

**Wilder Ranch State Park  
Vegetation Map**

**September 2002**

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## 1. Introduction

One of the projects identified by the Santa Cruz District, California Department of Parks and Recreation, for completion by the Natural Resources Division's Inventory, Monitoring, and Assessment Program support team was production of a vegetation map for Wilder Ranch State Park. Vegetation maps have many uses for land managers and are particularly useful for displaying biological diversity of a park. The map produced for this project was begun in 2000 and completed in June 2002.

The vegetation at Wilder Ranch SP is fairly diverse for an area encompassing less than ten-thousand acres, with habitats ranging from coastal beaches and bluffs, inland grass-dominated terraces, forested canyons and upland slopes, and various types of shrub-dominated chaparral. The vegetation map produced for this project was meant to display vegetation types as they occurred in 2000-2002; many areas of natural vegetation have been altered by past land-uses but for the purposes of this project they were mapped according to their plant species composition as encountered in 2000-2002.

Production of a vegetation map requires several decisions based on the projected uses of the map and the amount of information available or obtainable about the vegetation. It was decided that the map would have a minimum mapping unit of one acre, i.e. the smallest individual stand of vegetation that would be mapped would be one acre in size. Another decision was to classify the vegetation (select names for the various vegetation types) at the alliance and/or association level according to the Manual of California Vegetation (Sawyer & Keeler-Wolf 1995).

The vegetation map that has been produced for Wilder Ranch SP is considered to be highly accurate based on the use of recent aerial images and field checking, though it was not possible to visit every area of the park and every stand of vegetation to confirm the precise plant species composition. The vegetation types that were mapped represent the dominant overstory and understory species; no attempt was made to identify or quantify every plant species. Quantitative data including cover of dominant plant species was collected for some vegetation types, but no attempt was made to statistically analyze this data as a basis for vegetation classification. Among other things the map will be useful for tracking changes to vegetation cover, and it is recommended that an update of the map be performed every 10-20 years in order to detect changes in vegetation types.

## 2. Methods

### *2.1. Classification*

The classification system selected for use at Wilder Ranch SP was the Manual of California Vegetation (MCV) (Sawyer & Keeler-Wolf 1995). This classification scheme meets the standards of the National Vegetation Classification system, and is widely used in California. By use of this system the Wilder Ranch SP vegetation map is consistent with other vegetation mapping efforts in California, and in most cases it is possible to crosswalk the named vegetation

types with other vegetation classification systems such as the California Wildlife Habitat Relationships system.

The MCV system allows for delineation of vegetation stands of any size, though the smallest stands identified for the Wilder Ranch SP map was one acre. Initial vegetation stands were identified for an area larger than the park because the park boundaries were not sufficiently mapped at that time. After the park boundaries were better defined the areas that were determined to be outside of the park were not included in the final vegetation map, which resulted in some vegetation stands on the inside edge of the park being included on the map that may be less than one acre in size. Stands are named according to the plant species that have the most canopy cover; up to three different heights of canopy cover are considered, viz. tall (generally corresponding to the overstory tree layer), medium (generally corresponding to the mid-canopy shrub and small tree layer), and low (generally corresponding to the herbaceous layer). Of course, not all vegetation types contain all of these canopy cover layers. The MCV contains descriptions of various vegetation alliances (= series) and associations (= plant community) that includes many non-dominant plant species that would be expected to occur in each individual vegetation type so generally there is no difficulty naming specific vegetation polygons once there is some information about what plant species are present and which species dominate, based on total cover, the stand.

Twenty-nine vegetation types were identified that correlate with series/plant communities described in the MCV (see Table 1). Eleven other land coverage types were also used on the map that do not correlate with existing MCV types:

- Four types of non-vegetated areas (i.e. pond, slide debris, beach and developed);
- Two types of highly human-influenced vegetation types (cropland and restoration site);
- An ‘unknown’ type used for one polygon in an area of the park that was not studied;
- Four vegetation types found at Wilder Ranch State Park that were prevalent enough to warrant unique names, but which do not appear in the MCV first edition, viz. fennel, Italian thistle, poison hemlock, Santa Cruz Mountain oak. Note that all of these except for the oak stands are dominated by non-native herbaceous species considered noxious weeds in this area of California.

A total of 514 separate stands of vegetation are identified in the vegetation map for Wilder Ranch SP.

## ***2.2.Delineation of Vegetation Stands: Segmentation – Drawing Polygons***

Aerial photographs that were 1:9,000, true color, taken in 1995, with a sixty-percent overlap were obtained as 9”X9” prints. Also, digital ortho quarter quad (DOQQs) black and white aerial data, taken in 2001, were obtained. DPR vegetation ecologists performed reconnaissance level visits to Wilder Ranch SP beginning in 2000 to assess the general types and locations of vegetation in the park. After the initial site visits stands of vegetation were delineated on the DOQQs based on the field observations of the ecologist and determination of vegetation type boundary changes on the aerial photos and DOQQs. Boundary lines were drawn around different stands of vegetation using a heads-up technique on the computer using the DOQQs as a background, and referring to the color aerial photos when necessary. Preliminary vegetation

maps were produced and corrected by ecologists familiar with the vegetation at Wilder Ranch SP and based on subsequent checking of vegetation stands in the field.

In spring 2002 a draft-final vegetation map was produced and twenty-two stands of vegetation were selected, based on their representativeness of the vegetation types present in the park, for more detailed field checking.

### ***2.3. Field Checking***

In June 2002 DPR ecologists visited twenty-two stands of different vegetation types to perform field checks of the classification and delineation process. Forty-two different types of land cover had been delineated during the initial mapping process, but some of these, such as croplands, ponds, developed areas, or very obvious vegetation types such as coast redwood forest, were not selected for field checking. Stands selected for field checking included representative examples of the vegetation types that had been most problematic during the mapping process, and stands for which the delineation had been doubtful. Field checking consisted of visiting the vegetation stands (navigation was aided by pre-selecting waypoints that could be located in the field with a GPS) and making an assessment of the types of plant species present and their estimated percentage canopy cover.

Of the twenty-two stands that were checked only four were found to be significantly different from the vegetation type that had been assigned during the mapping process. The discrepancies included:

<b>Vegetation Type Described During Mapping</b>	<b>Vegetation Type Discovered During Field Check</b>
Douglas Fir/Coast Live Oak	Coast Live Oak/Bay/Redwood
California Buckeye	Arroyo Willow/California Buckeye/Box Elder
California Bay	Red Alder/Arroyo Willow
Knobcone Pine (one stand only found in error)	Tanoak/Coast Redwood/Douglas Fir

Also of note, some stands that had initially been mapped as Coast Live Oak were actually Santa Cruz Mountain Oak (*Quercus parvula* var. *shrevei*). Stands of the two species proved impossible to separate based on examination of aerial photographs. The two species are difficult to tell apart in the field without careful, trained, observation, and in some areas the two species are suspected to hybridize. Ecologists very familiar with the Santa Cruz Mountains flora have suggested that the Live Oak forests at Wilder Ranch State Park may be a fifty-fifty mix of the two species. The final vegetation map contains both coast Live Oak (*Quercus agrifolia*) and Santa Cruz mountain oak stands mapped as Coast Live Oak (CLO) vegetation type.

Based on the field checking and revisions made to the draft-final map after that field check the final vegetation map is judged to be at least 85% accurate based on correctly identified vegetation stands, and true accuracy is probably higher. On an acreage basis the amount of park acreage that is correctly classified and mapped correctly is judged to be in excess of 90% of the park; only a few small remote stands of vegetation were not visited or field checked in some manner and have classifications that are in doubt.

### **3. Results**

#### ***3.1. GIS Products***

Included with this report is a paper color vegetation map, with legend. This paper map was produced with ArcGIS. Also included are GIS files sufficient to produce a digital version of that map for use with ArcView 3.2.

#### ***3.2. Vegetation Types & Plant Species***

The vegetation types discovered at Wilder Ranch SP are described in Table 1. A list of dominate plant species encountered during preparation of the vegetation map is included in Table 2.

Table 1. Vegetation types at Wilder Ranch State Park as of June 2002.

Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
Arroyo Willow	ARW	Common in canyon bottoms usually within one-mile of the coastline. Forms dense stands with almost 100% canopy closure. <b>Species:</b> Arroyo Willow ( <i>Salix lasiolepis</i> ), stinging nettle ( <i>Urtica dioica</i> ), blackberry ( <i>Rubus ursinus</i> ), red elderberry ( <i>Sambucus racemosa</i> )	37	74.3
Arroyo Willow-California Buckeye-Box Elder	ARW-CABU-BOELD	This type occurs near the abandoned limekilns where previous disturbance had probably removed all vegetation over 100 years ago. Many of the willow and box elder are over 50 feet tall. <b>Species:</b> Arroyo willow ( <i>Salix lasiolepis</i> ), California buckeye ( <i>Aesculus californica</i> ), box elder ( <i>Acer negundo</i> var. <i>californicum</i> ), stinging nettle ( <i>Urtica dioica</i> ), Himalayan blackberry ( <i>Rubus discolor</i> )	1	2.5
Beach	B	Only two areas, one at the mouth of Wilder Creek and the other at the mouth of Baldwin Creek, were judged large enough to classify as beach. <b>Species:</b> Very sparse occurrences of beach primrose ( <i>Camissonia cheiranthifolia</i> ), beach-bur ( <i>Ambrosia chamissonis</i> ), sand verbena ( <i>Abronia umbellata</i> ), sea rocket ( <i>Cakile maritime</i> ), fig-marigold ( <i>Carpobrotus chilensis</i> )	2	26.3
Black Sage	BLS	This type occurs in two small patches on the sides of a narrow canyon between Baldwin Creek and Wilder Creek near the coast. <b>Species:</b> Black sage ( <i>Salvia mellifera</i> ), California buckwheat ( <i>Eriogonum latifolium</i> ), coyote brush ( <i>Baccharis pilularis</i> )	2	2.4
Bulrush	BUL	Occurs near the coast at the mouths of perennial streams where water ponds or flows slowly. <b>Species:</b> Common bulrush or tule ( <i>Scirpus acutus</i> ), cattail	4	9.1

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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
		( <i>Typha</i> sp.)		
California Annual Grassland	CAG	<p>This type is a mixture of exotic annual grasses and native perennial grasses, with most areas of the upper terraces containing a 50-50 mix of exotics to natives, and some areas of the grassland being actually dominated by the native perennials, but at the mapping scale used for this project the types were lumped together. CAG type covers more area of the park than any other type, and is common on the flatter portions of the various coastal terraces.</p> <p><b>Species:</b> Bromes (<i>Bromus</i> sp.), oats (<i>Avena</i> sp.), storksbill (<i>Erodium</i> sp.), quaking grass (<i>Briza maxima</i>), purple needlegrass (<i>Nassella pulchra</i>), bull thistle (<i>Cirsium vulgare</i>), silver hairgrass (<i>Aira caryophylla</i>), small fescue (<i>Vulpia bromoides/myuros</i>), wild oatgrass (<i>Danthonia californica</i>)</p>	66	1847.9
California Annual Grassland-Coyote Brush	CAG-COBR	<p>In two areas of coastal terrace a large component of coyote Brush has invaded into the CAG.</p> <p><b>Species:</b> CAG species (see above) with coyote brush (<i>Baccharis pilularis</i>)</p>	2	30.2
California Bay	CABY	<p>At two locations on flats/gentle slopes next to streams California bay dominates, with trees over 30 feet tall and almost 100% canopy closure.</p> <p><b>Species:</b> California bay (<i>Umbellularia californica</i>), coast redwood (<i>Sequoia sempervirens</i>), tanoak (<i>Lithocarpus densiflorus</i>), swordfern (<i>Polystichum munitum</i>)</p>	2	13.5
California Bay-Coast Live Oak	CABY-CLO	<p>In one location California bay and coast Live Oak occur together with a predominance of California bay, forming a dense stand with almost a closed canopy over 30 feet tall.</p> <p><b>Species:</b> California bay (<i>Umbellularia californica</i>), coast live oak (<i>Quercus agrifolia</i>), poison oak (<i>Toxicodendron</i>)</p>	1	9.4



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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
		<i>diversilobum</i> )		
California SageBrush	CAS	This type occurs on the upper north-facing slopes of a canyon between Baldwin Creek and Lombardi Creek. The type forms a dense chaparral. <b>Species:</b> California sagebrush ( <i>Artemisia californica</i> ), coyote brush ( <i>Baccharis pilularis</i> ), woolly sunflower ( <i>Eriophyllum staechadifolium</i> ), bush monkeyflower ( <i>Mimulus aurantiacus</i> )	1	10.3
Cattail	CAT	Still water near the mouth of Wilder Creek supports this vegetation type. <b>Species:</b> Cattail ( <i>Typha latifolia.</i> ), common bulrush ( <i>Scirpus acutus</i> )	1	2.3
Chamise	CHA	Chamise dominates two chaparral areas on the mid to upper terraces. <b>Species:</b> Chamise ( <i>Adenostoma fasciculatum</i> ), coyote brush ( <i>Baccharis pilularis</i> ), chaparral pea ( <i>Pickeringia montana</i> )	2	11.9
Chamise-California Annual Grassland	CHA-CAG	This type occurs as a transition zone between CAG and CHA. <b>Species:</b> Chamise ( <i>Adenostoma fasciculatum</i> ), CAG species	1	21.4
Coast Live Oak	CLO	Coast Live Oak forest has more occurrences in the park than any other vegetation type. It occurs in canyons and along ridgelines throughout the park east of Highway 1. The trees are often over 40 feet tall with trunks greater than 2 feet basal diameter, often with a dense understory of poison oak. <b>Species:</b> Coast live oak ( <i>Quercus agrifolia</i> ), Santa Cruz mountain oak ( <i>Quercus parvula</i> var. <i>shrevei</i> ), poison oak ( <i>Toxicodendron diversilobum</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), coast redwood ( <i>Sequoia sempervirens</i> ), madrone ( <i>Arbutus menziesii</i> ), blackberry ( <i>Rubus ursinus</i> ), fern ( <i>Polystichum munitum.</i> ), wood fern ( <i>Dryopteris arguta</i> )	77	608.0
Coast Live Oak-California	CLO-	This is a transition type between the CAG on flatter slopes and	2	24.6

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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
Annual Grassland	CAG	CLO, which is more common on canyon walls/bottoms. These areas are savannah-like. <b>Species:</b> Coast live oak ( <i>Quercus agrifolia</i> ), Santa Cruz mountain oak ( <i>Quercus parvula</i> var. <i>shrevei</i> ), poison oak ( <i>Toxicodendron diversilobum</i> ), CAG species		
Coast Live Oak-California Bay	CLO-CABY	In three locations coast Live Oak and California bay occur together with a predominance of coast Live Oak, forming a dense stand with almost a closed canopy over 30 feet tall. <b>Species:</b> Coast live oak ( <i>Quercus agrifolia</i> ), Santa Cruz mountain oak ( <i>Quercus parvula</i> var. <i>shrevei</i> ), California bay ( <i>Umbellularia californica</i> ), poison oak ( <i>Toxicodendron diversilobum</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), coast redwood ( <i>Sequoia sempervirens</i> ), madrone ( <i>Arbutus menziesii</i> ), blackberry ( <i>Rubus ursinus</i> ), fern ( <i>Polystichum munitum.</i> ), wood fern ( <i>Dryopteris arguta</i> )	3	43.9
Coast Live Oak-Douglas Fir	CLO-DF	Mixed stands of coast live oak and Douglas fir are common in the park, with a few large Douglas fir trees emerging over the oak that comprises the greatest extent of canopy. These sites are typically on flatter portions of the upper terraces. Poison oak typically dominates the understory. <b>Species:</b> Coast live oak ( <i>Quercus agrifolia</i> ), Santa Cruz mountain oak ( <i>Quercus parvula</i> var. <i>shrevei</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), poison oak ( <i>Toxicodendron diversilobum</i> ), coast redwood ( <i>Sequoia sempervirens</i> ), madrone ( <i>Arbutus menziesii</i> ), blackberry ( <i>Rubus ursinus</i> ), fern ( <i>Polystichum munitum.</i> ), wood fern ( <i>Dryopteris arguta</i> )	13	225.0
Coast Live Oak-Redwood	CLO-RDW	Coast live oak occasionally occurs as a dominant with a large component of coast redwood on upper canyon bottoms, with the redwood being post-logging second-growth.	3	50.1

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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
		<p><b>Species:</b> Coast live oak (<i>Quercus agrifolia</i>), Santa Cruz mountain oak (<i>Quercus parvula</i> var. <i>shrevei</i>), coast redwood (<i>Sequoia sempervirens</i>), poison oak (<i>Toxicodendron diversilobum</i>), madrone (<i>Arbutus menziesii</i>), blackberry (<i>Rubus ursinus</i>), fern (<i>Polystichum munitum.</i>), wood fern (<i>Dryopteris arguta</i>)</p>		
Coast Live Oak-Woollyleaf Manzanita	CLO-WOOMA	<p>At one location on the upper terrace there is a stand dominated by a loose overstory of coast live oak and a dense understory of woollyleaf manzanita shrubs.</p> <p><b>Species:</b> Coast live oak (<i>Quercus agrifolia</i>), Santa Cruz mountain oak (<i>Quercus parvula</i> var. <i>shrevei</i>), woollyleaf manzanita (<i>Arctostaphylos tomentosa</i> var. <i>tomentosa</i>), poison oak (<i>Toxicodendron diversilobum</i>), coyote Brush (<i>Baccharis pilularis</i>)</p>	1	28.7
Coyote Brush	COBR	<p>Coyote brush stands are common on the slopes of the lower terraces east of Highway 1. Often these stands are dense, almost pure stands, with shrubs over 6 feet tall.</p> <p><b>Species:</b> Coyote brush (<i>Baccharis pilularis</i>)</p>	75	411.5
Coyote Brush-Black sage	COBR-BLS	<p>At one location coyote Brush is a co-dominant with black sage on the face of an upper canyon wall.</p> <p><b>Species:</b> Coyote Brush (<i>Baccharis pilularis</i>), Black sage (<i>Salvia mellifera</i>)</p>	1	4.8
Coyote Brush-California Annual Grassland	COBR-CAG	<p>Coyote brush commonly occurs with CAG, and at three locations the coyote brush is dominant where the widely spaced shrubs are contained within a matrix of CAG species.</p> <p><b>Species:</b> Coyote brush (<i>Baccharis pilularis</i>), CAG species</p>	3	28.5
Coyote Brush-Coast Live Oak	COBR-CLO	<p>At one site on a canyon wall on the mid terrace coyote brush dominates a site that is developing an overstory of coast live oak trees.</p>	1	7.0

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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
		<b>Species:</b> Coyote brush ( <i>Baccharis pilularis</i> ), coast live oak ( <i>Quercus agrifolia</i> ), Santa Cruz mountain oak ( <i>Quercus parvula</i> var. <i>shrevei</i> ),		
Coyote Brush-Italian Thistle	COBR-ITH	Two sites on the coast that have been impacted, possibly by restoration activities, within the past few years are now dominated by coyote brush and Italian thistle. <b>Species:</b> Coyote brush ( <i>Baccharis pilularis</i> ), Italian thistle ( <i>Carduus pycnocephalus</i> )	2	14.5
Croplands	CRP	Croplands occur on leased portions of the first coastal terrace, mostly south of Highway 1. Brussel sprouts ( <i>Brassica oleracea</i> var. <i>gemmifera</i> ) is the most common crop.	32	796.6
Developed	DEV	Developed areas are sites used for park operation including parking lots and buildings.	18	26.9
Douglas Fir	DF	Douglas fir forest, almost entirely post-logging second-growth trees 50-100 years old, typically occurs on upper canyon slopes throughout the park. Many trees are over 100 feet tall with basal diameter exceeding 3 feet. <b>Species:</b> Douglas fir ( <i>Pseudotsuga menziesii</i> ), coast redwood ( <i>Sequoia sempervirens</i> ), poison oak ( <i>Toxicodendron diversilobum</i> ), madrone ( <i>Arbutus menziesii</i> ), blackberry ( <i>Rubus ursinus</i> ), fern ( <i>Polystichum</i> sp.), coast live oak ( <i>Quercus agrifolia</i> )	33	174.3
Douglas Fir-Coast Live Oak	DF-CLO	In several places second-growth Douglas fir trees form a dense overstory canopy over 100 feet tall, towering over more scattered coast live oak. Douglas fir ( <i>Pseudotsuga menziesii</i> ), coast live oak ( <i>Quercus agrifolia</i> ), poison oak ( <i>Toxicodendron diversilobum</i> )	20	423.9
Douglas Fir-Redwood	DF-RDW	In two places on lower canyon walls/bottoms coniferous forest dominates with Douglas fir more common than coast redwood.	2	98.9

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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
		<p><b>Species:</b> Douglas fir (<i>Pseudotsuga menziesii</i>), coast redwood (<i>Sequoia sempervirens</i>), coast live oak (<i>Quercus agrifolia</i>), Santa Cruz mountain oak (<i>Quercus parvula</i> var. <i>shrevei</i>), poison oak (<i>Toxicodendron diversilobum</i>), madrone (<i>Arbutus menziesii</i>), California bay (<i>Umbellularia californica</i>)</p>		
Eucalyptus	EUC	<p>There are several places where blue gum eucalyptus (<i>Eucalyptus globulus</i>) was planted over fifty years ago, and now many of the trees are over 70 feet tall and 3 feet basal diameter. Some stands have been treated to remove this exotic tree.</p>	12	7.9
Fennel	FEN	<p>Fennel is an aggressive non-native weedy species in some areas near the coast, and some flats, possibly abandoned agricultural fields, are now dominated with thick stands of this species. Some attempts have been made to control this species.</p> <p><b>Species:</b> Fennel (<i>Foeniculum vulgare</i>)</p>	10	20.7
Knobcone Pine	KNOB	<p>Inland ridge tops on shallow soils are dominated by stands of knobcone pine, often mixed with a few other conifers and hardwoods. Many stands are senescent with little regeneration occurring.</p> <p><b>Species:</b> Knobcone pine (<i>Pinus attenuata</i>), manzanita (<i>Arctostaphylos</i> sp.), Douglas fir (<i>Pseudotsuga menziesii</i>), coast redwood (<i>Sequoia sempervirens</i>), tanoak (<i>Lithocarpus densiflorus</i>)</p>	8	358.7
Knobcone Pine-Santa Cruz Cypress	KNOB-SCC	<p>On some of the highest interior ridgelines knobcone pine occurs in mixed forest stands with Santa Cruz cypress, a rare plant.</p> <p><b>Species:</b> Knobcone pine (<i>Pinus attenuata</i>), Santa Cruz cypress (<i>Cupressus abramsiana</i>)</p>	6	18.8
Poison Hemlock	PH	<p>Poison hemlock, a non-native weedy species, dominates some flat areas near stream bottoms. Some attempts have been made to control this species.</p>	4	34.4

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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
		<b>Species:</b> Poison hemlock ( <i>Conium maculatum</i> )		
Pond	POND	Pond refers to open standing water. The ponds are human-made or have natural dams that have been extended by humans. The ponds often have a ring of aquatic vegetation, such as cattail ( <i>Typha latifolia</i> .) and tule ( <i>Scirpus</i> sp.)	6	15.2
Red Alder-Arroyo Willow	RA-ARW	Red alder is a co-dominant with arroyo willow at one spot along the banks of Baldwin Creek. <b>Species:</b> Red alder ( <i>Alnus rubra</i> ), arroyo willow ( <i>Salix lasiolepis</i> ), blackberry ( <i>Rubus ursinus</i> )	1	13.4
Redwood	RDW	Coast redwood forest, largely post-logging second-growth trees 50-100 years old, dominate the canyons of the upper park interior. Occasional old-growth trees survive, but the forest is mostly about 100 feet tall with the largest basal diameter trees being about 4 feet. <b>Species:</b> Coast redwood ( <i>Sequoia sempervirens</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), tanoak ( <i>Lithocarpus densiflorus</i> ), madrone ( <i>Arbutus menziesii</i> ), swordfern ( <i>Polystichum munitum</i> )	33	1278.8
Redwood-California Bay	RDW-CABY	There are two stands in interior canyon bottoms/gentle slopes where coast redwood and California bay occur as co-dominants. <b>Species:</b> Coast redwood ( <i>Sequoia sempervirens</i> ), California bay ( <i>Umbellularia californica</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), tanoak ( <i>Lithocarpus densiflorus</i> ), madrone ( <i>Arbutus menziesii</i> ), swordfern ( <i>Polystichum munitum</i> )	2	42.3
Redwood-Coast Live Oak	RDW-CLO	Coast redwood and coast live oak occur in two stands where redwood is more dominant than the coast live oak. These stands tend to occur on relatively steep north-facing slopes in steep canyons. <b>Species:</b> Coast redwood ( <i>Sequoia sempervirens</i> ), Coast live oak ( <i>Quercus agrifolia</i> ), Santa Cruz mountain oak ( <i>Quercus parvula</i> )	2	48.0

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Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
		var. <i>shrevei</i> ), poison oak ( <i>Toxicodendron diversilobum</i> )		
Redwood-Douglas fir	RDW-DF	In the upper reaches of Peasley Creek and Baldwin Creek the coniferous forest is a mixture of coast redwood and Douglas fir with coast redwood slightly more prevalent. All of these stands have previously been logged. <b>Species:</b> Coast redwood ( <i>Sequoia sempervirens</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), tanoak ( <i>Lithocarpus densiflorus</i> ), madrone ( <i>Arbutus menziesii</i> ), swordfern ( <i>Polystichum munitum</i> ), coast live oak ( <i>Quercus agrifolia</i> )	2	102.1
Redwood-Tanoak	RDW-TO	Redwood occurs as a co-dominant with tanoak on the lower north facing slopes of mid-Baldwin Creek. <b>Species:</b> Coast redwood ( <i>Sequoia sempervirens</i> ), tanoak ( <i>Lithocarpus densiflorus</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), madrone ( <i>Arbutus menziesii</i> ), swordfern ( <i>Polystichum munitum</i> )	1	22.7
Restoration site	REST	Restoration sites near the mouth of Wilder Creek have been delineated as a unique landcover classification because they contain a unique mixture of plant species, mostly exotic weedy species, but some recovering natives.	8	57.2
Saltgrass	SG	A saltgrass stand occurs near the mouth of Wilder Creek on flat, sandy areas that are above the normal high tide line. <b>Species:</b> Saltgrass ( <i>Distichlis spicata</i> )	1	10.3
Santa Cruz Cypress	SCC	Santa Cruz cypress is a rare species restricted to sandy soils on ridge tops in the highest interior portions of the park. It commonly occurs in mixed stands with redwood, knobcone pine, Douglas fir, and tanoak, with the larger cypress trees being over 40 feet tall and 1 foot basal diameter. <b>Species:</b> Santa Cruz cypress ( <i>Cupressus abramsiana</i> ), Coast redwood ( <i>Sequoia sempervirens</i> ), tanoak ( <i>Lithocarpus densiflorus</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> )	1	24.6

Wilder Ranch State Park – Vegetation Map 2002

Name	Map Code	Occurrence Description & Dominant Species	# Of Polygons in Park	# Of Acres in Park
Santa Cruz Mountain Oak-Madrone	SCO	Santa Cruz mountain oak is common throughout the park in mixed forest stands, but only in only one spot was it found as a co-dominant with madrone with a stand size sufficient to map. <b>Species:</b> Santa Cruz mountain oak ( <i>Quercus parvula</i> var. <i>shrevei</i> ), madrone ( <i>Arbutus menziesii</i> ), coast live oak ( <i>Quercus agrifolia</i> ), Coast redwood ( <i>Sequoia sempervirens</i> ), tanoak ( <i>Lithocarpus densiflorus</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> )	1	16.4
Slide Debris	SLIDE	A large landslide in the canyon of Baldwin Creek was delineated as a separate landcover class.	1	1.4
Tanoak-Redwood	TO-RDW	Second-growth stands of tanoak and coast redwood occur on flats/gentle slopes in the interior of the park, where tanoak has more canopy cover than any other species. <b>Species:</b> Tanoak ( <i>Lithocarpus densiflorus</i> ), coast redwood ( <i>Sequoia sempervirens</i> ), madrone ( <i>Arbutus menziesii</i> ), Douglas fir ( <i>Pseudotsuga menziesii</i> ), swordfern ( <i>Polystichum munitum</i> )	2	27.0
Unknown	UNK	These areas were not inspected and it was impossible to determine their precise vegetation types based solely on aerial photograph interpretation.	2	9.7
Woollyleaf Manzanita	WOOMA	The sandhill areas in the high interior of the park are covered with chaparral that is dominated by woollyleaf manzanita. <b>Species:</b> Woollyleaf manzanita ( <i>Arctostaphylos tomentosa</i> var. <i>crustacea</i> and var. <i>crinita</i> ), manzanita ( <i>Arctostaphylos silvicola</i> ), California lilac ( <i>Ceanothus cuneatus</i> ), buckthorn ( <i>Rhamnus californica</i> ), Ben Lomond spineflower ( <i>Chorizanthe pungens</i> var. <i>hartwegiana</i> ), knobcone pine ( <i>Pinus attenuata</i> )	2	114.1
		<b>Total =</b>	<b>514</b>	<b>7252.4</b>



Table 2. Plant species list for dominant plants encountered during vegetation mapping at Wilder Ranch SP, 2000-2002.

Common Name	Scientific Name
Sand verbena	<i>Abronia umbellata</i>
Box elder	<i>Acer negundo</i> var. <i>californicum</i>
Chamise	<i>Adenostoma fasciculatum</i>
California buckeye	<i>Aesculus californica</i>
Silver hairgrass	<i>Aira caryophylla</i>
Red alder	<i>Alnus rubra</i>
Beach-bur	<i>Ambrosia chamissonis</i>
Madrone	<i>Arbutus menziesii</i>
Manzanita	<i>Arctostaphylos silvicola</i>
Woollyleaf manzanita	<i>Arctostaphylos tomentosa</i> var. <i>crustacea</i> and var. <i>crinita</i>
California sagebrush	<i>Artemisia californica</i>
Oats	<i>Avena</i> sp.
Coyote Brush	<i>Baccharis pilularis</i>
Brussel sprouts	<i>Brassica oleracea</i> var. <i>gemmifera</i>
Quaking grass	<i>Briza maxima</i>
Bromes	<i>Bromus</i> sp.
Sea rocket	<i>Cakile maritime</i>
Beach primrose	<i>Camissonia cheiranthifolia</i>
Italian thistle	<i>Carduus pycnocephalus</i>
Fig-marigold	<i>Carpobrotus chilensis</i>
California lilac	<i>Ceanothus cuneatus</i>
Ben Lomond spineflower	<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>
Bull thistle	<i>Cirsium vulgare</i>
Poison hemlock	<i>Conium maculatum</i>
Santa Cruz cypress	<i>Cupressus abramsiana</i>
Wild oatgrass	<i>Danthonia californica</i>
Saltgrass	<i>Distichlis spicata</i>
Wood fern	<i>Dryopteris arguta</i>
California buckwheat	<i>Eriogonum latifolium</i>
Woolly sunflower	<i>Eriophyllum staechadifolium</i>
Storksbill	<i>Erodium</i> sp.
Blue gum eucalyptus	<i>Eucalyptus globulus</i>
Fennel	<i>Foeniculum vulgare</i>
Tanoak	<i>Lithocarpus densiflorus</i>
Tanoak	<i>Lithocarpus densiflorus</i>
Bush monkeyflower	<i>Mimulus aurantiacus</i>
Purple needlegrass	<i>Nassella pulchra</i>
Chaparral pea	<i>Pickeringia montana</i>
Knobcone pine	<i>Pinus attenuata</i>
Swordfern	<i>Polystichum munitum</i>

Common Name	Scientific Name
Douglas fir	<i>Pseudotsuga menziesii</i>
Coast Live Oak	<i>Quercus agrifolia</i>
Santa Cruz mountain oak	<i>Quercus parvula</i> var. <i>shrevei</i>
Buckthorn	<i>Rhamnus californica</i>
Himalayan blackberry	<i>Rubus discolor</i>
Blackberry	<i>Rubus ursinus</i>
Arroyo willow	<i>Salix lasiolepis</i>
Black sage	<i>Salvia mellifera</i>
Red elderberry	<i>Sambucus racemosa</i>
Common bulrush or tule	<i>Scirpus acutus</i>
Coast redwood	<i>Sequoia sempervirens</i>
Coast redwood	<i>Sequoia sempervirens</i>
Poison oak	<i>Toxicodendron diversilobum</i>
Cattail	<i>Typha latifolium</i>
California bay	<i>Umbellularia californica</i>
Stinging nettle	<i>Urtica dioica</i>
Small fescue	<i>Vulpia bromoides/myuros</i>

#### 4. Literature Cited

Sawyer, John O. and Todd Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, California. ISBN 0-943460-26-2. 471 p.