

Forest Practice Committee

September 29, 2015
Fresno, California

Potential Definitions or components of Definitions for Oak Woodlands:

1. Fish and Game Code § 1361

(g) “Oak” means any species in the genus *Quercus*.

(h) “Oak woodlands” means an oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover.

(j) “Special oak woodlands habitat elements” means multi- and single-layered canopy, riparian zones, cavity trees, snags, and downed woody debris.

2. The vegetation definition of Oregon (Garry) oak woodland provided by DFW for Sonoma County Vegetation Classification and Mapping (2014)

Quercus garryana dominates or co-dominates with other broadleaf trees or *Pseudotsuga menziesii*. Stands are of two types: 1) relatively dense woodlands without a significant understory herb component or 2) open woodlands over moderate to dense native and non-native herbs (e.g., *Cynosurus echinatus* and *Festuca californica*). *Pseudotsuga menziesii*, *Umbellularia californica*, *Quercus agrifolia*, and/or *Q. kelloggii* commonly intermix, typically as sub-dominants. If two or more species of *Quercus* are present and, collectively, they are dominant or co-dominant with *Q. garryana*, key to the *Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni)* Alliance.

3. Professional Foresters Law

PRC §754. Forested landscapes.

“Forested landscapes” means those tree dominated landscapes and their associated vegetation types on which there is growing a significant stand of tree species, or which are naturally capable of growing a significant stand of native trees in perpetuity, and is not otherwise devoted to nonforestry commercial, urban, or farming uses.

4. Glossary from the 2010 FRAP Assessment

Forest/Forests: A biological community of plants and animals that is dominated by trees and other woody plants; by definition in the Assessment, all lands with greater than 10 percent tree canopy cover and including all CWHR types in the Conifer Forest, Conifer Woodland, Hardwood Forest and Hardwood Woodland land cover classes.

Conifer Woodland: A land cover class where the overstory canopy occupied by trees is composed of 10 percent or more conifers and dominated by small, brushy tree species such as California juniper (*Juniperus californica*) and pinyon pine (*Pinus edulis*). Conifer Woodlands are generally located on the east side of the Sierra Nevada mountains and the southern regions of the state and characterized by an open canopy with intervening lower vegetation such as grasses and shrubs.

5. California Forest Resources 2001 - 2005, USDA Publication (FIA)

<http://www.treesearch.fs.fed.us/pubs/31452>

Forest conversion and oak mortality—

Oak woodlands occur primarily in the foothills, with changes in forest type occurring over a gradient from dry low-elevation sites to higher, more productive areas bordering timberlands (fig. 43). Because of proximity to areas with grazing operations and ongoing development, most conversion of forest land in California occurs in oak woodlands rather than timberlands. Between 1945 and 1975, clearing of oak woodland for rangeland averaged about 32,000 acres per year (Bolsinger 1988). The rate of clearing for rangeland has dropped substantially, but conversion of oak woodland to housing, roads, and other developed uses has since increased. Between 1991–94 and 2001–05, about 2 percent (confidence interval: 0.7 to 4.8 percent) of revisited FIA oak woodland plots were converted to developed land, amounting to approximately 18,000 acres per year. This estimate is derived from 238 plots, of which 4 were converted to urban conditions and 1 to a vineyard. Estimates do not include conversion of oak savanna (wildland with scattered oak trees and less than 10 percent canopy cover) or the fragmentation of oak woodlands by development.

forest land—Land that is at least 10 percent stocked by forest trees of any size, or land formerly having such tree cover, and not currently developed for a nonforest use. The minimum area for classification as forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must be at least 120 feet wide to qualify as forest land (USDA Forest Service 2006).

6. California Wildlife Habitat Relationship System (CWHR); California Department of Fish and Wildlife

http://frap.cdf.ca.gov/projects/frap_veg/classification.html

Habitat Type:

The California Wildlife Habitat Relationships System (CWHR) classifies existing vegetation types important to wildlife. This system was developed to recognize and logically categorize major vegetative complexes at a scale sufficient to predict wildlife-habitat relationships. Table 1 outlines the wildlife habitat types used in the CWHR system.

Tree Canopy:

Trees provide cover and food for California’s terrestrial wildlife. The amount and extent of tree canopies are used in the CWHR system to help predict which wildlife species may be supported by these ecosystems. Table 2 outlines the tree canopy closure classes used in CWHR.

**Table 1
CWHR Habitat Type Classes (abridged)**

CWHR TYPE	CWHR NAME
COW	Coastal Oak Woodland
HDW	Hardwood
MHC	Montane Hardwood-Conifer
MHW	Montane Hardwood
MRI	Montane Riparian
VFH	Valley-Foothill Woodland
VHC	Valley-Foothill Hardwood-Conifer

**Table 2
CWHR Tree Canopy Closure Classes**

Tree Canopy	Description (% Canopy Closure)
S	10 to 24%
P	25 to 39%
M	40 to 59%
D	60 to 100%
	Not Determined

**Table 3
CWHR Tree Size Class Descriptions**

CWHR Size	Description	Diameter at Breast Height
1	Seedling	Less Than 1 inch
2	Sapling	1 to 6 inches
3	Pole	6 to 11 inches
4	Small Tree	11 to 24 inches
5	Medium/Large	Tree Greater Than 24 inches
6	Multi Layered	Size 5 Over Size 4 Or 3; Total Tree Crown Closure Greater Than 60%

7. University of California – Oak Woodland Management

http://ucanr.edu/sites/oak_range/Californias_Rangeland_Oak_Species/Habitats_Descriptions/

Coastal Oak Woodland

Vegetation Composition and Structure: Coastal oak woodlands are highly variable because of their wide distribution along California's coast. Three oak species dominate the range of coastal oak woodlands: coast live oak throughout the central and southern range; Engelmann oak in a small area in southern California; and Oregon white oak in the moister, northern range of this community. Trees associated with Oregon white oak include California black oak, canyon live oak, Pacific madrone, and interior live oak. Species associated with coast live oak on moister sites are Pacific madrone, California bay, tanoak, and canyon live oak, while coast live oak occurs with valley oak, blue oak, and foothill pine on drier sites. In southern California, coast live oak is associated with interior live oak, valley oak, California black walnut and Coulter pine. Where Engelmann oak dominates, it may occur with coast live oak or in almost pure stands. Overstories range from open conditions to nearly closed canopies, resulting in a variable density of understory shrubs, grasses, and forbs. Annual grasses form most of the understory in open woodlands, but are almost non-existent in very dense woodlands. Coastal oak savannas typically occur adjacent to grassland habitats. Shrubs in closed canopy situations tolerate shade, and include toyon, poison-oak, California coffeeberry, and several species of ceanothus and manzanita.

Montane Hardwood Forest

Vegetation Composition and Structure: Montane hardwood forests are perhaps the most variable of any California hardwood type. The dominant oak species vary by topography, soils, and elevation. Montane hardwood forests typically lack blue oaks and valley oaks. The characteristic oaks are canyon live oak, interior live oak, California black oak, and Oregon white oak. Many montane hardwood forests are located on fairly productive forest soils, and are not truly "hardwood rangelands", but commercial hardwood forests under the jurisdiction of the California Forest Practices Act (FPA). However, pure stands of black oak, tanoak, and madrone with no evidence of conifer associates are exempt from the FPA at this time.

Canyon live oak often forms almost pure stands on steep canyon slopes and rocky ridge tops throughout the Coast Range, Klamath Mountains, Sierra Nevada, and Transverse and Peninsular Ranges. They have tremendously variable growth forms, ranging from shrubs with multiple trunks on rocky, steep slopes, to 60 to 70 foot tall trees on deeper soils in moister areas. Throughout the same range, California black oak tends to dominate on gentle topography at higher elevations. It grows to heights of 70 to 80 feet at maturity, with long, straight trunks in closed canopy situations. In open forests, California black oak has larger, spreading branches. Canyon live oak and California black oak are widely distributed and form the montane hardwood habitats throughout much of California's mountain areas. However, these two species are usually not associated with hardwood rangeland sites.

Interior live oak occurs with canyon live oak or alone on steep canyon slopes and rocky, steep slopes

throughout the North Coast and Sierra Nevada. Its growth form varies much like canyon live oak. Both of these evergreen oaks have dense canopies. Oregon white oak dominates small amounts of montane hardwood types along the northern Coast Range and northern Sierra Nevada and Cascades. Oregon white oak grows to a height of 50 to 80 feet at maturity, with rounded crowns in open conditions and rather narrow crowns in closed conditions.

Associates of montane hardwood communities at higher elevation, good quality sites include ponderosa pine, Douglas-fir, Pacific madrone, Jeffrey pine, sugar pine, incense-cedar, and white fir. At lower elevations and poor soils with steep slopes, associates include foothill pine, knobcone pine, tanoak, and Pacific madrone. In southern California, many of the same species are found, as well as coulter pine and bigcone douglas-fir. Blue oak and valley oak can be associates at lower elevations. Understory shrub species include poison-oak, ceanothus, manzanita, mountain-mahogany, coffeeberry, wild currant, and mountain misery. Forbs and grasses are not as prevalent as on lower elevation hardwood rangeland types. Montane hardwood forests have a pronounced hardwood tree layer with poorly developed shrub and herbaceous layers.