

## Managing Your Woodlands

In California, private lands are especially important for the conservation of oak woodlands which have been reduced by 33% in the last 150 years. Hundreds of species rely on oak woodlands, many of which do not live in neighboring conifer forests.

A healthy oak woodland is characterized by large oak trees that receive plenty of sunlight and a diverse understory of native plants and shrubs. You may have the ability to manage for at-risk habitats that are important for birds, insects and other wildlife.



### Restoration tools to consider to achieve healthy woodlands:

- Plant native species and control non-native species without the use of herbicides or pesticides. They don't discriminate between beneficial insects and pests.
- Use manual fuels reduction/thinning and prescribed fire.
- Remove conifers when they have encroached on oak forests and meadows. Removing them increases sunlight to oaks and understory plant communities. In order to support all of the different pollinators, we need a landscape with forests, openings, and meadows.
- Retain some existing dead standing or downed wood that will provide habitat for amphibians, birds and small mammals. Leaf litter, rotting wood, and spring flowers also support a diverse community of forest bees.
- Spread native plants and native grass seeds following ground disturbance.



Native western azalea has more smell and is hardier here than any cultivar azalea!

## Gardening for pollinators

Adult pollinators require nectar for food. Female bees collect pollen as food for their offspring. Caterpillars, crucial to birds with nestlings, need particular plants for their food and transfer more energy from plants to other animals than any other type of plant eater.

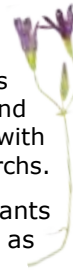
As you think about how to utilize the space that you have for pollinator habitat, consider adding small patches of pollinator-friendly flower beds or planting along fencelines with native plants and even converting lawn to meadow. Every step you take will add to the diversity, abundance and productivity of your land.

**What to Plant?** Native flowering trees, shrubs and wildflowers that bloom successively throughout the season, along with other flowers and herbs that are attractive to pollinators. Consider including the host plants that butterflies and moths need to lay their eggs (such as milkweed for monarchs). More host plant info from Nat'l Wildlife Federation - [nwf.org/NativePlantFinder](http://nwf.org/NativePlantFinder)

Read up on your flower selections. Many highly selected modern flower cultivars have been bred to no longer produce pollen or nectar.

Reduce the size of your lawn and allow small wildflowers and clover to grow amongst the grass. Although the weed and insect free lawn is the "norm", it is simply not compatible with the continued presence in our lives of milkweeds and monarchs.

Know your invasives! Some plant outlets still sell plants which in the Salmon River Watershed are invasive, such as Periwinkle and Horehound.



## Habitat Gardening in Your Backyard & Managing Your Woodlands



The process of converting our yards and gardens into spaces that attract and support native birds, bees, butterflies and other wildlife is known as "habitat gardening" or "backyard restoration."

Unless we find ways to make our backyard habitats more hospitable to wildlife, many pollinator species may not survive into the future. Habitat loss, fragmentation, and the widespread use of pesticides are leading causes of population declines in insects, birds and other wildlife.

Depending on the size and composition of your property, there are different things you can do to create and restore habitat on your property; from planting flowers for pollinators, to restoring the oak woodlands that may be hiding under encroaching Douglas fir trees in your forest land. Actions like conserving water, reducing the use of pesticides, leaving areas un-mowed, and planting native species can lead to measurable improvements in habitat quality. Generally striving for more natural, layered and diverse landscaping that favors native plant species is a good place to start.

Native plants are adapted to local soils and climates and usually the best sources of food and shelter for native pollinators. Using native wildflowers, shrubs, trees, vines and grasses in your planting projects helps a diversity of wildlife and provides benefits to soil, water, and air quality. Additionally, most native plants can flourish in poor soils and require minimal irrigation.

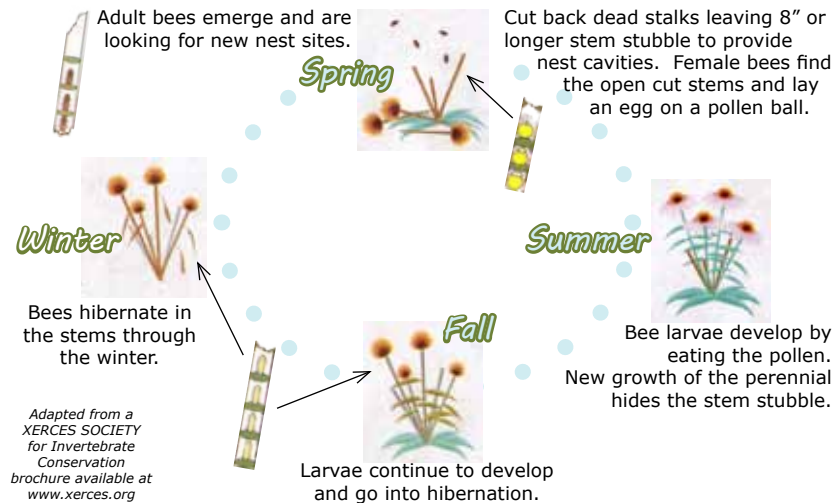


Solitary bees, clockwise, from top left: A blue orchard bee (*Osmia lignaria*) pollinating an almond blossom, a leafcutter bee (*Megachile* sp.) pollinating a blanket flower (*Gaillardia pulchella*), a long-horned bee (*Melissodes* sp.), and a pure gold-green sweat bee (*Augochlora pura*) on butterfly milkweed (*Asclepias tuberosa*). (Photos: Derek Artz / USDA-NRCS; Barbara Driscoll; David Cappaert, Michigan State University, Bugwood.org; Xerces Society / Sarah Foltz Jordan)

### Garden Habitat for Stem-Nesting Bees

Create bee habitat to see native solitary bees close up:

1. Leave dead stumps or trees for wood-nesting species;
2. Leave out of-the-way bare patches for ground nesting species;
3. Leave dry hollow stems to lay eggs in. Solitary bees usually live for about a year, although humans only see the active adult stage, which lasts about three to six weeks. These insects spend the other months hidden in a nest, growing through the egg, larval, and pupal stages.



Habitat loss, fragmentation, and the widespread use of pesticides are leading causes of population declines in insects, birds and other wildlife. One way to help the butterflies and moths coming to your garden is to provide a source of water or mud, mud being a nutrient



source for them. Pollinators seek shallow water sources, so bowls under dripping faucets, shallow bird baths with stones in them, or moist patches of bare ground are helpful.

The now rare Monarch butterfly visiting a local garden and a clearwing moth



Please avoid using pesticides or treated seeds. The majority of pesticides used on gardens and lawns are "broad-spectrum" meaning they kill broadly. They kill the beneficial insects which would prey on or parasitize your crop pests.

If you need to control pests, try non-chemical deterrents and beneficial insects. If you need to use an organic pesticide, make sure to apply it in the evening when pollinators are not active.

Leaving a buffer strip of native vegetation downslope of all garden areas helps catch and cleanse runoff before it has an opportunity to enter the river or creeks.



### What can be the effect of lawn verses a more diversely planted yard?



By moving away from well-kept lawns, sheared shrubs and park-like forests, and approaching our landscaping with the goal of inviting the birds and the bees into our backyard and gardens rather than excluding or eradicating them, we will enrich both the natural world, and our own lives. On whatever scale that your life and your land allow, your efforts to provide wildlife habitat will benefit the native species that we share the earth with and that we rely on for our continued survival, health and wellbeing.

*"When we lose the common wildlife in our immediate surroundings, we run the risk of becoming inured to delight, and eventually, alienated from the land."*

- Robert Michael Pyle