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## Plant an oak tree and give a boost to local ecosystem

By SONOMA COUNTY MASTER GARDENERS

FOR THE PRESS DEMOCRAT



Oak trees are a keystone species that supports a complex web of wildlife.  
Photo: April Lynch, Sonoma County Master Gardener

**Question:** Yesterday I read that “oaks are a keystone species”. What exactly does that mean?

**Answer:** A keystone species is a plant, animal or microorganism that is vitally important to its environment. Like the keystone in an architectural arch, it holds together the complex web of relationships in an ecosystem. A keystone is so important that if it were removed, the habitat might not be able to adapt to environmental changes.

In the plant world, examples of keystone species include the oaks, maple, birch and cherry trees. Herbs that are keystone species include goldenrods, asters and perennial sunflowers because they provide food and shelter for pollinators and insects.

### **A staple food for wildlife**

Oaks are considered a crucial keystone species, supporting more life forms than any other tree genus. The leaf litter and the soil beneath an oak tree support millions of organisms that depend on that environment for cover, breeding, wintering, and nourishment. In North America there are about 90 different oak species, with more than 21 found in California.

Acorns, the fruit of oak trees, are rich with fats, carbohydrates and proteins. They are a staple food for creatures like gray squirrels, wood mice, wood rats, badgers, fox, weasels, deer, wild boar, bears and plenty of birds. Acorn woodpeckers, oak titmouse and California scrub jay nest in oak branches and feed on acorns. Acorn woodpeckers harvest large quantities of acorns and store them in granaries — essentially holes drilled in a decaying tree. The oak titmouse, a small, gray-brown songbird, also stores acorns in tree cavities for future use.

The animated, vocal and playful jay hides acorns in the ground to eat later, during winter months. It essentially plants future forests and woodlands. One jay can plant 3,300 acorns a year during an average seven-year life span, but only a few grow to be a mature tree. The rest become food for animals and insects.



The cost live oak produces acorns that are a food staple for everything from birds to bears.

Photo: April Lynch, Sonoma County Master Gardener

Of the numerous insects that dine on the acorns, leaves and leaf litter under an oak tree, the most important might be the moths and butterflies. They lay their eggs in loose clusters on the foliage, limbs, or trunks of the host oak tree. Healthy insect populations support healthy bird communities. Over ninety percent of terrestrial North American birds raise their young on insects, but especially caterpillars — soft, yummy bundles of fats and proteins.

The majestic oaks improve air quality, capture and filter stormwater, sequester carbon in their wood, protect soils from erosion and landslides, regulate water flow, maintain water quality, cool summer air and offer wind protection in the winter. Without the oaks, many species would struggle to survive, and the natural beauty of California would be at risk. If you have space, planting an oak can profoundly contribute to the resilience and diversity of California's wildlife and plants.

For more information:

UC Oaks, UC ANR Cooperative Extension: [bit.ly/4dYseUF](https://bit.ly/4dYseUF)

California Native Trees: [bit.ly/3UaR50M](https://bit.ly/3UaR50M)

*Contributors to this week's column were April Lynch, Patricia Decker and Karen Felker. The UC Master Gardener Program of Sonoma County [sonomamg.ucanr.edu/](https://sonomamg.ucanr.edu/) provides environmentally sustainable, science-based horticultural information to Sonoma County home gardeners. Send your gardening questions to [scmgpd@gmail.com](mailto:scmgpd@gmail.com). You will receive answers to your questions either in this newspaper or from our Information Desk. You can contact the Information Desk directly at 707-565-2608 [ormgsonoma@ucanr.edu](mailto:ormgsonoma@ucanr.edu).*