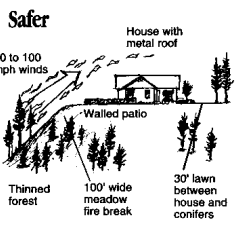
50 to 100 mph winds

Trees close to house with wooden shingles

Unthinned forest

"Saddle" Wood deck

Safer



50 to 100 mph winds

House with metal roof

Walled patio

Thinned forest

100' wide meadow fire break

30' lawn between house and conifers

Ways to reduce fuel load



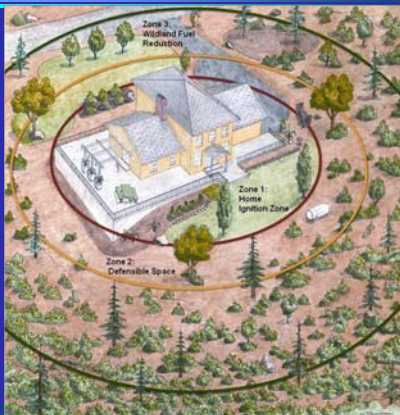
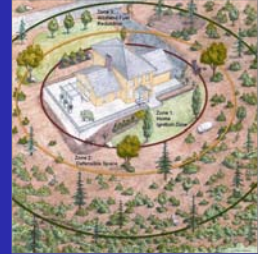
- create a defensible space around the home
 - Fire-resistant plants
- use non-combustible roof materials

Home Ignition Zone

Zone 1- max modification
First 30 ft. around home –

Zone 2 – fuel reduction
30 ft to 100-200 ft.

Zone 3
Beyond 100-200 ft.



Zone 1 – 30' from the edge of eave or deck

- Is the siding flammable or noncombustible?
- If flammable, no plants within 3-5 feet of the home – use decorative rocks
- If noncombustible, widely spaced, low-growing fire-resistant plants are okay

Zone 1 – 30'

- Horizontal spacing
 - Shrubs = 2 x width of plant: a 3 foot wide azalea should be 6 feet from the next shrub
- Spacing applies to clumps or groupings of shrubs too



Before and After

Crowded with overgrown manzanita and madrone

Cleared and limbed up

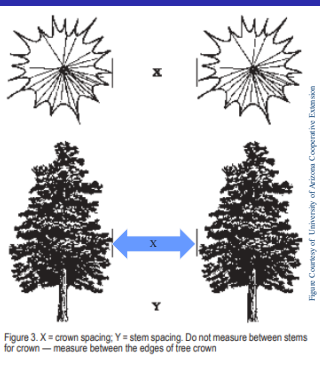


Zone 2- 30'+

- Prune trees up to at least 10' above ground to reduce ladder fuels
- Keep grasses mowed – 6-8"



Prune limbs to reduce ladder fuels

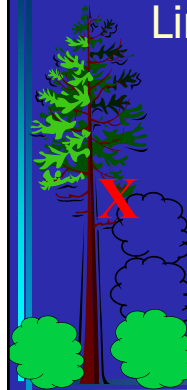


Thin trees/shrubs to a minimum of 10' between crowns

Figure 3. X = crown spacing; Y = stem spacing. Do not measure between stems for crown — measure between the edges of free crown

Limbing and Pruning

- Ideally, remove plants underneath
- Limb up tree to 3X the height of what is beneath it



Survivable Space

- The treated area around a house that allows fire to move around the structure without affecting it – surviving *without* intervention



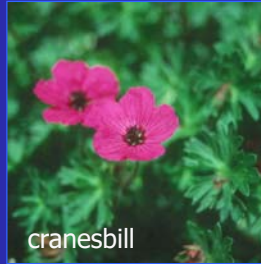
Firewise landscapes

- ✓ Fire history for local area
- ✓ Site location
- ✓ Overall terrain
- ✓ Seasonal weather/winds
- ✓ Native vegetation
- ✓ Plant selection
- ✓ Irrigation requirements & availability

Provided by www.firewise.org

Fire-Resistance Means...

- Ability to persist in a plant community (e.g., ecological).
- Ability to resist ignition and not sustain continued combustion.



Characteristics of Highly Flammable Plants

- Contain fine, dry or dead material within the plant (e.g., twigs, needles, leaves).
- Leaves, twigs, and stems contain volatile waxes, terpenes, or oils.
- Leaves are aromatic.
- Sap is gummy, resinous and has a strong odor.
- May have loose or papery bark.



Fire-prone Plants to Avoid

Western Oregon

- Ornamental juniper
- Blackberries
- Mugo pine
- Shore pine
- Gorse
- Scotch broom
- Arborvitae
- Leland/Italian cypress

Central & Eastern Oregon

- Ornamental juniper
- Mugo pine
- Ceanothus
- Bitterbrush
- Sagebrush
- Manzanita
- Western juniper
- Arborvitae

Fire-prone Landscaping

Mugo Pine: note complete consumption



Fir tree branches touching roof

Characteristics of Fire-Resistant Plants

- Most are broad-leaf deciduous, but some thick-leaf evergreens are also fire resistant.
- Leaves tend to be supple, moist, and easily crushed.
- Trees tend to be clean, not bushy, and have little dead wood.
- Shrubs are low-growing with minimal dead material.
- Sap is water-like and typically does not have a strong odor.



Fire-Resistant Landscapes...

- The purpose behind planting fire-resistant plants is to prevent or break up "fuel ladders" so that fire is not conveyed to the home.



If plants are well-maintained...

- Slow down the fire
- Length of flames shortened
- Amount of heat reduced



Fire -Resistant Landscaping

Home was completely consumed

Mature oaks are barely scorched

This house had wood attachments & Leland Cypress behind it



Fire-Resistant Landscapes...

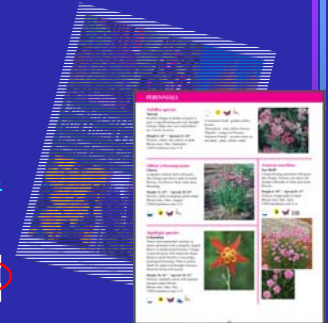
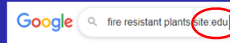
- The condition of plants within a landscape is important!
- Even fire-resistant plants will burn if poorly maintained and/or inadequately watered.



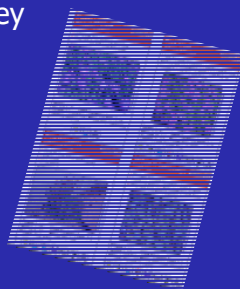
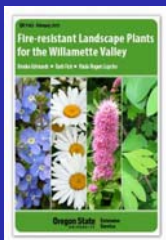
Fire-Resistant Publication

- Plant list was developed by evaluating other lists and the scientific literature on plant flammability.

<https://catalog.extension.oregonstate.edu/pnw590>



Fire-Resistant Landscape Plants for the Willamette Valley



<https://catalog.extension.oregonstate.edu/em9103>

Fire resistance of Plants Master Database



<https://www.pocatello.us/DocumentCenter/View/609/Fire-Resistance-of-Plants--Master-Database-for-Southern-Idaho-PDF?bidId=>

Zone 2 Species List

Minimum: 10 9 8 7 6 5 4 3 2 1

Zone 1 Zone 2 Zone 3

The Resistance Score consists of the Resistance Rating Score and minimum suggested distance from your home.

Example: A species with a Fire Resistance Score of 1 could be located 30' or greater from your home.

Botanical name	Common name	Fire Resistance Score
Succulents		
Agave attenuata	Century Plant	7
Yucca filamentosa	Flame Reed Yucca	7
Groundcovers		
Artemisia canescens	Artemisia	5
Aster multiflorus	Decorative Sage	6
Asplenium platyneuron	Wet Spoken Creeping Fern	6
Beilium maculatum	Mountain Mint Daisy	7
Phlox subulata	Creeping Phlox	7
Stachys lanata	Woolly Yucca Stem Lamb's Ear	6
Stachys lanata	Lamb's Ear	6
Stachys lanata	Woolly Yucca Stem Lamb's Ear	6
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Vines		
Azalea japonica	Scrub Shrubby Azalea Vine	6
Azalea	Azalea	6
Platanus occidentalis	Flowering Platanus	6
Campanula medium	Trumpet vine	6
Claytonia virginica	Madonna's Crown	6
Claytonia virginica	Madonna's Crown	6
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Fire Resistant Home Construction

- Roofing
- Siding
- Windows
- Eaves & Vents
- Sprinklers
- Decks



Checklist

- ✓ Remove weeds, mow grass to height of 6" or less
- ✓ Clear roof, decks, and gutters of pine needles/ debris
- ✓ Remove all debris from around the home

Beyond 30 ft in Residential Areas

- Methods for addressing this situation include:
 - Mandatory Programs
 - Ordinances, Development and Building Codes
 - Voluntary Programs
 - Education and Prevention
 - Firewise Communities, FireFree, Fire Safe Councils

Summary

- Wildfire is a natural part of Oregon landscapes.
- Choosing plants that are fire-resistance can reduce the fire potential/hazard around homes and neighborhoods.
- Fire-resistant plants can be attractive and add to the texture and aesthetic appeal of a home and its surroundings.