Fire Prevention in the Canyons

A user-friendly guide for improving the fire safety of your home and property with brush clearance, home hardening and emergency preparation.

For residents and property owners of Silverado, Modjeska, Trabuco, Williams, Harding, Live Oak and Santiago Canyons.

Developed for the Fire Safe Council East Orange County Canyons with information provided by the Orange County Fire Authority Ready, Set, Go program.
For us who choose to live in the canyons and foothills of Orange County, we do so to be close to nature. We enjoy the rugged natural landscape, the birds and wild animals that visit our yards, and serene beauty of a clear night sky. Our homes, cottages and ranches are nestled in the narrow canyons, on steep hillsides, or rolling plateaus that are surrounded by abundant natural plants, shrubsm and trees.

While we are fortunate to live in this unique rustic environment, we also recognize that our rural lifestyle carries with it certain risks. The risk of wildfires is ever present. Therefore, we must take extra precautions around our homes and property.

Three type of preparedness are addressed in this brochure Vegetation Management through identification and clearance... Home hardening, making your residence and property more fire resistant... and Disaster Preparedness.

Each of us has a responsibility of maintaining our homes to protect not only our lives, our pets, and our property, but also our community. We must all do our part to prevent the spread of wildfires to preserve this area we love.

Fire Safe Council East Orange County Canyons is a non-profit organization dedicated to educating residents on emergency preparedness, fire prevention and safety. Your tax-deductible contributions are greatly appreciated and will go towards hosting of community events including roadside clearance, canyon cleansweep, etc. Please visit www.fsceocc.org to learn more about the FSCEOCC, volunteer opportunities, meeting times, etc..

Disclaimer: Neither the Fire Safe Council East Orange County Canyons, the OCFA nor the designer of this booklet endorses any product, business or Internet link listed in this brochure. Information provided is, to the best of our knowledge accurate and correct. The FSCEOCC and/or the producer of this brochure is void of any and all liability from the recommendations and information provided in this brochure.
Removing, pruning, spacing and planting
Create a pleasing natural looking landscaped garden and property by staggering plants, shrubs and trees. The idea is to provide adequate spacing between plants and trees, thus reducing the chance of a direct fire path to your home. Spacing may require removing some vegetation and planting of either native species or imported plant varieties. It is not necessary to remove all native fire prone vegetation.

Planting and maintaining landscaping for defensible space.
Horizontal separation is the spacing between shrubs and trees. The greater the spacing the less likely a wildfire will spread rapidly. Vertical spacing reduces the chance of bushes and shrubs from igniting trees. The illustration shows some recommended clearances for additional information and literature contact the Orange County Fire Authority or go on line: http://readysetgooc.org/vegetation-management/

Clearing your road
Local fire engines are 10 feet wide and are 13 foot 6 inches high. Due to the narrow roads within our community property owners need to cut back the vegetation along private roads. The OCFA requires a cut back 5 feet from the edge of the asphalt on both sides. We also ask that you clear, rocks, and man-made obstructions. This clearance is needed so that fire engines can maneuver around corners and obstacles. Trees need to be cut a minimum of 13 foot 6 inches vertical clearance from the edge of the 5’ cut-back on both sides.

70 feet (or to your property line) of fuel reduction acts as a buffer – Thinning overgrowth on natural vegetation, pruning plants and removing dead and dying brush and trees will reduce the “fire ladder” that spreads wild fires. It is not necessary to cut trees or remove all wild vegetation. With common sense land management you can retain rustic surroundings and also provide protection for your home against brush fires.
The purpose of this brochure is not to provide specific mandates on how to landscape, modify or maintain your property. However, we hope to offer information and suggestions to help improve the fire safety around your home.

A common misconception is that scalping the land for a hundred feet around a residence will make it fire safe. Removing all vegetation may actually produce a clear path for embers to blow right up to your home. Clearing, grading, scalping to expose soil may also allow fast-growing, invasive, fire prone vegetation to take over. Leaf litter from native shrubs and trees can prevent non-native, fire prone plants in certain areas.

Sensible fuel modification can sustain natural beauty while reducing the risk of wildfires. Your unique plan will depend on the lay of your land, hillside relationship and your property boundaries. Trimming back or removing fire prone indigenous vegetation to produce a staggered arrangement is effective. Planting fire resistant plants and installing an irrigation system can enhance the beauty and resistance to fire.

The best time of year to clear your property of weeds and undesirable vegetation is in the early spring. After a good rain the ground is typically soft allowing small weeds to be pulled out by the roots before they blossom and spread seedlings. Larger bushes are more easily dug out and chain saws make quick work of dead tree limbs and thick brush.

As weeds begin to sprout, like Mustard Plants, a broad leaf herbicide can kill the weed without harming the surrounding grass.

Caution must be exercised when clearing, as heat and Santa Ana winds dry out foliage. A weed wacker with a line trimmer is OK, but using a powermower, a metal blade, a chain saw or even a pick, can strike a rock, cause a spark and ignite a grass or brush fire.

Drought resistant ground cover, flowers and shrubs from a Nursery can be integrated with native vegetation.
A word about weeds and plants...

This brochure depicts some of the most common vegetation found in the canyons and foothills of Orange County, California. It does NOT list EVERY weed or plant that exists in our area. This list has been compiled in cooperation with specialists from the Orange County Fire Authority, biologists, and canyon folks. We have selected commonly found plant species and listed them by their common name, and some with Latin names.

Most of the photos were taken locally in the month of June, the peak of the growing season. Vegetation looks different from germination through growth, flowering, dormancy and death cycles. For additional information and photos, web links are listed. Some of these links are commercial websites, but were selected as they provided the most comprehensive information.

Undesirable FIRE PRONE plant species,

- **Artichoke Thistle**
  Infestations of Artichoke Thistle can reduce forage production, limit wildlife, recreational, and livestock movement, and out-compete native vegetation. Digging out a plant can control artichoke thistle, but much of the taproot must be removed or new growth will develop from the cut surface.

- **Giant Reed, Arundo Donax**
  A giant reed that resembles Bamboo. It forms dense, impenetrable clumps or spread by creeping. It is mostly native to Mediterranean countries but can be found in our canyons. Arundo can range from low, shrubby forms to towering giants over 20 feet tall.
  [www.nps.gov/plants/ALIEN/fact/ardo1.htm](http://www.nps.gov/plants/ALIEN/fact/ardo1.htm)

- **Chamise**
  This is the dominant chaparral plant throughout most of California, often forming pure, impenetrable stands. Also known as Greasewood, the shrub contains highly flammable resins, which cause it to burn rapidly when ignited. Following a fire, Chamise sprouts rapidly from its basal burl (root crown) and soon outgrows most competitors.
  [http://calflora.net/bloomingplants/chamise.html](http://calflora.net/bloomingplants/chamise.html)

- **California Sagebrush - Cutback during dormancy**
  California Sagebrush is a stout, woody, grayish-green shrub growing typically to about 5’ tall, rounded and much-branched from the base. California sagebrush is extremely common on lower slopes of dry foothills to 2500’ throughout Southern California. It blooms August to December.
  [www.calflora.net/bloomingplants/californiasagebrush.html](http://www.calflora.net/bloomingplants/californiasagebrush.html)

- **Black Sage - Cutback during dormancy**
  Black Sage is a perennial shrub that grows approximately 3’ to 6’ tall. It is covered with simple hairs with some glandular hairs, which makes it highly aromatic. The flowers are usually a pale blue or lavender color.

- **Buckwheat - Cutback during dormancy**
  Buckwheat is an annual, characterized by large heart-shaped leaves and white to brown flowers. The tall erect plant can grow from 2 to 5 ft. in height and can produce several branches. Stems are hollow and vary in color from green to red and brown at maturity. Buckwheat has a shallow tap root system, with numerous laterals extending to 3 to 4 ft. in depth.
  [http://www.laspilitas.com/groups/buckwheat/california_buckwheat.html](http://www.laspilitas.com/groups/buckwheat/california_buckwheat.html)
• **Castor Bean Plant**
A stout, robust shrub-like plant with reddish to purple stems may reach 12 feet in height. The fruit is a three-lobed, green or red capsule with a soft, spine. The seeds from the castor bean plant, Ricinus communis, are poisonous. The main toxic proteins is “ricin”. [www.library.uiuc.edu/vex/toxic/castor/castor.htm](http://www.library.uiuc.edu/vex/toxic/castor/castor.htm)

• **Italian Cypress**
Cypress are evergreen trees or large shrubs, growing 16'-130' tall. The leaves are scale-like. On young plants, the leaves are needle-like. The cones mature 18-24 months from pollination. [http://en.wikipedia.org/wiki/Cypress](http://en.wikipedia.org/wiki/Cypress)

• **Eucalyptus**
On warm days eucalyptus oil rises. Eucalyptus oil is highly flammable and brush fires can travel easily through the oil-rich air of the tree crowns. The dead bark and fallen branches are also flammable. [http://en.wikipedia.org/wiki/Eucalyptus](http://en.wikipedia.org/wiki/Eucalyptus)

• **Junipers**
Junipers vary in size and shape from tall trees, to columnar or low spreading shrubs with long trailing branches. They are evergreen with needle-like and/or scale-like leaves. They produce “berry”-like hard-shelled seeds that are red-brown, orange or blue. [http://en.wikipedia.org/wiki/Juniper](http://en.wikipedia.org/wiki/Juniper)

• **Laurel Sumac**
Laurel sumac is a fast growing, large rounded evergreen shrub or small tree growing 10’ to 15’ tall that is aromatic with reddish leaf veins, petioles and stems. Laurel sumac is commonly found on dry ridges and canyons below 3000’ in chaparral and coastal sage scrub. It is brittle, causing limbs to break off in high winds. It is a fast burning wood. [www.calflora.net/bloomingplants/laurelsumac.html](http://www.calflora.net/bloomingplants/laurelsumac.html)

• **Milk Thistle**
This stout thistle usually grows in dry, sunny areas. The stem branches at the top and reaches a height of 4 to 10 feet. The leaves are wide, with white blotches or veins. The flowers are red-purple. The small, hard-skinned fruit is brown, spotted, and shiny. Milk thistle is easy to grow, and it matures in less than a year. [http://en.wikipedia.org/wiki/Milk_Thistle](http://en.wikipedia.org/wiki/Milk_Thistle)

• **Pampas Grass**
Pampas Grass can grow 8-12 feet tall. Its leaves are only .5 inches to .75 inches wide but can be 10 feet long. It grows in large clumps called tussocks about 12 feet tall. The leaves are razor sharp and could slice you open just by rubbing against them. Sometimes its dense bushes provide habitat for rats and mice. [http://en.wikipedia.org/wiki/Cortaderia_selloana](http://en.wikipedia.org/wiki/Cortaderia_selloana)
• Pine Trees
- Pines are evergreen resinous trees. Older trees tend to have dead limbs and branches which are highly flammable. Dried pine needles can quickly ignite. [Link](http://en.wikipedia.org/wiki/Pine)

Poison Oak
- Western Poison-oak grows as a dense shrub in sunlight, or as a climbing vine in shaded. It reproduces by creeping rootstocks or by seeds. The glossy leaves are generally bright green in the spring (or bronze when first unfolding), yellow-green to reddish in the summer, and bright red or pink in the fall. [Link](http://en.wikipedia.org/wiki/Toxicodendron_diversilobum)

Purple Sage
- *Cutback during dormancy*

Purple sage is a three to six foot evergreen shrub with flowers that are light purple in May-July. Purple sage has white leaves that are fuzzy grey. This sage is found on dry slopes and needs sun, it needs no water after established. [Link](http://www.laspilitas.com/plants/611.htm)

Rosemary
- Rosemary is a woody, perennial herb with fragrant evergreen needle-like leaves. It is native to the Mediterranean but found in our canyons. [Link](http://en.wikipedia.org/wiki/Rosemary)

• Tree Tobacco *(Nicotiana gauca)*

Tree tobacco is an erect perennial growing to 24’ tall with drooping branches. The flower has a long, tubular 5-lobed greenish-yellow corolla slightly flared. It blooms from April to September. It is poisonous to ingest in any form. [Link](http://www.delange.org/TobaccoTree/TobaccoTree.htm)

• Tumbleweed

Or, “Russian thistle” looks like the skeleton of a normal shrub. Plants may be as small as a basketball or as large as a golf cart. The branches have small sharp stickers. In the fall when it dries out, it breaks loose and tumbles in the wind. It is an invasive weed that destroys native vegetation. [Link](http://www.desertusa.com/mag01/may/papr/tweed.html)

• Yellow Field Mustard *(Brassica rapa)*

The canyons abound with fields of Mustard. The seeds are easily spread, germinate fast and grow quickly. These plants can produce a field of thick plants 6’ in height. They are a flash fuel that burns quickly and spreads wildfires. [Link](http://www.thewildclassroom.com/biodiversity/problemplants/species/Field%20Mustard.htm)
All vegetation burns! Some burn faster and hotter than others. Fire resistant plants tend to retain moisture and have less of a woody mass, making them less likely to ignite quickly, but they are not fire proof.

Plants identified as fire prone on the previous pages are highly flammable due to their physical characteristics and/or chemical composition. Many contain volatile substances like oils, resins, wax and pitch. Not only will these species burst into flames easily, but they produce embers that will spread wildfires. It should be noted that maintaining vegetation has a dramatic effect on fire resistance. Some well-irrigated, fire-prone species are less likely to catch fire, while an overgrown, dried out fire-resistant variety can pose a greater risk.

Native FIRE RESISTANT plant species

Bladderpod - Shrub (Isomeris arborea)
Bladderpod is an erect, rounded and profusely-branched, shrub growing from 3’ to 6’ tall. Flowers bloom in many short racemes on this strong-smelling, dense, round shrub with palmately compound leaves. Flowers, January to November.
www.calflora.net/bloomingplants/bladderpod.html

California Coffee Berry - Evergreen Shrub (Rhamnus californica)
The California coffeeberry is an evergreen shrub that grows in the canyons. It reaches a height of 6-8 ft., and has large green to black berries in late summer. This shrub is drought tolerant, tolerates sun or partial shade, and grows in all soil types.

California Encelia - Native canyon shrub (Encelia californica)
The California encelia is a bushy year-round plant (perennial) which grows up to 5’ tall. The daisy-like flower is bright golden-yellow. It blooms from March to June.
www.laspilitas.com/plants/260.htm

California Scrub Oak - Native canyon shrub/tree
The California scrub oak is an evergreen shrub that is drought tolerant. It can grow 5-10 ft. high and can be identified by its flaking bark. The scrub oak is a native to California and attracts butterflies.

Coastal Goldenbush - Small Shrub (Isocoma menziesii)
A long-blooming California native, it has clusters of golden yellow flowers. An erect shrubby perennial growing to 4’ high. It is native to sandy slopes and canyon sage scrub. It blooms from April until December.
www.calflora.net/bloomingplants/coastgoldenbush.html

Fire resistant plants can be found on: http://www.bewaterwise.com/fire02.html
Deerweed - Native canyon shrub
Common Deerweed, also called California broom or broom lotus, is a low bushy shrub growing to about 4’ tall. Flowers are yellow aging to red. Deerweed is common on dry slopes, flats and washes and is very drought tolerant.
www.calflora.net/bloomingplants/commondeerweed.html

Giant Wild Rye - Large Native Grass (Leymus condensatus)
A large clumping green grass, that grows between plant communities or in openings. Reaches heights of 6-8’ in bloom and will clump 4-5’ wide. This drought resistant tall grass thrives in the sun.
www.malag.aes.oregonstate.edu/wildflowers/species.php?id-917

Lemonade Berry - Large Evergreen Shrub (Rhus integrifolia)
A bushy shrub that grows up to 10’ tall. White-pink flowers blossom in large clumps in the spring, which become oblong berries, ripening from green to yellow and then red. It is hardy and very tolerant to drought. Water is needed only occasionally.

Live Oak - Native Tree (Quercus agrifolia)
The Live Oak is indigenous to the canyons and a natural fire resistant species. These large and spreading evergreens act as fire barriers. Even when devastated by fire, will sprout vigorously. They are slow growing but can live to be several hundred years old.
www.laspilitas.com/groups/oaks/california_oak1.html

Mexican Elderberry - Native canyon tree
Mexican or blue elderberry is a small tree or tall shrub growing to 25’, but often shorter. It has many small white flowers fused at the base. The fruit is a nearly black berry blooming from March to September.
www.calflora.net/bloomingplants/mexicanelderberry.html

Sticky Monkeyflower - Native canyon plant (Mimulus aurantiacus)
Some species grow best with moisture, while others like dry rocky slopes. They do best in full sun but will tolerate part or even full shade.
www.laspilitas.com/groups/Monkey_flower/California_monkey_flower.html

Poverty Weed - Ground Cover (Iva axillaries ssp. robustior)
Poverty weed is a perennial native to California. It is a common component of many alkali plains plant communities where saline, poorly-drained, heavy clay soils occur. Although a native plant, poverty weed has been listed as a noxious weed.
www.calflora.net/bloomingplants/povertyweed.html
Prickly Pear Cactus - Native canyon plant *(Opuntia littoralis)*

Prickly pear has broad, flat joints (spiny, thick “cactus” paddles). The flowers are pale yellow about 2 inches long. The fruits are small pear-shaped and dark reddish-purple and covered with bristles. The fruit is edible but has many seeds.

www.desertusa.com/magoct97/oct_pa/du_prkpear.html

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California Sycamore Tree - Native Tree *(Plantanus racemosa)*

The sycamores are long-lived and can be as tall as 100 feet. These trees usually have multiple trunks that can be up to five feet in diameter. The outer bark peels away to create a mottled patchwork of tans, whites, grays, greens and sometimes yellows. The inner bark is usually smooth. Sycamores retain water making them an excellent fire resistant tree.

http://www.sactree.com/pages/169

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Toyon - Large native evergreen shrub *(Heteromeles arbutifolia)*

Toyon, or as it’s sometimes called, Christmas Berry, is an evergreen shrub or small tree that usually grows 6-8 ft. high and 4-5 ft. wide. In the fall the berries turn bright red.

http://en.wikipedia.org/wiki/Toyon

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Woolly Blue Curls - Native canyon shrub *(Trichostema lanatum)*

Woolly Blue Curls is a three to four foot evergreen shrub with violet flowers in fuzzy spikes in May-Aug and narrow aromatic leaves. Woolly Blue Curls is native to dry slopes. They need full sun, good drainage, and no water after established.

www.calflora.net/bloomingplants/woollybluecurls.html

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White Alder - Native canyon tree *(Alnus rhombifolia)*

White alder is a fairly common tree in the canyons, with smooth whitish to gray bark that can grow 30’ to 100’ tall. It has a straight trunk and open, rounded crown. It grows close to streams where water is available.

www.calflora.net/bloomingplants/whitealder.html

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**Landscaping with Nursery plants**

Depending on your landscape plan, drought / heat resistant varieties, along with erosion control plants and shrubs, may be integrated with native plants. Check with your landscape designer or visit a nursery familiar with plants that grow well in our area. A local nursery that specializes in native plants is Tree of Life Nursery in San Juan Capistrano. www.treeoflifenursery.com

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ABOUT PALM TREES

While palm trees are not on either the fire prone or fire resistant list, they have properties that apply to both. If maintained, they pose little threat, however, palms with clusters of dried fronds pose a great risk during a wild-fire.

http://davesgarden.com/guides/articles/view/2914/
Homeowner's Checklist for a Fire Safe home

Exterior improvement
- Consider installing residential sprinklers
- Enclose the underside of eaves, balconies and above ground decks with fire resistant materials

Access
- Clear roads and driveways to allow access for emergency vehicles.
- Clear flammable vegetation at least 5 feet from road edges and driveways.
- Cut back overhanging tree branches above roads, 13 1/2’ high.
- Make sure that your street is named or numbered, and a sign is visibly posted at each street intersection.
- Post your house address at the beginning of your driveway, or on your house so it is easily visible from the road.

Roof
- Remove branches within 10 feet of your chimney and dead branches overhanging your roof.
- Remove dead leaves and needles from roof and gutters.
- Make sure your chimney outlet and stovepipe have an approved spark arrestor.

Landscape
- Create a “defensible space” by removing all flammable vegetation at least 30 feet from all structures.
- Landscape with fire resistant plants.
- On slopes or in high fire hazard areas remove flammable vegetation out to 100 feet or more.
- For trees taller than 18 feet, remove lower branches within six feet of the ground.
- Maintain all plants by regularly watering, and by removing dead branches, leaves and needles.
- Do not plant trees close to any power line.

Yard
- Stack woodpiles at least 30 feet from all structures and remove vegetation within 10 feet of woodpiles.
- LPG tanks (butane and propane) maintain 10 feet clearance.
- Remove all stacks of old lumber, construction materials, pine needles, leaves and other debris from your yard.

Emergency Water Supply
- Clearly mark all emergency water sources.
- Create easy access to your closest emergency water source.
- If your water comes from a well, consider an emergency generator to operate the pump during a power failure.

Garages, Barns and Shops
- Mount a working fire extinguisher in the garage.
- Have tools such as a shovel, hoe, rake and bucket available for use in a wildfire emergency.
- Install a solid door with self-closing hinges between living areas and the garage.
- Dispose of oily rags in approved metal containers (Underwriters Laboratories).
- Store all combustibles away from ignition sources such as water heaters.
- Disconnect electrical tools and appliances when not in use.
- Allow hot tools such as glue guns and soldering irons to cool before storing.
- Properly store flammable liquids in approved containers and away from ignition sources such as pilot lights.

Disaster Preparedness
- Maintain a seven-day supply of drinking water, and food that does not require refrigeration and generally does not need cooking.
- Maintain a portable radio, flashlight, emergency cooking equipment, portable lanterns and batteries.
- Maintain first aid supplies to treat the injured until help arrives.
- Keep a list of valuables to take with you in an emergency; if possible, store these valuables together.
- For safety, securely attach all water heaters and furniture such as cabinets and bookshelves to walls.
- Have a contingency plan to enable family members to contact each other. Establish a family/friend phone tree.
- Designate an emergency meeting place outside your home.
- Outdoor cooking appliances such as barbecues should never be taken indoors for use as heaters.

While the majority of this collateral addresses fire prevention, as important is being prepared for any adversity that may befall our community. Preparation includes knowing how to prepare and knowing what to do in an emergency. This includes having provisions that will sustain you and your family for up to seven days. Comprehensive information for canyon residents is available from Fire Safe Council East Orange County Canyons at www.fsceocc.org. Additional information and instructive videos are online at http://readysetgooc.org/
Our friends at the Aguinaga Green have made disposing of cut brush easy. They have extended a courtesy to canyon residents to accept brush and trees trimmings without charge. However, they do not accept palm trees, palm trimmings, lumber or trash. They also offer FREE rough-cut mulch for the asking.

East Orange Location: M-F 7-4; Sat 7-12
27910 Baker Canyon Road, Silverado, CA 92676

Vegetation and weather conditions in the Cleveland National Forest which determines the level of fire danger are monitored by The U.S. Forest Service. The level is indicated on a gauge outside their station. 619-593-2183 for a recorded message.

http://www.fs.fed.us/r5/cleveland/

This brochure has been made possible by the Norbertine Fathers of St. Michael’s Abbey who have made a generous contribution to the canyon communities by funding this project. St. Michael’s Abbey has been a canyon neighbor for 50 years. For more information about St. Michael’s, services and school, log on to www.stmichaelsabbey.com

Fire life safety and fire prevention systems for St. Michael’s Abbey were developed by FireSafe Planning Solutions www.firesafeplanning.com.

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