4.3. Biological Resources

Consistent with the requirements of the California Environmental Quality Act (CEQA), this section analyzes potential impacts on biological resources that would result from implementation of the proposed Malibu Civic Center Wastewater Treatment Facility. This section includes discussions of the methods of study, the biological resources occurring on the Project site (i.e., existing site conditions, vegetation, wildlife resources, and potential jurisdictional wetlands), and an evaluation of the significance of potential impacts on these biological resources. Measures to mitigate significant impacts on biological resources are also discussed. The information in this section is based on surveys conducted by ICF International in 2013, the detailed results of which are documented in a habitat assessment memorandum (see Appendix C), a jurisdictional delineation (see Appendix E), and a tree protection plan (see Appendix D).

The Project would be constructed in three phases and has four main elements that could result in impacts to biological resources: 1) wastewater treatment facility; 2) pump stations; 3) wastewater collection and recycled water distribution system pipelines; and 4) percolation ponds and groundwater injection wells. For the purposes of this section, "Project area" refers to the area that encompasses the extents of the four main elements described above and the area that would be served by these proposed Project facilities and "Project site" refers specifically to those areas that would be disturbed by construction activities associated with these four main elements. Each of the project elements are also referred to later in this section. The Project would include a Local Coastal Program Amendment and modification of zoning for the wastewater treatment facility to include an Institutional District Overlay.

Methods Used to Identify Biological Resources

The methods used to identify potential biological resources in the Project area consisted of pre-field literature review and field surveys.

Literature Review

Prior to field surveys, ICF biologists conducted a comprehensive literature review related to the Project area to identify potential special-status species that may be found in the Project area. Pertinent sources reviewed were:

- California Natural Diversity Database (CNDDB) (California Department of Fish and Game 2013) for the 7.5-minute U.S. Geological Survey quadrangle maps in the project vicinity: Malibu, Point Dume, Topanga, Thousand Oaks, Calabasas, and Canoga Park;
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (California Native Plant Society 2013) for the 7.5-minute U.S. Geological Survey quadrangle maps in the project vicinity: Malibu, Point Dume, Topanga, Thousand Oaks, Calabasas, and Canoga Park;
- United States Fish and Wildlife Service (USFWS 2013a) Carlsbad office GIS database search;
- Most recent USFWS critical habitat maps (USFWS 2013b);
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (USDA 2013);

- U.S. Geological Survey (USGS) Malibu Beach, California, 7.5-minute topographic quadrangle map (USGS 1995);
- The City of Malibu Local Coastal Program (LCP) Local Implementation Plan (LIP) (Malibu 2002a);
- The City of Malibu LCP Land Use Plan (LUP) (Malibu 2002b);
- Habitat Assessment;
- Jurisdictional Delineation; and
- Tree Protection Plan.

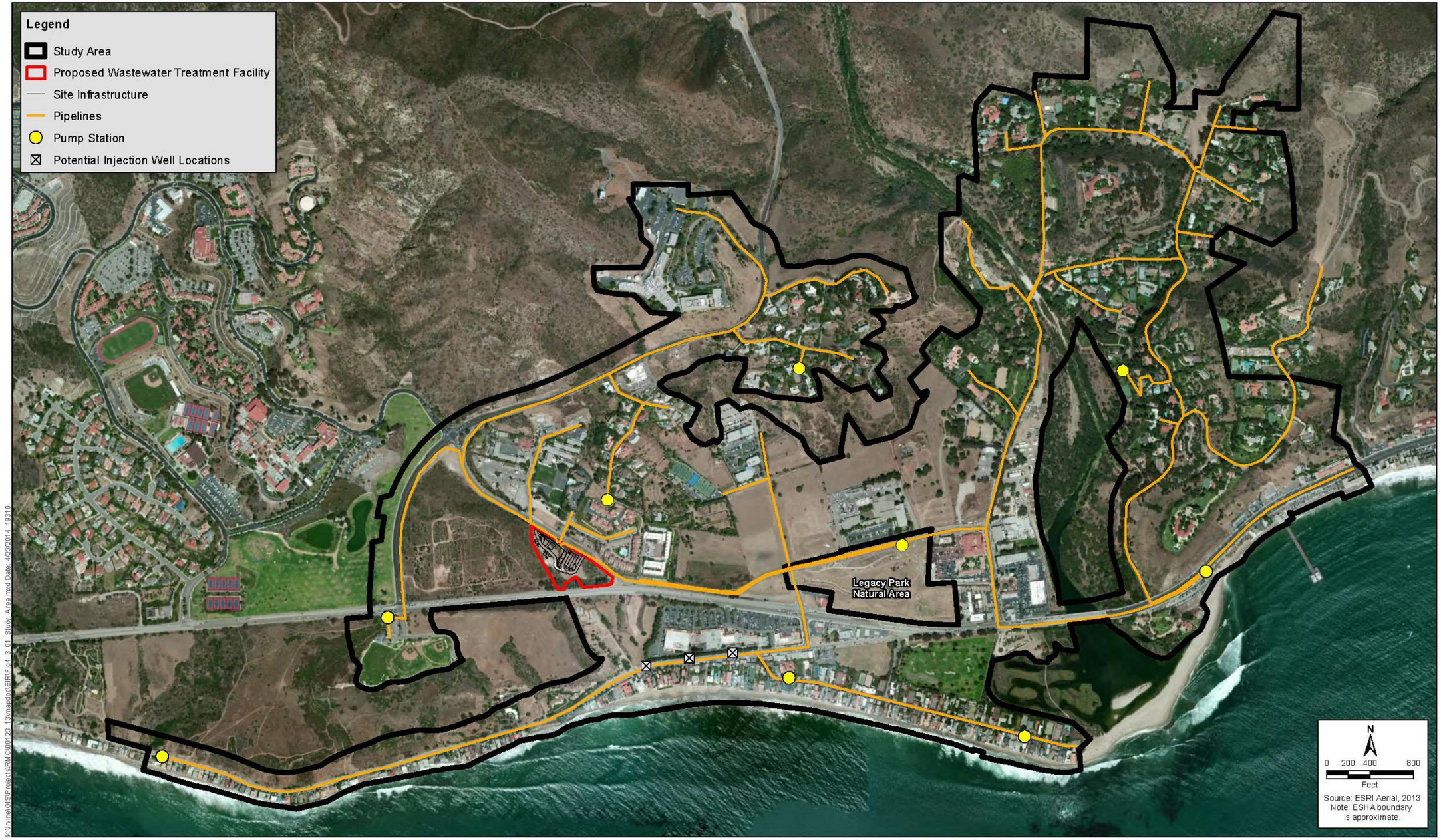
Field Surveys

ICF biologist James Hickman conducted a reconnaissance-level field survey on May 17, 2013 to identify and evaluate vegetation communities and habitats for special-status plants and wildlife present within the study area for the proposed wastewater treatment facility, which was defined as the wastewater treatment facility site plus a 500-foot buffer. A second reconnaissance field survey was conducted by ICF biologist Russell Sweet on November 7, 2013. The focus of this survey was the proposed buildout alignments of pipelines and pump station locations, plus a 100 to 500 foot buffer, dependent on accessibility. Together, the two reconnaissance surveys covered the entire proposed Project plus a 100- to 500-foot buffer, which constitutes the survey study area (Figure 4.3-1). The survey of the buffer area along the pipeline alignments was limited to areas accessible to the public. The marine component of the study area was not surveyed but consists of two parts: an immediate nearshore zone where shallow groundwater and subsurface waters influenced by septic system flows are discharged; and a dilution zone around the deep groundwater discharge zone influenced by proposed injection of treated wastewater. The immediate nearshore zone has not been explicitly mapped but is expected to be closely associated with the mean lower low water (MLLW) line based on the typical near-surface configuration of septic drainfields and their position relative to the marine shoreline. The deeper water zone consists of discontinuous points of groundwater discharge extending from 300 to 1,000 feet offshore and distributed roughly parallel to the shoreline over a distance of approximately 1,320 feet. For the purpose of this EIR, the deeper water zone also includes a dilution zone with a footprint covering the full extent of the groundwater discharge zone and extending upwards from the bottom for approximately 30 feet. The dilution zone was used in a simplified dilution analysis to estimate the extent of measurable effects on salinity and water chemistry around points of groundwater discharge.

Reconnaissance field surveys included on-ground evaluation for the presence, absence, or likelihood of occurrence of special-status species and vegetation types, and for more general biological resources within the Project area. Although focused protocol surveys for plants or wildlife were not performed during this field survey, habitat assessments were performed. Parameters evaluated for special-status plants included topography, soil conditions, elevation, hydrology, the site's operational activities, and life history needs for the specific species. Parameters evaluated for special-status wildlife included connectivity to documented and potentially occurring habitat, hydrology, access to the site, foraging and nesting habitat, the site's operational activities, and life history needs for each species.

ICF Regulatory Specialist RC Brody conducted a jurisdictional delineation on May 17, 2013. Potentially jurisdictional features within the wastewater treatment facility site were analyzed for potential waters and wetlands as defined in Section 13577(b) of the California Code of Regulations. A one-parameter methodology, as required by the California Coastal Commission (CCC), was used for all features.

Figure 4.3-1: Biological Resources Study Area



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ICF Regulatory Specialist RC Brody and Biologist Marisa Flores conducted an inventory and health assessment of native trees within twenty feet of the proposed wastewater treatment facility site disturbed limits. Per LIP Chapter 5, the focus was on native trees with at least one trunk that measures six inches or more in diameter, or a combination of any two trunks measuring a total of eight inches or more in diameter at breast height (DBH). The data was mapped using Global Positioning System (GPS). For trees adjacent to offsite infrastructure, aerial photography was reviewed.

Vegetation Mapping

Vegetation mapping was conducted in the field on May 17, 2013 and November 7, 2013, using approximately 1-inch-to-400-foot-scale aerials (aerial dated August 26, 2012), which were later transferred to a digital file using Google Earth and then converted to Geographic Information System shapefiles. Where possible, the vegetation mapping followed the classifications defined in *A Manual of California Vegetation* (Sawyer et al. 2009); however, *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) was also conferred. In some cases, neither classification described vegetation on site. In those cases, the communities were defined more specifically using observations on site.

Geographic Information System Analysis

Geographic information system analysis was used to map vegetation communities, trees, and other biological resources in relation to proposed Project components.

4.3.1. Environmental Setting

Regulatory Setting

Federal Regulations

The federal laws listed below were considered during evaluation of the biological resources in the biological study area.

Federal Endangered Species Act

The federal Endangered Species Act (ESA) (U.S. Government Code [USC], Title 16, Section 1530 et seq.) protects fish and wildlife species, as well as their habitats, that have been identified by the U.S. Fish and Wildlife Service (USFWS) as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; *threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

USFWS regulates the "take" (i.e., killing, harassing, or habitat destruction) of federally listed species through Section 9 of the ESA. Take of listed species can be authorized through either the ESA Section 7 consultation process for actions by federal agencies or the ESA Section 10 permit process for actions by nonfederal agencies.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703–712) enacts the provisions of treaties between the United States, Great Britain, Mexico, Canada, Japan, and Russia and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag

limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 Code of Federal Regulations [CFR] 10 21). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird-banding, and other similar activities. USFWS is responsible for overseeing compliance with the MBTA. The U.S. Department of Agriculture's Animal Damage Control Officer makes recommendations on related animal protection issues.

The study area supports habitat for nesting birds and migratory birds protected under the MBTA.

Clean Water Act

The federal Clean Water Act (CWA) is the primary federal law that protects the quality of surface waters that are traditionally navigable waters, tributary or adjacent to traditionally navigable waters, or interstate waters. Waters under the jurisdiction of the CWA are referred to as "waters of the United States." The U.S. Army Corps of Engineers regulates fill in waters of the United States under Section 404 of the CWA. Point discharges to waters of the United States are regulated under Section 402 of the CWA through National Pollutant Discharge Elimination System (NPDES) permits. In California, the Regional Water Quality Control Boards have been delegated the authority to issue NPDES permits. Under Section 401 of the CWA, state agencies review permits issued by the U.S. Army Corps of Engineers for effects on water quality. In general, the U.S. Army Corps of Engineers takes jurisdiction over traditionally navigable waters, waters that drain to a traditionally navigable water, or waters that are adjacent or otherwise have a significant nexus to traditionally navigable waters.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC 661–667e or 16 USC 662 S.2) requires consultation with USFWS and the state agency responsible for wildlife resources whenever a stream or other body of water is "proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified."

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) was enacted in 1972 and prohibits the "take" of marine mammals in U.S. waters (or by U.S. citizens on high seas). It also prohibits the importation of marine mammals and their products into the U.S. The MMPA is administered by NMFS, which requires review of actions that could result in "take" of protected marine mammal species and authorizes permits for incidental take after all reasonable measures to avoid and minimize that take have been considered.

State Regulations

The state laws and regulations listed below were considered during evaluation of biological resources in the study area. Note that this is not an exhaustive list of all state laws and regulations that may be considered.

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2085) is administered by the California Department of Fish and Wildlife (CDFW).[1] It prohibits the take of plant and animal species designated by CDFW as either threatened or endangered in the state. Take, in the context of the CESA, means to hunt, pursue, kill, or capture a listed species. It also refers to any other actions that may result in adverse impacts when attempting to take individuals of a listed species.

Section 2081 of the CESA allows CDFW to authorize exceptions to the state's prohibition against take of a listed species if the take is incidental to carrying out an otherwise lawful project that has been approved under CEQA.

California Coastal Act

Section 30240 of the California Coastal Act requires the protection of Environmentally Sensitive Habitat Areas (ESHAs) against any significant disruption of habitat values. No development, with the exception of uses dependent on the resources, is allowed within any ESHA. (However, Section 30240 must be applied in concert with other California Coastal Act requirements, particularly Section 30010, which prohibits taking private property.) This policy further requires development adjacent to ESHAs to be sited and designed to prevent impacts that would significantly degrade ESHA. In addition, development must be compatible with the continuance of the habitat areas. Finally, development adjacent to parks and recreation areas must be sited and designed to prevent impacts. The California Coastal Act requires that the biological productivity and quality of coastal waters be protected. Section 30231 requires the use of means, including managing wastewater discharges, controlling runoff, protecting groundwater and surface water, encouraging wastewater reclamation, and protecting streams, to maintain and enhance water quality. Within the City limits, the City of Malibu issues coastal development permits, but the CCC has appeal rights within a defined appealable jurisdiction. The CCC issues coastal development permits for the unincorporated areas of Los Angeles County.

Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Water Quality Control Act established the SWRCB and divided the state into nine regional basins, each with a Regional Water Quality Control Board. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface water and groundwater supplies, while the regional boards are responsible for developing and enforcing water quality objectives and implementation plans. This act is relevant to biological resources that may be affected in state waters because SWRCB regulates discharges, including construction runoff and sediment, into state waters, including groundwater. This includes waters that may be outside federal jurisdiction under the CWA. See Section 4.3.3 for a description of waters within the Project study area.

California Department of Fish and Wildlife Regulations

Protected Species in the California Fish and Game Code

The California Fish and Game Code provides protection from take for a variety of species, referred to as fully protected species. Section 5050 lists fully protected amphibians and reptiles and prohibits the take of such reptiles and amphibians except as provided in Sections 2081.7 or 2835. Section

[1] Effective January 2013, the California Department of Fish and Game (CDFG) is called the California Department of Fish and Wildlife (CDFW).

5515 prohibits take of fully protected fish species except as provided in Sections 2081.7 or 2835. Fully protected birds are listed under Section 3511, and fully protected mammals are listed under Section 4700. Both of these sections prohibit take except as provided in Sections 2081.7 and 2835. Except for take related to scientific research, all take of fully protected species is prohibited.

Nesting Bird Protections in the California Fish and Game Code

Similar to the federal MBTA, Section 3503 of the California Fish and Game Code prohibits take, possession, or destruction of eggs and nests of all birds, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests. Take or possession of any migratory nongame bird, as designated in the MBTA, is prohibited under Sections 3513 and 3800. As defined under Section 86 of the California Fish and Game Code, *take* means to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Streambed Alteration Agreements

CDFW has jurisdictional authority over rivers, streams, and lakes under California Fish and Game Code Section 1602. CDFW has the authority to regulate all work under the jurisdiction of California that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

In practice, CDFW marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by CWA Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1602 may encompass greater areas than those regulated under CWA Section 404.

When CDFW enters into a Streambed Alteration Agreement with an applicant, it can request conditions to ensure that no net loss of wetland values or acreage will be incurred. The streambed or lakebed alteration agreement is not a permit but, rather, a mutual agreement between CDFW and the applicant.

California Fish and Game Code Provisions for Projection of Fish and Wildlife Resources

Per Section 711.7 of the California Fish and Game Code, the primary authority and responsibility of the ~~CDFG~~ CDFW is to act as a trustee of the fish and wildlife resources of the state. CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (FGC §1802). ~~CDFG~~CDFW provides expert advice to the Fish and Game Commission, monitors the status of populations, and conducts research. The Department administers and enforces the provisions of the FGC through regulations adopted by the Department or the Commission (FGC §702). The ~~CDFG~~CDFW and the Commission have the authority to take emergency regulatory action (FGC §7710 and FGC §240, respectively) to protect imperiled fish and wildlife resources where necessary.

Abalone Recovery and Management Plan

In response to the imperiled status of several species of abalone in State waters, and the listing of three of these species under the Federal ESA, the California Legislature directed the ~~CDFG~~CDFW to develop an Abalone Recovery and Management Plan (ARMP) (CDFG 2005) for all of the state's

abalone populations consistent with FGC §5522. The Legislature delegated authority for management of abalone recovery all activities related to abalone fisheries to the state Fish and Game Commission and the ~~CDFG~~CDFW under FGC §5520. The purpose of the ARMP is to provide a cohesive framework to direct recovery efforts, and to manage existing and future fisheries. The ARMP sets recovery goals and criteria and provides for the establishment of marine protected areas, enforcement of harvest and illegal take prohibitions, and all research, monitoring, and related activities used to support and/or track progress towards recovery.

The ARMP would have no direct authority over the Project or its effects on the environment. However, as stated above, the ~~CDFG~~CDFW and the Fish and Game Commission have the authority to take emergency regulatory action in cases where a proposed activity would impede the conservation and recovery objectives established in the ARMP.

Local Regulations

Los Angeles County Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance (Chapter 22.56.2050 of the Los Angeles County Municipal Code) is intended to preserve and maintain healthy oak trees in Los Angeles County and places restrictions on development for their preservation. All trees of the oak genus *Quercus* (including Valley Oak and Coast Live Oak) are legally protected from being damaged or removed during the course of a development project without first obtaining a permit. County of Los Angeles Oak Tree Ordinance regulates the following trees that might be affected by the proposed Project (County of Los Angeles 1982):

- All native oaks with a single-trunk diameter at breast height (DBH) of 8 inches or more.
- All native oaks with any two trunks with a combined DBH of 12 inches or more.
- Heritage oaks of either criterion: (1) any oak tree with a DBH of 36 inches or more or (2) any oak tree having significant historical or cultural importance to the community, notwithstanding that the tree's DBH is less than 36 inches.

This ordinance would only apply to portions of the Project occurring outside of the City limits in unincorporated Los Angeles County.

City of Malibu General Plan

The City of Malibu General Plan contains several objectives and policies for land development in the Conservation (CON) Element section of the general plan, listed below. Those that are relevant to biological resources are identified in the Impact Analysis portion of this document.

CON Objective 1.2: Wildlife and biota resources preserved, protected, and reclaimed.

- **CON Policy 1.2.1:** The City shall preserve wildlife habitats and habitat linkages.
- **CON Policy 1.2.2:** The City shall protect, preserve, and reclaim very threatened community types that occur in Malibu, as inventoried by the Department of Fish and Wildlife, with special emphasis on these: Southern Coastal Bluff Scrub; Southern Dune Scrub; Valley Needlegrass Grassland; Southern Foredunes (Broad Beach); Venturan Coastal Sage Scrub; Coastal Brackish Marsh (Malibu Creek and Lagoon); Coastal and Valley Freshwater Marsh; Southern Willow Scrub; California Walnut Woodland; and Valley Oak Woodland.

- **CON Policy 1.2.3:** The City shall mitigate net loss of very threatened plant communities.
- **CON Policy 1.2.4:** The City shall regulate removal of vegetation in ESHAs.
- **CON Policy 1.2.5:** The City shall discourage plant species that are invasive in the Santa Monica biogeographic area where such invasive plant species would degrade native plant communities.
- **CON Policy 1.2.6:** The City shall discourage the use of insecticides, herbicides, or toxic chemical substances (excepting non-regulated home pesticides) within the City or if ESHAs, raptors, and other animals could be adversely affected, except in an emergency that threatens wildlife or the habitat itself.
- **CON Policy 1.2.7:** The City shall reduce impacts resulting from night lighting so as not to disturb natural habitats.
- **CON Policy 1.2.8:** The City shall protect streambed gravel conditions in streams supporting steelhead trout.
- **CON Policy 1.3.1:** The City shall prohibit uses of the marine environment that will have a significant adverse effect on the biological diversity and productivity of coastal waters.
- **CON Policy 1.3.3:** The City shall protect marine mammals and preserve their habitat.
- **CON Policy 1.3.4:** The City shall protect and support restoration of all kelp beds, wetlands, creeks and estuaries of Malibu.
- **CON Policy 1.3.5:** The City shall protect all sea birds/shore birds and their nesting and roosting sites in ESHAs.

City of Malibu Local Coastal Program Local Implementation Plan (LIP) and Land Use Plan (LUP)

In 2002, the CCC certified the LCP containing an LIP and LUP for Malibu. The City is responsible for processing coastal development permits in accordance with the LIP and LUP. The Project includes an LCP amendment that would create an Institutional overlay district for the Civic Center Wastewater Treatment Facility, and would specifically address Project features as they relate to ESHA, native trees and marine resource protection.

The LIP and LUP designate ESHAs throughout the City. Chapter 4 of the LIP defines an ESHA as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem, which could be easily disturbed or degraded by human activities and developments." Chapter 4 also states that the environmentally sensitive habitat overlay zone shall extend not only over an ESHA area itself but shall also include buffers necessary to ensure continued protection of the habitat areas. Only uses dependent on the environmentally sensitive habitat areas and which do not result in significant disruption of habitat values shall be permitted in the ESHA overlay zone. The ESHA overlay provisions shall apply to those areas designated environmentally sensitive habitat area on the Malibu LIP ESHA overlay map and those areas within 200 feet of designated ESHA.

Any area not designated on the ESHA Overlay Map that meets the "environmentally sensitive area" definition is ESHA and shall be accorded all the protection provided for ESHA in the LCP. The City is required to determine the physical extent of habitat meeting the definition of "environmentally sensitive area" on a given project site, based on the applicant's site-specific biological study, as well as available independent evidence. Unless there is site-specific evidence that establishes otherwise, the following habitat areas shall be considered to be ESHA: 1) any habitat area that is rare or

especially valuable from a local, regional, or statewide basis; 2) any habitat area that contributes to the viability of plant or animal species that are designated or are candidates for listing as rare, threatened, or endangered under State or Federal law; 3) any habitat area that contributes to the viability of species that are designated "fully protected" or "species of special concern" under State law or regulations; 4) any habitat area that contributes to the viability of species for which there is other compelling evidence of rarity; 5) any designated Area of Special Biological Significance, or Marine Protected Area; and 6) streams.

The Project site includes several LCP-mapped ESHA areas (Figure 4.3-2). Additionally, the Civic Center Wastewater Treatment Facility site contains a wetland ESHA and its associated 100 foot buffer, as determined by the Habitat Assessment prepared for the Project (Appendix C).

The pertinent goals pertaining to environmental protection identified in the LUP are:

LUP Policies

- **Policy 3.4:** Any area not designated on the LUP ESHA Map that meets the ESHA criteria is ESHA and shall be accorded all the protection provided for ESHA in the LCP. The following areas shall be considered ESHA, unless there is compelling site-specific evidence to the contrary:
    - Any habitat area that is rare or especially valuable from a local, regional, or statewide basis;
    - Areas that contribute to the viability of plant or animal species; designated as rare, threatened, or endangered under State or Federal law;
    - Areas that contribute to the viability of species designated as Fully Protected or Species of Special Concern under State law or regulations;
    - Areas that contribute to the viability of plant species for which there is compelling evidence of rarity, for example, those designated 1b (Rare or endangered in California and elsewhere) or 2 (rare, threatened or endangered in California but more common elsewhere) by the California Native Plant Society.
- **Policy 3.11:** Applications for development of a non-resource dependent use within ESHA or for development that is not consistent with all ESHA policies and standards of the LCP shall demonstrate the extent of ESHA on the property.
- **Policy 3.14:** New development shall be sited and designed to avoid impacts to ESHA. If there is no feasible alternative that can eliminate all impacts, then the alternative that would result in the fewest or least significant impacts shall be selected. Impacts to ESHA that cannot be avoided through the implementation of siting and design alternatives shall be fully mitigated, with priority given to on-site mitigation. Off-site mitigation measures shall only be approved when it is not feasible to fully mitigate impacts on-site or where off-site mitigation is more protective in the context of a Natural Community Conservation Plan that is certified by the Commission as an amendment to the LCP. Mitigation shall not substitute for implementation of the project alternative that would avoid impacts to ESHA.
- **Policy 3.18:** The use of insecticides, herbicides, or any toxic chemical substance which has the potential to significantly degrade Environmentally Sensitive Habitat Areas, shall be prohibited within and adjacent to ESHAs, where application of such substances would impact the ESHA, except where necessary to protect or enhance the habitat itself, such as eradication of invasive plant species, or habitat restoration. Application of such chemical substances shall not take place during the winter season or when rain is predicted within a week of application.

- **Policy 3.23:** Development adjacent to ESHAs shall minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation buffer areas shall be provided around ESHAs to serve as transitional habitat and provide distance and physical barriers to human intrusion. Buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect. All buffers shall be a minimum of 100 feet in width, except for the case addressed in Policy 3.27.
- **Policy 3.25:** New development, including, but not limited to, vegetation removal, vegetation thinning, or planting of non-native or invasive vegetation shall not be permitted in required ESHA or park buffer areas, except for that case addressed in Policy 3.27. Habitat restoration and invasive plant eradication may be permitted within required buffer areas if designed to protect and enhance habitat values.
- **Policy 3.26:** Required buffer areas shall extend from the following points:
    - The outer edge of the canopy of riparian vegetation for riparian ESHA;
    - The outer edge of the tree canopy for oak or other native woodland;
    - The top of bluff for coastal bluff ESHA.
- **Policy 3.42:** New development shall be sited and designed to minimize impacts to ESHA by:
    - Minimizing grading and landform alteration, consistent with Policy 6.8
    - Minimizing the removal of natural vegetation, both that required for the building pad and road, as well as the required fuel modification around structures.
    - Limiting the maximum number of structures to one main residence, one second residential structure, and accessory structures such as, stable, corral, pasture, workshop, gym, studio, pool cabana, office, or tennis court, provided that such accessory structures are located within the approved development area and structures are clustered to minimize required fuel modification.
    - Minimizing the length of the access road or driveway, except where a longer roadway can be demonstrated to avoid or be more protective of resources.
    - Grading for access roads and driveways should be minimized; the standard for new on-site access roads shall be a maximum of 300 feet or one-third the parcel depth, whichever is less. Longer roads may be allowed on approval of the City Planning Commission, upon recommendation of the Environmental Review Board and the determination that adverse environmental impacts will not be incurred. Such approval shall constitute a conditional use to be processed consistent with the LIP provisions.
    - Prohibiting earthmoving operations during the rainy season, consistent with Policy 3.47.
    - Minimizing impacts to water quality, consistent with Policies 3.94-3.155
- **Policy 3.45:** All new development shall be sited and designed so as to minimize grading, alteration of physical features, and vegetation clearance in order to prevent soil erosion, stream siltation, reduced water percolation, increased runoff, and adverse impacts on plant and animal life and prevent net increases in baseline flows for any receiving water body.
- **Policy 3.51:** Disturbed areas ESHAs shall not be further degraded, and if feasible, restored. If new development removes or adversely impacts native vegetation, measures to restore any disturbed or degraded habitat on the property shall be included as mitigation.

- **Policy 3.56:** Exterior night lighting shall be minimized, restricted to low intensity fixtures, shielded, and directed away from ESHA in order to minimize impacts on wildlife. High intensity perimeter lighting and lighting for sports courts or other private recreational facilities in ESHA, ESHA buffer, or where night lighting would increase illumination in ESHA is prohibited.
- **Policy 3.63:** New development shall be sited and designed to preserve oak, walnut, sycamore, alder, toyon, or other native trees that are not otherwise protected as ESHA. Removal of native trees shall be prohibited except where no other feasible alternative exists. Structures, including roads or driveways, shall be sited to prevent any encroachment into the root zone and to provide an adequate buffer outside of the root zone of individual native trees in order to allow for future growth.
- **Policy 3.64:** New development on sites containing oak, walnut, sycamore, alder, toyon, or other native trees shall include a tree protection plan.
- **Policy 3.65**: Where the removal of native trees cannot be avoided through the implementation of project alternatives or where development encroachments into the protected zone of native trees result in the loss or worsened health of the trees, mitigation measures shall include, at a minimum, the planting of replacement trees on-site, if suitable area exists on the project site, at a ratio of 10 replacement trees for every 1 tree removed. Where on-site mitigation is not feasible, off-site mitigation shall be provided through planting replacement trees or by providing an in-lieu fee based on the type, size and age of the tree(s) removed.
- **Policy 3.75:** Marine ESHAs shall be protected against significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. Residential, commercial, or institutional uses shall not be considered resource dependent uses.
- **Policy 3.76:** Permitted land uses or developments shall have no significant adverse impacts on marine and beach ESHA.
- **Policy 3.78:** New development shall prevent or reduce non-point source pollution in the near shore environment through implementation of the non-point source pollution and private sewage disposal system policies.
- **Policy 3.88:** Buffer areas shall be provided around wetlands to serve as transitional habitat and provide distance and physical barriers to human intrusion. Buffers shall be of a sufficient size to ensure the biological integrity and preservation of the wetland they are designed to protect, but in no case shall they be less than 100 feet in width.
- **Policy 3.89:** The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes may be permitted in accordance with all policies of the LCP, where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:
    - Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
    - Restoration purposes.
    - Nature study, aquaculture, or similar resource dependent activities.
    - Other uses specified in Section 30233 of the Coastal Act may only be allowed pursuant to an LCP amendment.

LIP Chapter 5 – Native Tree Ordinance

The LIP includes requirements for the preservation of native trees in the City of Malibu. Trees within the City that meet the provisions of LIP Chapter 5, Native Tree Protection, may not be removed without conditional approval in the associated coastal development permit. The chapter requires

locating and characterizing protected native trees to provide the data needed to prepare a tree protection plan. A tree protection plan with the required mitigation must be approved by the City before a protected tree can be approved for removal.

Under Chapter 5, protected native trees include native oak (*Quercus* sp.), California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), alder (*Alnus rhombifolia*), and toyon (*Heteromeles arbutifolia*) with a diameter at breast height (DBH) of six inches or more for a single trunk or a combination of any two trunks measuring a total of eight inches or more DBH. The tree ordinance further requires that protected trees be preserved by impact avoidance within the "protected zone," which is defined as the area within a tree's drip line plus five feet or an area within 15 feet of the tree trunk, whichever is greater.

LIP Section 5.4 provides specific development standards during construction for the preservation and/or removal of native trees are required as conditions of approval for the coastal development permit. The development standards required in the tree protection plan are summarized below.

- The proposed project must be sited and designed to avoid protected native trees to the maximum extent feasible.
- Removal of protected native trees is prohibited except where no other feasible alternative is present. Removal will be mitigated as described in Section 5.5 of the Malibu LIP.
- Structures and roads will be sited to prevent any encroachment into the protected zone of protected native trees and an adequate buffer outside of the protected zone, except where no alternative is feasible. The coastal development permit will include mitigation measures if approved encroachments result in the death or worsened health or vigor of the affected trees as a result of the proposed project.
- Drainage will be directed away from all root zones of native trees.
- Project construction measures will include: 1) protective fencing around the outermost protection zone of protected native trees or adjacent to the construction area; 2) any approved development within the protected zone of a protected native tree will be constructed using only hand-held tools; and 3) a qualified biologist or arborist will be retained to monitor protected native trees within the construction area.

Protected trees are found within the study area. This includes trees found within the area proposed for the wastewater treatment facility. No protected trees were identified within or immediately adjacent to the proposed pipeline alignments, pump stations or injection well locations.

Existing Conditions

Regional and Local Setting

Topographically, the City of Malibu is typified by steep canyons that generally run north to south. The climate is Mediterranean in nature, with warm, dry summers and cool, wet winters. Vegetation typical of the area is an assemblage of drought-tolerant shrubs and trees. The main vegetation types are coastal scrub, oak woodland, and chaparral. In addition, several drainages and extensive coastal resources are found throughout the region. The project setting also includes portions of the nearshore marine environment that are ~~allegedly~~ affected by existing discharges from septic systems that would be phased out by the Project, and that would be influenced by slightly elevated groundwater discharge resulting from groundwater injection of treated effluent by the Project.

Generally, the Project site is developed and includes the ~~operational Winter Canyon Wastewater Treatment Facility~~small-scale, privately owned and operated wastewater treatment facility serving the Malibu Colony Plaza shopping center[2] ~~-~~and surrounding property (wastewater treatment facility site), paved public and private roadways, parks, and other disturbed areas. While the study area is predominantly developed and disturbed, portions also include native and/or ruderal plant communities. The topography of the Project site ranges from relatively flat at the southern extent, to hilly in the northern portion of the site. The entire Project site ranges from approximately 10 to 450 feet above mean sea level.

The proposed wastewater treatment facility and percolation ponds are to be located on the 4.8 acre site of the existing small-scale treatment facility mentioned above, which is located ~~Winter Canyon Wastewater Treatment Facility site~~ at 24000 Civic Center Way. The topography of the wastewater treatment facility site is relatively flat, with a slight northwest-to-southeast downward sloping trend and an elevation of approximately 50 to 100 feet above mean sea level. The central portion of the wastewater treatment facility site is regularly mowed and maintained and contains dirt roads that provide access to the facilities. Winter Canyon Creek, and associated riparian vegetation, occurs in the southeastern portion of the wastewater treatment facility site. The existing facilities on the site are minimal and include storage tanks, seepage pits, leach fields, and other types of infrastructure associated with a treatment facility. The majority of these facilities will be removed as the wastewater treatment facility is brought online.

Winter Canyon Creek is located in the southeastern portion of the treatment plant site, while an unnamed drainage feature runs along the south boundary of the site, parallel to PCH. The Winter Canyon Creek feature is depicted as a blue-line stream on the Malibu Beach topographic quadrangle map (U.S. Geological Survey [USGS] 1950) and the LUP ESHA Overlay map. A delineation of jurisdictional resources completed on the site in 2013 concluded that both features are wetlands subject to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) jurisdiction (ICFI 2014). In addition to these drainage features, there are two other drainages within the study area; Malibu Creek (described below) and Marie Canyon Creek, at the far western end of the study area.

Two pump stations would be constructed as part of the Project; one pump station would be located in Legacy Park, and the second located in Bluffs Park. Both pump stations would be constructed in disturbed and paved areas adjacent to the roadways and/or parking lots, so no ESHA would~~will~~ be impacted. Phase 1 pipelines would be placed in or adjacent to existing public roads. In Phase 2, pump stations would be constructed in disturbed and paved areas adjacent to the roadways. Areas adjacent to where this infrastructure would be installed are generally developed with residential, park and commercial uses. However, there are patches of open space between some developments. Phase 2 pipelines are proposed to cross Malibu Creek within the Serra neighborhood and Malibu Lagoon at the PCH bridge. Malibu Creek and Malibu Lagoon are both subject to USACE, RWQCB, and CDFW jurisdiction. Phase 3 pipelines are proposed to be installed within existing public roadways and easements. Phase 3 may also require pump stations and storage tanks for recycled water, but locations have not yet been determined.

[2] In addition to the Malibu Colony Shopping Center, which is located on the south side of PCH, the existing treatment plant currently serves the Supercare/Malibu Medical Building, and facilities located at 23661 PCH and 23648 to 23670 PCH.

The nearshore marine environment affected by the Project includes soft-bottomed and hard-bottomed habitats and kelp forests associated with exposed bedrock and alluvium in areas with natural groundwater discharge. Under existing conditions, this includes the immediate nearshore environment directly and indirectly exposed to drainage from septic systems. The Project would phase out and replace septic systems over time with centralized treatment. Treated effluent would be injected into Malibu Valley Groundwater Basin and Winter Canyon aquifers that eventually discharge to the nearshore marine environment. This groundwater discharge zone discontinuously extends parallel to the shoreline approximately 270 and 1,000 feet offshore. The affected habitats are characterized by kelp forests and rocky and soft-bottomed habitats that support a broad diversity of fish and other aquatic life, including sensitive species that receive special protection at the state and federal levels.

Environmentally Sensitive Habitat Areas Overlay

The LCP ESHA Overlay map identifies four ESHA areas within the study area. In addition, one additional area, while not mapped as an ESHA, meets the definition of an ESHA (Figure 4.3-2). This ESHA is the wetland associated with Winter Canyon Creek and the unnamed drainage that parallels PCH along the south boundary of the wastewater treatment facility site. Portions of the Project occur within 100 feet of the ESHA. Two proposed pump stations, one proposed in a parking lot at Bluffs Park in Phase 1 and the second proposed along Cross Creek Road east of Malibu Creek in Phase 2, are within approximately 40 feet of mapped ESHAs. Phase 2 ~~pipelines cross~~pipelines cross Malibu Creek and Malibu Lagoon, which are both mapped as ESHAs.

Treatment plant facilities would not be constructed within the onsite stream or wetland ESHA; however, some components would be sited within the wetland ESHA buffer. As per LIP Section 4.5.1(B), maintenance is permitted for public services purposes in areas within or near an ESHA when there is no feasible alternative and adverse impacts are minimized with mitigation measures. Additionally, the measured depth to groundwater within Winter Canyon ranges from around 12 feet above sea level in the area adjacent to Malibu Road, to 50 feet above sea level at the northern end of the canyon. This is well below the base of the wetlands identified on the proposed treatment facility site (that is, the wetlands are not in connection with the groundwater table). Further analysis on ESHAs is provided in the impact analysis section under local policies protecting biological resources.

Vegetation

The Project study area includes predominantly developed lands; however, the following vegetation communities are also found in the study area: annual brome grasslands, lemonade berry scrub, arroyo willow thicket, barren-ruderal, mixed coastal sage scrub/ruderal, and coastal sage scrub (Figure 4.3-3). Each vegetation community is described below. The proposed wastewater treatment facility site includes annual brome grassland, lemonade berry scrub, and arroyo willow thicket. The Project site of the build-out pipeline alignments and pump stations, as well as the vicinity, primarily includes existing roadway and other developed and disturbed areas, including parking lots, bare ground, and other ruderal areas, except for the Phase 1 pump station at Legacy Park, which is located in a planted native habitat area that is considered ESHA.

Annual Brome Grasslands Community

Approximately 4.3 acres of annual brome grasslands were mapped on the proposed wastewater treatment facility site. The majority of the central portion of the site is disturbed and dominated

by bare ground and nonnative brome (*Bromus* sp.) grasses. This area is regularly mowed as part of operations at the existing wastewater treatment facility. Along the fence line, near Civic Center Way, this community is not maintained and includes dense patches of tree tobacco (*Nicotiana glauca*) and castor bean (*Ricinus communis*) between large black elderberry (*Sambucus nigra*) and eucalyptus trees (*Eucalyptus* sp.). Along the southern boundary, where the wastewater treatment

Figure 4.3-2. ESHA Map

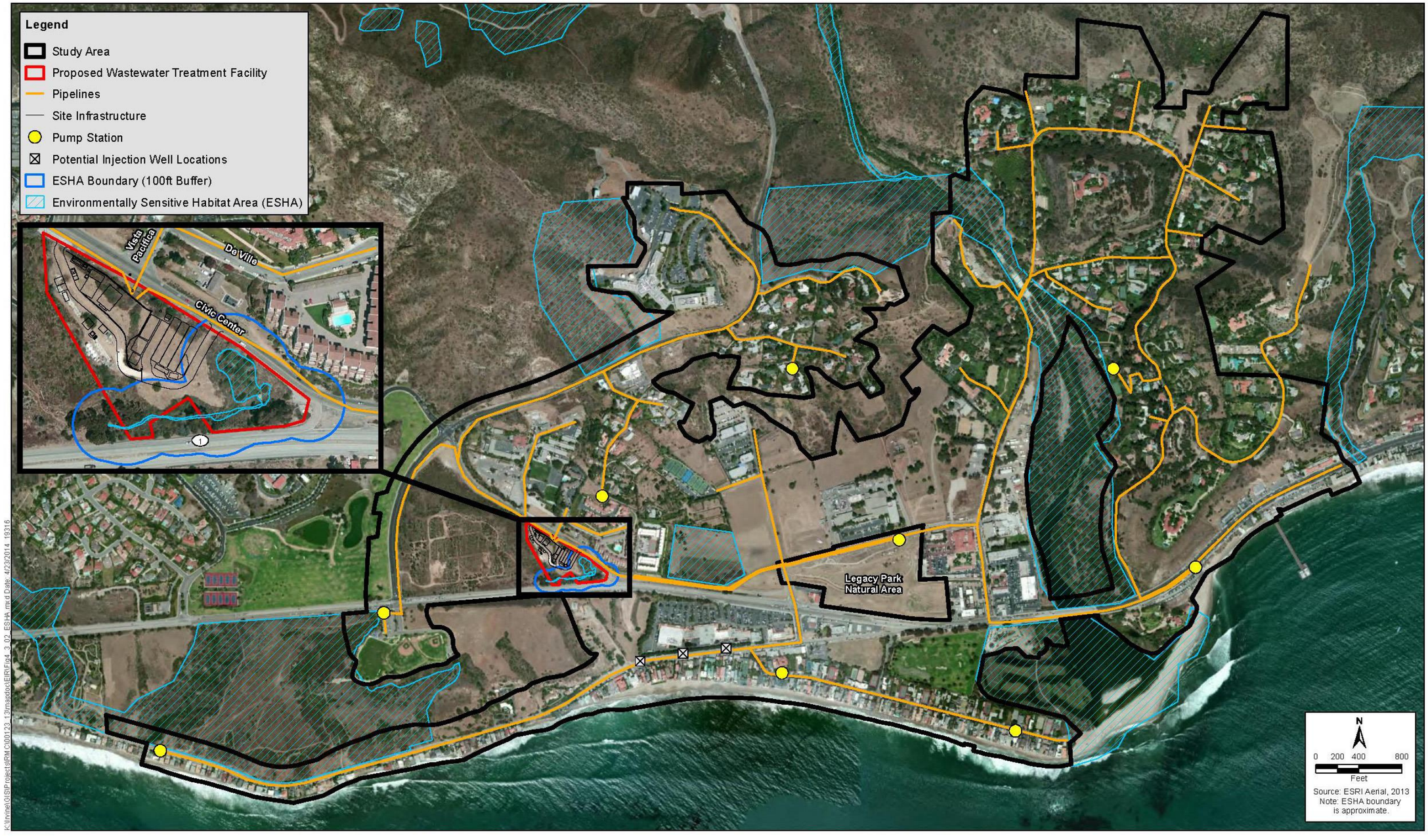
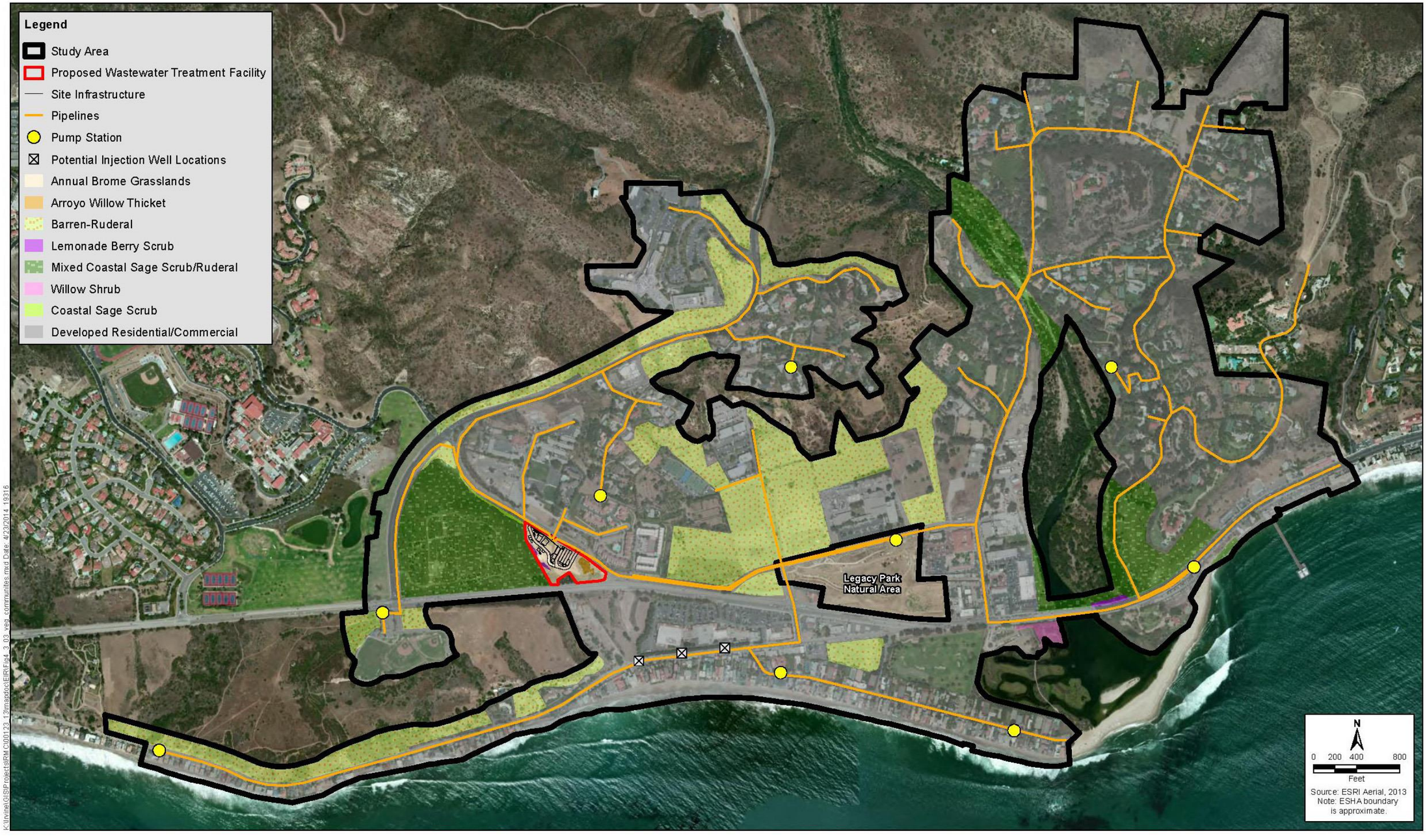


Figure 4.3-3. Vegetation Communities



facility site parallels PCH, this community includes brome grasses, sporadic coyote brush (*Baccharis pilularis*), carnation spurge (*Euphorbia terracina*), and a row of eucalyptus trees. Additional plants observed in this portion of the community include black mustard (*Brassica nigra*), canyon sunflower (*Venegasia carpesioides*), and a variety nonnative grasses. Walking paths, dirt roads, and other disturbances were found within this community.

Lemonade Berry Scrub Community

Approximately 0.18 acre of lemonade berry scrub was mapped on the proposed wastewater treatment facility site. This scrub community, which is limited to the sloped portion of the site along the western edge of the property, is composed of shrubs, including lemonade berry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and canyon sunflower, as well as various nonnative grasses. A few scattered Southern California black walnut trees, a designated California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 4.2 species and protected native tree pursuant to LIP Chapter 5, were observed in this community. The density and height of the shrubs in the community vary but are generally more than 60 percent of the cover and 6 feet in height.

This community, though part of the wastewater treatment facility site, is not within the proposed disturbance limits for the Project.

Arroyo Willow Thicket Community

Arroyo willow thicket (commonly referred to as southern willow scrub) occurs in two locations in the study area: within the proposed wastewater treatment facility and south of PCH near Malibu Lagoon. Approximately 0.36 acre of arroyo willow thicket was mapped in the southeastern corner of the proposed wastewater treatment facility site in association with Winter Canyon Creek. This community, which is dominated by arroyo willow (*Salix lasiolepis*), contains a few sporadic Southern California black walnut trees and some nonnative grasses, including fountain grass (*Pennisetum setaceum*) and pampas grass (*Cortaderia jubata*). Winter Canyon Creek flows through this community. Arroyo willow is densest around the drainage feature, becoming sparser toward the outer portions of this community. Away from the creek, the understory is composed of various upland species, including Carnation spurge, black mustard, and canyon sunflower.

Near PCH, this community is dominated by arroyo willow and mulefat (*Baccharis salicifolia*). This community is part of the Malibu Lagoon Restoration area.[3]

Arroyo willow thicket is considered a sensitive natural community by CDFW when it is in association with drainage features. Additionally, this community meets the definition of an ESHA.

This community, though part of the wastewater treatment facility site, is not within the proposed disturbance limits for the proposed Project.

Coastal Sage Scrub Community

Approximately 850 linear-feet of coastal sage scrub is located from the northwest boundary of the wastewater treatment facility to Malibu Canyon Road, south of Civic Center Way. This vegetated community is also located west of the proposed facility location. This scrub community is dominated by laurel sumac, California sagebrush (*Artemesia californica*), coyote brush (*Baccharis pilularis*),

[3] In April of 2013, t~~T~~he Malibu Lagoon Restoration Project was completed by the California State Department of Parks and Recreation and the California State Coastal Conservancy.

black walnut, goldenbush (*Hazardia squarrosa*), white and purple sage (*Salvia apiana* and *Salvia leucophylla*).

Mixed Coastal Sage-Ruderal Scrub Community

Areas of mixed coastal sage-ruderal scrub are located east of Malibu Canyon Road, from PCH north to the intersection of Civic Center Way and on the northwest side of Malibu Canyon Road north from Civic Center way to Malibu Knolls Road. These areas are characterized by California sagebrush, coyote brush, white sage, black mustard (*Hirsfeldia sp*.) and brome species.

Paved, Developed, Barren-Ruderal Community

The study area is generally developed with paved areas, buildings, and areas barren land (undeveloped areas with cleared vegetation or very sparse vegetation). Developed areas possess little value to wildlife species. These developed areas are characterized by residential homes, commercial businesses, paved roads and parking lots, and landscaped areas such as along Malibu Canyon Road at Pepperdine University and along the west side of Serra Road into the gated residential community. Barren lands include areas that have been disked, mowed, or compacted such that it limits any vegetative growth. These areas were observed adjacent to the pipeline alignment in open spaces between developed areas, east of Malibu Lagoon north of PCH, and from Malibu Knolls Road to Potter Road and from Malibu Canyon Road to the end of Malibu Crest Drive. This community also includes areas that have been cleared for fire fuel modification.

Soils

The collection and distribution system portion of the proposed Project is covered predominantly by paved roadways. The soils associated with the wastewater treatment facility are mapped as Calcic Argixerolls, which are generally characterized as salty loam to loamy soils that derive from colluvium and calcareous sandstone (U.S. Department of Agriculture [USDA] 2013). These soils are well drained. No special-status plants with the potential to occur on the site are known to be restricted to this community.

Common Wildlife

The study area is mostly developed and dominated by paved roadways, paved and bare lots, and other communities with varying degrees of disturbance. The regular disturbances have contributed to reduced wildlife diversity and usage in the study area compared to what would be expected in nearby native habitats.

One reptile species (western fence lizard [*Sceloporus occidentalis*], one mammal species (California ground squirrel [*Spermophilus beecheyi*]) and nineteen bird species (including red-tailed hawk [*Buteo jamaicensis*], Anna's hummingbird [*Calypte anna*], house finch [*Carpodacus mexicanus*], lesser goldfinch [*Carduelis psaltria*], killdeer [*Charadrius vociferous*], rock pigeon [*Columba livia*], California towhee [*Melozone crissalis*], northern mockingbird [*Mimus polyglottos*], and bushtit [*Psaltriparus minimus*]) were detected during the surveys.

Nearshore[4] marine habitats in the study support a diversity of fish, invertebrate, and marine mammal species. The fish community includes numerous species of rockfish (Scorpaenidae), surf

[4] "nearshore" describes areas extending from the coastal high tide line offshore to a depth of 120 feet Mean Lower Low Water.

perches (Embiotocidae), damselfish (Pomacentridae), wrasses (Labridae), greenlings (Hexagrammidae), and representatives of many other families. The diverse invertebrate community includes echinoderms (sea urchins, sea stars, sea cucumbers), mollusks (octopus, squid, snails), and numerous crustaceans (crabs, lobsters), worms (flatworms, pile worms), and other organisms.

Special-Status Species

After a review of the California Natural Diversity Database (CNDDB), CDFW Special Animals list, CNPS Inventory of Rare and Endangered Plants, USFWS wildlife occurrence geographic information systems (GIS) data, and other environmental documents, 18 special-status plant species and 17 special-status wildlife species were identified as having been recorded in the Project vicinity or have the potential to occur in the Project vicinity. The term "special-status" refers to those species that satisfy any of the criteria listed below.

- Species listed or proposed for listing as threatened or endangered under the federal ESA (Title 50, CFR Section 17.12 for listed plants; 50 CFR Section 17.11 for listed animals; and various notices in the Federal Register [FR] for proposed species).
- Species that are candidates for possible future listing as threatened or endangered under the federal ESA (72 FR 69034, December 6, 2007).
- Species that are listed or proposed for listing as threatened or endangered under the California ESA (Title 14, California Code of Regulations [CCR] Section 670.5).
- Species of Special Concern to CDFW, as indicated on the *Special Animals List* (October 2011), available at http://www.dfg.ca.gov/bdb/pdfs/spanimals.pdf.
- Plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.).
- Plants considered by CNPS to be "rare, threatened, or endangered in California and elsewhere" (CRPR 1) or "rare, threatened, or endangered in California but more common elsewhere" (CRPR 2).
- Species that meet the definitions of rare or endangered under the State CEQA Guidelines, Section 15380.
- Animals fully protected in California (California Fish and Game Code, Section 3511 [birds], Section 4700 [mammals], and Section 5050 [reptiles and amphibians]).

Special-Status Plants

Seventeen special-status plant species have been recorded in the Project vicinity. It was determined that 12 of these species are not expected to occur on the Project site because of habitat and/or range restrictions and therefore were not evaluated further. The remaining five species have low potential to occur on the Project site.

In addition, the IPAC Database (USFWS 2014) was consulted as part of the survey process. The results of this database search were used to help identify the threatened and/or endangered species with habitat ranges in the Project area; however, this database does not take into consideration specific habitat and the results can be generalized. The following is a list of plant species identified during the IPAC search.

- California orcutt grass
- Gambel's watercress
- Marsh sandwort

- Salt Marsh bird's beak
- Spreading navaretia

While these species were considered during the habitat surveys conducted for the Project area, appropriate habitat was lacking for these species

Table 4.3-1 lists the legal status, geographic distribution, habitat requirements, and flowering period for all of the plant species that were evaluated. The list includes species identified on the CNDDB and CNPS's CRPRs as occurring in the Project vicinity.

Table 4.3-1. Special-Status Plant Species Reported as Occurring within 5 Miles of the Project Site

Scientific Name **Common Name**	**Status**			**Habitat Requirements and Elevation**	**Life Form and Flowering Period**	**Potential On-site Occurrence**
	Federal	**State**	**CNPS**			
Astragalus pycnostachyus var. *laniosissimus* Ventura Marsh milk-vetch	FE	CE	List 1B.1	Coastal dunes and coastal scrub habitats with high groundwater or seasonal availability of fresh water. 3–115 feet.	Perennial herb June–October	Not Expected. Scrub habitat occurs, but fresh water is not present. This species is known to occur in one location.
Astragalus brauntonii Braunton's milk-vetch	FE	—	List 1B.1	Limited to calcium carbonate soils in chaparral and coastal sage scrub. 800–2,100 feet.	Perennial herb January–August	Not Expected. Low-quality scrub habitat occurs; however, the site is below the elevation range for this species.
Astragalus tener var. *titi* coastal dunes milk-vetch	FE	CE	List 1B.1	Coastal terrace grassland, particularly vernally moist depressions.	Annual herb March–May	Not Expected. The Project site is highly disturbed. The species is currently known from one location more than 250 miles from the site.
Atriplex coulteri Coulter's saltbush	—	—	1B.2	Coastal bluffs with scrub sage scrub habitats. 9–1,380 feet	Perennial herb March–April	Low Potential: The site lacks the coastal bluffs that are typically associated with this species.
Atriplex serenana var. *davidsonii* Davidson's saltscale	—	—	List 1B.2	Coastal bluffs with sage scrub habitats and alkaline soils. 30–600 feet.	Annual herb April–October	Low Potential. The Project site lacks suitable vegetation and soils.

Scientific Name **Common Name**	**Status**			**Habitat Requirements and Elevation**	**Life Form and Flowering Period**	**Potential On-site Occurrence**
	Federal	**State**	**CNPS**			
Baccharis malibuensis Malibu baccharis	—	—	List 1B.1	Chaparral, cismontane woodland, coastal scrub, riparian woodland. 450–915 feet.	Perennial herb August	Not Expected. The Project site lacks suitable vegetation and is outside of the elevation range for this species.
California macrophylla Round-leaved filaree	—	—	CRPR 1B.1	Cismontane woodlands and valley and foothill grasslands with clay soils. 45–3,600 feet.	Annual herb March–May	Low Potential: The site lacks cismontane woodlands, and the grasslands habitat is heavily disturbed and mowed regularly. The site lacks clay soils.
Calochortus clavatus var. *gracilis* Slender mariposa lily	—	—	List 1B.2	Chaparral, sage scrub, and grasslands. 900–3,000 feet.	Perennial bulbiferous herb March-June	Not Expected. The Project site is below the elevation range.
Chorizanthe parryi var. *parryi* Parry's spineflower	—	—	List 1B.1	Chaparral, cismontane woodland, coastal sage scrub, and grasslands with sandy/rocky soils. 600–3,600 feet.	Annual herb April-June	Not Expected. The Project site is outside of the elevation range for the species.
Deinandra minthornii Santa Susana tarplant	—	CR	List 1B.2	Chaparral and coastal sage scrub in rocky soils. 750–2,200 feet	Perennial shrub. July-November	Not Expected. The Project site is below the elevation range for the species.
Dudleya blochmaniae ssp. *Blochmaniae* Blochman's dudleya	—	—	CRPR 1B.1	Coastal bluff scrub, coastal sage scrub, chaparral, and grassland habitats with rocky, clay, and serpentinite soils. 15–1,350 feet	Perennial herb April–June	Low Potential: The site has a small amount of low-quality lemonade berry scrub. The grassland habitat is heavily disturbed and mowed.

Scientific Name **Common Name**	**Status**			**Habitat Requirements and Elevation**	**Life Form and Flowering Period**	**Potential On-site Occurrence**
	Federal	**State**	**CNPS**			
Dudleya cymosa ssp. *marcescens* Marcescent dudleya	FT	CR	List 1B.2	Chaparral, coast live oak, and along streams in volcanic rock outcrops. Typically on steep slopes. 450–1,560 feet	Perennial herb April-July	Not Expected. The Project site is below the elevation range for the species.
Dudleya cymosa ssp. *Ovatifolia* Santa Monica dudleya	FT	—	List 1B.2	Rocky soils, particularly on northern slopes in the Santa Monica Mountains. Oak woodland, pine woodland, and coastal sage scrub. 30–7,500 feet.	Perennial herb March-July	Not Expected. The Project site lacks typical soils and slopes, and the habitat is highly disturbed.
Isocoma menziesii var. *decumbens* Decumbent goldenbush	—	—	CRPR 1B.2	Chaparral and coastal scrub habitats, particularly with sandy soils. 30–400 feet.	Perennial shrub April–November	Low Potential: The site contains a small amount of lemonade berry scrub that may provide habitat for this species.
Lasthenia glabrata ssp. *Coulteri* Coulter's goldfields	--	--	List 1B.1	Marshes, swamps, plays, and vernal pools. 1–3,600 feet.	Annual herb February-June	Not Expected. The Project site lacks requisite wet habitats.
Monardella hypoleuca ssp. *Hypoleuca* White-veined monardella	--	--	List 1B.3	Chaparral 410–4,260 feet.	Perennial herb June-August	Not Expected. The Project site lacks suitable habitat and is below the elevation range.
Pentachaeta lyonii Lyon's pentachaeta	FE	CE	CRPR 1B.1	Rocky, clay; chaparral (openings); coastal scrub; and valley and foothill grassland. 98–2,066 feet	Annual herb March–August	Not Expected. The Project site contains chaparral and grassland communities that were determined to be marginally suitable for this species.

Status Key:

Federal: FE = Federal Endangered Species
FD = Federal Delisted Species
— = None

State: CE = California State Endangered Species
CR = California State Rare Species

Scientific Name Common Name	Status			Habitat Requirements and Elevation	Life Form and Flowering Period	Potential On-site Occurrence
	Federal	State	CNPS			
				CNPS: CRPR = California Rare Plant Rank CRPR 1B = Rare and Endangered in California and Elsewhere 0.1 = Seriously Endangered in California 0.2 = Fairly Endangered in California		
Source: CDFW, 2013; CNPS 2013.						

Special-Status Wildlife

Fifteen special-status wildlife species have been recorded in the CNDDB and one additional species has been recorded by the USFWS within five miles of the Project site (Project region). All 16 species that were evaluated are listed in the habitat assessment report (Appendix C). The USFWS Information, Planning and Conservation System (IPAC) database was also consulted as part of the survey process. The results of this database search were used to help identify the threatened and/or endangered species with habitat ranges in the Project area; however, this database does not take into consideration specific habitat and the results can be generalized. The following is a list of species identified during the IPAC search. While these species were considered during the habitat surveys conducted for the Project area, appropriate habitat was lacking for these species.

- California red-legged frog
- California least tern
- Coastal California gnatcatcher
- Least Bell's vireo
- Marbled murrelet
- Southwestern willow flycatcher
- Riverside fairy shrimp
- Vernal pool fairy shrimp

Of the 2316 special-status wildlife species that were recorded in the Project region, 11 six are not expected to occur in the study area because of habitat and range restrictions and therefore were not further evaluated. Of the remaining 17 species, five species were found to be present in the Project region, while five additional species were found to have a moderate potential to exist in the Project region and another seven were considered to have a low potential to exist in the Project Rregion. These species are listed in Table 4.3-2, which includes listing status, distribution, habitat requirements, and estimated probability of occurrence in the Project area. This list was developed on the basis of direct observation during the surveys conducted for this Project and known occurrences recorded in the CNDDB or other documents.

~~These excluded species require habitat that does not occur on the Project site, or have ranges that do not extend to the Project site. The remaining four species are listed in Table 4.3-2, which includes listing status, distribution, habitat requirements, and estimated probability of occurrence in the Project area. This list was developed on the basis of direct observation during the surveys conducted for this Project and known occurrences recorded in the CNDDB or other documents.~~

~~Of the 16 species evaluated, four species (western snowy plover [*Charadrius alexandrines nivosus*], tidewater goby [*Eucyclogobius newberryi*], arroyo chub [*Gila orcuttii*], and southern California steelhead [*Oncorhynchus mykiss irideus*]) are currently present in the study area. Two species, coast horned lizard (*Phrynosoma blainvillii*) and San Diego desert woodrat (*Neotoma lepida intermedia*), have moderate potential to occur on the Project site.~~

Table 4.3-2. Potentially Occurring Special-Status Species

Scientific Name Common Name	Status		Habitat Requirements	Potential On-site Occurrence
	Federal	State		
Charadrius alexandrines nivosus Western snowy plover	FT	SSC	The species breeds on coastal beaches, sand spits, dune-backed beaches, dunes, and beaches near creek and river mouths.	Present. The species has been recorded at Malibu Lagoon. Critical Habitat for this species is also mapped in the study area.
Athene cunicularia Burrowing owl	—	SSC	Burrowing owls occur in open areas, particularly open grasslands and sparse shrub lands with suitable burrows.	Low Potential: The study area contains suitable foraging habitat but lacks suitable burrows. No records occur within the reviewed area.
Aquila chrysaetos Golden eagle	—	FP	The species is found in open and semi-open habitats including grasslands, shrublands, sparse forests, and agricultural fields. The species has an affinity for canyons, cliffs, rimrock, and other rugged terrain.	Not Expected. The study area is predominantly developed with small areas of open space. This does not represent suitable habitat for the species.
Eucyclogobius newberryi Tidewater goby	FE	SSC	Shallow brackish water, especially in lagoons and lower stream reaches with slow moving water.	Present. The species has been recorded in Malibu Lagoon and Malibu Creek in the study area. Critical Habitat for this species is also mapped in the study area.
Emys marmorata Western pond turtle	—	SSC	This species is found in permanent and semi-permanent freshwater bodies in a variety of habitats. The species requires basking sites (logs, rocks, floating vegetation, open banks) and open areas in vegetation.	Not Expected. While Winter Canyon Creek and Malibu Creek contain permanent and semi-permanent flows, Malibu Creek contains unsuitable brackish water through much of the study area and Winter Canyon Creek contains no basking opportunities.
Gila orcuttii Arroyo chub	—	SSC	Cool to warm, fluctuating streams with slow flowing water. Typically associated with sand or mud substrate.	Present. The species has been recorded in Malibu Lagoon and Malibu Creek in the study area.
Haliotis corrugate Pink abalone	FC	SSC	Rocky reefs in sheltered waters with abundant crevices and cavities for daytime shelter at depths ranging from 20 to 118 feet.	Moderate ~~p~~Potential. Malibu Bay is within the historical range of the species and is included in the recovery plan for this species. Suitable rocky reef habitat is present in the marine component of the study area.

Scientific Name **Common Name**	**Status**		**Habitat Requirements**	**Potential On-site Occurrence**
	Federal	**State**		
Haliotis cracherodii Black abalone	FE	SSC	Intertidal and shallow subtidal rocky reefs in areas with moderate to high surf and abundant crevices and cavities for daytime shelter.	Low Pp~~o~~tential**.** Malibu bay is within historical range of the species but is not included in designated critical habitat. Occurrence south of Point Conception is extremely rare under current conditions. Preferred habitats are generally shallower and further inshore from the groundwater discharge zone affected by the Project.
Haliotis fulgens Green abalone	FC	SSC	Rocky reef habitats and abundant crevices and cavities for daytime shelter extending from the low intertidal to depths of at least 30 feet and possibly 60 feet.	Moderate Pp~~o~~tential. Malibu Bay is within current range of the species and is included in the recovery plan for this species. Suitable rocky reef habitat is present in the marine component of the study area.
Haliotis sorenseni White abalone	FE	SSC	Open low- and high-relief rock or boulder habitat interspersed with sand channels. Most abundant at depths ranging from 80 to 100 feet.	Low Pp~~o~~tential. Malibu Bay is within the current and historical range and is included in the recovery plan for this species. Suitable habitat composed of rocky reefs interspersed with sand channels is present in the marine component of the study area; however, the zone of groundwater discharge is shallower than the preferred depth range of the species so exposure potential is minimal.
Lasiurus blossevillii Western red bat	—	SSC	This species roosts in tree and shrub foliage, especially trees with large leaves (i.e., sycamore and cottonwood), however may be found in other trees. Particularly associated with intact riparian communities, but also found in other habitats.	Moderate Potential. The study area includes trees that may ~~be~~ include suitable roost sites.

Scientific Name Common Name	Status		Habitat Requirements	Potential On-site Occurrence
	Federal	State		
Euderma maculatum Spotted bat	--	SSC	This species has been recorded in a wide range of environments from high elevation forests to low elevation arid habitats. Generally found in association with cliffs and rock outcrops used for roosting and water.	Not Expected. The project site lacks suitable outcrops and cliffs associated with this species.
Eumops perotis californicus Western mastiff bat	--	SSC	This species is primarily associated with large rock outcrops and cliffs. The species forages in a variety of habitats, including dry washes, flood plains, chaparral, sage scrub, oak woodland, open ponderosa pine, grassland, and agricultural areas.	Low potential. The project site lacks rock outcrops and cliffs associated with this species.
Euphydryas editha quino Quino checkerspot butterfly	FE	--	This species is found in open areas within shrubby habitats below 4,000. The current range is currently known to occur in lower foothills within San Diego and Riverside counties.	Not Expected. The species is outside of the current known range of the species. While there is a historic record (1947) for the species in the review area, the species has not been recorded in the project area in over 60 years.
Flaco peregrinus anatum American peregrine falcon	--	FP	This species is often found in desert and semi-desert areas with little human disturbance. The species is also known to nest in a few coastal locations. The species nests on cliffs, but has been recorded nesting on tall buildings.	Not Expected. The project site lacks suitable cliffs or buildings for nesting.

Scientific Name Common Name	Status		Habitat Requirements	Potential On-site Occurrence
	Federal	State		
Icteria virens Yellow-breasted chat	—	SSC	This species is found in a variety of riparian habitats, especially low thickets.	Low Potential. The small patch of riparian habitat along Winter Canyon Creek presents ~~suitable~~willow habitat for the species, however, it is small and disconnected from other suitable habitat. The species is an uncommon breeder in the area. There are no current CNDDB or USFWS records for the species in the project area.
Setophaga petechial Yellow warbler	—	SSC	This species is found in a variety of riparian habitats, however, in southern California, the species is often associated with upper story canopies, but may occur in willow thickets.	Low Potential. Winter Canyon Creek provides a small patch of ~~suitable~~ willow thicket habitat, though the elevation is below the typical breeding elevation. The species is an uncommon breeder in the area and no CNDDB or USFWS records occur in the project area.
Neotoma lepida intermedia San Diego desert woodrat	—	SSC	Desert scrub, coastal sage scrub, and chaparral habitats.	Moderate Potential. This species occurs in a variety of habitats, some of which occur on-site.
Lampropeltis zonata (pulchra) California mountain kingsnake	—	SSC	This species is primarily found in coniferous or mixed coniferous forests from sea level to nearly 6,000 feet; however, most records occur above 2,000 feet. At lower elevations, it is found along mature riparian woodlands with connectivity to higher elevation forests.	Not Expected. The project site lacks the typical habitat for this species. The riparian habitat found on site is disconnected from other suitable habitat and immature.
Thamnophis hammondii Two-striped garter snake	—	SSC	This species is found along perennial or nearly perennial streams and other freshwater bodies with riparian vegetation.	Low Potential. While Winter Canyon Creek includes semi-permanent flow, the flow is conveyed underground for a long distance and conveys primarily storm drain runoff with little connectivity to upstream habitat. Malibu Creek within the project area is primarily brackish water and lacks riparian vegetation, and therefore is not suitable.

Scientific Name **Common Name**	**Status**		**Habitat Requirements**	**Potential On-site Occurrence**
	Federal	**State**		
Oncorhynchus mykiss irideus Southern steelhead-Southern California DPS	FE	SSC	This species migrates between the Pacific Ocean and freshwater streams, rivers, and lakes.	Present. The species has been recorded in Malibu Creek. Critical Habitat for this species is also mapped in the study area.
Phrynosoma blainvillii Coast horned lizard	—	SSC	Open areas in a variety of habitats with low vegetation, including grasslands, coniferous forests, woodlands, and chaparral.	Moderate Potential. The site contains suitable habitats for this species.
Stereolepis gigas Giant sea bass	—	SSC	Nearshore marine environments typically in association with rocky reefs and giant kelp beds.	Present. The site contains suitable reef and kelp forest habitat. The species has been observed in the project vicinity but remains at critically low levels of abundance. Species occurrence is increasingly likely should population recovery efforts succeed.
STATUS KEY: Federal FE= Endangered under ESA Section 7 FT = Threatened under ESA Section 7 FP = Proposed for listing under ESA Section 7 FC = Species of Concern under ESA Section 7 MBTA = Migratory Bird Treaty Act			State SSC = California Species of Special Concern	

Western Snowy Plover: Western snowy plover is a federally Threatened species and a California Species of Special Concern. The species is found on beaches where they forage for small invertebrates, roost, and nest. The species breeds on coastal beaches and can be found associated with sand spits, dune-backed beaches, dunes, near creek and river mouths, as well as lagoons and estuaries. This species is known to roost at Malibu Lagoon and other areas along the beach in the Project region. The USFWS has mapped 13 acres of Critical Habitat for the species between Malibu Pier and Malibu Point near Malibu Lagoon, which falls within the study area. The species may also forage on other beach locations throughout the study area.

Tidewater Goby: Tidewater goby is a federally Endangered species and a California Species of Special Concern. This species is a small fish endemic to California, found in shallow, brackish waters. These fish are found in lagoons and in lower reaches of streams where the water is slow moving. This species is known to occur within Malibu Lagoon and Malibu Creek within the study area. The USFWS has mapped Malibu Lagoon and portions of Malibu Creek through the entire study area as Critical Habitat for the species.

Western Red Bat: Western red bat is a California Species of Special Concern. The species is solitary and roosts in tree and shrub foliage. Most importantly, this species is primarily associated with intact riparian communities, especially those with mature sycamore and cottonwood trees. Riparian communities, and other trees, including those in the urban setting, may provide suitable roosting sites for the species.

Arroyo Chub: Arroyo chub is a California Species of Special Concern. This small fish species is found in streams and rivers in southern California. The species is primarily found in slow moving cool to warm waters with sand and/or mud substrates. This species is known to occur within Malibu Creek, which is found within the Project study area.

Pink Abalone: Pink abalone is a California Species of Special Concern. Pink abalone, one of seven abalone species occurring in California, are long-lived, slow-growing gastropods (snails) that live in association with hard substrates in nearshore marine areas. This species is found primarily in sheltered, relatively low energy environments at depths ranging from 20 to 120 feet. They feed primarily on kelp and drift algae. Pink abalone has declined markedly in abundance over the past 60 years as a result of overharvest, and is at such low levels of abundance that the species cannot reproduce effectively (CDFG 2005). As a result they have been identified as a species of concern under Section 7 of the ESA and are the subject of a long-term recovery plan at the state level. The study area is within the current and historical range of the species and it includes suitable rocky reef habitat at suitable depths, indicating moderate probability of occurrence in proximity to the zone of increased groundwater discharge.

Black Abalone: Black abalone is listed as endangered under Section 7 of the ESA and is a California Species of Special Concern. This abalone species prefers rocky reefs in shallow intertidal and subtidal areas with moderate to high surf and abundant crevices and cavities for daytime shelter. Like the pink abalone, black abalone abundance is critically depressed due to historical fishing pressure and reproductive failure resulting from low levels of abundance. In addition, disease, predation, and illegal harvest appear to be restricting population recovery (CDFG 2005). The Malibu portion of Santa Monica Bay is within the historical range of black abalone but is not included in the ESA critical habitat designation. However, this species is extremely rare south of Point Conception under current conditions; therefore, the likelihood of occurrence in the study area is low. Moreover, this species tends to prefer habitats that are located closer to shore and in shallower water than the groundwater discharge zones affected by the project. Therefore, the likelihood of exposure to the effects of the Project is minimal.

Green Abalone. Green abalone is identified as a species of concern under Section 7 of the ESA and is a California Species of Special Concern. Like the other special-status abalone species, California green abalone populations are critically depressed as a result of historical harvest pressure, ongoing illegal harvest, and reproductive failure due to low abundance levels. Other factors contributing to decline include competition with sea urchins for forage, predation by sea otters and octopi, disease, and ocean climate variability and change. This species inhabits rocky reefs with abundant cracks and cavities for daytime shelter at depths ranging from the low intertidal zone to 60 feet. It forages primarily on drift algae with a preference for red algae species (CDFG 2005). The Malibu portion of Santa Monica Bay lies within the existing distribution of green abalone and suitable reef habitat within the preferred depth range for this species is present in the study area, indicating moderate probability of exposure to the zone of increased groundwater discharge.

White Abalone. White abalone is listed as Endangered under Section 7 of the ESA and is a California Species of Special Concern. Factors for decline are similar to those described for the other abalone species potentially occurring in the study area; however, white abalone is at higher risk of extinction in the immediate future as a result of reproductive failure and the genetic implications of critically

low population size. White abalone inhabit low- and high-relief rocky habitat interspersed with sand channels and are most commonly found at depths ranging from 80 to 100 feet. The Malibu portion of Santa Monica Bay is within the historical and probable current range of the species (CDFG 2005). Critical habitat has not been designated out of concern that identifying the remaining occupied habitats would expose surviving white abalone to illegal harvest. However, increasing abundance in the Malibu portion of Santa Monica Bay and vicinity is included in recovery objectives for the species. Suitable habitat for this species is present in the marine component of the study area; however, the probable zone of increased groundwater discharge is shallower and at least 2,000 feet inshore from the preferred depth range of the species so the likelihood of exposure to measurable water quality effects resulting from the Project is minimal.

San Diego Desert Woodrat: San Diego desert woodrat is a California Species of Special Concern. This small mammal is found in a variety of habitats, especially in dense scrub vegetation. This species builds habitable structures using sticks, rocks, cactus, and other materials found in its habitat. The study area includes various habitats that are suitable for this species.

Southern steelhead-Southern California DPS: Southern steelhead is a federally Endangered species and California Species of Special Concern. Steelhead can grow up to 55 pounds, but are usually much smaller. The USFWS divides the species' populations to monitor specific distinct populations segments (DPS). Each distinct population may have a different status. The Southern California DPS is a population of steelhead that is geographically and reproductively isolated from other populations and is found from the Santa Maria River to the north to Malibu Creek and further south into Orange and San Diego Counties. Steelhead are found in fresh water streams, rivers, and lakes as well as in the Pacific Ocean. The species is born in fresh water and live the first one to three years of life in fresh water before emigrating to the ocean where the fish grow and mature. The steelhead then return back to their native fresh water streams to spawn. This species is found within Malibu Creek in the Project study area, which is also mapped by the USFWS as Critical Habitat for the species.

Coast Horned Lizard: Coast horned lizard is a California Species of Special Concern. It is found in open habitats with sandy soils and often associated with grasslands, coniferous forests, woodlands, and chaparral where the habitat is open, allowing access to plenty of sunlight. The species is an insectivore, eating predominantly ants. The Project site contains suitable habitat in the grassland and scrub habitats. The species may also occur in adjacent areas where habitat is suitable. There is moderate potential for this species to occur on site.

Giant Sea Bass: Giant sea bass is a California Species of Special Concern. Its coastal distribution in the Eastern Pacific ranges from Humboldt to southern Baja California, but it is most commonly found south of Point Conception (CDFG 2001, 2010). The typical habitats used by this species include rocky reefs and kelp forests in the nearshore marine environment, typically at depths from 35 to 130 feet, but it is periodically found in open water environments when squid or other prey species are present in large abundance. Giant sea bass are predatory, feeding on benthic fish, crustaceans and mollusks. The largest adults exceed seven feet in length and can weigh several hundred pounds. Sea bass are slow growing, reaching maturity at 10-11 years of age. Maximum age is unknown but is believed to exceed 50 years (CDFG 2001, 2010). A history of heavy exploitation in commercial and recreational fisheries resulted in critical depletion of this species across its regional range. Intentional harvest of this species was prohibited in California waters in 1981 (FGC §8380, Title 14, CCR, §28.10) and the population has been slowly rebuilding (CDFG 2010). Kelp forests and rocky reef habitat within the preferred depth range of this species are present in the study area, indicating moderate probability of species exposure to the zone of increased groundwater discharge.

Bats

Three special status bat species (spotted bat [*Euderma maculate*], western mastiff bat [*Eumops perotis*], and western red bat [*Lasiurus blossevillii*]) have been recorded within the region. The study area generally lacks suitable habitat for spotted bat and western mastiff bat and the potential for them to occur is low. However, riparian areas and other trees in the study area may provide suitable roosting habitat. Additionally, the PCH bridge that crosses over Malibu Lagoon exhibited recent bat sign (urine staining and guano dropping on the underside of the bridge and on the ground below), suggesting that the bridge is actively used by bat species. Focused surveys were not conducted, so it is not known what bat species are currently using the bridge to roost.

Aquatic Resources

Four drainages and one lagoon are located within the study area (Figure 4.3-4).

Winter Canyon Creek occurs in the southeastern portion of the wastewater treatment facility site adjacent to Civic Center Way and PCH. The riparian vegetation is dominated by arroyo willow, with a small mulefat habitat association. An unnamed drainage, Drainage 1, flows easterly into Winter Canyon Creek, just north of PCH.

Malibu Creek and Malibu Lagoon are located approximately 0.80 mile east of the proposed wastewater treatment facility site. The proposed collection and distribution system includes pipelines in proximity to Malibu Creek and Malibu Lagoon, including a pipeline that would cross over the creek and lagoon on an existing bridge (at PCH). At another location near Cross Creek Road in the Serra neighborhood, as part of the proposed Project, pipeline will be bored beneath Malibu Creek.

The study area includes nearshore marine waters providing a variety of habitat types, including soft-bottomed, rocky reef and giant kelp forests. Rocky reefs, kelp forests and drift kelp aggregations viewed in aerial imagery have a patchy distribution that extends from the immediate nearshore as far as 1,300 feet offshore. This generally matches the mapped kelp forests in the LCPESHA and Marine Resources Map, which extend from 600 to 3,000 feet offshore. The distribution of these habitats overlaps the groundwater discharge zone (between approximately 300 feet to approximately 1,000 feet offshore) affected by the Project. Kelp forest and rocky reef habitats in the study area are relatively undisturbed, highly productive, and support a diversity of fish and invertebrate species. They provide refuge, foraging, and nursery sites for many species, including special status fish species protected by state and federal harvest regulations, and marine mammals afforded protection by the Marine Mammal Protection Act.

Native Trees

The Native Tree Ordinance in LIP Chapter 5 provides requirements for the preservation of native trees in the City of Malibu. As required by the LIP, a native tree protection plan that includes a tree inventory and health assessment was prepared for the Project site (Appendix D).

Numerous protected trees occur in the study area; however, thirty-one native trees were found within or immediately adjacent to the proposed disturbance limits on the proposed wastewater treatment facility site. All 31 trees were California black walnut. Of these 31 trees, 15 of them meet the measurement requirements to be considered protected under the LIP Chapter 5. The remaining 16 trees were saplings or stump resprouts and, therefore, are not afforded protection under LIP Chapter 5.

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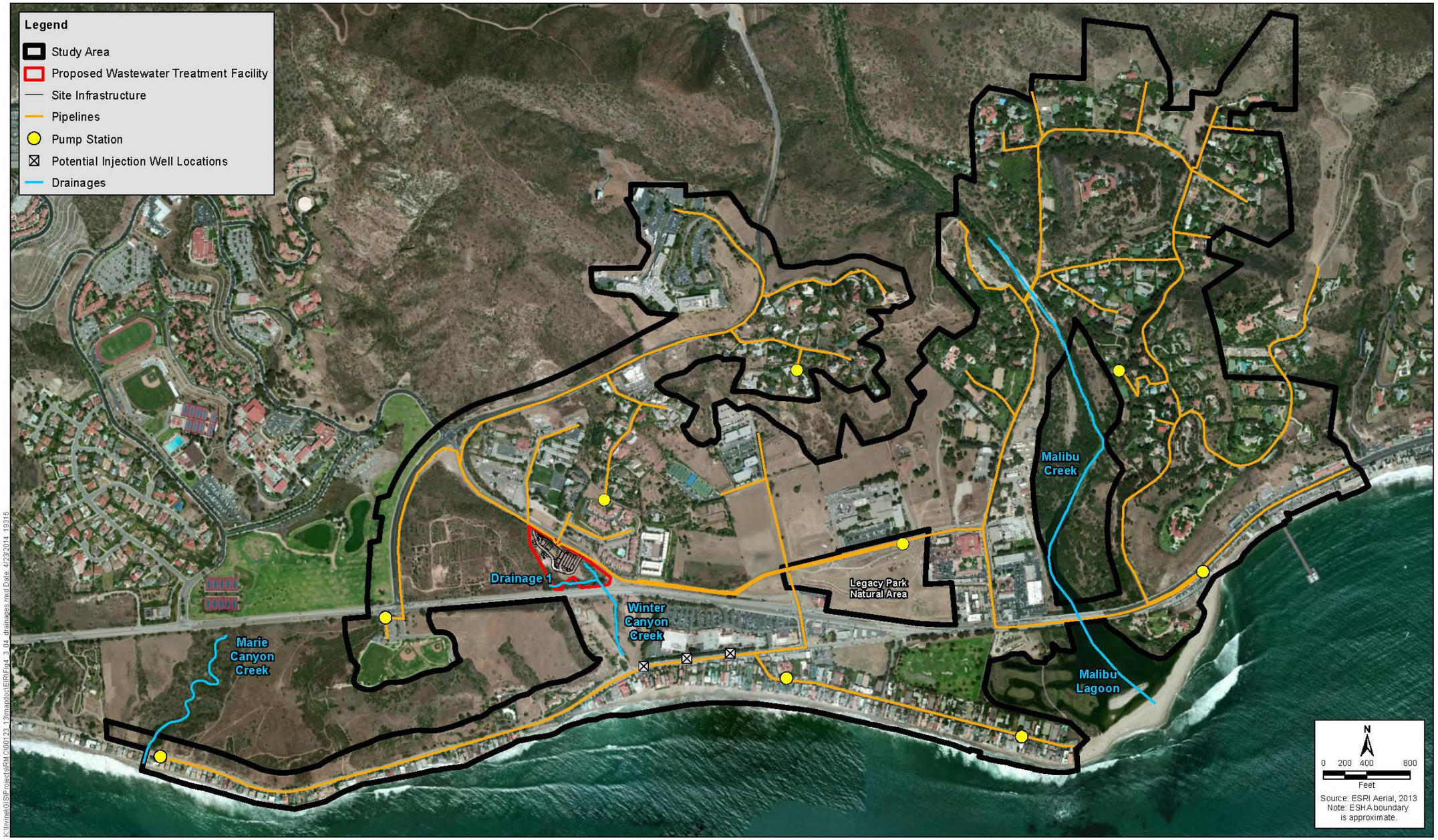
Figure 4.3-4. Drainages



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Sensitive Plant Communities

The survey area does not include vegetation communities listed as rare by CDFW; however, areas just outside of the survey area, including portions of Malibu Lagoon and Malibu Creek, have been mapped as sensitive plant communities in the CNDDB. Southern coastal salt marsh and southern California coastal lagoon have been mapped as occurring within Malibu Lagoon. The entire stretch of Malibu Creek within the study area is mapped as a southern California steelhead stream.

Wildlife Movement Corridors

Malibu Creek would be considered a wildlife movement corridor as it provides for movement of fish, including two federally Endangered species (tidewater goby and southern steelhead) and one California Species of Special Concern (arroyo chub). Southern steelhead is dependent on the movement between the Pacific Ocean and upstream freshwater habitat for breeding. Terrestrial animals and birds may also use this habitat. No other migratory wildlife corridors have been identified by the City or state resource agencies as occurring within the study area.

4.3.2. Environmental Impact Analysis

Thresholds of Significance

The significance of impacts to flora and fauna observed or expected at the site was determined based on the sensitivity of the resource and the extent of the impact. Special-status species are defined by State CEQA Guidelines § 15380 as species that are listed by either the state or federal government as endangered, rare, or threatened. This section goes on to state that species need not be officially listed by the state or federal government to be considered sensitive. For the purposes of this analysis, special-status species are those that are recognized by a government agency or conservation or scientific group as being depleted, potentially depleted, declining, rare, locally endemic, endangered, or threatened. Habitats supporting species listed as rare, endangered, or threatened by the agencies that enforce the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA) are also regarded as sensitive resources.

For the purposes of this EIR and in accordance with Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.), the proposed Project would result in a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by DFG or USFWS.
- Have a substantial adverse effect on federally protected wetlands, as defined by CWA Section 404 (including, but not limited to, marshes and vernal pools), through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The CEQA significance criteria listed above were used to determine whether a Project-related impact to biological resources would be significant. The potential impacts resulting from implementation of each of the following Project elements at build-out, were analyzed regarding their effect on biological resources. These elements include: wastewater treatment facility, pump stations, wastewater collection and recycled water distribution system pipelines, percolation ponds and groundwater injection wells, changes in groundwater discharge rates to Malibu Creek and Lagoon, and changes in groundwater discharge rates to the nearshore marine environment. Both direct and indirect impacts to biological resources were considered in the analysis. Direct impacts are those impacts that are caused by the Project and occur at the same time and place as the actions that may cause the impacts (Cal. Code Regs § 15358). Indirect impacts are impacts caused by the project and are later in time or farther removed in distance from the actions that cause the impacts, but are still reasonably foreseeable (Cal. Code Regs. § 15358).

Impacts

This section provides an overview of the potential impacts identified and their analysis related to biological resources. Where appropriate, mitigation measures have been presented. The impacts are organized by topic, which correspond with the significance criteria. As final construction-level plans have not yet been completed for Phases 2 and 3, these have been analyzed at a programmatic level rather than a Project-specific level. An overview/summary of the impacts is provided below:

- Construction activities that could directly impact biological resources within the footprint would include clearing, grubbing, earth work (grading and excavation), paving, trenching, stockpiling, access roads, drilling workspace requirements, and staging areas.
- Potential indirect impacts on biological resources may occur from light, noise, motion, vibration, dust, water runoff, vehicular traffic, and other construction effects that extend beyond the footprint.
- The jack and bore method of augering underneath Malibu Creek has potential impacts to biological resources if a joint, fracture or other path of least resistance allows boring fluid to migrate from the drilled hole to surface.
- Long-term operational impacts that could indirectly impact biological resources may occur due to the tertiary treated water that will be injected into the groundwater (in Phase 1, but also Phases 2 and 3) due to potential changes in surface water chemistry.
- Long-term operational impacts that could indirectly impact biological resources would include noise from required maintenance activities such as operation of pumps and groundwater injection wells.

Impact BIO-1. Would the Project Have a Substantial Adverse Effect, Either Directly or Through Habitat Modification, on any Species Identified as a Candidate, Sensitive, or Special-Status Species in Local or Regional Plans, Policies, or Regulations or by CDFW or USFWS?

Direct Impacts

No special-status plant or wildlife species or their habitats occur within the footprint of the Project. However, work areas will occur immediately adjacent to special-status species habitat at Malibu Lagoon and Malibu Creek. If construction intrudes into these areas, ~~D~~disturbance or damage could occur to those habitats, resulting in a significant impact. Implementation of mitigation measures (MM) BIO-1 through MM BIO-~~4~~ 7 and MM BIO-17 would reduce potentially significant impacts to special-status species and their habitats to a less-than-significant level.

The Project area supports habitat suitable for nesting birds throughout the urban and natural landscapes. Removal of vegetation when there are nesting birds present could result in a violation of the Migratory Bird Treaty Act and/or Fish and Game Code that protects nesting birds. Such a violation would be considered a significant impact. To ensure compliance with the Migratory Bird Treaty Act and Fish and Game Code, MM BIO-5 and MM BIO-7 would be implemented.

Indirect Impacts

At two Project locations, Malibu Lagoon and Malibu Creek, the pipeline system intersects potential habitat for tidewater goby, southern steelhead, and arroyo chub. Malibu Lagoon and Malibu Creek are also designated critical habitat for tidewater goby and southern steelhead. If during auguring operations underneath Malibu Creek fine particles associated with the boring fluid migrate to the surface, it would have the potential to smother fish and their eggs. This would be considered a potentially significant impact to tidewater goby and southern steelhead. However, implementation of MM BIO-2, MM BIO-4 and MM BIO-17 would reduce the impact to a less than significant level.

Bat roosts may occur on the PCH bridge crossing over Malibu Lagoon, where a pipeline crossing would be placed during Phase 2 of the Project. If construction on or below the bridge deck caused enough disturbances through noise, vibration, and/or motion for a maternity bat roost to be abandoned, it would be considered a potentially significant impact. In addition, bat roosts may occur on the Cross Creek bridge crossing over Malibu Creek, immediately adjacent to where work area for auguring under Malibu Creek may occur. If construction of the entry/exit bores or the auguring caused enough disturbances through noise, vibration, and/or motion for a maternity bat roost to be abandoned, it would be considered potentially significant. However, implementation of MM BIO-3 would reduce the impact to a less than significant level.

Due to the close proximity of the auguring entry and exit pits to habitat at Malibu Creek, there are indirect impacts of project construction, such as noise, vibration, and released materials, which would be considered potentially significant to special-status fish species, nesting birds, and other special-status biological resources. Implementation of MM BIO-4, ~~and~~ MM BIO-6, MM BIO-7, and MM BIO-17 would reduce the impact to a less than significant level.

Treated Wastewater Injection

The injection of treated wastewater into groundwater aquifers would increase the volume of naturally occurring groundwater discharge to the Malibu Lagoon and in nearshore marine habitats.

Using the planned average injection rate for each Project phase, a groundwater flow model was used to simulate recycled water injection at the planned injection locations to confirm that all injected flows go to the ocean (versus Malibu Creek and/or Lagoon) and to estimate the expected increase in groundwater basin outflows to Malibu Creek and Lagoon. The model results (documented in Appendix G5) indicate that groundwater basin outflows to Malibu Creek and Lagoon would increase slightly from current conditions (by approximately 2.4 percent or 13,000 gallons per day [gpd]) in Phase 1 due to planned commercial development in the Civic Center Area. Groundwater basin outflows to Malibu Creek and Lagoon would increase by approximately 3 percent above baseline (or approximately 16,000 gpd) in Phase 2, but then decrease to approximately 2 percent above baseline conditions (or approximately 12,000 gpd) in Phase 3 as domestic OWDSs cease operations. These increases would be within the natural variations of flow rates within Malibu Creek and Lagoon by season and annually. Based on historical flow data as presented in Table 6-1 of the Total Maximum Daily Loads (TMDLs) for Malibu Creek and Lagoon (USEPA, 2013), median daily flows in Malibu Creek between 2007 and 2010 was 3.6 cubic feet per second (cfs); this is equivalent to 2.3 million gallons per day. Therefore, the maximum anticipated increase in groundwater flows to Malibu Creek using the planned average injection rate (16,000 gpd in Phase 2) is approximately 0.69% of the total flows in the creek. And as breaching typically results from a large pulse of surface water flows resulting from storm events, this minor increase in flows to Malibu Creek are unlikely to impact the breaching patters in the Creek/Lagoon.

Additionally, under the planned average injection rates, all injected flows would go to the Pacific Ocean (unchanged from scenarios with the maximum recycled water injection rates). Therefore, the quality of the additional groundwater flowing to Malibu Creek and Lagoon would be unchanged in terms of some key constituents, such as salinity, and improved for other cases, such as nutrients, as a result of Project implementation. Salinity changes resulting from the increased groundwater flow to Malibu Creek are also anticipated to be negligible. Based on groundwater sampling conducted to date (and as documented in the Assimilative Capacity and Anti-Degradation Analysis memorandum included in Appendix G2), average groundwater Total Dissolved Solids (TDS) concentrations for the Malibu Valley Groundwater Basin is 2,100 mg/L. Per Table 7-3 of the TMDLs for Malibu Creek and Lagoon (USEPA, 2013), median stream specific conductivity in Malibu Creek at Cross Creek Road between 1998 and 2010 was 1,869 µS/cm; this is equivalent to 1,200 mg/L TDS. Using a mass balance approach, the additional groundwater flowing to Malibu Creek as documented above will increase Malibu Creek TDS concentrations by approximately 6 mg/L or 0.51%. Based on this analysis, under planned Project operating conditions, the potential future impacts of additional groundwater flows to Malibu Creek and Lagoon are not considered to be significant.

Increased groundwater flows to Malibu Creek and/or Lagoon could affect habitat conditions for sensitive aquatic species that are the focus of state and federal conservation and recovery efforts. As described below, the Project is expected to result in beneficial improvements in water quality and circulation conditions in the lagoon, which would in turn improve habitat conditions for special status fish species occurring in the lagoon environment. The Project is expected to have less than significant effects on nutrient loading and salinity conditions in the groundwater interface in the nearshore marine environment (See Ocean Dilution Technical Memorandum, Appendix G1). By extension, this would translate to less than significant effects on special status fish and invertebrate species in the marine component of the study area.

Freshwater Environment

Based on modeling conducted and presented in Appendix G, t~~T~~reated injection water is not expected to reach the lagoon, but it would raise hydrostatic pressure in local aquifers sufficiently to increase the discharge rate of native groundwater to the estuarine environment. In other words, the injected recycled water would create a groundwater mound that would impede the flow of groundwater from the northern end of the basin to the ocean. When the upgradient groundwater reached the resulting injection mound, it would be diverted instead to the east towards Malibu Creek and Lagoon, increasing outflows from the groundwater basin to the western edge of Malibu Creek and/or Lagoon. This has the potential to affect estuarine hydrodynamics and water quality conditions in the lagoon. The volume of groundwater discharge to the lagoon would increase from an estimated 560,000 gallons per day (gpd) under existing conditions to as high as 670,000 gpd after Phase 2 under maximum injection conditions, an increase of approximately 20 percent relative to existing conditions. This is the equivalent of an additional five standard swimming pools (22,500 gallons) per day, relative to groundwater inflow of 25 swimming pools per day under existing conditions. During periods of high stream flows and/or when the lagoon is open to tidal exchange ("breached") the relative contribution of groundwater to lagoon hydrology is small. However, when the lagoon is closed and stream flows in Malibu Creek are low, groundwater accounts for a substantial portion of inflow to the lagoon and any increase in groundwater inflow rates could considerably increase circulation rates relative to existing conditions. ~~M~~However, modeled maximum injection conditions represent~~, however,~~ the maximum volume of water that ~~can~~could be injected into the groundwater basin and is more than would~~will~~ be produced at the wastewater treatment plant (for example, maximum injected flows in Phase 2 are 497,642 gpd whereas the ~~CCWTF~~ treatment capacity of the proposed plant at Phase 2 will be 361,000 gpd). ~~As~~Since planned average injection rates are more representative of actual Project operations, these phased scenarios were evaluated using the numerical groundwater flow model (Appendix G5). Under planned average injection conditions (which, for Phase 2 ~~is~~would be 264,000 gpd), the volume of groundwater discharge to the lagoon would increase from an estimated 560,000 gpd under existing conditions to a high of 578,000 gpd after Phase 2, an increase of 16,000 gpd or approximately 3 percent.

Based on the objectives established in the Malibu Lagoon Restoration Plan (California State Coastal Conservancy and California State Department of Parks and Recreation, 2005), any increase in circulation in the western arms of the lagoon under closed conditions would constitute a beneficial improvement in water quality conditions by helping to moderate surface water temperatures. In addition, the Project is expected to improve water quality by reducing the nutrient loading to the lagoon. As noted in Chapter 3, the MOU guiding the Project is specifically aimed at reducing non-point source nutrient loading from residential and commercial OWDSs. Nutrients from OWDSs are believed to be transported to the lagoon via groundwater, where they stimulate algal growth leading to eutrophication and depressed dissolved oxygen conditions sufficient to harm aquatic life. Based on analyses conducted to evaluate Project impacts on the underlying groundwater basin, the Project is expected to progressively reduce loading rates as the phases of the proposed wastewater treatment facility are fully implemented. Nutrient loading would not be expected to increase in any phase of the Project because treated injection water would not reach the lagoon directly. Treated water is unlikely to reach the lagoon indirectly as a result of recycled water used for irrigation in that the recycled water would be applied at agronomic rates and would not percolate into the upper groundwater table. Overall, nutrient concentrations in the treated water would be lower than those in existing OWDS discharges. Moreover, nutrient uptake by plants and biogeochemical processing in

soils would be expected to consume a large portion of the available nutrients before recycled water reaches the groundwater table.

Improved water quality conditions in Malibu Lagoon would be expected to benefit southern steelhead and tidewater goby, ESA-listed fish species known to occur in the lagoon and Malibu Creek. The Project would reduce eutrophication and incrementally improve circulation in the lagoon, which would likely moderate water temperatures and limit dissolved oxygen depression. This would be expected to provide significant benefits for steelhead, as this species is sensitive to depressed dissolved oxygen levels and elevated water temperatures (Carter 2005; Matthews and Berg 1997). Tidewater goby are more tolerant because they are adapted to the highly variable conditions that commonly occur in small coastal estuaries, including elevated water temperatures, highly variable salinity conditions, and low dissolved oxygen levels. However, estuaries and marshes with more stable conditions are known to support increased individual growth rates, larger overall size, and larger population size than more variable habitats (USFWS 2005). The Project would therefore be likely to improve conditions for tidewater goby on the basis that it ~~will~~ would incrementally improve and stabilize estuarine circulation rates when the lagoon is closed (not breached).

Marine Environment

The Project would result in the discharge of treated injection water to the nearshore marine environment in combination with existing groundwater outflows. This would result in an increase in the volume of freshwater outflow affecting salinity conditions and, potentially, nutrient loading to the benthic environment. Altering groundwater outflow conditions is of potential concern because it could change habitat conditions supporting benthic settling and development of the larval life stages of sensitive species. This is particularly true given the potential presence of highly imperiled abalone species, and the importance of successful larval recruitment to the conservation of these species. However, a conservative analysis of potential marine water quality effects prepared for this EIR (Ocean Dilution Analysis Technical Memorandum in Appendix G1) indicates that any water quality effects would be less than significant, specifically:

- The maximum increase in nitrate loading rates (9.2 lbs/day) would have a negligible effect on nitrate concentrations, maintaining the current conditions concentration of 6.47 mg/L under all future phases of the Project (0.01 mg/L higher than the ambient marine nitrate concentration of 6.46 mg/L)
- Increased groundwater discharge would increase the size of the mixing zone necessary to achieve a seawater dilution ratio of 1:10 by a fraction of a foot (1.65 feet to 1.91 feet, or approximately 3 inches)

It is important to note that the Ocean Dilution Technical Memorandum presented in Appendix G1 is a simplified analysis that assumes complete instantaneous mixing and considers only the effects of tidal flushing within a mixing area of specified volume. Therefore, the small differences in results between current conditions and future phases of the Project are useful only as measures of relative change and not absolute predictions. Moreover, this simplified analysis does not consider the influence of wind driven surface shear, waves, and currents which would be expected to increase flushing through the dilution zone, further diminishing the effects of increased groundwater flow. Finally, this analysis does not consider the effect of biogeochemical processing on nutrient levels in groundwater. Treated injection water would pass through a minimum of several hundred feet of sand and soil substrate over a period of five to ten years before it discharges to surface waters,

providing substrate for additional processing of nutrients (see Chapter 4.7, Hydrology and Water Quality). Therefore, even these projected water quality effects are likely to have been overestimated.

Point and non-point source wastewater are also known to be sources of several contaminants of emerging concern (CECs) that are being detected in surface waters with increasing regularity. CECs cover a broad range of substances found in medications and household and personal care products that are routinely disposed of in the wastewater stream. Numerous biologically active substances including medications, flame retardants, disinfectants, and other chemicals are being found at varying concentrations in surface waters, including the marine waters of Southern California (Alvarez et al. 2014). These substances are delivered to surface waters from point sources like municipal treatment works (Vidal-Dorsch et al. 2012) and non-point sources like septic systems (Barnstable County Department of Health and Environment 2012; Du et al. 2014; Schaider et al. 2013).

The large municipal wastewater treatment systems serving greater Los Angeles and other regional urban areas are known sources of CECs (Vidal-Dorsch et al. 2012), and are likely to be primary sources of CECs in study area surface waters. However, septic systems can also be significant sources under certain circumstances (Du et al. 2014; Schaider et al. 2013). Poorly performing septic systems are a known source of nutrient loading to study area surface waters; therefore, they are also likely to be a source of CECs. Schaider et al. (2013) suggest that moving septic systems to centralized sewage treatment systems may not result in a significant reduction in surface water loading rates, but this assessment only considered secondary treatment. The Project would provide tertiary treatment and would either percolate or directly inject the treated effluent into groundwater. Available research indicates that biogeochemical filtration in soils can effectively remove the majority of CECs from groundwater (Bradley et al. 2005, 2006; Chapelle et al. 2007; Du et al. 2014), with effectiveness increasing with the amount of soil media and the duration of the filtering process. For example, Heberer et al. (2001) found that filtration of surface waters through 500 feet of streambank and a low-permeability layer lowered concentrations of thirteen CECs below detection limits of 1-10 nanograms/liter. Shorter infiltration distances and residence times were not as effective (Verstraeten et al. 2002). The Project would inject treated effluent into groundwater through a low-permeability zone at least 600 feet from the closest possible discharge point to nearshore marine surface waters (see ~~Chapter 3~~Section 4.7, Hydrology and Water Quality). This suggests that the combination of tertiary treatment and biogeochemical processing provided by groundwater injection is likely to provide effective removal of CECs and reduce the net loading of these substances to surface waters from the area served by the Project.

On the basis of this information, the Project is expected to have a less than significant effect on water quality conditions in the nearshore marine environment.

Summary

The Project has the potential to ~~significantly~~ impact, both directly and indirectly, the special-status species discussed above. Implementation of MM BIO-1 through MM BIO-~~4~~ 7 and MM BIO-17 would reduce these impacts to below a level of significance. Indirect impacts to the freshwater environment from the injection wells are expected to be beneficial when compared to the current condition. Indirect impacts to the near-shore marine environment from the injection wells were determined to be less than significant. No other special-stats species are expected to be potentially impacted by the project. Implementation of MM BIO-5 would ensure compliance with Migratory Bird Treaty Act and Fish and Game Code.

Impact BIO-2. Would the Project Have a Substantial Adverse Effect on any Riparian Habitat or other Sensitive Natural Community Identified in local or Regional Plans, Policies, Regulations or by DFG or USFWS

Malibu Creek and Malibu Lagoon are located along the alignment for the proposed collection and distribution system. Both have associated riparian vegetation and are also mapped as supporting sensitive natural communities: southern willow scrub, southern coastal salt marsh, southern California coastal lagoon, and southern California steelhead stream. Phase 2 of the proposed Project includes installation of a pipeline on the existing bridge over the creek and lagoon at PCH as well as installation of pipeline by boring under the bridge at Cross Creek Road. Winter Canyon Creek, located in the southeast portion of the wastewater treatment facility site, includes arroyo willow scrub, a riparian plant community.

Based on current conceptual plans, the proposed Project is not expected to result in impacts to riparian vegetation or sensitive natural communities. However, since work areas will occur immediately adjacent to riparian habitat and sensitive natural communities, implementation of MM BIO-1, MM BIO-2, MM BIO-4, MM BIO-6, and MM BIO-~~6~~17 would ensure avoidance of potential direct impacts. With regard to ESHA protection, the LCP Amendment and corollary zoning text amendment (LCPA/ZTA) would allow for a reduced ESHA buffer for the Winter Canyon Creek drainage at the wastewater treatment facility site. The LCPA/ZTA also would require that all pipelines and ancillary infrastructure associated with the wastewater treatment system be sited to avoid ESHA to the greatest extent possible and that temporary impacts to ESHAs from construction would be restored. Any permanent impacts to ESHAs would be required to be offset through payment of in lieu fees in accordance~~ing~~ with the LIP. Calculations of impact areas to ESHAs would be required for review and approval by the City Biologist as part of the CDP application process and prior to issuance of a grading permit.

As described in Chapter 3 – Project Description and Section 4.7 – Hydrology and Water Quality, Project facilities would~~will~~ be inspected on a regular basis and the system ~~will~~would operate under permits that require the development and implementation of a sewer system management plan (SSMP). The SSMP ~~will~~would include, among other things, an emergency response plan to address pipeline breaks and overflows. Given these factors, the potential for release of pollutants from the collection system pipelines and pump stations and wastewater treatment facility and resulting impacts to biological resources is considered less than significant.

Treated Wastewater Injection

Freshwater Environment

Per the Hydrology and Water Quality section of this EIR (Section 4.7), groundwater mounding from groundwater injection was evaluated and determined to have little to no impact on shallow groundwater elevations at the injection sites, and that these groundwater levels would remain at or below current levels. The results also indicate that, as OWDSs are removed from operation, shallow groundwater elevations decrease (drop) as a result of the transference of recharges from the shallow alluvium to the deeper Civic Center Gravels. The riparian habitat that is present at Winter Canyon Creek would not be expected to be impacted.

The injection of treated wastewater into groundwater aquifers would~~ill~~ increase the volume of naturally occurring groundwater discharge to the Malibu Creek and Lagoon. As previously described, the injected recycled water would create a groundwater mound that would impede the

existing flow of groundwater from the northern end of the basin to the ocean and instead, redirect the natural southward groundwater flows to the east towards Malibu Creek and Lagoon, increasing outflows from the groundwater basin to the western edge of Malibu Creek and/or Lagoon. By extension, this could affect riparian habitat, southern coastal salt marsh, and/or southern California coastal lagoon conditions. Under modeled maximum injection conditions (at volumes greater than those that would~~will~~ be treated at the proposed treatment facility~~CCWTF~~), t~~T~~he volume of groundwater discharge to the lagoon would increase from an estimated 560,000 gpd under existing conditions to as high as 670,000 gpd after Phase 2, an increase of approximately 20 percent relative to existing conditions. However, under planned average injection conditions (which are more representative of actual Project operations), the volume of groundwater discharge to the lagoon would increase from an estimated 560,000 gpd under existing conditions to a high of 578,000 gpd after Phase 2, an increase of 18,000 gpd or approximately 3 percent. Per Section 4.7 (Hydrology and Water Quality) of this EIR, no appreciable change is expected to the minimum depth to groundwater at Malibu Lagoon or Malibu Creek. Furthermore, ~~-~~if the existing condition were maintained, the volume of groundwater would increase by 45 percent instead of the approximately 20 percent as with the proposed Project under modeled maximum injection conditions. Therefore, by implementing the Project, the potential future impacts of additional groundwater flows to Malibu Creek and Lagoon and changes in riparian habitat, southern coastal salt marsh, and/or southern California coastal lagoon would be reduced, and thus this impact is considered less than significant.

The injection of treated wastewater into groundwater aquifers would increase the volume of naturally occurring groundwater discharge to the Malibu Lagoon. By extension this could affect water salinity, and in turn could affect southern coastal salt marsh and/or southern California coastal lagoon conditions. However, the plant species associated with these communities are adapted to the highly variable salinity conditions that commonly occur in small coastal estuaries. Per Section 4.7, Hydrology and Water Quality of this EIR, if the existing condition were maintained, the volume of groundwater would increase by 45 percent instead of the approximately 20 percent under modeled maximum injection conditions and approximately 3 percent under planned injection conditions ~~as~~ with the proposed Project. Therefore, by implementing the Project, the potential future impacts of additional groundwater flows to Malibu Creek and Lagoon and changes in salinity would be reduced, and thus this impact is considered not to be of significance.

Impact BIO-3. Would the Project Have a Substantial Adverse Effect on Federally Protected Wetlands, as Defined by CWA Section 404 (including, but not limited to, marshes and vernal pools), Through Direct Removal, Filling, Hydrological Interruption, or Other Means.

Jurisdictional features, including federally protected waters, do not occur within the footprint of the Project. As currently proposed, only street level modifications would be made on the PCH bridge that occurs above Malibu Lagoon, a feature that would be a jurisdictional feature. In addition, work areas associated with auguring under Malibu Creek would be placed outside the jurisdictional limits for that feature. However, regulatory agency jurisdiction (ACOE, RWQCB, or CDFW) over the Creek would require that appropriate permits, or other agreements regarding the auguring process be obtained and adherence to any measures to protect wildlife contained in these permits/agreements would be required. The following measures would help to ensure that jurisdictional features are avoided during construction and that no impacts would occur, MM BIO-1, MM BIO-2, MM BIO-4, MM BIO-6, and MM BIO-~~6~~17.

Impact BIO-4. Would the Project Interfere Substantially with the Movement of any Native Resident or Migratory Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors or Impede the use of Native Wildlife Nursery Sites.

The Project site supports one regionally important wildlife corridor, Malibu Creek. The proposed Project would not result in any direct impacts to Malibu Creek, but would cause temporary indirect impacts during construction that could significantly impact some species that would be utilizing Malibu Creek for movement, such as southern steelhead and tidewater goby. The following measures would ensure that impacts to the function of Malibu Creek as a wildlife corridor and the species that use it are minimized during construction so that overall impacts would be less than significant: MM BIO-1, MM BIO-2, MM BIO-4, MM BIO-6, MM BIO-7 and MM BIO-617.

In the long-term, the project is expected to result in beneficial impacts to water quality within Malibu Lagoon, which would benefit species such as southern steelhead and tidewater goby.

Impact BIO-5. Would the Project Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

Environmentally Sensitive Habitat Areas

Several ESHA areas occur within the Project site. Additionally, the new proposed driveway and adjacent biofilter to be constructed in the footprint of the existing unpaved driveway at the proposed wastewater treatment facility site occurs within the 100 foot ESHA wetland buffer of Winter Canyon Creek. In addition, the Phase 2 pipelines would cross through ESHA, beneath Malibu Creek and over Malibu Lagoon along the PCH bridge. Because a portion of the proposed wastewater treatment facility overlaps the ESHA buffer and the Phase 2 pipelines would be constructed over and under Malibu Creek ESHA, MM BIO-1764 and MM BIO-17 will be implemented to minimize or avoid impacts to ESHAs.

The project will be compliant with the City of Malibu General Plan Conservation (CON) Elements and LUP policies without further mitigation measures being required. In addition, the LCP Amendment and corollary zoning text amendment (LCPA/ZTA) would allow for a reduced ESHA buffer at the wastewater treatment facility site, if it can be demonstrated that all treatment plant facilities are sited within previously disturbed areas as much as feasible, the proposed driveway is located along the existing unpaved driveway at the treatment plant site, any fuel modification that encroaches into the ESHA buffer is limited to thinning only, onsite pipelines and equipment located within 100 feet of ESHA shall be installed under pavement or within previously disturbed areas, and that the area of reduced ESHA buffer is offset with ESHA enhancement elsewhere on the site on a one to one basis and incorporated into the site landscape plan subject to City Biologist approval. The LCPA/ZTA also would require that all pipelines and ancillary infrastructure associated with the wastewater treatment system be sited to avoid ESHA to the greatest extent possible and that temporary impacts to ESHAs from construction would be restored. Any permanent impacts to ESHAs would be required to be offset through payment of in lieu fees in according with the LIP. Calculations of impact areas to ESHAs would be required for review and approval by the City Biologist as part of the CDP application process and prior to issuance of a grading permit.

Tree Protection

The LCP/LIP establishes standards for protecting native trees in the City of Malibu. One such protected tree species, California black walnut, occurs on the proposed wastewater treatment facility site. Thirty-one California black walnuts were identified within or directly adjacent to the Project site. Of those, 15 meet the requirements to be protected under LIP Chapter 5. Based on the current Project design, Phase 1 of the proposed Project would remove two protected California walnut trees and cause temporary impacts on three protected trees, which would be a significant impact.

Some construction activities have the potential to affect trees that are not approved for removal. This includes activities that would compact the soils (e.g., driving and parking vehicles and equipment), digging, vegetation trimming, and operating equipment that might make contact with the trees. Construction of pipelines along roadways has the potential to affect root zones of native trees that are along the edge of the road, and may require trimming of protected trees for construction.

Implementation of the mitigation measures MM BIO-7 through MM BIO-~~15~~ 16 would reduce impacts on protected California black walnut trees and other native trees to less-than-significant levels. In addition, the LCPA/ZTA would require that the Project be designed to avoid impacts to protected trees to the greatest extent possible and if impacts cannot be avoided, a tree protection plan in accordance with the LIP Section 5.3 would be required as well as payment of in lieu fees as required under LIP Section 5.5.2(b).

Los Angeles County Oak Tree Ordinance

A portion of Phase 2 of the Project occurs within the county's jurisdiction and beyond the limit of the City of Malibu where native oaks are legally protected from being damaged or removed during the course of a project if they have a single-trunk diameter at breast height (DBH) of 8 inches or more, if any two trunks have a combined DBH of 12 inches or more, or if it is considered heritage. Although pipelines would be constructed underground and along existing roadway easements, native oaks that occur adjacent to the roadways may have roots extending under or branches extending over the roadways. To ensure compliance with the Los Angeles County Oak Tree Ordinance, any oak trees that require root or branch trimming will be subject to MM BIO-~~7~~8, BIO-~~8~~9, BIO-1~~0~~0, and BIO-1~~2~~1, which would result in a less than significant impact.

Impact BIO-6. Would the Project Conflict with Provisions of an Adopted Habitat Conservation Plan?

There are no habitat conservationersation plans, natural community conservation plans, or other local, regional or state habitat conservation plans that cover the Project area. Thus, there would be no impacts to or conflicts with an adopted habitat conservation plan.

4.3.3. Mitigation Measures

The following measure is proposed to mitigate potential impacts on western mastiff bats and spotted bats during construction (see Impact BIO-4, above).

MM BIO-1. To reduce impacts to special-status species and their habitats to a less than significant level, the following avoidance and minimization measures shall be implemented:

- All work areas shall be approved by the Project Engineer in consultation with an approved biologist.
- No new areas of disturbance for lay down areas, parking, staging, or other support areas shall be developed. Previously disturbed areas will be utilized to support these work zones.
- Work areas shall be clearly marked in the field to prevent impacts outside of the designated work areas.

MM BIO-2. The drilling contractor shall prepare a Fraction Mitigation Contingency Plan for the Malibu Creek crossing that would include, at a minimum, the following elements for the protection of biological resources: 1) design protocols shall require a geotechnical engineer or qualified geologist to make recommendations regarding the suitability of the formations to be bored to minimize the potential for the inadvertent release of drilling fluids into the creek; 2) definition of how such releases of drilling fluids would be detected in a timely manner; 3)identification of steps to be implemented in the event of a drilling fluid release; and 4) a reporting protocol to ensure that all appropriate notifications are made to agencies.

MM BIO-3. Within six months of any site preparation, construction, or other site disturbance associated with the Project, a focused bat roost habitat assessment shall be conducted. The assessment shall include the PCH bridge, Cross Creek bridge, and any mature trees occurring within 100 feet of any element of the Project construction of infrastructure, and trees proposed for removal. The bat maternity season (typically April 1-August 31) shall be avoided to the greatest extent feasible. If the maternity season cannot be avoided, then a focused bat survey, utilizing current ultrasonic technology, shall be conducted by a qualified biologist acceptable to the CDFW and the City. If active maternity roosts are identified, no work will continue in those areas until such time as the City authorizes re-initiation of the work in consultation with CDFW.

MM BIO-4. A biological monitor, approved by the City, shall be present for all construction activities within ESHA and activities related to auguring activities at Malibu Creek or any other jurisdictional feature, or placing piping on the PCH bridge over Malibu Creek. Within five days prior to any work being initiated at a work site for the first time, or in the event work is stopped at a given work site for more than five days and is re-initiated, the biological monitor shall complete a preconstruction survey to ensure wildlife species unlikely to escape on their own are not present, ensure that construction is not intruding into any environmentally sensitive areas, and that no special-status biological resources are being impacted. The biological monitor shall track compliance with the EIR biological mitigation measures and any other permit conditions that may pertain to biological resources. The monitor shall keep a daily activity log and provide the daily logs to the City Biologist on a weekly basis. Any and all violations or notable events shall be reported to the City immediately.

MM BIO-5. Construction activities shall avoid the nesting season for birds, generally accepted to be (February 1 (January 1 for raptors) through September 15). Should avoidance be infeasible, beginning 30 days prior to construction, a qualified biologist, approved by the City, shall conduct weekly surveys for nesting birds in all work zones and a 500 foot buffer area, with the final survey being no less than five days from the start of construction If there is a delay of more than five days between when the nesting bird survey is performed and vegetation removal or other construction begins, it will be necessary to reconfirm whether any new nesting has occurred between the time the first nesting bird survey was performed and ground disturbance. Standard buffers for active nests are 300 feet for passerine species and 500 feet for raptors. If an active

nest is identified, an appropriate buffer will be established, as determined by a qualified biologist, in consultation with CDFW, based on the sensitivity of the species and the nature of the construction activity. The contractor will be notified of active nests and directed to avoid any activities within the buffer zone until the nests are no longer considered to be active by the qualified biologist.

MM BIO-6. Any work resulting in materials that could potentially be discharged into jurisdictional features will adhere to strict BMPs and the requirements set forth in regulatory agency (ACOE, RWQCB, or CDFW) permits/agreements to prevent potential pollutants from entering any jurisdictional feature. Applicable BMPs to be applied will be included in SWPPP and/or WQMP. At a minimum, barriers (straw bales or sedimentation fences) will be erected between the construction site or bore sites and Winter Canyon Creek and Malibu Creek prior to construction or drilling, as appropriate, to prevent released material from reaching Winter Canyon Creek or Malibu Creek and associated habitats.

MM BIO-7. To the extent feasible, all trees that must be removed to enable construction of facilities shall be removed outside the breeding seasons for birds and bats. The City will retain a tree removal specialist to remove all trees during times when birds and bats are not breeding. In order to further minimize impacts to potentially occurring bats, a two-step process for removal of any tree that cannot be avoided shall be implemented. This will involve removing all branches less than two inches in diameter from trees that will be removed , to create a disturbance that will encourage bats to choose another roosting site after foraging that night. The following day the tree would be completely removed.

MM BIO-~~7~~8. To ensure that potential temporary impacts will not affect the health of trees that remain on-site, the following shall be implemented, as applicable:

- Drainage shall be directed away from the root zones of all native trees.
- Poisonous chemicals or materials that could be deleterious to tree health shall be discarded in approved storage containers.
- Tree trunks shall not be used as winch supports, anchors, or signposts or for any other function.
- The storage of vehicles, building materials, refuse, or excavated soil materials shall not occur within the protected zones of trees.
- The use, access, or parking of heavy vehicles or equipment (e.g., backhoes, tractors) shall not occur within the protected zones of trees.

MM BIO-~~8~~9. Prior to construction along the pipeline alignment and in collection and distribution system areas, a qualified biologist or arborist shall conduct a focused native tree survey in these areas to determine if there are any other protected native trees within the direct impact area. If it is apparent that any protected native trees not previously identified would require removal, these trees shall be reported to the City, and all mitigation measures in the tree protection plan shall be implemented for these trees pursuant to LIP Chapter 5.

MM BIO-~~9~~10. Prior to construction, highly visible protective fencing (i.e., Environmentally Sensitive Area fencing) shall be installed around the wastewater treatment facility's limits of disturbance to avoid direct impacts on native trees adjacent to the construction area. In addition, exclusionary fencing shall be installed around the outermost limits of the tree protection zones

(i.e., five feet outside of the drip line or 15 feet from the trunk, whichever is greater) of the native trees within or adjacent to the construction area that will not be removed but have the potential to be disturbed during construction or grading activities. All tree fencing shall be supervised by a qualified biologist or arborist prior to the commencement of any clearing, grading, or other construction activities. Fencing shall be maintained in place for the duration of all construction. No construction, grading, staging, or material storage shall be allowed within the fenced exclusion areas or within the protected zones of any native trees. This includes around any native trees (if present) potentially occurring within the collection and distribution system areas.

MM BIO-~~10~~11. Any construction-related activity (e.g., pruning) that encroaches into the tree protection zone of a native tree must be done using only hand-held tools. Prior to encroachment into the tree protection zone, the tree must be inspected by a qualified arborist to ensure that the activity will not result in loss or worsen the health of the tree. This includes around any native trees (if present) potentially occurring within the collection and distribution system areas.

MM BIO-~~11~~12. A qualified arborist or biologist shall monitor native trees that are within or adjacent to the construction area. The monitor shall be present during installation of exclusionary fencing and shall ensure that construction personnel or equipment do not encroach into sensitive areas. The monitor shall also oversee work with hand tools in the protected zone and check the exclusionary fencing weekly to ensure that the fencing remains intact during all construction phases of the Project. This includes directing construction personnel when the fencing needs repair or replacement.

MM BIO-~~12~~13. The proposed wastewater treatment facility design shall avoid removal of and temporary impacts on native trees to the maximum extent feasible. If the proposed design does not prevent tree removal or encroachment, then the fewest or least significant impacts shall be selected. Adverse impacts on native trees shall be fully mitigated, with priority given to on-site mitigation. The coastal development permit shall include the mitigation requirements as conditions of approval.

MM BIO-~~13~~14. Any California walnut trees that meet the LIP Chapter 5 protection criteria and that are proposed for removal or where development encroaches into the protected zone of the native tree, resulting in loss or worsened health of the tree, shall be replaced on-site (if suitable habitat is present) at a ratio of 10:1. Seedlings (less than 1 year old) shall be planted in an area of the proposed wastewater treatment facility site where suitable habitat is present.

MM BIO-~~14~~15. If impacts to protected native trees cannot be feasibly avoided, mitigation shall be provided by one of the following methods pursuant to LIP Sections 5.3 and 5.5, and the Native Tree Protection Plan prepared for the Project (Appendix D):

- Off-Site Mitigation: Planting at least 10 replacement trees for every tree removed (can occur off-site in suitable habitat that is restricted from development or in public parklands). Seedlings (less than 1 year old) shall be planted in an area where there is suitable habitat; OR
- In-Lieu Fee Program: For unavoidable impacts resulting in the loss of native trees and native tree habitat, payment of an in-lieu fee shall be provided. The fee shall be paid into the Native Tree Impact Mitigation Fund, which is administered by the Santa Monica Mountains Conservancy. The fee shall be based on the type, size, and age of the trees removed.

MM BIO-~~15~~16. Pursuant to LIP Chapter 5, Section 5.6.1, each affected protected tree that is not removed, but encroached upon shall be monitored annually for a period of not less than 10 years. An annual monitoring report shall be submitted for review by the City for each of the 10 years. The monitoring report shall include measurements of the tree (i.e., DBH, approximate height, and canopy width) and the relative health of each of the replacement trees, including notes regarding any damage from fire, disease, insects, or other vectors that affect health. If at any time the health of a replacement tree begins to decline beyond recovery, that tree shall be replaced in kind with an equal healthy replacement.

Monitoring reports shall be provided to the City annually and at the conclusion of the 10-year monitoring period to document the success or failure of the mitigation. If performance standards are not met by the end of 10 years, the monitoring period shall be extended until the standards are met. If any of the trees is lost or its health or vigor is worsened as a result of the proposed wastewater treatment facility, the impact shall be mitigated through replanting at a ratio of 10:1 on-site, off-site mitigation, or an in-lieu fee (as described above).

MM BIO-~~16~~17. ~~All construction activities that occur within or adjacent to an ESHA (including augering work at the Malibu Creek crossing and piping placement on the PCH bridge) will have a biological construction monitor present~~. All construction activities that occur within 100 feet of an ESHA will be evaluated by a biologist to determine if biological monitoring of the construction activity is warranted. Biological construction monitoring would occur as needed to ensure that no direct or indirect impacts to ESHAs occur. At a minimum, a daily monitoring log would be prepared documenting construction compliance with the biological EIR mitigation measures, and any other subsequent measures that may be added.

4.3.4. Unavoidable Significant Adverse Impacts

The mitigation measures identified above would reduce potential Project impacts on biological resources to a less-than-significant level and minimize the potential to violate state and federal laws and regulations that protect certain wildlife species. Consequently, no unavoidable significant adverse impacts on biological resources are anticipated.

4.3.5. Cumulative Impacts

Cumulative impacts are defined in CEQA as "two or more individual effects that, when considered together, are considerable or compound or increase other environmental impacts" (State CEQA Guidelines Section 15355). Stated in another way, "a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (State CEQA Guidelines Section 15130 (a)(1)).

There are currently a number of proposed projects within two miles of the Project site. These projects include commercial development such as the Rancho Malibu Hotel, La Paz Shopping Center, Whole Foods Shopping Center and more, all at various stages of planning or development. As stated above, the proposed Project is a 4.8-acre wastewater treatment facility, with associated infrastructure (pipelines, pump stations, etc.), which would be constructed in three phases. Pipelines would be constructed underground along existing roadways or adjacent to within easements; therefore, it is unlikely they would contribute to any significant biological resources impacts in the Project area. Similar to the Project site, the locations of other related projects in the Project vicinity are within relatively disturbed areas generally surrounded by existing residential or

commercial development. Areas of open space in the immediate vicinity of the Project site are mostly ruderal vegetative communities with little potentially suitable habitat for special-status species.

While the proposed and related projects combined would result in some loss of potentially suitable habitat for common and special-status species, the overall density of wildlife within the general vicinity is relatively low, with more suitable habitat in the outer regions. As with the proposed Project, these related projects would be required to comply with LCP requirements for ESHA, native tree, and coastal resource protection. With the implementation of above mentioned mitigation measures, these impacts are anticipated to be less than significant at the project level, and cumulatively. Project implementation would have limited adverse effects on the diversity and abundance of native flora and fauna in the region. The Project site supports only marginally suitable foraging habitat for three special-status animals. The density of wildlife in the vicinity is low. The Project site has no potential to support a high diversity of native plants. Most wildlife species that could be expected to use the Project site have adapted to disturbances caused by human-induced activities. The cumulative impacts of the Project would thus be less than significant.