

# Resilient Landscapes:

## Fire-Wise and Sustainable Gardens in the Defensible Space Zone

The goal of the Resilient Landscapes Coalition is to encourage fire-wise landscape design and management in the defensible space zone, while at the same time enhancing biodiversity and wildlife habitat, and conserving resources.



## Hot topics in Northern California gardens



Fire-wise landscapes don't need to be barren! Your garden can provide beauty and wildlife viewing opportunities, reduce the risk of fire losses, and save precious water for our creeks and aquifers. Plant clusters of species that support butterflies, bees, and birds. Choose plants that are adapted to a dry summer climate. Design paths or open areas between clusters of plants. Retain and plant trees. Trees provide great beauty, as well as ecosystem services such as shade, clean air, and soil retention. See the article on page 3 for more.

Monarch butterflies need our help! Sadly, western monarch butterfly populations have declined by 99% over the past 20 years. Numerous conservation organizations are mobilizing to improve conditions for these threatened pollinators. Researchers find that increasing nectar resources is one of the most important tactics to bolster populations. Native milkweed plants (*Asclepias* spp.) are crucial to the monarch life cycle. Plant only native milkweeds, which for Sonoma County include narrow-leaved milkweed (*A. fascicularis*) and showy milkweed (*A. speciosa*).



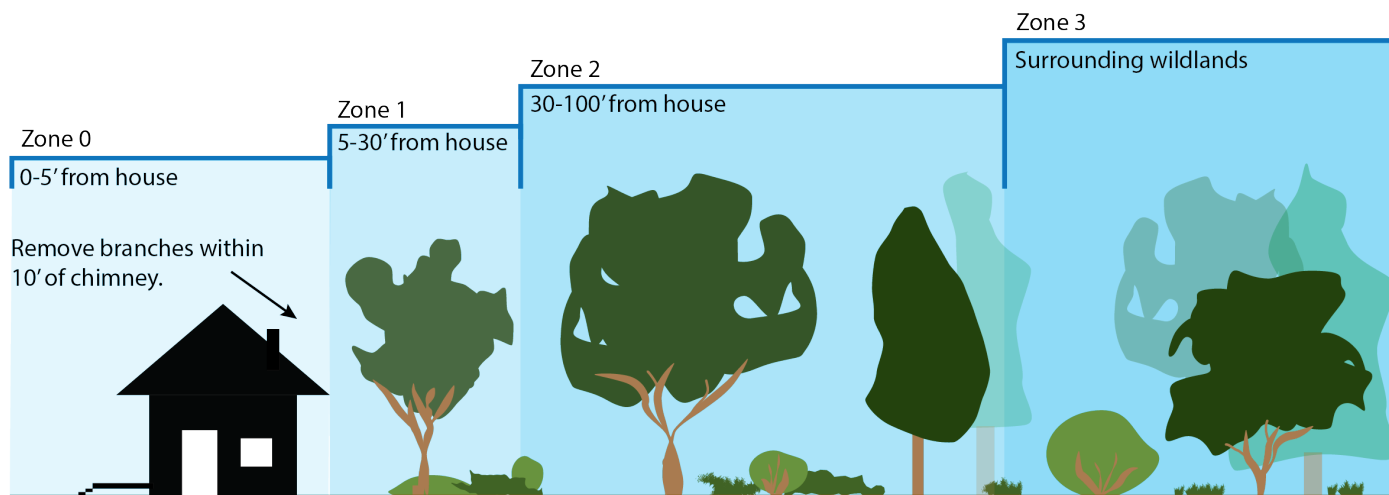
California native plants are all the rage! There are many beautiful species from which to choose, and they'll be great resources for wildlife, including butterflies, bees, and hummingbirds. These plants are perfectly adapted to our long, dry summers and cool, moist winters. After establishment, species from grassland and chaparral habitats will thrive with much less water than a conventional landscape. At the nursery look for California fuchsia, California buckwheat, *Ceanothus*, and manzanita to get you started. Links are on page 4.

Rain gardens are features that collect rainwater and encourage it to sink into the soil. Different than a pond, a rain garden will hold water only temporarily, until it can infiltrate and recharge the aquifer. With so much paving in our neighborhoods, local creeks are receiving too much stormwater, and we benefit by keeping rainwater on our property. A rain garden can be a unique feature, planted with natives that are well adapted to growing in or near standing water. See the links on page 4 for more information.



# Know Your Zones in the Defensible Space

## Recommendations for Fire-Wise and Diverse Landscapes



### General recommendations:

- Be aware of and follow local fire ordinances.
- Cut annual grasses and weeds to a maximum of 4". To prevent erosion, avoid soil disturbance.
- Maintenance is critical. Prune and maintain vegetation to avoid accumulations of dead wood.

**Zone 0:** This area starts at your roof and extends 5 feet from walls and attached structures such as decks. Wind borne embers are your home's biggest threat!

- Use only inorganic, non-combustible mulches such as stone or gravel. This is also a good place for brick or stone pathways. Replace jute or natural fiber doormats with heavy rubber mats or metal grates.
- Remove or relocate all combustible materials including garbage and recycling containers, lumber, trash, and flammable patio accessories. Clean up all fallen leaves and needles.
- No vegetation is recommended within 5' of any structure, however, small amounts of very well hydrated herbaceous perennials or succulents are acceptable.
- Tree branches that overhang the roof can remain if 6' from roof and 10' from chimney.

**Zone 1:** 5-30' from the house, the "Lean, Clean, and Green" zone

- Consider clusters of low, native, drought tolerant plants separated by non-flammable materials. Use organic mulch up to 3" (except gorilla hair) around plantings and gravel or hardscape between these "islands" of plants.
- Keep all plants healthy, well-hydrated, and free of accumulated debris. Keep mulch several inches from trunks of shrubs and trees.
- If trees are present, avoid "ladder fuels". A rule of thumb is the distance from the lowest branches should be three times the height of the shrub or groundcover below.
- Remove fallen branches and other debris. Mow and/or remove all dead grasses, weeds, and plants. During fire season remove fallen leaves, but allow them to remain in the winter as a beneficial mulch.

**Zone 2:** 30-100' from the house, the Reduced Fuel Zone

- Continue to practice "lean, clean, and green" gardening, but larger plants and groupings are increasingly appropriate.
- Create vertical spacing between grass, shrubs, and lower tree limbs.
- Remove fallen branches and minimize woody debris. Mow and/or remove all dead grasses, weeds, and plants.

**Zone 3:** Surrounding wildlands

- The wildlands surrounding our residential areas provide critical habitat for myriad plants and animals that enrich our lives and serve extremely important ecosystem roles.
- Do not modify vegetation without expert help. Contact us at Sonoma Ecology Center for more information.
- Learn how to recognize native and invasive species. Visit the California Invasive Plant Council at [cal-ipc.org](http://cal-ipc.org). Get to know the plants on your property and take a stewardship role for the larger landscape.

# Firewise and Beautiful Landscaping by Ellie Insley, Sonoma Ecology Center

At Sonoma Ecology Center, we encourage homeowners to approach defensible landscaping from both the human perspective, and from the ecological perspective. The Sonoma Ecology Center is part of a group called the Resilient Landscapes Coalition, along with the Master Gardener Program of Sonoma County, and the Habitat Corridor Project. The goal of the Resilient Landscapes Coalition is to encourage fire-wise landscape design and management in the defensible space zone, while at the same time enhancing biodiversity and wildlife habitat, and conserving resources. For more information visit [sonomaresilientlandscapes.com](http://sonomaresilientlandscapes.com).

From the human point of view, we can create gardens that are fire resilient, beautiful and sustainable, with minimal maintenance and water consumption. From the ecological perspective, we can design our gardens to offer food and habitat for multiple species of wildlife, and offer other benefits including reducing erosion and sequestering carbon. These multiple goals are all possible to achieve, whether you are renovating an existing garden or starting with a clean slate.

Your house is probably the most flammable thing on your property, and hardening it is the first priority. Once your house is hardened, you can move into the garden. The first step is to consider the area closest to your home. Further hardening the area within 5' of the home is critical to preventing flying embers from igniting vegetation adjacent to the house and potentially igniting the house. This zone around the home is a good place for walkways, or non-combustible "mulch" such as gravel or decorative rock. So if you have beloved roses, camellias or lemon trees in the 5' zone, transplant them elsewhere, or at the very least prune them thoroughly and remove adjacent plants, so there is minimal combustible material that can ignite your home.

The next area to consider is the 5-30' zone. Plant this area in islands of lower growing vegetation up to 3' tall, separated by non-combustible pathways and other open areas like patios. Occasional larger shrubs are acceptable. Where trees are present, make sure they are limbed up at least 6' and separated vertically from lower ladder fuels. If a fire is advancing, the idea is to slow it and provide less fuel the closer it gets to the house, while leaving room for firefighters to maneuver equipment adjacent to the home. Imagine a rain of embers falling onto your property, if a fire ignites, will it be able to burn all the way to your home or are there breaks in the vegetation (pathways and patios) to limit the advance of fire?

Farther out in the 30-100' zone, plants can be somewhat taller, still placed in islands separated by pathways of mown and well hydrated native grasses, or composted mulch or gravel to impede the spread of fire.

In all the zones, be aware of plants growing below trees, and remove any ladder fuels. The rule of thumb is that the space from the top of any plant to the lower branches of a tree should be 3 times the height of the lower plant.

A note about mulch and leaf litter, both of which are important to retain moisture, suppress weeds and provide organic matter to the soil: a 2009 study at the University of Nevada has shown that some mulches are more fire resistant than others. The recommendation is to avoid shredded mulches, such as gorilla hair, which are very flammable, and to choose mulches that have been composted for at least 2 months, or products with larger particles over 1 inch diameter. In all cases the mulch should be kept 5 feet away from any combustible structure like a house, deck or wood fence, and should be no more than 3 inches deep. Leaf litter is a natural mulch that provides essential nutrients to the root system, keeping plants healthy and fire resilient, and provides habitat to countless species of insects, spiders and earthworms, which in turn feed frogs, lizards, birds and countless other species. So a few inches of leaf litter and the right kind of mulch will be beneficial in a fire wise garden, with the right placement.

Planting in islands with a variety of species, particularly natives, will create beauty and improve biodiversity. Many of us live in Sonoma County because of the natural beauty and abundant wildlife. Unfortunately, biodiversity is declining at an alarming rate, for example – as measured by the drop in insect populations, including that of the monarch butterfly. We can do our part to turn around this drop in biodiversity by gardening to provide food and shelter for wildlife. It turns out that many of our native plant species fit the multiple objectives of providing wildlife food and shelter, while being drought tolerant and beautiful. Another benefit of gardening with native plants is that many can remain well hydrated with low amounts of irrigation.

When gardening in the defensible space zone, choice and placement of plants is important, but maintenance is equally

important. Many people are misled by “fire safe plant” lists, thinking that these plants can simply be installed and forgotten, but all plants will burn if not properly maintained. Groundcovers such as California fuschia and clustered field sedge like to be sheared yearly, usually in fall, and perennials such as Cleveland sage (a CA native despite its name), need extensive pruning every 2-3 years. This occasional pruning and shearing will ensure the plant is vibrant and green, and therefore more likely to be fire resistant.

Another note about supporting wildlife in your garden – many birds nest on the ground or in vegetation near the ground, so be careful to leave their nests undisturbed as you prune your plants. It will help if you time any extensive removal of vegetation to avoid bird breeding season, which is between February and late August.

A word about plants to avoid: there are a number of plant species, such as pampas grass and bamboo, that are very difficult to maintain. They grow quickly, shed and collect large quantities of dead, dry material which are challenging to remove, and are not recommended in the defensible space zone. Other plants including juniper, rosemary and italian cypress tend to grow very densely, hiding dry, dead material deep within bright green outer foliage. A quick parting of the outer leaves will reveal the perfect fire brand waiting to ignite. These plants are best avoided certainly within the 0-30’ zone. This topic of fire safe and fire prone plants is quite controversial, since as mentioned before all plants will burn under the right conditions, and it’s been said that any plant if well maintained can be fire resistant. As the experts continue to debate, suffice it to say that removal of the dead and dry litter within plants in the defensible space zone is critical.

In summary, the effort you make getting to know and maintain your garden is worth it! You will ensure that your property is more fire resilient, while providing habitat for wildlife, from bees, bluebirds and robins to monarch and swallowtail butterflies.

## Links

### Landscape Design

Sonoma Ecology Center: <https://sonomaecologycenter.org>

The Resilient Landscapes Coalition: <https://sonomaresilientlandscapes.com>

The Habitat Corridor Project: <https://habitatcorridorproject.org/>

UC Master Gardener Program of Sonoma County: <http://sonomamg.ucanr.edu/>

### Monarch Butterflies

Xerces Society for Invertebrate Conservation: <https://xerces.org/monarchs/western-monarch-conservation>

California Association of Resource Conservation Districts: <https://carcd.org/our-work/project/monarch-butterfly-and-pollinator-conservation/>

### Native Plants

California Native Plant Society: <https://cnps.org>

Calscape, a project of the California Native Plant Society: <https://calscape.org/>

### Rain Gardens

From Master Gardeners: [http://sonomamg.ucanr.edu/Feature\\_Articles/RAIN\\_GARDENS\\_Practical\\_and\\_Beautiful/](http://sonomamg.ucanr.edu/Feature_Articles/RAIN_GARDENS_Practical_and_Beautiful/)

## About the Resilient Landscapes Coalition

The Resilient Landscapes Coalition formed to ensure that wildlife habitat and biodiversity are protected and enhanced while meeting County and State code requirements and fire-wise recommendations within the defensible space zone, to promote sustainable practices to save energy and water, and to provide specific design and plant selection recommendations in the defensible space zone.

Learn more at [sonomaresilientlandscapes.com](https://sonomaresilientlandscapes.com)