3.3 Biological Environment

The analysis of potential impacts of the proposed project on biological resources is based on the Natural Environment Study (NES) completed in August 2011 and revised in March 2012. Analysis of the potential impacts of the proposed project on biological resources considered the following categories of resources:

- Natural Communities (Section 3.3.1)
- Wetlands and Other Waters (Section 3.3.2)
- Plant Species (Section 3.3.3)
- Animal Species (Section 3.3.4)
- Threatened and Endangered Species (Section 3.3.5)
- Invasive Species (Section 3.3.6)

The following sections describe applicable regulatory settings; existing environments; impacts; and avoidance, minimization, and mitigation measures for these categories of biological resources.

The biological study area (BSA) for the project is defined as the project's proposed limits of physical ground disturbance (i.e., project footprint) plus an approximate 150-ft-wide buffer that includes sufficient adjacent area to adequately assess the direct, indirect, and cumulative effects of the proposed action on biological resources (see Figure 3.3-1). The 150-ft buffer was determined by a qualified biologist[20] prior to initiating field surveys as a consequence of the urban and anthropogenic influences adjacent to the project footprint. The buffer is also intended to provide the Design Engineer with some flexibility to account for potential changes in engineering alignments, where practical, as the proposed project moves toward development of final plans and specifications. The project's BSA is predominantly confined to heavily developed, disturbed areas containing public and private infrastructure.

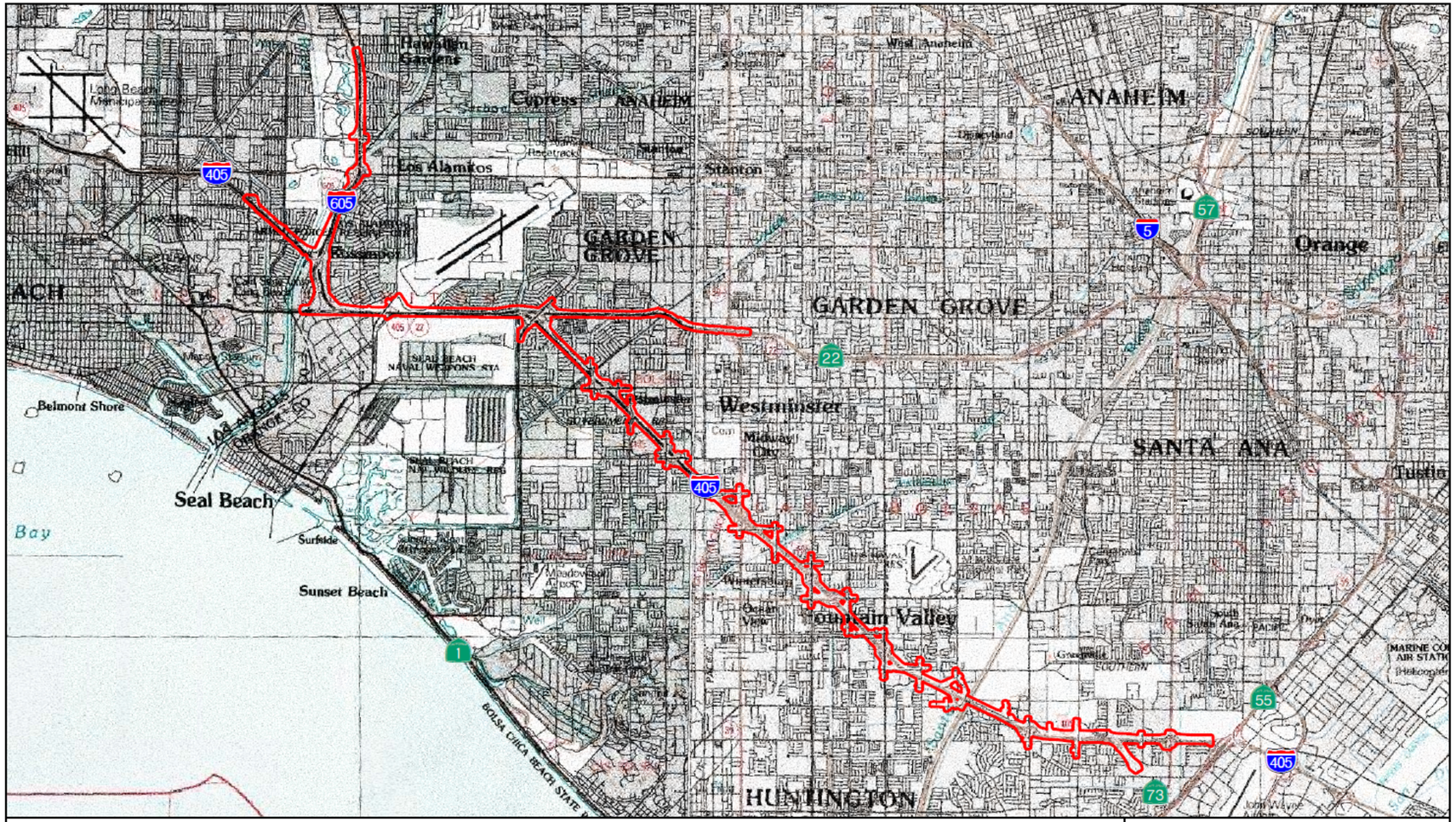
The BSA occurs at an approximate elevation of 8 to 56 ft above msl on gently sloping terrain. The regional climate within the vicinity of the BSA consists of hot and dry summer months with relatively cool and wet winters. Seasonal rainfall occurs predominantly in the winter and spring months (November through April) and was below average prior to the 2009 surveys and near average prior to the 2010 and 2011 surveys.

[20] A qualified biologist is an individual with sufficient education and field experience in local California ecology and biology to adequately identify local plant and wildlife species.

During preparation of the NES, available information was reviewed from resource management plans, local resource experts, and relevant documents to determine locations and types of biological resources that have the potential to exist within and adjacent to the BSA. Primary data sources included:

- May 2009 and April 2010 California Natural Diversity Database (CNDDB) maintained by CDFW and California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants of California, which were queried for records of occurrence of special-status species and their habitats within the Los Alamitos, Seal Beach, and Newport Beach, California, USGS 7.5-Minute topographic quadrangles (CDFW 2009, CDFW 2010, CNPS 2009, CNPS 2010, USGS 1981);
- U.S. Fish and Wildlife Service (USFWS) Carlsbad Field Office List of Proposed, Threatened, and Endangered Species, and Critical Habitats for the I-405 Widening Project from 405/73 Interchange to 405/605 Interchange, Orange County, CA (USFWS 2009a, 2011, 2014);
- National Wetlands Inventory (USFWS 2009b);
- USFWS Critical Habitat Portal and File Data (USFWS 2009c, USFWS 2010b); and
- USFWS Ventura Field Office Online Species List for Orange and Los Angeles County (USFWS 2010a).

Field surveys of the BSA were performed to assess biological resources and determine the potential for occurrence of common and special-status species, their habitats, and special aquatic resource areas. Field surveys of the BSA assessed general and dominant vegetation types, plant community sizes, habitat types, and species present within existing communities. Vegetation community characterizations within the BSA were derived from the criteria and definitions of Holland (1986) and Sawyer and Keeler-Wolf (1995). Plants were identified to the taxonomic level sufficient to determine whether plant species observed were nonnative, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Hickman 1993). Scientific and common species names follow Hickman (1993).



Source: USGS 1:100,000 Topographic Quadrangle Series, Long Beach (1981) and Santa Ana (1985)

Figure 3.3-1: Biological Study Area

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Wildlife observations were also documented within the BSA. The presence of a wildlife species was based on direct observation, wildlife sign (e.g., tracks, burrows, nests, scat), or vocalization. Field data compiled for observed wildlife included the scientific name, common name, habitat, and evidence of sign when no direct observations were made.

Wildlife corridors were also evaluated. This evaluation included a literature review to identify any previously recognized regional[21] and/or local[22] wildlife corridors or linkages within the BSA (Rosenberg *et al.* 1997, South Coast Wildlands 2008).

Additionally, the BSA was assessed for its potential to support special-status species based on habitat suitability comparisons with reported occupied habitats and past reported occurrences of species within the region. The following potential for occurrence definitions were derived from Caltrans Standard Environmental Reference (Caltrans 2009):

- *Absent* [A] – Species distribution is restricted by substantive habitat requirements, which do not occur or are negligible within the BSA, and no further survey or study is obligatory to determine likely presence or absence of this species.
- *Habitat Present* [HP] – Species distribution is restricted by substantive habitat requirements, which occur within the BSA, and further survey or study may be necessary to determine likely presence or absence of species.
- *Present* [P] – Species or species sign were observed within the BSA.
- *Critical Habitat* [CH] – The BSA is located within a designated critical habitat unit.

USGS 7.5-minute Topographic Quadrangle maps were also examined to determine the locations of potential special aquatic resource areas within the BSA. Those portions of the BSA suspected of containing potential special aquatic resource areas (e.g., Waters of the U.S., Waters of the State, wetlands, and riparian habitats) were subsequently assessed by visual observation in the field.

[21] Regional corridors link two or more large areas of natural open space and serve to maintain demographic and genetic exchange between wildlife populations residing within these geographically distinct areas (Beier and Loe 1992).

[22] Local corridors give resident animals access to essential resources (e.g., water, food, cover, or den sites) within a large habitat patch and may also function as secondary connections to the regional corridor system (Beier and Loe 1992).

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