OAKS—CALIFORNIA'S PRIMARY OLD GROWTH RESOURCE

William Guion / www.williamguion.com

Oak woodlands and oak-forested lands cover approximately one tenth of California's landmass. However, the state's oak woodlands are disappearing at a rapid rate. Many oak woodlands are at the interface of urban, agricultural, and wild lands—facing pressures that include sprawl, over-grazing, agricultural business expansion, systemic drought, disease, and wildfire. **An estimated 82% of oak woodlands are privately held with little or no protection.**[1] California has lost more than a million acres of oak-related lands over the past seven decades, with 20% of the state's oak woodlands facing development threats by 2040.[2] The rate of conversion is up steeply from the mid-1980s to mid-1990s when losses were estimated at 60,000 acres for the entire decade.[3]

We must take action to protect the hundreds of thousands of acres of California oak woodlands estimated to be at risk of development. Please join the California Oaks Coalition to work on the local, regional, and statewide level to preserve and protect this critical natural resource.

OAK ECOSYSTEM VALUES

Healthy Watersheds: Oak woodlands protect the quality of greater than two-thirds of California's drinking water supply.[4] Water purification and replenishment—essential to the environmental and economic health of our fast-growing state—is tied directly to watershed health. The importance of

---

[1]Sulak, A., Huntsinger, L., Barry, S., Forero, L., Public land grazing for private land conservation? Presented at the *Sixth California Oaks Symposium: Today's Challenges, Tomorrow's Opportunities*, US Forest Service, Pacific Southwest Research Station, held in Rohnert Park, CA, October 2006.

[2]Gaman, T. and Firman, J., *Oaks 2040—The Status and Future of Oaks in California*. California Oak Foundation, 2006.

[3]Meadows, R., Oaks—Research and outreach to prevent oak woodland loss. *California Agriculture,* Volume 61, Number 1 January-March 2007.

[4]O'Geen, A.T., Dahlgren, R.A., Swarowsky, A., Tate, K.W., Lewis, D.J., Singer, M.J., Research connects soil hydrology and stream water chemistry in California oak woodlands, *California Agriculture*, Volume 62, Number 2, April-June 2010.

maintaining healthy watersheds is further underscored by the state's heavy reliance on groundwater for drinking water and other uses. California's groundwater resources are being depleted at an unsustainable rate. Additionally, approximately 20% of the state's groundwater supply tested by the US Geological Survey was found to have high concentrations of one or more contaminants.[5]

Climate Stability: An estimated 675 million metric tons of carbon dioxide is stored in oak trees as well as the understory in oak woodlands. Net present value of greenhouse gas emissions forms the foundation of the state's carbon dioxide (CO_2) reduction objectives (AB 32), as well as the California Forest Protocol preservation standards. Thus, a ton of carbon currently sequestered by oak woodlands is more critical than a ton of oak woodland carbon stored in the future. Additionally, every ton of CO_2 released into the atmosphere by oak woodland conversion—alongside the loss of the woodland's role in carbon sequestration—represents a measurable potential adverse environmental effect.

Oak trees are also drought-tolerant, with deep roots that access groundwater resources, hyphae that extend into the granite matrix, and symbiotic mycorrhizae that access nutrients and soil moisture.[6] These resilient characteristics will gain importance as the changing climate introduces greater variability in weather patterns.

Sustainable Habitat: Oak woodlands provide food and critical habitat for California's native species, including 2,000 plants, 5,000 insects, 80 amphibians and reptiles, 160 birds, and 80 mammals—many of which are listed as threatened, endangered, or species of special concern by the state or the federal government.[7] Any further degradation of oak woodland habitat will imperil additional species.

OAKS AND PROPERTY VALUES

Rangelands: Oak woodlands have a productive understory of grasses that support approximately 60% of California's rangelands. Further, acorns are a highly nutritious food source for livestock.

Well-managed rangelands also provide the environmental benefits described above. Grazing practices vary widely, with some ranches managed sustainably and others over-grazed, thus preventing the regeneration of oaks. For many years oaks were removed from ranchlands until it became clear that forage quality is enhanced by the presence of oaks and degrades in the years that follow the removal of oaks.[8] The conversion of rangelands to high value crops—especially wine grapes—and to poorly-planned development are key drivers in the destruction of oak woodlands.

Conservation easements on oak woodlands can add economic value to working landscapes, providing an important incentive to protect natural resource values. Voluntary conservation easements provide tax benefits for landowners if legally defined conservation values are protected in the easement, and if a land trust with a conservation mission or a government agency holds and monitors the easement in perpetuity.[9]

Homes and Neighborhoods: Oaks add economic and aesthetic value to private property. Numerous studies have shown that urban land values are increased near open space and greenbelts. Research in Southern California found an increase in home value of almost 12% for homes immediately adjacent to native oak stands. The researchers also found that open space increases the overall value of the entire proximate community, in addition to providing important conservation features to the area.[10]

---

[5]Belitz, K., Fram, M.S., and Johnson, T.D., Metrics for Assessing the Quality of Groundwater Used for Public Supply, CA, USA: Equivalent - Population and Area, *Environmental Science and Technology*, 2015, 49, 8330-8338.
[6]Allen, M.F., *How Oaks Respond to Water Limitation*, Presented at the Seventh California Oak Symposium: Managing Oak Woodlands in a Dynamic World, US Forest Service, Pacific Southwest Research Station, held in Visalia, CA November 2014.
[7]Meadows, R., *ibid.*
[8]Pavlik, B.M., Muick, P., Johnson, S., and Popper, M., *Oaks of California*, Chacuma Press and California Oak Foundation, 1991, rev. 2006. Page 113,
[9]Sulak, A., Huntsinger, L., Standiford, R., Merenlender; A., and Fairfax, S.A., Strategy for Oak Woodland Conservation: The conservation easement in California, *Advances in GeoEcology*, 2004.
[10]Standiford, R. and Scott, T., Value of oak woodlands and open space on private property values in Southern California. Presented at the *Fifth Symposium on Oak Woodlands: Oaks in California's Challenging Landscape.* US Forest Service, Pacific Southwest Research Station, held in Diego, CA: US Forest Service, Pacific Southwest Research Station, 2001.