

TREES OF LAS POSADAS

by

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## TREE LIST

### CONIFERS:

- (1) Douglas Fir, *Pseudotsuga taxifolia*
- (2) Coast Redwood, *Sequoia sempervirens*
- (3) Ponderosa Pine, *Pinus ponderosa*
- (4) Digger Pine, *Pinus sabiniana*
- \* (5) Deodar Cedar, *Cedrus deodara*
- \* (6) Monterey Pine, *Pinus radiata*
- \* (7) Knobcone Pine, *Pinus attenuata*
- \* (8) Maritime Pine, *Pinus pinaster*
- \* (9) Japanese Black Pine, *Pinus thunbergii*
- \* (10) Scots Pine, *Pinus sylvestris*
- \* (11) Coulter Pine, *Pinus coulteri*
- \* (12) Sierra Redwood, *Sequoia gigantea*

### BROADLEAF EVERGREENS:

- (13) Coast Live Oak, *Quercus agrifolia*
- (14) Highland or Interior Live Oak, *Quercus wislizenii*
- (15) Canyon Live Oak, *Quercus chrysolepis*
- (16) Tanbark Oak, *Lithocarpus densiflora*
- (17) Madrone, *Arbutus menziesii*
- (18) California Laurel, *Umbellularia californica*
- \* (19) English Holly, *Ilex aquifolium*

### DECIDUOUS:

- (20) Valley Oak, *Quercus lobata*
- (21) Oregon Oak or Pacific Post Oak, *Quercus garreyana*
- (22) Blue Oak, *Quercus douglassii*
- (23) California Black Oak, *Quercus kelloggii*
- (24) White Alder, *Alnus rhombifolia*
- (25) Fremont Cottonwood, *Populus fremontii*
- (26) Western or California Sycamore, *Platanus racemosa*
- (27) Bigleaf Maple, *Acer macrophyllum*
- (28) Box Elder, *Acer negundo macrophyllum*
- (29) Oregon Ash, *Fraxinus oregona*
- (30) Western or Mountain Dogwood, *Cornus nuttallii*
- (31) California Buckeye, *Aesculus californica*
- (32) Willows, *Salix* sp.
- \* (33) Pecan, *Carya illinoensis*
- \* (34) Shagbark Hickory, *Carya ovata*
- \* (35) Mockernut, *Carya tomentosa*

\* Trees which have been introduced by planting.

## TREES OF LAS POSADAS

Las Posadas State Forest and surrounding territory on Howell Mountain, Napa County, are extremely interesting because some trees and shrubs characteristic of the coast, foothills and lower elevations of the Sierra timber belt are all found here. The trees include three of the most important timber species in California (redwood, Douglas fir and Ponderosa pine), while two others (sugar pine and incense cedar) are present not far away on the easterly slope of Mt. St. Helena. There are a number of broadleaf evergreen and deciduous species also so that one can make a good start on learning trees of California by becoming familiar with the species growing at Las Posadas.

### CONIFERS

Conifers or cone-bearing trees are also often called evergreens or softwoods because their wood is usually softer and of more even texture than that of hardwoods. The conifers include the most useful and valuable trees from a lumber standpoint.

1. Douglas fir, Pseudotsuga taxifolia, was formerly much more widely distributed at Las Posadas than it is since the fire of 1932. This fire which swept down from the north was put out along Moore Creek above the swimming pool but destroyed a fine stand of young Douglas firs which covered the hills on the Pacific Union College property as well as Las Posadas. Only a few trees survived and some seeding is taking place from these and from large trees on the south or camp side of the creek which were not damaged by the fire.

Douglas fir has a graceful, conical crown as a young tree which makes it our most commonly used Christmas tree. Its needles are dark green, soft to the touch and each is fitted with a little stalk. The twigs are often weeping in habit and the winter buds are dark red in color and quite pointed in shape. The cones are about 2 to 3 inches long and each of the cone scales is fitted with a little leafy bract like a three tined fork which is longer than the scale. The bark on old trees is rough and very dark in color; that of young trees is greenish in color and at intervals it has blisters filled with a clear and pungent "balsam" or resin. Douglas fir is a very popular Christmas tree.

2. The Coast Redwood, Sequoia sempervirens, is one of the most important timber trees of California. It originally occupied more than a million acres of country in a narrow strip from Monterey County to near the Oregon-California line. It is one of the most rapid growing softwood trees in the world and is destined always to be an important resource in coastal counties from Santa Cruz to Del Norte. It makes its best development on bottomlands of sheltered canyons and on bench lands with good soil where it reaches great size and age. The redwoods at Las Posadas are nearly all second growth trees which came up after logging in the pioneer period, but many of the trees have reached large size along Moore Creek. Redwood can be distinguished by its soft, fibrous, red-brown bark, its flat sprays of needles which are dark green above with whitish lines of pores beneath, the tiny globular cones which are usually not more than an inch long, and by its habit of sending up vigorous sprouts in clumps around cut stumps. There are fine trees from camp all along the trail up to the spring, many along the road into camp and smaller ones at the upper end of the fire protection road. This stand of redwoods at Las Posadas is about the most easterly extension of its range.

3. Ponderosa pine, Pinus ponderosa, produces lumber of fine quality and is the most important timber species in the main forest belt of the Sierra Nevada Mountains. It is quite widely distributed in the north coast ranges and the fine young stand along the flat on Howell Mountain is a notable feature of this territory. The tree is recognized by its long needles which occur in bundles of two and three, by its yellow-brown bark broken into "alligator-like" pattern on larger trees, and by the symmetrical cones which are about four inches long. Each cone-scale is armed with a sharp prickle and shelters two small, winged seeds. There are no large ponderosa pines, but plenty of specimens of moderate size from trees near the camp to the almost continuous forest on the ridge along the road all the way to Angwin. Most of the trees at Las Posadas are small or medium sized, so that the bark is dark in color (blackjack stage) previous to assuming the characteristic color and pattern of old trees.

4. Digger pine, Pinus sabiniana, is a tree of the foothill country which has long, slender needles borne three in a bundle and heavy cones of chocolate brown color with stout spurs on the scales. The foliage is gray green in color and tree crowns are often so light as to resemble gray clouds. The bark is heavy and furrowed and often black in color from having been scorched by fire. There are still a few moderate sized specimens in the brush fields to the east of the forest though most of them were killed in the severe fire of 1932.

5. Deodar cedar, Cedrus deodara, from the Himalaya Mts. of India is now one of the conifers most commonly planted as an ornamental throughout coastal and valley districts in California. Its needles are slender, dark green and clustered on dwarf branches, and many of the trees have nodding tips and a gracefully weeping habit of branching. This is the tree that forms the famous Christmas tree avenues of Altadena and Fresno and is widely used as an outdoor Christmas tree in parks and gardens. A small specimen has been planted beside the road across from the swimming pool.

#### Pines in the Plantation

A number of pines were set out in the President's Birthday Plantation on the upper slope near the north boundary of Las Posadas in the spring of 1934. Relief from competition from the sprout hardwoods has been afforded by work of several 4-H Club camps under supervision of a forester from the State Division of Forestry. Some trees have had to be removed because of severe infestation of the pine gall fungus which forms swellings on the trunk and branches, but many trees have made excellent growth. The following species may be seen here:

6. Monterey pine, Pinus radiata, found naturally along the coast south of San Francisco Bay is a tree of very rapid growth and is the pine most commonly planted along the California coast. It has very dark green foliage of medium length needles in bundles of three and two, dark furrowed bark and cones about five inches long which are borne in whorls in the branches. The outer cone scales are thicker and more heavily rounded than those close to the branch.

7. Knobcone pine, Pinus attenuata, is a tree of the lower slopes found usually in dense stands on poor, often shallow soils both in the coast ranges and interior. Its needles are shorter and somewhat finer than those of Monterey pine and occur three in a cluster. The bark remains smooth for some years and the tree is usually much branched and rather scrubby in habit. Cones of about five to six inches in length are borne in large numbers along the main trunk and branches where they remain in closed condition until opened by the heat of a fire, or sometimes by unusually hot and dry weather. The bud scales have a reddish tinge and young knobcone pines are quite attractive ornamentals for difficult situations.

8. Maritime pine, Pinus pinaster, is native in southern France where it is an important source of turpentine and rosin. It has dark green, stout needles borne in bundles of two, cones about the same size as those of Monterey pine, but more symmetrical in shape, which are often borne in clusters on the branches. From this characteristic the tree is often known as "cluster pine". The bark is dark on larger trunks and has a very decided reddish cast which is quite characteristic of the species. There are only a few of these trees in the plantation.

9. Japanese black pine, Pinus thunbergii, has short stout needles in twos, small and very symmetrical cones which persist for about a year on the twigs after they have opened to shed the seeds, and buds covered with dense, white and feathery bud scales. The bark is rough and almost black from which character comes the common name. Only a few specimens of this species were planted in the grove.

10. Scots pine, Pinus sylvestris. This tree of central and northern Europe has short, twisted needles borne in pairs. They often have a blue-grey color which is quite attractive and gives them increasing popularity as Christmas trees in the middle west where thousands of acres have been planted for this purpose. Older trees of Scots pine may be recognized by the yellow bark of the upper crown and by the small cones with smooth squarish cone scales. A few trees of this species are in the President's Birthday Plantation and so far have not shown infection by the gall fungus. Note: All of the trees of Aleppo pine, Pinus halepensis, from the Mediterranean region in this plantation became so badly infested by this gall fungus that they have been removed and burned.

11. Coulter pine, Pinus coulteri, of the south coast and southern California mountains is also known as "big-cone pine" from the massive size of its fully developed cones. These are similar to those of digger pine, but are yellow brown in color, weigh several pounds when fully grown and are fitted with long curved and very heavy spines. Needles are gray-green in color, are borne in clusters of three and are very long and stout in contrast to the limber and drooping needles of digger pine. The tree grows rapidly and can survive very droughty conditions. Only a few specimens are in the plantation.

12. Sierra Redwood, Sequoia gigantea. This famous relative of the coast redwood is native in the Sierra Nevada at elevations above 4500 ft. It has been widely planted as an ornamental along the Pacific Coast as far north as British Columbia. Its needles are short and sharp pointed and arranged spirally around the stem instead of in flat sprays as in redwood. The cones are much larger than those of redwood.

A number of Sequoias were planted January 30, 1954 on the north side of Moore Creek across from the Blake Cabins, to the west of rows of Monterey pines. These were a gift from Mr. C. L. Peterson of Calistoga to the 4-H Club Camp.

#### BROADLEAF EVERGREEN

These are trees which though they have broad instead of needle-like leaves, retain many of them throughout the winter season, so that they have some green crown all of the year. Some of the most widespread and typical trees of coastal areas in California belong to this group and many are represented at Las Posadas.

13. Coast live oak, Quercus agrifolia, with its broadly rounded crowns and sturdy branches covered with smooth, gray-green bark is probably the best known tree along the coast from San Diego north to Humboldt County. Its leaves are

dark, glossy green and quite holly-like in shape except that the teeth are smaller and not so sharp. The leaves are usually about  $1\frac{1}{2}$  to 2 inches long and the margins are drawn in as with a draw-string so that when the leaf is turned bottom side up, it is about the same size and shape as a teaspoon. The under side of the leaf is slightly lighter green in color than the upper surface and it is smooth, except that usually in the angle between midrib and veins there is a tuft of tiny brownish hairs. The acorns require only one year to mature, are usually about an inch long and show definite bands of color. This tree is very common at Las Posadas.

14. Highland or Interior live oak, Quercus wislizenii, at first glance may appear very similar to the preceding, but the bark is darker and generally furrowed and the leaves are not puckered but generally lie flat and have fewer teeth than do those of coast live oak. The acorns are more slender and pointed than the other and this tree is a resident of foothills all around the great valley up to elevations of about 3500 feet. Its acorns require two growing seasons to mature. The leaves are dark glossy green on both surfaces and do not have the axillary tufts of hairs on the under side.

15. Canyon live oak, Quercus chrysolepis, is sometimes known as "iron oak" or "maul oak" because of the weight, density and strength of its wood. It goes higher into the mountain country than either of the others, being common from 4000 to 6000 feet in the main timber belt. The leaves are either entire or holly-like with few teeth, dark glossy green above and coated with lead-colored hairs on their under sides. New growth usually has a golden tinge as do the acorn cups which are flattened, turban-like and are quite large. From them the tree is also known as "golden-cup oak". The bark is lighter in color than either of the other live oaks, and is typically divided into small vertical ridges. This species is not common at Las Posadas but there is a good specimen on the lower side of the fire protection road about half way to the top of the hill.

16. Tanbark oak, Lithocarpus densiflora, is one of the commonest trees associated with redwood and in a broad belt at the east of the redwood forest areas. It goes into Oregon and appears at intervals at middle elevations in the Sierra forests. Its leaves are larger than any of the three live oaks, are gray-green in color and in shape they resemble chestnut. Leaves, twigs and acorns are covered with dense woolly hairs and its flowers are borne in long, fuzzy spikes which also resemble those of chestnut. The bark is thick, gray-green and smooth, and broken into broad ridges. It is widely used in the tanning of leather. Tanbark oak sprouts vigorously when the tree is cut or burned and you will find many clumps of sprouts coming up on the 1932 burn north of Moore Creek.

17. Madrone, Arbutus menziesii, is one of the most beautiful of the native hardwood trees and a feature of much of the landscape from southern California to British Columbia. It reaches large size and its trunk and limbs are coated with smooth bark which shows patches of tan and red. Its leaves are large and bright shiny green in color; the tiny bell-like flowers are white and borne in dense terminal clusters. The fruits are like-wise in clusters and are small, orange red berries. The wood of madrone is heavy and hard and makes excellent flooring and veneer. It may come into considerable favor as a specialty wood. There are large madrones along the Metcalf trail and much sprout reproduction of this species with tanbark oak on the hills to the north where the forest is recovering from the burn of 1932.

(18) California laurel, Umbellularia californica, belongs to the laurel family and its long, tapering leaves when crushed have the most powerful aromatic odor of any California tree. From this property it is also known as pepperwood and as California bay tree, while in southern Oregon it is called Oregon myrtle where its hard and beautifully figured wood is made into bowls, lamp stands and other attractive turned articles. The flowers appear in late winter or early spring and are yellow green, tiny and borne in clusters. The fruits are olive-like in size and shape with soft, purplish flesh when mature and a single large seed. The tree reaches large size under favorable conditions, but will grow on ridge tops where it stands exposure to severe winds. Bark is dark color and not deeply furrowed. There are numerous small to medium sized trees of laurel at Las Posadas, mostly sprout reproduction after fires.

(19) English holly, Ilex aquifolium, with its dark green glossy leaves armed with sharp marginal prickles and its scarlet berries is known throughout the world as one of the symbols of Christmas. This tree has several varieties of leaf type and many of them do exceedingly well along the Pacific Coast. Portland, Oregon is the center of an extensive holly growing area and the Holman Holly Grove near Watsonville, Calif. has 180 acres planted to this tree. There is a very beautiful specimen at Las Posadas down stream from the swimming pool and across from the ruins of the old Blake summer cottages. It is probably about 40 years old and stands beside the creek.

#### DECIDUOUS

(20) Valley oak, Quercus lobata, is the largest of the native white oaks reaching massive size and beauty on good soils throughout valley and foothill areas. There are fine specimens in the Napa and Sonoma Valleys, but only trees of moderate size at Las Posadas. Its symmetrical, deeply lobed leaves are without spiny tips and the acorns which ripen in one year are very long and tapered to a point. The bark is broken into a pleasing pattern by deep ridges; the branches are large and sturdy giving the tree a massive appearance with a flattened top and often gracefully weeping outer twigs.

(21) Oregon oak or Pacific post oak, Quercus garreyana, is quite similar to valley oak, but the leaves are generally broader with lobes that appear slightly recurved, and the trunk bark is lighter in color and not so deeply ridged. Its acorns are short and plump instead of being tapered to a point. This species extends from near San Francisco Bay to southern British Columbia and reaches its best development in Oregon valley areas where it is a massive and beautiful tree. There are only moderate sized trees of this species at Las Posadas.

(22) Blue oak, Quercus douglassii, is another white oak of moderate size which is distinguished from the others by its very white and finely striated bark, small, squarish leaves which have shallow lobes and are decidedly blue green in color, and short, chunky acorns which grow from a very thin cup. It is a tree of the foothills and lower slopes all around the great valley and is never very large. Its chief uses are for fuel and fence posts.

(23) California black oak, Quercus kelloggii, is the oak most commonly associated with ponderosa pine, incense cedar and white fir throughout the main timber belt of the Sierras. It also is widely distributed in the coast areas with Douglas fir and its associates. It has the typical broad and deeply lobed leaves with fine spiny tips and acorns which are deeply set in the cup and require two growing seasons to mature. In spring the leaves are densely coated with fine hairs when they unfold and are often a beautiful red color until about

half grown. Later they become smooth and shiny until fall when many often assume red, yellow and russet tones before they fall. The black oaks at Las Posadas are mostly of moderate size with smooth dark greenish bark on branches and a definite pattern of small checks on trunk bark. There is a large volume of black oak available in California and recently some of it has been manufactured into flooring.

(24) White alder, Alnus rhombifolia, is the commonest tree lining the banks of Moore Creek with its smooth, gray-green stems and attractive lacy foliage. It is the common streamside tree in interior and southern California while red alder, A. rubra, occupies the same moist sites along coastal streams from the Bay to British Columbia. The leaves of white alder are only slightly toothed on the margins and quite regularly oval in shape. Flowers are borne in drooping catkins and the fruits are tiny cone-like and bear many winged seeds. Alder wood is used mostly for firewood, but that of red alder is now finding favor for furniture and box manufacture.

(25) Fremont cottonwood, Populus fremontii, is another common tree along streams in valleys and foothills throughout much of California, even into desert areas. Its leaves are broadly triangular or roundish in outline with teeth on the margins which typically are curved forward. Well grown specimens are tall with rounded or flattened crowns, light yellowish green bark on branches and dark furrowed bark on trunks. Flowers are borne in catkins on separate trees in spring and female trees bear great quantities of cottony winged seeds from which this and other poplars get the name "cottonwood". The black cottonwood, P. trichocarpa, of north coast streams is a bigger tree with darker green leaves which are long-pointed in shape and with a definite yellowish color beneath. The wood of both cottonwoods is of rather poor quality for lumber, so is used mainly for fuel. A clump of its near relative, the silver poplar, P. alba, of Europe is beside the road to Angwin in front of the two-story white house. It has very silvery leaves.

(26) Western or California sycamore, Platanus racemosa, is another streamside tree of valley, foothill and semi-desert areas. Its smooth mottled bark with shades of tan and green, broadly lobed leaves which are woolly and with an expanded base to the stem which completely encloses the dome-shaped bud are distinguishing characteristics. Also the multiple fruits which hang in chains of three to four ball-like heads after the leaves fall mark this tree from all others except the hybrid London plane, P. acerifolia, which is so widely used as a street and highway ornamental tree. The sycamores are sometimes called "buttonwood" because of the globular fruit clusters. In recent years the sycamore has been badly defoliated by the sycamore canker disease which caused leaves to dry up and fall off when scarcely half grown, resulting in many dead twigs and branches.

(27) Bigleaf maple, Acer macrophyllum, is the largest and most beautiful of western maples. It is distinguished by its very large and deeply lobed leaves, borne on long stems, its stout green-barked twigs tipped by large dome-shaped buds, and drooping clusters of yellow-green flowers in early spring which develop into broadly winged seeds which occur in pairs of "keys". These seeds are coated with a growth of stiff hairs which pierce the skin and can become quite irritating. Leaf arrangement in the maple is opposite as is the system of branching. Maple wood is occasionally used for furniture and turned articles though less desirable than the sugar maple of the east.



(28) Box elder, Acer negundo californicum, is another opposite leaved tree closely related to the big-leaf maple and widely distributed along streams and in valleys in the central coast area. Its leaves are smaller than the former and are made up of three separate leaflets from which this species is sometimes known as "ash-leaved maple". It is usually a small and somewhat scrubby tree and is probably not represented at Las Posadas by any very large specimens. Its greenish twigs and buds are usually coated by a whitish bloom which is an identifying characteristic as are the drooping clusters of winged "key" fruits in which the keys are smaller and less widely spreading than are those of big-leaf maple.

(29) Oregon ash, Fraxinus oregona, is the largest of western ash trees and occurs along streams or moist flats throughout much of the north coast country. In some places which are poorly drained this tree occurs in dense thickets, but is usually seen as scattered individuals. Its compound leaves of five to seven leaflets are borne opposite each other on stout twigs with brownish, dome-shaped buds and the drooping clusters of fruits are comprised of single-winged seeds which have the shape of tiny canoe paddles. This species is rare at Las Posadas.

(30) Western or Mountain dogwood, Cornus nuttallii, is another opposite leaved small tree which has broadly ovate leaves with entire margins and smooth, gray bark. It is greatly admired for the fine display of large white flowers which occur in spring just before the leaves appear. The flower clusters later develop into multiple fruits of bright orange color. These and the fall coloration of bright red which the leaves assume before they fall make this one of the most decorative of all our native trees. There is one nice specimen of dogwood near the dining platform and others along the road into camp.

(31) California buckeye, Aesculus californica, is one of the more spectacular flowering trees of California valley and foothill areas. It rarely reaches large size but its broadly rounded crown supports great numbers of flower spikes in spring which are crowded with white or cream colored flowers and make the tree look like a great candelabra. The nectar of the flowers is poisonous to bees. The leaves are made up of five broad leaflets joined together at a central point and are opposite in arrangement. The leaves come out early in the spring and fall about mid summer leaving the smooth gray stems and the pendant fruits which contain a large, shiny brown seed about the size of a golf ball.

(32) Willows. Salix sp. Willow trees like cottonwoods and alders are found nearly always growing "with their feet in the water" - along streams banks or the edges of moist meadows. The chief species of central California are designated by color, i.e. yellow willow, red willow and black willow. All have rather long, slender and taper-pointed leaves with a pair of little leafy bracts at the base of each leaf stem, catkin-like flowers which on some species (pussy willows) are very decorative in early spring, and smooth green or yellowish bark on twigs and branches. Bark of the lower trunks is often dark and deeply furrowed. Willows have very light cottony winged seeds which fly long distances in the wind but are able to establish themselves where the soil is moist for most of the year. Weeping willow, Salix babylonica, from the Mediterranean is a favorite ornamental tree for growing on moist lawns and wherever there is sufficient irrigation water during summer months.

Those who lived at Las Posadas ranch set out an orchard of apple and other fruit trees on the gentle slopes down stream from the 4-H camp. Some of the apple trees survive in spite of long neglect and their fruit is relished by the deer.

At the upper edge of this orchard three species of hickories were planted and have developed into very nice trees --

(33) Pecan Hickory, Carya illinoensis. This is the tree which produces the pecan nuts of commerce from selected and improved strains. The bark is dark colored, furrowed and hard. The leaves resemble those of walnut but the leaflets are somewhat sickle-shaped.

(34) Shagbark Hickory, Carya ovata. This tree is recognized by the shaggy plates of bark and by the leaves which have broader leaflets than those of pecan-usually 5. The nuts too, though sweet, are smaller with white, thick, hard and angled shells. In the middle west this tree produces fine lumber which is sought for handles, wheel spokes, baseball bats, etc.

(35) Mockernut Hickory, Carya tomentosa. Another lumber hickory of the eastern hardwood region which does not have shaggy bark. The leaves have 7 to 9 leaflets and are about 7 inches long. The nuts are light brown, globular and somewhat angular.