



WESTERN BRACKEN (see back cover)

# Plants OF THE Frog Pond Natural Area

Del Rey Oaks, California

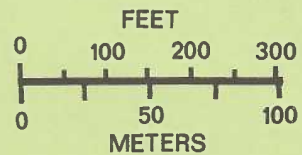
by L. Dittman

for the Monterey Peninsula Regional Park District



Printed on recycled paper.

## VEGETATION MAP



## KEY

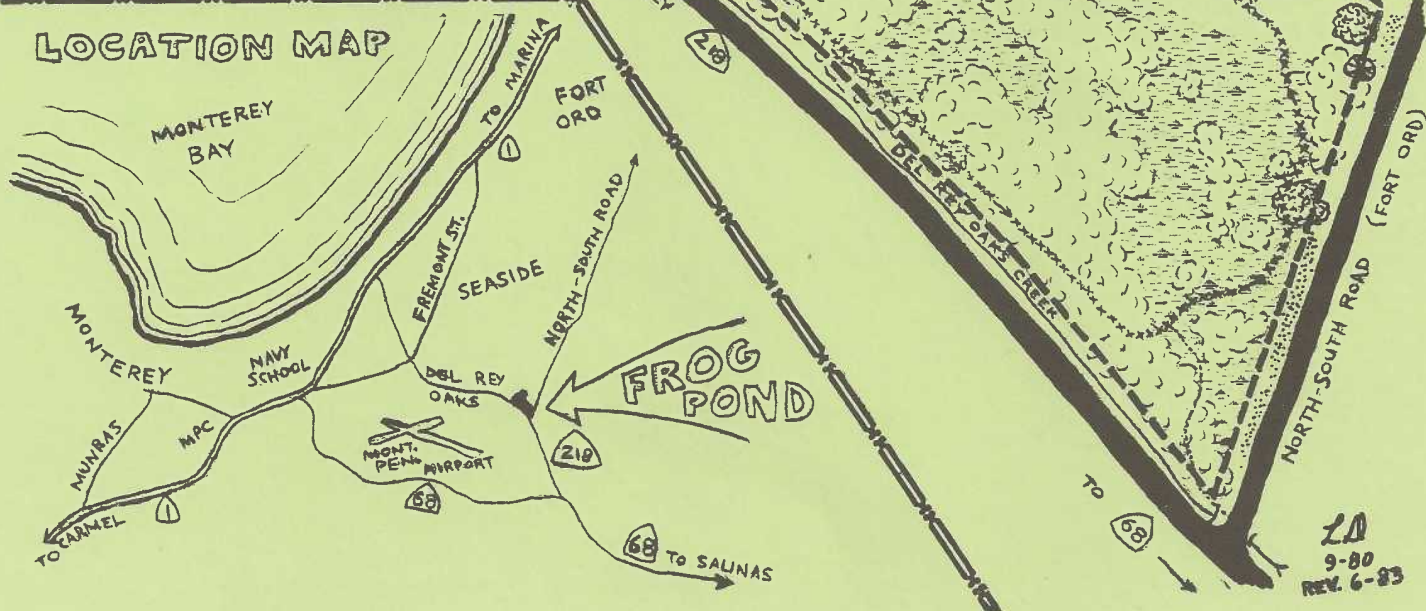
- |                   |  |
|-------------------|--|
| Willow Woods      |  |
| Marsh-Meadow Pond |  |
| Brook-Creek       |  |
| Grassland         |  |
| Oak               |  |
| Redwood           |  |
| Pine              |  |
| Scrub             |  |

DEL REY  
OAKS CITY  
HALL &  
POLICE STATION

ENTRANCE

PARKING AT THE  
CITY HALL AND ALONG  
THE SOUTH SIDE OF  
CANYON DEL REY

## LOCATION MAP



LD  
9-80  
REV. 6-83

## Introduction

This publication describes, illustrates and informs you about 101 of the species of plants you are most likely to see in the Frog Pond Natural Area. There are probably twice that number growing within the park boundaries, but most of the ones that are not included are away from trails.

The plants are arranged in this guide first by habitat, then by superficial similarity.

### TO IDENTIFY A PLANT:

1. Read the habitat descriptions and study the map carefully, then decide in which habitat it is found. Some plants are found in more than one habitat, but usually they are more common in one than another.
2. Turn to the appropriate habitat section of this booklet. Carefully scrutinize all of the illustrations in that section and the plant that you want to identify. The key to your success is attention to detail, but realize that many plants are quite variable within a species and it is unlikely that your specimen will look exactly like any illustration. Therefore, choose the illustration that looks most like your specimen. Note that all illustrations are one-half life-size unless otherwise noted.
3. After matching the plant with an illustration, read both the text and the notes around the illustration to see if they accurately describe your specimen. It is critical that you pay special attention to the notes on (A) life habit (whether the plant is a tree, shrub, vine or herb), (B) amount of the plant illustrated (some drawings depict only a small part of the plant while others show the whole plant), and (C) scale (some plants are not depicted at one-half life-size but at some larger or smaller scale).
4. If you don't find your plant in one habitat section, check to see if it is in the next most similar section. If that doesn't work, turn to the inside back cover of this booklet and refer to the complete plant list. This names all species known from the reserve, including 88 that are not illustrated in the guide. Then use other references such as the books recommended on the back cover to look up the species not illustrated in this guide.
5. If all else fails, send your specimen and \$500.00 in negotiable United States currency to the author and he will cheerfully identify it for you.

### DEFINITIONS YOU NEED TO KNOW:

annual: Sprouting, blooming, setting seed and dying in less than one year; also used to denote a plant which follows this life cycle.

biennial: Sprouting, blooming, setting seed and dying in less than two years; or a plant which follows this life cycle.

genus: The first, more general term in a scientific name. All willows are in the genus Salix. (The plural of genus is genera.)

herb: A plant without a stem composed of wood. The word as here used and as used by plant scientists does not refer to the culinary or medicinal value of a plant, but simply to the lack of a woody stem or trunk. For practical purposes, any plant which is not a tree or shrub is an herb, and is said to be herbaceous.

introduced: Not native. These immigrants are marked with an asterisk (\*) before their name. Most came from Europe and have lived in this area for less than two hundred years.

native: A plant species which has been growing in an area for hundreds if not thousands of generations.

perennial: Living more than two years; or a plant which follows this life cycle. Technically, trees and shrubs are woody perennials, but when a plant is just said to be "a perennial," it is usually meant that they are herbaceous perennials. The latter usually die back to the ground each year and resprout from the roots the following season.

species: Both parts of a scientific name. While the genus of arroyo willow is Salix, the species is Salix lasiolepis. The word is roughly equal to the layman's use of the word "kind". But like most scientific terminology, it actually means something much more precise. In fact, how exactly to interpret the concept of species is a subject of much debate among scientists; most people have no idea of how complex a problem it is. (The plural of species is the same word: species. Example: one species, two species.)

#### METRIC MEASUREMENTS

For purposes of this booklet, the only units of measurement you need to know are centimeters (cm) and meters (m). Don't try to convert feet and inches to meters and centimeters; instead, think metric:

cm: About the width of a fingernail. Use the ruler on the back cover to see which of your own fingers, fingernails or thumbnails are about 1 cm wide; then think of a cm in those terms when you don't have a ruler handy.

m: About half the height of a very tall man or the height of a high-backed chair; just a little longer than a yard. There are exactly 100 cm in a m.

#### ILLUSTRATION CREDITS

All but nine of the illustrations were made by the author. About 70% of the drawings are of plant specimens from within the Frog Pond reserve itself. Most of the rest were either drawn from specimens in Garland Park, Jacks Peak Park or Monterey, or were based on photos or published drawings.

Of the nine drawings not executed by the author, four (marked JB) were drawn by Jeanne Bernier of the Monterey Peninsula Regional Park District. The other five are direct copies from the following sources:

Hitchcock, A.S. Manual of the Grasses of the United States U.S. Dept. of Agric. Misc. Pub. No. 20: 1935.  
(P. 9, Holcus lanatus and Polypogon monspeliensis.)

Parsons, M.E. The Wild Flowers of California, 3rd Ed. Cunningham, Curtiss and Welch: 1907. Illus. by Margaret Warriner Buck.  
(P. 21, Sidalcea malvaeflora and Lithophragma affine.)

Sudworth, George. Forest Trees of the Pacific Slope, U.S. Gov't Printing Office: 1908.  
(P. 17, Pinus radiata.)

# Habitat Descriptions

## Willow Woods

A moist habitat dominated by willows. Since most of the areas in this category are very shady, few other species live here. Most plants in this habitat are native.

During the rainy season of '82-83 much sand was washed into the park via Del Rey Oaks Creek, especially in the south end. These moist flats provided a perfect seedbed for willows, and hundreds of their seedlings appeared in the spring. As these grow, a substantial expansion of the Willow Woods will occur.

Arroyo willow is the dominant and most abundant plant, with blackberry underneath in areas which are not seasonally inundated.

pp. 2-3

## Marsh - Meadow - Pond - Brook - Creek

Habitats with year-round moisture in the soil and sometimes with water standing over or flowing over its surface. Whereas the brooks and creeks flow year-round, surface water disappears from the Frog Pond during summer and fall, and lush annual and perennial vegetation takes its place.

The vegetation in these habitats is predominately native; many of these native species have an extremely wide distribution: across the country, even around the world. The number of species is greatest in the Meadow habitat where the plants are not inundated but are still kept moist all year, and where they also receive the greatest amount of sunlight.

The most abundant plants are rushes, silverweed, three-square and cattails.

pp. 4-10

## Grassland

A sunny habitat with dry soil in the summer; dominated by annual herbs. Most of the Grassland here is covered by introduced species. There are quite a few native plants here, but they do not cover nearly as much area as the alien species.

Wild oat is by far the most abundant species.

pp. 11-15

## Oak - Redwood - Pine

Shady habitats with dry surface soil during the summer; dominated by trees. Most of the trees and shrubs in these habitats are natives with distributions limited to this state or only a few western states. There are quite a few introduced herbaceous species in the undergrowth, however.

Coast live oaks are the most abundant trees, with a number of planted redwoods and a few planted Monterey pines (and one probably self-sown sapling) also dominating the habitat. Blackberry, poison-oak and bracken fern are the most common plants underneath the trees.

pp. 16-21

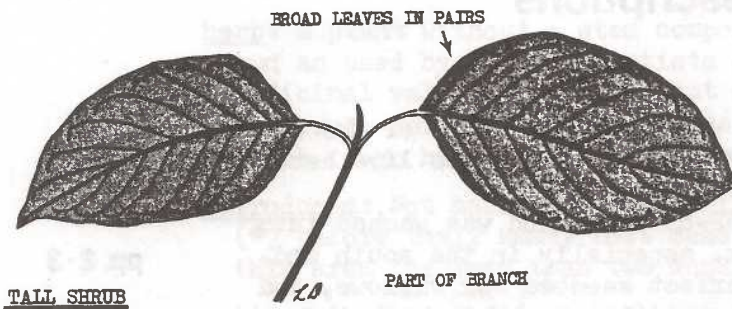
## Scrub

A sunny habitat with very dry soil in the summer; dominated by shrubs. This association of plants occupies very little of this park, but it is almost completely composed of native species.

Sagebrush is the most abundant plant.

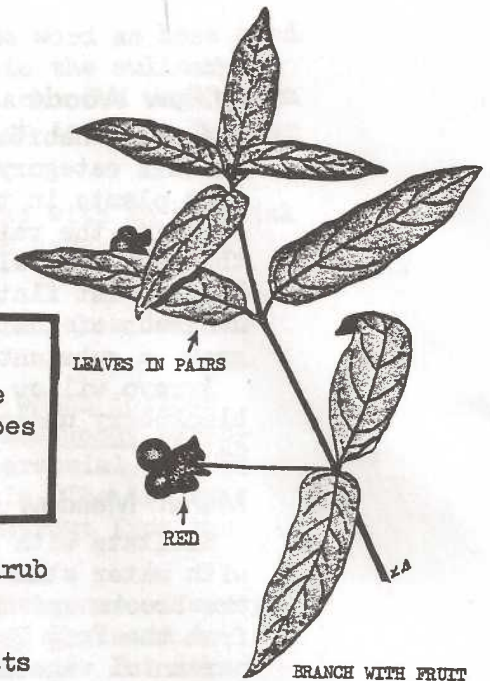
p. 22

## Willow Woods



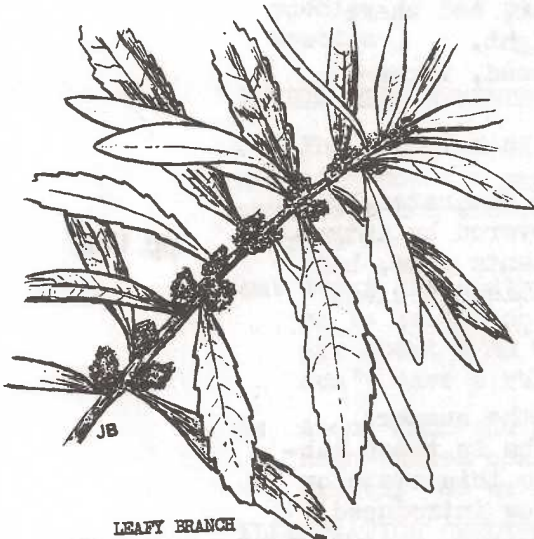
TALL SHRUB

**WESTERN CREEK DOGWOOD.** Cornus occidentalis (DOGWOOD FAMILY). Tall shrub common in moist places. Its small white flowers are borne in clusters and followed by white fruit. This species does not have the large white, petal-like leaves that "flowering dogwoods" have.



TALL SHRUB

**TWINBERRY.** Lonicera involucrata (HONEYSUCKLE FAMILY). Erect shrub with leaves in pairs. Its yellow, tubular flowers are also in pairs, followed by black "twin" berries. The most noticeable characteristic of this plant is the bright red, leaf-like bracts underneath the fruit. This species is widespread in moist places in North America.



SMALL TREE OR LARGE SHRUB

**CALIFORNIA WAX-MYRTLE;** Pacific bayberry. Myrica californica (WAX-MYRTLE FAMILY). Found in canyons and moist areas at low elevations from the Santa Monica Mountains in southern California north to Washington. The berry-like fruit is covered with waxy grains. Wax-myrtle makes a handsome tree or large shrub for shady coastal gardens.

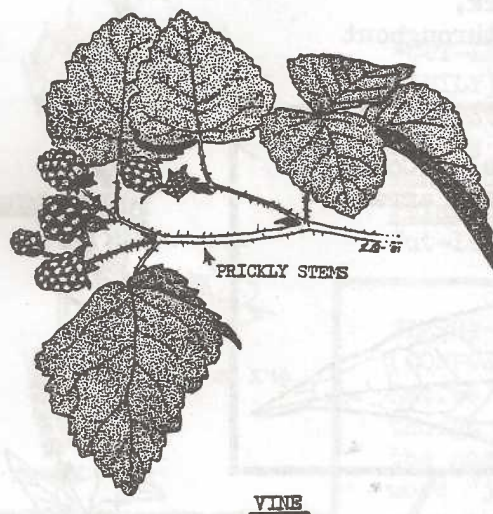
**YELLOW WILLOW;** Pacific willow; black willow. Salix lasiandra (WILLOW FAMILY). This species is widespread throughout the West, especially along stream banks; it ranges from Alaska to Idaho and south to northern Mexico. This is a fairly broad range for a plant; many kinds of plants are found only in one state or even in one county. Notice how its leaves taper to a narrow point and how furrowed its bark is.



TREE

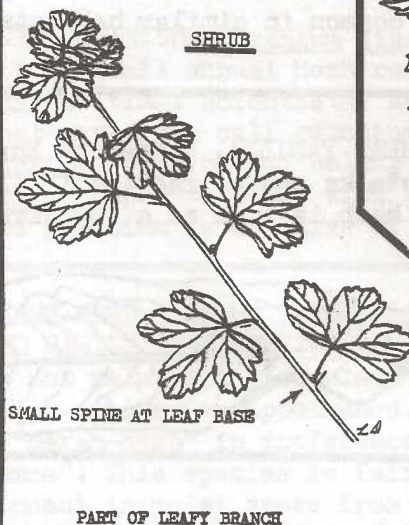
**ARROYO WILLOW.** Salix lasiolepis (WILLOW FAMILY). The most abundant tree in the Frog Pond Natural Area, and also the most common willow along streams in California. Grows rapidly: many feet a year. Leaves turn yellow-gold in late fall just before they are dropped. Tiny clusters of flowers in "catkins" appear before the new leaves in late winter. Leafless willow cuttings are easily rooted in water or wet sand.





VINE

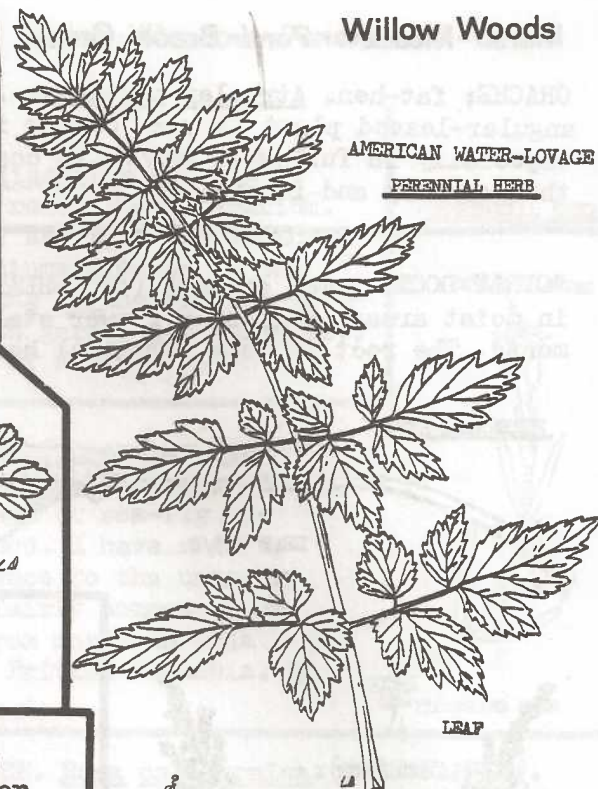
STRAGGLY GOOSEBERRY



SHRUB

SMALL SPINE AT LEAF BASE

PART OF LEAFY BRANCH



AMERICAN WATER-LOVAGE  
PERENNIAL HERB

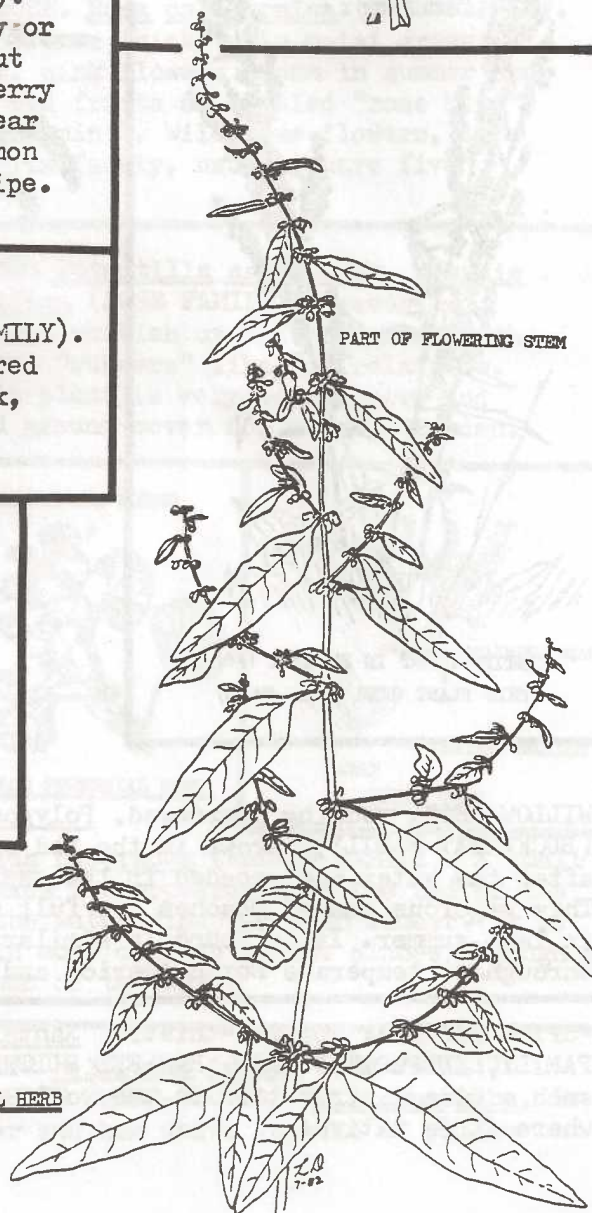
LEAF

CALIFORNIA BLACKBERRY. Rubus vitifolius (ROSE FAMILY). Very common in this park except where the soil is dry or constantly wet. Sometimes mistaken for poison-oak, but poison-oak never has thorns or prickles while blackberry is very prickly. The white flowers of blackberry appear mostly in late spring or summer; its berries are common here in June and July and are sweet and juicy when ripe.

STRAGGLY GOOSEBERRY. Ribes divaricatum (SAXIFRAGE FAMILY). A shrub of moist, shady places. Its small, dull-colored flowers in spring are followed by small, smooth black, edible—but tart—berries in summer. (ILLUSTRATION ABOVE MIDDLE)

AMERICAN WATER-LOVAGE; Pacific oenanthe. Oenanthe sarmentosa (PARSLEY FAMILY). A common and wide-spread, but little noticed, perennial herb of marshes and slow-moving water throughout California outside of the deserts. In summer, it produces clusters of showy white flowers. (ILLUSTRATION ABOVE RIGHT CORNER)

\*GREEN DOCK; clustered dock. Rumex conglomeratus (BUCKWHEAT FAMILY). A perennial herb, native of Europe, that is common in moist places. Dock leaves are said to be good for relieving the sting of nettles. COMPARE WITH CURLY DOCK, P. 4.



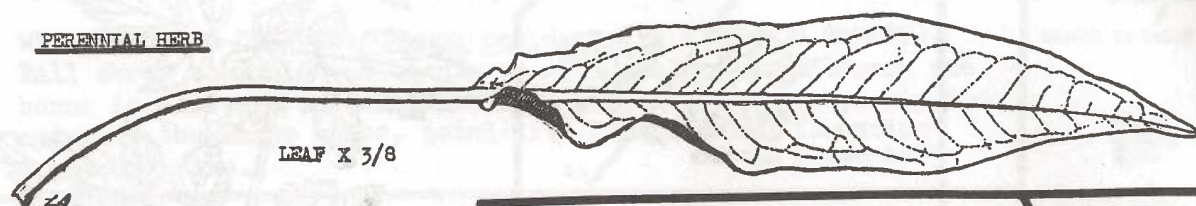
PERENNIAL HERB

## Marsh - Meadow - Pond - Brook - Creek

ORACHE; fat-hen. Atriplex patula ssp. hastata (GOOSEFOOT FAMILY). This triangular-leaved plant is very common in moist areas of this park, especially in full sun. Orache is common in similar habitats throughout this country and in Eurasia.

\*CURLY DOCK. Rumex crispus (BUCKWHEAT FAMILY). Native of Eurasia. Common in moist areas. The dried flower stalks are attractive in flower arrangements. The root of this perennial herb is used as a laxative.

### PERENNIAL HERB



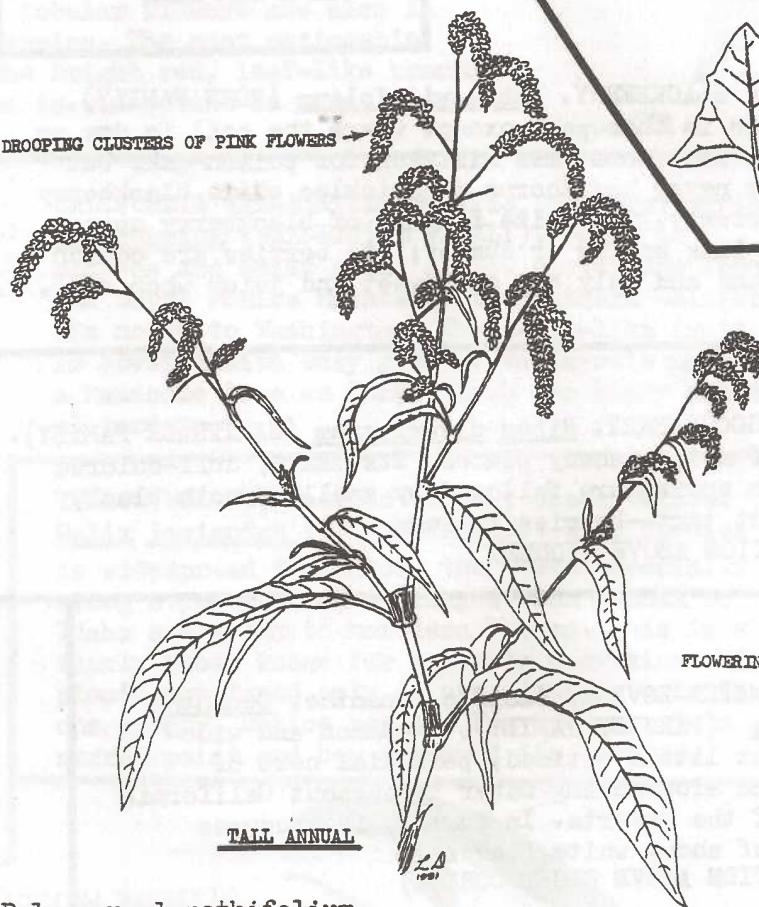
LEAF X 3/8



RED FRUIT X 1

ENTIRE PLANT IN FRUIT X 1/8  
(THIS PLANT OVER 70 cm TALL)

DROOPING CLUSTERS OF PINK FLOWERS



TALL ANNUAL

FLOWERING BRANCH



LEAF

ANNUAL HERE

FLOWERING BRANCH

WILLOW-WEED; nodding smartweed. Polygonum lapathifolium (BUCKWHEAT FAMILY). Grows in the bed of the Frog Pond after the water has receded in late spring or summer. This vigorous annual reaches its full size and blooms in late summer. It is found in similar habitats throughout temperate North America and Eurasia.

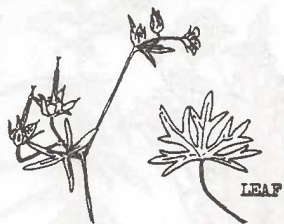
\*SPINY CLOMBUR; Spanish-thistle. Xanthium spinosum (COMPOSITE FAMILY, SUNFLOWER TRIBE, RAGWEED SUBTRIBE). A common spiny weed of such a wide distribution in the world that scientists are not sure where it is native.



ANNUAL HERB

SPINY BURS

PART OF STEM



ANNUAL HERB



FRUIT X 1-3/8

PINK PETALS

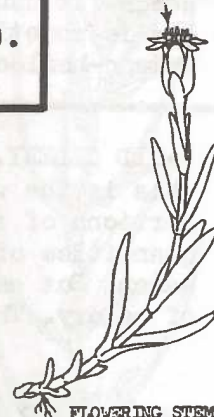


FLOWER X 1 1/2

\*CUT-LEAVED GERANIUM. Geranium dissectum (GERANIUM FAMILY). This small annual herb really is a geranium. But botanists (plant scientists) say that the common plants that gardeners call geraniums are not in the genus Geranium, but instead belong in the genus Pelargonium (lumped together with garden pelargoniums). Cut-leaved geranium is a native of Europe.

PERENNIAL HERB

YELLOW FLOWERS



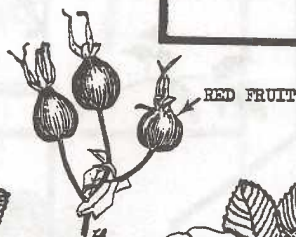
FLOWERING STEM

FLESHY MARSH-HERB; fleshy jaumea. Jaumea carnosa (COMPOSITE FAMILY, SNEEZEWEED TRIBE). This succulent native is not related to ice plant or sea-fig although it is similar in appearance. I have made up the name "marsh-herb" in preference to the unsavory word "jaumea". This species is fairly common at or near the coast in moist areas from northern Baja California to Vancouver Island, British Columbia.

SHRUB



LEAF



RED FRUIT



PINK FLOWER

CALIFORNIA WILD ROSE. Rosa californica (ROSE FAMILY). This thorny shrub forms thickets in moist areas. Its strongly fragrant, pink flowers bloom in summer and fall. The bright red fruits are called "rose hips" and are high in vitamin C. Wild rose flowers, like other members of its family, usually have five petals.

PACIFIC SILVERWEED. Potentilla egedii var. grandis = Potentilla pacifica (ROSE FAMILY). Leaves are bright green on top, whitish or silvery underneath. Silverweed produces "runners" like its relatives, strawberries. This plant is very competitive and would make a good ground cover for a moist garden.



YELLOW FLOWER

PERENNIAL HERB



DIVIDED LEAF

CREAM-COLORED FLOWER



LOW PERENNIAL HERB

FLOWER X 2 1/2



FLOWERING BRANCH



LEAF

INDIAN MELILOT

ERECT HERB

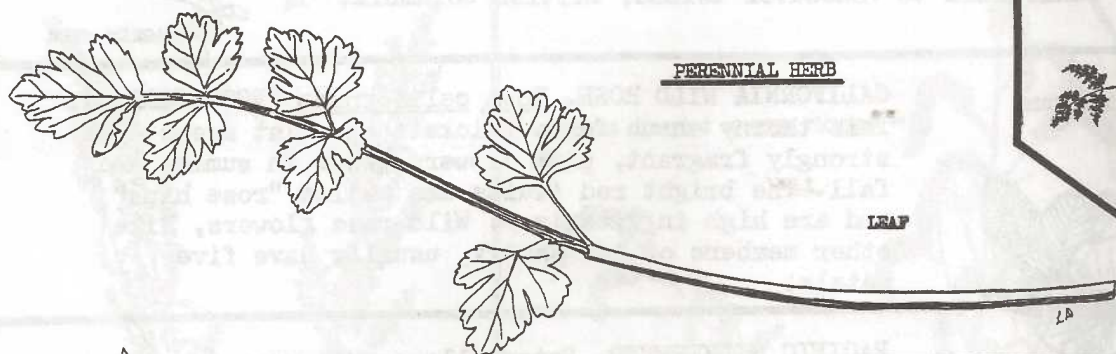
ALKALI MALLOW. Sida hederacea (MALLOW FAMILY). A small perennial that makes its appearance in the bed of the Frog Pond after the water disappears in summer. It is generally found in more or less saline places throughout California and much of the West.

\*INDIAN MELILOT; Indian sweet-clover. Melilotus indica (PEA FAMILY). A common weed native to Eurasia. \*WHITE SWEET-CLOVER, Melilotus alba, is also found in the park; it is taller and has white instead of yellow flowers.

## Marsh - Meadow - Pond - Brook - Creek

\***POISON-HEMLOCK**; poison fool's parsley. *Conium maculatum* (PARSLEY FAMILY). A poisonous plant in the same family as carrots, dill, fennel and celery, as well as the toxic water-hemlock. All parts of the plant can be dangerously poisonous if eaten, especially the root and the seeds. It usually has purplish spots on the lower stems and is sometimes mistaken for a fern when it is young. Poison-hemlock is naturalized from Europe.

\***WILD CELERY**. *Apium graveolens* (PARSLEY FAMILY). Although this is the wild form of the cultivated celery, the upper portions of the plant have been known to contain harmful quantities of nitrates and therefore it should not be eaten. But smell the leaves; they have the distinct scent of celery. This species is a native of Europe.

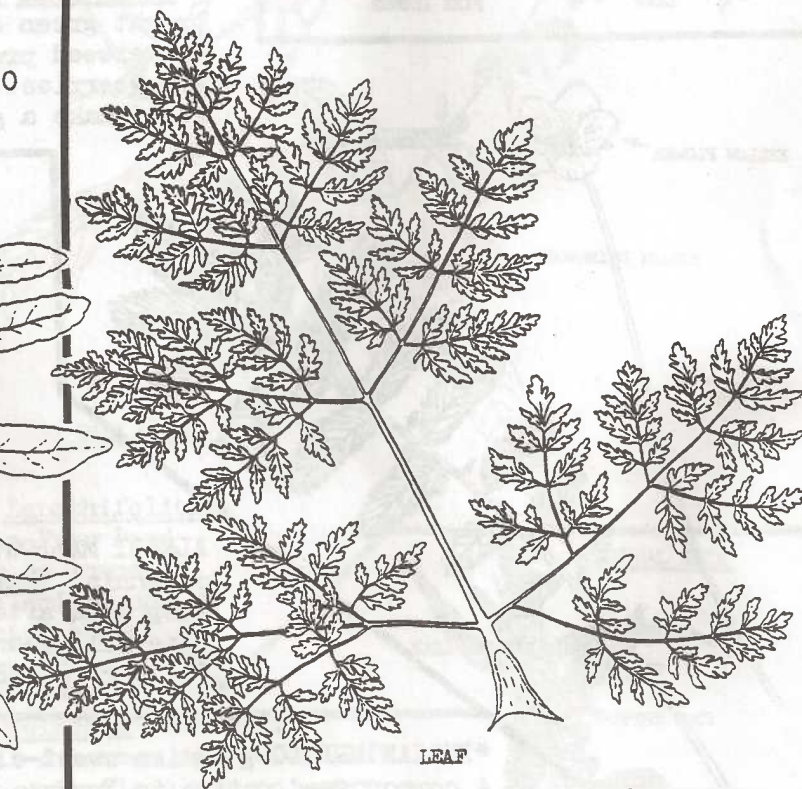
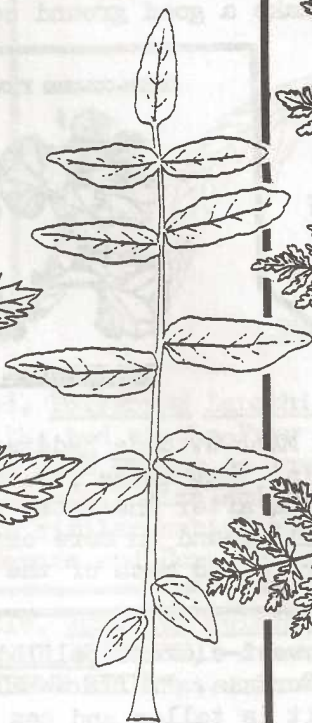


ENTIRE PLANT IN BLOOM X 1/18  
(THIS PLANT OVER 2 M TALL)

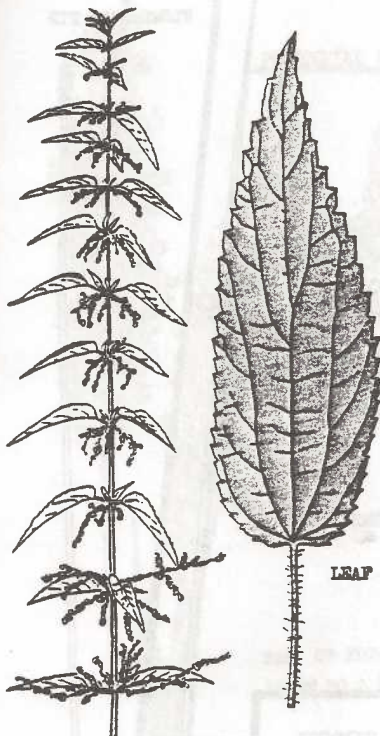


AMERICAN WATER-LOVAGE  
See text p. 3

WATER-CRESS  
See text p. 10



POISON-HEMLOCK

UPPER PART OF FLOWERING  
STEM X 1/8

LEAF

**HOARY NETTLE.** Urtica holosericea  
(NETTLE FAMILY). Tall perennial with  
stinging hairs on leaves and stems.  
DO NOT TOUCH unless you enjoy pain  
or are particularly adventurous. The  
sting contains formic acid, a sub-  
stance in the stings of some kinds  
of ants. Cooking destroys this acid  
and nettle leaves, when steamed or  
boiled, are edible and quite tasty.



PINK FLOWER X 1

SEED CAPSULES

TALL PERENNIAL

PART OF  
FLOWERING STEM

FLOWER X 1

**NORTHERN WILLOW-HERB.** Epilobium  
adenocaulon var. parishii (EVEN-  
ING-PRIMROSE FAMILY). A small-  
flowered relative of the "fireweed"  
common in wetter and more northern  
climates. In late summer, the dried  
seed capsules of northern willow-  
herb split open and release rows of  
fuzz-topped seeds to the wind.

LOW PERENNIAL HERB

FLOWERING STEM



**CHINESE PUSLEY; salt heliotrope.**  
Heliotropium curassavicum var. ocu-  
latum (BORAGE FAMILY). Common in  
alkaline or saline, often marshy  
soils. The white flowers have yel-  
lowish centers when new which turn  
purple as they age. The name "pus-  
ley" is a variation of "pursley"—  
which means "purslane", a similar  
plant of a different family.

PINKISH-PURPLE FLOWERS

BLOOMS IN SUMMER



WHITE FLOWERS



FLOWERING STEM

LEAF  
VARIATION

**\*BULL THISTLE.** Cirsium vulgare (COM-  
POSITE FAMILY, THISTLE TRIBE).  
Aggressive native of Europe. Very  
spiny.

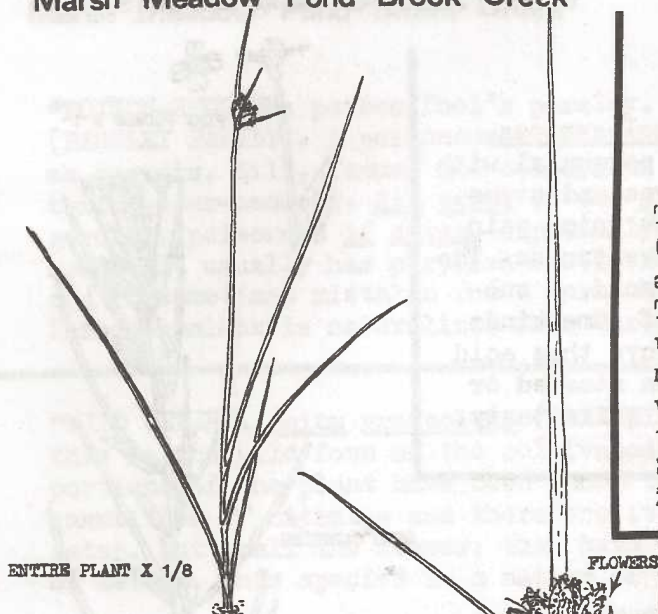
BIENNIAL  
HERB

VERY SPINY LEAF



**DOUGLAS'S BACCHARIS.** Baccharis  
douglasii (COMPOSITE FAMILY, ASTER  
TRIBE). Shrub-like perennial, common  
in sunny, moist areas; less common  
in shade where its leaves grow wider  
and are a brighter green. Blooms in  
summer and early fall.

Marsh - Meadow - Pond - Brook - Creek



ENTIRE PLANT X 1/8

SALT-MARSH BULRUSH. Scirpus ro-bustus (SEDGE FAMILY). An extremely variable species found in wetlands throughout North America and in South America.

THREE-SQUARE. Scirpus americanus (SEDGE FAMILY). Stems are succulent and triangular in cross-section. This perennial spreads by means of underground stems. Like many other marsh plants, it has an extremely wide range: three-square is found throughout the United States, in South America, Europe and New Zealand.

FLOWERS

PART OF FLOWERING STEM

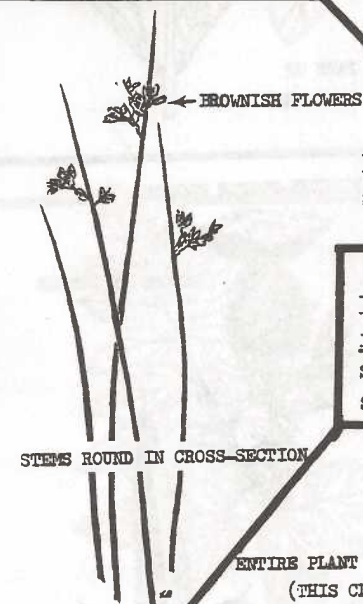
FLOWERS BELOW TIP

FLOWERS AT TIP

SPIKE-RUSH. Eleocharis sp. (SEDGE FAMILY). Similar to rushes but with with the brownish flowers at the tip of each stem.

(ILLUSTRATION FAR RIGHT)

SPIKE-RUSH



BROWNISH FLOWERS

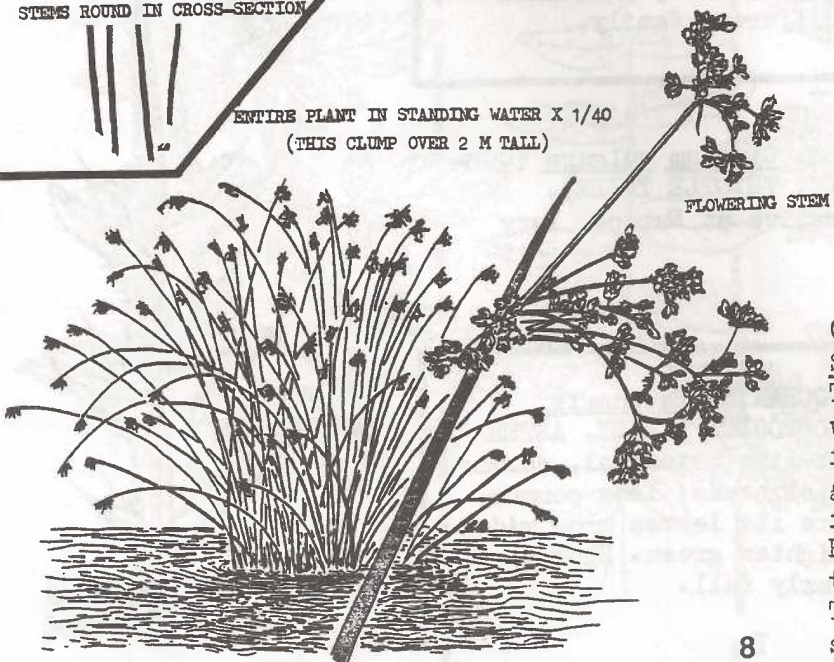
RUSH. Juncus sp. (RUSH FAMILY). At least four species of rush are found in this reserve.

BROAD-LEAVED CAT-TAIL; soft flag. Typha latifolia (CAT-TAIL FAMILY). The roots, young shoots and pollen of cattails are edible and said to be delicious when properly prepared.

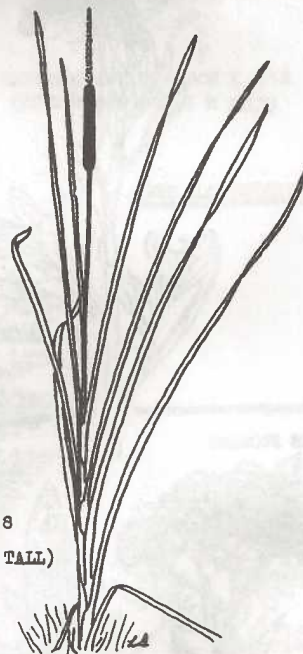
STEMS ROUND IN CROSS-SECTION

ENTIRE PLANT IN STANDING WATER X 1/40  
(THIS CLUMP OVER 2 M TALL)

FLOWERING STEM



ENTIRE PLANT X 1/18  
(THIS PLANT OVER 1.5 M TALL)



CALIFORNIA TULE; California bulrush. Scirpus californicus (SEDGE FAMILY). This species is abundant in fresh-water marshes in coastal California from Marin County south. It also grows from South Carolina to Florida, in temperate South America and in the Hawaiian Islands. The tall stalks that you see on this plant are stems. The leaves are nothing but short sheaths at the base of these stems.

PERENNIAL HERB

\*VELVET GRASS. Holcus lanatus (GRASS FAMILY). This cultivated native of Europe is abundant in this state. Its leaves are very soft.



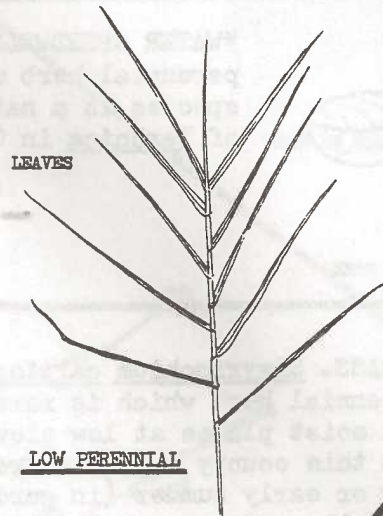
PART OF FLOWERING STEMS  
30 CM TO 1 M TALL

\*RABBITFOOT GRASS. Polypogon monspeliensis (GRASS FAMILY). An annual grass of moist areas, introduced from Europe. Soft, dense flower clusters feel like a rabbit's foot.



PART OF FLOWERING STEM

SALT GRASS. Distichlis spicata (GRASS FAMILY). A low, coarse mat-forming grass of moist, saline or alkaline soils. Salt grass is found across the United States, in southern Canada and in Mexico. Related species are found in South America and Sudan.



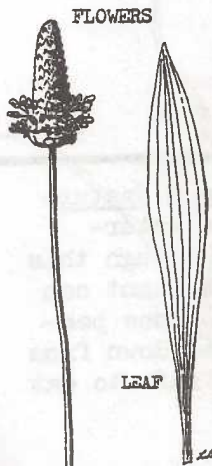
LEAVES

LOW PERENNIAL

ANNUAL 15 TO 50 CM TALL

\*CUT-LEAVED PLANTAIN. Plantago coronopus (PLANTAIN FAMILY). An introduction from Europe common near the coast. Although plantains are supposed to be primarily wind-pollinated, the brownish flowers of this species attract honey bees. "Plantain" is pronounced "PLAN-tin".

\*ENGLISH PLANTAIN; ribgrass; ribwort; buckhorn. Plantago lanceolata (PLANTAIN FAMILY). This is a common perennial weed from Europe.

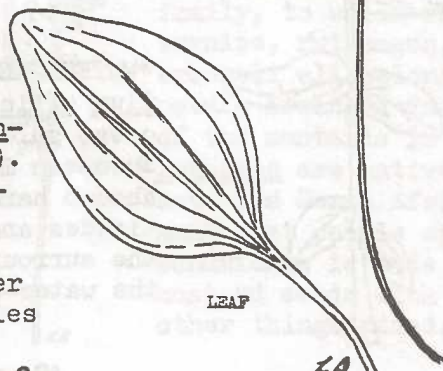


FLOWERS

LEAF

PERENNIAL HERB

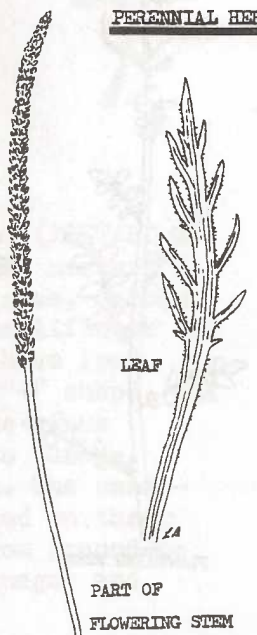
\*BROAD-LEAVED PLANTAIN. Plantago major (PLANTAIN FAMILY). This perennial herb is similar to English plantain except that it has broader leaves and a longer, narrower spike of flowers. This species is a native of Europe.



FLOWERING STEM

LEAF

PERENNIAL HERB



LEAF

PART OF FLOWERING STEM

## Marsh - Meadow - Pond - Brook - Creek

SHINY, UMBRELLA-LIKE LEAF



ENTIRE PLANT



PART OF LEAFY STEM

MARSH PENNYWORT. Hydrocotyle sp. (PARSLEY FAMILY). A perennial of marshes and wet places. It is widely distributed across the United States.

GRASS POLY; hyssop loosestrife. Lythrum hyssopifolia (LOOSESTRIFE FAMILY). An annual or perennial herb of moist places. It has pinkish-purple flowers which usually have six petals; it blooms during the spring, summer or early fall. Grass poly is found throughout this country and in Europe.



FLOWERS

PART OF FLOWERING STEM

\*WATER SPEEDWELL. Veronica anagallis-aquatica (FIGWORT FAMILY). A perennial herb which has small purple flowers in summer. This species is a native of Europe; there are about seven native species of Veronica in California, out of about 250 kinds in the world.

GOLDEN-EYED-GRASS. Sisyrinchium californicum (IRIS FAMILY). A perennial herb which is rare in this park. It is found in moist places at low elevations near the coast from this county north to Oregon. It blooms in late spring or early summer (in gardens, it may flower sporadically over a much longer season).

YELLOW FLOWER



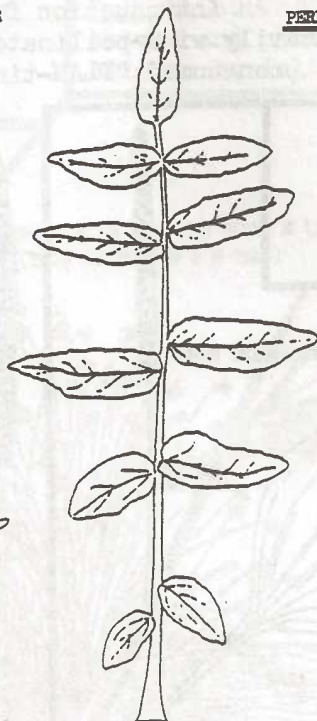
ENTIRE PLANT X 2/9

WHITE FLOWERS



FLOWERING STEM

PERENNIAL HERB



LEAF VARIATIONS

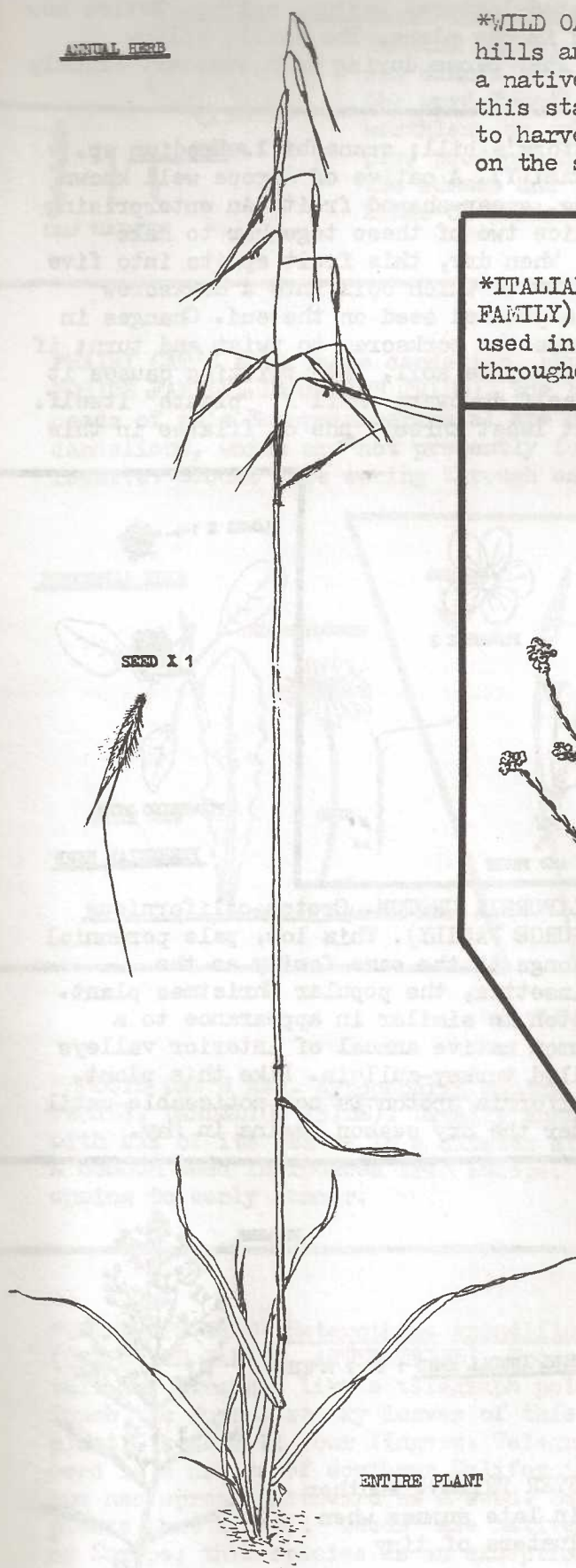


\*WATER-CRESS. Rorippa nasturtium-aquaticum = Nasturtium officinale (MUSTARD FAMILY). The same water-cress sold in stores for its edibility. Although this European immigrant is normally edible, the plant can absorb harmful pollutants from the water. Since pesticides and other chemicals may have washed down from the surrounding residences, it may not be safe to eat the water-cress here.

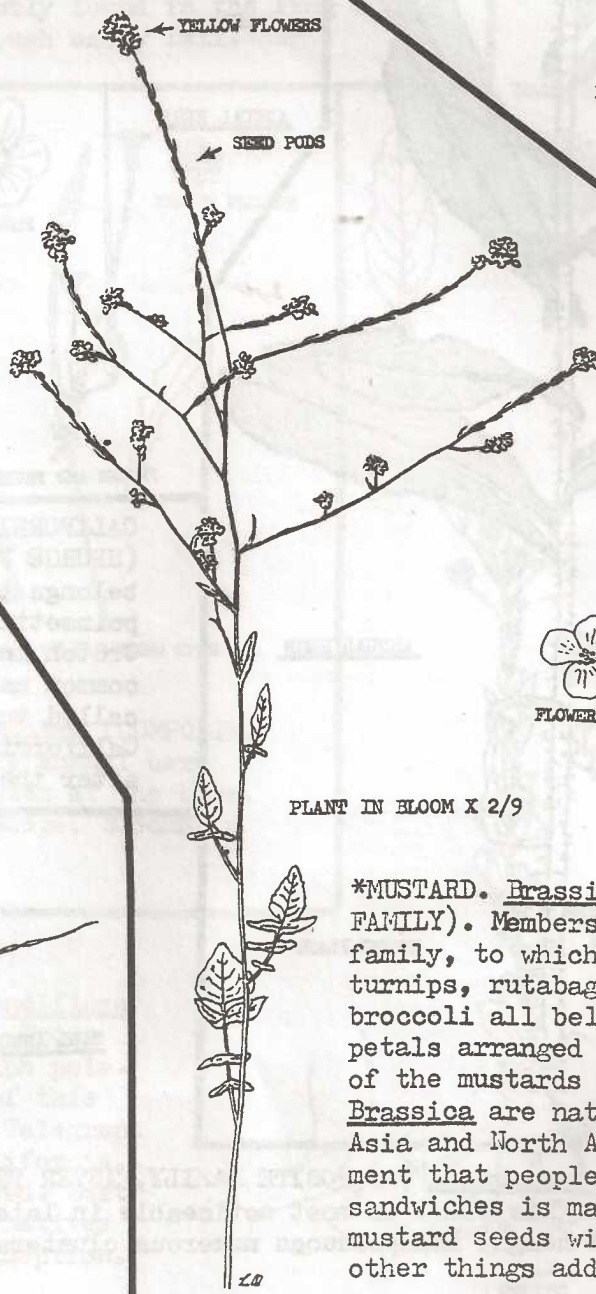
ANNUAL HERE

\*WILD OAT. Avena sp. (GRASS FAMILY). Common on hills and in valleys throughout California. It is a native of Europe that was first introduced to this state at least 160 years ago. Indians learned to harvest it and to singe off the bristly hairs on the seed coats with fire.

\*ITALIAN RYEGRASS. Lolium multiflorum (GRASS FAMILY). This is a European plant that is often used in lawns. It now grows in disturbed soils throughout the state.



ENTIRE PLANT



PLANT IN BLOOM X 2/9

PART OF FLOWERING STEM



FLOWER X 1

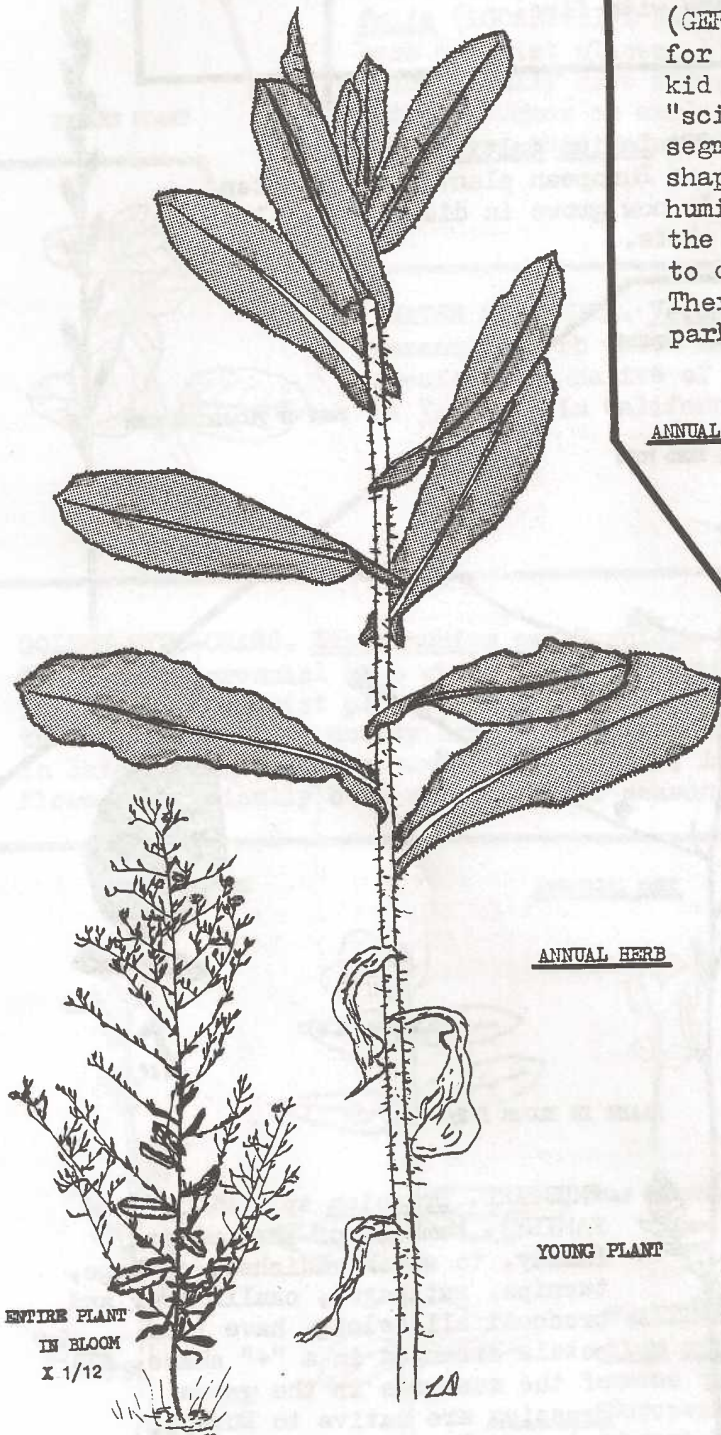


LEAF

\*MUSTARD. Brassica sp. (MUSTARD FAMILY). Members of the mustard family, to which radishes, cabbage, turnips, rutabagas, cauliflower and broccoli all belong, have four petals arranged in a "+" shape. All of the mustards in the genus Brassica are native to Europe, Asia and North Africa. The condiment that people spread on their sandwiches is made from ground-up mustard seeds with vinegar and other things added.

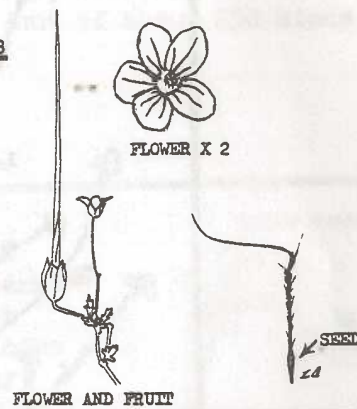
## Grassland

\*PRICKLY LETTUCE. Lactuca serriola var. integrata (COMPOSITE FAMILY, DANDELION TRIBE). This coarse bristly annual is a close relative of cultivated lettuce, Lactuca sativa. Notice how its pale green, prickly leaves are set "on edge" and in one plane. The small, yellow dandelion-like flower heads are produced in summer; they close during warm weather. Prickly lettuce is a native of Europe.



\*FILAREE; stork's bill; cranesbill. Erodium sp. (GERANIUM FAMILY). A native of Europe well known for its long, spear-shaped fruit. An enterprising kid can splice two of these together to make "scissors". When dry, this fruit splits into five segments, each of which coil into a corkscrew shape with a pointed seed on the end. Changes in humidity cause the corkscrew to twist and turn; if the seed is on bare soil, this twisting causes it to drill itself downward until it "plants" itself. There are at least three kinds of filaree in this park.

ANNUAL HERB



PERENNIAL HERB

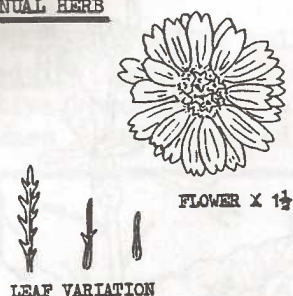
CALIFORNIA CROTON. Croton californicus (SPURGE FAMILY). This low, pale perennial belongs to the same family as the poinsettia, the popular Christmas plant. Croton is similar in appearance to a common native annual of interior valleys called turkey-mullein. Like this plant, California croton is not noticeable until after the dry season begins in May.

TALL ANNUAL HERB 1 TO 2 M HIGH



\*HORSEWEED. Conyza canadensis (COMPOSITE FAMILY, ASTER TRIBE). Another European immigrant. This plant is most noticeable in late summer when it reaches its full height and produces numerous clusters of tiny flowers.

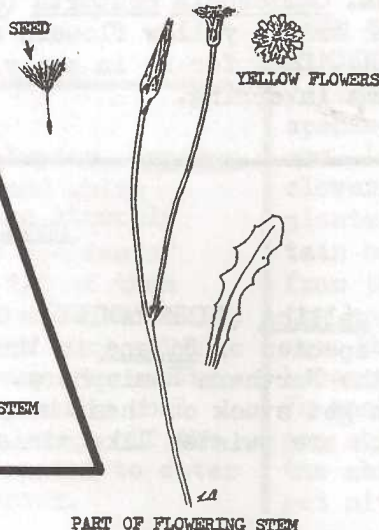
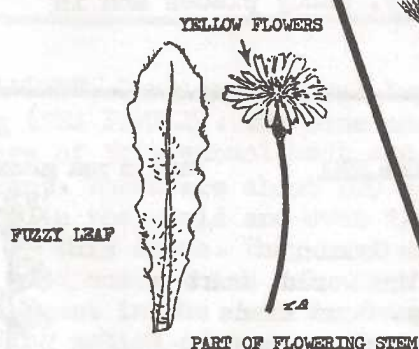
## ANNUAL HERB



COAST TARWEED. Hemizonia corymbosa (COMPOSITE FAMILY, TARWEED TRIBE). Many wild plants were named by people who didn't care for wild plants. Thus species which have the word "weed" as part of their name are not necessarily worthless or ugly. Coast tarweed, for example, produces bright yellow flower heads in the summer and its seeds are eaten by many kinds of birds.

\*HAIRY CAT'S EAR; false dandelion. Hypochoeris radicata (COMPOSITE FAMILY, DANDELION TRIBE). The bright yellow flower heads of this European perennial are commonly confused with dandelions, which are not presently found in the Frog Pond reserve. Blooms late spring through early fall.

## PERENNIAL HERB



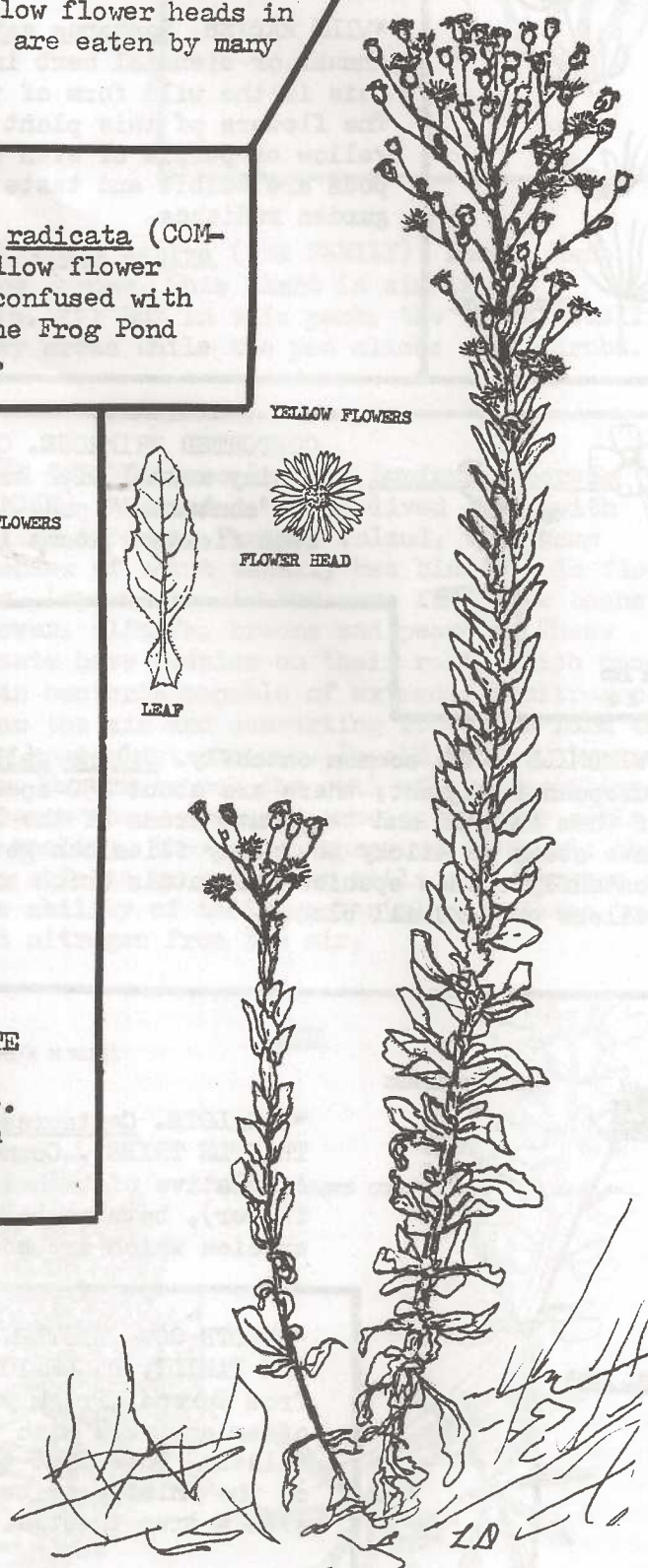
YELLOW FLOWERS



FLOWER HEAD

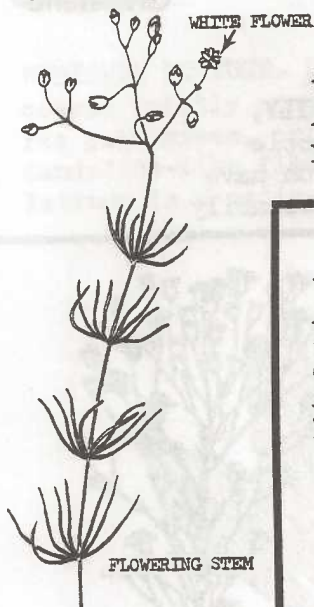
\*SMOOTH CAT'S EAR. Hypochoeris glabra (COMPOSITE FAMILY, DANDELION TRIBE). Usually annual herb with all of its leaves in a cluster at the base. A common weed introduced from Europe. Blooms in spring to early summer.

\*TELEGRAPH WEED. Heterotheca grandiflora (COMPOSITE FAMILY, ASTER TRIBE). Grows tall and straight like a telegraph pole. Touch the fuzzy, sticky leaves of this plant, then smell your fingers. Telegraph weed is a native of southern California, but has spread northward as a weed. Most plants that we call "weeds" are natives of Europe; this species is an exception.



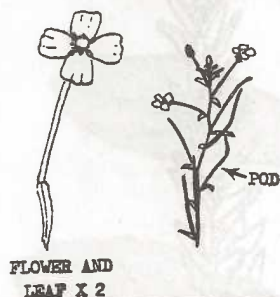
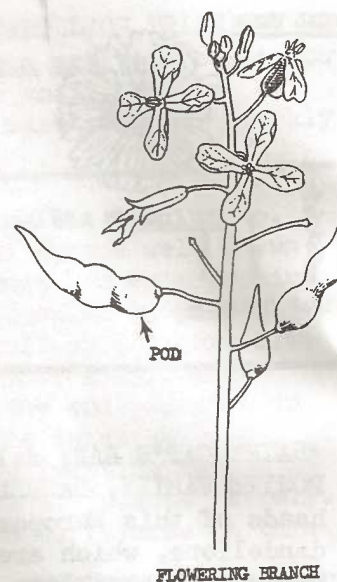
ENTIRE PLANT X 1/5

## Grassland



\*CORN SPURREY. Spergula arvensis (PINK FAMILY). Annual herb introduced from Europe. This little plant belongs to the same family as carnations.

\*WILD RADISH. Raphanus sativus (MUSTARD FAMILY). Annual or biennial herb introduced from Europe; this is the wild form of the cultivated radish. The flowers of this plant vary from white to yellow or purple or even tan-colored. The green pods are edible and taste like the root of garden radishes.

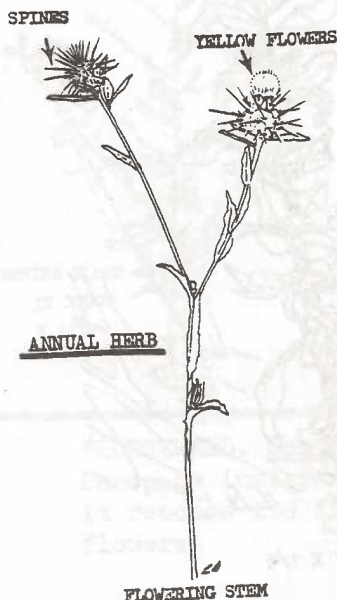


CONTORTED PRIMROSE. Camissonia contorta (EVENING-PRIMROSE FAMILY). A tiny annual with bright yellow flowers and slender, often curved or "contorted" pods. Look for it in sunny, sandy places and in open fields. Blooms in spring.

ANNUAL HERB

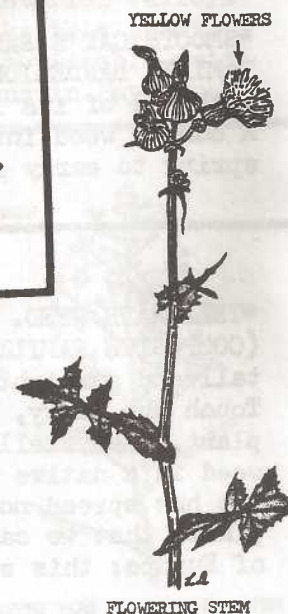
WHITE OR PINK FLOWERS

\*WINDMILL PINK; common catchfly. Silene gallica (PINK FAMILY). Common European immigrant; there are about 250 species of Silene in the world, most of them in cold and temperate areas of the Northern Hemisphere. Some kinds have stems so sticky that tiny flies can get stuck on them; hence the name "catchfly". This species has petals which are twisted like miniature propellers or windmill blades.



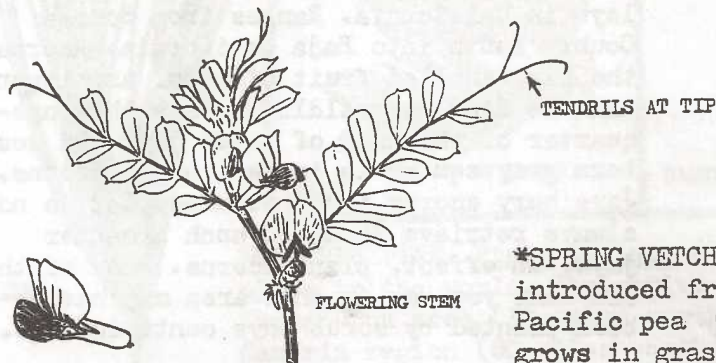
\*TOCALOTE. Centaurea melitensis (COMPOSITE FAMILY, THISTLE TRIBE). Common weed introduced from Europe. A relative of bachelor's button (a common garden flower), both members of a huge genus of about 500 species which are mostly native to the Old World.

\*SMOOTH SOW-THISTLE. Sonchus oleraceus (COMPOSITE FAMILY, DANDELION TRIBE). Annual introduced from Europe. Prickly plants like this one are often confused with thistles, but it is not a thistle. Note that tocalote (above) is a member of the thistle tribe; bull thistle (page 7) is also a true thistle.



## Grassland

\*HOTTENTOT-FIG; yellow iceplant. Carpobrotus edulis = Mesembryanthemum edule (CARPET WEED FAMILY). An aggressive, succulent South African native, brought to California for erosion control. Its fruit is yellow when ripe; it is edible inside and tastes something like a fig.



FLOWER RED-PURPLE X 5/6

\*SPRING VETCH. Vicia sativa (PEA FAMILY). Annual herb introduced from Europe. This plant is similar to Pacific pea (p. 21) but in this park, the vetch usually grows in grassy areas while the pea climbs over shrubs.

## LOW SPREADING ANNUAL

SKY LUPINE; Douglas's annual lupine. Lupinus nanus (PEA FAMILY). The blue and white flowers of this annual herb are strongly fragrant. There are about 200 species of lupine in the world and over 1/3 of them grow in this state. They have exceptionally hard seed coats which help them stay alive but dormant in the soil for many years. The grinding action of the usually sandy soil where lupines grow eventually wears off the tough seed coats. This allows water to enter the seeds so that they can sprout.

BUSH LUPINE; tree lupine. Lupinus arboreus (PEA FAMILY). A rounded, short-lived shrub with yellow flowers. Farther inland, this same species of shrub usually has blue-purple flowers. Lupines are in the same family as beans, clover, alfalfa, brooms and peanuts. These plants have nodules on their roots which contain bacteria capable of extracting nitrogen from the air and converting it into a form that the host plant can use. In old Europe, lupines were thought to rob the soil of its fertility because they were seen growing in poor soils. In reality, they were improving the soil; they are able to grow in poor soils only because of the ability of their bacterial associates to get nitrogen from the air.

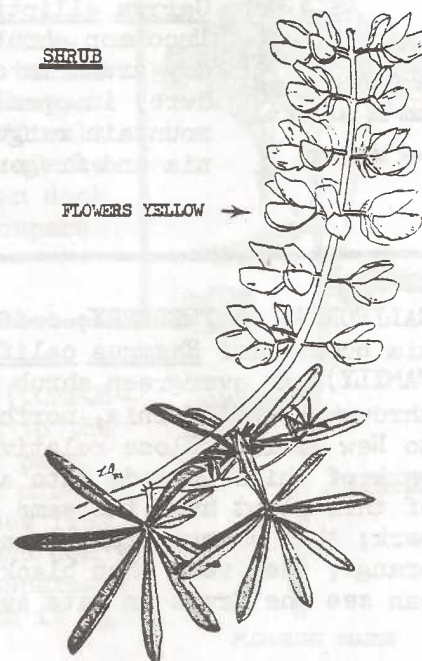
## ANNUAL HERB



ENTIRE PLANT X 1/25 (THIS PLANT 1-3/4 M TALL)



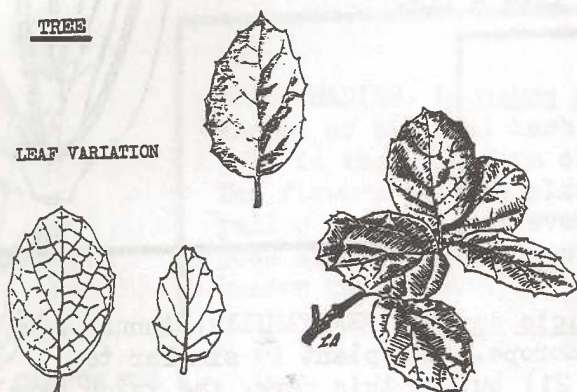
## SHRUB



## Oak- Redwood- Pine

TREE

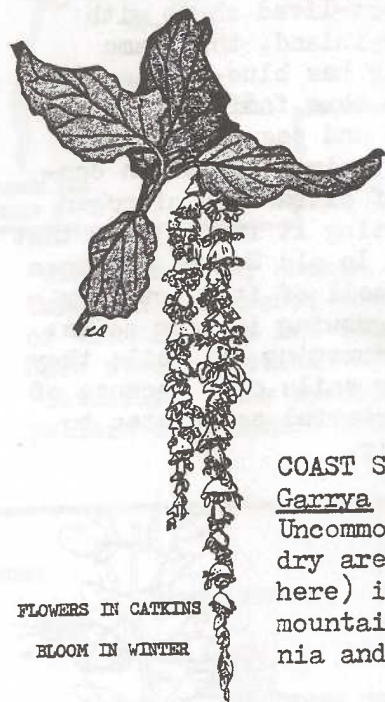
LEAF VARIATION



LEAFY STEM

COAST LIVE OAK; California live oak. Quercus agrifolia (BEECH FAMILY). The most common tree on coastal hillsides and valleys in California. Ranges from Sonoma County south into Baja California. Acorns, the hard-shelled fruit of oaks, are important as food for wildlife. More than one-quarter of the diet of scrub jays and western gray squirrels is made up of acorns. Jays bury acorns for future use but do not always retrieve them; in such a manner jays, in effect, plant acorns. Many of the old oaks you see in this area may have been planted by scrub jays centuries ago.

SHRUB



TOYON; Christmasberry; California-holly. Heteromeles arbutifolia (ROSE FAMILY). Long a favorite native shrub in gardens because of its evergreen foliage, white flowers in summer, and red berries in winter. Similar to coffeeberry (which is more common here), toyon can be distinguished by its stiffer and flatter leaves which are edged with stiff sharp teeth.

SHARP TEETH →

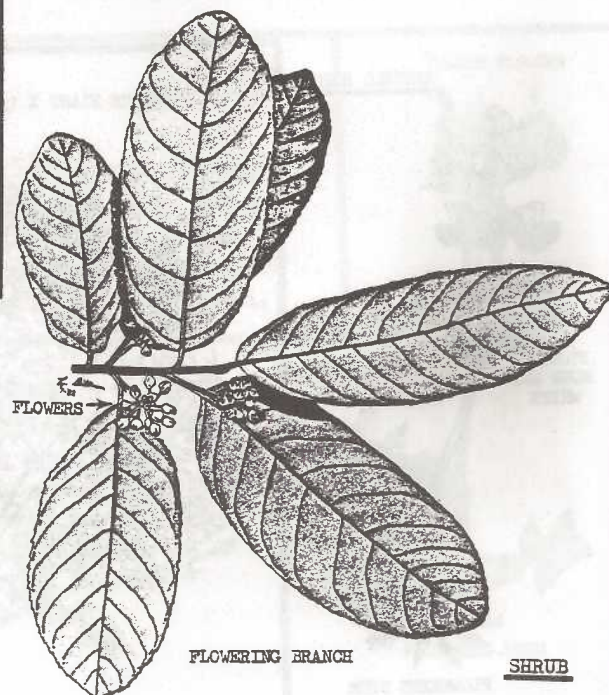


LARGE SHRUB

COAST SILK-TASSEL; silktassel bush. Garrya elliptica (SILK-TASSEL FAMILY). Uncommon shrub or small tree found in dry areas in chaparral or (like those here) in open woods in the coastal mountain ranges and hills of California and Oregon.

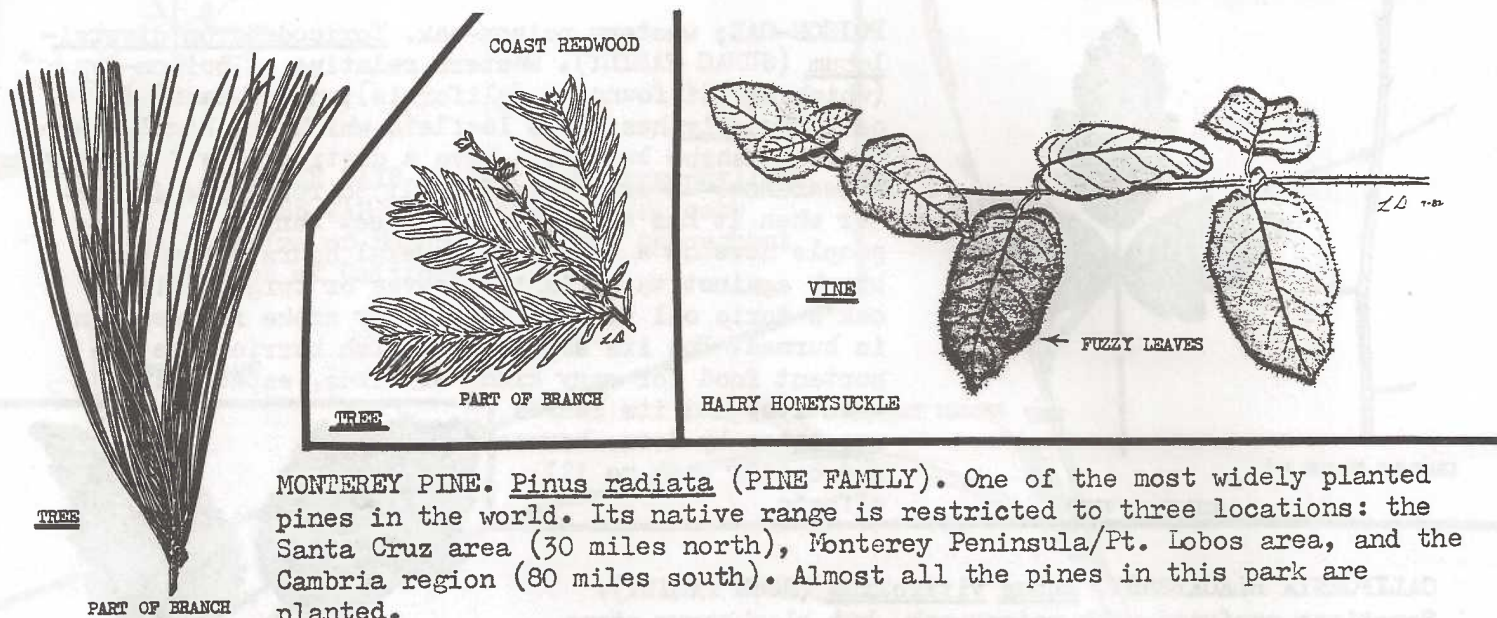
FLOWERS IN CATKINS  
BLOOM IN WINTER

CALIFORNIA COFFEEBERRY; coffeeberry; California buckthorn. Rhamnus californica (BUCKTHORN FAMILY). An evergreen shrub which is widespread throughout California, north to Oregon and east to New Mexico. Close relative of cascara, the bark of which is made into a laxative. The berries of this plant have the same effect as cascara bark; they change from green, to yellow, to orange, then red, then black as they ripen. You can see the fruit in late summer and early fall.



FLOWERING BRANCH

SHRUB



**MONTEREY PINE.** *Pinus radiata* (PINE FAMILY). One of the most widely planted pines in the world. Its native range is restricted to three locations: the Santa Cruz area (30 miles north), Monterey Peninsula/Pt. Lobos area, and the Cambria region (80 miles south). Almost all the pines in this park are planted.

**COAST REDWOOD.** *Sequoia sempervirens* (BALD CYPRESS FAMILY). Planted here presumably by the Work family, previous owners of this property and several square miles of adjacent land. It is probably not wet enough here for these trees to self-sow and perpetuate themselves. Their natural range is in moist coastal canyons and on hillsides where winter rains and summer fog are heavy, from southern Monterey County north to southern Oregon. The redwoods in northwestern California are the tallest known tree in the world, yet the seeds of the species are very small: it takes an average of 120,000 seeds to make a pound. (ABOVE, MIDDLE)

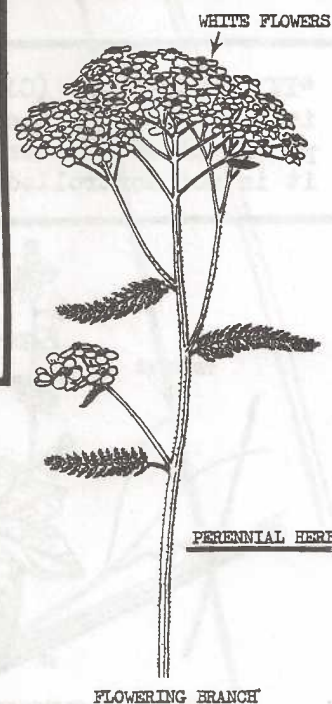
**HAIRY HONEYSUCKLE;** California honeysuckle. *Lonicera hispidula* var. *vacillans* (HONEYSUCKLE FAMILY). Climbing woody vine; one of among 100 species of *Lonicera* in the world. Its pink flowers which bloom in late spring or early summer are followed by red berries. This vine is one of the real honeysuckles. The shrub with the yellowish-orange flowers that local kids call honeysuckle is really sticky monkeyflower, a member of the figwort family. So as not to make common names any more misleading than they already are, it is best not to call monkeyflower by the name "honeysuckle". (HONEYSUCKLE ILLUSTRATION ABOVE RIGHT)

REDDISH OR YELLOWISH FLOWERS

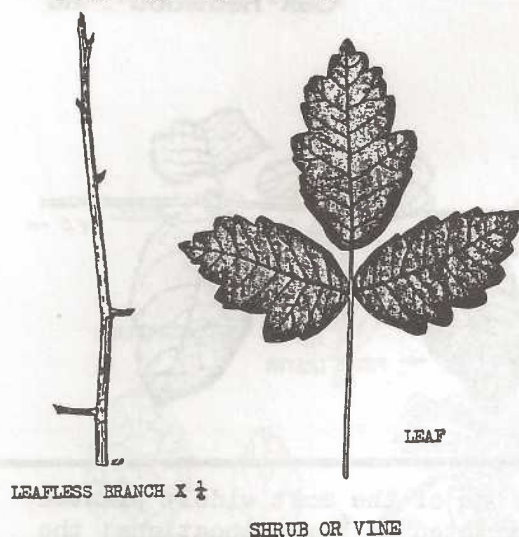


**\*SHEEP-SORREL.** *Rumex angiocarpus* (BUCKWHEAT FAMILY). A "dock" with a pleasantly sour taste to its leaves when they are young. This native of Europe spreads by underground rootstocks and is difficult to control in gardens. It is said to be one of the most abundant weeds in the country. See green dock and curly dock (pp 3 & 4, respectively) to compare sheep-sorrel with two other kinds of *Rumex*.

**COMMON YARROW; milfoil.** *Achillea borealis* (COMPOSITE FAMILY, MAYWEED TRIBE). Yarrow belongs to the same tribe of composites as sagebrush. Its pale green, finely divided leaves are sometimes mistaken for a fern until a flower stalk arises from their midst—or even afterwards by those who don't know that ferns never have flowers. (The asparagus "fern", which blooms, is not a fern—though it is an asparagus.)

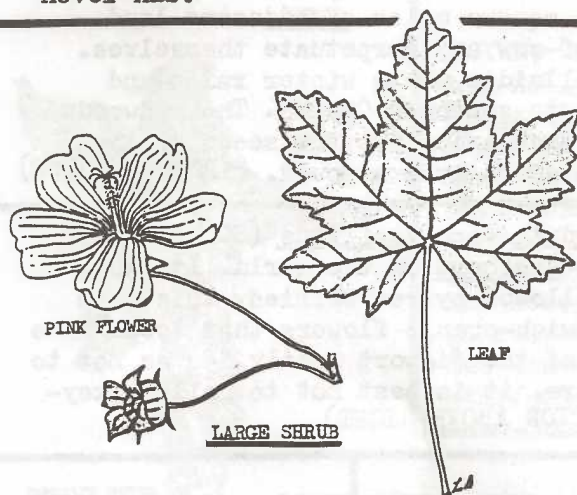
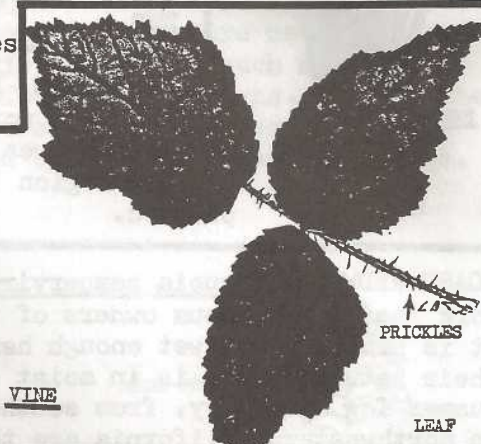


## Oak-Redwood-Pine



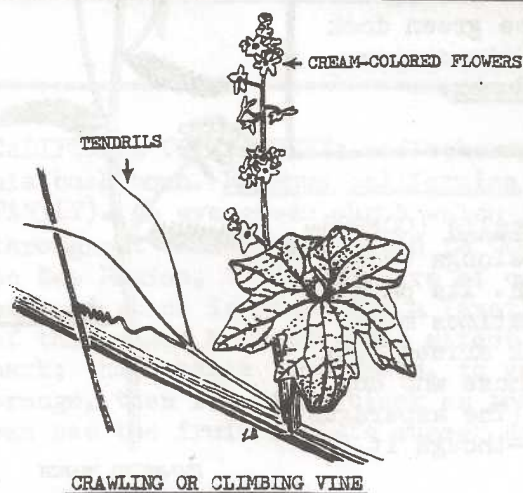
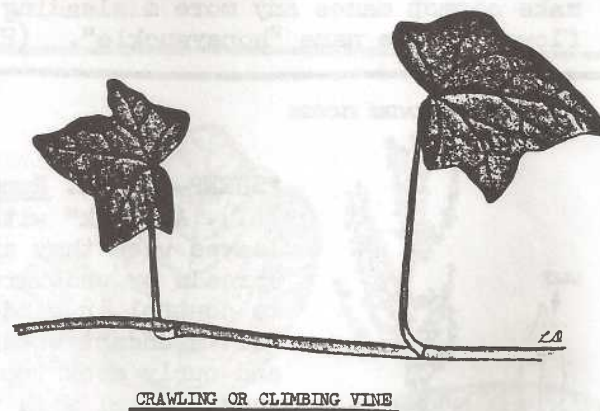
POISON-OAK; western poison-oak. Toxicodendron diversilobum (SUMAC FAMILY). Western relative of poison-ivy (which is not found in California); not related to oaks. Usually has three leaflets which are highly variable in shape but which have a distinct "wet" or oily appearance. It is more difficult to recognize in winter when it has dropped its leaves. Many people develop a skin rash several hours after they brush against this plant's leaves or twigs. Poison-oak's toxic oil is also carried by smoke if the plant is burned. But its small, yellowish berries are important food for many kinds of birds, especially wrentits, and its leaves are eaten by deer, horses and cattle with no ill effects.

CALIFORNIA BLACKBERRY. Rubus vitifolius (ROSE FAMILY). Sometimes confused with poison-oak, but blackberry stems and leaves are covered with prickles, which poison-oak never has.



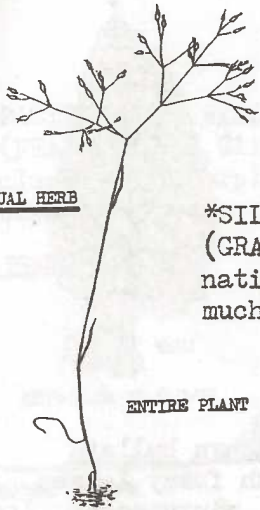
\*CALIFORNIA TREE-MALLOW; malva rosa. Lavatera assurgentiflora (MALLOW FAMILY). These pink-flowered shrubs bloom most of the year. They are native to the Channel Islands of southern California. They are often grown in gardens and occasionally naturalize in central California.

\*IVY. Hedera sp. (GINSENG FAMILY). This Eurasian plant is a vigorous escape from cultivation which has the potential of smothering much other vegetation here if it is not controlled.



COMMON MANROOT; wild cucumber. Marah fabaceus (GOURD FAMILY). Perennial vine, dormant in summer and fall. The climbing or sprawling young shoots can grow several inches a day in early winter, after they sprout from the large, yam-like tuber. The round, spiny fruit of this plant has four large brown seeds inside when it matures.

ANNUAL HERB



ENTIRE PLANT

\*SILVER HAIR GRASS. Aira carvophyllea (GRASS FAMILY). A common, delicate native of Europe now found throughout much of California.

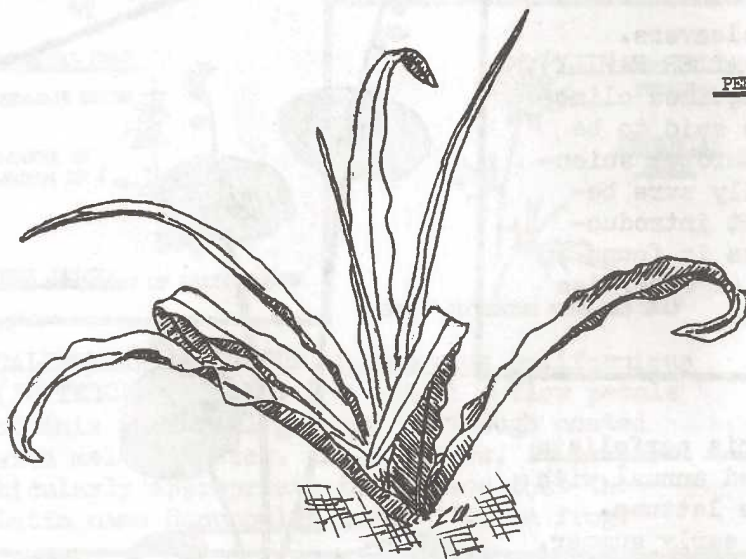
BROWNISH FLOWERS

FLOWERING STEM

SANTA BARBARA SEDGE. Carex barbarae (SEDGE FAMILY). Perennial with many long sharply-edged leaves which form a bushy clump. In this park, this species grows in moist areas in the oak woods.

AMOLE; soap root; soap plant. Chlorogalum pomeridianum (LILY FAMILY). This plant (the name is pronounced "ah-MO-lay") is remarkable for its fibrous bulb. The bulb was used by native tribes in three different ways: 1) It would lather up in water and was used as a soap; 2) when placed in slow moving streams it would stupefy the fish so that they could be easily caught by hand (this method is now illegal); and 3) it could be roasted and eaten. The white, star-like flowers of amole appear in summer. They do not open until just before sunset; they close in the morning.

PERENNIAL HERB



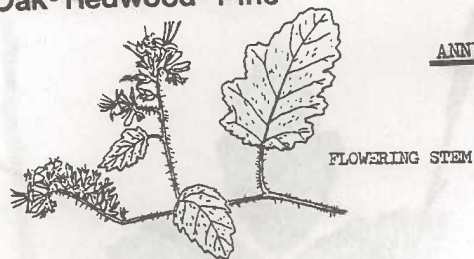
ENTIRE PLANT IN LATE WINTER X 2/5



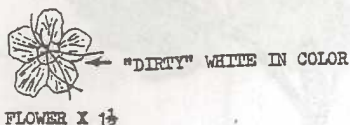
FIBROUS BULB

JB

## Oak-Redwood- Pine



ANNUAL HERB



"DIRTY" WHITE IN COLOR

STINGING PHACELIA. Phacelia malvaefolia (WATERLEAF FAMILY). Annual of shady woods and coastal scrubland coarsely covered with bristly hairs which seem to sting when touched, like a mild version of a nettle.

FLOWERS PURPLISH-PINK →



PERENNIAL HERB

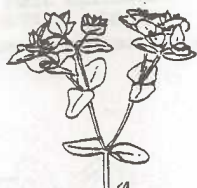
FLOWERING STEM



LEAF

WOOD MINT; hedge-nettle. Stachys bullata (MINT FAMILY). Perennial with fuzzy leaves and stems which have strong, minty scent. Its purplish-pink flowers are seen to be intricately marked when viewed closely.

ANNUAL HERB

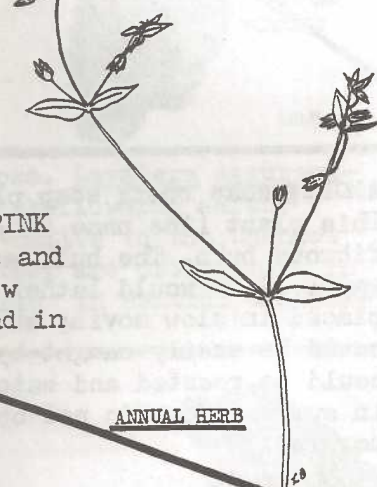


UPPER PART OF FLOWERING STEM

\*PETTY SPURGE. Euphorbia peplus (SPURGE FAMILY). A frequent annual weed mostly of moist places in gardens. It is a native of Europe.



WHITE FLOWER X 1



\*COMMON CHICKWEED. Stellaria media (PINK FAMILY). Weak-stemmed annual of woods and gardens. This native of Eurasia is now found throughout the United States and in Central and South America.



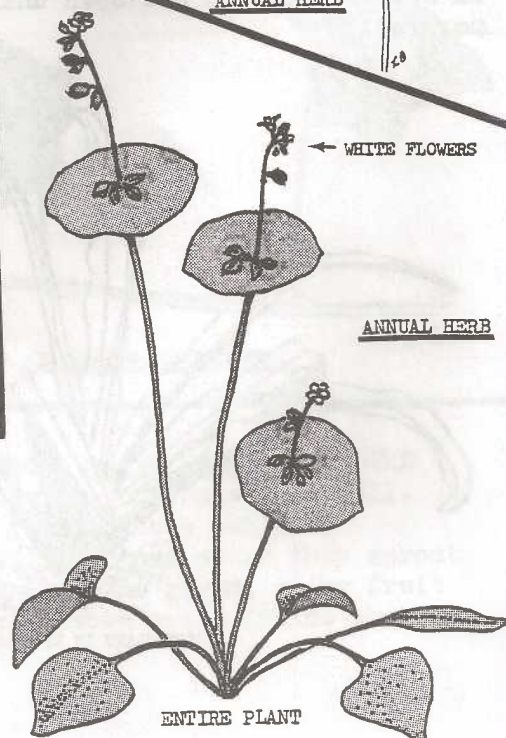
BUR-LIKE FRUIT

LEAVES IN WHORLS OF 6 TO 8

ANNUAL HERB

\*? GOOSE-GRASS; cleavers. Galium aparine (MADDER FAMILY). A crawling or sometimes climbing annual. It is said to be introduced from Europe; scientists aren't really sure because, unlike most introductions, goose-grass is found in many undisturbed or otherwise unaltered habitats.

ANNUAL HERB



WHITE FLOWERS

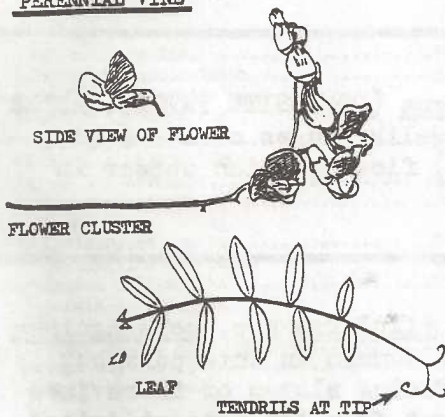
ANNUAL HERB

ENTIRE PLANT

INDIAN-LETTUCE; miner's lettuce. Claytonia perfoliata (PURSLANE FAMILY). Fragile, crisp-stemmed annual with edible leaves and stems which taste like lettuce. After this plant dies in late spring or early summer, it shrivels to such a degree that the only signs of the plant's earlier presence are a few tiny black seeds.

PACIFIC PEA; wild sweet pea. Lathyrus vestitus (PEA FAMILY). Climbing perennial vine with clusters of purple-pink flowers, followed by bean-like pods.

## PERENNIAL VINE

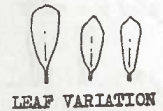


## SHRUB

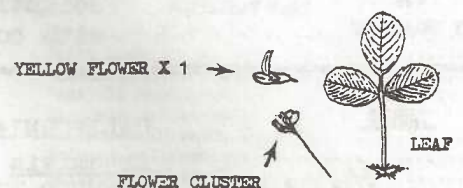


SANDMAT MANZANITA; dune manzanita. Arctostaphylos pumila (HEATHER FAMILY). One small specimen of this species grows along the Frog Pond Trail. Although common in sandy soil from the Monterey Peninsula Airport through Fort Ord, that is the only area in the world where it grows wild.

## SHRUB



BUR-CLOVER. Medicago polymorpha (PEA FAMILY). A common annual native of southern Europe now found through much of California. Like its close relative, alfalfa, it is a good pasture plant. Its burs cling readily to the fur of your pets and to your socks.



## ANNUAL HERB

\*FRENCH BROOM. Cytisus monspessulanus (PEA FAMILY). Shrub naturalized from the Canary Islands. Although it is attractive when in bloom, it rapidly colonizes bare or loose soil, effectively preventing the growth of native species. It is also very difficult to eliminate from an area since its hard-coated seeds are capable of sprouting many years after they first mature.

CALIFORNIA BEDSTRAW. Galium californicum (MADDER FAMILY). Small perennial herb in the same large mostly tropical family of plants as coffee.

CHECKER BLOOM. Sidalcea malvaeflora (MALLOW FAMILY). Pink-flowered perennial; blooms in spring.

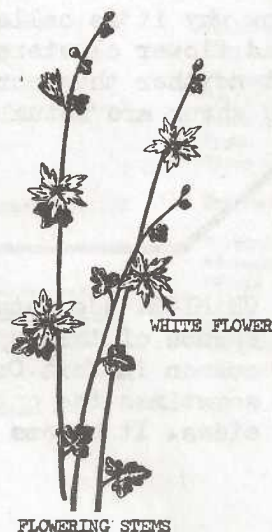
## PERENNIAL HERB



CALIFORNIA BUTTERCUP. Ranunculus californicus (BUTTERCUP FAMILY). The bright yellow petals of this perennial glisten as though coated with melted butter. In this park, it is particularly appropriate to mention that the Latin name Ranunculus means "little frog."

WOODLAND STAR. Lithophragma affine (SAXIFRAGE FAMILY). A white-flowered perennial of shady grassy slopes through most of the Coast Ranges of California.

## PERENNIAL HERB



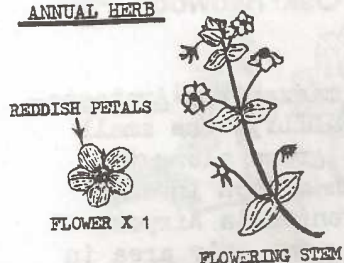
## FLOWERING STEM

## PINK FLOWERS



## BASE OF PLANT

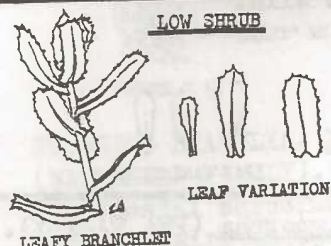
# ANNUAL HERB



# Scrub

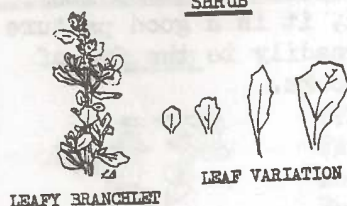
\*SCARLET PIMPERNEL; poor man's weatherglass. Anagallis arvensis (PRIMROSE FAMILY). Common garden weed from Europe. Vermillion- or salmon-colored flowers have blue or purplish centers; flowers close on overcast days.

# LOW SHRUB



SAWTOOTH GOLDENBUSH. Haplopappus squarrosus (COMPOSITE FAMILY, ASTER TRIBE). The common name refers to the saw-like edges of its stiff, green leaves and "golden" (bright yellow) flowers which appear in late summer to early fall.

# SHRUB



COYOTE BRUSH; chaparral broom. Baccharis pilularis ssp. consanguinea (COMPOSITE FAMILY, ASTER TRIBE). Not very common in this park but abundant elsewhere, especially on north-facing slopes or in ravines on hills near the coast. Since it is absent from the hottest driest slopes, it is not really a part of the shrubby Chaparral plant community; it usually grows in the Coastal Scrub community. One scientist recorded over a hundred species of insects in association with coyote brush.

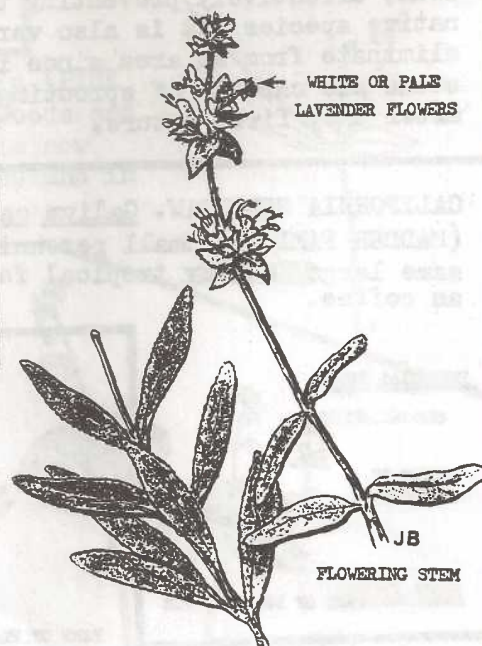
# SHRUB



CALIFORNIA SAGEBRUSH; coast sagebrush. Artemisia californica (COMPOSITE FAMILY, MAYWEED TRIBE). Sometimes called California "sage", but even though its leaves have a sage-like scent, sagebrush is in a different family. It is in the large composite family while "true" sages are in the mint family. Mugwort, Great Basin sagebrush, beach sagewort, and tarragon are all close relatives of California sagebrush.



BLACK SAGE. Salvia mellifera (MINT FAMILY). A "true" sage, related to the sages used in cooking. Its pale lavender flowers attract honeybees. I don't know why it is called "black" sage; the dead flower clusters are dark in color, but neither they nor anything else about the shrub are actually black.



PART OF LEAFY BRANCH

# SHRUB



CHAMISE. Adenostoma fasciculatum (ROSE FAMILY). There are only a few shrubs of this species in the Frog Pond Natural Area, but it is quite common in Fort Ord to the east. It is often the dominant bush—and sometimes the only bush—covering vast areas of dry California hillsides. It blooms in May and June.

# INDEX AND LIST OF ALL SPECIES FOUND IN THE FROG POND NATURAL AREA (Including species not shown in the text.)

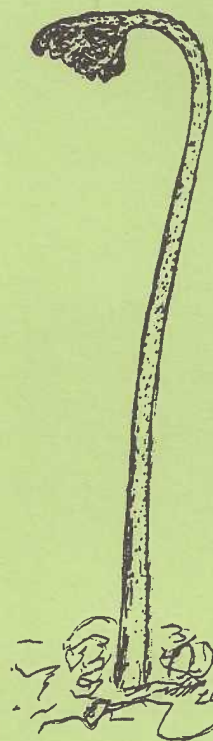
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\* Species not native to Monterey County

WESTERN BRACKEN; brake fern. Pteridium aquilinum  
var. pubescens (BRACKEN FAMILY). A large perennial  
fern found in or at the edge of the Oak Woods and  
Willow Woods. It grows 30 cm to 1.5 m tall.  
Bracken has fast-growing underground stems which  
can spread six feet a year. The young sprouting  
fronds are called fiddleheads (illustrated at  
right).  
(THE COVER ILLUSTRATION SHOWS THE ENTIRE PLANT.  
IT IS ABOUT 1/5 LIFE-SIZE.)



#### RECOMMENDED REFERENCES

##### Nontechnical:

- Munz, P.A. California Spring Wildflowers, Univ. of Calif. Press: 1961.  
Niehaus, T.F. Field Guide to Pacific States Wildflowers, Houghton Mifflin: 1976.

##### Technical:

- Munz, P.A. A California Flora and Supplement, Univ. of Calif. Press: 1968.



## California Native Plant Society Monterey Bay Chapter

The printing of this guide was funded by the  
Monterey Bay Chapter of the California Native  
Plant Society, PO Box 221303, Carmel, CA 93922

Completed June 18, 1983