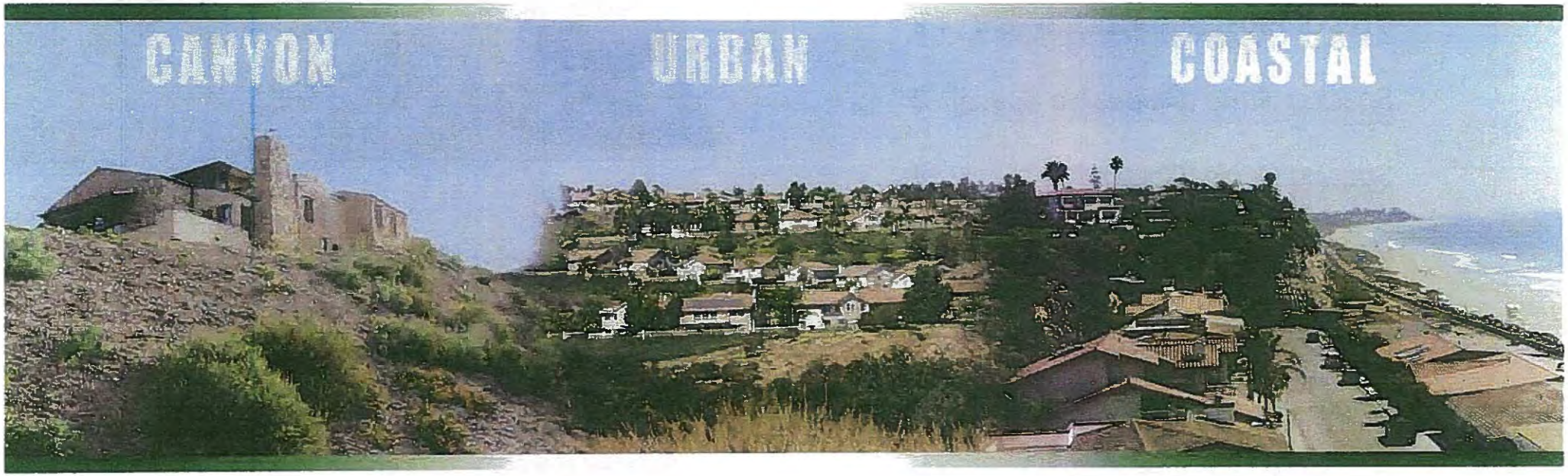
ORANGE COUNTY FIRE AUTHORITY

Vegetation Management Maintenance Guidelines For Property Owners



Accept Responsibility to Protect You, Your Family, Property, and Community.

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READY, SET, GO!

Vegetation Management Maintenance Guidelines For Property Owners

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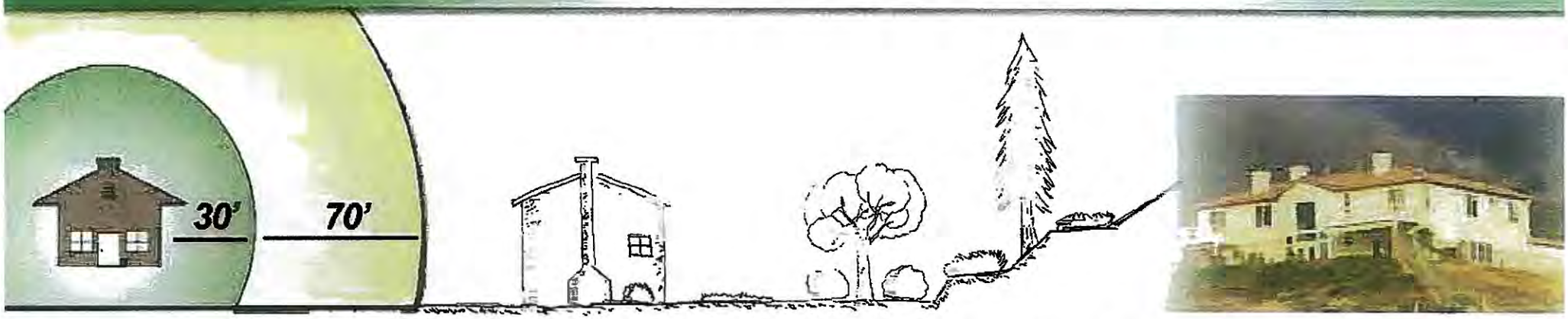
READY, SET, GO!

Vegetation Management - It's Up to You To Get Ready!



Introduction

The Orange County Fire Authority understands that many of our high wildfire risk areas are also our most beautiful and in many cases the reason people choose to live where they do. Each year, thousands of acres of wildland and hundreds of homes are destroyed by wildfires. It is up to you, the property owner, to take responsibility for preparing your home. By applying knowledge of Vegetation Management and home hardening, you will be closer to ensuring your home's survivability and your family's safety. When your work is done you will have also done your part in making your community a safer place in which to live.

Guideline Purpose

Orange County Fire Authority takes every precaution to help protect you and your property from wildfire. In the event of a major wildfire, however, firefighting resources will be stretched. Please prepare now to protect yourself, your family, and your property from a devastating wildfire by taking time to learn about Vegetation Management.

What do I have, Defensible Space or Fuel Modification?

Vegetation Management practices are implemented and enforced in two ways. These two practices are titled Defensible Space and Fuel Modification. California state-wide law requires that land owners in areas at risk from wildfires implement and maintain a Defensible Space landscape area between buildings and potential approaching wildfires. Since 1979, local agencies served by Orange County Fire Authority (OCFA) have adopted provisions in local fire codes requiring new buildings to be protected by Fuel Modification Zone. During the design and construction process, land owners and builders are required to design, implement, and maintain a landscape Fuel Modification Zone. Generally, buildings built prior to 1979 have Defensible Space and buildings built after 1979 have a Fuel Modification Zone.

What is Vegetation Management?

Vegetation Management is the controlling of plant materials for the prevention of fire spread. Vegetation Management is simply removing dead and dying fuels, thinning heavy brush, and trimming trees that could contribute to a fire's spread towards your home.

Did you know?

During a wildfire, thousands of embers can rain down on your roof and pelt the side of your home like hail during a storm. If these embers become lodged in something easily ignited on or near your house, the home will be in jeopardy of burning. Embers coming into contact with vegetation or combustible construction material are the major reason homes are destroyed during wildfires.

The objective of VEGETATION MANAGEMENT is to reduce the wildfire threat to a home by changing the characteristics of the vegetation adjacent to the home.

Vegetation Management practices include:

1. Increasing the moisture content of vegetation.
2. Decreasing the amount of vegetation within 100' of your house.
3. Shortening plant height. Keep plants within 10' of a building below 2'.
4. Altering the arrangement of plants.
5. Installing plants that use less water.

FOUR R'S of Vegetation Management

REMOVAL:

- Remove all dead vegetation within 100' of your home.
- Remove plants found on the undesirable plant list.

REDUCTION:

- Reduce the amount of vegetation by pruning and thinning within 100' of your home.
- Trees and shrubs need to be pruned to provide separation (See Vertical Separation Requirements).
- Shrubs over 2' can be in groups of 3 plants with a minimum spacing between groups of 15' or 3 times the tallest in the group.
- Plants within 10' of your home should be 2' or lower to reduce the flame length.
- Additional spacing may be recommended on steeper slopes.

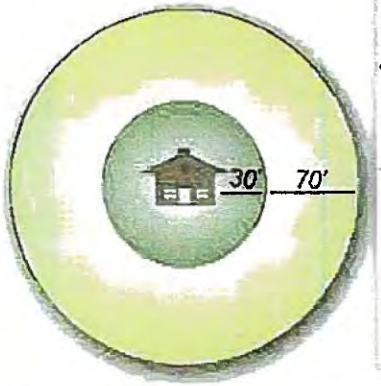
REPLACEMENT:

- Remove highly combustible plants within 100' of your home.
- Keep in mind that if you use the recommended plants, you must still reduce the amount of plant material by thinning per the spacing guidelines for both vertical separation and horizontal separation.
- When installing new plants make sure to plant them with spacing and mature plant size in mind.

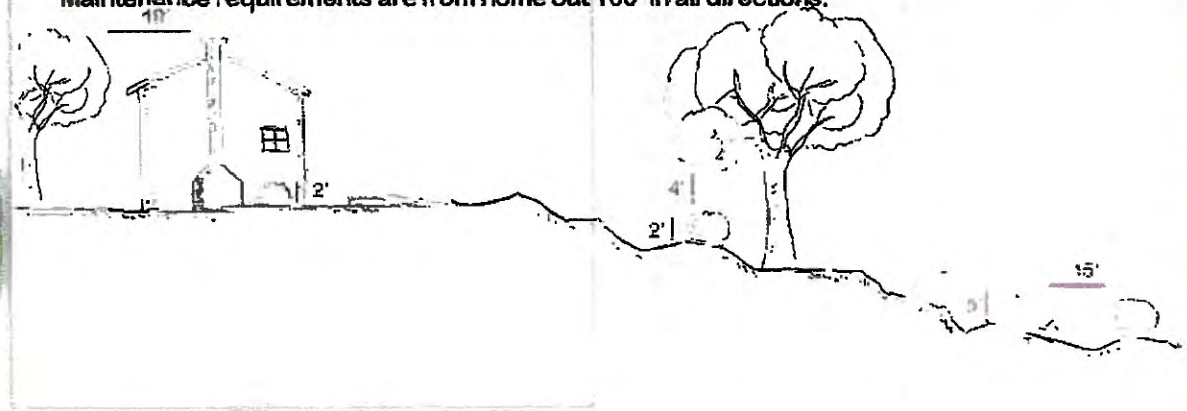
RESISTANT:

- Utilize fire resistive plants whenever possible.
- Keep in mind that if you use recommended plants, you must still reduce the amount of plant material by thinning per the spacing guidelines for both vertical separation and horizontal separation.

STRUCTURE AT TOP OF SLOPE



Maintenance requirements are from home out 100' in all directions.



Remove all tree branches or vegetation within 10' of chimney outlet.

Trees within 100' of your home or neighbor's home should be kept free of dead branches and debris.

Provide vertical separation between shrubs and trees.

Provide horizontal separation for plants over 2' in height. Plants that are 2' or lower need no space between each other.

Maintain palm trees clear of dead fronds.

Remove all dead or dying plant material including dead material within vines.

It is recommended that you keep all shrubs within 10' of your home 2' or lower and keep plants away from windows.

Move wood piles at least 30' away from your home or to property line.

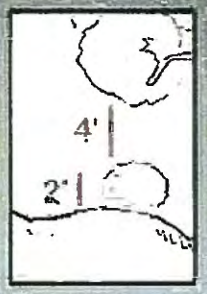
Keep annual grasses and weeds cut to 4".

Wood fences, patio covers, and gazebos need to be free of dead vines.

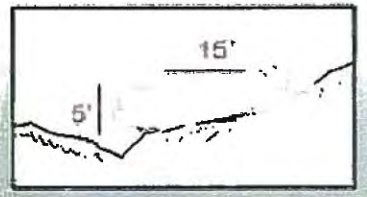
If you own within this area, you must maintain the plants / trees according to the separation requirements within the document.

This area may be maintained by the homeowner association or adjacent landowner.

VERTICAL SEPARATION

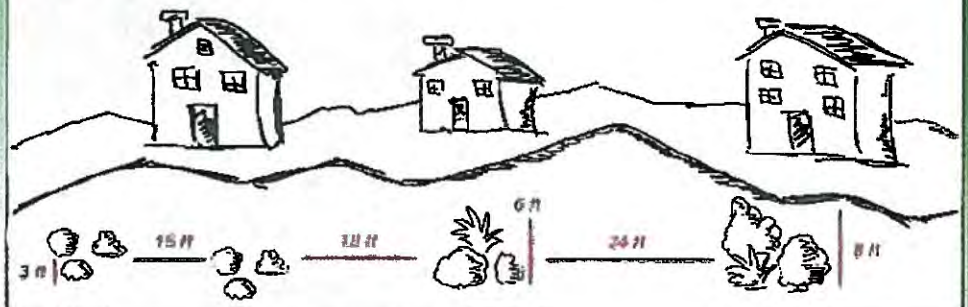


HORIZONTAL SEPARATION

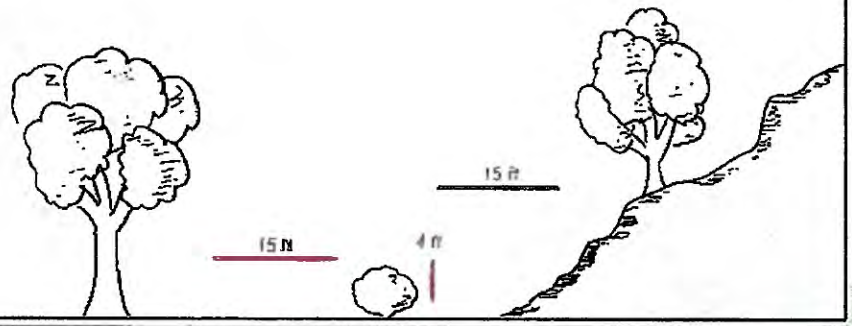


HORIZONTAL SEPARATION

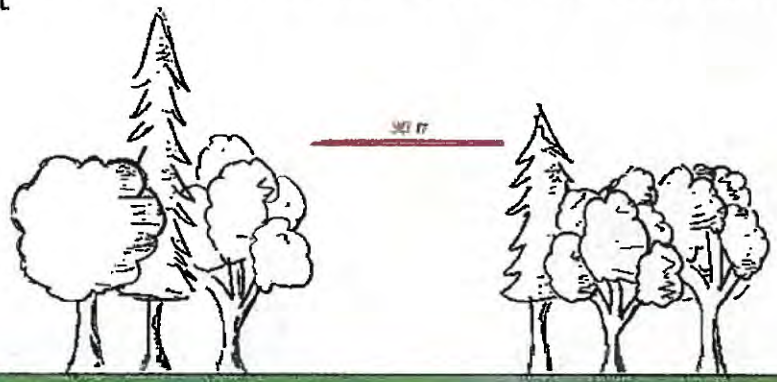
All shrubs greater than 2 feet in height shall be in a maximum grouping of 3 plants and separated by a distance of 3 times the height of the tallest shrub in the group, or 15 feet, whichever is greater.



Shrubs greater than 2 feet in height shall be no closer than 15 feet from the edge of the tree canopy(s) measured horizontally.

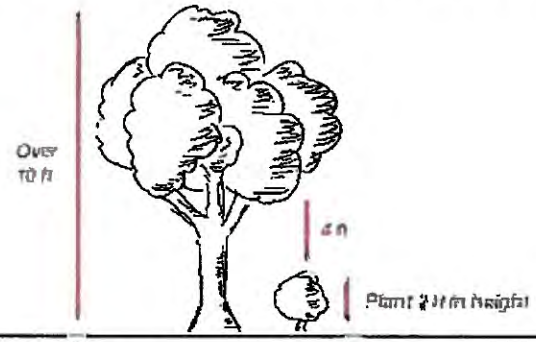


All trees shall be in a maximum grouping of 3 and shall be separated by a distance of 30 feet.

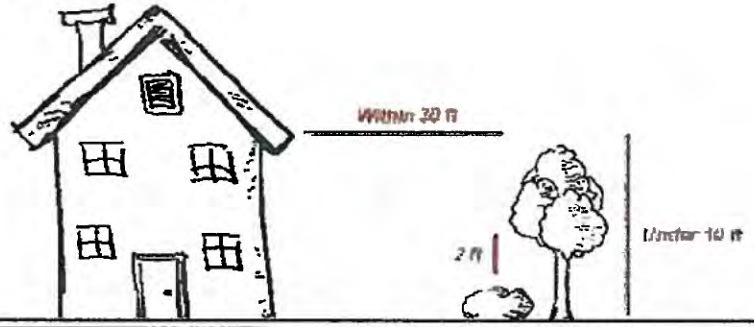


VERTICAL SEPARATION

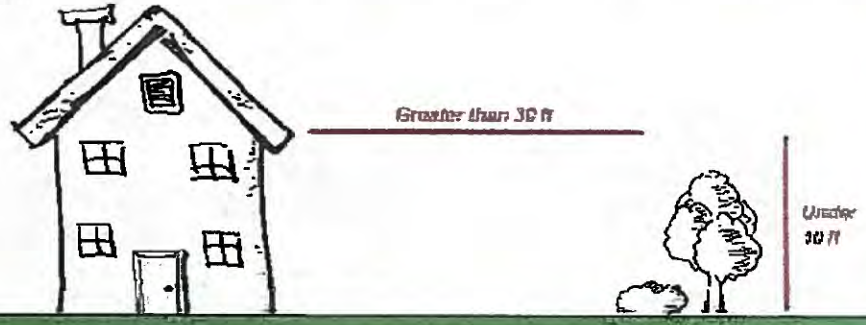
Trees and shrubs more than 10 feet in height require vertical separation of 4 feet between the plant material and the lowest branch of the tree or shrub.



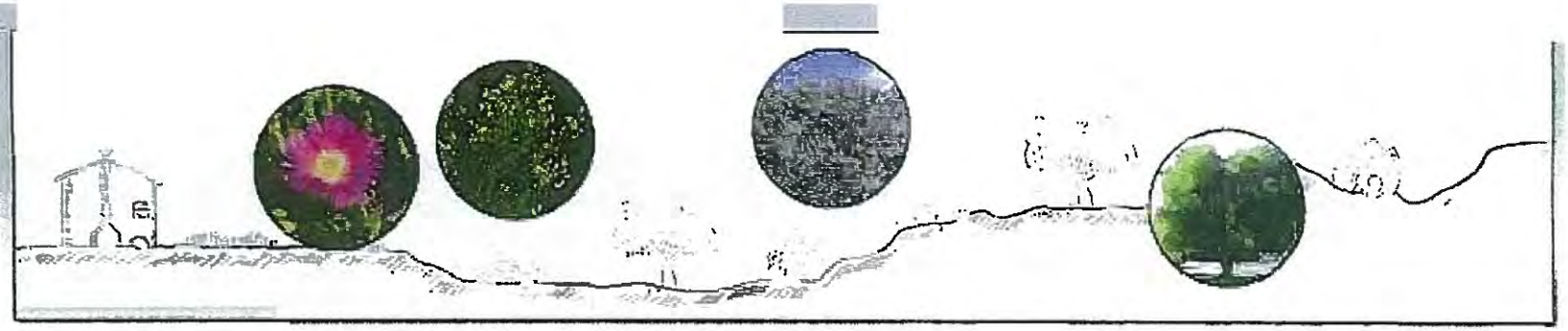
Trees and shrubs less than 10 feet in height, and are located within 30 feet of the home, require vertical separation of 2 feet between the plant material below and the lowest branch of the tree or shrub.

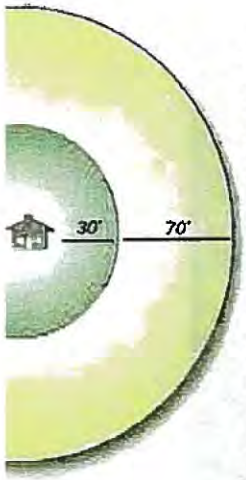


No vertical separation is required between the plant material below when trees or shrubs are located more than 30 feet from the home and they are less than 10 feet in height.



DEFENSIBLE SPACE
Planting Guide





Aeonium
Alkali Heath
Australian Fuscia
Baby Blue Eyes
Beach Bur-Sage
Beach Evening Primrose
Beach Sagewort
Bearberry
Beard Tongue
Bird of Paradise
Bird's Eyes
Bird's Foot Trefoil
Blanketflower
Blue Dicks
Blue Eyed Grass
Brickellbush
Bush Ice Plant
California Coreopsis
California Brome
California Bulrush
California Croton
California Evening Primrose
California Everlasting
California Plantain
California Poppy
Carpet Bugle
Caucasian Artesmisia
Century Plant
Chalk Dudleya
Chinese Houses
Coast Cholla
Coreopsis
Creeping Coprosma
Creeping Sage
Desert Lupine
Desert Marigold
Dewflower
Dwarf Goldfields
Dwarf Periwinkle
Edging Candytuft
Elephant's Food
English Ivy
Evergreen Plantain
Foothill Needlegrass
Germander
Giant Bird of Paradise
Giant Wild Rye
Globe Candytuft
Globe Gilia
Goldmoss Sedum
Grass Tree
Green Carpet Natal Plum
Green Stonecrop
Gum Plant
Hard Stem Bulrush
Hoary California Fuschia
Hyron Rose Clover
Ivy Geranium
Jade Tree
Kangaroo Paw
Lance-leaved Dudleya
Lavender Cotton
Lemon Thyme
Lilac Vine
Little Sur Manzanita
Loosely Flowered Annual Lupine/Coulter's Lupine
Medicinal Aloe
Mexican Evening Primrose
Mexican Poppy
Mojave Woolly Star
Mondo Grass
Monkeyflower
Northern Woolly Lotus
O'Connor's Legume
Oracle Cactus
Oxeye Daisy
Pacific Mist Manzanita
Prickly Pear
Prostrate Coprosma
Purple Needlegrass
Purple Nightshade
Puya
Red Apple Aptenia
Red Hot Poker
Red Yucca
Redondo Creeper
Rosea Ice Plant
Rush Rose
Salt Heliotrope
San Miguel Savory
Sea Fig Ice Plant
Sea Lavender
Shaw's Century Plant
Show Evening Primrose
Showy Farewell to Spring
Showy Gilia
Sky Lupine
Snow-in-Summer
South African Daisy (Gazania)
Spider Lupine
Spiny Rush
Spring Cinquefoil
Sunrose
Trailing Ice Plant
Training African Daisy
Training Gazania
Training Ice Plant
Verbena
Western Vervain
White Trailing Ice Plant
Wild Snapdragon
Wild Strawberry/
Sand Strawberry
Winter Creeper Euonymus
Wishbone Bush

TREES

African Sumac
American Sweet Gum
Big Leaf Maple
California Black Walnut
California Laurel
California Sycamore
Carob
Chinese Pistache
Citrus
Coast Live Oak
Coral Tree
Cork Oak
Crape Myrtle
Engelmann Oak
Fernleaf Ironwood
Firewheel Tree
Italian Alder
Loquat
Macadamia Nut
Maidenhair Tree
Mayten Tree
Mexican Elderberry
Mexican Palo Verde
New Zealand Christmas Tree
Primrose Tree
Strawberry Tree
Tulip Tree
Victorian Box
Western Cottonwood
White Alder

Woolly Plantain
Yankee Point
Yucca
Zorro Annual Fescue
Hall's Japanese Honeysuckle

SHRUBS

Pink Rockrose
Aaron's Beard
Australian Tea Tree
Autumn Sage
Big Pod Ceanothus
Bladderpod
Blue Hibiscus
Blue Stemmed Bush Penstemon
Boobyalla
Bougainvillea
Brewer Saltbush
Bush Morning Glory
Bush Poppy
Bush Snapdragon
Bushrue (Bush Rue)
California Coffee Berry
California Encelia
California Flannelbush
California Scrub Oak
Carmel Creeper Ceanothus
Carolina Cherry Laurel
Chaparral Bloom
Chapparal Mallow
Chapparal Nolina
Coastal Goldenbush
Coastal Scrub Oak
Common Yarrow
Creeping Snowberry
Deerweed
Douglas Nightshade
Eastwood Manzanita
Emory Baccharis
Evergreen Currant
Firethorn
Four-Wing Saltbush
French Lavender
Fuschia Flowering Goosebberry
Golden Abundance Oregon Grape
Golden Currant
Green Bark Ceanothus
Green Lavender Cotton
Greensphere Manzanita
Heart Leaved Penstemon
Holly Leafed Cherry
Hollyleaf Redberry
Hopseed Bush
Indian Hawthorne
Italian Buckthorn
Lemonade Berry
Louis Edmunds Ceanothus
Matilija Poppy
Mexican Grasstree
Monterey Carpet Manzanita
Mulefat
Nevin Mahonia
Oleander
Orchid Rockrose
Pineapple Guava
Pink Melaleuca
Plumbago Cape
Point Reyes Ceanothus
Pomegranate
Redberry
Refugio Manzanita
Sageleaf Rockrose
Shiny Xylosma
Silktassel
Silverberry
Squaw Carpet Ceanothus
Star Jasmine
Star-Lower
Sugarbush
Summer Holly
Sweet Hakea
Sweet Olive
Texas privet
Texas Ranger
Thick Leaf Yerba Santa
Toyon
Trailing Lantana
Tree Aloe
Wart-Stem Ceanothus
Western False Indigobush
Western Redbud
White Cloud Matilija Poppy
White Flowering Currant
White Rockrose
Wild Honeysuckle
Woolly Blue Curls
Woolly Yarrow
Yellow Bells
Yellow Bush Penstemon
Yellow Sage

Undesirable Plant Species *(Target Species)*

The plants listed below are more susceptible to burning, due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding), may remain as long as the potential for spreading a fire has been reduced or eliminated. Some of these plants may be considered undesirable because of their ability to naturalize and become a pest. These types of plants should be avoided, especially in sensitive riparian or coastal areas where they could become established and compete with native vegetation.

Arborvitae

Artichoke Thistle

Bamboo

Black Mustard

Black Sage

Buckwheat

Burning Nettle

California Sagebrush

Castor Bean Plant

Chamise

Cypress

Eucalyptus

Fountain Grass

Horseweed

Indian Tobacco

Juniper

Undesirable Plant Species *(Target Species) CONTINUED*

Mayweed

Milk Thistle

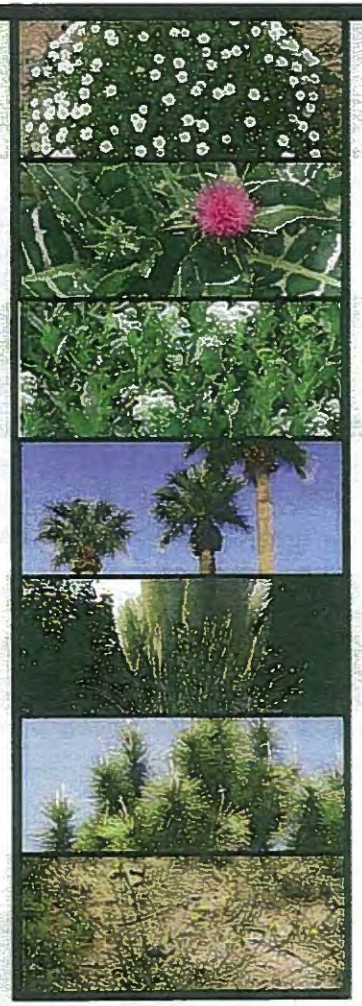
Hoary Cress / Peppergrass

Mexican Palm

Pampas Grass

Pine Tree

Prickly Lettuce



Red Shanks

Russian Thistle / Tumbleweed

Telegraph Plant

Tree Tobacco

Wild Turnip

Yellow Mustard

Safety Tips For Getting Ready

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Things To Think About When Thinning Vegetation

When working with hand tools it is best to have personal protection, which includes proper long-sleeved clothing, gloves, hardhat, boots, eye protection, and noise protection equipment. The sharpest tools are best, since dull tools cause more accidents due to worker fatigue and frustration. Saws, loppers, and other cutting tools should be handled carefully and never put into anything except the wood they are to cut. When people work together they can get in each other's way, so it is best to work separated by at least two lengths of the vegetation reach. Thus, if you are cutting out 6 foot tall shrubs, you should be working at least 12 feet apart.

Often, having one person cutting and one or more people pulling the cut brush to a pile works most productively and safely. Piles should have vegetation laid parallel for later ease of handling. Working with power tools means having another person present and having greater communication so that all understand what the course of work is going to be. If someone tries to engage you in conversation while you are working with a chainsaw or other power tools, stop the equipment if you need to respond. Distractions can cause injury. Working safely means having fire extinguishers and first aid help close by the work site.

Cutting of large trees (larger than 8 inch stump diameter) needs skill and know-how. These trees can weigh over half a ton and can crush cars and things of value. Someone skilled with a chainsaw and full safety gear needs to do the actual work and often needs other ground assistance. This cutting should not be done without planning and forethought. Certified arborists are available for this kind of work and getting bids from licensed and insured contractors generally ensures the best value. Be sure to specify what you want the finished site to look like before work begins.

Stop the Start of a Wildfire!

- Use tools with non-metallic blades to eliminate sparks.

- Have a garden hose available and turned on while operating all power tools.

- Dispose of cuttings and debris promptly to reduce the amount of fuel on property.

- Do not park cars in tall grass. The hot catalytic converter can ignite dry plant materials.

- Do not cut during a red flag warning or dry windy day.

- Spark arresters are required on gasoline, diesel, and propane-powered engines.

FREQUENTLY ASKED QUESTIONS

What is Defensible Space?

Defensible Space refers to the area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and which provides an opportunity for firefighters to effectively defend your house. Oftentimes, Defensible Space is simply your backyard.

What is Fuel Modification?

Fuel Modification is a strip of land where combustible native or ornamental vegetation has been modified and partially or totally replaced with drought tolerant, fire resistant plants.

What is the relationship between vegetation and wildfire threat?

Many people do not view the plants growing on their property as a threat. But in terms of wildfire, what is growing adjacent to your home can have considerable influence upon its survivability. All vegetation, including naturally occurring native plants and ornamental plants in the residential landscape, is potential fuel for a wildfire. If the vegetation is properly spaced and maintained, a wildfire can be slowed down, the flame lengths are reduced, and the amount of heat reduced, all of which contribute to your house surviving a wildfire.

Why is Defensible Space necessary? Won't the fire department protect my house?

Some individuals incorrectly assume that a fire truck will be parked in their driveway and firefighters will be actively defending their home when a wildfire approaches. During a major wildfire, it is unlikely that there will be fire fighting resources available to defend your home. Even with adequate resources, some wildfires may be so intense that there may be little that firefighters can do to prevent your house from burning. The key is to reduce fire intensity as a wildfire nears your house. This can be accomplished by reducing the amount of flammable vegetation surrounding your home.

Does Defensible Space require a lot of bare ground around the house?

NO. While bare ground would certainly provide effective Defensible Space, it's unnecessary and unattractive. Bare ground may also cause soil to erode. Many homes have yards with both effective Defensible Space and attractive landscapes with little or no bare ground.

Does creating Defensible Space require special skills or equipment?

NO. For the most part, creating Defensible Space requires routine gardening and landscape maintenance practices such as pruning, mowing, weeding, plant removal, appropriate plant selection, and irrigation. The necessary equipment consists of common tools like a chain saw, pruning saw, pruning shears, shovel, and rake. Pay close attention to sparks this equipment may generate. Try not to do this maintenance during hot and windy weather.

How big is an effective Defensible Space?

Defensible Space size is usually expressed as the distance from your house in which vegetation is managed to reduce the wildfire threat. The necessary distance for effective Defensible Space is not the same for everyone, but varies by slope and type of vegetation growing near your house, at a miminum distance of 100' from the structure. Visit *ReadySetGoOC.org* to schedule an OCFA representative to come out and go over any special conditions associated with your house.

FREQUENTLY ASKED QUESTIONS

Does having Defensible Space guarantee my home will survive a wildfire?

NO. Under extreme conditions, almost any house can burn. Having Defensible Space along with a good Hardened Home will significantly improve the odds of your home surviving a wildfire.

Why doesn't everyone living in a high wildfire hazard area create Defensible Space?

The specific reasons for not creating Defenisble Space are varied. Some individuals believe that "it wont happen to my family." Others think the cost of maintanence outweighs the benefits. Some have failed to implement Defensible Space practices because of lack of knowledge. For those individuals wanting to learn more about Defenisble Space and how to harden their homes, please go to *ReadySetGoOC.org*

Does having an effective Defensible Space make a difference?

YES. Homes with effective Defensible Space are much more likely to survive a wildfire. Furthermore, Hardened Homes (go to ReadySetGoOC.org) with effective Defensible Space have an even greater chance to survive a wildfire than homes where no wildfire preparations have been taken.

What should I do to make my property Defensible?

Remove all tree branches or vegetation within 10' of chimney outlet.
Trees within 100' of your home or neighbor's home should be kept free of dead branches and debris.
Provide vertical clearance between shrubs and trees. Clearance may need to increase on steeper slopes.
Provide horizontal separation for plants over 2' in height.
Keep palm trees clear of dead fronds. Palms trees are not recommended within 100' of your home.
Remove all dead or dying plant material including dead material within vines.
Move wood piles at least 30' away from your home or to property line.
Keep annual grasses and weeds cut to 4".
Wood fences, patio covers, and gazebos need to be free of dead vines.
It is *recommended* that you keep all shrubs within 10' of your home 2' or lower and keep plants away from windows.

Why Vegetation Management?

In the event of a catastrophic wildfire, the fire department may not have the resources to protect your home. Wildfires fueled by dry vegetation and driven by hot, dry winds are extremely dangerous and impossible to control. Many residents have built their homes and landscaped in fire-prone areas without fully understanding the impact a fire could have on them. Wildland-urban fire emergency strategy and tactics differ from both the standard wildland and the standard urban fire suppression practices. Wildland fire suppression largely attempts to keep a fire from spreading beyond its current location. Urban fire suppression initially addresses life safety (principally building occupants) and then fire containment within a portion of the structure and/or prevents adjacent structure involvement. Neither wildland nor urban suppression practices typically provide for home ignition potential reduction given an encroaching wildfire.

FREQUENTLY ASKED QUESTIONS

What can you do?

The success of this program and more importantly, its ability to reduce the high probability of fatalities and multiple structure loss, depends upon each property owner's aggressive participation in maintaining vegetation around their property. It's not a question of "if" but "when" the next major wildfire will occur in Orange County. That's why the most important person in protecting your life and property is not the firefighter, but you. Through advance planning and preparation, we can all be ready for wildfire. We hope you find the tips included in this publication helpful in creating heightened situational awareness and a fire safe environment for you and your family. For more information visit our website at *ReadySetGoOC.org* or *ocfa.org*.