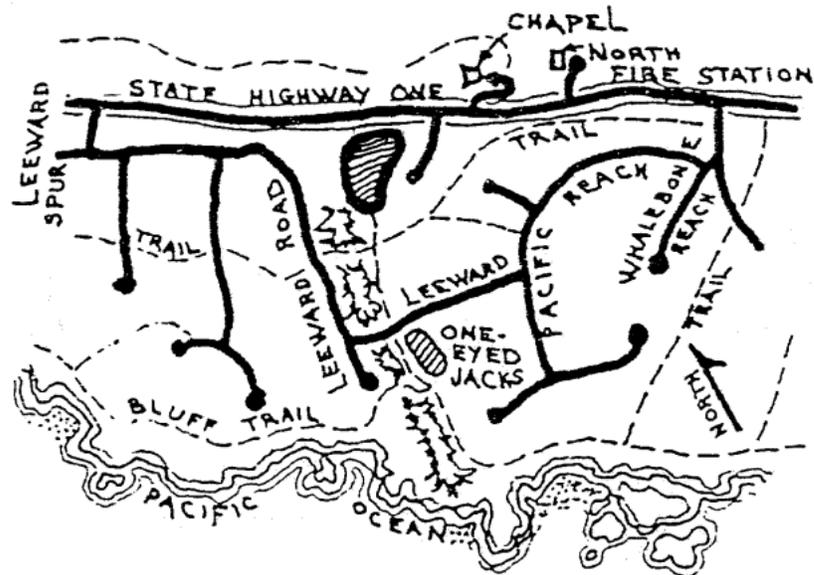
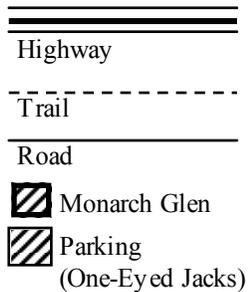




MONARCH GLEN

Interpretive Trail Guide



Vicinity Map

Park at One-Eyed Jacks picnic area and walk towards Highway 1, along the edge of the hedgerow (1000 feet), to the entrance to Monarch Glen at Trail Post #36D.

Monarch Glen owes its name to the patriarch redwood at post #16 as well as to the butterflies that for many years over-wintered by the thousands on the cypress trees here. Its natural, historical and aesthetic features include riparian woodland, pine plantation, canyon sides, meadow and edge habitats, each with its own microclimate, vegetation and soil conditions. Of the more than 64 different kinds of woody species and about 11 ferns and allies along The Sea Ranch trails, at least one third occur here in Monarch Glen. Such a diverse assemblage of plant foods (acorns, berries, foliage, etc.) supports a correspondingly rich variety of wildlife.

LISTEN - for clucking of quail and wild turkeys, scolding of squirrels, screams of ospreys, and buzzing of insects.

LOOK - for animal signs such as squirrel middens, scat and tracks of gray fox, black-tailed (mule) deer, jackrabbit, opossum, brush rabbit, raccoon, and skunk. You may also see insect galls, nibbled leaves and ant nests.

SMELL - the bay leaves, honeysuckle flowers, conifer needles, humus and wet grass.

COMPARE - flowers, fruits, leaf colors, pollen and seed cones as the seasons progress. Because deciduous species are harder to recognize in the dormant winter season, be sure to return in the spring.

IMAGINE - how much is going on underground that you can neither see nor hear. Rhizomes and roots are growing and absorbing water and minerals. Fungi and invertebrates are decomposing organic matter that recycles essential minerals. Ants, rodents and trapdoor spiders are also busy.

ENJOY - Monarch Glen and leave everything undisturbed.

PLEASE RETURN THIS BROCHURE TO THE BOX UNLESS YOU WANT TO KEEP IT FOR REFERENCE.

1. **MADRONE** bark is distinctively reddish orange. Large, loose scales curl raggedly, then drop off and leave smooth bark. The leaves are evergreen, thick, glossy, up to 6" long. Its close relationship to manzanita and heathers is shown in typical urn-shaped flowers. The orange-red berries are too seedy to be edible for humans but are relished by birds. These two trees exemplify the keen competition for light under the wood and canopy.

2. **SWORD FERN** bears stiff evergreen leaves with many leaflets from a central growing point. Note the 'sword hilt' at the base of each leaflet and spore clusters on undersides of leaves. This is the most common fern in our forest.

3. **FRINGED CORN LILY** is fairly common in wet places at The Sea Ranch but is classified as rare and endangered elsewhere in the state. It has broad strongly veined pleated leaves with fringed white flowers on a large terminal spike. It blooms July to September. This species is toxic to humans and livestock.

4. **LADY FERN** is distinguished by arching deciduous primary leaves that are subdivided into many-toothed leaflets, giving the fern a delicate, lacy appearance. These leaflets, like the sword fern, bear spore clusters on their undersides.

5. **WESTERN COLTSFOOT** has large lobed leaves about one foot wide on stalks one foot or higher. Flowers are minute and in congested heads. Coltsfoot rapidly colonizes by horizontal underground stems called rhizomes. This colony might actually be just one, quite old, extended plant.

6. Look across the fence and meadow to see **MONTEREY CYPRESSES** which were planted in hedgerows as windbreaks between 1916 - 1920. This species was chosen because it grows rapidly, is densely branched, pest-resistant and responds well to topping. Life span is about 100 years. These trees were topped until the 1930's, resulting in multiple leaders, which have become so big and top heavy that many are now breaking.

This **MEADOW** has become a grazing area for sheep and goats. Without mowing, burning or grazing pressure, the

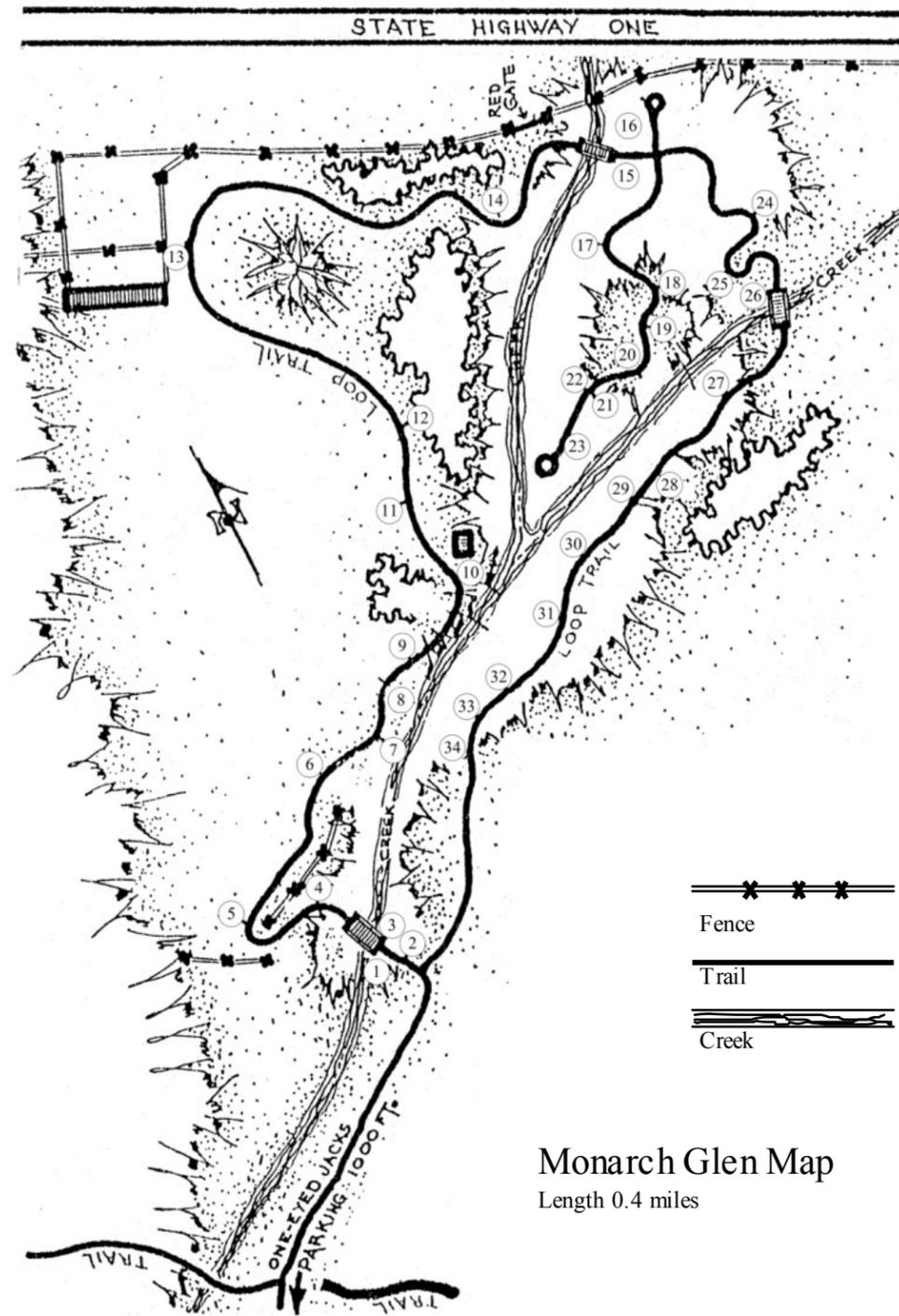
area would be invaded by coastal scrub (chaparral) comprised of blackberry, coyote brush, bracken fern, bush lupine, coffeeberry, salmonberry, thimbleberry, cow parsnip, salal, wax myrtle and such aliens as bull thistle and poison hemlock. It then takes about 50 years for the prevailing forest of redwood, fir and tanbark oak to develop.

A few **MONARCH BUTTERFLIES**, with their characteristic black and rusty orange warning colors, might be 'nectaring' on the thistles in the meadows or resting on cypress branches anytime from September through March. This species is one of the most common butterflies and is not in danger of extinction. However, the monarch's genetically programmed migrations are endangered because of loss of proper habitats along migratory routes. Migratory route habitats must provide nectar plants and milkweed plants (the only plants where eggs can be laid and larvae nourished) as well as appropriate clustering sites. Habitats that provide all three characteristics are disappearing due to development pressures.

7. **CALIFORNIA BAY** (Pepperwood) is an evergreen tree with peppery, aromatic lance-shaped leaves. This species occurs from southern California to southern Oregon, where it is called Oregon myrtle.

8. **OLD MAN'S BEARD LICHEN**, hanging like fog wisps, should not be confused with "Spanish moss" (found in southeastern U.S.) which is actually not a moss but a flowering plant. Lichens use trees only for support. They consist of a photosynthetic (food-producing) alga embedded in fungus threads. The fungus threads absorb water and minerals from air and from the thin layer of humus (dust and organic matter) accumulated in furrows of bark. The rougher the substrate, the more moisture and humus is held and therefore the more profuse the lichen growth. This species is a rough indicator of a microclimate with higher than normal humidity as in this shady, relatively cool canyon.

9. **POISON HEMLOCK** is extremely toxic. All parts of the plant are poisonous. Plants like these were used to make the drink that killed Socrates. This biennial is easily identified by its purple, mottled



Monarch Glen Map

Length 0.4 miles

stem and feathery leaves. White flower clusters resemble Queen Anne's Lace, which is also in the carrot family. The dried stems of the plant may be difficult to distinguish in the winter.

10. This crumbling **SHED** might have been used to store salt blocks. Most plants don't provide enough sodium for grazing animals. That's why wild grazers frequent salt licks and ranchers provide

salt blocks. Across the trail is a 6' tall **SALMONBERRY** shrub with its distinctive reddish branchlets that lack the spines of blackberry but have similar trifoliate leaves. Flowers are pink and berries salmon-orange. Indians relished the berries with dried salmon.

11. **PINK FLOWERING CURRANT** has leaves with 3-5 lobes and hanging clusters of pink flowers. The edible fruit

is blue-black and makes good jelly.

12. **THIMBLE BERRY** has large, velvety, maple-like leaves with 3-5 lobes, white flowers and bright red edible fruits, somewhat thimble shaped.

13. **MONARCH GLEN SHEEP PEN** (See side of pen for information.)

14. **WILLOW**, recognizable by its gray-green, narrow foliage, is one of the most common riparian (e.g. growing near a natural watercourse) shrubs along our smaller drainage areas. In earlier times salicylic acid (aspirin) was made from the bark.

15. **GRAND FIR** needles are distinguished by their uneven lengths because the upper leaves on branchlets are shorter than the lower leaves. Compare to the redwood branches which are behind post #15 to see that those needles are quite uniform. Also compare fir bark with that of the redwood next to it. True firs bear their cones erect, on the highest branches. Scales fall one by one which is the reason you do not find any true fir cones on the ground.

16. Look on the ground to see that **REDWOODS** are quite unique in shedding whole branchlets instead of just individual leaves.

Walk over to the large redwood trunk (near the highway) to see that parts of it have broken but retain enough connection to get adequate water and minerals and continue growing off to the right. When a trunk falls from a vertical to horizontal position, growth hormones, responding to gravity, cause tips of formerly horizontal branches gradually to adapt to the 90-degree change in orientation. In a response known as apical dominance, they then grow vertically as new trunks, producing laterally-oriented branches of their own. In time, competition for light thins out all but the most vigorous new trunks.

17. **GEOLOGY SITE:** The creek here descends about 20 feet over several small waterfalls. Logs, loose boulders and rocks in the streambed create the upper waterfalls, but the lowest waterfall, which

has a drop of about 6 feet, is on solid sandstone. This same sandstone underlies most of the meadow at the north end of The Sea Ranch and forms all the sea cliffs north of Walk-On Beach. We get a glimpse of the sandstone here because the creek has cut deeply into the loose rocks that overlie the sandstone.

18. The meadow clearing in this area is surrounded by **DOUGLAS-FIR**, a tree that has distinctive drooping branchlets. Douglas-fir is not considered a "true" fir, however because it has pendant rather than upright cones. You usually can see many whole cones on the ground. Douglas-fir is susceptible to pine pitch canker disease while true firs are not.

19. **BRACKEN FERN** has sturdy leaf stalks up to 5' high. These ferns arise from a rhizome to make an extensive single plant. Leaves are deciduous, but unlike lady fern, ultimate leaflets are not toothed. Spore clusters are hidden under rolled-over margins of leaflets.

20. Look up and around this area to see the 4 tree species which are the dominant components of this **RIPARIAN WOODLAND:** Douglas-fir, Coastal Redwood, Grand Fir and Tanbark Oak. Seedlings and saplings of the latter two are especially conspicuous along the trail between #16 and #23, showing the natural succession in this woodland. The Bishop Pines were planted in the 1960's and are adapted to fire which is needed to make seeds germinate, hence, no seedlings are found here.

21. **WAX MYRTLE**, with its narrow, tapered leaves, can be a shrub or small tree. By definition, a shrub has more than one trunk at ground level while a tree has a single trunk.

22. **NOOTKA ROSE** has two very effective survival strategies. Thorns defend the foliage, and the fleshy fruits (hips) are eaten by birds. The seeds pass through the birds' digestive tracts and are deposited to grow elsewhere.

23. **TANBARK OAK**, also known as tan oak, is another misnomer as it differs from true oaks in having erect, very dense pollen catkins (male flower clusters) and acorns with shaggy cups. The chestnut-like leaves have prominent parallel, lateral

veins, each ending in a sharp tooth. The bark was used to tan leather, and the acorns were important food for Native Americans. The acorns are the basis of an intricate food web comprised of herbivorous mammals, insects, birds and their respective predators.

Walk to the right and look down into the canyon at a long-ago fallen redwood showing a much later stage of what you were seeing at post #16, *whereby lateral branch growth becomes vertical trunk growth. Such growth response on a fallen tree is rare to see because usually the root system is also pulled up and the tree dies for lack of water and minerals.*

Walk to the end of this peninsula to look down into the fern-lined canyons on three sides. The benches were made using salvaged planks and blocks from the Knipp-Stengel Barn.

24. **EVERGREEN (BLUE, CALIFORNIA) HUCKLEBERRY** has hairy twigs, toothed, evergreen leaves and blue-black fruits. Red huckleberry has square stems, smooth-margined deciduous leaves and tart red fruits. Both are commonly found growing on stumps.

Walk east to the bridge to see a linear sunken area that is the **TRACE OF AN EARLY RANCH ROAD.**

25. **BISHOP PINE** leaves occur as two

long and twisted needles per cluster, unlike the much less common Shore pine that has two short (less than 2') needles per cluster and the introduced Monterey pine with its three long needles per cluster.

Many of these pines, planted much too densely at the beginning of The Sea Ranch in the early 1960's, have brown branches that were killed by western gall rust and/or pine pitch canker.

Parasitic fungi, spread by beetles, cause pine pitch canker disease. It starts in cone clusters, then kills branch tips and spreads to larger branches. Finally the whole crown dies, as can be seen by looking up at post #27, *comparing these trees with healthy Douglas-firs.*

26. **HORSETAIL** has underground stems that in spring produce brownish, short-lived, fertile shoots bearing spores. From spring through fall, one sees the photosynthetic, many-branched shoots with whorls of scale-like leaves at each node (joint). Ancestors of these and nearby ferns were the size of trees in dinosaur days.

27. **RED ELDERBERRY** growing on both sides of the bridge is a shrub or small tree with opposite leaves, each with 5-7 leaflets. The leaves and the stem of the elderberry are poisonous, but the berries can be used to make wine. Clusters of white flowers appear in the early spring.

28. **POISON OAK** has lobed, trifoliate leaves that provide brilliant red color in the fall and the strong possibility of a rash if touched. "Leaflets three, beware of me" is a useful reminder. Note that there is Poison Oak on both sides of the trail near this post!

29. **BLACKBERRY** also has "leaflets three" but with its spiny stem, leaf stalks and midribs and sharply toothed leaflets, it is easily distinguished from poison oak. It spreads by forming horizontal stems (runners) whose tips root and produce new shoots. This is why walkers may be tripped if a foot catches in a loop. You may also see a vine with opposite leaves, very fragrant tubular pink flowers and terminal clusters of bright red mealy berries, which is **RED HONEYSUCKLE.**

30. **WESTERN AZALEA** has hairy leaf margins, almost whorled leaves, and very fragrant white/salmon/pink flowers May-June.

31. **HAZELNUT** has doubly toothed, hairy leaves with heart-shaped bases. Some people are allergic to its pollen, which is abundantly produced from yellow catkins in early spring. This is a wild cousin of the cultivated species.

32. The **MONARCH CREEK** streambed dries up by late spring, but puddles may appear in late summer. This might occur because trees in the forest upstream are no longer absorbing so much water from the soil. As a result, water can move downstream to reappear as puddles that are a welcome source of fresh water for butterflies and birds.

33. **COFFEEBERRY** has glossy leaves with very prominent lateral veins on the undersides. Its leaf size and texture vary greatly depending on its habitat.

34. **CANDELABRA TREES**, with their unusual growth patterns, reflect the response of these Douglas-firs to coastal winds and the hedging effect of salty air that damages growth tips. Note the grafted branch on the fir to the right that unites conducting tissue of these two trunks. Underground, the roots of these

Revised: June 2009

SOME BIRDS YOU MIGHT HEAR AND SEE, ESPECIALLY IN THE EARLY MORNING

Blackbird: Brewer's, Redwing	Kingbird: Western	White-crowned
Bluebird: Western	Kinglet: Golden-crowned, Ruby-crowned	Starling: European
Bush tit	Kite: Black-shouldered	Swallow: Barn, Cliff
Chickadee: Chestnut-backed	Meadowlark: Western	Violet-green
Dove: Mourning	Nuthatch: Pygmy, Red-breasted	Thrasher: California
Finch: House, Purple	Oriole: Bullock's	Thrush: Hermit, Swainson's
Flicker: Northern	Osprey	Titmouse: Plain
Flycatcher: Pacific Slope	Owl: Great Horned, Pygmy, Screech	Towhee: Spotted
Goldfinch: American	Phoebe: Black	Turkey: Wild
Hawk: Northern Harrier, Red-tailed	Pigeon: Band-tailed	Vireo: Solitary
Hummingbird: Allen's, Anna's	Quail: California (valley)	Vulture: Turkey
Jay: Western Scrub, Steller's	Raven: Common	Warbler: Orange-crowned, Yellow-rumped, Wilson's
Junco: Dark-eyed	Robin: American	Woodpecker: Downy, Hairy
Kestrel: American	Sapsucker: Red-breasted	Wren: Winter
	Sparrow: Chipping, Savannah, Song,	Wrentit