

90. Twin Rocks (Jokerst 1987)



Figure 179—Twin Rocks ecological survey area

Location

This study area (dropped from RNA consideration in 1988) is on the Mendocino National Forest about 12 miles (19 km) ESE. of Covelo. It lies within sect. 1 T22N, R11W and sect. 6 T22N, R10W MDBM (39°47'N., 123°01'W.), USGS Newhouse Ridge quad (fig. 179). Ecological subsection – Eastern Franciscan (M261Ba).

Target Element

Foothill Woodland

Distinctive Features

Affinities of the Target Vegetation: The target vegetation of this area is best considered northern oak woodland (Oregon white oak woodland) and not foothill woodland. The dominant oak is Oregon white oak (*Quercus garryana*), which occurs in mixed hardwood stands, dominates mixed oak stands, and forms extensive pure stands. Although the typical California-foothill woodland dominants, blue oak (*Quercus douglasii*) and foothill pine (*Pinus sabiniana*), are present, blue oak is a subdominant of some phases of oak woodland, and foothill pine is uncommon.

The oak woodlands at Twin Rocks may be considered a mixing zone between xeric California-foothill woodland and the Oregon white oak woodlands of more N. and mesic areas. Such trees as Oregon white oak, California black oak (*Quercus kelloggii*), Pacific madrone (*Arbutus menziesii*), and ponderosa pine (*Pinus ponderosa*) are not typical foothill woodland species. Some relationship of this foothill woodland with the Oregon white oak woodlands of the more N. coastal mountains of California and Oregon is inferred by the presence of these Oregon white oak woodland species (see Soldier cRNA). However, most of the other species at Twin Rocks are typical of California-foothill woodland. These include most of the grasses and shrubs and the following trees: blue oak, foothill pine, and interior live oak (*Quercus wislizenii*).

The woody vegetation of the area is trending from open to dense stands of trees. In the past, frequent fire maintained an open oak woodland. However, with current reduced frequencies the vegetation in much of the area is gradually changing to a dense mixed oak-hardwood forest. Poor Oregon white oak regeneration may be related to browsing pressure from the large wintering mule deer herds.

Manzanita Hybrids: Several different forms of stump-sprouting manzanitas were collected from the site. These represent five taxa (*Arctostaphylos glandulosa* forma *cushingiana*, *A. manzanita*, *A. canescens*, *A. manzanita* ssp. *roofii*, and *A. stanfordiana*) and six different hybrid combinations. Although hybrid manzanita stands are not uncommon, the presence of a three-way hybrid and putative crosses between diploid and tetraploid species is unusual.

Physical Characteristics

This site (340 acres, 138 ha) is in the Black Butte River drainage, a tributary of the Middle Eel River. It lies on the SW.-facing slope of Twin Rocks Ridge. Elevations range from 1740 ft (530 m) along the Black Butte River to 3400 ft (1036 m) atop the ridge. Slopes range from 10 to 60 percent and average 30 percent. The river is confined to a steep, narrow channel with no pronounced terraces. The mid- and upper slopes are geomorphically active and contain several landslides.

Rocks are derived from the Franciscan assemblage and are primarily graywacke and shale. Soils are divided into three mapping units: Los Osos

complex 10-50 percent slopes, Maymen gravelly loam 30-50 percent slopes, and Madonna Gravelly loam 30-50 percent slopes. The Los Osos unit is the most widespread; it is characterized by the most unstable slopes with the tendency to slide, slump, and produce severe erosion gullies. Mean annual precipitation is estimated between 40 and 60 inches (1016-1524 mm) with a frost-free season of 130-180 days per year. Most precipitation falls as rain.

Association Types

No quantitative sampling was conducted. However, estimates of tree density and cover were made.

Oregon Oak Woodland (71110, 71410, 41200, 42200): 263 acres (106 ha). This association is divided into pure and mixed phases. The pure phase covers 122 acres (49 ha). Oregon white oak is the sole dominant, with cover ranging from 60 to 100 percent. Blue oak is infrequent in the canopy. Understory species include California buckeye (*Aesculus californica*), *Arctostaphylos manzanita*, *Gallium porrigens*, and *Toxicodendron diversilobum*. Lower canyon slopes support *Lonicera hispidula* var. *vacillans*, madrone, bigleaf maple (*Acer macrophyllum*), and *Cercis occidentalis*; they indicate more mesic conditions than on upper slopes. Tree density ranges from 494 to 988/ha. Most trees are even-aged and under 12 inches (30 cm) dbh. Regeneration is significant only on steep slopes unused by livestock.

Grasses dominate the herb layer, comprising from 50 to 100 percent cover. Some understories are dominated by native bunchgrasses including *Festuca idahoensis*, *Stipa pulchra*, *Melica californica*, *Poa scabrella*, and *Bromus marginatus*. Other herbs of the mixed grass and herb understories include *Iris macrosiphon*, *Ranunculus occidentalis*, *Eriophyllum lanatum* var. *achillaeoides*, *Lupinus nanus*, *Dodecatheon hendersonii*, *Brodiaea* spp., *Silene californica*, *Sanicula bipinnata*, and *Lathyrus vestitus*. The pure Oregon oak phase is largely restricted to the lower elevations of the area.

The mixed Oregon oak phase covers 141 acres (57 ha) of upper slopes. Oregon white oak is the most common species, comprising 40-60 percent of the total canopy cover. Cover varies from open savanna-like stands to 60-80 percent in woodlands (fig. 180). The other trees include interior live oak, blue oak, California black oak, and occasional madrone. Foothill pine is uncommon except for one small cluster. Oaks attain their largest size in and near the savanna openings. Some Oregon white oaks have dbh of 2-3 ft (0.6-0.9 m).

Shrub cover is higher than in the pure phase. *Arctostaphylos manzanita* predominates, often in dense thickets. The same bunchgrasses and herbs that occur in the pure phase also occur here, except in arid openings where annuals dominate. The arid openings range from 0.25 to several acres in size and are characterized by *Avena barbata*, *Bromus mollis*, *B. rubens*, *Vulpia* spp., *Stipa pulchra*, *Poa scabrella*, *Sitanion hystrix*,



Figure 180—Twin Rocks,
pure Oregon oak
phase in the Twin
Rocks study area.
(1987)

Dichelostemma (*Brodiaea*) *pulchellum*, *Erodium botrys*, *Lotus micranthus*, *L. subpinnatus*, *Lupinus bicolor*, *Orthocarpus attenuatus*, *Plagiobothrys tenellus*, *Trifolium ciliolatum*, *T. bifidum*, and *T. olivaceum*.

Two types of the mixed phase occur. One has a relatively open canopy (total canopy cover of 20-40 percent) dominated by Oregon white oak with large grassy openings (Holland 41200, 42200). The other type has higher canopy cover with about 30-50 percent composed of interior live oak. This type has a relatively shady understory and supports such species as *Calochortus coeruleus*, *Cynoglossum grande*, *Melica geyeri*, *Ranunculus occidentalis*, *Sanicula crassicaulis*, and *Torilis japonica*.

Mixed North Slope Cismontane Woodland (71420): 51 acres (21 ha). This woodland has a dense canopy 40-60 ft (12-18 m) tall, dominated by madrone, interior live oak, California black oak, and ponderosa pine. Canopy cover ranges from 60 to 100 percent. Rocky sites are dominated by interior live oak, whereas steep sites with deeper soils are dominated by madrone. California black oak and ponderosa pine are scattered throughout, and bigleaf maple and Oregon white oak occur in low numbers. Shrubs are sparse to dense and dominated by *Arctostaphylos manzanita* and *A. stanfordiana*. Other species include *Cercocarpus montanus* var. *glaber* (*C. betuloides*), *Lonicera hispidula* var. *vacillans*, *Sanicula tuberosa*, and *Scutellaria tuberosa*.

North Coast Range Mixed Conifer Forest (84110): 13 acres (5 ha). This association is restricted to a narrow band of Madonna soils along the ridgeline. The nearly closed 80- to 120-ft (24- to 37-m) tall canopy is composed of a mix of ponderosa pine, Douglas-fir (*Pseudotsuga menziesii*), bigleaf maple, madrone, and California black oak. This forest has a mid-layer composed of saplings of the canopy species with interior live oak. The shrub layer ranges from sparse to dense, with *Arctostaphylos manzanita* and *Cercocarpus montanus* (*betuloides*) var. *glaber*. Herbs are frequent and include *Agoseris retorsa*, *Carex multicaulis*, *Erythronium californicum*, *Hieracium albiflorum*, *Iris macrosiphon*, *Melica geyeri*, and *Viola purpurea* var. *dimorpha*.

Northern Mixed Chaparral (37110, 37B00): 13 acres (5 ha). This association occurs on thin, rocky soils of low, rounded spur ridges. Cover is open to very dense. The dominant on three isolated stands is *Arctostaphylos manzanita* with some *Adenostoma fasciculatum*. A larger stand entering the S. portion of the area includes mostly *Arctostaphylos glandulosa* with *A. manzanita* ssp. *roofii*, *A. stanfordiana*, *A. canescens*, and various hybrids. Also present are *Adenostoma fasciculatum*, *Ceanothus cuneatus*, *C. integerrimus*, *Eriodictyon californicum*, and *Quercus dumosa*.

Seeps, Intermittent Creeks, and Riparian Habitats (45400, 61510): These associations are lumped because they are poorly developed. Seep vegetation is strictly herbaceous and includes *Aquilegia formosa*, *Athyrium filix-femina*, *Brickellia californica*, *Cirsium vulgare*, *Delphinium nudicaule*, *Erigeron philadelphicus*, *Juncus patens*, *Limnanthus douglasii* var. *nivea*, *Phalaris tuberosa* var. *stenoptera*, *Scutellaria californica*, and *Trifolium obtusiflorum*. The very sparse vegetation along Black Butte River includes white alder (*Alnus rhombifolia*), bigleaf maple, *Brickellia californica*, and a species of willow (*Salix* sp.).

Plant Diversity

One hundred sixty-three taxa of vascular plants are listed from the area.

Conflicting impacts

The area was dropped from consideration by the RNA committee in 1988 primarily because of its small size, its history of disturbance (see below), and because the area is not representative of the foothill woodland target element as it is commonly understood.

A four-wheel drive road, an old cleared right-of-way pack trail, numerous small and large erosion gullies (probably initiated by the construction of the trails and roads), and livestock use all detract from the pristine conditions of the area. Although grazing pressure is light and mostly concentrated in the upper portion of the site, it may influence the poor oak regeneration. The area is still used by occasional off-road vehicles, and the erosion gullies are continuing to enlarge.