4.5.2 Botanical

4.5.2.1 Botanical Resources

Overview

This section describes the affected environment as it relates to botanical resources, including vegetation communities, invasive non-native plant species, and special-status plants, and analyzes the baseline effects on these resources.

Botanical resources in the project area are influenced by a variety of factors. Vegetation patterns correspond with elevational changes and are dependent on precipitation, temperature, soils, aspect, slope, and disturbance history. Unique geologic and geomorphic conditions exist within the project area and affect plant habitats and species. The primary parent rock types around Lake Oroville are granitic, volcanic, metamorphic, and sedimentary. Unique formations include serpentine outcrops located within the West Branch and Big Bend area of the North Fork arm of the reservoir and gabbro-derived soils located along the South Fork arm. Vernal pools and swale complexes are a common part of the valley grassland habitats below Lake Oroville. These pools are of the Northern Hardpan type that occurs in areas of hummocky ground on terrace-alluvial derived Redding soils (DFG 1998). These formations tend to support a number of endemic and rare plant species.

Operation of the Oroville Facilities influences environmental conditions within and around Lake Oroville, its upstream tributaries, areas in and around the Thermalito Complex, and the OWA, as well as the Feather River floodplain below the project area. In general, the environmental effects on botanical resources of the Oroville Facilities may occur from (1) reservoir operations and water releases; (2) timing, magnitude, frequency, and duration of water level fluctuations; (3) facility maintenance or development; (4) vegetation and/or wildlife habitat management; (5) noxious weed management; (6) road maintenance and development; and (7) recreational use or development and/or maintenance associated with recreation areas. These are the principal actions that were used to analyze potential effects on botanical resources.

Botanical field investigations included surveys for vegetation mapping, invasive weeds, special-status plant species, and riparian and wetland resources. Surveys were conducted during 2002, 2003, and 2004. Please refer to each study plan report for more detailed information.

Vegetation Associations/Communities within the Project Area—Existing Conditions

The study area for the vegetation community/land use mapping included the FERC Project boundary, a 1-mile area beyond the FERC Project boundary, and the Feather River floodplain (within the Federal Emergency Management Area [FEMA] 100-year floodplain) downstream of the FERC Project boundary. Vegetation community/land use types and acreages are identified in Table 4.5-6. Maps depicting the vegetation

communities may be found in Figures 4.5.2-1 and 4.5.2-1a through 4.5.2-1j. A comprehensive vegetative communities/land use map was developed based on field surveys and aerial photography.

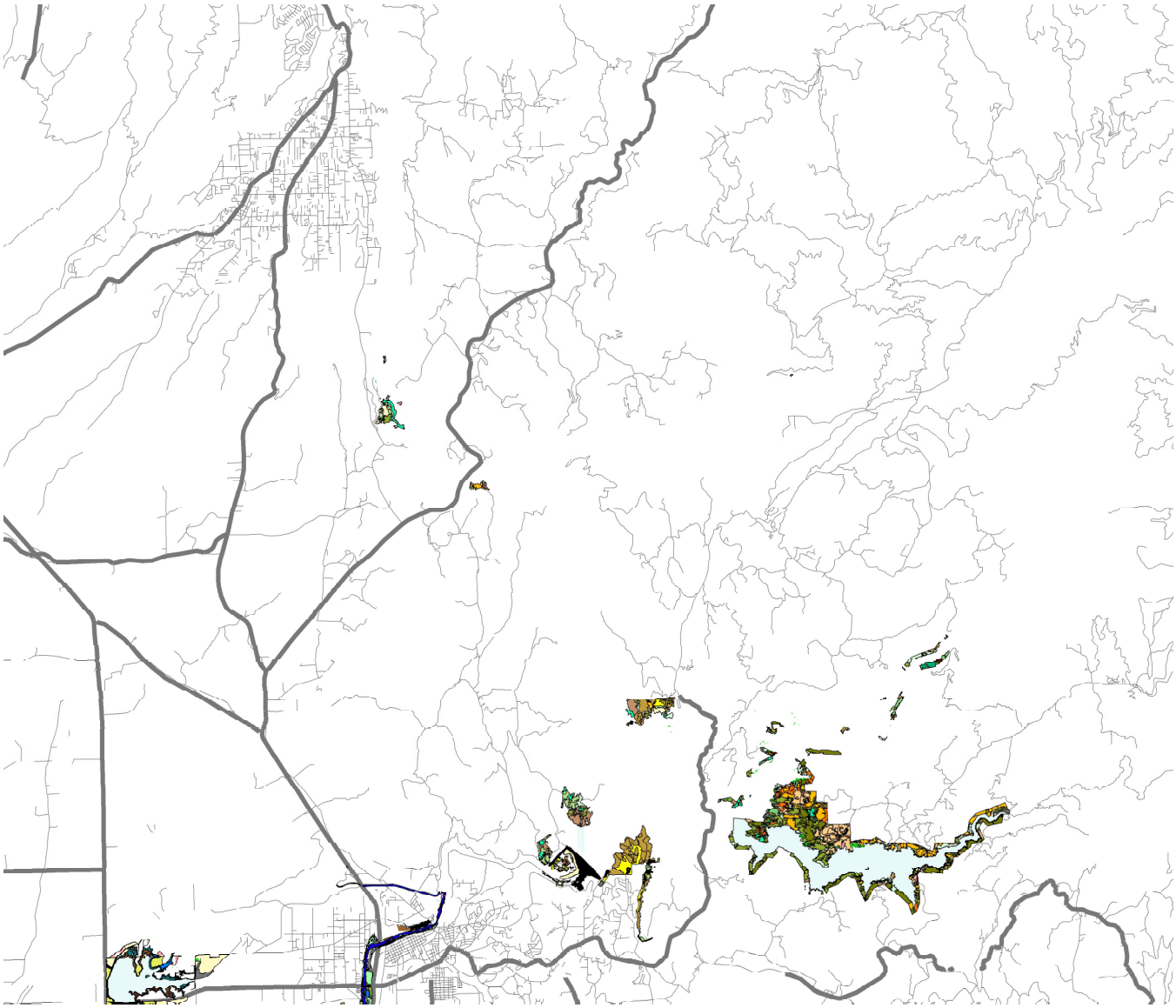
Table 4.5-6. Vegetation/land use within the study area.

Community Type	FERC Project Boundary		1 Mile Outside FERC Project Boundary		Feather River Floodplain	
	Acres	%	Acres	%	Acres	%
Upland Forest/Woodland	11,101	27	62,145	62	64	<1
Upland Herbaceous	2,752	7	12,218	12	2,661	8
Upland Shrub/Scrub	232	<1	2,289	2	0	0
Agriculture	126	<1	10,063	10	16,174	51
Disturbed/Urban/Bare	2,328	5	10,333	10	3,084	8
Riparian Forest/Woodland	3,238	8	1,043	1	4,269	13
Riparian Shrub/Scrub	215	<1	286	<1	2,175	7
Wetland	912	2	348	<1	210	<1
Open Water	19,796	48	767	<1	3,151	10
Aquatic/Submerged	443	1	33	<1	90	<1
TOTALS	**41,143**	**98**	**99,525**	**97**	**31,878**	**97**

Source: SP-T4

Vegetation communities are broad categories that represent an assemblage of similar vegetation association types. Vegetation associations are typically defined by dominant or co-dominant species and are based in part on the classification systems of Sawyer and Keeler-Wolf (1995) and Holland (1986). In total, seven natural vegetative community types were identified in the study area: upland forest/woodland, upland herbaceous, upland shrub/scrub, riparian forest/woodland, riparian shrub/scrub, wetlands, and aquatic/submerged vegetation. Other areas were mapped based on land uses such as disturbed, agriculture, urban or as rock outcrop, or open water (SP-T4). Nearly half (20,000 acres) of the 41,000 acres within the FERC Project boundary are surface waters. Discussion of these waters is not addressed here; however, plants that do inhabit backwaters and edges of these waters were mapped and are discussed under aquatic/submerged.

The majority of vegetation around Lake Oroville and the Diversion Pool consists of a variety of native vegetation associations including mixed oak woodlands, foothill pine/mixed oak woodlands, and oak/pine woodlands with a mosaic of chaparral. Open areas within the woodlands consist of annual grassland species. Below Oroville Dam and the Diversion Pool, vegetation around open waters of the Thermalito Complex consists of emergent wetland types with annual grasslands on the surrounding slopes. Open cottonwood riparian forests occur throughout much of the OWA, with mixed riparian and willow scrub near the Feather River.



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