Caring for these trees allows one of Oregon's natural legacies to endure

BREATHING LIFE INTO OAKS

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Clockwise from top left: Oregon white oak savannas are few and far between, making them an important ecological part of the Beaver State. Leaves attached to the branches of an Oregon white oak. The trees have trunks with light gray, platy bark. The trunks are straight with and well-attached branches.

Question: A client called the Plant Clinic recently and asked why his oak tree is in decline. He lives in a new home and has been landscaping his yard, adding features like a patio, new lawn, plantings and pathways.

Answer: Homeowners living in the city or in rural residential areas often have large Oregon white oak trees as part of their landscape. White oak has a stately silhouette all year long. It is one of the best-looking oaks in the winter due to the light gray, platy bark and open crown. The trunk is straight with main branches well-attached to the tree, making this a long-lived, durable tree for large, wide-open landscapes.

The few large, open-grown, heavy-limbed white oaks that remain in our developments are remnants from Oregon white oak savannas and woodlands. These habitats are an important piece of the ecological fabric of our area. Owners of land with oak habitat possess the opportunity to conserve this dwindling habitat for their own satisfaction and enjoyment, and as a legacy for future generations.

White oak is a long-lived, slow-growing tree, reaching 60 to 80 feet in height with a spread of 50 to 90 feet in its native bottomland soil. Old specimens can be massive, growing to several hundred years old. Since trunks can be 6 feet in diameter, it is important to leave plenty of room for this tree in the landscape.

The root zone can extend laterally, even farther beyond the drip line, by as much as twice the radius of the tree crown. Homeowners should be mindful that most of an Oregon white oak consists of a root system and is relatively shallow, making it vulnerable to ground disturbing activities.

In fact, the tree in your yard may have already suffered root damage during construction of your house. The roots of oak extend out from the trunk as much as four times the reach of the branches. Oak roots are susceptible to damage by heavy machinery, compaction of the soil and suffocation if extra dirt is spread across the yard to even out the landscape. In addition, many roots can be cut off when developers are installing underground utility lines.

Soil Excavation: Digging building foundations or underground utility lines near trees can sever roots, which reduces the tree's capacity to uptake water and nutrients. Root injuries are also common infection sites for tree diseases and insect pests.

Soil Compaction: The microscopic spaces between soil particles are crucial to gas exchange that occurs between the tree and the underground environment. Heavy equipment moving near the trees can compress the soil, decreasing its permeability and inhibiting gas exchange.

Paving: Nonporous surfaces, such as concrete and asphalt, can prevent rainwater from infiltrating down to the root zone, effectively creating a permanent drought on the site. Use porous materials, such as bark, gravel or jointed paving stones, if a driveway or sidewalk is unavoidable over the root zone.

Irrigation: Moderate irrigation is beneficial to newly planted seedlings. However established, oaks are adapted to summer drought and do not require watering. In fact, irrigation may lead to root rot or cause flowering late in the summer, thereby reducing acorn production. Homeowners should avoid watering lawns underneath oaks to maintain tree health. Instead, they should consider landscaping near oaks with Pacific Northwest native grasses, perennial herbs and shrubs. Native woodland or prairie plants can be used to create a natural landscape, and many species do not need summer irrigation once established.

Fire Hazard Reduction: Every year, wildfires destroy homes, cause millions of dollars of property loss and put firefighters at risk across the region. Most of the damage is preventable if landowners take care to reduce the fire hazard on their property. While no tree is fireproof, Oregon white oaks have characteristics that make them safer in the wildland/urban interface.

For example, the wood and leaves of white oaks contain much less flammable resin than Douglas fir or other conifers. Therefore, standing oaks and litter underneath the trees are less prone to carry fire. Conifers grown in open settings retain their lower branches, creating "ladder fuel" up the tree. In contrast, the branch structure of oaks tends to minimize the chance that a fire will be carried up into the crown. Oregon white oaks are well adapted to survive most ground fires.

Few landscapes are more inviting than rolling grasslands graced with large-spreading oaks. The park-like beauty of an oak savanna attracts picnickers as well as developers who may hope that the old trees will lend a touch of grace to their designs. There are many remnant Oregon white oaks in our residential communities throughout Douglas County.

There are a number of good reasons for private landowners to actively manage the remaining Oregon white oaks located in their yards and woodlots. Majestic old oaks can add much to the value of your home and the pleasure of your yard. It is well worth understanding how to keep them healthy. The benefits are many including: increasing backyard shade, improving wildlife viewing opportunities, enhancing landscape aesthetics, improving defensibility of the home and property against wildfire and increasing the real estate value. Less than 1 percent of oak-dominated habitats are protected in parks or reserves. Private landowners hold the key to maintaining this important natural legacy.

Do you have a gardening question? Please email, call or visit the Douglas County Master Gardener Plant Clinic at douglasmg@oregonstate.edu, 541-672-4461 or 1134 SE Douglas Ave., Roseburg.