China Creek Nature Trail

prepared by the Sequoia Chapter of CNPS

Introduction

China Creek Park is an undeveloped Fresno County park. "Undeveloped" means it has no picnic tables, no barbecues or swings -- or even restrooms! It has no structures for the convenience of people. What it does have is nature. The vast majority of plants here now grew naturally when the only people in the area were native Americans who traveled up and down the Kings River and no doubt camped, hunted, gathered, and fished in this area for hundreds—perhaps even thousands of years. Historically the native people of the area were mostly Choinumni Yokuts.

It is because the plants here are mostly natural or "native," that the California Native Plant Society has prepared this trail. We want to focus on the beauty and importance of plants native to our area.

Note on scientific names: For each plant featured at the various stations we use at least one common name—the word, or words, in English (or Spanish) most people around here use to describe it. In parentheses you'll also see the scientific name. Because common names vary, scientists use special names that are the same everywhere. We don't expect everyone to use these, but we include them for those who are interested.

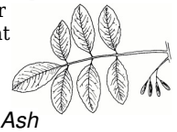
1 History and Orientation

This park is a small remnant of what was once a hardwood forest that grew in a wide band (called a "floodplain") on both sides of the Kings River from the foothills across the valley as far as Tulare Lake.

The main tree in this and other similar forests is the valley oak *(Quercus lobata)*. The large dead valley oak which still stands on the east side of the park seemed to die suddenly in 1997. Resource botanist John Stebbins and wildlife biologist Robert Winter conducted a careful scientific study. It indicated that unnatural changes in water levels in the soil ("groundwater"), caused by irrigation, the damming of the river at Pine Flat, and gravel mining, had slowly weakened this tree and many others and made them open to disease (fungus infections).

The Short Trail. South (toward the end of the road) along the west (right) edge of the pavement, to the pond and back north (to the gate) along the east edge of the pavement. This trail is suitable for very young children, people with only a short time to spend and those in wheelchairs. It includes stations #1-6.

The Long Trail. This starts the same way, but skips #5 and 6 and turns west (right) along China Creek, then north and east to the berm at the north pond; there it loops briefly north of the slough before proceeding east back to the gate. It is more suitable for people able to walk easily for long distances on unpaved (but flat) surfaces and who have at least an hour to spend.



Oregon Ash

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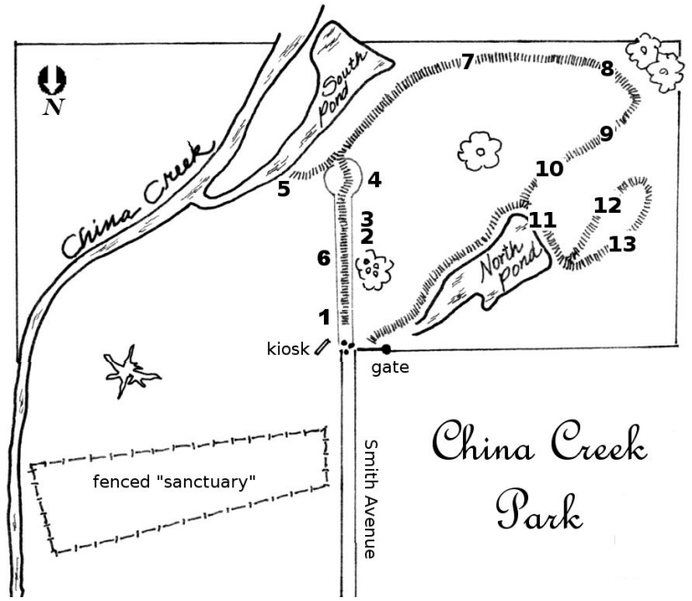


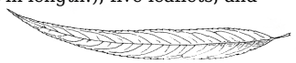
2 A clump of trees and shrubs growing in a small low area where water stands much of the year

This is a small but typical example of "riparian" (river-related) forest. The largest trees are valley oaks and there are a number of small sapling valley oaks.

The smaller trees are willows of three different species: arroyo willow *(Salix lasiolepus)*, black willow (*Salix gooddingii)*, and narrowleaf willow (Salix exigua). Native Americans used willows in basket making, and chewed pieces of bark as pain reliever (it contains salicylic acid, from which we make aspirin). One shrub is button bush *(Cephalanthus occidentalis)*. Native Americans used the straight young twigs for making arrow shafts, and other parts of the plant for various medicinal purposes.

The dense undergrowth in this clump includes California rose *(Rosa californica)*. It produces pink blossoms in spring and red "hips" in fall. The hips are eaten by both people and wildlife and are a good source of vitamin C. The stems are covered with sharp thorns like domestic roses.

Another typically riparian plant that flourishes here is California blackberry *(Rubus ursinus)*, a "mound building" shrub with twining canes. Its stems are round with fine, rather soft thorns. The leaves of this native blackberry usually grow in threes. It produces white 5-petaled flowers in the spring and small black berries in the late summer or early fall. These berries are very flavorful and prized by birds, various mammals and, of course, people. California blackberry is an ancestor of loganberry and boysenberry. Another blackberry vine, the Himalayan, is an escaped domestic (non-native) berry with ridged canes (which can reach up to 40 feet in length!), five leaflets, and viciously rigid and hooked thorns. It also produces delicious berries, but is considered an invasive pest.

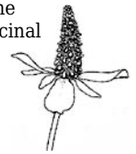


Black willow

3 Yerba Mansa or lizard's tail (Anemopsis californica) also called bear root

This is an unusual herb, which grows in moist places from sea level to 5,000 feet. It is a "perennial", a plant that lives from year to year. It has an extensive system of underground stems or "rhizomes." If you are lucky enough to see it in bloom in the spring and early summer you'll see that the "flower" appears to have a cone-shaped center surrounded by showy white "petals." When this blossom dries, it appears brown and scaly, thus its name "lizard's tail."

The cone-shaped part is actually a cluster of many small flowers. The leaves and roots have a pleasant odor and the plant has many medicinal uses. The Yokuts, for example, pounded the root and soaked it in water, which they drank to settle an uneasy stomach. It is still gathered and used in ceremonies as well.



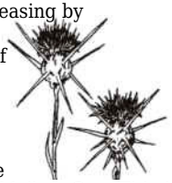
4 Non-native thistles: Bull Thistle (Cirsium vulgare), Milk Thistle (Silybum marianum), Yellow Star Thistle (Centaurea solstitalis)

Grazing is natural to the area, which would have been visited by wandering herds of elk, antelope, and deer from prehistoric times, but the park was "overgrazed" or used too long for too many cattle. Artificial changes in water flows, fire prevention and overgrazing allowed inedible plants such as stickery thistles to get started. They are very hard to get rid of.

Bull thistle is a non-native, invasive biennial (lasts two years) and can grow to heights of 6 feet. In contrast to native thistles, the stems have leafy, spiny tissue running continuously between the leaves. This stickery plant crowds out plants desirable for people and wildlife. Bull thistles have pretty purple blooms between June and August, which later turn into countless fluffy, wind-borne seeds that help it invade new areas.

Milk thistle is a large, non-native thistle that has stems up to 10 feet tall and leaves up to 2 feet long! Their large size and white veins easily identify the leaves. The large blossoms are paler than bull thistle's and are surrounded by long heavy thorns. Although this European immigrant crowds out desirable natives, it is used as an herbal remedy by some.

Yellow star thistle (YST) is a spiny annual herb that is toxic to horses. This invasive, non-native plant originated in the Mediterranean, arriving in California in the mid-1850s in alfalfa seed. YST is one of the primary pest plants at China Creek Park. It invades natural areas, displacing native plants and the wildlife that depend upon them. A complete "monoculture" (crowding out all other plants) of YST is often the result of allowing this plant to grow uncontrolled. These annual weeds can reach heights of up to 6 feet. A typical plant generally produces hundreds of flower heads, each of which can produce 30-80 seeds. Once it gets well started, YST keeps increasing by producing
huge amounts of seed each year. YST roots can reach depths of over 6 feet, taking water from native plants. The good news is that after 3-5 years of complete control, infestations can be eradicated. The bad news is that YST has spread across about 15 million acres in California, harming our economy and ecosystems. It has a big head start here in the park, but we are working hard to get it under control.



Yellow Star Thistle

5 The south pond: Tules or Bulrushes (Scirpus acutus) and Cattails (Typha latifolia)

The two ponds in the park were artificially created by damming branches of the slough with berms. Originally there were millions of acres of seasonal and permanent wetlands and lakes in the San Joaquin Valley. In a very small way these ponds re-create the natural conditions. They support a tremendous variety of riparian plants and wildlife. Perhaps the most important plants in this wetland group are the tules and cattails. Tules are sedges, with triangular stems, 5' to 8' tall that flower in reddish-brown "spikelets" around the tip. Cattails are members of a separate family with tall stalks topped with fluffy brown sausage-shaped flowering heads.

Though they are of different botanical families, they are much alike in their importance to both wildlife and people. They both provide shelter, food and building materials for waterfowl, beavers, muskrats, and other wildlife. Virtually all parts of both plants are edible at some stage. They were enormously important to California's native peoples. They used them in making a great variety of things including boats and rafts, rope, clothing, and houses. The fluff was used as diapers and various parts were used in baskets. They are still important for wildlife habitat, erosion control, and stream bank stabilization.

6 Grasses and Graminoids

Much of the park is now grassland (or oak "savannah"). Before the settlers came and began using the water for irrigating crops, this area might have been "wetlands" part of the year -- filled with native grasses, rushes and sedges which look alike because they all have long stems and very thin or no leaves. You may still be able to find rushes -- which have dark green, round stems with no leaves, and are usually less than a foot tall. Rushes live in areas where the soil is moist. You can probably also find sedges -- sedges are usually light green or yellowish green and can be very tall (more than 3 feet!). Sedges have triangular stems, especially at the base. You can often find sedges in very wet areas and in standing water. One way to tell rushes from sedges is that "rushes are round, and sedges have edges."

But most of the native grasses, which can live for many years if left undisturbed and are a very beautiful and important part of the landscape, have sadly disappeared -- they have been pushed out by heavy grazing, farming, and changes in climate and water supply. The grasses (which have thin round stems and long leaves) that you do see are not native -- they are weeds, such as "ripgut brome," brought here accidentally from other places or planted for cattle. They usually live less than a few months each spring before they go to seed and dry up. Most of them are nasty—their seeds, which have long projections called awns, stick to your socks and can poke into your skin. They also stick in the ears, eyes, feet and coats of dogs and wildlife.

Native Americans used to harvest native grass seed as food, using special whisks and shallow baskets to loosen and collect the grain in areas like this.

7 Elderberry

Blue elderberry *(Sambucus mexicana)* is a multi-stemmed native shrub, found in dry to moist areas from sea level to above 8,000 feet in California. Elderberry shrubs are deciduous (shed leaves in autumn). In spring bright green compound leaves develop, followed by large clustersof creamy white flowers. Blue-black berries form as the summer progresses. The berries are edible, but can be toxic in large quantities if eaten raw.

Elderberry stems are light and pithy, and are ideal for making "clappers", used by Native Americans to accompany singing and dancing. Native Americans used the berries for food, raw or dried. Settlers also used them for making wine and jelly.

Elderberry shrubs are valuable for wildlife. Native birds savor the berries and larger stems are home to an endangered insect, the valley elderberry long-horned beetle.

Note: You have a fairly long walk to the next station, #8 Western Sycamore. This is a wonderful opportunity to watch for birds, especially waterfowl in the riparian area to the south. You may also see an uncommon bird called a white-tailed kite hovering overhead, hunting for small mammals.

8 Western sycamore (Platanus racemosa)

Western sycamore is a deciduous tree that grows in riparian areas from Baja California, Mexico northward to the Sacramento area. The smooth, pale, mottled bark of the western sycamore is characteristic. Trees reach heights of over 100 feet, and the trunk diameter can be over 5 feet. Sycamores grace riparian areas from sea level up to about 3,000 feet. Leaves are large and "palmately" 3-5 lobed. The male and female flower heads appear at the tips of the stems in the spring. Pollination is by wind, as is dispersal of the seed. There is a serious concern that sycamores are not producing seedlings and young trees to replace older trees as they die. The reasons are not clear, but a possible reason is flood control (change in natural flooding patterns). Also, sycamores can be infected by a fungus called "sycamore anthracnose", which withers leaves, especially in early spring.

Riparian forests and wetlands in the Central Valley once covered 2-3 million acres. Less than 10 percent remains. Thus, the amount of habitat available for native riparian-dependent birds and other wildlife has been vastly reduced. As far as we know there are only 2 sycamores in the park in addition to these. In the past there were probably more.

9 Grasses and Graminoids (See #6)

10 Lone Valley Oak (Quercus lobata)

This is a fine old example of the Valley Oak, largest of California's 19 species of oak. They can live to be 500-600 years old. This one is estimated to be 150-250. Valley Oaks are deciduous. Their unique bark is gray, deeply furrowed, and blocky like an alligator's hide. This is unlike any other California oak. The leaves can be up to 4 inches long and are deeply lobed—thus the species name, "lobata."

These mighty trees reach their greatest size when they grow in the open like this one, and can spread 170' in diameter and reach 120' in height. Though such trees produce thousands of acorns annually, conditions have to be just right for one to grow into a seedling. In 1997 when the park had been heavily grazed year round for years, there were almost no seedlings. Nearly all the young trees (over 200) you see in the park now are Valley Oaks. Another characteristic of oaks is the "canopy effect" on the plants under them. Annual plants germinate earlier, continue growing longer, and some species grow only under the canopy. This effect is produced by the buildup of organic matter in the soil from the annual leaf fall.

11 Tules and Cattails (See #5)

12 Oak woodland loop

This loop takes you through an area of the park that provides good examples of the 2 types of oak forests which once made up most of the Kings River floodplain. To the south you can see **dense riparian forest** (you saw a smaller example at station #2). To the north you can see **open oak woodland**, with larger and more widely spaced trees surrounded mostly by grasses only. Early explorers like George Vancouver described this type of forest as park-like.

Oak forests of both types once covered thousands of acres along the river. They provided food and shelter, clothing and building materials for uncounted generations of birds, wildlife and native American peoples. There is enough oak forest left here so that, if you use your imagination, you may be able to picture what the whole forest was like hundreds of years ago.

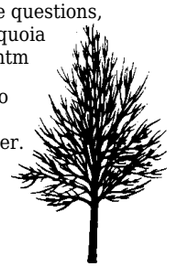
13 Ash (Fraxinus latifolia)

The Spanish word for ash tree is "fresno." Apparently early Spanish explorers found so many ash trees along the creeks and rivers flowing into the central San Joaquin Valley that they named the area for the trees. Oddly enough this species is known as the "Oregon" ash.

Ash is a desirable hardwood and is used for making baseball bats, among other things. The winged seeds are borne only by the female tree, where they dry and hang until dislodged by the wind. They spin and flutter slowly down, often some distance from the parent tree.

Note: On your way back to the gate, watch for water birds, especially ducks and coots, and as you cross the berm, watch for beavers in the pond. After you cross the berm and turn left, follow the trail along the slough. Watch for more examples of many plants, such as lizard tail, already discussed. You may also see many different birds in the trees to your left.

We hope you enjoyed the China Creek Nature trail. If you have questions, or suggestions for improving the experience please contact Sequoia Chapter CNPS at: www.cnps.org/chapters/chapters_text_only.htm



You're welcome to keep this brochure for future reference or to share with others, but if you have no further use for it, please return it to the box at the kiosk near the gate. Please don't litter.

Thank you,
Sequoia Chapter
California Native Plant Society

Special Thanks to those who provided botanical and cultural information:

Joanna Clines
Howard Latimer
Mary McClanahan
Lorrie Planas
Nur Ritter
John Stebbins

Designed by Thelma Valdez

40 YEARS OF CONSERVATION DEDICATION VOLUNTEERISM 1965-2005 California Native Plant Society

California Native Plant Society
A non-profit organization dedicated to the preservation of California's native flora.
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Rev3-0112