RANCHO PALOS VERDES

FINAL
NATURAL COMMUNITY CONSERVATION PLAN AND HABITAT CONSERVATION PLAN

ADOPTED ON NOVEMBER 19, 2019 BY RESOLUTION 2019-61

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ACOE	U.S. Army Corps of Engineers
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CE	State of California-listed endangered species
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
City	City of Rancho Palos Verdes
CNDDB	California Natural Diversity Data Base
CSP	Coastal Specific Plan
CSS	Coastal Sage Scrub
ESHA	Environmentally Sensitive Habitat Area
FE	Federally endangered species
ESA	Federal Endangered Species Act
FT	Federally listed threatened species
HCP	Habitat Conservation Plan
IA	Implementing Agreement
LCP	Local Coastal Plan
NCCP	Natural Community Conservation Plan (State Initiative)
NEPA	National Environmental Policy Act
Permit Area	City NCCP/HCP Plan Area
PHMP	Preserve Habitat Management Plan
PUMP	Public Use Master Plan
PVPLC	Palos Verdes Peninsula Land Conservancy (Preserve Habitat Manager)
PAP	Preserve Access Protocol
RPV	The City of Rancho Palos Verdes
SCAG	Southern California Association of Governments
SSC	State of California species of special concern
ssp.	Subspecies
TERP	Targeted Exotic Removal Plan for Plants
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

The Natural Community Conservation Planning Act of 1991, as amended (NCCP Act, California Fish and Game Code Section 2800, *et seq*.) provides for the preparation and implementation of large-scale natural resource conservation plans. A Natural Community Conservation Plan (NCCP) must identify and provide for the regional or area-wide protection and management of natural wildlife diversity while allowing for compatible and appropriate development and growth. An NCCP is intended to provide comprehensive management and conservation of multiple species, including but not limited to species listed under the California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq*.). The NCCP Act is intended to promote cooperation and coordination among public agencies, landowners, and other interested organizations or individuals.

The section 10 Habitat Conservation Planning (HCP) process of the ESA provides an opportunity for species protection and habitat conservation within the context of non-Federal development and land use activities. The City of Rancho Palos Verdes (City or RPV) has developed an NCCP/HCP proposal that will encompass the entire City with the California Department of Fish and Wildlife (CDFW), formerly California Department of Fish and Game, and the U.S. Fish and Wildlife Service (USFWS), hereafter collectively referred to as the "Wildlife Agencies." One of the initial NCCP planning efforts was for the southern California coastal sage scrub subregion (extends from Palos Verdes in Los Angeles County to the north to San Diego County to the south and San Bernardino/Riverside counties to the east) and targeted three imperiled species (coastal California gnatcatcher, cactus wren, and orange-throated whiptail) that represent the majority of the geographic range of southern California coastal sage scrub (CDFW, 1993). Although the NCCP subregion includes the entire Palos Verdes Peninsula (Peninsula), the City of Rancho Palos Verdes was the only jurisdiction in the subregion to enter into a NCCP planning agreement with the Wildlife Agencies. The remaining Peninsula cities were encouraged to formally participate in the Peninsula NCCP process but chose not to participate. Thus the subregion or Plan Area is now functionally synonymous with the City boundaries.

As the lead agency of the Palos Verdes Peninsula NCCP, the City of RPV developed a Phase I Peninsula NCCP Program, which included a NCCP Working group and a landscape-scale database of biological resources and land-use information to allow for the City and Wildlife Agencies to make informed land-use and conservation decisions in developing the Plan. The main purposes of the Phase I Program (guided by the NCCP Working Group) was to summarize the existing conditions of biological resources within the Plan Area; research/answer questions regarding the regional importance of parcels to a potential biological Preserve system; synthesize vegetation mapping, sensitive species distributions and habitat evaluations; preliminary development/comparison of alternative reserve designs; and, evaluation/prioritization of the restoration potential of degraded lands through the City within the context of preliminary alternative reserve designs (City of RPV, 1999). Included in this database was the mapping of vegetation communities and sensitive-species distributions and their potential habitat. This database was used in part to create preliminary alternative preserve designs. Four preserve designs were developed to represent a reasonable range of alternatives (Figures 3-1, 3-2, 3-3, and 3-4). Alternatives A and B were developed in 1999. In 2002, Alternative C was created by the City as a compromise between Alternatives A (NCCP/HCP working

group) and B (landowner). The City's Alternative C was refined and the draft NCCP/HCP was developed for agency and public review and comment. Based on extensive discussions with the Wildlife Agencies and the NCCP/HCP Rancho Palos Verdes working group (City officials, local environmental organizations, the Wildlife Agencies, and other members of the public) and evaluations of potential development on the largest properties supporting natural vegetation, the City decided to emphasize acquisition of key private properties and conservation of existing habitats on City-owned lands as the primary forms of conservation. An Alternative D was subsequently developed by the City, Palos Verdes Peninsula Land Conservancy (PVPLC), and the Wildlife Agencies when it became clear that not all of the Upper Filiorum property was available for acquisition from the private landowner, other acquisitions were possible, and landslide and legal constraints reduced the viability of including a former City Redevelopment Agency-owned coastal property in the Preserve. Alternative D is the same as Alternative C except that it does not include approximately 27.0 acres of the Upper Filiorum parcel in the Preserve, approximately 40.0 acres of a former City Redevelopment Agency Archery Range property, and includes approximately 61.5 acres of open space land in Malaga Canyon acquired by City associated with a USFWS Section 6 Habitat Conservation Plan Land Acquisition grant (Cooperative Endangered Species Conservation Fund). Alternative D is the proposed Preserve design and the alternative that the NCCP/HCP will analyze for purposes of receiving state and Federal take authorizations for Covered Species. The recommendations for refining the preliminary reserve designs from the Phase I Program were incorporated into the final Preserve design for the NCCP/HCP (City of RPV, 1999). Alternative D was approved by the City Council in 2014.

Habitat restoration of disturbed areas within the Preserve will be an important component of the NCCP/HCP conservation strategy, with a required minimum level of restoration and enhancement to be accomplished each year. The PVPLC will act as Preserve Habitat Manager to the Rancho Palos Verdes Habitat Preserve (Preserve) for the City, a minimum of 250.0 acres of non-native plant communities will be restored with native species to increase the local habitat carrying capacity of Covered Species. The restoration potential of these degraded lands was assessed to allow for prioritization of restoration efforts within the context of the proposed Preserve design. Lastly, with a restoration program in place, restoration above and beyond that required in this Plan can be accomplished as additional sources of funding (beyond required funding elements of the NCCP/HCP) are identified.

1.1 Purpose and Need

The City of Rancho Palos Verdes' NCCP/HCP or Plan has been prepared to maximize benefits to wildlife and vegetation communities while accommodating appropriate economic development within the City pursuant to the requirements of the NCCP Act and section 10(a) of the ESA. This NCCP/HCP is intended to provide for the comprehensive management and conservation of multiple species, including but not limited to those species protected under the ESA (identified in Table 1-1).

Table 1-1. Proposed Covered Species List for the NCCP/HCP

Common Name	Scientific Name	Status
Aphanisma	*Aphanisma blitoides*	CNPS List 1B
South Coast Saltscale	*Atriplex pacifica*	CNPS List 1B
Catalina Crossosoma	*Crossosoma californicum*	CNPS List 1B
Island Green Dudleya	*Dudleya virens* ssp. *insularis*	CNPS List 1B
Santa Catalina Island Desert-thorn	*Lycium brevipes* var. *hassei*	CNPS List 1B
Woolly Seablite	*Suaeda taxifolia*	CNPS List 4
Palos Verdes Blue Butterfly	*Glaucopsyche lygdamus palosverdesensis*	FE
El Segundo Blue Butterfly	*Euphilotes battoides allyni*	FE
Coastal California Gnatcatcher	*Polioptila californica californica*	FT, NCCP Focal Species, SSC
Cactus Wren	*Campylorhynchus brunneicapillus*	NCCP Focal Species

FE = Federally endangered
FT = Federally threatened
SSC = State Species of Concern
CNPS List 1B = Plants, rare, threatened, or endangered in California and elsewhere
CNPS List 4 = Plants of limited distribution - a watch list

An important objective of this NCCP/HCP is to obtain state and Federal permits from the Wildlife Agencies for Covered Projects and Activities, which include City and private projects as well as habitat management and monitoring. The City and PVPLC are the Permittees for this NCCP/HCP. The City will be issued Take Authorizations for Covered Projects and Activities under this Plan that require local land use authority, whereas PVPLC will be issued Take Permits related to implementation of specified biological management and monitoring activities as agreed to by the City and PVPLC under the Palos Verdes Nature Preserve Management Agreement and this Plan (see Section 7.0 of the Plan). As intended by the NCCP Act, implementation of this NCCP/HCP will facilitate cooperation and coordination among public agencies, landowners, and other interested organizations.

This NCCP/HCP identifies habitat to be conserved through acquisition and recordation of conservation easements. This NCCP/HCP also includes current and future management, maintenance, and compatible uses (e.g., passive recreation) of conserved lands, as well as funding for habitat management. The process for mitigating development on habitat not conserved, and how permits for Covered Species will be obtained, is also identified. The NCCP/HCP is accompanied by an Implementing Agreement (IA) with the Wildlife Agencies which defines the roles and responsibilities of the City, PVPLC, and Wildlife Agencies with respect to implementation of the Plan. Under the NCCP/HCP, the authority for development and land-use decisions is to be retained by the City, and will be enhanced by its ability to extend incidental take coverage under its permits to third parties carrying out Covered Projects and Activities under its direct control and jurisdiction. This Plan will be consistent with the City's General Plan, Local Coastal Program, and Municipal Code ordinances.

Through the NCCP/HCP development process, the City has considered regional planning before evaluating site-specific project proposals. In this manner, individual project impacts can be analyzed in a regional context. The City will coordinate with adjacent jurisdictions to the extent practicable to maximize shared conservation benefits.

The City's primary conservation strategy is to dedicate 1,402.4 acres of habitat for the NCCP/HCP Preserve assembly. The dedication includes Existing Public Lands that are currently owned by the City (1,123.0 acres) and the PVPLC (20.7 acres). The remainder of the Preserve will be comprised of 258.7 acres of City-owned land or land that will eventually be owned by the City which has been previously dedicated for conservation as mitigation for certain private projects and will be added to the Preserve.

Of the 1,123.0 acres of Existing Public Lands, 61.5 acres were acquired in association with a grant to the State of California through the USFWS's Section 6 Habitat Conservation Plan Land Acquisition Program, 263.5 acres were obtained by the City, and 798.0 acres of land in Portuguese Bend, Agua Amarga, Upper Filiorum, and Forrestal were purchased for conservation in support the NCCP/HCP. The 798.0 acres were acquired with funds provided by the City, PVPLC, California Coastal Conservancy, Wildlife Conservation Board, City of Rolling Hills, County of Los Angeles, and California State Dominquez Hills. Specifically, the 499.9 of the 798.0 acres were purchased using non-state funding or are being dedicated directly by the City. Thus, the City is contributing a total of 499.9 acres to mitigate for all Covered City Projects and Activities (Figure 4-2). The City and PVPLC will be responsible for the management of the entire 1,402.4-acre Preserve. The proposed Preserve is designed to be consistent with NCCP conservation and management standards and guidelines and the issuance criteria for an ESA section 10(a) Take Authorization for species covered by the City-wide permit. The Preserve conserves regionally important habitat areas and provides adequate habitat linkages between patches of conserved habitat. The City and the PVPLC will enhance/restore a minimum of 5 acres per year of disturbed habitats within the Preserve (minimum of 250.0 total acres). This NCCP/HCP will emphasize habitat restoration to enhance habitat patch size and habitat linkage function (i.e., areas with moderate to high potential for successful restoration).

1.2 Regulatory Compliance of the NCCP/HCP

1.2.1 Federal

The USFWS has the legal authority to issue permits for the incidental take of species under section 10(a)(l)(B) of the ESA. Section 10 and 16 USC Section 1539(a)(1)(B), expressly authorizes the USFWS to issue a section l0(a) permit to allow incidental take of species listed as threatened or endangered under the ESA. The legislative history of section 10(a)(l)(B) clearly indicates that Congress also intended that the USFWS will approve HCPs that protect unlisted species as if they were listed under the ESA, and that in doing so the USFWS will provide section l0(a)(l)(B) assurances for protection of such unlisted species (H.R. Rep. No. 97-835, 97th Cong., 2d Sess. 30-31, 1982. Conference Report on 1982 Amendments to the ESA). The USFWS has approved many HCPs that address both listed and non-listed species.

The USFWS issued a formal regulation known as the "No Surprises" Rule, effective March 25, 1998 (Federal Register 63[35]:8859-8873). The rule provides regulatory assurances to holders of HCP incidental take permits. These regulatory assurances generally provide that no additional land use restrictions or financial compensation will be required of the permit holder with respect to species covered by the permit beyond the levels provided under the HCP, even if unforeseen circumstances arise after the permit is issued, without the consent of the permittee.

Approval and proper implementation of the NCCP/HCP will facilitate compliance with section 10(a)(1)(B) of the ESA. Through this planning process, the City will obtain ESA section 10(a) incidental Take Authorizations. "Take" includes the direct killing, harming, or harassing of an animal species, or modification or destruction of habitat that result in injury or death to listed animal species. The take permit authorizes take of covered animal species by the City in compliance with the terms and conditions of the permit, the IA, and the NCCP/HCP.

Permits issued pursuant to this NCCP/HCP are not intended to satisfy mitigation requirements for any Army Corps of Engineers (ACOE) 404 permit for impacts to wetlands. However, this NCCP/HCP is largely intended to fulfill the requirements for endangered species consultation relative to wetland permitting, as well as associated incidental take of Covered Species. This NCCP/HCP is intended to provide the basis for future ESA section 7 consultations for ACOE 404 permits affecting Covered Species within this NCCP/HCP area. Thus, approval of this NCCP/HCP should streamline the endangered species consultation process and wetland permitting process.

An Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) has been prepared with this HCP. The EA: (1) identifies the purpose and need for USFWS action if issuing a section 10(a) permit; (2) describes the environment that would be affected by the proposed action; (3) discusses alternatives considered, including a no action alternative; (4) describes plans to minimize and mitigate impacts to Covered Species incorporated into the proposed action and other alternatives; (5) identifies and analyzed the likely environmental consequences of the proposed action and alternatives; and (6) describes the agencies and individuals coordinated and consulted with during the preparation of the EA.

This NCCP/HCP is intended to satisfy the statutory and regulatory requirements to authorize incidental take of four animal species associated with land-use development and habitat management activities within the City of Rancho Palos Verdes (Permit Area/Plan Area). The NCCP/HCP is also intended to provide the basis for extension of regulatory assurances for the four animal species and six plant species covered under the Plan (Table 1-1 and Figure 2-4).

1.2.1.1 Bald Eagle and Golden Eagle Protection Act

The Eagle Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions. Under the Eagle Act, it is a violation to "…take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or golden eagle, alive or dead, or any part, nest, or egg, thereof…." Here, take is defined as to include

pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, and disturb. Disturb is further defined in 50 C.F.R. 22.3 as follows: to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Recent revisions to regulations implementing the Eagle Act authorize take of bald eagles and golden eagles under the following conditions: (1) where the take is compatible with the preservation of the bald eagle and golden eagle, (2) is necessary to protect an interest in a particular locality, (3) is associated with but not the purpose of an otherwise lawful activity, (4) for individual instances of take where the take cannot be avoided or (5) for programmatic take where the take is unavoidable even though advanced conservation practices are being implemented (50 C.F.R. 22.26). Permits issued under this regulation usually authorize disturbance only; however, in limited cases a permit may authorize lethal take that results from but is not the purpose of an otherwise lawful activity.

Neither the bald nor the golden eagle is a Covered Species under the Plan. The Plan does not seek a permit under the Eagle Act because direct injury or death of eagles, eggs, or disturbance of nests is not anticipated in association with Covered Projects and Activities or overall Plan implementation. Bald eagles and golden eagles are afforded additional legal protection under the Bald and Golden Eagle Protection Act (Eagle Act), 16 U.S.C. 668–668d. The Eagle Act prohibits the take, amongst other prohibited actions, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof. “Take” under the Eagle Act is defined as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect or molest, or disturb.” Under the Eagle Act, “disturb” is further defined as agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (50 C.F.R. 22.2 & 22.3).

1.2.2 State

1.2.2.1 California Endangered Species Act

Section 2080 of the Fish and Game Code prohibits "take" of any wildlife and plant species that are listed as threatened or endangered by the California Fish and Game Commission. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Like ESA, the California Endangered Species Act (CESA) (California Fish and Game Code, Sections 2050 *et seq.*) allows for take incidental to otherwise lawful activities. CESA allows the Department to authorize project proponents to take state-listed threatened, endangered, or candidate species if certain conditions are met. The permitting program administers the incidental take provisions of CESA to ensure regulatory compliance and statewide consistency. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project-caused losses of listed species populations and their essential habitats. The requirements of an

application for incidental take under CESA are described in Section 2081 of the California Fish and Game Code. Incidental take of state-listed species may be authorized if an applicant submits an approved plan that minimizes and "fully mitigates" the impacts of this take. In 1991, Section 2835 was added to the California Fish and Game Code which enables the state to authorize by permit the taking of any covered species whose conservation and management is provided for in a NCCP.

1.2.2.2 Natural Community Conservation Planning Act

In 1991, the Natural Community Conservation Planning Act (NCCP Act) (California Fish and Game Code, Section 2800 *et seq.*) was enacted to provide "for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves of other measures that provide equivalent conservation of covered species appropriate for land, aquatic, and marine habitats with the plan area…" (Section 2820 [3]). The NCCP Act identifies " there is a need for broad-based planning to provide for effective protection and conservation of the state's wildlife heritage while continuing to allow appropriate development and growth.(2801 [b])" and calls for the preparation of plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time. The NCCP Act is broader in its orientation and objectives than are ESA and CESA: the NCCP Act goes beyond project mitigation and calls for conservation of covered species that will reduce the need for listing species under the CESA, enhance species conditions, and restore and manage resources for ecological integrity on a broad scale (2801 [b]). Pursuant to the NCCP Act, local, state, and Federal agencies are encouraged to prepare NCCPs to provide comprehensive management and conservation of multiple species and their habitats under a single plan, rather than through preparation of numerous individual plans on a project-by-project basis. In November 1993, the CDFW and California Resources Agency prepared the "Southern California Coastal Sage Scrub NCCP Process Guidelines" to guide jurisdictions with the preparation of NCCPs (CDFG, 1993). An approved NCCP provides for take of species whose conservation and management are provided for in the Plan (California Fish and Game Code Section 2835).

The 1991 NCCP Act was repealed and replaced with a substantially revised and expanded NCCP Act in 2002. The revised NCCP Act established new standards and guidance on many facets of the program, including scientific information, public participation, biological goals, interim project review, and approval criteria. The new NCCP Act took effect on January 1, 2003. Approval and implementation of the City of Rancho Palos Verdes NCCP/HCP will secure City compliance with and be consistent with Section 2835 of the NCCP Act in the California Fish and Game Code. The Plan for the City is grandfathered pursuant to Section 2830 (Grandfathering of Existing Plans) of the updated 2002 NCCP Act; therefore, the NCCP Act as it read on December 31, 2001, will be applied to issuance state NCCP authorizations. Listed species not on the Covered Species list will continue to be regulated under the ESA and CESA. Take of listed species can be authorized or exempted separately from the Plan under separate section 7 consultations, section 10 HCPs, and state incidental take permits under section 2081 of the California Fish and Game Code. Alternatively, species can be added to the Plan Covered Species list using the amendment process. This process for adding species to the Covered Species list may involve additional or reprioritized management practices or habitat acquisition, as discussed in Section 6.9 of the NCCP/HCP.

The NCCP/HCP permits are not intended to satisfy mitigation requirements for any 401 Water Quality Certification issued by Regional Water Quality Control Board or a Lake and Streambed Alteration Agreement issued by CDFG under California Fish and Game Code Section 1600 *et seq.* Any project with wetland impacts will be subject to permit requirements of the state.

In addition to CDFW regulations, this NCCP/HCP is also intended to be consistent with the City's Local Coastal Program (LCP) and California Coastal Act regulations (14 CCR 30000 *et seq.*) for lands within the Coastal Zone.

1.2.2.3 California Fully Protected Species

In the 1960s (prior to CESA), the California Legislature identified species for specific protection under the California Fish and Game Code. These Fully Protected Species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Fully Protected Species are described in Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code. These protections provide that Fully Protected Species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. For California Fully Protected Species (i.e., light-footed clapper rail, white-tailed kite, and golden eagle) lethal take of individuals is forbidden and the Plan will not affect breeding individuals due to the avoidance measures and other conditions of coverage required under this Plan. The mountain lion is also specially protected by the California Fish and Game Code section 4800. No take authorization is being requested by the City or PVPLC for any state fully- or specially-protected species under the Plan.

1.2.2.4 California Fish and Game Code 3503 (Bird Nests)

Section 3503 of the California Fish and Game Code makes it unlawful to take, possess or needlessly destroy the nests or eggs of any bird. CDFW may issue permits authorizing take. This Plan contains conservation measures to avoid such take in order to comply with Section 3503.

1.2.2.5 California Fish and Game Code 3503.5 (Birds of Prey)

Section 3503.5 of the California Fish and Game Code prohibits the take, possession or destruction of any birds of prey or their nests or eggs. CDFW may issue permits authorizing take pursuant to CESA or NCCP Act. This Plan contains conservation measures to avoid such take in order to comply with Section 3503.5.

1.2.2.6 California Environmental Quality Act

The CDFW is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA; Sections 15386 and 15381, respectively) and is responsible for ensuring appropriate conservation of the state's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act (CESA, California Fish and Game Code 2050,

et seq.), the statewide NCCP Program (Fish and Game Code 2800, *et seq.*) and other sections of the California Fish and Game Code (e.g., 1600 *et seq.* and 3500 *et seq.*). CEQA is similar to but more extensive than NEPA in that it requires that significant environmental impacts of proposed projects be reduced to a less-than significant level through adoption of feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented. CEQA applies to all California projects, and NCCPs are required to comply with CEQA.

This Plan implements a conservation strategy designed to achieve a comprehensive set of biological goals and objectives. Furthermore, as a NCCP, the Plan provides for broad-based planning to preserve natural communities at the ecosystem scale. Many of the conservation measures in the Plan will also benefit other special status species (i.e., species not covered by the Plan) and these measures may be sufficient to meet CEQA standards for these other species as well. The City implements CEQA through the development review and approval process, which requires protection of significant biological resources and mitigation of project impacts. Findings of consistency with this Plan will be required for all projects requesting issuance of Take Authorizations during the City's local CEQA and development review/approval process.

The City of Rancho Palos Verdes is serving as the lead agency under CEQA for this NCCP. To comply with CEQA, the City released an environmental impact report/environmental assessment (EIR/EA) on February 20, 2004 (SCH# 2003071008). The public comment period on the EIR/EA closed on April 20, 2004. The Final EIR was certified by the City on August 31, 2004. Since the final draft NCCP/HCP differs slightly from the project analyzed in the previously certified EIR, an EIR Addendum has been prepared to address the changes. The final draft EIR/EA and EIR Addendum prepared for this NCCP/HCP is intended to provide programmatic compliance for CEQA for all activities covered by this Plan regarding impacts to Covered Species and jurisdictional wetlands and waters. Future projects that receive take coverage under the NCCP/HCP must also comply with CEQA through their local jurisdiction, which would include subsequent project-specific review. It is expected that the conservation provided in this Plan will be sufficient to meet all CEQA mitigation standards for impacts to the special-status species and natural communities that are covered in this Plan. Future CEQA documents for applicants that receive take coverage under this Plan will incorporate the conservation measures in this Plan to comply with CEQA for the Covered Species and natural communities addressed in this Plan.

1.2.2.7 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the mechanism by which the State of California implements the CWA under delegation from the Federal Environmental Protection Agency (EPA). Porter-Cologne enables the State to regulate the discharge of pollutants from any source (point and non-point sources) that may affect the quality of the waters of the State of California and regulates pollutant discharges to any waters of the state including groundwater. DFG has authority over any activity that may substantially modify a river, stream, or lake (California Fish and Game Code Section 1600 *et seq.*) and may comment on Army Corps of Engineers permit actions under the Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667e, March 10, 1934, as amended 1946, 1958, 1978, and 1995) and as a trustee agency under CEQA. Where applicable, project proponents must submit an application for and receive Federal CWA section 404

permit and/or state CDFW lake and streambed alternation agreement (LSAA) prior to impacting most jurisdictional wetlands. Additionally, all applicants should contact the RWQCB for any water discharge requirements prior to allowing any discharges (aside from rainwater) to discharge to a conveyance system or waterway.

Mitigation for an impact to wetlands must be consistent with the Federal policy of no net loss of wetland functions and values, and section 404(b)(1) guidelines (40 C.F.R. Part 230). State guidelines for wetland permitting also adhere to a no net loss policy for wetland acreage, functions and values. The CDFG Code (section 1600 *et seq.*) states that projects which substantially alter the flow, bed, bank, or channel of any river, stream or lake must first notify the CDFW, which may determine that a Streambed Alteration Agreement is required. As part of Los Angeles County's wetland conservation policies, compliance with conditions of the Federal CWA section 404 permit and state section California Fish and Game Code 1600 agreement must be demonstrated prior to issuance of a grading permit.

1.2.2.8 Lake or Streambed Alteration Agreement

CDFW has jurisdictional authority over streams and lakes and wetland resources associated with these aquatic systems under California Fish and Game Code Sections 1600 *et seq.* California Fish and Game Code Section 1600 *et seq.* was repealed and replaced in October of 2003 with the new Section 1600–1616 that took effect on January 1, 2004 (Senate Bill No. 418 Sher). CDFW has the authority to regulate work that will "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake." Activities of any person, state or local governmental agency, or public utility are regulated by CDFW under Section 1602 of the Code. CDFW enters into a streambed or lakebed alteration agreement with the project proponent and can impose conditions on the agreement to ensure no net loss of values or acreage of the stream, lake, associated wetlands, and associated riparian habitat. The lake or streambed alteration agreement is not a permit, but rather a mutual agreement between CDFW and the project proponent. Since CDFW includes under its jurisdiction streamside habitats that may not qualify as wetlands under the Federal CWA definition, CDFW jurisdiction may be broader than ACOE jurisdiction. A project proponent must submit a notification of streambed alteration to CDFW before construction. The notification requires an application fee for streambed alteration agreements, with a specific fee schedule to be determined by CDFW. CDFW can enter into streambed alteration agreements (SAAs) that cover recurring operation and maintenance activities and can also enter into long term agreements to cover development and other activities described in regional plans. Within the Plan Area, there are at least 2.5 acres of potential riparian California Fish and Game Code Section 1600 habitat (see Table 2-1).

1.2.2.9 California Coastal Act

The California Coastal Commission (CCC) was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act of 1976 (Public Resources Code Section 30000 *et seq.*). The CCC is an independent, quasi-judicial state agency that, in

partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the CCC or the local government. The Act created a "coastal zone" that generally extends 1,000 yards inland from the mean high tide line and varies in width from several hundred feet in highly urbanized areas up to five miles in certain rural areas, and offshore the coastal zone includes a three-mile-wide band of ocean. The coastal zone established by the Coastal Act does not include San Francisco Bay, where development is regulated by the Bay Conservation and Development Commission (BCDC). In the City of Rancho Palos Verdes, the coastal zone extends up to the Palos Verdes Drive South/Palos Verdes Drive West roadway.

The Coastal Act includes specific policies (see Division 20 of the Public Resources Code) that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. Development within the coastal zone may not commence until a coastal development permit has been issued by either the Commission or a local government that has a Commission-certified LCP.

California's coastal management program is carried out through a partnership between state and local governments. Implementation of Coastal Act policies is accomplished primarily through the preparation and CCC approval of LCPs that are required to be completed by each of the 15 counties and 60 cities located in whole or in part in the coastal zone. A LCP includes a land use plan (LUP) which may be the relevant portion of the local general plan, including any maps necessary to administer it, and the zoning ordinances, zoning district maps, and other legal instruments necessary to implement the land use plan. Coastal Act policies are the standards by which the CCC evaluates the adequacy of LCPs and any proposed amendments. The CCC is required to review each certified LCP at least once every five years. After certification of an LCP, coastal development permit authority is delegated to the appropriate local government, but the CCC retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands). The CCC also has appellate authority over development approved by local governments in specified geographic areas as well as certain other developments. A Coastal Specific Plan (CSP) was adopted by the Rancho Palos Verdes City Council on December 19, 1978 to serve as the LUP and implementation ordinance for that portion of the City located within the California Coastal Zone (7.5 miles of coastline).

Along with the BCDC, the CCC is one of California's two designated coastal management agencies for the purpose of administering the Federal Coastal Zone Management Act (CZMA) in California. The most significant provisions of the Federal CZMA give state coastal management agencies authority to review for consistency with the Coastal Act, Federal activities and federally licensed, permitted, or assisted activities, wherever they may occur (i.e., landward or seaward of the respective coastal zone boundaries fixed under state law) if the activity affects coastal resources. Under 1990 amendments to the Federal Coastal Zone Management Act, the CCC and the State Water Resources Control Board have prepared and adopted and

are now implementing a Coastal Nonpoint Source Water Pollution Control Program. The CCC also implements a Coastal Access Program, in partnership with other state agencies such as the Coastal Conservancy, State Lands Commission, California State Parks, and Federal, regional, and local parks, and recreation entities.

1.2.3 Local

Implementation of this NCCP/HCP will rely on the City's land-use authority provided through General Plan policies, Local Coastal Program, and the City's Municipal Code ordinances. Implementation will also rely on the City's compliance with state and Federal environmental land use laws (e.g., CEQA/NEPA) and the IA between the City, PVPLC, and the Wildlife Agencies. In addition, the NCCP/HCP includes habitat restoration and management of Preserve land by the PVPLC on behalf of the City using in-kind services and various secured funding sources, and provides a framework for acquiring additional private lands from willing sellers.

1.2.3.1 City of Rancho Palos Verdes General Plan

The City's General Plan, adopted on June 26, 1975, is organized into various elements: Natural Environment, Socio/Cultural, Urban Environment, and Land Use, which are relevant to this NCCP/HCP. The portions of the City's General Plan that are relevant to this NCCP/HCP are summarized in Appendix F. Proposed amendments to the General Plan that provide additional protection to the Preserve are discussed in Section 6.3.2 of this NCCP/HCP.

1.2.3.2 City of Rancho Palos Verdes Municipal Code

As a regulatory document, the City's Municipal Code provides an important layer of environmental protection to lands located in the Preserve (Figure 3-2). Each cited section of the City's Code in effect at the time of adoption of the NCCP/HCP that protects the Preserve is listed in Appendix F to this Plan, along with an explanation of how the cited code protects the Preserve. In summary, the Preserve is directly protected by certain City ordinances that are part of the Municipal Code, such as the zoning ordinance (Title 17) and Subdivision Ordinance (Title 16). These City ordinances require grading and development proposals to be reviewed for compliance with established regulations and controls that include natural habitat protection. Thus, applications for new development on vacant lots abutting the Preserve can be modified to ensure habitat protection in the Preserve. The Preserve is indirectly protected by other City ordinances, such as the stormwater discharge ordinance; the off-road vehicle ordinance; and the streets, parks, and recreational facilities ordinance. The stormwater discharge ordinance (Municipal Code Chapter 13.10) indirectly protects the Preserve by establishing standards and procedures for reducing pollutants in stormwater discharge for major projects throughout the City, thus reducing the likelihood of contaminated stormwater entering the Preserve. The off-road vehicle ordinance (Municipal Code Chapter 10.24) indirectly protects the Preserve by prohibiting off-road vehicles from driving in the Preserve. The recreational facilities ordinance (Municipal Code chapter 12.16) prohibits trail use in the Preserve not authorized by the City.

1.2.3.3 Coastal Specific Plan

The Coastal Specific Plan (CSP) was adopted by the Rancho Palos Verdes City Council on December 19, 1978. The CSP provides a series of polices to guide development and protect natural features in the California Coastal Zone along the 7.5 miles of coastline within the City's jurisdiction. The CSP includes all land on the coastal side of Palos Verdes Drive South and West (Figure 1-1). Although the NCCP/HCP contains focused policies directed toward native lands management, the CSP clearly contains similar elements, thereby enforcing and complementing the goals of the NCCP/HCP.

The CSP identifies natural habitat "which is not only vital to local animal life, but is the key to the migratory species" (Page N-1 of CSP) while acknowledging that the "Peninsula has already experienced the lowest ebb in habitat quality" and notes that "Recent programs are providing indicators that this habitat is recovering" (Page N-2 of CSP).

1.2.3.4 CEQA

Once the NCCP/HCP Take Authorizations are issued, the City does not anticipate the need to regularly consult with the Wildlife Agencies during the CEQA normal project review and development approval process. The exceptions to this are Plan Amendments, impacts to non-Covered Species, wetlands, and substantial changes to implementing regulations (including the General Plan, CEQA, LCP). The Wildlife Agencies' oversight role is exercised through the normal CEQA process (e.g., individual project review) and through review of the City's Annual Report. The Wildlife Agencies may, upon receipt of a CEQA notice for a project, request a voluntary coordination meeting within 30 days. Likewise, the City may request agency involvement in a project where coordination would help address key issues or streamline the permitting process. The primary exception to this general procedure is for a project that proposes a Preserve boundary line adjustment, or impacts to jurisdictional wetlands (see Section 6.0 of this Plan). Otherwise, the City of Rancho Palos Verdes will follow the project review and approval process, including maintaining a list and map of all projects receiving Take Authorizations under the City's permits under the Plan as described in Section 6.0 of the Plan. All project approvals issued over the course of a year may be discussed at the required annual meeting.

1.3 Species for which Incidental Take Authorization is Requested

Permits are requested by the City for the federally endangered Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*, "PVB"), El Segundo blue butterfly (*Euphilotes battoides allyni*, "ESB"), and federally threatened coastal California gnatcatcher (*Polioptila californica californica*, "gnatcatcher"). Take of listed plant species is not prohibited under the ESA and cannot be authorized under a Federal incidental take permit. However, the USFWS encourages applicants to address the needs of plant species in HCPs, and will include adequately covered plant species on an incidental take permit in recognition of the conservation benefits accorded the species in the underlying HCP. The USFWS extends "No Surprises" regulatory assurances to both covered animal and covered plant species. Coverage under the Federal and state permits are also requested for seven additional species including six plants and one bird that are not

currently listed under the CESA or ESA but have specific known locations or appropriate habitat in the City and will benefit from conservation under this NCCP/HCP. These species include the California Native Plant Society (CNPS) List 1B and List 4 plants: aphanisma (*Aphanisma blitoides*), south coast saltscale (*Atriplex pacifica*), Catalina crossosoma (*Crossosoma californicum*), island green dudleya (*Dudleya virens* subsp. *insularis*), Santa Catalina Island desert-thorn (*Lycium brevipes* var. *hassei*), and woolly seablite (*Suaeda taxifolia*) and the cactus wren (*Campylorhynchus brunneicapillus*), a State Species of Concern (SSC) that is also a NCCP focal species. Species covered by this NCCP/HCP are identified in Table 1-1.

2.0 DESCRIPTION OF NCCP/HCP AREA

2.1 Regional Setting

The 13.6-square-mile coastal City of Rancho Palos Verdes is located on the southwest side of the Palos Verdes Peninsula in Los Angeles County (County). It is bounded on the north by Rolling Hills, Rolling Hills Estates, and Palos Verdes Estates and to the east by the community of San Pedro, with the high-density urbanized core of South Bay communities located farther to the north (Figure 2-1).

Beginning in the early 1900s, the Peninsula enjoyed prosperity as a cattle ranch and farming area. By 1913, the residential future of Palos Verdes was envisioned as the "most fashionable and exclusive residential colony" in the nation. The 1940s saw 300 acres of the northern Peninsula used for mining of diatomaceous earth. Municipal incorporations occurred in 1939 and 1957, with the founding of Palos Verdes Estates (December 20, 1939), Rolling Hills (January 24, 1957), and Rolling Hills Estates (September 18, 1957).

Residents in the remaining unincorporated area soon became aware that the only way to preserve the environment and to gain control over local zoning issues was to incorporate as a fourth city. The drive for incorporation of the fourth city intensified in February 1970, with the election finally held on August 28, 1973. An overwhelming majority of 5 to 1 voted in favor of incorporation of the City. All citizens elected to the first City Council ran on similar platforms of low-density land uses, minimum taxes, and responsiveness to residents. The City of Rancho Palos Verdes was officially incorporated as a California municipality on September 7, 1973.

These principles still guide the City today, with the resulting land uses dominated by single family detached dwellings, scattered higher density residential, and neighborhood-oriented commercial. Industrial activities are excluded on the Peninsula (Figure 2-2). The approximately 42,000 people comprising the City of Rancho Palos Verdes are predominantly employed in management, professional, and related occupations.

2.2 Biological Resources

2.2.1 Vegetation Communities

The initial vegetation mapping and gnatcatcher and cactus wren distribution data of the Peninsula were prepared by Atwood *et al.* (1994) and updated and verified by Ogden (1999). Ogden also used other existing documents (e.g. recent biological studies, EIRs) and digital data sources that were considered relevant to the NCCP/HCP Plan Area. Biological resource information compiled from these environmental documents included both vegetation and sensitive species data. This data is considered the baseline for calculating habitat loss from Covered Projects and Activities as well as habitat acreages within the Plan Area, because it is the most recent mapping effort that covers the entire Plan Area. However, more recent vegetation community mapping was conducted in 2007 only for Preserve lands and is used as the current baseline for habitat and species management.

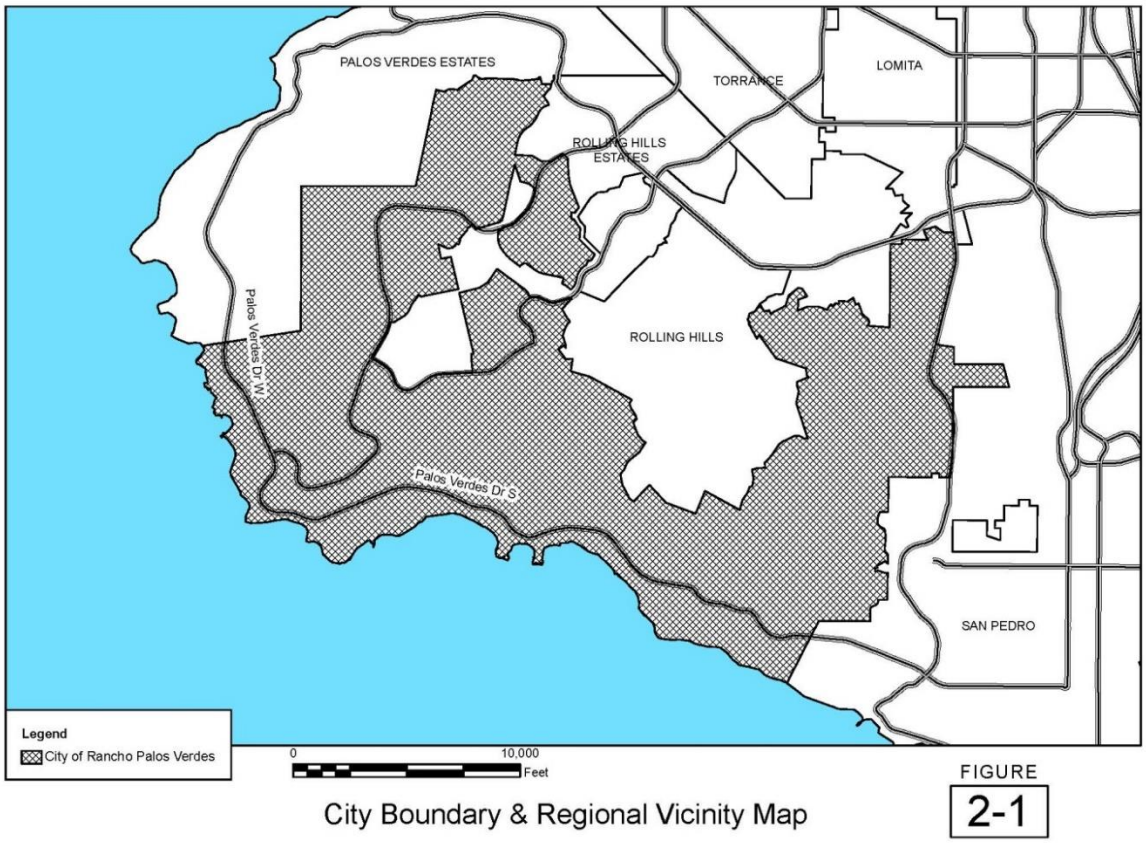

Figure 2-1. City Boundary and Regional Vicinity Map

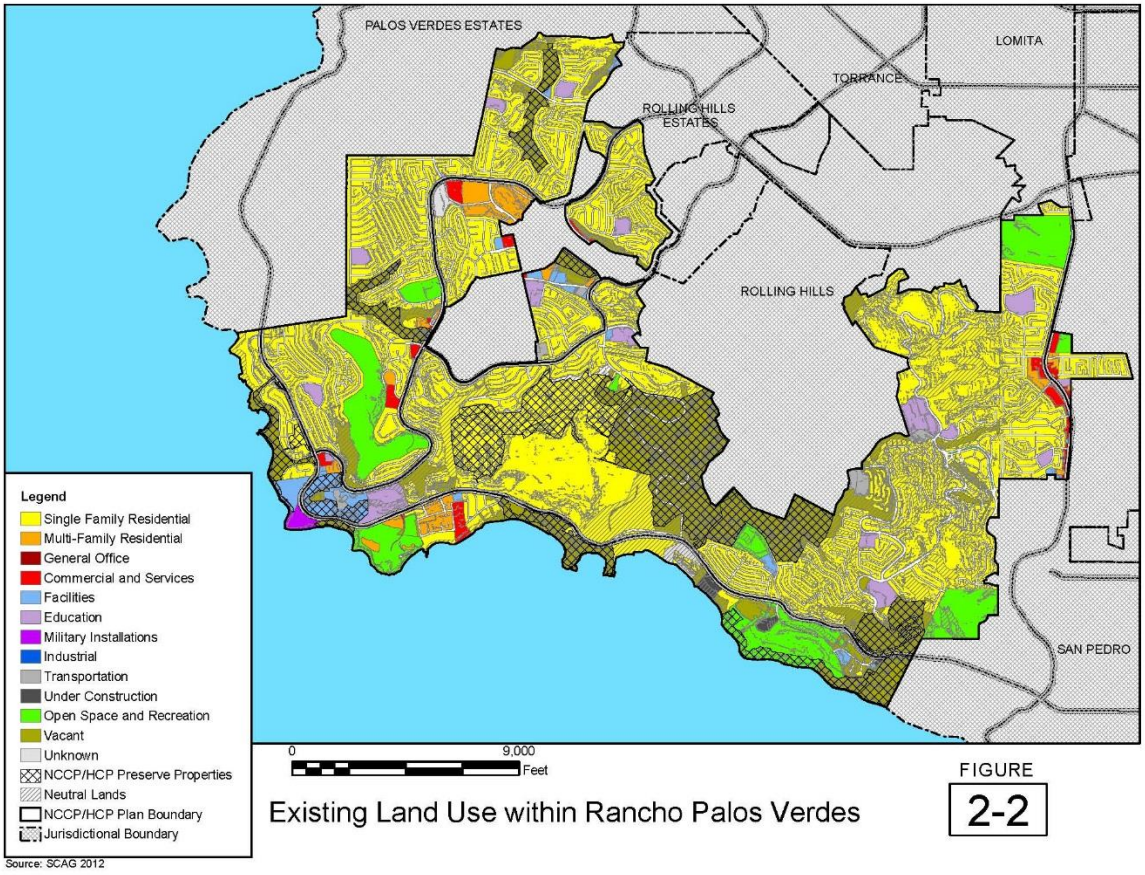

Figure 2-2. Existing Land Use within Rancho Palos Verdes

The natural vegetation map for the Palos Verdes Peninsula shown in Figure 2-3 was compiled from 1 inch = 1,200 it color aerial photographs and from field mapping efforts that used U.S. Geological Survey topographic maps enlarged to a scale of 1 inch = 1,000 feet. The vegetation mapping was ground verified, and vegetation polygons were assessed for plant cover. A vegetation category was assigned to each polygon according to plant species cover based on Holland (1986). These vegetation data were digitized into the geographic information system (GIS) database. Additional source data were also obtained from representatives of the local chapters of the California Native Plant Society (CNPS), Audubon Society, and Endangered Habitats League, as well as digital information from the major landowners and Southern California Association of Governments (SCAG). These data sources were collated and reviewed for spatially relevant information for inclusion in the GIS database. Ogden (1999) updated this base vegetation map using project-specific vegetation data from existing environmental reports. Minor updates to the vegetation map were made during formation of the public review draft of this NCCP/HCP document to account for changes in vegetation cover associated with recently completed development projects. Approximately 8,616.6 acres of land are in the Plan Area, including native habitats, non-native habitats, agricultural lands, disturbed areas, and developed lands. These communities are listed in Table 2-1 and described below.

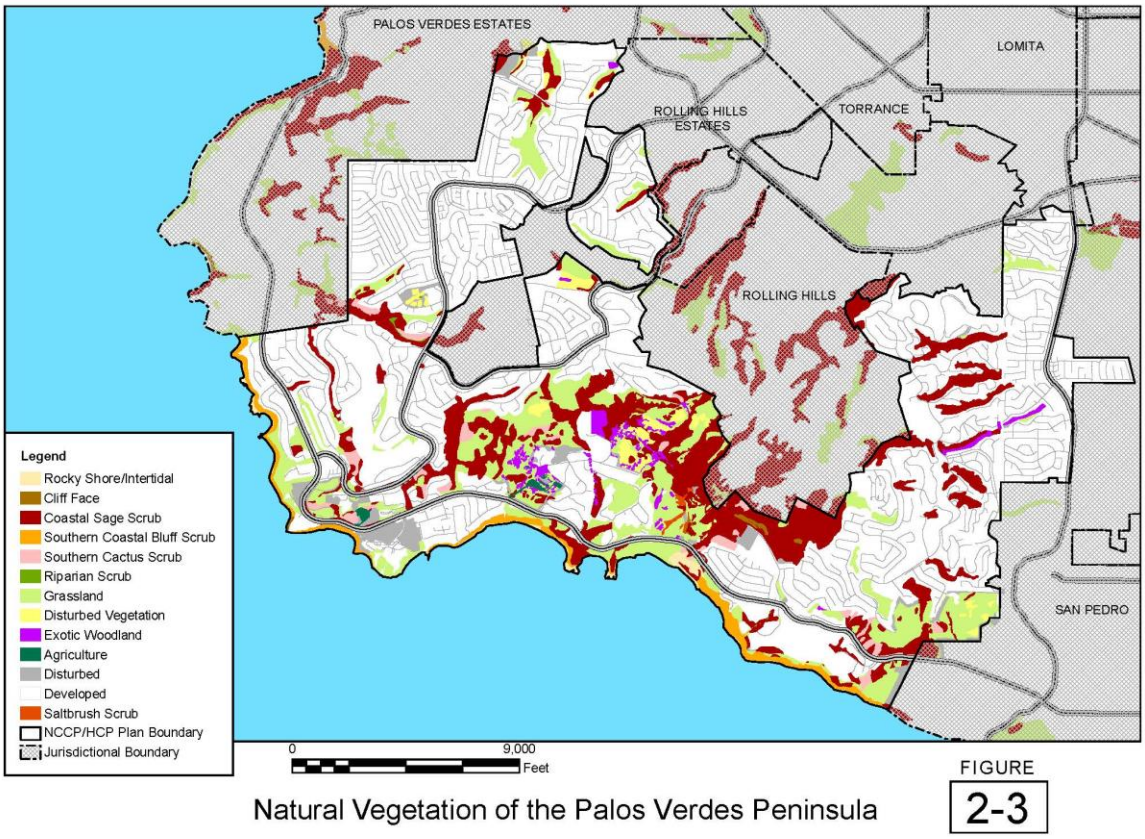

Figure 2-3. Natural Vegetation of the Palos Verdes Peninsula

Table 2-1. Vegetation Communities in Rancho Palos Verdes[1]

Natural Vegetation Community	Acres
Coastal Sage Scrub Sub-associations	
CSS – Artemisia Dominated	94.4
CSS – Baccharis Dominated	7.2
CSS – Encelia Dominated	8.3
CSS – Eriogonum Dominated	13.9
CSS – Rhus Dominated	234.3
CSS – Salvia Dominated	26.0
CSS – Undifferentiated	642.6
Saltbush Scrub	7.3
Southern Cactus Scrub	99.7
Southern Coastal Bluff Scrub	133.2
Subtotal CSS	**1,266.9**
Grassland[2]	950.2
Riparian Scrub	2.5
Exotic Woodland	75.4
Disturbed Vegetation (includes Ruderal)	86.9
Subtotal for all Natural Vegetation	***2,382.1***
Other	
Cliff Face	8.8
Rocky Shore	58.8
Disturbed Areas	170.0
Agriculture	12.5
Developed	5,984.4
Subtotal Other	***6,234.5***
Total Acreage	**8,616.6**

[1]Vegetation inventory from Ogden (1999) with minor updates in 2003 associated with Trump National/Ocean Trails HCP and Ocean Front Estates projects.
[2] Includes both non-native and a small amount native grassland.

Field verification of the baseline vegetation data was conducted by Ogden on June 9, July 23 and 24, and August 19 and 20, 1997 and on March 31, April 1 and 23, May 20 and 28, and June 16 and 17, 1998. Not all vegetated areas were visited during these field visits. For areas that were not visited, 1 in = 200 foot color aerial photographs (flown on June 23, 1997) were used to refine the vegetation map, as appropriate. All vegetation mapping efforts assumed a minimum mapping unit of 1 acre. An additional site visit was conducted November 10, 1998 with representatives from Ogden, CNPS, Chambers Group, and the Hon Properties. Additional locations of California crossosoma (*Crossosoma californicum*) were discovered within the NCCP/HCP Area in 2004.

Sensitive habitats within the Plan Area are those that are considered rare in the region, support sensitive species of plants and animals, and/or are subject to regulatory protection through various Federal, state, or local policies or regulations. In the case of habitats in the Plan Area, these include all wetland habitat types

(consisting primarily of riparian scrub) and all upland scrub habitats. No native grasslands have been delineated in the Plan Area because the patches are too small, but if larger patches of native grassland are identified, these patches will be delineated. Habitats dominated by non-native plant species (e.g., non-native grassland, exotic woodland, and disturbed vegetation) are generally not considered sensitive. However, grassland (including non-native) may provide valuable foraging habitat for raptors and support other sensitive plant and wildlife species. Smaller patches of grassland (including non-native) that are contiguous with larger areas of biological open space are also important because they contribute to a habitat mosaic that can be used by sensitive species. Most grasslands in southern California are now dominated by non-native annual grasses; nonetheless, these areas support many native species. Therefore, conservation of grassland (including some non-native grasslands) contribute to NCCP planning goals. The Preserve design includes mitigation for potential impacts of City projects to grasslands (including non-native).

Coastal Sage Scrub

Coastal sage scrub (CSS) is composed of low, soft-woody subshrubs approximately 1 meter (3 feet) high, many of which are facultatively drought-deciduous (Holland, 1986). This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils slow to release stored water. Dominant shrub species in this vegetation type may vary, depending on local site factors and levels of disturbance. CSS is distinguished from grasslands and disturbed vegetation by the presence of a minimum of 20% shrub cover.

Dominant CSS species within the Plan Area include California sagebrush (*Artemisia californica*), ashy-leaf buckwheat (*Eriogonum cinereum*), California sunflower (*Encelia californica*), coyote bush (*Baccharis pilularis*), lemonadeberry (*Rhus integrifolia*), purple sage (*Salvia leucophylla*), and black sage (*Salvia mellifera*). Other less frequent constituents of this community include California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), goldenbush (*Isocoma menziesii*), toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), and bladderpod (*Peritoma arborea*).

Numerous CSS sub-associations have been identified in the Plan Area and classified according to the dominant species (Table 2-1). Such sub-associations include Artemisia-dominated scrub, Eriogonum-dominated scrub, Salvia-dominated scrub, Encelia-dominated scrub, Baccharis-dominated scrub, and Rhus-dominated scrub. These sub-associations correspond to the California sagebrush series, California buckwheat series, black sage series, purple sage series, California encelia series, and/or coyote bush series, as described in Sawyer and Keeler-Wolf (1995). These sub-associations have been delineated and digitized into a GIS database. Where the CSS cannot be clearly differentiated by a single dominant species, it was classified as "undifferentiated" CSS. There are 1,266.9 acres of CSS in the City, of which, approximately 94.4 acres are Artemisia-dominated scrub, 13.9 acres are Eriogonum-dominated scrub, 26 acres are Salvia-dominated scrub, 8.3 acres are Encelia-dominated scrub, 7.2 acres are Baccharis-dominated scrub, 234.3 acres are Rhus-dominated scrub, and 647.6 acres are undifferentiated (Table 2-1).

The shrub layer in this community ranges from a continuous canopy with little understory cover to a more open canopy with widely spaced shrubs and a well-developed understory. Native understory species present in this association include foothill needlegrass (*Nassella lepida*), purple needlegrass (*Nassella pulchra*),

golden yarrow (*Eriophyllum confertiflorum*), wishbone bush (*Mirabilis californica* var. *californica*), and common goldenstar (*Bloomeria crocea*). Common non-native species in open or disturbed sage scrub include wild oat (*Avena* spp.), tocalote (*Centaurea melitensis*), foxtail chess (*Bromus madritensis* ssp. *rubens*), and Russian thistle (*Salsola tragus*), among others. Disturbed CSS is also present in the Plan Area. A disturbed qualifier is placed on CSS (or any other native habitat) based on mechanical disturbance (e.g., vegetation clearing and off-road vehicle activity). Disturbed CSS typically has a high percentage of non-native species, low percentage cover of CSS indicator species, and is fragmented to some degree.

Southern Cactus Scrub

Southern cactus scrub is a low, dense scrub (less than 2 meters [6.6 feet]) with succulent shrubs consisting primarily of prickly pear species (*Opuntia littoralis, O. oricola*) and coastal cholla (*O. prolifera*) as dominant constituents (Magney, 1992; Sawyer and Keeler-Wolf, 1995). Although the dominant species are succulent, woody species can also be present as co-dominants with the succulents. Typical woody species in this association include California sagebrush, California buckwheat, California sunflower, bladderpod, and wishbone bush. Southern cactus scrub ranges from coastal southern Santa Barbara County southward to northern San Diego County and inland to the cismontane valley areas of San Bernardino and Riverside counties (Magney, 1992). Southern cactus scrub occurs mostly on steep, south-facing slopes in sandy soils or rocky areas below 1,200 meters (3,937 feet) elevation (Magney, 1992; Sawyer and Keeler-Wolf, 1995). Examples of this community occur on the City Hall site and in the Trump National/Ocean Trails HCP project open space. Approximately 99.7 acres of southern cactus scrub occur in the Plan Area.

Saltbush Scrub

Saltbush scrub is dominated by quailbush (*Atriplex lentiformis*) and the non-native species *Atriplex glauca*. Shrubs are less than 3 meters (10 feet) with closed to open canopies (Sawyer and Keeler-Wolf, 1995). Saltbush scrub corresponds to the mixed saltbush series, as described in Sawyer and Keeler-Wolf (1995). The understory consists of ruderal species, such as black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), and cliff aster (*Malacothrix saxatile*). Approximately 7.3 acres of saltbush scrub was mapped in the Plan Area.

Southern Coastal Bluff Scrub

Southern coastal bluff scrub is a low, sometimes prostrate scrub that occurs at localized sites along the coast south of Point Conception (Holland, 1986). Plants in this association cling to nearly vertical rock faces just above the surf. The coastal bluff scrub community is widespread along the California coastline as a very narrow band, often not extending more than a few meters inland (Holland and Keil, 1990). Dominant plants are mostly woody and/or succulent species, such as California sagebrush, California buckwheat, ashy-leaf buckwheat, lemonadeberry, coast cholla, and coast prickly pear. Other less-frequent constituents of this community include boxthorn (*Lycium californicum*), island green dudleya (*Dudleya virens* ssp. *insularis*), aphanisma, seacliff buckwheat (*Eriogonum parvifolium*), woolly seablite (*Suaeda taxifolia*), and bladderpod. Development along the southern California coastline has reduced this community throughout its range. Coastal bluff scrub occupies 133.2 acres along the steep ocean cliffs in the Plan Area.

Grassland

Grassland includes both native perennial and non-native annual grasses within the Plan Area. Non-native annual grasses and other annual species dominate grasslands in the City. Small patches dominated by native perennial bunchgrasses were observed within the annual grassland, as discussed below, but were generally too small in extent to map adequately. Annual or non-native grassland generally occurs on fine-textured loam or clay soils that are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. This association is characterized by a dense-to-sparse cover of annual grasses, often with native and non-native annual forbs (Holland, 1986). The number of natives versus non-natives is site-specific and varies according to rainfall and other factors (Heady, 1995). Estimates for the proportion of non-native species in this association range from 29% to 80% (White, 1967; Bentley and Talbot, 1948; Heady, 1995; Holland and Keil, 1990). Talbot *et al.* (1939) report that annuals comprise approximately 94% of the herbaceous cover in annual grassland; Ewing and Menke (1983) state that annuals comprise 50% to more than 90% of the vegetative cover in annual grassland, and that most of the annuals are non-native species. Species composition varies within annual grassland and is a function of climatic conditions, soils, and allelopathic effects of above-ground plant residue (e.g., mulch) (Evans and Young, 1989; Heady, 1995; Bartolome *et al.*, 1980).

Annual grassland is a disturbance-related community most often found in old fields or openings in native scrub habitats. This association may have replaced native grassland and CSS at many localities throughout the Permit Area. Typical grasses within the Permit Area include wild oat, foxtail chess, ripgut grass (*Bromus diandrus*), barley (*Hordeum murinum* ssp. *leporinum*), and Bermuda grass (*Cynodon dactylon*). Characteristic forbs include red-stem filaree (*Erodium cicutarium*), mustard (*Brassica* spp.), tarplant (*Centromadia* spp.), tocalote, and cliff aster. Within annual grassland, grasses are less than 1 meter (3.3 feet) high and form a continuous or open cover. Emergent shrubs and trees may be present as well (Sawyer and Keeler-Wolf, 1995).

Native grasses in the study region are characterized by the perennial, tussock-forming needlegrass species (*Nassella* spp.). Native and introduced annuals occur between the needlegrass, often exceeding the bunchgrasses in cover. Native grasses in the Plan Area occur in small areas within annual grassland and CSS habitats. Native grasslands are defined as patches greater than 0.3 acre in areas that support at least 50% cover of grass species and 10% cover of native grassland species. There are approximately 950.2 acres of grasslands in the Plan Area.

Riparian Scrub

Riparian scrub varies from a dense, broad-leafed, winter-deciduous association dominated by several species of willow to an herbaceous scrub dominated by mule fat (*Baccharis salicifolia*) (Holland, 1986). Typical willow species on site include black willow (*S. gooddingii*) and arroyo willow (*S. lasiolepis*). Understory vegetation in this association is usually composed of non-native, weedy species or is lacking altogether. Riparian scrub may represent a Federal and/or state jurisdictional habitat comprised of a successional stage leading to riparian woodland or forest or may constitute a stable community. Riparian

scrub occurs in Agua Amarga Canyon and south of Palos Verdes Drive South on the Trump National/Ocean Trails HCP project property. This association occupies approximately 2.5 acres of land in the Plan Area.

Exotic Woodland

Exotic woodland includes non-native trees and shrubs planted in the Plan Area in the past. Some of these introduced species are invasive and have dispersed into the adjacent grassland and native habitats. Exotic species include everblooming acacia (*Acacia longifolia*), Sydney golden wattle (*Acacia cyclops*), Peruvian pepper tree (*Schinus molle*), Brazilian pepper tree (*Schinus terebenthifolia*), black locust (*Robinia pseudoacacia*), myoporum (*Myoporum laetum*), gum tree (*Eucalyptus* spp.), and pines (*Pinus* spp.). Most of the exotic woodlands occur in the Portuguese Bend and Lower Filiorum areas and occupy approximately 75.4 acres. Exotic woodlands are not considered a sensitive habitat, but can provide nesting/perching opportunities for bird and other animal species.

Disturbed Vegetation

Disturbed vegetation refers to plant associations that occur on highly disturbed sites in urbanized areas (e.g., along roadsides, footpaths, in parking lots, or in previously graded areas) that support weedy broadleaf species. Areas with disturbed vegetation are typically characterized by heavily compacted soils that limit which species can thrive here (Holland and Keil, 1990). Typical species associated with disturbed vegetation include horseweed (*Conyza canadensis*), sow thistle (*Sonchus oleraceus*), knotweed (*Polygonum* spp.), mallow (*Malva* spp.), Russian thistle, sweet fennel (*Foeniculum vulgare*), castor bean (*Ricinus communis*), goosefoot (*Chenopodium* spp.), and tocalote. Other common species that can be found in disturbed areas, as well as other communities, include mustards, star thistle (*Centaurea solstitialis*), rye grass (*Lolium* spp.), burclover (*Medicago polymorpha*), wild radish, milk thistle (*Silybum marianum*), and cocklebur (*Xanthium* spp.), among others. True ruderal species are those found mainly or solely in areas with previous surface disturbance (California Exotic Pest Plant Council, 1999; Beatty and Licari, 1992). Disturbed vegetation which includes ruderal species occupies approximately 86.9 acres in the Plan Area.

Cliff Faces

Cliff faces are steep, sometimes vertical slopes with little vegetative cover. Cliff faces in the City are found in the landslide area, west of Coolheights Drive, and north of Forrestal Road. Cliff faces occupy about 8.8 acres of land in the Plan Area.

Rocky Shores

Rocky shores are areas at the base of cliffs that are characterized by lava flows, sedimentary bedding, and loose cobbles. Constant erosion from wind and rain prevents vegetation establishment. Typically, there is little soil available for plants to become established. Rocky shores are found along sea cliffs areas that do not contain any coastal bluff scrub. Rocky shores occupy about 58.8 acres of land in the Plan Area.

Disturbed Areas

Disturbed areas are lands where the vegetation has been significantly altered by frequent disking or mowing for fire protection and vegetation control and little to no vegetation cover remains. Typical plant species found scattered in disturbed areas include Russian thistle, black mustard, storksbill (*Erodium* spp.), and annual grasses, among others. Disturbed areas occupy approximately 164.9 acres in the Plan Area.

Agriculture

Agriculture includes actively cultivated lands and lands that support nursery operations. Two locations in the Plan Area are actively farmed and total approximately 12.5 acres. There are 5.5 acres of agriculture in the vicinity of the Alta Vicente Reserve and another 7.0 acres that are located within the Lower Filiorum (Point View) property.

Developed Areas

Developed areas in the City are lands that have been permanently altered by human activities and that support no native vegetation. These areas include roads, buildings, ornamental landscapes, and other areas where the land has been altered to such an extent that natural vegetation cannot become reestablished. Areas graded for development in the late 1990s (e.g., Trump National/Ocean Trails HCP and Subregion One/Ocean Front Estates) were mapped as they were being developed, but a portion of these areas are in the process of being revegetated with CSS and other native vegetation. Developed areas occupy approximately 5,984.4 acres in the City limits.

2.2.2 Covered Species

The mapped distribution of Covered Species is based on cumulative sighting data compiled during development of the draft NCCP/HCP, and included assessments for butterfly habitat and focused rare plant surveys that were conducted in spring 1998 (Figure 2-4). This data is considered the baseline for calculating impacts from Covered Projects and Activities as well as species presence within the Plan Area, because it is the most recent survey effort that covers the entire Plan Area. However, more recent surveys have been conducted only for Preserve lands and are used as the current baseline for species management (see Appendix B). All of the Covered Species are associated closely with scrub habitats on the Peninsula. Sensitive species in the NCCP/HCP Area are described below and the conservation analyses and conditions for coverage for each are described in Appendix B.

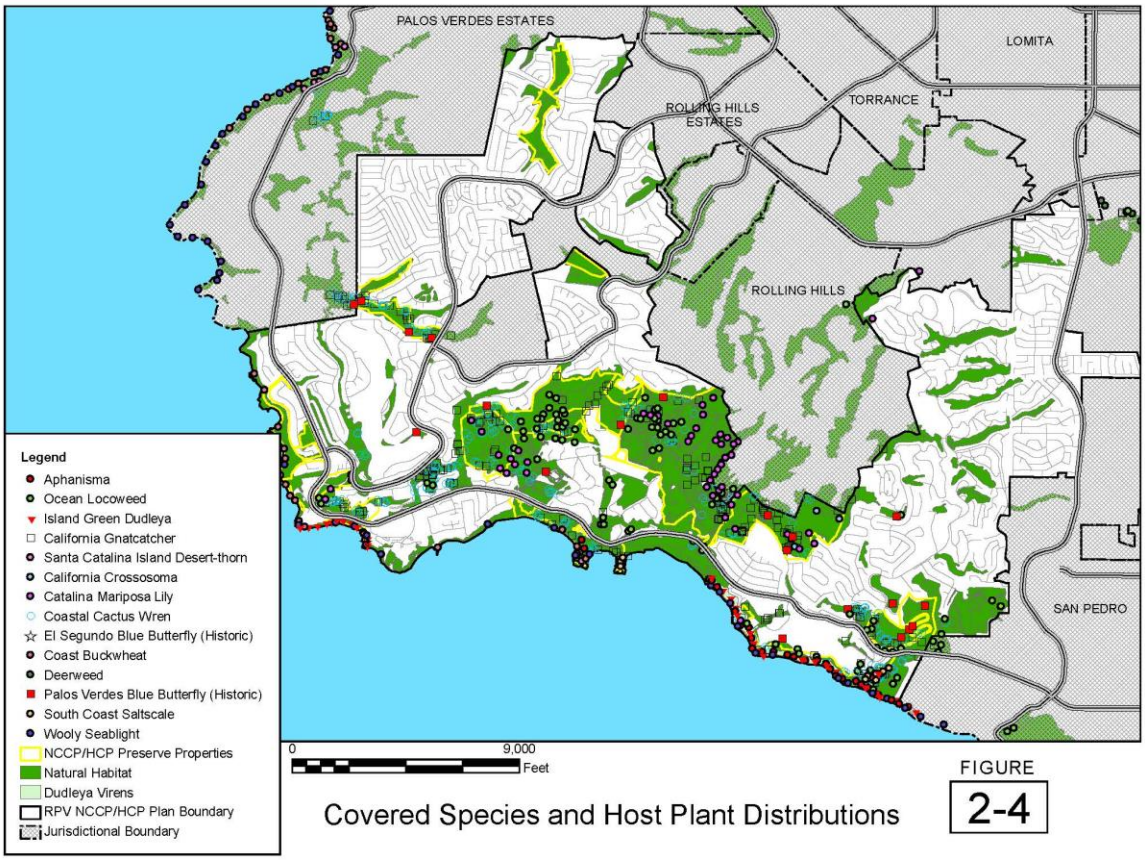

Figure 2-4. Covered Species Distributions

Aphanisma blitoides

Aphanisma

USFWS: No Status

CDFW: No status

CNPS: List 1B, 2-2-2

Aphanisma is a small, annual herb that occurs on sandy soils near the coast in coastal bluff scrub and CSS at elevations up to 305 meters (1,000 feet) and is found from Santa Barbara County to northern Baja California, Mexico, and it is on all the Channel Islands except San Miguel (CNPS, 2001; Junak *et al.*, 1995). This fleshy species blooms from March to June. Aphanisma is in steep decline on the mainland and on the islands (CNPS, 2001). Mainland populations are declining because of recreational use of beaches and development along the coast (Reiser, 1994). In the Plan Area, Aphanisma occurs in coastal bluff scrub in Abalone Cove, Portuguese Point, Trump National/Ocean Trails HCP and Shoreline Park to the Rancho Palos Verdes/San Pedro City limit.

Atriplex pacifica

South Coast Saltscale

USFWS: No Status

CDFW: No status

CNPS: List 1B, 3-2-2

South coast saltscale occurs in coastal bluff scrub, CSS, and alkali playas (CNPS, 2001). This small, wiry, prostrate, annual herb grows in openings between shrubs in xeric, often mildly disturbed locales. Historically, this species was known from Santa Rosa, Santa Cruz, and Anacapa islands; San Nicholas Island and coastal Ventura County; Santa Catalina and San Clemente islands; coastal Los Angeles County; Orange, Riverside, San Diego counties; Arizona, Baja California, and Sonora, Mexico (CNPS, 2001; data from CNDDB 2003). Currently, it is known from only a few occurrences on Santa Cruz and Anacapa islands (RSA, 1992a, 1992b, 1991, 1996). South coast saltscale is severely declining throughout its coastal range on the mainland (Reiser, 1994). In the Plan Area, south coast saltscale occurs within the Preserve (Trump National/Ocean Trails HCP, Abalone Cove/Portuguese Point and along the coast between Halfway Point and Shoreline Park).

Crossosoma californicum

Catalina Crossosoma

USFWS: No status

CDFW: No status

CNPS: List 1B, 2-2-2

Catalina crossosoma is a deciduous shrub that can reach 5 meters (16 feet) high. This shrub is usually found on dry, rocky slopes and canyons in CSS below 500 meters (1,640 feet) elevation (CNPS, 2001; Hickman, 1993). It is known from the Peninsula, San Clemente and Santa Catalina Islands, and Guadelupe Island, Mexico (Hickman, 1993). Catalina crossosoma has been detected at four locations in the Plan Area, at Forrestal. One location is north of Pirate Drive; and three locations are in an area west of Ganado Drive and south of Crest Road, on the ridgeline and in the canyon.

Dudleya virens spp. insularis

Island green dudleya

USFWS: No status

CDFW: No status

CNPS: List 1B, 2-2-2

Island green dudleya is a succulent perennial with a basal rosette of leaves from a caudex (i.e., a short woody stem at or below the ground; Hickman, 1993). This species occurs on steep slopes in chaparral, coastal bluff scrub, and CSS habitats below 400 meters (1,300 feet) (CNPS, 2001; Hickman, 1993). It is known from Los Angeles County on Santa Catalina Island and the mainland in the Plan Area at the south base of San Pedro Hill from Point Vicente to Point Fermin, and San Nicholas Island (CNPS, 2001; data from CNDDB, 2003; Moran, 1995). San Pedro Hill is a landlocked island that is now connected to the mainland by the alluvial Los Angeles Plain, but it is historically related to Santa Catalina and San Clemente islands directly to the south (Smith, 1900 in Moran, 1995). The species is found mostly on the Pacific slope on sea bluffs and rocky headlands and is less frequent on inland dry rocky slopes. On San Nicholas Island, it is common in a few scattered locations at low elevations on eastern and southern slopes (Foreman, 1967 in Moran, 1995). In the Plan Area, island green dudleya occurs within the Preserve (Pelican Cove and Abalone Cove) and Neutral Lands.

Lycium brevipes var. hassei

Santa Catalina Island Desert-thorn

USFWS: No status

CDFW: No status

CNPS: List 1B, 3-3-3

Santa Catalina Island desert-thorn is a deciduous shrub that can reach 4 meters (13 feet) high (Hickman, 1993). It is found on coastal bluff slopes in coastal bluff scrub and CSS habitats at elevations below 300 meters (1,000 feet) (CNPS, 2001; Hickman, 1993). This species was rediscovered in the Peninsula in 1976. Historical localities of this species include San Clemente and Santa Catalina islands. In the Plan Area, Santa Catalina Island desert-thorn occurs within the Preserve (Portuguese Point, Abalone Cove, and Ocean Front Estates).

Suaeda taxifolia

Woolly Seablite

USFWS: No status

CDFW: No status

CNPS: List 4, 1-2-1

Woolly seablite is an herbaceous perennial usually restricted to coastal salt marsh; it rarely grows in peripheral scrublands adjacent to salt marshes or as isolated plants along beaches (Reiser, 1994). This evergreen subshrub flowers January-December (CNPS 2001). It occurs along the coast from Santa Barbara County to Baja California, Mexico, and on Santa Barbara, San Clemente, Santa Cruz, Santa Catalina, San Nicholas, and Santa Rosa islands and on Guadalupe Island, Mexico (CNPS, 2001). In the Plan Area, woolly seablite plants occur along the peninsula shoreline from Torrance Beach to San Pedro. It is found in Abalone Cove and Pelican Cove, and within Trump National/Ocean Trails HCP, Shoreline Park, and Ocean Front Estates.

Euphilotes battoides allyni

El Segundo Blue Butterfly

USFWS: Endangered

CDFW: No status

The El Segundo Blue (ESB) is a rare subspecies of the square-spotted blue butterfly. The ESB is restricted to relic and remnant coastal dune habitats at four locations: Ballona Wetlands south of Marina del Rey, Los Angeles International Airport (LAX) Dunes, Chevron El Segundo Preserve and adjacent habitat in El Segundo, and Torrance Beach/Malaga Cove (Mattoni, 1990; USFWS, 1998). Coast buckwheat (*Eriogonum parvifolium*) is the larval hostplant of this subspecies. The historical distribution of ESB included dune habitats in Redondo and Manhattan Beaches. A recovery plan for ESB has been prepared with the Malaga Cove population as the most southern management unit (USFWS, 1998). The Malaga Cove population is small, between 10 and 30 individuals using between 50 and 100 individuals of coast buckwheat (R. Arnold, pers. comm.). It was discovered in 2007 that this small population expanded to newly restored habitat at Torrance Beach and Redondo Beach. There is no dune habitat within the jurisdiction of the Plan Area, but coast buckwheat is known to occur within the coastal bluff scrub habitat between Point Vicente and Abalone Cove. Dr. Richard Arnold conducted a butterfly survey in the summer of 1998 with negative results for ESB in this area of the City. Subsequent biological surveys in 2000 for proposed development of the York Long Point site detected a small population of ESB in coastal bluff scrub habitat (RBF Consulting, 2001). Focused surveys for the ESB in 2006 resulted in two confirmed populations (Pratt, 2006). One of the locations is just north of Point Vicente in a large patch of coast buckwheat where approximately 36 ESB were observed. The other location is southeast of Point Vicente at the Pelican Cove (Fisherman's Access area) where approximately 13 ESB were observed. There was also one ESB observation found in 2000, and this observation was in the Neutral Lands south of the Pelican Cove Property. Subsequent surveys between 2006 and 2011 identified ESB in Ocean Front Estates and the Pelican Cove Property.

Glaucopsyche lygdamus palosverdesensis

Palos Verdes Blue Butterfly

USFWS: Endangered

CDFW: No status

The PVB is a rare subspecies of the silvery blue butterfly (Perkins and Emmel, 1977; Arnold, 1987). The PVB is restricted to open CSS habitats that support either ocean locoweed (*Astragalus trichopodus* var. *lonchus*) or deerweed (*Lotus scoparius*), the only known larval hostplants for the PVB (Mattoni, 1992). Currently, PVB is known to occur only at the Naval Fuel Depot in San Pedro (Mattoni, 1992), at Malaga Dunes (R. Mattoni and J. George pers. comm. 2001), and was reintroduced at the Chandler Preserve in the City of Rolling Hills. In the Plan Area, PVB are currently not known to be present; however, this species was historically observed in the Agua Amarga Canyon, the Filiorum Parcel, Portuguese Bend, the Forrestal Parcel, the Switchbacks, and Neutral Lands near Trump National/Ocean Trails HCP. Historical occurrences of PVB in the Plan Area include locations near the "Switchback" area of Palos Verdes Drive East, within the landslide moratorium area (Edward's Canyon in Area 4, Portuguese Canyon, and Forrestal [Klondike] Canyon), and Agua Amarga (Arnold, 1983, 1987, Mattoni, 1992; USFWS, 1984). Habitat for PVB is typified by open CSS and ecotone areas between sage scrub and grassland. Locoweed is the primary larval

hostplant present in the Plan Area. Deerweed does not generally occur in the Plan Area and is restricted mostly to the northeast slope of the Peninsula. Locoweed is an early successional or disturbance-associated species and will decline if there is an extended period without disturbance (e.g., fire). Habitat loss and fragmentation associated with agriculture and residential development, fire suppression (e.g., fuel modification activities), severe weather conditions, and over-collecting by butterfly enthusiasts have contributed to the current endangered status of this species (Arnold, 1987; Mattoni, 1992). Federally designated critical habitat for the PVB includes the "Switchback" area of Palos Verdes Drive East, Fred Hesse Park, and Agua Amarga Canyon (USFWS, 1980).

Polioptila californica californica

Coastal California Gnatcatcher

USFWS: Threatened

CDFW: SSC, NCCP focal species

The Peninsula supports a remnant population of 26 to 56 pairs of coastal California gnatcatcher (gnatcatcher) considered isolated from the remainder of the U.S. population (Atwood *et al.*, 1994, 1998; Atwood and Bontrager, 2001). The center point locations of gnatcatcher territories within the GIS database include cumulative data gathered during the Manomet Center five-year study. The primary cause of this species' decline is the cumulative loss of CSS vegetation to urban and agricultural development (Atwood, 1993). This species' habitat is formally protected and managed through the NCCP program, ESA sections 10 (HCP processes) and 7 (agency consultations on Federal lands). Federally designated critical habitat for the gnatcatcher includes suitable habitats throughout the Peninsula. This species is probably extirpated from much of Ventura and San Bernardino counties and declining proportionately with the continued loss of CSS habitat in the four remaining southern California counties within the coastal plain. In the Plan Area, gnatcatchers have been documented in all Preserve areas except Pelican Cove, Malaga Canyon, and Lower Point Vicente. With the exceptions of Crestridge, the Filiorum Parcel, and the Donation Parcel, each of these Preserve areas have been consistently occupied in recent surveys (PVPLC 2013). The territory size requirements of the gnatcatcher vary with habitat quality and distance from the coast. Documented home ranges have varied from 1.0 to 7.0 acres on the Peninsula (Impact Sciences, 1990; Atwood *et al.*, 1995). Over five years, gnatcatcher productivity and survival have varied on the Peninsula. Annual reproduction has varied from 2.3 to 3.9 fledglings per pair. Annual adult survival has varied from 23% to 70%; juvenile over-winter survival varied from 20% to 43%. Studies of the species' habitat preferences on the Peninsula and elsewhere indicate that California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*) are the primary plants used by gnatcatchers when foraging for insects (Atwood *et al.*, 1995; Impact Sciences, 1990; RECON, 1987; ERC, 1990; Ogden, 1992a). Breeding gnatcatchers on the Peninsula appear to be noticeably absent from most sage scrub dominated by lemonadeberry (*Rhus integrifolia*).

Campylorhynchus brunneicapillus

Cactus Wren

USFWS: No status

CDFW: NCCP focal species

Coastal southern California populations of cactus wrens have greatly declined throughout the coastal plain from Ventura to the Mexican border (Rea and Weaver, 1990). This species is common throughout the deserts of the Southwest. Coastal populations breed in CSS dominated by extensive stands of tall prickly pear or cholla cacti. Once widespread in coastal southern California, by 1990 cactus wrens had been reduced to fewer than 3,000 pairs scattered into colonies of widely varying size; many colonies are isolated by distance from other colonies (Ogden, 1992b). The Peninsula cactus wren population was relatively stable at approximately 58 ± 5 pairs during the mid-1990s (Atwood *et al.*, 1998). Reproduction averages about three fledglings per pair, and adult survivorship varies from 57% to 73%; juvenile over-winter survivorship varies from 9% to 36%. Home range size for Peninsula cactus wrens varies from 1 to 3 acres. In the Plan Area, cactus wrens have been observed in all Preserve areas except Ocean Front Estates, Pelican Cove, Crestridge, Malaga Canyon, and Lower Point Vicente. With the exception of Abalone Cove, each of Preserve areas has been consistently occupied in recent surveys (PVPLC 2013).

3.0 PROJECT ALTERNATIVES

3.1 Preserve Alternative Analysis

A key step in developing an NCCP/HCP for the City was to prioritize the most critical biological resource areas for potential conservation so that (1) conservation is maximized; (2) acquisition, restoration, and management funds are efficiently used; and (3) development is directed in less sensitive or already disturbed habitat. Regionally important habitat areas were identified by the City with the involvement of Wildlife Agencies' staff through the overlay of vegetation and target species information during the early workshops and stakeholder meetings. The areas include lands with relatively extensive native vegetation supporting concentrations of target species. Linkage areas that provide habitat connections between larger habitat areas were also identified.

The basis for creating the alternatives included information gathered during extensive discussions among the NCCP working group and evaluations of potential development on the largest properties supporting natural vegetation. That effort involved numerous meetings of the NCCP working group and discussions with the Wildlife Agencies representatives. During the time period of May 1996 to January 1999, there were 25 working group meetings with 20 to 30 interested persons regularly in attendance. During that time frame there were also 3 special public meetings and 4 meetings with stakeholders (landowners and City). In addition to the Wildlife Agencies, participants in the NCCP working group included entities such as the South Coast Chapter of the Native Plant Society, Endangered Habitats League, various Homeowners Associations, the Palos Verdes Peninsula Land Conservancy, Save Our Coastline II, City Departments, Coastal Conservation Coalition, Sierra Club, various elected representatives, and developers. The working group meetings continued until September 1999. After the point, the issues were periodically presented to the City Council for direction. The discussion at the numerous working group meetings focused on identifying/finalizing 3 NCCP Alternatives. Based on these discussions and development evaluations, the City decided to emphasize acquisition of key private properties and conservation of existing habitat on City-owned lands as the primary forms of conservation.

As a result, four preserve designs (Table 3-1 and Figures 3-1 to 3-4) were developed to represent a reasonable range of alternatives; ultimately Alternative D was selected. None of the Preserve alternatives include the identified "Neutral Lands" discussed in Section 4.5 of the Plan or the areas of potentially additional preserve identified in Section 4.4 of the Plan. However, because the 1,696.7 acres of "Neutral Lands" outside the proposed Preserve (Alternative D) are currently undevelopable and contain 670.9 acres of natural vegetation including 430.2 acres of CSS, they will add biological value to the Preserve.

Table 3-1. Summary of Preserve Alternatives

ALTERNATIVES	TOTAL ACREAGE IN THE PRESERVE	ACREAGE OF ALL NATURAL VEGETATION COMMUNITIES IN THE PRESERVE*	ACREAGE OF CSS IN THE PRESERVE
A	**1,559.1**	**1,414.8**	**748.1**
B	**1,220.5**	**1,127.2**	**693.8**
C	**1,504.0**	**1,302.4**	**728.5**
D	**1,402.4**	**1,302.3**	**737.1**

*Natural vegetation communities in this table do not include developed or agricultural lands, disturbed vegetation, cliff face, or rocky shore/intertidal areas.

These alternatives represent a practical range of development levels within the Plan Area that would affect conservation value for some Covered Species. Alternative A would establish the largest Preserve with more acreage preserved within the western coastal area than any other alternative, and a commitment to conserve two linkages between coastal and inland areas centrally. This alternative would maximize conservation of gnatcatchers and cactus wrens as well as maintain the most potential El Segundo blue butterfly habitat of any alternative. Alternative B would establish the smallest Preserve of any alternative with minimal preserved land along the western coast and an active golf course within the central section of the Preserve. This alternative would severely limit connectivity for gnatcatchers and cactus wrens between the western coastal area and the central area of the Preserve, and the El Segundo blue butterfly habitat would be severely restricted in the west. Alternatives C and D would establish a similar Preserve with reduced habitat preservation in the western coastal area between Alternatives A and B. These connections would be less robust than Alternative A. Based on currently known locations, the alternatives would each afford similar levels of conservation for covered plant species as well as potential Palos Verdes blue habitat.

3.1.1 Alternative A – Peninsula NCCP Working Group Alternative

The NCCP Working Group met in a series of workshops between 1996 and 2000 to develop a Preserve design alternative. Alternative A (Figure 3-1) assumes little future development and conservation of all public and private undeveloped open space considered to have high biological value. Alternative A would establish a 1,559.1-acre Preserve with 1,414.8 acres (59.3%) of the 2,382.1 acres of existing vegetation communities in the City including 748.1 acres (59%) of the 1,266.9 acres of CSS habitat in the City listed in Table 2-1. Alternative A is larger than the Proposed Project in terms of proportion of conserved habitats, and the locations of potential future development are different. This alternative conserves all key habitat linkages in the City and linkages to adjacent jurisdictions. Relatively isolated habitat areas of public lands are excluded in Alternative A. This alternative was not pursued due to concerns regarding the cost of land acquisitions and competing land use interests. Alternative A was not chosen because the anticipated cost to acquire Preserve lands exceeded projected available funding, and landowners had competing land use proposals for certain parcels.

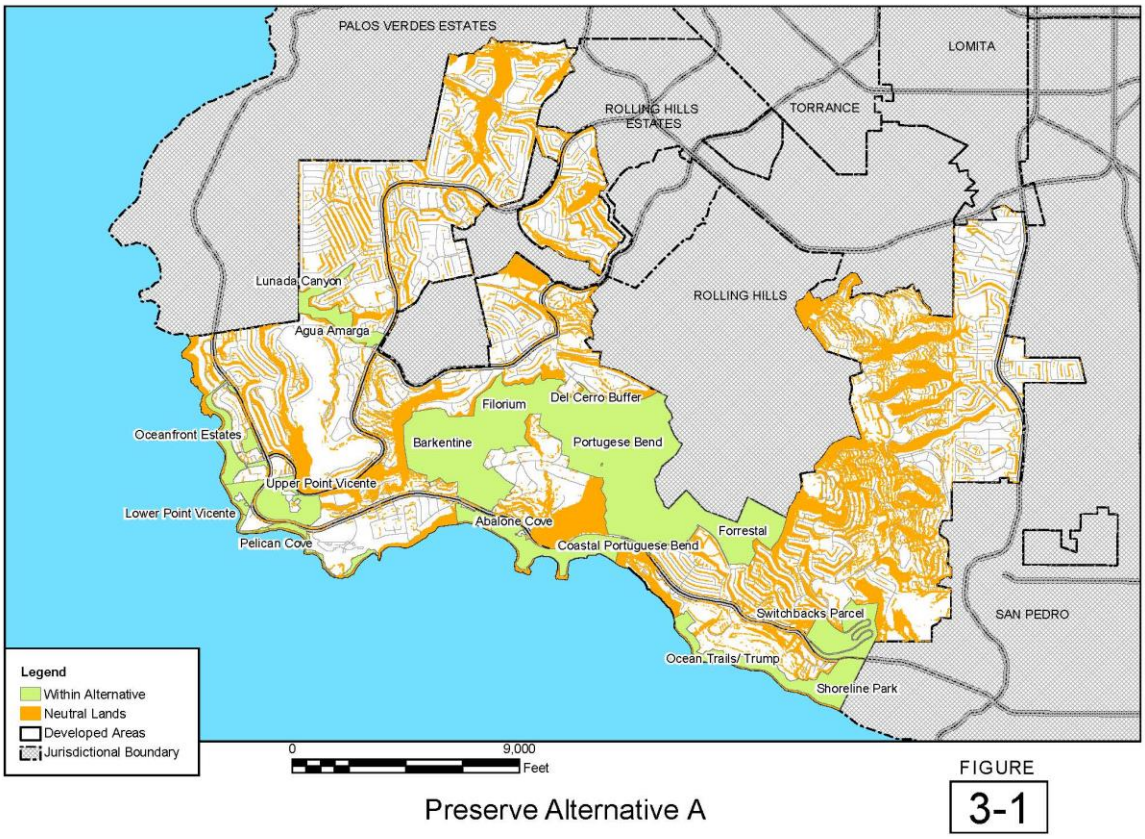

Figure 3-1. Preserve Alternative A

3.1.2 Alternative B – Landowner Alternative

Alternative B (Figure 3-2) was developed in 1999 by the major landowners and City with modifications made following comments from the Peninsula NCCP Working Group. This alternative includes development within the Upper and Lower Point Vicente, Oceanfront, Lower Filiorum, and a golf course within Portuguese Bend. This alternative would establish a 1,220.5-acre Preserve with 1,127.2 acres (47.3%) of the 2,382.1 acres of existing vegetation communities in the City including 693.8 acres (54.7%) of the 1,266.9 acres of CSS habitat in the City listed in Table 2-1. Alternative B was not pursued because it would greatly fragment the most contiguous habitat areas and constrain habitat linkages between the larger blocks of CSS and the linkage to habitats in Palos Verdes Estates.

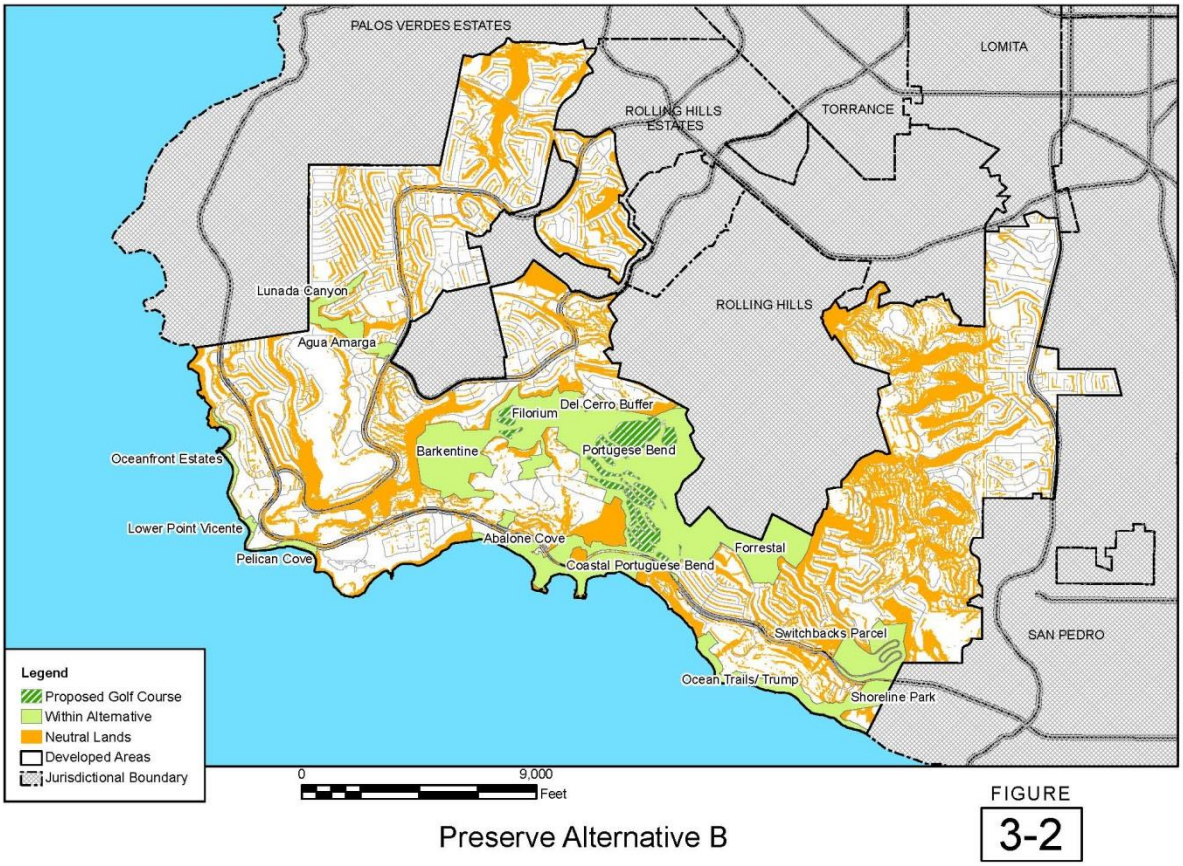

Figure 3-2. Preserve Alternative B

3.1.3 Alternative C – The City's Alternative

Alternative C (Figure 3-3) was developed as a compromise between Alternatives A and B. Alternative C is primarily distinguished from Alternative A by development of a portion of Upper Point Vicente, Gateway Park, and Lower Filiorum. Alternative C would establish a 1,504.0-acre Preserve with 1,302.4 acres (54.6%) of the 2,382.1 acres of existing vegetation communities in the City including 728.5 acres (57.5%) of the 1,266.9 acres of CSS habitat in the City listed in Table 2-1. In addition, this alternative conserves the most practicable amount of regionally important habitat areas and provides habitat linkages between patches of conserved habitat. Alternative C is the proposed project identified in the Draft NCCP/HCP approved by the Rancho Palos Verdes City Council in August 2004. Alternative C was not pursued because the ownership of the Upper Filiorum property that was identified for acquisition modified the amount of the property that they were willing to sell for inclusion in the Preserve.

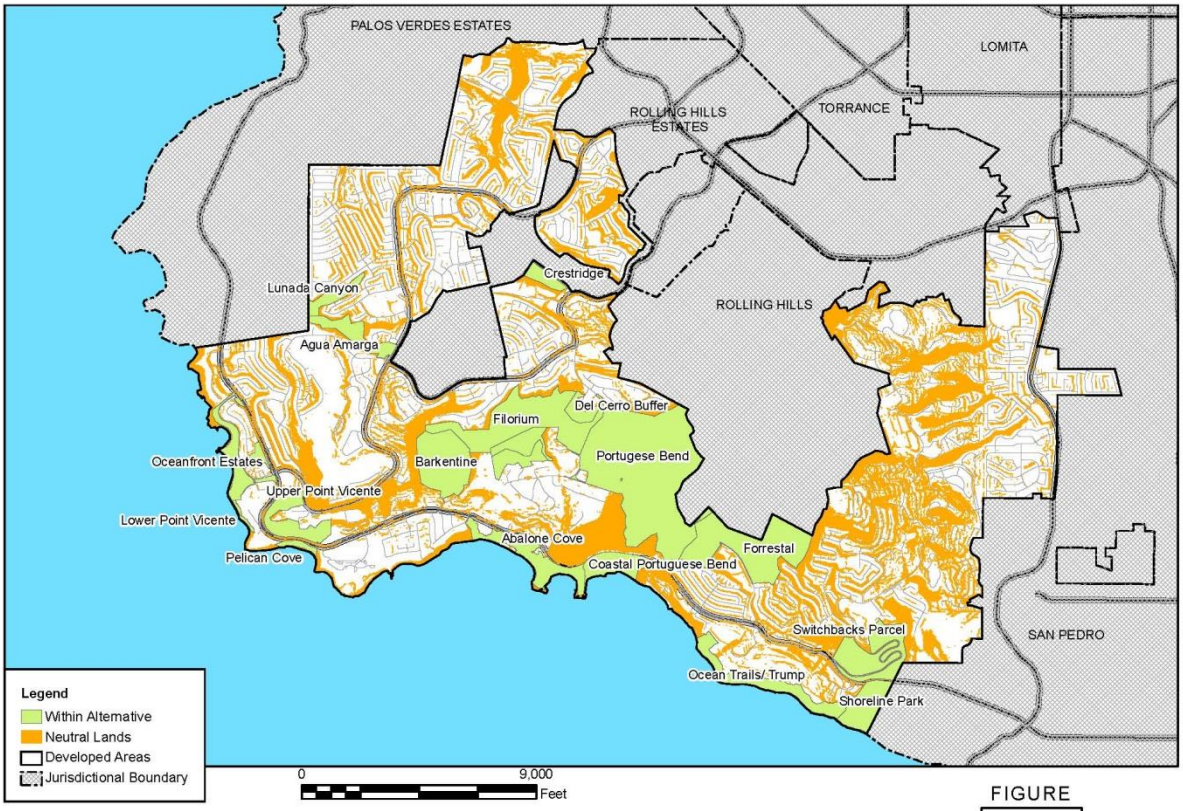

Figure 3-3. Preserve Alternative C

3.1.4 Alternative D – The Proposed Alternative

Alternative D (Figure 3-4) is the same as Alternative C with the following exceptions: (1) a 27.0-acre parcel in the Upper Filiorum property (now identified as the Plumtree Parcel Project) that was included in the Preserve under Alternative C has been removed from the Preserve in Alternative D and instead identified as a Covered Project by the NCCP/HCP, including the associated dedication of 30 acres of functional and connected habitat; (2) 40.0 acres of a former archery range property located along the coast to the east of Abalone Cove have been removed from the proposed Preserve under Alternative D due to landslide and legal constraints; and (3) 61.5 acres of Malaga Canyon, purchased by the City in 2014, have been incorporated into the Preserve under Alternative D. The proposed Preserve design would establish a 1,402.4-acre Preserve with 1,302.3 acres (54.6%) of the 2,382.1 acres of existing vegetation communities in the City including 737.1 acres (58.2%) of the 1,266.9 acres of CSS habitat in the City listed in Table 2-1.

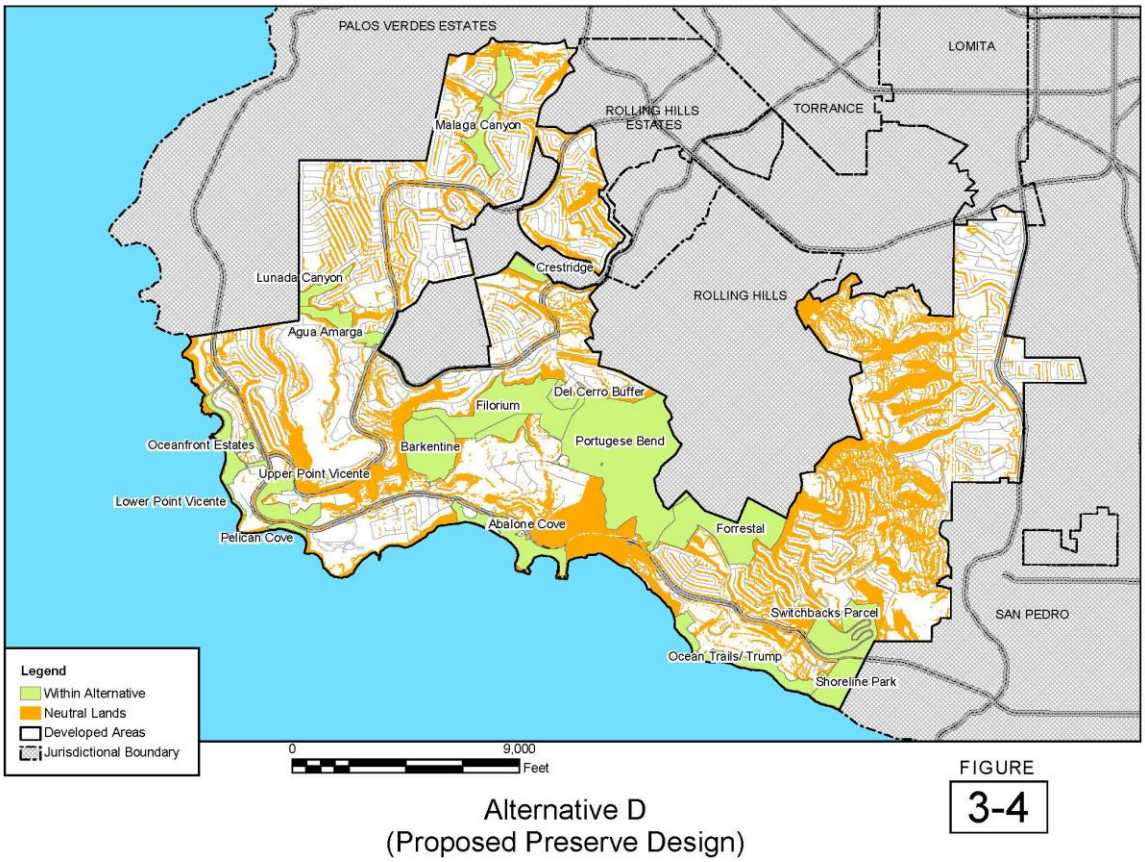

Figure 3-4. Preserve Alternative D (Proposed Preserve Design)

4.0 PROPOSED PRESERVE DESIGN

4.1 Conservation Strategy

The purpose of the NCCP/HCP is to provide for the regional conservation of natural wildlife diversity through preservation of sufficient habitat in an appropriate configuration that provides for comprehensive management and the conservation of Covered Species, while allowing for compatible and appropriate development and growth. Consequently, designing the Preserve system involves balancing two major goals:

- Biological conservation
- Property development, property rights, and economic development.

As the lead agency of the Palos Verdes Peninsula NCCP, the City developed a Phase I Peninsula NCCP Program, which included a NCCP Working group and a landscape scale database of biological resource and land use information that allowed for the City, Wildlife Agencies, scientific advisors, and other stakeholders to make informed land use and conservation decisions in developing the Plan. The main purposes of the Phase I Program (guided by the NCCP Working Group) was to summarize the existing conditions of biological resources within the Plan Area; research/answer questions regarding the regional importance of parcels to a potential biological preserve system; synthesize vegetation mapping, sensitive species distributions and habitat evaluations; preliminary development/comparison of alternative reserve designs; and evaluation/prioritization of the restoration potential of degraded lands through the City within the context of preliminary alternative reserve designs (City of RPV, 1999). The approach taken to design a functional Preserve was to identify properties where conservation will best achieve biological goals with the least detrimental effects on other land use, property rights, or economic goals. This approach involved examining opportunities and constraints and incorporating biologically valuable lands into the Preserve. A key step in developing the NCCP/HCP was to prioritize the most critical biological resource areas for potential conservation. Regionally important habitat areas were identified through the overlay of vegetation and target species information; they include areas where there is relatively extensive native vegetation that supports concentrations of target species or can be expected to provide a habitat linkage between larger habitat areas. A gap analysis was also conducted to identify areas of existing unprotected land supporting key biological resources to target for conservation.

The recommendations for refining the preliminary reserve designs from the Phase I Program were incorporated into the final preserve design for the NCCP/HCP and included the following: adding areas to the preserve such as the southern portion of Shoreline Park, grasslands in the Abalone Cove area due south of Lower Filiorum; providing a larger core habitat patch within the Upper Filiorum area and a stepping-stone habitat linkage in the vicinity of the RPV City Hall parcel, and evaluating potential impacts from golf course development (City of RPV, 1999). Concurrent with the development of this NCCP/HCP, the City and PVPLC, in cooperation with the Wildlife Agencies, have acquired several key lands to be dedicated to the Preserve (identified below) that address the Phase I recommendations for reserve design and assist in

making the Preserve biologically viable for Covered Species and natural communities in perpetuity (Figure 4-1).

The City's primary conservation strategy is to dedicate 1,402.4 acres of habitat for the NCCP/HCP Preserve assembly. Of this total, 61.5 acres were acquired in association with a grant to the State of California through the USFWS's Section 6 Habitat Conservation Plan Land Acquisition Program. Another 798 acres of land in Portuguese Bend, Agua Amarga, Upper Filiorum, and Forrestal were purchased by the City for conservation in support the NCCP/HCP with funds provided by the City, PVPLC, California Coastal Conservancy, Wildlife Conservation Board, City of Rolling Hills, County of Los Angeles, and California State Dominquez Hills. Of the 798 acres, funding for 236.3 acres was contributed from non-state sources. An additional 263.6 acres are being dedicated directly by the City. The remainder of the Preserve is comprised of 20.7 acres owned by PVPLC, and 258.7 acres of City-owned land, or land that will eventually be owned by the City, which has been previously dedicated for conservation as mitigation for the Trump National/Ocean Trails HCP and the Oceanfront Estates projects (Figure 4-2, Table 4-1). Of the 1,402.4-acre Preserve, 500 acres will be dedicated by the City to mitigate for all Covered City Projects and Activities. Lands dedicated to the Preserve by the City will be encumbered by conservation easement held by the PVPLC with the Wildlife Agencies named as third-party beneficiaries. Lands dedicated to the Preserve by the PVPLC will be encumbered by a conservation easement (in the same form as Exhibit E in the IA) held by the City with the Wildlife Agencies named as third-party beneficiaries. In addition, the City and PVPLC are required to enhance/restore a minimum of 5 acres per year within the Preserve, emphasizing those areas that will enhance habitat patch size and habitat linkage function (i.e., areas with moderate to high potential for successful restoration). The City and PVPLC will also perform other functions as specified in Section 7.0 of the Plan to enhance habitat value within the Preserve.

Section 4.4 of the Plan identifies other private and public lands that may be dedicated to the Preserve that would add to the biological value of the Preserve. For various reasons, these additional lands cannot be guaranteed to be part of the Preserve. The City, PVPLC, and/or the Wildlife Agencies will pursue the acquisition and/or access agreements for these additional properties. If funding can be identified for management, the properties will be actively managed by PVPLC as part of the Preserve system.

PVPLC will manage the habitat within the Preserve on behalf of the City and with the City's assistance for the benefit of the Covered Species and other wildlife. PVPLC will conduct habitat restoration activities in priority areas of the Preserve annually. Along with the City, the Wildlife Agencies will be responsible for monitoring NCCP/HCP implementation. The proposed Preserve was designed to be consistent with NCCP standards and guidelines and the issuance criteria for ESA section 10(a) for species covered by the permit.

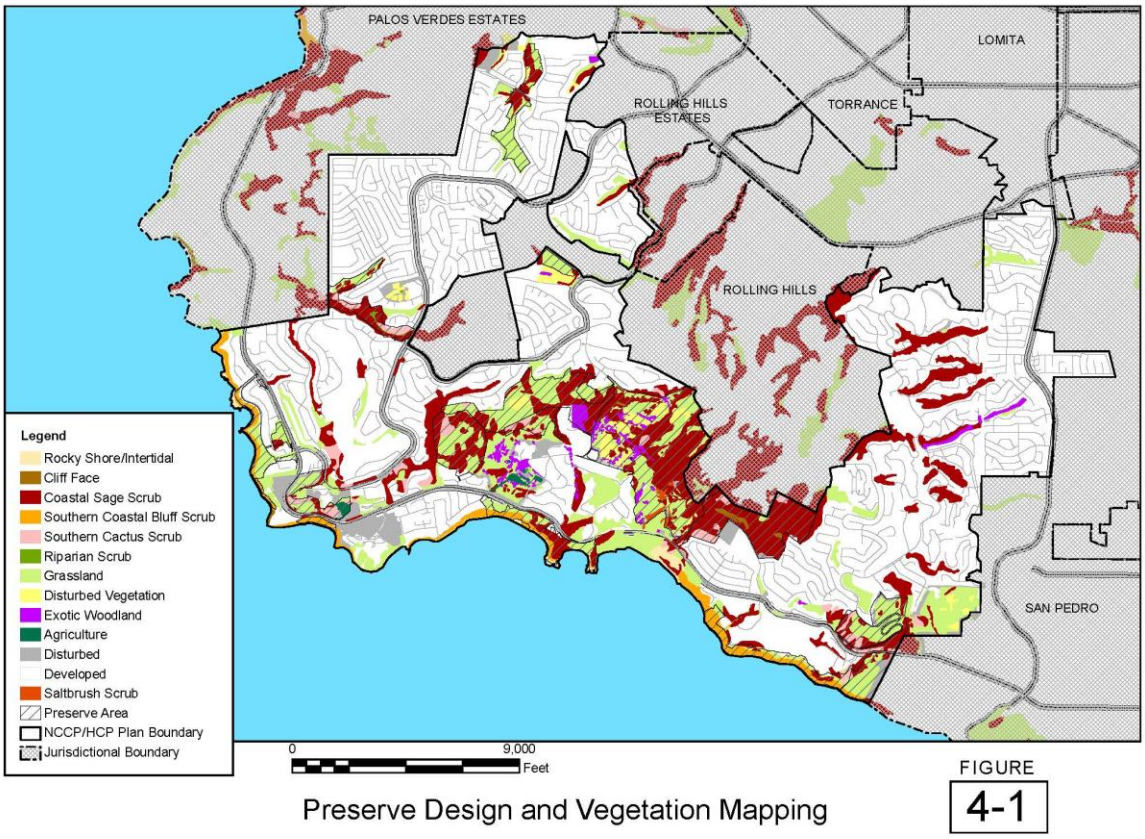

Figure 4-1. Preserve Design and Vegetation Mapping

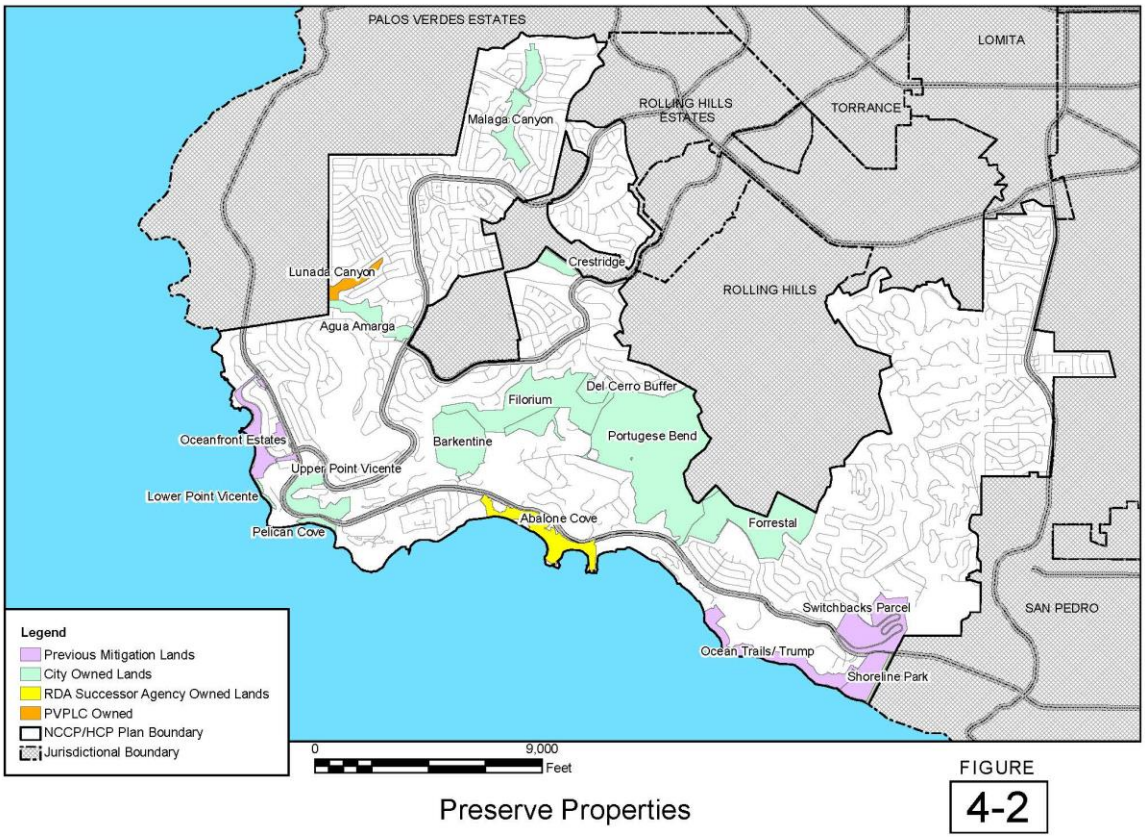

Figure 4-2. Preserve Properties

In order to facilitate management, the Preserve has been divided into 12 geographical management units referred to as "Reserve Areas" (see Figure 4-4). Also attached are Figures 4-5 through 4-12 which indicate the Preserve boundary, natural vegetation, Covered Species point locations and any fuel modification zones for each Reserve Area. The 12 Reserve Areas along with the individual properties that compose them are listed below.

- Vista Del Norte Reserve
  - Crestridge Property
- Agua Amarga Reserve
  - Agua Amarga Canyon
  - Lunada Canyon
- Ocean Trails Reserve
  - Trump National/Ocean Trails HCP Properties
  - Shoreline Park
- Portuguese Bend Reserve
  - Portuguese Bend Property
- Abalone Cove Reserve
  - Abalone Cove (Including portions of the State Ecological Reserve Area)
- Three Sisters Reserve
  - Barkentine Property
- San Ramon Reserve
  - Switchbacks Property
- Forrestal Reserve
  - Forrestal Property
- Vicente Bluffs Reserve
  - Ocean Front Estates Property
  - Lower Point Vicente
  - Pelican Cove (formerly the Fisherman's Access)
- Alta Vicente Reserve
  - Upper Point Vicente

- Filiorum Reserve
  - Upper Filiorum
  - Del Cerro Buffer
- Malaga Canyon Reserve
  - Malaga Canyon Open Space

4.2 Existing Public Lands to be Dedicated to the Preserve (1,402.4 acres)

A total of 1,402.4 acres of land will be dedicated to the Preserve. The Existing Public Lands that are currently owned by the City (1,123.0 acres) or the PVPLC (20.7 acres) will be dedicated to the Preserve and perpetually managed by the PVPLC. The remainder of the Preserve will be comprised of 258.7 acres of City-owned land or land that will eventually be owned by the City which has been previously dedicated for conservation as mitigation for certain private projects will also be dedicated to the Preserve. Management of these previously dedicated lands is dictated by pre-existing permits and/or agreements. All of the lands to be dedicated to the Preserve are identified in Table 4-1 and Figure 4-2 and described below. Within 90 days after Permit issuance, each property listed below will be considered formally dedicated to the Preserve when a conservation easement in favor of PVPLC (or the City for property owned by the PVPLC), in a form approved by, and which names the Wildlife Agencies as third-party beneficiaries, is recorded on the property. When the land is formally dedicated to the Preserve, the lands will be managed according to this NCCP/HCP. Once the 1,123.0 acres of City lands have been dedicated to the Preserve and are being managed for conservation purposes, including the management obligation during the Permit Term, the City will have fulfilled its Preserve assembly mitigation obligations for the impacts of all of the Covered City Projects and Activities described in Section 5.0 of the Plan. Obligations regarding conservation for these mitigation lands include perpetual monitoring as identified in Section 8.2.1.1 of the Plan. The 1,143.7 acres of Existing Public Land that are currently owned by the City or PVPLC that are managed in perpetuity will contribute to the Preserve assembly. The 499.9 acres of new lands dedicated by the City will be referred to as "City Mitigation Lands".

4.2.1 Lands Dedicated as Previous Mitigation (258.7 acres)

- **Switchbacks Property** (94.5 acres)

The City obtained this 94.5-acre parcel in 1979 from the developer of the adjacent Seacliff Hills tract to satisfy the developer's parkland dedication requirement. In 1997, in accordance with the Trump National HCP (then known as the Ocean Trails HCP), the City allowed a conservation easement to be recorded over the entire property and the Trump National/Ocean Trails HCP was allowed to use 21.0 acres of this property for habitat enhancement/revegetation related to the project's HCP. However, due to concerns raised by the City with the introduction of irrigation in close proximity to a known landslide area, in 2000 the Trump National/Ocean Trails HCP was amended to transfer 10.0 acres of required habitat revegetation from this property to the City's nearby Shoreline Park property, and to allow 11.0 acres of habitat enhancement on this property. The 11.0 acres of habitat enhancement on this parcel that was completed pursuant to the February 15, 2001 Habitat Enhancement Plan will be managed by Trump National (Ocean Trails) pursuant to their approved HCP until their management responsibility is deemed complete by the Wildlife Agencies. Although Trump National (Ocean Trails), as the permittee of their HCP, will continue to be responsible for the ongoing management and monitoring of these 11.0 acres pursuant to the Development Agreement with the City, PVPLC may assume the management and monitoring of

these 11.0 acres consistent with the Trump National/Ocean Trails HCP, only if funding is provided by Trump National (Ocean Trails).

- **Shoreline Park** (45.7 acres of the 50.7-acre property)

This property was acquired by the City in 1997 from Los Angeles County. As part of this deal, a conservation easement was recorded on the northern 20.0 acres of the property as mitigation for Trump National/Ocean Trails HCP. In 2000, in order to mitigate habitat impacts caused by the 1999 Ocean Trails landslide, Ocean Trails paid the City $87,527 for the use of an additional 11.1 acres of the property for revegetation. As a result, a conservation easement was recorded on the remainder of the 50.7-acre property with the exception of a 100-foot wide fuel modification strip that runs along the boundary with the City of Los Angeles which has been estimated at 4.0 acres. As a result, 48.8 acres of the property is associated with previous mitigation. Of these 48.8 acres, 45.7 acres (excluding the area of rocky shore) will be dedicated to the Preserve. The habitat and trails on this parcel will be managed by Trump National (Ocean Trails) pursuant to their approved HCP until their management responsibility is deemed complete by the Wildlife Agencies (i.e., CCC, CDFW, and USFWS). Once deemed complete, Trump National (Ocean Trails) will continue to be responsible for the ongoing management and monitoring of this habitat pursuant to the Development Agreement with the City. PVPLC may assume the management and monitoring of Covered Species of this habitat if funded by Trump National (Ocean Trails).

- **Ocean Front Estates** (51.6 acres within the 71.5-acre open space property)

The City obtained 71.5 acres of open space in March 1999 from the developer of the Oceanfront Estates residential development to satisfy the developer's parkland dedication requirement. Approximately 10.5 acres of the 71.5 acres of open space was set aside for ornamental landscaping to be maintained by the development's HOA. The remaining 61.5 acres was preserved through the issuance of an interim take section 4(d) permit in February 1997, which allowed the residential development to begin construction. In accordance with the take permit, within the 61.5 acres of dedicated open space, the developer was required to preserve and enhance 2.32 acres of existing CSS, revegetate 30.0 acres with CSS and preserve 26.9 acres of coastal bluff scrub. The developer's habitat restoration and management responsibilities on the 61 acres were deemed complete by the Wildlife Agencies in 2006. In May 2007, the City authorized PVPLC to manage this habitat area for the City at a cost of $15,000/ year (adjusted for annual inflation). The cost of this management is paid for, by among other things, monies from a $750,000 non-wasting endowment previously established by the Oceanfront Estates developer in 2001 and now held and controlled by the City. The primary management tasks covered by this endowment are fencing, habitat, and trail maintenance. Of the 51.6 acres of dedicated open space, 52.6 acres are being dedicated to the Preserve thereby excluding 9.9 acres of rocky shore.

- **Trump National/Ocean Trails HCP Properties** (66.9 acres)

As a condition of approval for its development permits, Trump National/Ocean Trails HCP is required to dedicate a total of 78.8 acres of open space to the City. This acreage includes the 3.9 acres of "additional non-golf setback" area which will not be dedicated to the Preserve since it includes active uses. Of this dedicated open space, 66.9 acres will be maintained by Trump National/Ocean Trails HCP pursuant to a Development Agreement with the City. Of this, 66.9 acres, 0.4 acre of rocky shore is not considered Covered Species habitat. When the required habitat restoration and enhancement on the 66.9 acres of open space is deemed to be complete by the Wildlife Agencies in compliance with the Trump National/Ocean Trails HCP and the City takes ownership of the acreage, the following parcels which make up the 66.9 acres of habitat associated with previous mitigation will be dedicated to the Preserve (excluding the rocky shore):

- **Tract 50667**
  - Lot G (East Bluff Preserve) - 7.7 acres
  - Lot I (Coastal Bluff) - 10.1 acres
  - Lot K (Bluff Top Activity Corridor) - 4.5 acres

- **Tract 50666**
  - Lot E (West Bluff Preserve) - 7 acres
  - Lot F (Halfway Point Preserve) - 3.3 acres
  - Lot G (Coastal Bluff) - 24.4 acres
  - Lot I (Bluff Top Wildlife Corridor) – 1.0 acre
  - Lot K (Bluff Top Public Access) - 8.9 acres

Although Trump National (Ocean Trails) is responsible for ensuring the ongoing management and monitoring of these lands pursuant to the Development Agreement with the City, with the mutual consent of the City and Trump National (Ocean Trails), the Development Agreement may be amended to allow the PVPLC to assume the monitoring and management of Covered Species on these Preserve lands, if funded by Trump National (Ocean Trails).

4.2.2 City-Owned Lands Dedicated to the Preserve (1,123)

- **Forrestal Parcel** (158.0 acres)

Using state and County funds, the City purchased this parcel for habitat preservation in 1996. A conservation easement has been recorded on the entire property. In 2004, the City approved the Forrestal Management Plan, which has been guiding the management of this property. With the dedication of this land to the Preserve, the Forrestal Management Plan was superseded by the

PUMP (adopted by the City Council on April 2, 2013) and the management requirements of this NCCP/HCP.

- **Portuguese Bend Parcel** (409.8 of the 425.9 acres)

Using state, County, City, and private monies raised by the PVPLC, the City purchased this property in December 2005. Conservation easements in accordance with Section 4.0 of the Plan will be recorded on 409.8 acres of the Portuguese Bend Parcel while 16.1 acres have been kept out of the Preserve to serve as a public-access point to the trail network within the Preserve and possibly an equestrian facility. About 2.88 acres of the 425.9-acre property are Existing Preserve Roads that do not provide habitat for Covered Species. Thus, 406.9 acres of the 409.8 acres dedicated to the Preserve will provide Covered Species habitat.

- **Agua Amarga Canyon** (40.3 acres)

Using state, County, City, and private monies raised by the PVPLC, the City purchased this 40.3-acre property in December 2005 along with the Portuguese Bend parcel. Conservation easements have been recorded on this parcel.

- **Upper Filiorum** (189.8 acres)

Using state, City, and private monies raised by the PVPLC, the City purchased 160 acres of this privately owned property in December 2009. In addition, the seller donated the remaining 30 acres of the property to the City for dedication to the Preserve as mitigation for any potential upland impacts on biological resources that may occur as a result of developing the adjacent 27-acre Plumtree property (see Section 5.3.5 of this Plan). Conservation easements have been recorded on the 189.8 acres.

- **Abalone Cove Property** (65.2 acres of the 77-acre parcel)

The Abalone Cove property is owned by the City's successor agency to the Redevelopment Agency (RDA). The property was acquired by the former RDA from the County of Los Angeles in 1987. A portion of the property contains a State Ecological Reserve. Excluded from the Preserve are the Abalone Cove upper parking lot and adjacent picnic area, the lower parking lot and pre-school/lifeguard area and 7.6 acres of rocky shoreline. The proposed Preserve area has been calculated as 65.2 acres using the City's orthographic maps.

- **Lower Point Vicente Property** (3.4 acres of the 27.4 acre parcel)

In 2004, the County deeded the 27.4-acre Lower Point Vicente property to the City. The City's Point Vicente Interpretive Center is located on this property. The only portion of this property that is included in the Preserve is the coastal bluff area, which is the area between the mean high tide line and the bluff fencing, excluding 1.6 acres of rocky shore. The Preserve area has been calculated as 3.4 acres using the City's GIS database.

- **Pelican Cove (formally the Fisherman's Access) Property** (7.5 acres of the 10.5-acre parcel)

In 2004, the County deeded the 10.5-acre Pelican Cove Property to the City. All of this property, except for the parking lot area located between the coastal bluff and Palos Verdes Drive South and 1.8 acres of rocky shore will be included in the Preserve. The Preserve area has been calculated as 7.5 acres using the City's GIS database.

- **Barkentine Property** (98.4 acres)

The 98.4-acre Barkentine Parcel was purchased by the City in 2001 with funds from the Los Angeles County Regional Park and Open Space District Specified Grant Program (1996 Proposition). The City proposes to dedicate the entire 98.4-acre property into the Preserve to ensure its conservation in perpetuity.

- **Malaga Canyon Property** (61.5 acres)

In February 2014, the City purchased open space in Malaga Canyon from private landowners using WCB and USFWS Section 6 Habitat Conservation Plan Land Acquisition grant funds. The City proposes to dedicate the entire 61.5 acres of open space into the Preserve.

- **Del Cerro Buffer Property** (17.4 acres)

The City purchased this 17.4-acre property in 2003, which is located adjacent to the City's Del Cerro Park. The entire parcel is proposed to be dedicated to the Preserve as it will serve as a buffer between Del Cerro Park and the adjoining Filiorum Reserve.

- **Upper Point Vicente Property** (50.9 acres of the City's 73.4-acre property)

The City's Upper Point Vicente property consists of the following three separate parcels: a 65.12-acre parcel that was deeded to the City by the Federal government in December 1979 and is subject to a Program of Utilization, approved by the National Park Service, that dictates that the parcel be used solely for recreational and open space purposes; a 6-acre parcel that was purchased by the City from the Federal government and deeded to the City in March 1979 for use as a civic center site; and a 2.23-acre parcel that was previously owned by the Palos Verdes Peninsula School District which was deeded to the City from the Federal government in June 1987. Together these parcels make up 73.4 acres that are owned and controlled by the City. In addition, there is a 3.93-acre parcel that is owned by the U.S. Coast Guard and surrounded by the City parcels. These City and Coast Guard parcels total 77.3 acres. Based on the City's orthographic maps, 50.9 acres of the City's 73.4-acre property is proposed to be dedicated to the Preserve. Excluded from the Preserve are the 3.93-acre Coast Guard parcel (until formally included in the Preserve by the Federal government) and a 22.45-acre, City-owned area that constitutes the level, disturbed, developed portion of the property. The 22.45-acre area includes the entirety of the 6-acre property, the entirety of the 2.23-acre parcel, and 14.22 acres of the 65.12-acre parcel that is subject to the Program of Utilization.

- **Crestridge Property** (16.8 acres)

The City purchased a 19.6-acre parcel at the corner of Crestridge Road and Crenshaw Boulevard in 2000 for the purpose of developing an affordable housing project. In March 2009, the City approved an affordable housing project on the site and in doing so subdivided the property into two parcels. The 2.9-acre development parcel accommodates the affordable housing project, including a fuel modification zone, and the 16.8-acre adjoining parcel will be dedicated to the Preserve.

- **Shoreline Park** (4 acres of the 50.7-acre property)

As explained in Section 4.2.1, 45.7 acres of the property are presently conserved as mitigation for the adjacent Trump National/Ocean Trails HCP. The remaining 4 acres of the City property will also be dedicated to the Preserve.

4.3 PVPLC-Owned Lands Dedicated to the Preserve (20.7 acres):

- **Lunada Canyon** (20.7 acres)

Lunada Canyon was once prime land for development. A gift to the PVPLC in 1992 from the E.K. Zuckerman family created the Land Conservancy's first natural area. Lunada Canyon is proposed to be dedicated to the Preserve by the PVPLC. PVPLC has implemented habitat restoration grants, which have resulted in the creation of three acres of coastal sage scrub and a willow wetland on the property.

4.4 Other Private and Public Targeted Lands for Dedication to the Preserve (170.7 acres)

The following 170.7 acres of publicly and privately owned properties have been identified as Targeted Lands for possible future dedication to the Preserve. Adding the Targeted Lands properties to the Preserve will require approval from the underlying fee owner, the recordation of acceptable conservation easements (except for properties in Federal ownership), and available funding for active habitat management by the PVPLC. A memorandum of understanding will be sought by the City and PVPLC for management of Targeted Lands under Federal ownership.

The City and/or PVPLC, in coordination with the Wildlife Agencies, may also apply for a Section 6 Habitat Conservation Plan Land Acquisition grant that would complement the NCCP/HCP.

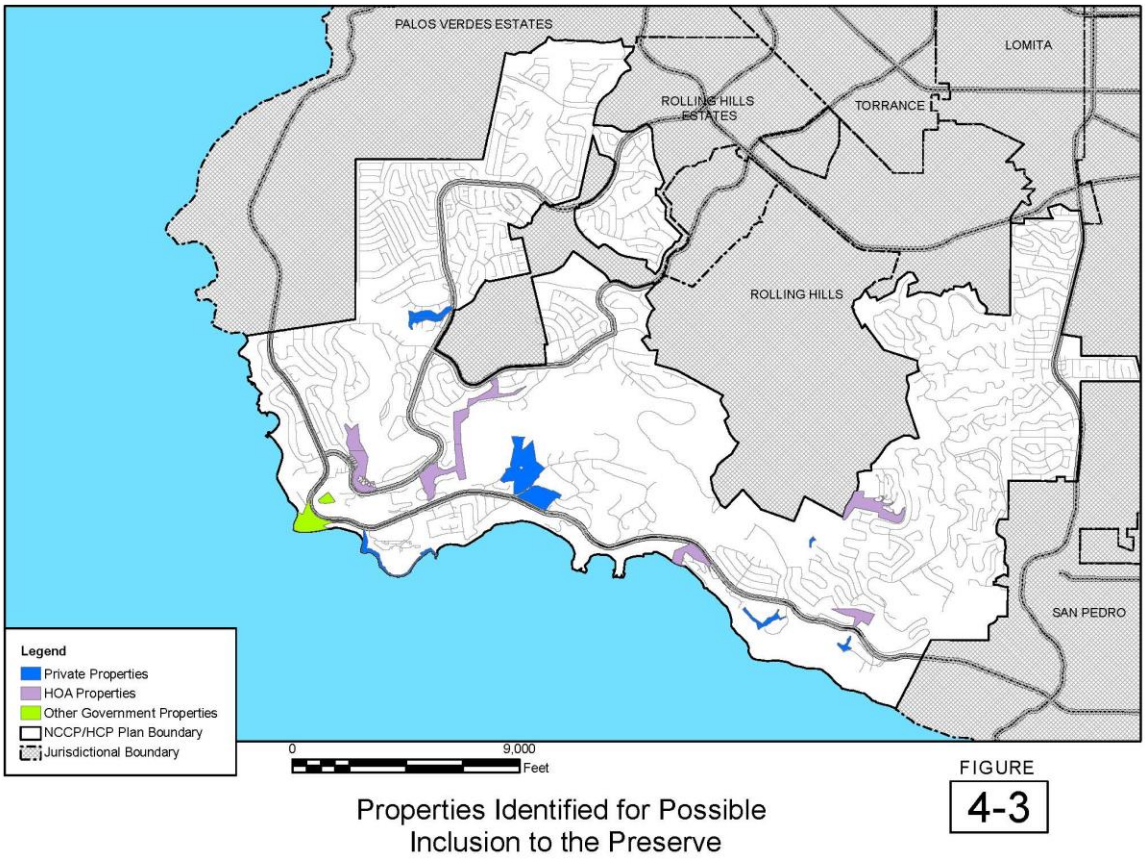

Figure 4-3. Properties Identified for Possible Inclusion to the Preserve

4.4.1 Coast Guard Upper Point Vicente Property (3.9 acres)

It is possible that the Federal government may wish to dedicate a portion or the entirety of the 3.9-acre Coast Guard property to the Preserve. This property has been targeted because it is located in Upper Point Vicente and is almost completely surrounded by City-owned Preserve land.

4.4.2 Coast Guard Lighthouse Property (19.1 acres)

It is possible that the Federal government may wish to dedicate a portion or the entirety of the 19.1-acre Coast Guard property to the Preserve. This property has been targeted because it is located on the bluff at Point Vicente and is bound on two sides by the City-owned bluff property that is to be dedicated to the Preserve.

4.4.3 Terranea Resort Bluff Face (10.0 acres of the 102.1-acre parcel)

Although not required to do so by any conditions of approval, at some time in the future the owner of the Terranea Resort Hotel Project may wish to dedicate the bluff areas of the property to the Preserve. The possible Preserve area has been calculated as 10.0 acres using the City's GIS database. This land has been targeted since it is adjacent to the City's bluff face Preserve property that is referred to as the Pelican Cove Property.

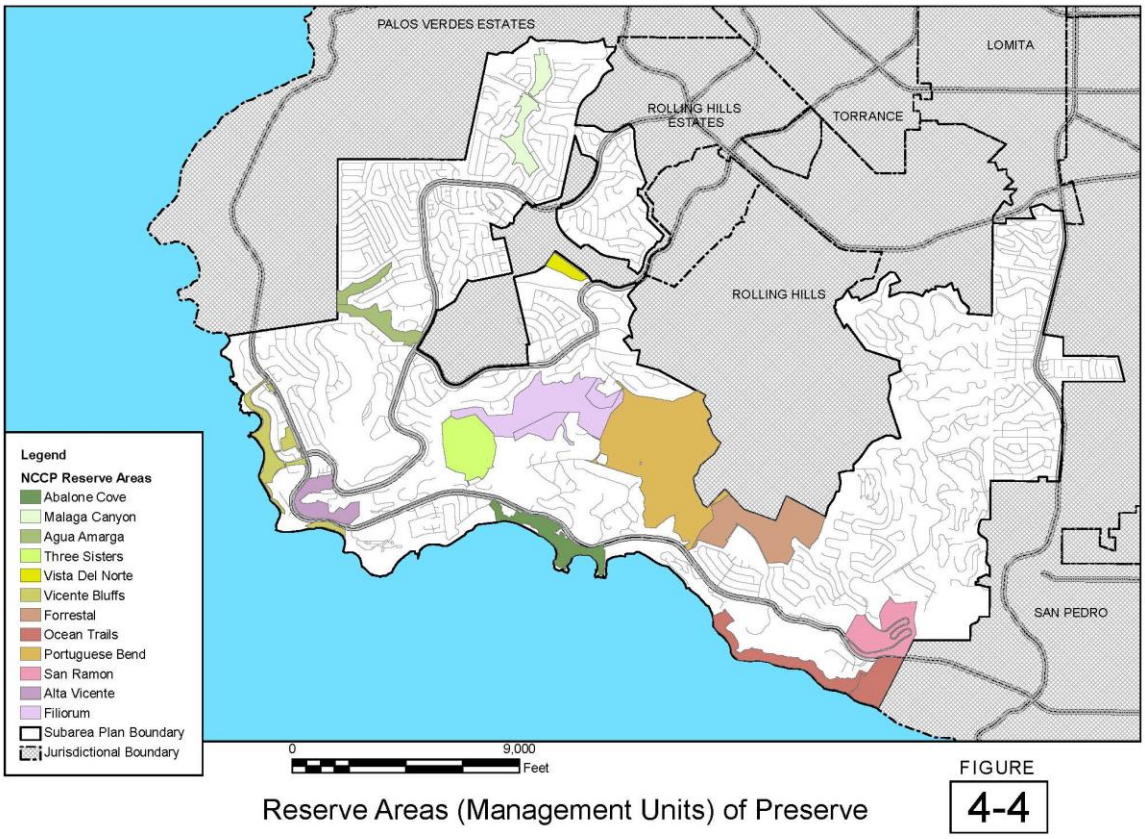

Figure 4-4. Reserve Areas (Management Units) of Preserve

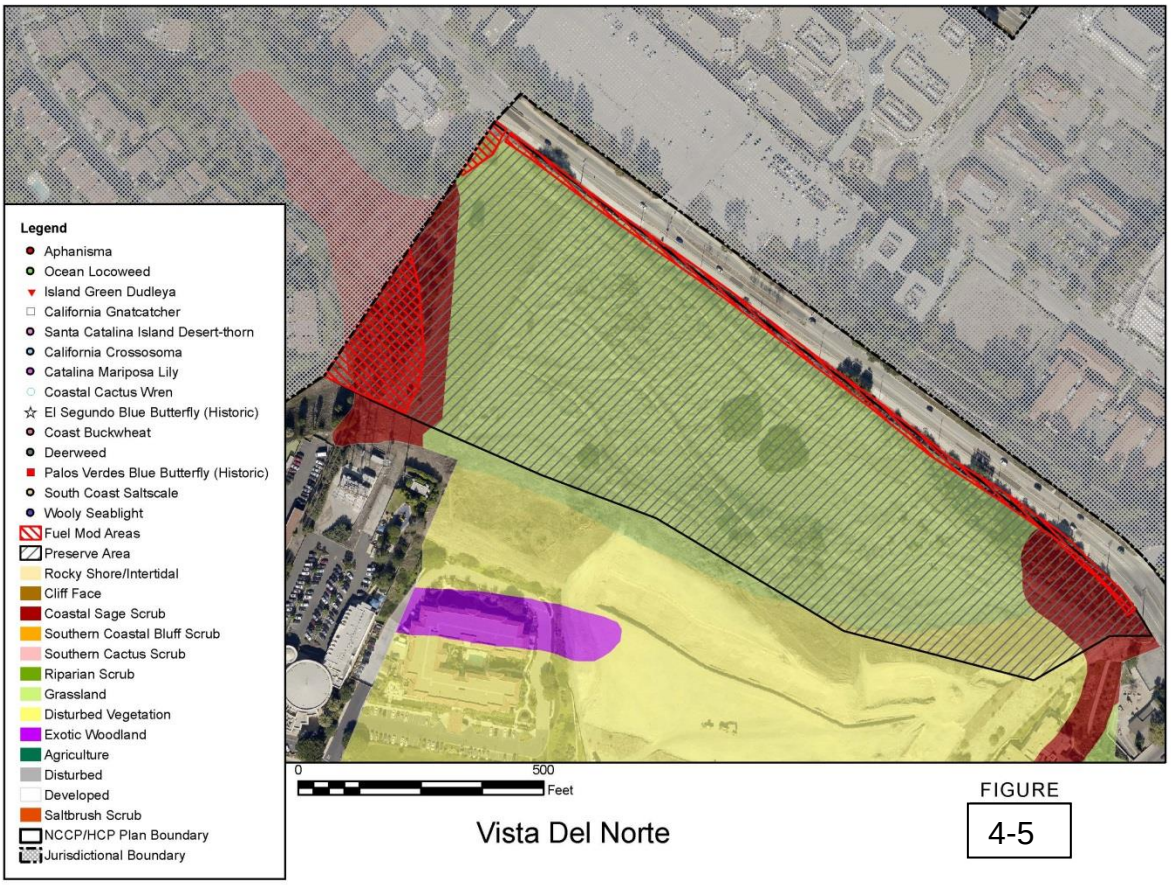

Figure 4-5. Vista Del Norte Management Unit

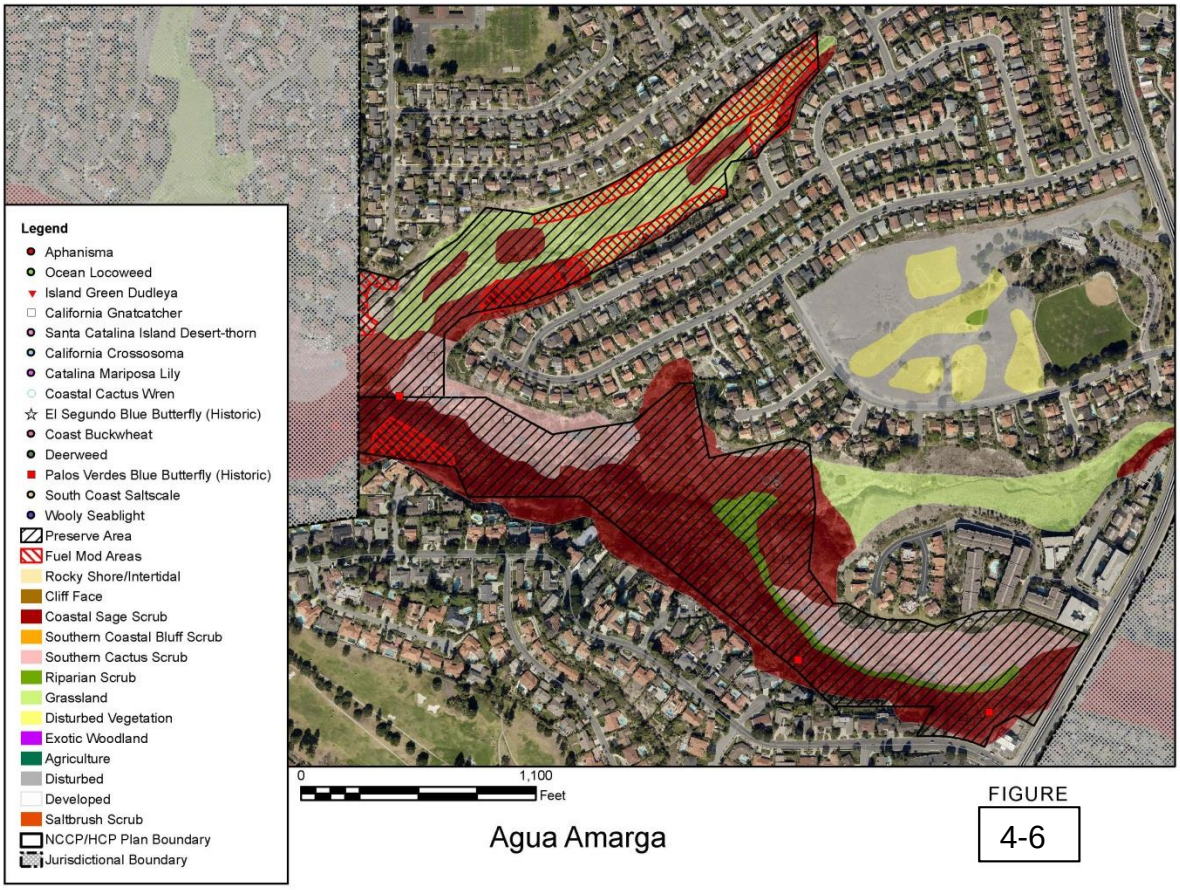

Figure 4-6. Agua Amarga Management Unit

Figure 4-7. Ocean Trails Management Unit

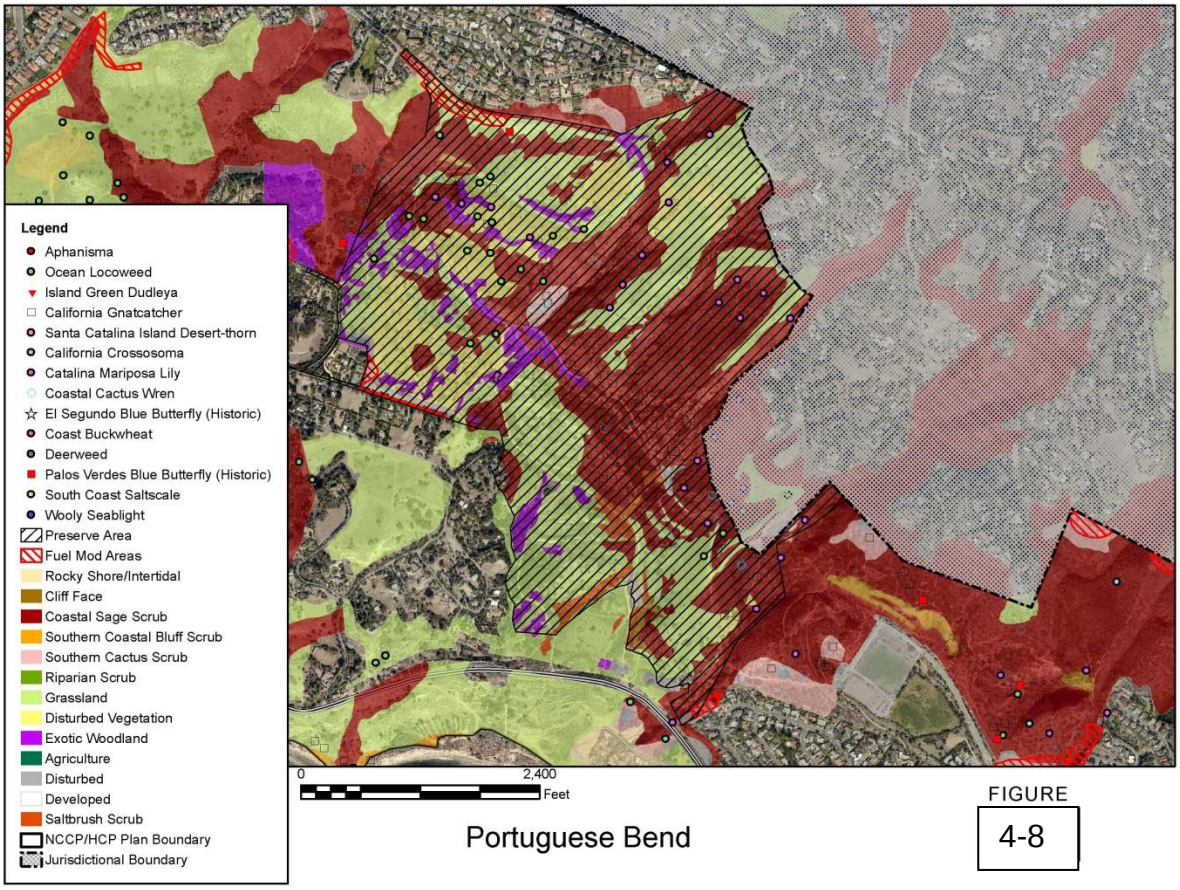

Figure 4-8. Portuguese Bend Management Unit

Figure 4-9. Abalone Cove Management Unit

Figure 4-10. Three Sisters Management Unit

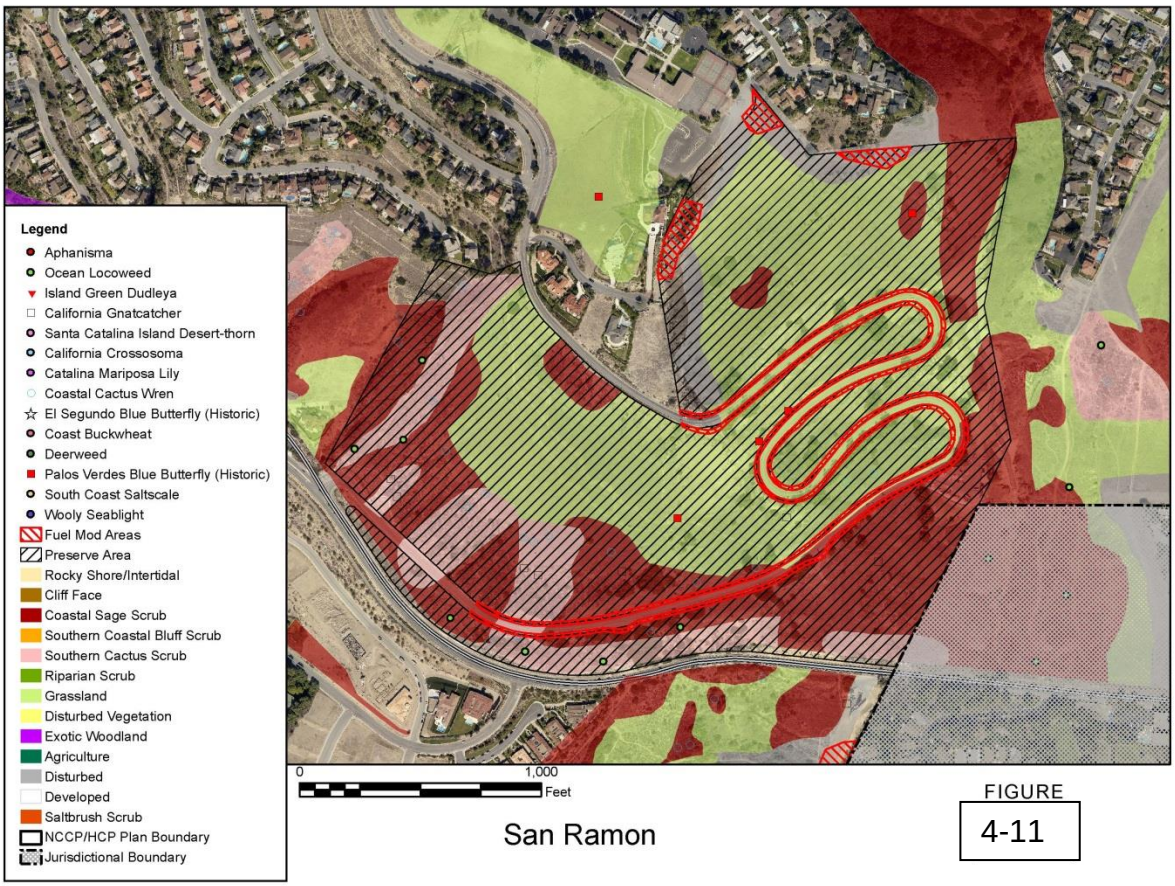

Figure 4-11. San Ramon Management Unit

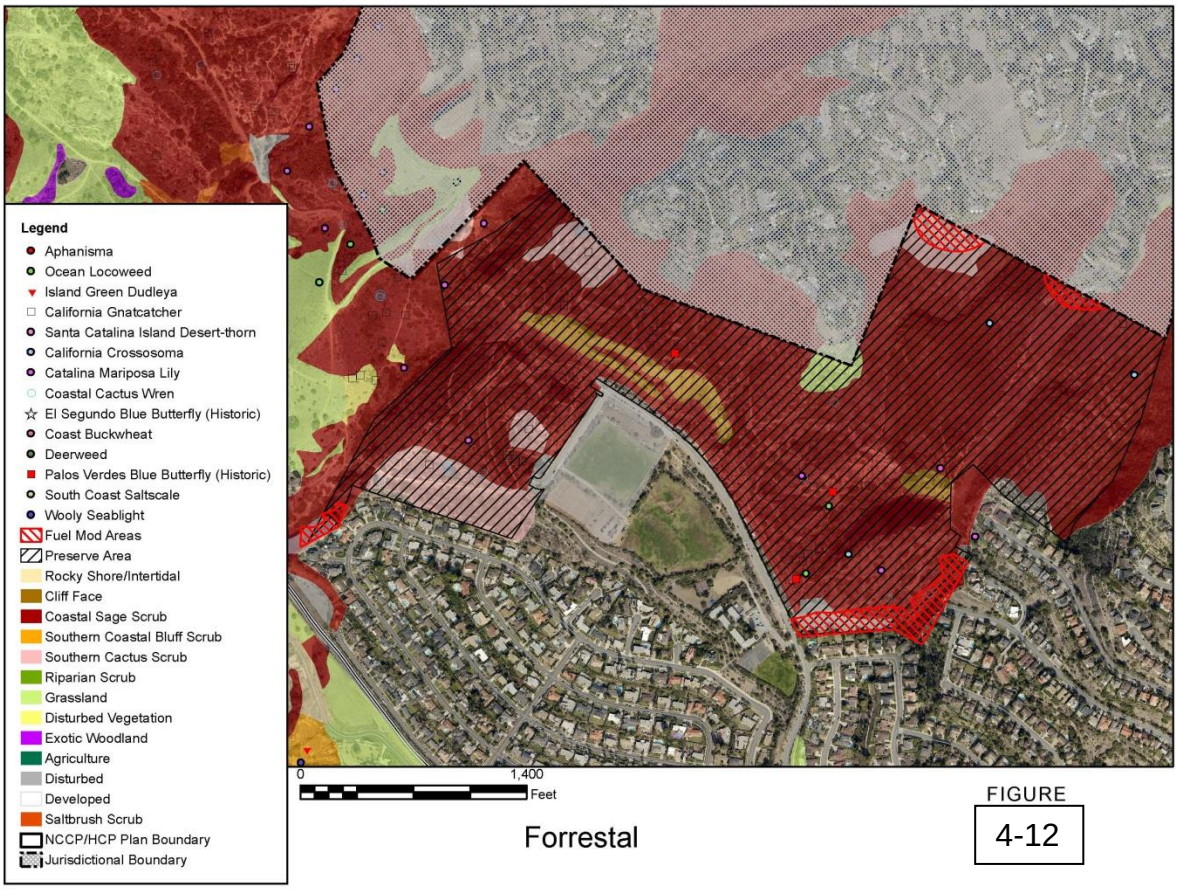

Figure 4-12. Forrestal Management Unit

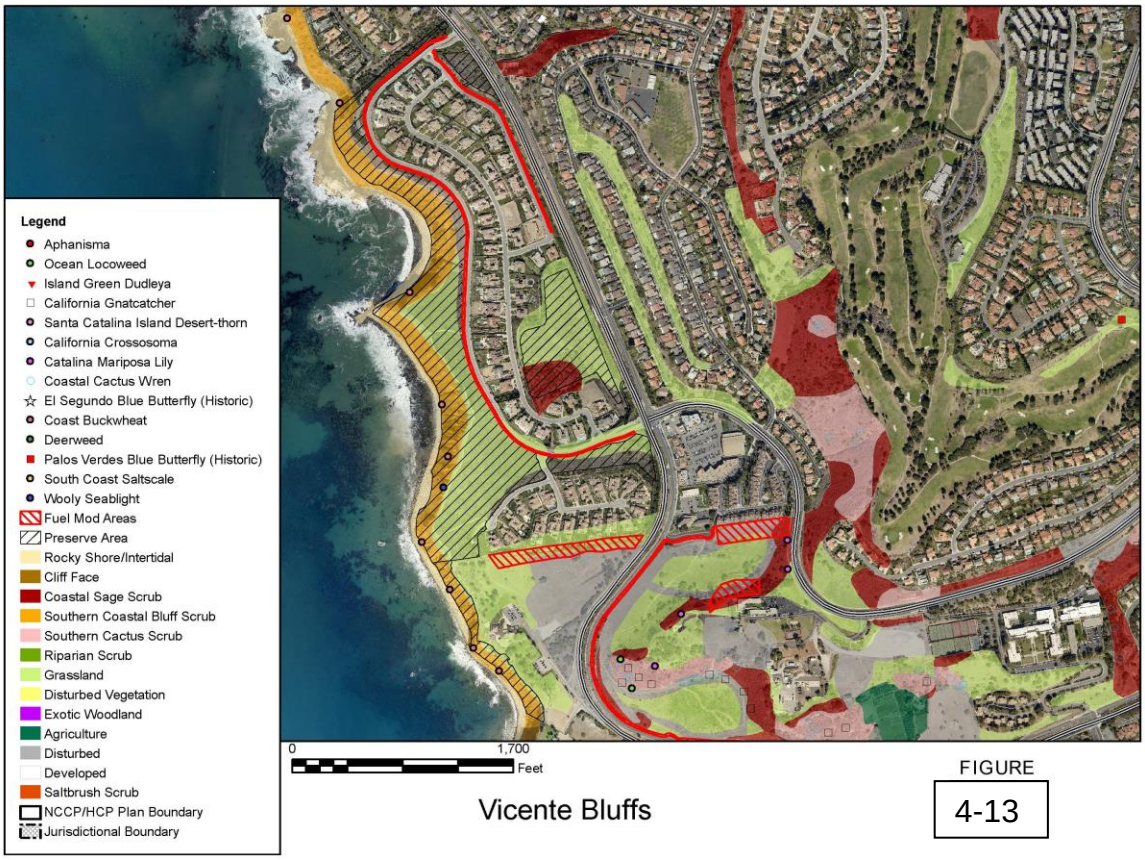

Figure 4-13. Vicente Bluffs Management Unit

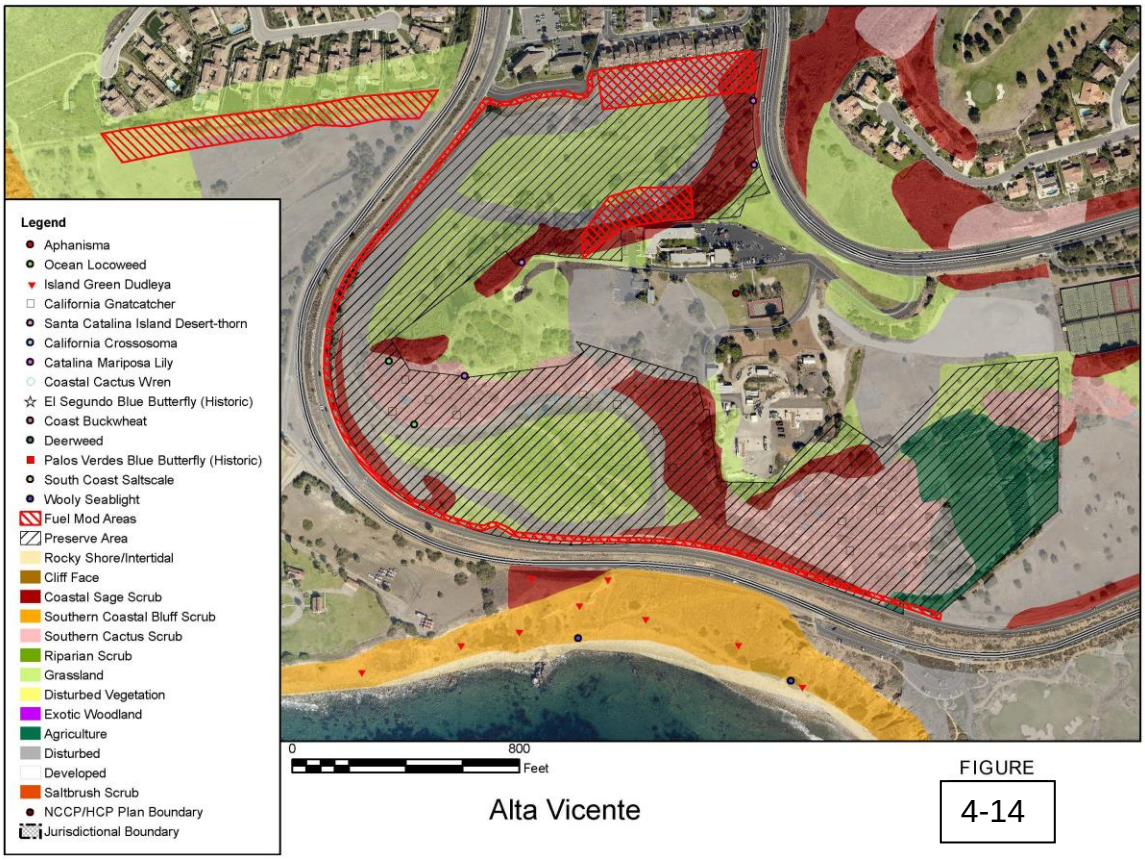

Figure 4-14. Alta Vicente Management Unit

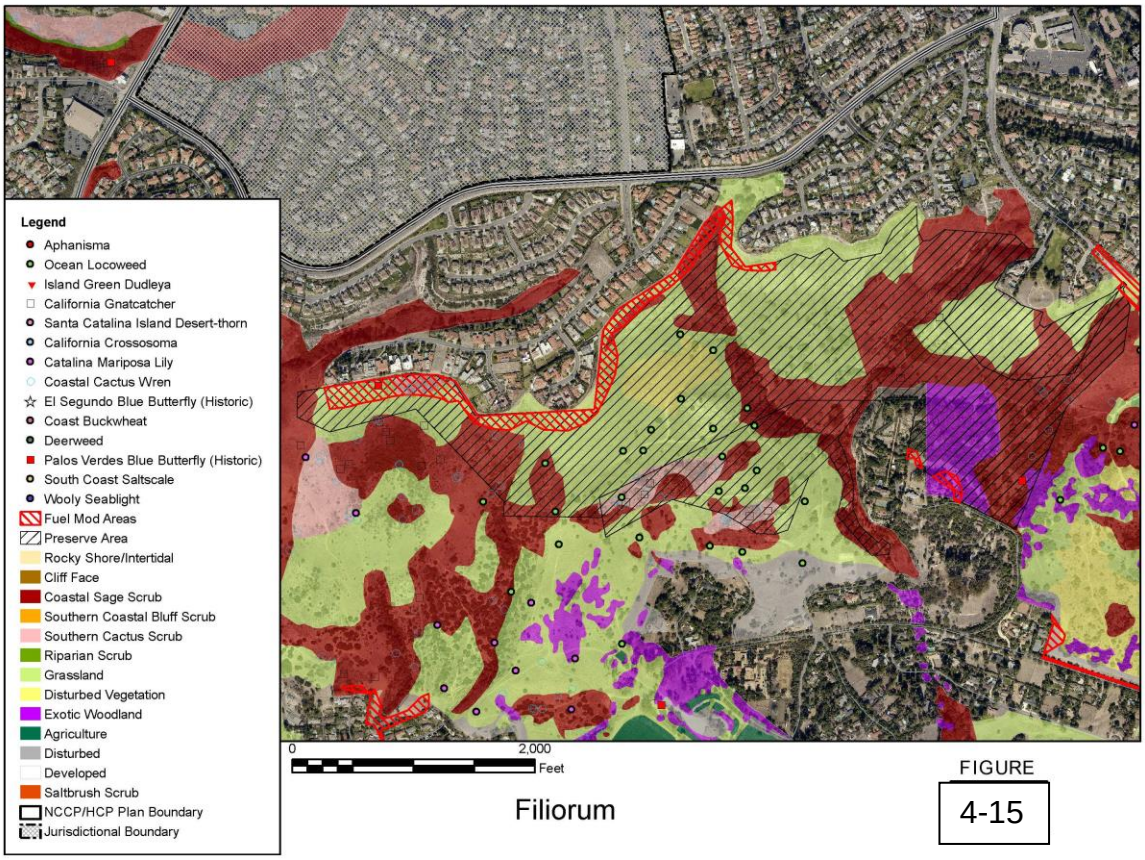

Figure 4-15. Filiorum Management Unit

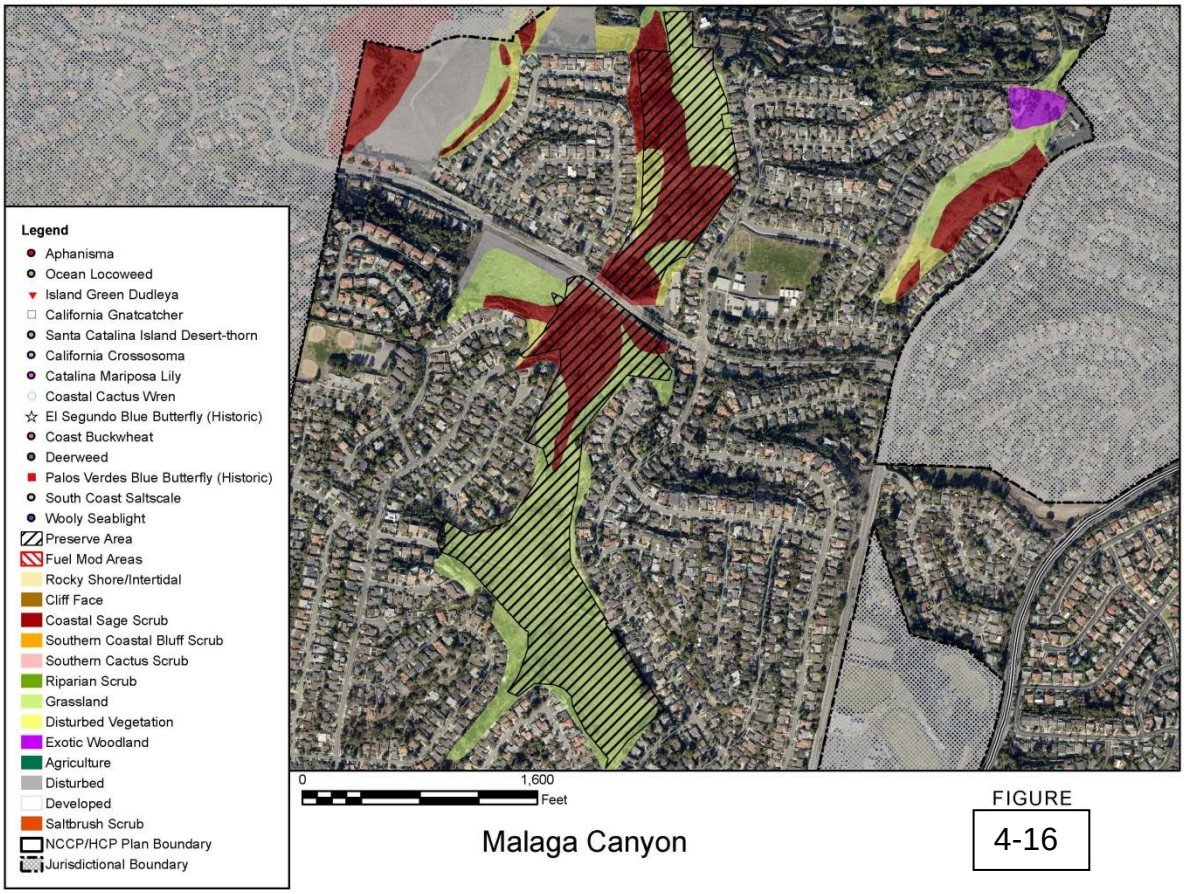

Figure 4-16. Malaga Canyon Management Unit

4.4.4 Trump National/Ocean Trails HCP – 6.6 acres of the 9.7 acres of privately owned open space (open space lots not to be owned by the City)

In addition to the 66.9 acres of open space that will be deeded to the City and dedicated to the Preserve as described in Section 4.3 of the Plan, Trump National/Ocean Trails HCP is required to maintain two open space lots under private ownership. One is the 5.3-acre Forrestal Draw (Canyon) parcel and the other is the 4.4-acre Upper La Rotunda Canyon parcel. According to the Trump National/Ocean Trails HCP, 6.6 acres of these privately held lots must be maintained by the property owner as protected habitat. Since these two lots are to remain privately owned they cannot be formally dedicated to the Preserve without the property owner's consent. It is anticipated that the property owner may wish to dedicate the habitat portions of these lots to the Preserve. These lands are targeted due to their close proximity to the habitat areas within the project site that are proposed to be dedicated to the Preserve.

4.4.5 Lower Filiorum Parcel – approximately 58 percent (40.0 acres) of the undeveloped portions of the property

The inclusion of Lower Filiorum acreage in the Preserve within the area depicted in Figure 5-3 will be a condition of approval for proposed development subsequently approved for the Lower Filiorum property, as described in Section 5.3.1 of the NCCP/HCP. If no approvals are obtained, there will be no obligation on the part of present or future property owner to dedicate these lands to the Preserve. The intent of the dedication required for future development of the Lower Filiorum property is to maintain a viable live-in wildlife corridor through the Preserve after the development is approved and constructed. The property may also be acquired for conservation by the City or PVPLC.

4.4.6 Homeowner Association Contributions (76.1 acres)

The City has identified seven local HOAs that own open space that could add habitat value to the Preserve. The City has targeted 76.1 acres for dedication to the Preserve of the 140.9 total acres of open space owned by the seven identified HOAs. Dedication of said open space into the Preserve would be voluntary unless an HOA proposes a project that will result in habitat impacts, in which case, a dedication of land may be required. The City may also accept the per acre mitigation fee applied to Miscellaneous Private Projects within the City described in Section 5.3.4 of the Plan in lieu of dedication to the Preserve for project mitigation. The identified HOAs are listed below with the portion of their common space acreage that will be sought for inclusion into the Preserve. The available common open space acreages listed below have been calculated using the City's orthographic maps and do not represent the total amount of common open space that each HOA has since they exclude areas that lack habitat value and areas that are within 200 feet of a property line or roadway, so as not to interfere with any future fuel modification that may be required.

- Panorama Estates HOA – 7.4 acres of a 11.3-acre common open space area
- Portuguese Bend Club – 5.3 acres of a 19.5-acre common open space area
- Sea Breeze HOA – 18.9 acres of a 22.8-acre common open space area

- Peninsula Pointe HOA – 14.4 acres of a 27.8-acre common open space area
- Sunset Ridge HOA – 7.8 acres of a 19.5-acre common open space area
- Seacliff Hills HOA – 6.2 acres of a 12.0-acre common open space area
- RPV Estates HOA – 16.1 acres of a 28.0-acre common open space area.

The City and PVPLC will work with these HOAs to sign agreements to include a portion of their open space lots within the Preserve to be actively managed by the PVPLC. Because they currently are not accessible for active habitat management, they are not included in the Preserve. If formal written agreements can be reached with the property owners to allow management consistent with this NCCP/HCP, these lands will be added to the Preserve. Until such agreements are obtained; however, these lands are categorized as Neutral Lands that cannot be developed except for compatible uses identified in this NCCP/HCP. These lands can be incorporated into the Preserve system through the "Additions to the Preserve process" (Section 6.8.3 of the Plan).

4.4.7 Private lands adjacent to Agua Amarga Canyon (14 acres)

There are two privately owned open space properties that abut the eastern end of City owned Agua Amarga Canyon property that could add habitat value to the Preserve. One is a 5.2-acre property referred to as Windport Canyon South and the other is an 8.8-acre property referred to as Windport Canyon North. Since both properties are privately owned, inclusion into the Preserve would have to be agreed to by the respective property owners.

4.4.8 A portion of 3787 Coolheights Drive (1 acre)

As mitigation for CSS impacts resulting from the development of this property with a new single family residence, the property owner agreed to record a conservation easement on 1.06 acres of the subject property in October 2003. This conservation easement area has been targeted for inclusion to the Preserve because the area contains CSS and directly abuts the City's Forrestal Reserve (see Figure 4-8). Inclusion of the 1.06-acre portion of this property into the Preserve will have to be agreed upon by the property owner.

Table 4-1. Public and Private Lands Contributed to the Preserve

	Parcel Acreage	Acres Being Contributed to Preserve
Previous Mitigation Lands		
Switchbacks parcel (Trump National/Ocean Trails HCP related)	94.5	94.5
Shoreline Park (Trump National/Ocean Trails HCP related)	50.7	45.7
Oceanfront Estates (4d)	71.5	51.6
Trump National/Ocean Trails HCP related	78.8	66.9
	Subtotal	***258.7***
City Lands		
Forrestal	158	158
*Portuguese Bend	425.9	409.8
Agua Amarga	40.3	40.3
**Upper Filiorum	189.8	189.8
Abalone Cove	77	65.2
Lower Point Vicente	27.4	3.4
Pelican Cove	10.5	7.5
Barkentine	98.4	98.4
Malaga Canyon	61.5	61.5
Del Cerro buffer	17.4	17.4
Upper Point Vicente	73.4	50.9
Crestridge	16.8	16.8
Shoreline Park	50.7	4.0
	Subtotal	**1,123**
PVPLC Lands		
Lunada Canyon	20.7	*20.7*
	NCCP Preserve Total	**1,402.4**
Other Public/Private Lands that may be Contributed		
Coast Guard (Upper Point Vicente)	3.9	3.9
Coast Guard (Lower Point Vicente)	19.1	19.1
Terranea Resort Bluff Face	102.1	10
Trump National/Ocean Trails HCP related	9.7	6.6
***Point View	94.2	40
7 Identified HOAs	140.9	76.1
Lands Adjacent to Agua Amarga Canyon	14	14
Portion of 3787 Coolheights Drive	1	1
	Subtotal	***170.7***
	NCCP Preserve and Other Lands Total	**1,573.1**

*406.9 acres of the 409.8 acres dedicated to the Preserve will provide Covered Species habitat (see Section 4.2.2).
**30.0 acres dedicated as mitigation for the Plumtree private development (see Section 5.3.5).

***58 percent (about 40.0 acres) of functional/connected habitat required for development on the Lower Filiorum site (see Section 5.3.1).

4.5 Neutral Lands

Although not a part of the Preserve, Neutral Lands are currently undevelopable lands that add biological function (e.g., facilitate wildlife movement) and value to the Preserve. Approximately 1,696.7 acres of "Neutral Lands" exist outside the Preserve boundary (Figure 4-17). As summarized in Table 4-2, these Neutral Lands contain 670.9 acres of natural vegetation of which 430.2 acres is CSS habitat. The Neutral Lands designation has been applied to privately owned properties in the City that contain development constraints due to existing City zoning code or other restrictions. The designation of these properties as Neutral Lands is not intended to prohibit development on these properties but only to recognize the development constraints that already exist on these properties pursuant to the City's Municipal Code or other legal constraint. By definition, "Neutral Lands" are those areas that are considered to be extreme slopes (35% or greater slope - Open Space Hillside), are zoned Open Space Hazard, or contain deed-restricted open space. If any of these three conditions exist on a private property, then the area has been designated Neutral Lands. The Neutral Lands designation is noted in the NCCP/HCP because these properties will likely remain as open space, thus contributing to the function of the Preserve. Neutral Lands are not included in the Preserve and therefore are not subject to the restrictions that apply to properties within the Preserve. The Neutral Lands are mapped solely to provide an estimation of their area and location relative to the actual Preserve. As discussed in Section 4.4 of the Plan, the PVPLC and the City will work to obtain conservation easements over some of these lands and add as many of these parcels to the Preserve as is possible.

These Neutral Lands can be placed into the following three categories: Extreme Slopes on Private Property (Open Space Hillside), Lands Zoned Open Space Hazard, and Deed-Restricted Lands.

4.5.1 Extreme Slopes on Private Property (Open Space Hillside)

The City considers natural or graded slopes with a gradient in excess of 35% to be extreme slopes. The City's Municipal Code prohibits development on any extreme slopes. Extreme slopes occur mostly in undeveloped canyons and developed residential tracts scattered throughout the City. Most of the undeveloped canyons are concentrated on the City's east side.

4.5.2 Lands Zoned Open Space Hazard (Open Space Hillside)

The City's zoning map designates certain areas of the City with a zoning designation of Open Space Hazard. Areas with such zoning are characterized by areas of downslope movement, areas unstable for development, areas where grading or development may endanger the public due to erosion or flooding, and areas subject to flooding. Pursuant to the City's Municipal Code, development within this zoning district is strictly prohibited. In order to remove areas from this zoning district, a zone change application would need to be approved by the City Council upon finding that evidence exists that any of the characteristics of the zoning district, as described above, no longer exist.

4.5.3 Deed-Restricted Lands

Certain private properties in the City contain deed restrictions which prohibit any activity and/or development. As such, said properties must remain as open space. In most cases, the deed restrictions stem from physical constraints on the property such as steep slopes or flood hazards. In addition, there are certain residential developments in the City that were approved with the condition that a certain amount of open space be set aside and conserved. Such open spaces are typically owned and maintained by the respective HOA. Most of the HOA lands also contain extreme slopes and lands zoned as Open Space Hazard.

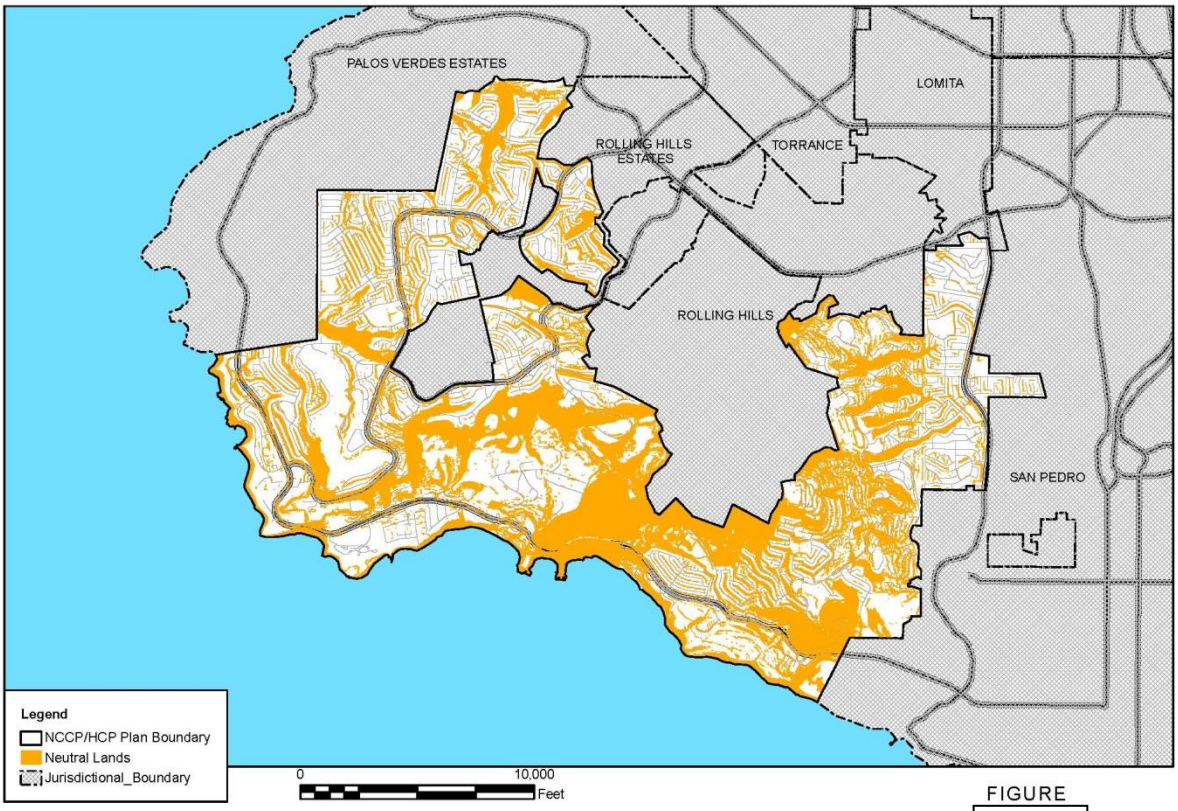

Figure 4-17. Neutral Lands

Table 4-2. Acreage in Preserve, Neutral Lands, and City Mitigation Lands by Vegetation Community

Vegetation Category	Preserve	Neutral Lands	Lands Outside Preserve/Neutral Lands	Grand Total
Agriculture	5.5	0.0	7.0	12.5
Cliff Face	7.4	1.3	0.0	8.8
Coastal Sage Scrub	582.2	354.6	89.8	1,026.8
Developed	51.8	967.6	4,964.9	5,984.5
Disturbed Vegetation	28.2	17.5	124.3	170.0
Exotic Woodland	37.5	14.5	23.5	75.4
Grassland	470.9	216.5	262.8	950.2
Riparian Scrub	2.3	0.1	0.2	2.5
Rocky Shore/Intertidal	7.3	39.3	12.1	58.8
Ruderal Habitat	54.5	9.8	22.7	86.9
Saltbrush Scrub	6.6	0.6	0.0	7.3
Southern Cactus Scrub	66.6	28.2	4.9	99.7
Southern Coastal Bluff Scrub	81.6	46.7	4.8	133.2
Grand Total	**1,402.4**	**1,696.7**	**5,517.0**	**8,616.6**

*Neutral Lands are not subject to NCCP/HCP management requirements unless they become Preserve lands.

4.6 Habitat Restoration/Enhancement Potential

A significant portion of the undeveloped lands within the Preserve support non-native plant communities. Non-native habitats that can be restored to native scrub habitats include non-native grassland and disturbed vegetation communities, disturbed areas, and previously developed areas within the Preserve. As funding becomes available, these communities will be restored to native plant communities to increase the local habitat carrying capacity of Covered Species.

Current habitat restoration programs within the proposed Preserve include 30 acres of CSS revegetation on the Oceanfront Estates property and 93.6 acres of CSS revegetation on the City's Switchbacks and Shoreline Park properties associated with the Trump National/Ocean Trails HCP. These are pre-existing programs that do not serve as mitigation under the NCCP/HCP; they do, however, enhance the Preserve's habitat acreage. The City and PVPLC are committed to additional enhancement of the Preserve with a long-term habitat restoration program as detailed in Section 7.5 of the Plan and the Targeted Exotic Removal Plan for Plants (TERPP) (see Section 7.6 of the Plan).

Additional restoration work, not required under the Plan, may occur as additional grant funds or mitigation funds become available from projects outside of the Plan Area. Over the life of this NCCP/HCP, the amount of sage scrub habitats within the Preserve could exceed the current inventory of CSS within the Plan Area. Within the Preserve, there are 562.8 acres of land consisting of disturbed vegetation (54.5 acres), non-native grassland (470.9 acres), and exotic woodland (37.5 acres) that have a high to moderate potential of being successfully restored, and these lands may be restored as funds become available. The priority for restoration will be to enlarge existing patches of CSS in the larger blocks of conserved lands within the Preserve that support or have the potential to support Covered Species and enhance linkages between large blocks of habitat to improve linkage function. This restoration program will provide the opportunity to expand or create new populations of Covered Species by providing new suitable habitat for Covered Species.

5.0 COVERED PROJECTS AND ACTIVITIES

5.1 Summary of Covered Projects and Activities

This NCCP/HCP assumes incidental take coverage for 17 Covered City Projects and Activities (see Section 5.2), 5 private projects (see Section 5.3), and other specific activities in the Preserve (see Section 5.4), provided that the projects and activities are consistent with the applicable Habitat Impact Avoidance and Minimization Measures described in Section 5.5 of the NCCP/HCP. "Projects" are well-defined actions that occur once in a discrete location whereas "Activities" are actions/operations that occur repeatedly in one location or throughout the Plan Area. The City's dedication and management to the Preserve of 1,123.0 acres, including the 499.9 acres of City Mitigation Lands, the management of 258.7 acres of Previous Mitigation Lands, and 20.7 acres of PVPLC lands, is intended to provide the necessary mitigation for CSS and grassland for Covered City and Miscellaneous Private Projects and Activities (both outside and inside the Preserve). Any potential impacts to properties within the Plan Area that were previously acquired with nontraditional section 6 HCP Land Acquisition grant funding (61.5 acres in Malaga Canyon) and funding provided the State will be subject to review and approval by the Wildlife Agencies to confirm consistency with the section 6 grant program and requirements associated with other State funding. All Covered Projects/Activities will be reviewed by the City to ensure their consistency with the NCCP/HCP. As they are proposed, the projects will be forwarded to and may be reviewed by the Wildlife Agencies during the applicable CEQA process (or other process) for consistency with this NCCP/HCP.

The Covered City Projects/Activities are proposed to occur inside and outside of the Preserve and are anticipated to impact a maximum of 303.7 acres of non-native grassland and 115.5 acres of CSS. Of these total impacts, it is estimated that 148.3 acres of the impacted non-native grassland (49%) and 60.0 acres of the impacted CSS (52%) will occur within the Preserve. Southern cactus scrub, saltbush scrub, and coastal bluff scrub are subsets of CSS, and no more than 5 acres of southern cactus scrub, 2 acres of coastal bluff scrub, and 2 acres of saltbush scrub could be lost within the Preserve associated with Covered CITY Projects/Activities. The City will mitigate these impacts by dedicating City lands to the Preserve and providing restoration and management funding for the Preserve (see Section 8.0). Of the 737.0 acres of CSS and associated vegetation communities within the Preserve, a maximum of 60.0 acres (<8%) could be impacted by Covered City Projects/Activities, leaving a minimum of 677.0 acres (92%) of CSS in the Preserve to be perpetually conserved. Of the 470.9 acres of grassland within the Preserve, a maximum of 148.3 acres (31%) could be impacted by Covered City Projects/Activities in the Preserve, leaving a minimum of 322.6 acres. Through Plan implementation non-native grassland within the Preserve may be restored to native habitat. Impacts to specific vegetation communities within and outside of the Preserve are described in individual project descriptions (Section 5.2).

The Covered Private Projects are proposed to occur outside of the Preserve and are anticipated to impact a maximum of 262.8 acres of grassland and 99.5 acres of CSS. These impacts as summarized below and will be mitigated by each project proponent. Impacts to specific vegetation communities and associated mitigation are described in individual project descriptions (Section 5.3). The total loss of habitat associated

with Covered Project and Activities are quantified above. The effects of the habitat loss to the Covered Species are described in the conservation analysis in Appendix B of the Plan.

Within the Coastal Zone, permissible impacts and mitigation to Environmentally Sensitive Habitat Areas (ESHA), as defined in Appendix F of the Plan, will not only be consistent with the NCCP/HCP, but will also be consistent with the City's most current LCP. Furthermore, any impacts to habitat or ESHAs located in the Coastal Zone will be mitigated within the Coastal Zone.

The NCCP/HCP area will be subject to CWA Sections 401 and 404, and California Fish and Game Code Section 1600 *et seq.* permit requirements if they are included within areas proposed for development.

5.2 Covered City Projects and Activities

The following proposed Covered City Projects are addressed by this NCCP/HCP (see summary on Table 5-1 and Figure 5-2) and will be encumbered by conservation easements which are to be recorded on City-owned properties within the Preserve pursuant to Section 4.2 of this Plan. All mitigation for Covered City Projects/Activities will occur within the Preserve.

5.2.1 Altamira Canyon Drainage Project

The City has identified the need for a project within the portion of Altamira Canyon that traverses the Portuguese Bend landslide area to address drainage and erosion and to prevent water from percolating into the landslide plane. The removal of the Canyon's existing vegetation will result in the loss of 2.5 acres of CSS habitat and 3.0 acres of non-native grassland. Point locations for one gnatcatcher and one PVB hostplant occur in the project vicinity. Although this project is not being proposed at this time, it is likely that the project will be actively pursued during the life of the NCCP/HCP.

5.2.2 Dewatering Wells

The installation of dewatering wells by the City in areas affected by the Portuguese Bend and Abalone Cove landslides has proven to be an effective method of slowing down landslide movement by removing groundwater from the slide plane. It is anticipated that new wells will be installed by the City in the future in or near areas of existing CSS habitat and grassland throughout landslide areas. It is estimated a maximum of 2.5 acres of CSS and 2.5 acres of non-native grassland will be impacted in the Preserve. A point location for one gnatcatcher occurs in the project vicinity.

5.2.3 Landslide Abatement Measures

When and where required, landslide abatement activities within the Preserve and throughout the City are sometimes necessary by the City or other public agencies to safeguard existing recreational trails, trails that can accommodate authorized vehicles, Existing Preserve Roads, and drainage systems. Such activities include, but are not limited to, the installation and maintenance of groundwater monitoring wells and GPS stations (with associated equipment such as pumps, electrical connections, drainage pipes and access

pathways) for the purpose of monitoring landslide movement, the filling of fissures, the re-contouring of slide debris, the creation and maintenance of trails that can accommodate authorized vehicles, and geologic investigations involving trenching or boring performed mechanically or by hand (with allowance for access of any necessary mechanical equipment). Where practicable, areas of temporary CSS disturbance will be revegetated with CSS habitat within 60 days after completion of abatement activities. A plan for revegetation of CSS habitat of areas of temporary CSS disturbance will be completed as part of the CEQA review during the planning stage of landslide abatement measures. That plan will take into account all of the restoration guidelines incorporated in this NCCP/HCP (see Section 5.5 and Section 6.0 of the Plan for details about the restoration plan). It is estimated that such landslide abatement measures will result in the combined loss of a maximum of 5.0 acres of CSS habitat and 15.0 acres of non-native grassland. It is estimated that two-thirds of the impacts will occur within the Preserve. Point locations for two gnatcatchers and one island green dudleya occur in areas potentially subject to landslides.

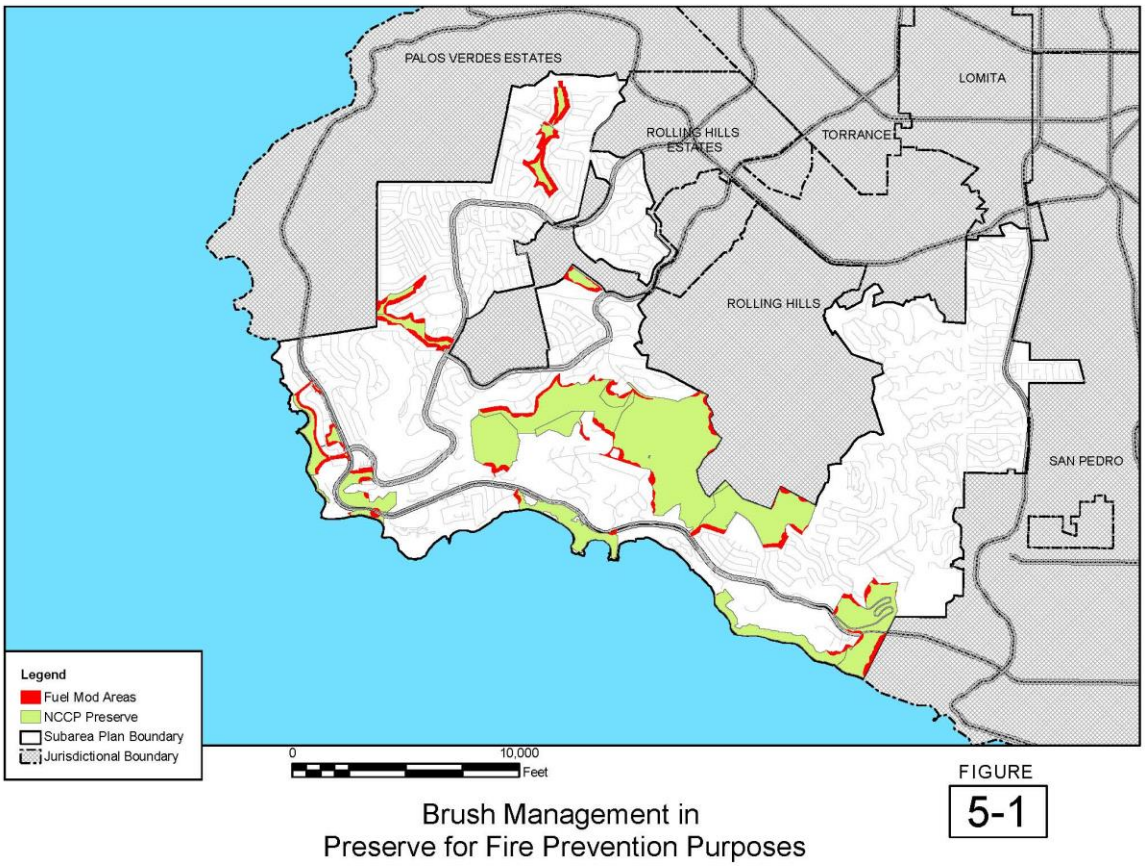

Figure 5-1. Brush Management in Preserve for Fire Prevention Purposes

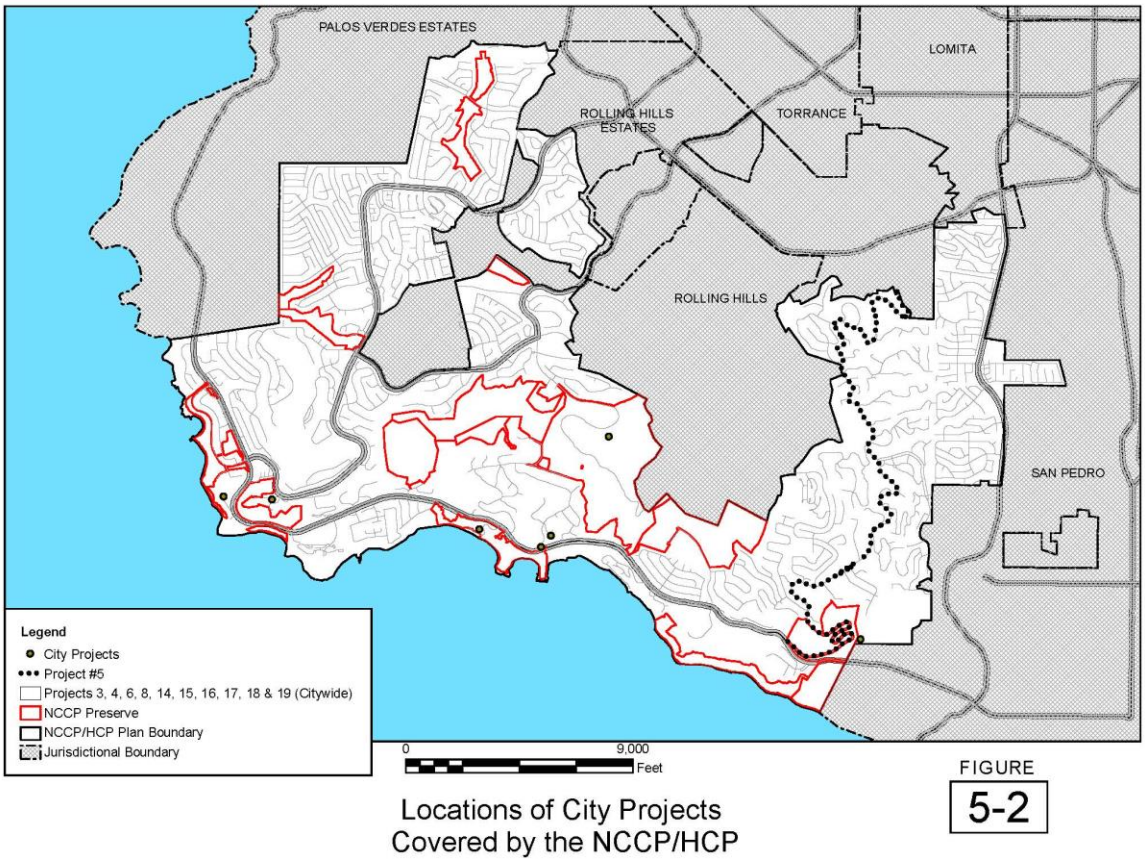

Figure 5-2. Locations of City Projects Covered by the NCCP/HCP

5.2.4 Miscellaneous Drainage Repair in Landslide Areas

The repair of existing drainage systems becomes necessary by the City in landslide areas because of excessively heavy rainfall or damage by landslide movement. It is anticipated that there will be a need to repair such drains on an as-needed basis. It is estimated that such activity will result in the combined loss of a maximum of 10.0 acres of CSS habitat and 15.0 acres of non-native grassland. It is estimated that two-thirds of the impacts will occur within the Preserve. Point locations for two gnatcatchers, two aphanisma, one south coast saltscale, and one island green dudleya occur in areas potentially subject to landslides.

5.2.5 Palos Verdes Drive East Drainage Improvement Project

Based on a comprehensive drainage study, the City has identified numerous drainage system deficiencies in the eastern portion of the City along Palos Verdes Drive East (PVDE). To address these drainage deficiencies, the City proposes to carry out several drainage improvement projects over an extended period of time. Although it is anticipated that most of the projects will occur within the existing improved street right-of-way, some projects may necessitate work in the adjoining canyon areas. It is estimated that such activity will result in the combined loss of a maximum of 5.0 acres of CSS habitat and 15.0 acres of non-native grassland outside the Preserve. Covered Species are not currently known in the proposed project area.

5.2.6 Miscellaneous Drainage Improvements

The City anticipates that there will be the need to perform regular maintenance, repairs and upgrades to drainage systems in the City that are not located within the landslide areas or the Palos Verdes Drive East drainage project area as described above. It is anticipated that the repair and improvement of these drainage systems will be necessary from time to time due to unexpected storm damage or due to the old age of the drainage systems. It is also anticipated that some of the projects may necessitate the creation and/or maintenance of retention basins, debris basins, and trails that can accommodate authorized vehicles. It is estimated that such activity could result in the combined loss of a maximum of 20.0 acres of CSS habitat and 60.0 acres of grassland in the Plan Area. Of this total, it is estimated that 6.6 acres of CSS (33%) and 20.0 acres of grassland (33%) impacts will occur in the Preserve. Point locations for three gnatcatchers, two cactus wrens, two PVB hostplants, one ESB hostplant, one aphanisma, one island green dudleya and one woolly seablite occur in the vicinity of the proposed project(s).

5.2.7 Abalone Cove Beach Project

The City has identified a need to improve public access and beach amenities at the existing Abalone Cove beach site. The project may involve the construction of a restroom/storage area, a gate house, parking lot, and shade structures, as well as improving the Existing Preserve Roads, trails that can accommodate authorized vehicles, and recreational trails in the area. The grading associated with the proposed project may cause the loss of 1 acre of CSS habitat and 2 acres of non-native grassland within the Preserve. Any CSS revegetation shall be performed on site within the coastal zone of the Preserve. A point location for

one island green dudleya occurs in the vicinity of the proposed project. Although this project is not being proposed at this time, it is possible that the project or a similar variation will be actively pursued during the life of this NCCP/HCP.

5.2.8 Rancho Palos Verdes Trails Plan Implementation

The City's Trails Network Plan addresses existing and proposed trails outside and within the Preserve. The portion of the Trails Network Plan that addresses trails within the Preserve is a part of the Public Use Master Plan, which is a Covered City Project described further in Sections 5.4.2 and 9.2.1 of this Plan. It is anticipated that implementation of the City's Trails Network Plan, which includes the Preserve Trails Plan component (see Sections 5.4.2 and 9.2.1.1), will result in the loss of some CSS and grassland habitat. Although the establishment of new trails through CSS habitat will be avoided where possible, it is anticipated that some trail maintenance, erosion repair, and re-routing for public safety reasons may occur within habitat areas. Although it is anticipated that trail widening could occur as a result of trail use over time, trails will be monitored for signs of widening, and managed to remedy the degradation (see Section 9.2.2.2 of the Plan). It is estimated that such activities will result in the combined loss of a maximum of 4.0 acres of CSS habitat and 10.0 acres of grassland. It is estimated that one-half of these impacts will occur within the Preserve (2.0 acres of CSS habitat and 5.0 acres of grassland). Point locations for two PVB hostplants, one ESB hostplant, one island green dudleya, and one woolly seablite occur in the vicinity of the Preserve Trails Plan.

5.2.9 Lower San Ramon Canyon Repair

The City implemented a major stormwater project in the Lower San Ramon Canyon to reverse the effects of erosion on the streambed in an attempt to reduce the active Tarapaca landslide from blocking water flow. Past geologic studies identified a landslide in this canyon that could potentially block the stream flow in the canyon. Blockage of the stream flow could cause water to percolate into the adjacent South Shores landslide increasing the likelihood of land movement. The project is expected to reduce the likelihood of reactivating the South Shores landslide, which could result in the loss of the Switchbacks on Palos Verdes Drive East. The project resulted in the loss of .34 acres of the 5.0 acres of CSS allocated for the project. The .34 acre of CSS lost occurred in the Preserve. One point location for one gnatcatcher occurs in the project vicinity.

5.2.10 Lower Point Vicente

Pursuant to the City Council's approved Parks Master Plan, the City may develop a public recreational/educational project to augment the existing Point Vicente Interpretive Center located on a parcel of City-owned land referred to as Lower Point Vicente. The property is located between the Point Vicente Lighthouse property owned by the Coast Guard and the Oceanfront Estates residential development project. It is anticipated that development of the site may result in a maximum loss of 1.5 acres of CSS and 11.2 acres of non-native grassland outside of the Preserve. One point location for one ESB hostplant occurs in the vicinity of the proposed project.

5.2.11 Palos Verdes Drive South Road Repair

The City anticipates that due to continual landslide movement in the Portuguese Bend landslide area, there will be a need to perform repair work on the portion of Palos Verdes Drive South that traverses the landslide, including but not limited to relocating the roadway if necessary. It is anticipated that such road repair activity may result in a maximum of 5.0 acres of CSS habitat loss and 15.0 acres of non-native grassland loss within the Preserve. One point location for one PVB hostplant occurs in the vicinity of the proposed project.

5.2.12 Upper Point Vicente

As part of the City Council's approved Parks Master Plan, the City is considering development of a civic/cultural/community center at Upper Point Vicente Park. The project may result in a loss of 2.0 acres of CSS and 22.0 acres of non-native grassland. It is estimated that one-half of the impacts will occur within the Preserve. Point locations for one gnatcatcher and one cactus wren occur in the vicinity of the proposed project.

5.2.13 Preserve Fuel Modification

The City and PVPLC are required to perform annual fuel modification for fire prevention purposes within the Preserve by the Weed Abatement Division of the Los Angeles County Department of Agricultural Commissioner. The location and amount of fuel modification throughout the Preserve has been determined by the Los Angeles Weed Abatement Division in conjunction with the Los Angeles County Fire Department (see Figure 5-1) and is based on factors such as proximity of structures, steepness of slope, and fuel load. The methods for carrying out the required fuel modification are described in Section 9.2.3 of the Plan. The required City fuel modification is anticipated to result in a loss of 12.0 acres of CSS and 18.0 acres of non-native grassland in the Preserve. Changes to fuel modification that would result in greater impacts than depicted in Figure 5-1 and Table 5-1 would require additional review by the Wildlife Agencies and PVPLC, potentially including amending the Plan pursuant to Section 6.8 of the Plan.

5.2.14 Utility Maintenance and Repair

The installation, maintenance, and repair of utilities and related infrastructure facilities by the City and other public agencies and/or utility companies who seek Third-Party Participant status, will occur throughout the City. These infrastructure facilities include sewers, water, cable, telephone, gas, power, and storm drains located throughout the City and will be performed on an as-needed basis. Installation of new commercial antenna towers is not allowed in the Preserve. The installation, maintenance, and repair of these activities are anticipated to permanently impact up to 10.0 acres of CSS and 20.0 acres of non-native grassland throughout the life of the permits. It is estimated that one-half of the impacts will occur within the Preserve.

5.2.15 Unimproved City Park Projects

In addition to its developed parks, the City has a number of unimproved park sites that may be improved in the future with recreational amenities. These unimproved parks sites include, but are not limited to, 17.5-acre Grandview Park, 18.2-acre Lower Hesse Park, 4.7-acre Vanderlip Park, and 1.0-acre Martingale Park. It is anticipated that development of these specific park facilities and any other unimproved City park facilities will result in loss of a maximum of 10.0 acres of CSS habitat and 20.0 acres of non-native grassland outside of the Preserve.

5.2.16 Malaga Canyon Drainage Improvements

The City anticipates that there will be the need to perform regular maintenance, repairs, and upgrades on the drainage system within the City-owned Malaga Canyon open space. It is anticipated that the repair and improvement of these drainage systems will be necessary from time to time due to unexpected storm damage or due to the old age of the drainage systems. It is also anticipated that some of the projects may necessitate the creation and/or maintenance of retention basins, detention basins, debris basins, and trails that can accommodate authorized vehicles. It is estimated that such activity could result in the combined loss of a maximum of 5.0 acres of CSS habitat and 15.0 acres of non-native grassland within the Preserve. Any potential impacts will be offset to ensure that the biological values of the properties are maintained consistent with the section 6 grant funding used to acquire the property and will be subject to review and approval by the Wildlife Agencies.

5.2.17 Other Miscellaneous City Projects

It is foreseeable that during the life of this NCCP/HCP the City will undertake a City project similar in character and impacts to those listed in Table 5-1 that is not specifically listed here as a Covered Project/Activity. Such projects shall be considered Covered Projects provided the total loss of CSS habitat and non-native grassland for said Miscellaneous City Projects does not exceed 20.0 acres of CSS habitat and 60.0 acres of non-native grassland as identified in Table 5-1. It is estimated that one-half of the impacts will occur within the Preserve.

Table 5-1. Total Loss of Habitat by Covered City Projects and Activities

City Project Name	Total Habitat Loss (Acres)		Habitat Loss In Preserve (Acres)	
	CSS	Grassland	CSS	Grassland
1. Altamira Canyon Drainage Project	2.5	3	0.0	0.0
2. Dewatering Wells	2.5	2.5	2.5	2.5
3. Landslide Abatement Measures	5.0	15.0	3.3	9.9
4. Misc. Drainage Repair in Landslide Areas	10.0	15.0	6.6	9.9
5. PVDE Drainage Improvement Project	5.0	15.0	0.0	0.0
6. Misc. Drainage Improvements	20.0	60.0	6.6	20.0
7. Abalone Cove Beach Project	1.0	2.0	1.0	2.0
8. *RPV Trails Plan Implementation	4.0	10.0	2.0	5.0

City Project Name	Total Habitat Loss (Acres)		Habitat Loss In Preserve (Acres)	
	CSS	Grassland	CSS	Grassland
9. Lower San Ramon Canyon Repair	0.0	0.0	0.34	0.0
10. Lower Point Vicente	1.5	11.2	0.0	0.0
11. Palos Verdes Drive South Road Repair	5.0	15.0	5.0	15.0
12. Upper Point Vicente	2.0	22.0	1.0	11.0
13. Preserve Fuel Modification	12.0	18	12.0	18
14. Utility Maintenance and Repair	10.0	20.0	5.0	10.0
15. Unimproved City Park Projects	10.0	20.0	0.0	0.0
16. Malaga Canyon Drainage Improvements	5.0	15.0	5.0	15.0
17. Other Miscellaneous City projects	20.0	60.0	10.0	30.0
****Total Acreage of Habitat Loss**	***115.5***	***303.7***	***60.3***	***148.3***

*Part of the PUMP, a Covered City Project (see Section 9.2 of this Plan)

**Total habitat loss (CSS and Grassland) is 419.2 acres, of which 208.6 acres (50%) would occur in the Preserve. Included in the CSS loss are losses associated with southern cactus scrub, saltbush scrub, and coastal bluff scrub which are expected to be minimal. No more than 5.0 acres of southern cactus scrub, 2.0 acres of coastal bluff scrub, and 2.0 acres of saltbush scrub could be lost within the Preserve associated with Covered City Projects and Activities.

5.3 Covered Private Projects and Activities

The following proposed Private Projects and Activities are covered (Covered Private Projects and Activities) by this NCCP/HCP (see Table 5-2 and Figure 5-4 below).

5.3.1 Lower Filiorum Development

The Lower Filiorum property, also known as the Point View property, is 95.0 acres and is zoned single-family residential. Approximately 46.82 acres of the property is located outside the City's Landslide Moratorium Area (LMA) and approximately 48.18 acres of the property is located within the City's LMA. The property is located within a portion of the Plan Area that is considered essential for NCCP/HCP purposes to maintain Preserve connectivity and was identified as a Regionally Important Habitat Linkage during Preserve planning and design (EIR 2004). The width and the amount of area required for creation of functional corridors/linkages generally depends on many factors including the target species, surrounding land use and potential for detrimental edge effects, length of the corridor, and corridor habitat quality. Recommended corridor widths can range from 100-300 feet for plants and invertebrates, 200 feet to 1 mile for sensitive interior bird species, to greater than 3 miles for larger predators (Bentrup 2008). In coastal southern California NCCP planning, regional corridors are routinely planned to have a minimum of 1,000-foot width (Bond 2003, MSCP 1997); however, such corridor planning is also intended to provide for movement of larger mammals such as mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*), which are not considered in this NCCP/HCP. Given the composition of species expected to occur within the Plan Area and the wildlife species identified for coverage under the NCCP/HCP, a 300-foot live-in corridor through the Lower Filiorum property is expected to be sufficient to maintain Preserve connectivity and viable populations of Covered Species and other common local fauna.

The City-approved 2004 NCCP/HCP identified and required a 300-foot-wide, live-in wildlife movement corridor be established along the eastern side of the property within the LMA. The corridor to be conserved was part of an identified 40-acre conservation obligation for developing the 95-acre Point View property. In 2003, the Point View property was reported to be comprised of 70.0 acres of non-native grassland, 2.5 acres of CSS, 9.4 acres of disturbed CSS, 6.9 acres of exotic woodland, and 5.2 acres of disturbed vegetation (NRC 2003). The required minimum of 40.0 acres of dedicated Preserve included 1.5 acres to be provided as mitigation for previous unauthorized brush clearing activities and 38.5 acres of mitigation for CSS and grassland losses resulting from anticipated future development of the 95.0-acre Lower Filiorum parcel. Since 2004, the property owner proposed, and the City approved in 2012, development[1] in the eastern portions of the Lower Filiorum property. This included approval to convert 25.5 acres of the property to agricultural use, which required payment of $97,800 to the City; however, no contribution to the wildlife corridor was established as part of the City's approval. Although the project approval did not preclude the ability to establish a live-in wildlife corridor elsewhere through the Lower Filiorum property, the development of agriculture, golf course, and the Event Garden substantially reduces opportunities to establish the wildlife corridor that was expected to be largely contained within the boundaries of the LMA. Development of the area originally identified for a corridor, along the eastern side of the property in the LMA, results in the need to establish a wildlife corridor in an alternate location on the property to ensure functional Preserve connectivity and meet the requirements of a NCCP.

Due to the importance of the Lower Filiorum property as a regional linkage, specific conservation goals and standards continue to apply under this NCCP/HCP. These include establishing a functional, live-in wildlife movement corridor that maintains a minimum 300-foot width and connects the Upper Filiorum Reserve to the Abalone Cove Reserve. Establishing this corridor will require conserving approximately 58 percent of the remaining undeveloped 69.5 acres of the property in a contiguous configuration. This would still allow for approximately 42 percent development of the property that was not addressed in the 2012 approval, provided that the development is consistent with and does not compromise the NCCP/HCP's conservation goals and standards. Most importantly, future development could not preclude establishment of the 300-foot-wide wildlife corridor for the City to still meet the requirements of the NCCP/HCP. The final configuration of the wildlife corridor will be established through future discussions between the landowner, the City, and the Wildlife Agencies. The local fire authority will also need to sign off on a final design. For the purposes of the NCCP/HCP, any type of man-made improvement, including agricultural land use and/or a golf course, is considered development and would not count toward the necessary on-site conservation or be acceptable for use as a live-in corridor. These unnatural landscapes fail to provide the necessary resources for Covered Species to successfully complete all life stages, including, but not limited to, breeding, nesting, fledging, egg laying, and pupation. Sensitive species such as the gnatcatcher are not commonly observed in human modified habitats (Crooks *et al.* 2001), making it necessary for the corridor to be comprised of native or naturalized vegetation (i.e., non-native grasses). If agricultural fields or other

[1] 7.0 acres of agricultural orchards and vineyards, a 9-hole golf course, a paved internal driveway beginning at PVDS, and a landscaped patio (referred to as the "Event Garden") have been developed on the property since 2004. Most of the development is located on the eastern portion of the property.

existing improvements are abandoned and restored to natural habitat, they can be counted toward the conservation and corridor requirement if those acres are arranged in an appropriate overall configuration.

The conservation requirement outlined in the preceding paragraph will be established on the Lower Filiorum property through mitigating for future development impacts on site and/or through acquisition of the property by the City or PVPLC. Mitigation will occur on site and contribute to the conservation and corridor requirement due to the Lower Filiorum property's essential role as a movement corridor for Covered Species. As indicated previously, the remainder of the Preserve has been assembled and connectivity through the Lower Filiorum property is the lone remaining, but essential, component for the NCCP/HCP and the Preserve conservation and connectivity goals. Future development on the property will negatively impact covered species' movement through the Preserve, creating greater impacts than development in other portions of the Plan Area. To maintain connectivity and offset impacts, if a portion of the remaining 69.5 acres of open space on the property is proposed for development, a prorata share at a 1.4:1 ratio (conservation:development) will be required to be conserved prior to initiation of construction activities. Mitigation will occur on site and contribute to the 58 percent conservation and corridor requirement due to the Lower Filiorum property's role as a key species movement corridor. The mitigation ratios for the aggregate native grassland, non-native grasslands, and for CSS are comparable to other Private Projects in the Plan Area and NCCP/HCPs. The mitigation ratio required for impacts to habitat is consistent with other NCCP/HCPs and is necessary due to the impacts of Covered Species that use habitat on the property directly or indirectly through loss and fragmentation of habitat. In the event the above referenced conservation goals for the required wildlife movement corridor (58 percent conservation of the remaining undeveloped 69.5 acres) have been met through acquisition of property, impacts on the balance of the property may be mitigated through payment into the City's in-lieu fee program. Any required fuel modification for future projects shall not encroach into the conserved area; therefore, the corridor location/design will need to be coordinated with the local fire authority.

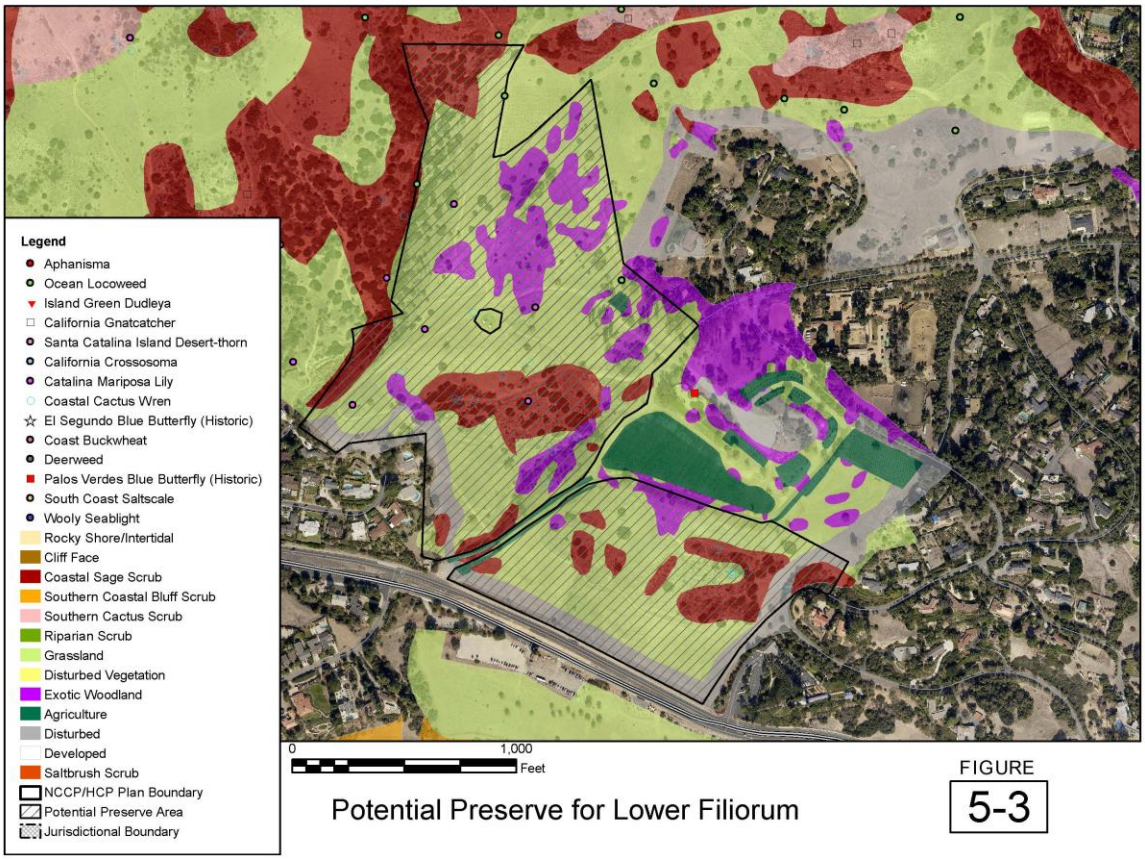

Figure 5-3. Potential Preserve for Lower Filiorum

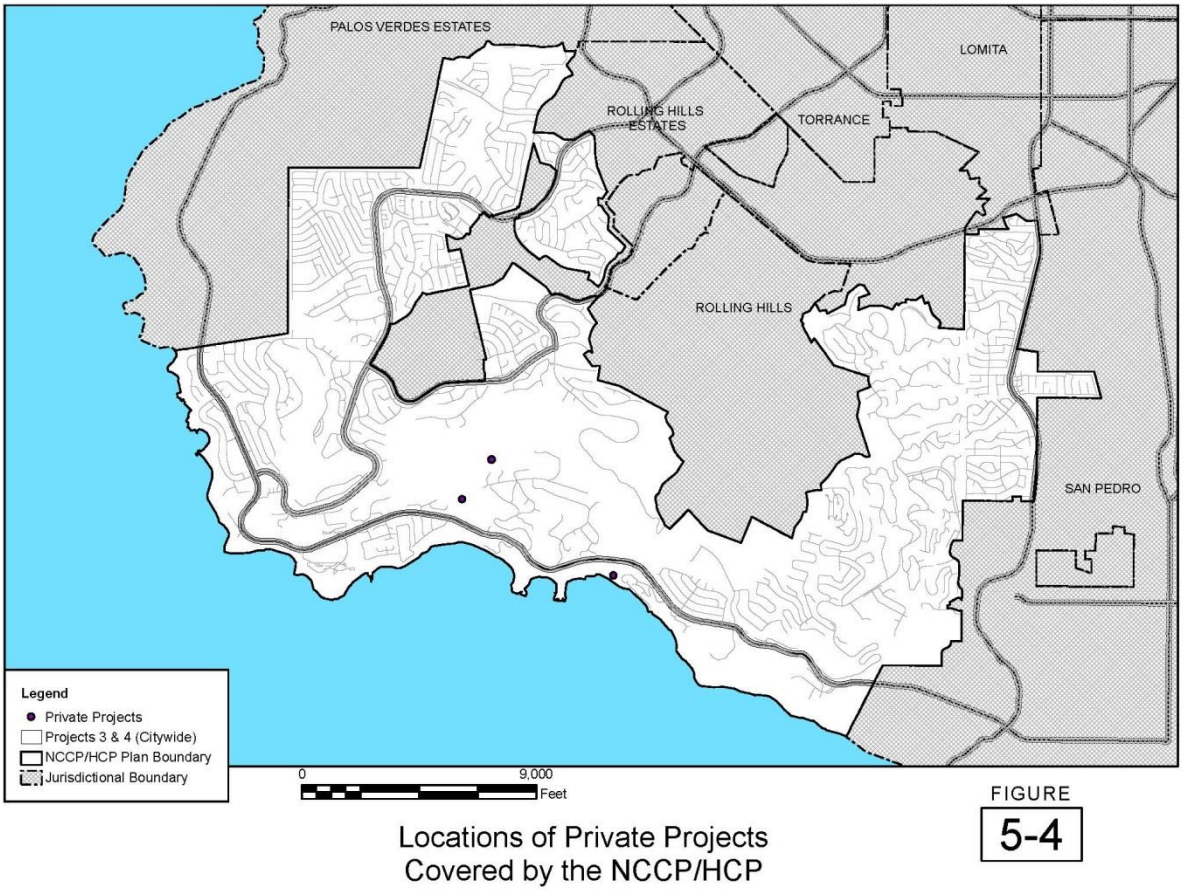

Figure 5-4. Locations of Private Projects Covered by NCCP/HCP

5.3.2 Portuguese Bend Club Remedial Grading

Because of its proximity to the active Klondike Canyon Landslide, the homeowners association of the gated residential community known as the Portuguese Bend Club may need to perform remedial grading on its property to prevent damage to its roads and to residents' homes. It is anticipated that the remedial grading activity will take place on property owned by the association, located on the western end of the community, or on the adjoining City-owned property. It is anticipated that the remedial grading activity will result in a loss of 3.0 acres of CSS habitat and 10.0 acres of grassland. One point location for the cactus wren occurs in the vicinity of this project. Mitigation for this Covered Private Project is addressed, in part, by the City conveying and managing 1,123.0 acres to the Preserve. For the Private Projects to be covered under the City's Plan, vegetation removal shall be offset by the project applicant paying a Mitigation Fee into the City's Habitat Restoration Fund using a 2:1 mitigation ratio for impacted CSS, a 0.5:1mitigation ratio for impacted non-native grassland, and a 3:1 mitigation ratio for impacted native grassland (as described in Section 2.2.1 of the Plan) occurring in areas greater than 0.3 acre. This Covered Private Project may mitigate by one of the following two methods: (1) Dedication of additional acreage to the Preserve that will add to the biological function of the Preserve (the approval of the City, PVPLC, and the Wildlife Agencies is required for acreage to be dedicated to the Preserve) and the property owner must provide management funding for the additional acreage according to a Property Analysis Record or similar method; or (2) Payment of a Mitigation Fee to the City's Habitat Restoration Fund described in section 8.2.1.1 in an amount of $50,000 per acre for the total mitigation acreage required (e.g., 3 acres of CSS impact at a 2:1 ratio = $300,000.00). The Mitigation Fee must be paid to the City prior to the remedial grading taking place. The PVPLC and the City have determined that $50,000 (in 2013 dollars) is the cost to restore and maintain 1 acre of native habitat. The $50,000 Mitigation Fee will be reviewed periodically, no less than every three years, by the City and, if necessary, adjusted to account for inflation and/or higher than expected restoration and management costs.

5.3.3 Fuel Modification for Private Projects throughout the City

For new private development projects on vacant land in the City, all fuel modification required by the Los Angeles County Fire Department and/or Los Angeles County Department of Agricultural Commissioner as a result of such new projects will occur outside of the Preserve unless the City and the Los Angeles County Fire Department and/or Agricultural Commissioner agree that no other options exist. For existing private development, the Los Angeles County Fire Department and Los Angeles County Department of Agricultural Commissioner have reviewed the existing private development that abuts the Preserve and have determined the amount of brush clearance needed within the Preserve to provide the code-required fuel modification zone for the protection of existing structures outside the Preserve (see Figure 5-1).

In situations where fuel modification must occur in the Preserve, impacts are already addressed by the City dedicating 1,402.4 acres to the Preserve. For the Private Projects to be covered under the City's Plan, vegetation needed to be cleared for fuel modification shall be offset by the project applicant paying a Mitigation Fee into the City's Habitat Restoration Fund using a 2:1 mitigation ratio for impacted CSS, a 0.5:1 mitigation ratio for impacted non-native grassland, and a 3:1 mitigation ratio for impacted native

grassland (as described in Section 2.2.1 of the Plan) occurring in areas greater than 0.3 acre. Removal of cacti and other succulents within any required fuel clearing areas shall be avoided/minimized to preserve habitat for the coastal cactus wren and other Covered Species. The total Mitigation Fee payment required is calculated by multiplying the total acreage impacted by the required ratio for each habitat type. The Mitigation Fee payment shall be provided by the property owner benefiting from the fuel modification by one of the following two methods: (1) Dedication of additional acreage to the Preserve that will add to the biological function of the Preserve (the approval of the City, PVPLC, and the Wildlife Agencies is required for acreage to be dedicated to the Preserve) and the property owner must provide management funding for the additional acreage according to a Property Analysis Record or similar method; or (2) Payment of a Mitigation Fee to the City's Habitat Restoration Fund described in section 8.2.1.1 in an amount of $50,000 per acre for the total mitigation acreage required (e.g., 3 acres of CSS impact at a 2:1 ratio = $300,000.00). The Mitigation Fee must be paid to the City prior to the fuel modification taking place. The PVPLC and the City have determined that $50,000 (in 2013 dollars) is the cost to restore and maintain 1 acre of native habitat. The $50,000 Mitigation Fee will be reviewed annually by the City and if necessary adjusted to account for inflation and/or higher than expected restoration and management costs.

The anticipated loss from fuel modification resulting from Covered Private Projects/Activities outside of the Preserve is not expected to exceed 10.0 acres of CSS and 20.0 acres of grassland. Any loss of CSS beyond 10.0 acres and 20.0 acres of grassland is not a NCCP/HCP Covered Project/Activity.

5.3.4 Miscellaneous Private Projects Throughout the City Outside of the Preserve

The City may issue a permit for any Private Project in the City which impacts CSS habitat and is not specifically identified in this NCCP/HCP as a Covered Activity provided that the project impacts are located outside of the Preserve and the impacts are mitigated by the project applicant as described in this section.

Impacts to CSS shall be mitigated by the project applicant using a 2:1 mitigation ratio for impacted CSS. Because fire is a natural component of the CSS vegetation community, under normal circumstances natural re-growth of habitat is expected, and any land that once had CSS will be considered CSS for the purposes of this Covered Activity. The mitigation shall be provided by the project applicant by the payment of a Mitigation Fee to the City's Habitat Restoration Fund discussed in section 8.2.1.1 in the amount of $50,000 per acre based on the total mitigation acreage required. The Mitigation Fee must be paid to the City prior to issuance of the grading or building permit, whichever comes first. The PVPLC and the City have determined that $50,000 (in 2013 dollars) is the amount that is needed to restore and maintain 1 acre of native habitat. The $50,000 Mitigation Fee will be reviewed annually by the City and, if necessary, adjusted to account for inflation and/or higher-than-expected restoration and management costs.

There are 23.6 acres of exotic woodland, 22.6 acres of disturbed vegetation and 262.8 acres of grassland located outside of the Preserve or Neutral Lands that will be impacted by potential development with no mitigation required by individual property owners under this NCCP/HCP because the loss of such lands would not affect any of the Covered Species. Furthermore, there are 99.5 acres of CSS habitat outside of

both the Preserve and Neutral Lands which include the 27.7 acres of CSS that would be impacted by the other four specific private projects discussed in this Section 5.3 of the Plan. This would result in the potential for a total of 71.8 acres of CSS habitat outside the Preserve and Neutral Lands to be lost as a result of these miscellaneous private projects throughout the City. Since this CSS and grassland exist outside the Preserve and Neutral Lands and is not targeted for conservation, this Plan is assumes that all of this habitat could be lost over the life of this Plan as a result of Miscellaneous Private Projects without affecting the Preserve design and/or species persistence.

5.3.5 Plumtree Development

If a development project is approved on the 27.0-acre Plumtree property and the owner opts to rely on this NCCP/HCP to mitigate any impacts to biological resources caused by the proposed development project, all impacts to biological resources addressed under this Plan on the 27.0-acre Plumtree property will be considered adequately mitigated by the conveyance of 30.0 acres of functional and connected habitat on the Upper Filiorum property (190.0 total acres) in 2009, as described in Section 4.2.1 of the Plan, which has been dedicated to the Preserve with the appropriate conservation easement (see Exhibit E in the IA). Any required fuel modification for a proposed project on the Plumtree parcel will not encroach into the area dedicated to the Preserve. Based on a biology report prepared by NRC on August 14, 2007, the 27.0-acre Plumtree Parcel contains 19.7 acres of non-native grassland and 2.8 acres of disturbed CSS. In addition, one pair of gnatcatchers was observed.

The donation of the 30.0-acre parcel by the property owner and its subsequent dedication to the Preserve as mitigation for any future upland biological impacts does not constitute nor imply approval of any subsequent development project on the Plumtree property by the City or determination of consistency with the NCCP/HCP by the Wildlife Agencies.

Table 5-2. Total Loss of Habitat by Privately Covered Projects and Activities

COVERED PRIVATE PROJECT	HABITAT LOSS (ACRES)	
	CSS	GRASSLAND
1. Lower Filiorum Development	11.9	70.0
2. Portuguese Bend Club Remedial Grading	3.0	10.0
3. Fuel Modification for Private Projects	10.0	20.0
4. Miscellaneous Private Projects throughout the City	71.8	143.1
5. Plumtree Development	2.8	19.7
Total Acreage of Habitat Loss	***99.5***	***262.8***

5.4 Other Covered Activities

The following Covered Activities are expected to occur in the Preserve and these activities are not expected to involve the permanent loss of habitat. The following Covered Activities shall adhere to the Habitat Impact Avoidance and Minimization Measures for Covered Activities and Avoidance and Minimization Measures for Covered Species outlined in Section 5.5 and 5.6, respectively of the Plan as part of all operations and authorizations to precede work, where applicable.

5.4.1 Operation and Maintenance

The following Covered Activities are expected to occur in the Preserve due to short- and long-term operation and maintenance requirements or emergency situations conducted by the City, other public agencies, or utility companies seeking Third-Party Participant status. All of these activities listed below may not occur without first notifying the City. Any activity not identified below as a Covered Activity may not be initiated in the Preserve without prior notification to the PVPLC and concurrence from the Wildlife Agencies.

- Landslide abatement and monitoring activities that do not result in the loss of Covered Species and/or habitat. The regular maintenance and repair of existing drainage facilities and Existing Preserve Roads or trails that accommodate authorized vehicles within the Preserve that do not result in the loss of Covered Species and/or their habitat.
- The maintenance of Existing Preserve Roads or trails that accommodate authorized vehicles in the Preserve provided there is no loss of Covered Species and/or their habitat.
- Geologic testing and monitoring for public health and safety reasons, provided there is no loss of Covered Species and/or their habitat.
- Installation, maintenance, and repair of utilities and related infrastructure(s) that are necessary to serve the Covered Private Projects identified in Section 5.2 of the Plan provided there is no loss of Covered Species and/or their habitat.
- Maintenance and repair of utilities and related infrastructure(s) provided there is no loss of Covered Species and/or their habitat.
- The maintenance and repair of existing water quality basins, retention basins, detention basins, and debris basins, provided there is no loss of Covered Species and/or their habitat.
- Photography and filming, provided a City permit is obtained, no grading is involved, no new access road or trails are created, and provided there is no loss of Covered Species and/or their habitat.
- City and Los Angeles County law enforcement activities, including authorized vehicular access.

5.4.2 Public Use

Public access to the Preserve is conditionally allowed for passive recreational purposes and to promote understanding and appreciation of natural resources under the NCCP/HCP and must be consistent with the protection and enhancement of biological resources set forth in this Plan. Excessive or uncontrolled access; however, can result in habitat degradation through trampling and erosion (e.g., along trails) and disruption of breeding and other critical wildlife functions at certain times of the year. In order to balance the public's passive recreational needs with the protection of natural resources within the Preserve, a Public Use Master Plan (PUMP) has been developed jointly by the City, the public, and PVPLC to address public access issues. The PUMP is a proposed City-Covered Project incorporated into the Plan; therefore, it must be approved by the Wildlife Agencies as part of the NCCP/HCP before the activities, including the Preserve

Trails Plans, will be allowed. The following public uses and activities are considered conditionally Covered Activities in the Preserve if they conform to the PUMP:

- Public use and implementation of the Preserve Trails Plan (PTP) contained in the Wildlife Agency-approved PUMP. Section 9.2.2.1 of this Plan provides the guidelines that will be used for the PTP.
- Closure of existing trails within the Preserve that are not included in the PTP, as approved by the City Council and Wildlife Agencies.
- Passive recreational activities (e.g., horse riding, hiking, bicycling, wildlife viewing) as described in the PUMP and approved by the City and Wildlife Agencies.
- Subject to the PUMP, the creation and maintenance of passive overlook or vista areas with seating benches and trail markers may be located at key vista points near existing trails in the Preserve, provided no existing habitat will be lost. The location of these overlooks shall be located to avoid or minimize direct and indirect impacts to biological resources. The location of these overlooks will be approved by City Council.
- Installation and maintenance of benches, tie rails, portable toilets, and trash cans within the Preserve and near Preserve boundaries, provided no existing habitat will be lost. The location of these facilities shall be sited to avoid or minimize direct and indirect impacts to habitat and Covered Species. Location of overlooks shall be reviewed for consistency with the PUMP and this Plan and approved by the City Council prior to initiation of any implementation work.
- Installation of trailhead signage/kiosks within the Preserve adjacent to Existing Preserve Roads, recreational trails, or other access ways shall be sited away from sensitive resource areas. The location of trailhead signage/kiosks shall be reviewed for consistency with the PUMP and this Plan and approved by the City prior to initiation of any implementation work.
- Operation of the existing agricultural uses at the Alta Vicente Reserve, totaling 5.5 acres, provided the appropriate City approval is maintained and all agricultural practices and improvements remain consistent with this NCCP/HCP. No other agricultural activities are allowed in the Preserve.
- Night use of the Preserve provided use is limited, controlled, monitored, and managed consistent with the Palos Verdes Nature Preserve Night Hike Regulations. The City will issue a permit for night use and any night use of the Preserve shall be consistent with the requirements of this Plan. A summary of night use in the Preserve will be included in the Annual Report.

5.4.3 Preserve Management

Management of the Preserve in accordance with the provisions described in Sections 7.0 and 9.0 of the Plan is a Covered Activity. Specific management Covered Activities anticipated to occur in the Preserve include the following:

- Monitoring of Covered Species
- Vehicular access
- Habitat restoration
- Invasive species control
- Predator control
- Reintroduction of Covered Species
- Photo documentation
- Installation of signage
- Trail maintenance
- Maintenance of fire/fuel buffers
- Field research and studies designed to contribute to the long-term protection of habitats and species and other basic research of habitats and species included in the Preserve.

5.5 Habitat Impact Avoidance and Minimization Measures for Covered Projects and Activities

The City will coordinate with PVPLC to ensure implementation of the following avoidance and minimization measures as enforceable conditions in all permits, operations, and authorizations to proceed with the Covered Projects and Activities listed in Sections 5.2 through 5.4 of this Plan:

1. The City will review proposed plans for Covered Project and Activities within and abutting the Preserve (e.g., access routes, staging areas) to ensure proposed Covered Projects and Activities are consistent with this NCCP/HCP.
2. The City and its Preserve Habitat Manager (i.e., PVPLC) will ensure that access to the Preserve to carry out Covered Activities is consistent with the approved Preserve Access Protocol (PAP) that is required to be created pursuant to Section 6.5.2 of this Plan. When accessing the Preserve, authorized vehicle operators must take measures to avoid and minimize, to the maximum extent possible, environmental damage, including damage to habitat and Covered Species. Existing Preserve Roads or trails that accommodate authorized vehicles in the Preserve should be used wherever practical, while minimizing authorized vehicles trips overall within the Preserve. Any unavoidable access routes outside existing trails that can accommodate authorized vehicles or construction areas should be clearly marked. Any new recreational trails, trails that can accommodate authorized vehicles, and utility corridors will be located in areas that avoid/minimize impacts to Covered Species, habitat fragmentation and edge effects. The width of construction corridors and easements will be minimized.

3. The City and/or responsible private project applicants will be responsible for ensuring that an Erosion Control Plan is developed and implemented for any Covered Projects and Activities in the Preserve or abutting the Preserve that might result in erosion as determined by the City. Potential erosion control measures include siltation fencing, straw bales, sand bags, etc.

4. When stockpiling topsoil in the Preserve or on vacant lots abutting the Preserve, it will be placed only in areas that minimize the damage to habitat. If fill or topsoil is imported into the Preserve, the fill will be clean and free of foreign debris and non-native plant material.

5. For any new development on vacant lots abutting the Preserve, construction staging areas will be located at least 15 meters (50 feet) away from the Preserve boundary and natural drainages. No-fueling zones will extend a minimum distance of 15 meters (50 feet) from all drainages and away from the Preserve boundary.

6. Construction footprints for Covered Projects and Activities in the Preserve or abutting the Preserve will be clearly defined with flagging and/or fencing and will be removed upon completion of the Covered Activities.

7. Temporary impacts associated with Covered Projects or Activities will be restored with native vegetation appropriate to the physical conditions of the site. For example, if a temporary impact area was dominated by disturbed CSS before initiation of the Covered Project or Activity, the goal of habitat restoration will be to install undisturbed CSS. Project-specific restoration plans will be submitted to the Wildlife Agencies for review and comment prior to commencing work associated with each Covered Project or Activity that temporarily impacts in native vegetation.

8. Cut/fill slopes within the Preserve should be limited to Covered Projects and Activities, and outside of fuel modification zones within the Preserve will be revegetated with native species, or in the case of fuel modification zones, native plants recommended by Los Angeles County for fuel modification zones and consistent with Number 7 above. Impacts to cacti and other succulents within any required fuel clearing areas shall be avoided/minimized to conserve habitat for the coastal cactus wren and other Covered Species. Sidecasting of materials during trails, road, and utility construction and maintenance within the Preserve will be avoided.

9. Dust generated by the construction vehicles for Covered Projects and Activities on non-paved trails that accommodate authorized vehicles within the Preserve or on vacant lots abutting the Preserve will be minimized using a speed limit restriction to 10 miles per hour (mph) and, where appropriate, watering unpaved surfaces.

10. Any temporary safety or security night lighting for Covered Projects and Activities in the Preserve or on vacant lots abutting the Preserve will be selectively placed, shielded, and directed away from all native vegetative communities.

11. Prior to implementation of Covered Projects or Activities within the Preserve or on vacant lots abutting the Preserve (see Section 5.6) that may impact Covered Species or their habitat, the City will provide an education program to all personnel associated with Covered Projects or Activities. The education program will describe (1) the potential presence of Covered Species and their

habitats, (2) the requirements and boundaries of the project (e.g., areas delineated on maps and by flags or fencing), (3) the importance of complying with avoidance and minimization measures, (4) environmentally responsible construction practices, (5) identification of sensitive resource areas in the field, and (6) problem reporting and resolution methods.

12. Any biologist used for the implementation of this NCCP/HCP, including implementing these measures, will be subject to the Wildlife Agencies' review and approval. The City will submit the biologist's name, address, telephone number, résumé, and three references (i.e., the names and contact information of people familiar with the relevant qualifications of the proposed biologist) at least 10 working days prior to initiating work. If the Wildlife Agencies do not respond within this 10-day period, the City will assume that the biologists are approved.
13. For bird species that are not federally listed or a Covered Species identified in the NCCP/HCP, if vegetation clearing must occur in the Preserve during the bird breeding season under the circumstances described in Sections 5.6.9 and 5.6.10 below (defined here as February 15-August 31), a pre-construction nest survey will be conducted and a 100-feet avoidance/exclusion zone or a buffer/barrier zone to attenuate noise (consistent with Section 5.6.9 and 5.6.10 below) will be placed around all active nests (i.e., active nests with eggs or chicks) until the nestlings fledge or the nest fails. Further, no take of Fully Protected Species is allowed under this Plan (see Section 1.2.2 of the Plan).
14. Covered (Plant) Species and cacti may be removed from impact areas and relocated to an adjacent or suitable location within the Preserve, in coordination with the Wildlife Agencies. The City and its Preserve Habitat Manager shall be notified at least ten (10) working days prior to impacts for potential salvaging and relocation opportunities.
15. No new lighting shall be allowed in the Preserve except where essential for roadway, facility use, and safety and security purposes. New light sources abutting the Preserve will be oriented downward and away from habitat areas, and shielded, if necessary, so that the lighting does not impact wildlife and native vegetation.
16. Construction surveys for herpetofauna shall be conducted prior to and during the first days of initial grading in areas within the Preserve where significant populations are known to exist. The City, its Preserve Habitat Manager, and the Wildlife Agencies shall be notified of all findings and relocation efforts at least ten (10) working days after grading has occurred. Any relocation efforts shall also be reported in the City's Annual Report.
17. Pre-construction surveys for raptor during the breeding season (January 31-September 30), where evidence of suitable nesting habitat is present, shall be conducted by a qualified biologist no later than four days prior to any project vegetation removal or grading activities within or on vacant lots abutting the Preserve. If nesting raptors are present, a 500-foot avoidance/exclusion zone or a buffer/barrier zone to prevent disturbance and attenuate noise will be placed around all active nests (i.e., active nests with eggs or chicks) and monitored until the nestlings fledge or the nest fails. If requested by the City or other entity, the qualified biologist may evaluate site conditions and determine that nest-specific buffers which vary from the avoidance/exclusion zone above are

warranted based on topography, vegetation, type and duration of activity, and other factors. The Wildlife Agencies, in coordination with the City and qualified biologist, will be notified of the status of all raptor surveying and monitoring, including if less than 500-foot avoidance/exclusion zone or buffer/barrier zone is proposed for the raptor species and what additional measures/monitoring are necessary. No take of Fully Protected Species is allowed under this Plan (see Section 1.2.2).

18. All project landscaping, erosion control and revegetation efforts within the Preserve shall use locally collected native vegetation/landscaping to the extent practicable and avoid those species listed on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory (see Section 5.6.4 and Appendix D of the Plan). All project landscaping, erosion control and revegetation efforts on vacant land abutting the Preserve are permitted to use non-native plants but shall be prohibited from using those species listed on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory (see Section 5.6.4 and Appendix D of the Plan). This requirement shall be incorporated as enforceable conditions in all City permits, operations, and authorizations to proceed with work.

19. Any proposed new or re-located trail within or abutting the Preserve shall comply with the requirements of the approved PUMP and this Plan. The guidelines in Section 9.2.2.1 of this Plan shall be used by the City and its Preserve Habitat Manager in implementing the PUMP, including the Preserve Trail Plan component. These guidelines place an emphasis on avoiding or minimizing impacts to CSS habitat and Covered Species, including: (1) providing a 25-foot setback to coastal bluffs; (2) using Existing Preserve Roads or trails that accommodate authorized vehicles, wherever practical; (3) any new trails, shall be located in areas that minimize habitat fragmentation and edge effects (e.g., maximum of 4 foot-wide in core areas); (4) seasonally rotating or limiting use to minimize degradation; and (5) providing a 30-foot upland buffer along major drainages.

20. For Covered Projects/Activities within the Preserve, the impact area (see Table 5-1, Total Loss of Habitat by Covered City Projects and Activities) shall be located on the least sensitive portions of the site as determined by existing site-specific biological and supporting information, and guided by the following (in order of increasing sensitivity):

    a. Areas devoid of vegetation, including developed areas, previously graded areas, disturbed and ruderal areas, and active agricultural fields;

    b. Areas of non-native vegetation, disturbed habitats, manufactured slopes, landscaped areas and eucalyptus/exotic woodlands (provided impacts to nesting birds are avoided);

    c. Areas of grasslands (excluding native grassland);

    d. Areas containing coastal scrub and saltbush scrub communities and all wetlands, including riparian scrub;

    e. Areas containing southern cactus scrub, southern coastal bluff scrub, cliff face, rock shore and native grassland communities;

    f. Occupied habitat for Covered Species and hostplants for the Covered butterfly Species; current surveys will be conducted throughout potential Covered Species habitat prior to any Covered

Projects or Activities to assess occupancy and determine avoidance and minimization measures; and

g. Areas necessary to maintain the viability of wildlife corridors.

5.6 Avoidance and Minimization Measures for Covered Species

The City will coordinate with PVPLC to ensure implementation of the following avoidance and minimization measures as enforceable conditions in all permits, operations, and authorizations to proceed with the Covered Projects and Activities listed in Sections 5.2 through 5.4 of this Plan. Species-specific conservation measures for covered species are described in detail in Appendix B and summarized here. These measures are required to maintain Permit coverage for each Covered Species.

5.6.1 Aphanisma

Surveys will continue to be conducted every 3 years within the existing fixed locations (PVPLC 2013), and the Preserve Habitat Manager will evaluate potential habitat restoration or enhancement opportunities as part of routine habitat management. Habitat restoration, including clearing of ice plant or other exotic plants adjacent to populations, unauthorized trail closures, and seeding for aphanisma will be included in the Preserve Habitat Management Plan (PHMP).

Pre-project surveys will be conducted throughout potential aphanisma habitat prior to approving Covered Activities to assess occupancy and to determine avoidance and minimization measures. If an existing population will be impacted by Covered Projects/Activities, the project applicant will engage the Preserve Habitat Manager and work with the Wildlife Agencies to prepare and implement a habitat restoration plan, to be approved by the City and Wildlife Agencies that will ensure no net loss of aphanisma within the population. Habitat restoration will include use of seed collected from the project site or from previously collected seed. Impacts to newly discovered or established populations throughout the Plan Area will be offset with equivalent habitat restoration. No more than two populations will be impacted unless additional populations are located or successfully established in advance of the impact, and the City, PVPLC and Wildlife Agencies, through annual coordination meetings, document that the status of the species in the Preserve is stable and adequately conserved. Trails will be maintained, posted and patrolled to avoid/minimize encroachment into occupied habitat.

5.6.2 South Coast Saltscale

Surveys will continue to be conducted every 3 years within the existing fixed locations (PVPLC 2013), and the Preserve Habitat Manager will evaluate potential habitat restoration or enhancement opportunities as part of routine habitat management. Habitat restoration, including clearing of ice plant or other exotic plants adjacent to populations, unauthorized trail closures, and seeding for south coast saltscale will be included in the PHMP.

Pre-project surveys will be conducted throughout potential south coast saltscale habitat prior to approving Covered Projects/Activities to assess occupancy and to determine avoidance and minimization measures. If an existing population will be impacted by Covered Projects/Activities, the project applicant will engage the Preserve Habitat Manager and work with the Wildlife Agencies to prepare and implement a habitat restoration plan, to be approved by the City and Wildlife Agencies that will ensure no net loss of south coast saltscale within the population. Habitat restoration will include use of seed collected from the project site or from previously collected seed. Impacts to newly discovered or established populations throughout the Plan Area will be offset with equivalent habitat restoration. No more than one population will be impacted unless additional populations are located or successfully established in advance of the impact, and the City, PVPLC and Wildlife Agencies, through annual coordination meetings, document that the status of the species in the Preserve is stable and adequately conserved. Trails will be maintained, posted and patrolled to avoid/minimize encroachment into occupied habitat.

5.6.3 Catalina Crossosoma

Surveys will continue to be conducted every 3 years within the Preserve by the Preserve Habitat Manager to monitor trends in population dynamics. Potential for habitat restoration actions that may benefit this species will be evaluated during routine habitat management. There are no Covered Projects/Activities with the potential to impact existing populations. If the large population in the Forrestal Reserve expands into an existing trail, routine trail maintenance as contemplated in the PUMP may require trimming or selective removal of some Catalina crossosoma individuals, only to the extent that it will maintain the existing width of an existing trail; impacts from the widening of an existing trail or a new trail would be subject to the conditions below.

Pre-project surveys will be conducted in potential Catalina crossosoma habitat prior to any Covered Projects/Activities to assess occupancy and determine avoidance and minimization measures. If an existing population will be impacted by Covered Projects/Activities, the project applicant will engage the Preserve Habitat Manager and work with the Wildlife Agencies to prepare and implement a habitat restoration plan, to be approved by the City and the Wildlife Agencies that will ensure no net loss of Catalina crossosoma within the population. Habitat restoration will include transplantation or use of seedlings propagated from previously collected seed. Impacts to newly discovered or established populations throughout the Plan Area will be offset with equivalent habitat restoration. No more than one population will be impacted unless additional populations are located or successfully established in advance of the impact, and the City, PVPLC and Wildlife Agencies, through annual coordination meetings, document that the status of the species in the Preserve is stable and adequately conserved. Trails will be maintained, posted, and patrolled to prevent/minimize encroachment into occupied habitat.

5.6.4 Island Green Dudleya

Surveys will continue to be conducted every 3 years within established locations to monitor trends in population dynamics, and potential habitat restoration actions that may benefit this species will be evaluated during routine habitat management.

Pre-project surveys will be conducted within potential island green dudleya habitat prior to any Covered Project or Activity to assess occupancy, and to determine avoidance and minimization measures. If this species is detected during surveys, impacts to this plant are expected to be avoided. Where avoidance of island green dudleya is not feasible, the project applicant will engage the Preserve Habitat Manager and work with the Wildlife Agencies to prepare and implement a habitat restoration plan, to be approved by the City and Wildlife Agencies, that will ensure the impacts will be offset with equivalent habitat restoration. No more than 0.25 acre of occupied dudleya habitat will be impacted and no more than one impact per Reserve, unless additional populations are located or successfully established in advance of the impact, and the City, PVPLC and Wildlife Agencies, through annual coordination meetings, document that the status of the species in the Preserve is stable and adequately conserved. The PVPLC has a successful propagation program for this species at the PVPLC nursery, and this program will continue as part of the NCCP/HCP. This species can be successfully planted in suitable habitat. Trails will be maintained, posted, and patrolled to avoid/minimize encroachment into occupied habitat.

5.6.5 Santa Catalina Island Desert-Thorn

Surveys will continue to be conducted every 3 years within established locations to monitor trends in population dynamics, and potential habitat restoration actions that may benefit this species will be evaluated during routine habitat management.

Pre-project surveys will be conducted within potential Santa Catalina Island desert-thorn habitat prior to any Covered Project or Activity to assess occupancy, and to determine avoidance and minimization measures. If this species is detected during surveys, impacts to this plant are expected to be avoided. If an existing population will be impacted by Covered Projects/Activities, the project applicant will engage the Preserve Habitat Manager and work with the Wildlife Agencies to prepare and implement a habitat restoration plan, to be approved by the City and the Wildlife Agencies that will ensure no net loss of Santa Catalina Island desert-thorn within the population. Habitat restoration will include transplantation or use of seedlings propagated from previously collected seed. Impacts to newly discovered or established populations throughout the Plan Area will be offset with equivalent habitat restoration. No more than one population will be impacted, unless additional populations are located or successfully established in advance of the impact, and the City, PVPLC and Wildlife Agencies, through annual coordination meetings, document that the status of the species in the Preserve is stable and adequately conserved. The PVPLC has a successful propagation program for this species at the PVPLC nursery, and this program will continue as part of the NCCP/HCP. This species can be successfully planted in suitable habitat. Trails will be maintained, posted, and patrolled to avoid/minimize encroachment into occupied habitat.

5.6.6 Wooly Seablite

Surveys will continue to be conducted at fixed locations every 3 years within the Preserve by the Preserve Habitat Manager to monitor trends in population dynamics, and potential habitat restoration actions that may benefit this species will be evaluated during routine habitat management activities. Pre-project surveys will be conducted within potential woolly seablite habitat for any Covered Project to assess occupancy and

determine avoidance and minimization measures. For Covered Projects/Activities, this species will be avoided from areas to be impacted, if feasible. The project applicant will engage the Preserve Habitat Manager and work with the Wildlife Agencies to prepare and implement a habitat restoration plan, to be approved by the Wildlife Agencies, that will ensure the impacts will be offset with equivalent habitat restoration. No more than 0.25 acre of occupied woolly seablite habitat will be impacted, and no more than one impact per Reserve, unless additional populations are located or successfully established in advance of the impact, and/or the City, PVPLC, and Wildlife Agencies, through annual coordination meetings, document that the status of the species in the Preserve is stable and adequately conserved. Trails will be maintained, posted and patrolled to avoid/minimize encroachment into occupied habitat.

5.6.7 El Segundo Blue Butterfly

Surveys will be conducted by the Preserve Habitat Manager every 3 years within the existing populations (Figure 2) to monitor trends in population dynamics. The Preserve Habitat Manager shall evaluate potential opportunities to expand this species' habitat. The host plant for this species will be included in the seed mix for restoration (active planting) within the Preserve in suitable areas, particularly in areas similar to the existing known ESB locations.

Pre-project surveys will be conducted throughout the project area in potential ESB habitat, defined by presence of coast buckwheat, prior to any Covered Activity to assess occupancy and determine avoidance and minimization measures. Occupied ESB habitat will be defined by the extent of host plants in an area known to be occupied by ESB (i.e., any coast buckwheat within 50 feet of a shrub where ESB were observed), and impacts to occupied habitat will be avoided if possible. Where ESB is detected and impacts are unavoidable, the Wildlife Agencies will be provided the opportunity (with sufficient advanced notice) to relocate any and all larvae, pupae, or adults. Survey data will be used to assess the distribution of ESB within the host plant patch, and the City will work with the Wildlife Agencies to minimize impacts to ESB. No more than 5% of any existing ESB occurrence polygon will be impacted. Impacts to newly discovered or established occupied habitat patches will not exceed 10% of their distribution at the time of impact based on a habitat evaluation conducted within 1 year of the anticipated impact. For any impact to occupied habitat, host plants will be established onsite to offset the number of host plants lost during the project. Trails will be maintained, posted and patrolled to avoid/minimize encroachment into occupied habitat.

5.6.8 Palos Verdes Blue Butterfly

The PVPLC shall regularly evaluate potential opportunities to expand this subspecies' habitat. The host plant for this species will be included in the seed mix for restoration (active planting) within the Preserve in suitable areas within coastal sage scrub and grassland habitat, particularly in historic areas. Pre-project host plant surveys will be conducted in potential PVB habitat prior to any Covered Project/Activities to assess occupancy and determine avoidance and minimization measures. If host plants are identified, a 5-foot buffer around host plants will be avoided if feasible. If avoidance of host plants is not feasible, focused PVB surveys will be conducted. If PVB is discovered during surveys, the Wildlife Agencies will be provided the opportunity (with sufficient advanced notice) to relocate any and all larvae, pupae, or adults.

Occupied PVB host plants will be avoided when possible. Occupied habitat will be defined as host plants, including a 5-foot buffer, within a 50-foot buffer around any PVB observation. Trails will be maintained, posted and patrolled to avoid/minimize encroachment into occupied habitat. Because PVB host plants readily establish in disturbed areas, they may become established on trails and trails that can accommodate authorized vehicles throughout the Plan Area. Routine maintenance of recreational trails and trails that accommodate authorized vehicles may impact host plants and potentially PVB individuals, and there will be no additional restrictions placed on recreational trails or trails that accommodate authorized vehicles based on presence of PVB.

5.6.9 Coastal California Gnatcatcher

Surveys will be conducted every 3 years within the Preserve to monitor trends in population dynamics and to evaluate potential habitat restoration actions to benefit this species. The Preserve Habitat Manager shall regularly evaluate potential opportunities to expand and enhance gnatcatcher habitat, and the Plan will provide a net increase in gnatcatcher habitat within the Preserve. Implementation of species-specific management actions as part of the PHMP (e.g., invasive species removal) will also occur under the Plan.

Pre-project surveys will be conducted in areas that contain potential gnatcatcher habitat. Construction for Covered Projects and Activities that may impact gnatcatchers will be scheduled to avoid the bird breeding season (February 15-August 31). If, due to an urgent or emergency public health or safety concern determined by the City and Wildlife Agencies, these activities must occur from February 15-August 31 within and/or adjacent to gnatcatcher habitat, gnatcatcher pre-project surveys will be conducted to determine nesting activity. Survey results will be submitted to the Wildlife Agencies for review. If nesting activity is detected, then all construction activity must occur outside of a 300-foot buffer surrounding each nest. Reductions in the nest buffer may be possible depending on site-specific factors (e.g., topography, screening vegetation, ambient noise levels, etc.), in coordination with the Wildlife Agencies. Construction noise levels should not exceed 60 dBA Leq within the 300-foot buffer zone unless authorized by the Wildlife Agencies. The buffer zones and noise limits will be implemented until the nestlings fledge or the nest fails. Status of the nest will be monitored by a qualified biologist. A report will be submitted to the Wildlife Agencies for review prior to discontinuing the noise limits and nest buffers. If grubbing or other construction related activities associated with Miscellaneous Drain Repair, Palos Verdes Drive South Road Repair, or Alta Vicente Reserve (Upper Point Vicente) must occur from February 15-August 31 within and/or adjacent to gnatcatcher habitat, gnatcatcher pre-project surveys will be conducted to determine nesting activity. If nesting activity is detected, all construction activity must occur outside of a 50-foot buffer surrounding each nest. Construction noise levels should not exceed 60 dBA Leq within the 50-foot buffer zone. The buffer zones and noise limits will be implemented until the nestlings fledge or the nest fails. Status of the nest will be monitored by a qualified biologist. A report will be submitted to Wildlife Agencies for review prior to discontinuing the noise limits and nest buffers. Trails will be maintained, posted, and patrolled to avoid/minimize encroachment into suitable habitat.

5.6.10 Cactus Wren

Surveys will be conducted every 3 years by the Preserve Habitat Manager within the Preserve to monitor trends in population dynamics and to evaluate potential habitat restoration actions that may benefit this species. The Preserve Habitat Manager shall evaluate potential opportunities to expand and enhance cactus wren habitat, and the expectation is that the Plan will increase cactus wren habitat within the Preserve. Implementation of species-specific management actions as part of the PHMP (e.g., invasive species removal, cactus planting) will also occur under the Plan, which will protect and enhance existing habitat.

Pre-project surveys will be conducted in areas that contain potential habitat for the cactus wren. Construction or constructions related activities for Covered Projects and Activities that may impact cactus wrens will be scheduled to avoid the bird breeding season (February 15-August 31) and to avoid or minimize direct impacts to mature cactus (i.e., greater than 1 foot in height), and preferentially avoid the most mature cactus in a particular stand). If, due to an urgent or emergency public health or safety concern determined by the City and Wildlife Agencies, these activities must occur from February 15-August 31 and within 100 feet of any coastal sage scrub and cactus wren pre-project surveys will be conducted to determine nesting activity. Pre-project surveys will consist of 3 survey days over a one-week period, including one survey within 3 days of construction. Survey results will be submitted to the City, PVPLC, and Wildlife Agencies. If nesting activity is detected, then all construction activity must occur outside of a 100-foot avoidance buffer/barrier zone to attenuate noise surrounding each nest. No birds shall be disturbed or taken. Construction noise levels should not exceed 60 dBA Leq within the buffer zone. The buffer zones and noise limits will be implemented until the nestlings fledge. The status of the nest will be monitored, and a report with recommendations will be submitted to the Wildlife Agencies for review prior to discontinuing the noise limits and nest buffers.

Other measures in the Plan to conserve populations of cactus wren include the following:

- Trails will be posted and patrolled to avoid/minimize encroachment into occupied cactus wren habitat;
- Locate new public access points and operational/maintenance activities to minimize/avoid areas occupied by cactus wren and where large stands of mature cactus (at least 1-3 feet tall) exist within the Preserve; and,
- Impacts to cacti and other succulents within any required fuel clearing areas shall be minimized to maintain habitat for the coastal cactus wren and other species. Taller (1-3 feet) cactus that cannot be avoided should be salvaged where feasible and transplanted to suitable areas within the Preserve.

5.7 Restrictions and Requirements for Projects/Activities Abutting and Adjacent to the Preserve

5.7.1 Abutting Development Project Review

In reviewing a proposed new development project that will impact potential Covered Species habitat abutting the Preserve, avoidance or minimization of impacts to biological resources and retention of native habitats will be addressed as part of plan design review. The site design review process will consider the locations of access and staging areas, fire and fuel modification zones, predator and exotic species control, fencing, signage, lighting, increased stormwater and urban runoff, increased erosion, increased noise levels, and public access to habitats supporting Covered Species in developing measures to avoid or minimize impacts to biological resources. Avoidance and minimization measures to reduce or eliminate impacts to biological resources will be incorporated as enforceable conditions in all City permits, operations, and authorizations to proceed with work.

5.7.2 Fencing and Lighting

The following practices shall apply to new development projects on vacant lots abutting the Preserve:

Fencing, Barriers, and Edge Treatment

1. Fencing, barriers, or functional edge treatment will be required for all new projects developed on existing vacant lots abutting the Preserve and shall be designed to prevent intrusion of domestic animals into the Preserve. This requirement may be waived with written approval from the Wildlife Agencies.
2. Prohibiting the use of gates, openings, or other entry means in project fencing, barriers and edge treatment that would allow direct human access to the Preserve, which would degrade the natural habitat. This requirement may be waived with written approval from the Wildlife Agencies.

Lighting

1. All light sources abutting the Preserve shall be designed and constructed to be oriented downward and away from habitat areas and shielded, if necessary, to ensure there are no impacts to wildlife and native vegetation.
2. Lighting in new developments on vacant lots abutting the Preserve shall be avoided and/or minimized as appropriate through appropriate placement and shielding of light sources in compliance with the City's Municipal Code requirements for exterior lighting.

5.7.3 Equestrian Use

Brown-headed cowbirds (*Molothrus ater*) are parasitic, nonnative species in California that contribute to the decline of many native bird species. This transient bird species originally followed bison herds and has adapted to follow domestic European livestock. As a result, any new corral or equestrian facility within the

City that requires the approval of a Conditional Use Permit or Large Domestic Animal Permit by the City and is located within 500 feet of the Preserve must have a qualified biologist monitor for cowbirds for three years, and every third year thereafter, to determine their presence. If cowbirds are present, a cowbird trapping program and/or other effective measures will be funded and implemented by the applicant.

5.7.4 Landscaping

Landscaping can create conflicts with biological objectives of the Preserve by increasing the potential for introduction of non-native and invasive plant species in natural areas. These non-native species can displace native species in natural communities. Horticultural regimes can alter site conditions in the Preserve adjacent to landscaping by increased runoff, fertilization, pesticides, and other factors, all of which promote a shift from native to non-native flora. Additionally, the use of native cultivars not collected on site or in the proximity of the site can create genetic contamination through hybridization. Therefore, the following practices shall apply to all activities within the Preserve, including new development projects on vacant lots abutting the Preserve, and shall be incorporated as enforceable conditions in all City permits, operations, and authorizations to proceed with work.

1. Landscaping shall avoid those species listed on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory (see Section 5.6.4 and Appendix D of the Plan).
2. Irrigation shall be designed and maintained to avoid overspray or runoff into the Preserve.

5.7.5 Stormwater and Urban Runoff

New development projects on vacant lots abutting the Preserve approved by the City will include mitigation measures or other conditions, as appropriate, to reduce the likelihood that a flood would adversely impact Covered Species and the conserved habitat. As a co-permittee of the RWQCB National Pollution Discharge Elimination System (NPDES) Permit, the City is required to adopt a Standard Urban Stormwater Mitigation Plan (SUSMP). The large majority of new development projects and significant redevelopment projects must meet SUSMP requirements to reduce pollution and runoff flows. The City's SUSMP includes a list of recommended source control and structural treatment Best Management Practices (BMPs). Additionally, City land use policies ensure that land use regulations and public improvements accommodate flood events that approximate the rate, magnitude, and duration of natural flood flows.

6.0 LOCAL PLAN REVIEW AND APPROVAL PROCESS

6.1 City Implementation Process

Upon approval of this NCCP/HCP and signing of the IA, the City will use its land-use authority to implement the provisions of this NCCP/HCP. The City will guarantee implementation of this NCCP/HCP through interim and permanent regulatory measures, including codes, ordinances, and policies contained in the City's General Plan and Municipal Code, as described herein in Section 6.3 of the Plan. The actions described in this section will ensure consistent implementation of this NCCP/HCP through City policy, private, and public project review and approval, and guidelines for operations and management of public lands. In addition, the City will provide interim protection to habitat lands addressed in the Take Authorizations through the process described herein. Subsequent entitlements will not be provided without compliance with applicable provisions of the City's General Plan, Zoning Ordinance, Grading Ordinance, Subdivision Ordinance, and any other applicable provisions of the Municipal Code.

6.2 Existing Provisions of the Municipal Code

As a regulatory document, the City's Municipal Code provides an important layer of environmental protection (either directly or indirectly) to lands located in the Preserve. Each relevant section of the City's Code in effect at the time the NCCP/HCP is adopted is listed in Appendix F of the Plan with an explanation of how the code protects the Preserve. In summary, the Preserve is directly protected by certain provisions of the Municipal Code, such as the grading regulations (Section 17.76.040), the natural overlay control district regulations (Section 17.40.040) and the Coastal Sage Scrub Conservation and Management Ordinance (Chapter 17.41). These City regulations require most grading and vegetation removal to be reviewed for compliance with established regulations and controls, including natural habitat protection. Thus, any applications for new development on vacant lots abutting the Preserve, which involve grading that contain coastal sage scrub habitat, can be modified or denied if the City's regulations are not being met, thus providing some habitat protection in the Preserve.

Likewise, the Preserve is indirectly protected by other City ordinances, such as the stormwater discharge ordinance; the off-road vehicle ordinance; and the streets, parks, and recreational facilities ordinance. The stormwater discharge ordinance (Municipal Code Chapter 13.10) indirectly protects the Preserve by establishing standards and procedures for reducing pollutants in stormwater discharge for major projects throughout the City, thus reducing the likelihood of contaminated stormwater entering the Preserve. The off-road vehicle ordinance (Municipal Code Chapter 10.24) indirectly protects the Preserve by prohibiting off-road vehicles from driving in the Preserve. The recreational facilities ordinance (Municipal code chapter 12.16) prohibits trail use in the Preserve not authorized by the City.

6.3 City Implementation Actions and Process

Pursuant to the sequence of events timing described in Section 6.5 of the Plan, the City shall amend the City's General Plan, Municipal Code, Zoning Map and CEQA Guidelines to provide protection of the

Preserve lands and ensure consistency of future projects within the NCCP/HCP Area through the City's land use authority. The specific amendments are described below.

6.3.1 Municipal Code Amendments

Grading Ordinance

The City shall amend the Grading Ordinance (Municipal Code Section 17.76) to ensure that any grading associated with Covered Projects and/or Activities within the NCCP/HCP Preserve, on a vacant lot abutting the Preserve, or on a vacant lot outside the Preserve that supports CSS or Covered Species conforms to the provisions of this NCCP/HCP. If a grading application is not consistent with the revised ordinance, the proposed activity will have to be modified or the application will be denied by the City. If mitigation is required, said mitigation shall be provided prior to issuance of any grading authorization/permit in accordance to Section 5.3.4 of the Plan.

Fire Code

At no time will NCCP/HCP provisions take precedence over the requirements of public health, safety, and welfare as determined by the Los Angeles County Fire Department. The City has consulted with the Los Angeles County Fire Department and Los Angeles County Department of Agricultural Commissioner to ensure that proposed fuel modification zone widths within the Preserve are adequate to meet fire department requirements. The fuel modification areas within the Preserve have been approved by the Los Angeles County Fire Department and Agricultural Commissioner and have been mapped by the City (see Figure 5-1), and included as a covered activity as described in Section 5.2 of this Plan. The City's Fire Code will be amended to reflect the fuel modification practices and zones within the Preserve, as well as to make any parties found responsible for fires which burn in the Preserve financially responsible for the cost of any necessary planned responses described in Section 6.10.2.1 of the Plan, thus providing direct protection of the Preserve.

Site Plan Review Process

The City shall amend the Site Plan Review Process (Municipal Code Section 17.70) to ensure that the provisions of this NCCP/HCP are incorporated into the Site Plan Review evaluation process for any Covered Activity within the NCCP/HCP Preserve, on a vacant lot abutting the Preserve, or on a vacant lot outside the Preserve that supports coastal sage scrub. The modified Site Plan review process will provide direct protection of the Preserve as any proposed construction on vacant lots abutting the Preserve will need to be consistent with the provisions of the NCCP/HCP. If not consistent, the proposed Covered Activity will have to be modified or denied by the City. If mitigation is required, it shall be provided in accordance with Section 5.3.4 of the Plan. Lots with coastal sage scrub that are not within or adjacent to the Preserve will mitigate impacts consistent with the NCCP/HCP.

Coastal Sage Scrub Conservation and Management Ordinance

The City shall amend its existing Coastal Sage Scrub Conservation and Management Ordinance (Municipal Code Chapter 17.41 *et seq.*) to ensure that the provisions of this NCCP/HCP are incorporated into said ordinance. More specifically, the ordinance will be amended to allow CSS loss associated with the projects and activities covered by this NCCP/HCP and to incorporate the mitigation requirements discussed in Sections 5.3.3 and 5.3.4 of the Plan.

Subdivision Ordinance

The City will amend its Subdivision Ordinance (Title 16) to ensure any future proposed subdivisions involving vacant lots abutting the Preserve conform to this NCCP/HCP. The new ordinance will provide direct protection of the Preserve as any proposed subdivisions abutting the Preserve will need to be consistent with the provisions of the NCCP/HCP. If not consistent, the proposed subdivision will have to be modified or denied by the City.

Coastal Permits

The City shall amend the Coastal Permit Process (Municipal Code Section 17.72) to ensure that all Coastal Permits for Covered Activities within the NCCP/HCP Preserve, on a vacant lot abutting the Preserve, or on a vacant lot outside the Preserve that supports coastal sage scrub will comply with the provisions of this NCCP/HCP. If Coastal Permit applications are not consistent, they will have to be modified or denied by the City. The modified ordinance will provide direct protection of the Preserve as any proposed activities within the coastal zone will be reviewed by the City for compliance with the NCCP/HCP.

6.3.2 Other Amendments

Zoning Map

The City's Zoning Map, which is established by the Zoning Code, will be amended to incorporate the boundaries of the Preserve by creating a new Open Space – Preservation zoning designation for all Preserve areas. The Zoning Map will also be amended to remove the existing Natural Overlay Control District designation on any Preserve properties as the more restrictive NCCP regulations associated with the Preserve will replace the Natural Overlay Controls for the Preserve properties. This will provide indirect protection of the Preserve by making the residents and the public aware of the Preserve boundaries.

City CEQA Guidelines

The City shall amend its local CEQA guidelines to ensure that development projects that are subject to CEQA review, which are not determined to be categorically or statutorily exempt, are analyzed and provide mitigation to ensure that they are consistent with the applicable provisions of this NCCP/HCP. This will provide indirect protection of the Preserve by ensuring that adverse project-specific and cumulative environmental impacts to the Preserve are avoided, minimized, and/or mitigated.

General Plan Amendment

The City shall amend relevant sections of the General Plan to accomplish the following:

- Identify all Preserve lands and their attendant land-use restrictions.
- Incorporate the goals and objectives of this NCCP/HCP as described in Section 4.0 of the Plan as part of the General Plan and CSP goals and objectives.
- Incorporate the mitigation responsibilities identified in Section 4.0 of the Plan to enable the City to implement the NCCP/HCP.

This will provide indirect protection of the Preserve by ensuring the goals and objectives of the NCCP/HCP are upheld by the City.

6.3.3 City Interim Resource Protection

The goal of interim protection is to prevent important habitat areas or species from being lost to clearing, conversion, or development in the period between signing of the IA and the issuance of Permits, and City action to adopt the amendments described in Sections 6.3.1 and 6.3.2 of the Plan that will incorporate the habitat protections of the NCCP/HCP. Upon issuance of the Permits, the Rancho Palos Verdes City Council will approve either an Ordinance or Urgency Ordinance (City Interim Resource Protection Ordinance) establishing the protections contained in the NCCP/HCP to the Covered Species on an interim basis until the City's new regulations and ordinances that must be adopted to implement the NCCP/HCP go into effect (Section 6.5.2 of the Plan). The City and Wildlife Agencies will work together to determine whether an Ordinance or Urgency Ordinance will be adopted.

Specifically, the City Interim Resource Protection Ordinance will require that no new proposed development projects on vacant lots abutting the Preserve requiring discretionary approval within the City be approved by the City without a determination of conformance to this NCCP/HCP. In addition, no grading within the Preserve or on vacant lots abutting the Preserve that requires City approval will be approved by the City without a determination of conformance to this NCCP/HCP by the Community Development Director or his designee. Furthermore, no vegetation clearing or grubbing, on lands within the Preserve or on vacant lots abutting the Preserve, or conversion of non-agricultural lands to active agriculture within the Preserve shall be done without a determination of conformance to this NCCP/HCP by the Community Development Director or his designee.

6.4 City Approval of the Implementing Agreement

Pursuant to the sequence of events timing described in Section 6.5 of the Plan, the City will execute an Implementing Agreement (IA) with the Wildlife Agencies that will identify the roles and responsibilities of the Parties (USFWS, CDFW, City, and PVPLC) in implementation of the NCCP/HCP in accordance with the Permits. Key regulatory assurances for all Parties described in this NCCP/HCP will be identified in the IA. After signing the IA, the USFWS and CDFW will issue the Federal incidental take permit and

state NCCP Permit/Authorization (collectively, Permits) to the City for the Covered Species under this Plan for all Covered Activities identified in Section 5.0 of the Plan.

6.5 Sequence of Events

6.5.1 Execution of the IA

Upon execution of the IA and issuance of the Incidental Take Permits, the Rancho Palos Verdes City Council will adopt the City Interim Resource Protection Ordinance (City Ordinance/Urgency Ordinance) described in Section 6.3.3 of the Plan, which will establish the protections contained in the NCCP/HCP to the Covered Species on an interim basis until permanent revisions or amendments to the General Plan, Municipal Code, Zoning Map, and CEQA Guidelines identified in Sections 6.3.1 and 6.3.2 of the Plan are enacted. The City Council will extend the Ordinance or Urgency Ordinance to the maximum extent permitted by law so that it remains in effect until the permanent ordinances have been approved and are in effect. The Permits will not be effective to authorize take until the City has enacted the Ordinance or Urgency Ordinance consistent with the requirements of the NCCP/HCP. Any lapse in the effectiveness of the Ordinance or Urgency Ordinance pending enactment of permanent revisions or amendments to the General Plan, Municipal Code, Zoning Map and CEQA Guidelines identified in Section 6.3.1 and 6.3.2 of the Plan shall trigger an automatic suspension of the Permits, without regard to otherwise applicable Federal and state regulatory requirements. The City shall immediately notify the Wildlife Agencies in the case of any such lapse in effectiveness. Upon the City's enactment of the permanent revisions or amendments to the General Plan, Municipal Code, Zoning Map and CEQA Guidelines identified in Section 6.3.1 and 6.3.2 of the Plan that are consistent with the requirements of the NCCP/HCP, the Permits shall be promptly reinstated by the Wildlife Agencies.

Any revisions or amendments to the City Ordinance or Urgency Ordinance or to the regulations and ordinances originally adopted by the City to implement the NCCP/HCP shall be submitted to the Wildlife Agencies for review and comment at least 60 days prior to adoption by the City. Any revisions or amendments to the Ordinance or Urgency Ordinance or other implementing regulations and ordinances that are inconsistent with the NCCP/HCP or would impede implementation of the Plan will trigger a reevaluation, and potential suspension or revocation of, the Permits.

6.5.2 Post Permit Issuance

After the Permits are issued, the following must take place:

1. Within 90 days of the issuance of the Permits, the City will place Wildlife Agency-approved conservation easements following the template in Exhibit E of the IA on all proposed City-owned Preserve lands described in Section 4.2 of the Plan. The conservation easements will formally dedicate the lands to the Preserve. Concurrently, PVPLC will place a conservation easement approved by the Wildlife Agencies in favor of City, with the Wildlife Agencies named as third-party beneficiaries on the PVPLC-owned 20-acre Lunada Canyon property.

2. The City will commence the amendments to the General Plan and Municipal Code described in Section 6.3 of the Plan in the following manner:

   a. Within 90 days of issuance of the Permits, City Staff will submit the proposed amendments to the City Council for initiation.

   b. Within 90 days of City Council initiation, the draft amendment language will be submitted to the Wildlife Agencies for review and concurrence that the language is consistent with the NCCP/HCP. The Wildlife Agencies will complete their review to the maximum extent practicable within 45 days.

   c. Once the written concurrence of the Wildlife Agencies is received, the Planning Commission will review the proposed amendments and then forward its recommendations to the City Council for formal adoption within 60 days.

3. The City Council will complete the adoption process within six months of receiving the recommendations from the Planning Commission.

4. The PVPLC will continue to perform the management activities for the Covered Species on the Preserve that were initiated in January 2006, consistent with the NCCP/HCP and the IA.

5. Within 90 days of the issuance of the Permits, the City and PVPLC will develop and submit to the Wildlife Agencies a Preserve Access Protocol (PAP) to facilitate access by authorized vehicles to areas within the Preserve. The Preserve access protocol will contain measures, including those in Section 5.5 of the Plan, to avoid and minimize, to the maximum extent possible, environmental damage, including direct and indirect impacts to habitat and Covered Species. Until said access protocol is approved by the Wildlife Agencies, the City and its Land Manager (i.e., PVPLC) shall ensure all access to the Preserve is consistent with the minimization measures described in Section 5.5 of the Plan.

6. The PUMP has been review and approved by the Wildlife Agencies.

6.5.3 Any time concurrent with the above processes the following events may occur:

1. Immediately upon transfer of fee ownership of any of the Trump National/Ocean Trails HCP habitat parcels described in Section 4.3 of the Plan to the City and a determination by the Wildlife Agencies that the required habitat restoration and enhancement on said parcels is complete, the City will dedicate these parcels to the Preserve and the following will occur:

   a. The PVPLC will accept the existing offers to dedicate conservation easements in a form approved by the Wildlife Agencies for the City-owned Shoreline Park (Ocean Trails Reserve) and Switchbacks parcel (San Ramon Reserve) with the Wildlife Agencies named as third-party beneficiaries, or a new conservation easement in the form contained in Exhibit E of the IA will be granted by the City.

b. The PVPLC will accept the existing offers to dedicate conservation easements in a form approved by the Wildlife Agencies for the Trump National/Ocean Trails HCP habitat parcels or a new conservation easement as contained in Exhibit E of the IA will be granted by the City with the Wildlife Agencies named as third-party beneficiaries.

c. The City will ensure that the properties are managed by the landowner (currently Trump National), or other entity approved by the Wildlife Agencies, as required by the Trump National/Ocean Trails HCP and the existing Development Agreement for the properties.

6.6 Wildlife Agency and City Coordination

The Wildlife Agencies will receive notification of projects in the City through the CEQA notification (or other) process and may request a voluntary consultation within the normal public or CEQA review period. Likewise, the City is free to request Wildlife Agency involvement in a project where consultation will help address key issues or help to streamline the process. All projects processed by the City will document their consistency with this NCCP/HCP during appropriate CEQA review and will be summarized each year in the Annual Report.

All take authorized by the City under the Permits will be documented by the City by maintaining a list of all approvals under this NCCP/HCP, which is included in the NCCP/HCP Annual Report to the Wildlife Agencies. The list will describe the project, including the total habitat lost, total habitat conserved, or disturbed by the Covered Projects or Activities. It will also describe the physical location of the tentative map or other record or project (or CEQA) approval produced by the City. All project approvals issued over the course of a year will be documented and discussed at the required annual meeting described in Section 9.4 of the Plan. The primary exception to this general procedure will be if a project requires an amendment to this NCCP/HCP as described herein.

6.7 Compliance with Existing Federal and State Wetland Regulations

Impacts to state and/or Federal jurisdictional wetlands are not covered under this NCCP/HCP. Wetlands are afforded protection under existing Federal and state law and regulatory programs. The Federal Clean Water Act, the California Porter-Cologne Water Quality Control Act, and the California Fish and Game Code Section 1600 *et seq.* provide protection to wetland habitats through Federal and state regulatory permits and agreements. Where applicable, project proponents must submit an application for and receive Federal Section 404, Section 401, and state Section 1600 permits prior to impacting any jurisdictional wetlands. Applicants must also apply to the Regional Water Quality Control Board for Waste Discharge Requirements prior to any discharges, including discharges from land that may affect any waters of the state. Water Discharge requirements must implement Basin Plans that designate beneficial uses and water quality criteria for bodies of water, including wetlands.

For Covered Activities that are subject to California Fish and Game Code Section 1600 *et seq.*, separate authorization for impacts to jurisdictional streambed habitat would be required. If any impacts to Covered

Species would occur associated with the 1600 process, the Plan will be used to evaluate any state take associated with the subject project. If the species is not a Covered Species under the Plan, the proponent should seek appropriate take authorization for impacts to state-listed species.

Projects that are regulated by Federal agencies will continue to be subject to section 7 consultations under the ESA where federally listed species, both Covered by the NCCP/HCP and uncovered listed species, may be affected. Those projects that are subject to a section 7 consultation will be evaluated in accordance with the requirements of the ESA and to ensure that the project is consistent with this NCCP/HCP. The level of conservation afforded by this NCCP/HCP to Covered Species has been established through extensive consultation with, and review by, the Wildlife Agencies. Therefore, the City anticipates that project applicants that propose projects that are covered by and consistent with the provisions of this NCCP/HCP as determined by USFWS will receive streamlined section 7 consultations. To the maximum extent appropriate, the terms and conditions imposed through the section 7 consultation process will be consistent with the NCCP/HCP.

Within the Coastal Zone, the City intends that the most current LCP shall define permissible impacts and mitigation for wetlands and ESHA habitats (Appendix F).

6.8 Amendments

6.8.1 Minor Amendments – Preserve Boundary Adjustments and Equivalency

Adjustments to the approved Preserve boundaries may be desirable under some circumstances that do not require a Major Plan Amendment and will be based on a like or equivalent exchange concept. For example:

- New biological information is obtained through site-specific studies.
- Unforeseen engineering design opportunities or constraints are identified during the siting or design of projects that require modification of the Preserve boundary.
- A landowner may request that a portion of or all of his property be included within the Preserve boundary.
- Minor changes to Plan maps to show actual precise boundaries of conserved habitat, and which do not reduce the acreage or quality of the habitat.

Adjustments to Preserve boundaries can be made by Minor Amendment to the NCCP/HCP, if the adjustment will result in equal or higher acreage and biological value to the Preserve. The determination of biological value of the proposed change is made by the City and must have the prior written concurrence

of the Wildlife Agencies. The comparison of biological value will be based on the following biological factors:

- Effects on conserved habitats (the exchange maintains or improves the amount, configuration, or quality of conserved habitats)
- Effects on Covered Species (the exchange maintains or increases the conservation of Covered Species)
- Effects on habitat linkages and function of the Preserve (the exchange results in similar or improved habitat connectivity, wildlife movement corridor function, management efficiency and/or protection of biological resources)
- Effects on ecotones or other conditions affecting species diversity (the exchange maintains topographic and structural diversity and habitat interfaces or the Preserve)
- Effects to species of concern not on the Covered Species list (the exchange does not significantly increase the likelihood that a species not covered under the NCCP/HCP will meet the criteria for listing under either the ESA or CESA).

The City may make additions to the approved Preserve that as addressed in Section 4.4 of the Plan without a Major Plan Amendment by providing the Wildlife Agencies with the following:

- A letter from the City agreeing to the addition and specifying the status of the property (e.g., City parkland, HOA property).
- An accurate map of the area to be added, showing the total acreage and current vegetation coverage.
- An assessment provided by the City and PVPC demonstrating that adequate funding is available for managing the new preserve lands. PVPLC will coordinate with the City and Wildlife Agencies for approval of each property proposed for inclusion into the Preserve.

Any proposed adjustments to the Preserve boundary will be disclosed in the associated environmental document (as part of the project description) prepared for the specific project which prompts the minor boundary adjustment and all approved adjustments will be documented in the Annual Report described in Section 9.3.3 of the Plan. If a specific project prompts the need for a Preserve boundary adjustment, an evaluation of the effects of the proposed adjustment will be provided in the biological technical report provided to the Wildlife Agencies and summarized in the land-use and/or biological section of the project's environmental document.

Minor changes to the NCCP/HCP that do not result in coverage for new activities or impacts to the Covered Species or their habitats may be made through the Minor Amendment process. A Minor Amendment shall not require an amendment to the Take Authorizations. The City shall provide written notice of any proposed Minor Amendment to the Wildlife Agencies at least sixty (60) days prior to scheduling the action and/or

project for any public hearing, and disclose the amendment in the appropriate City CEQA documentation. Such notice shall include a statement of the reason for the proposed Minor Amendment and an analysis of its environmental effects, including its effects on operations under the Plan and on the Covered Species. The City shall provide the Wildlife Agencies with written notice of each proposed Minor Amendment along with relevant documents, including the City's rationale for processing the modification as a Minor Amendment. The Wildlife Agencies shall use their reasonable efforts to complete their review of the proposed Minor Amendment within 60 days of receipt of a complete request from the City. If the Wildlife Agencies do not concur in writing that the proposed modification may be processed as Minor Amendment, the City must propose the modification as a Major Amendment. Examples of potential Minor Amendments to this Plan include the following:

- Corrections of typographic, grammatical, and similar editing errors in the Plan documents, IA, or Permits that do not change the intended meaning. Annual Reports shall include a summary of clerical changes made to the Plan in the preceding calendar year.
- Correction of any maps or exhibits to correct errors in mapping or to reflect previously approved changes in the Plan, IA, or Permits. Annual Reports shall include a summary of corrections to maps or exhibits made to the Plan in the preceding calendar year.
- Minor changes to survey, monitoring, or reporting protocols. Annual Reports shall include a summary of changes made to survey, monitoring, or reporting protocols in the preceding calendar year.
- Preserve boundary adjustments with equivalency findings as described in Section 6.8 of the Plan, which may apply to projects where: (1) new biological information is obtained through site-specific studies; (2) unforeseen engineering design opportunities or constraints not of the City's or applicants making are identified during the siting or design of projects that require modification of the Preserve boundary; (3) a landowner requests that a portion of or all of his property be included within the Preserve boundary, and (4) minor changes to Plan maps to show actual precise boundaries of conserved habitat, and which do not reduce the acreage or quality of the habitat. All Preserve boundary line adjustments must be disclosed in the appropriate City CEQA document, require advance written approval from the Wildlife Agencies, and must be accounted for in the City's Annual Report. The City will provide written notice of the proposed Preserve boundary adjustment and equivalency findings to the Wildlife Agencies at least sixty (60) days prior to scheduling the project for any public hearing consistent with Section 6.8.1 of the Plan. Adjustments to Preserve boundary can be made by Minor Amendment to the NCCP/HCP, if the adjustment will result in equal or higher acreage and biological value to the Preserve. The determination of biological value of the proposed change is made by the City and must have the prior written concurrence of the Wildlife Agencies. If necessary, the City will meet and confer with the Wildlife Agencies prior to scheduling the project for any public hearing to resolve any issues.

6.8.2 Major Plan Amendments

Certain events may require a Major Amendment to this Plan as described below. Although Major Amendments are not anticipated regularly, such amendments may be necessary to accommodate major changes in conservation levels or reserve design, or large annexations of land. Any habitat losses that propose to exceed the maximum habitat loss acreages noted for each Covered City Project or Private Project can only be approved through an amendment. Such amendments must be approved in writing by the Wildlife Agencies and the City. Coordination with the Wildlife Agencies is required for a Major Amendment, and the Wildlife Agencies must be notified as soon as the local jurisdiction confirms that an amendment is warranted. The City will provide written notice of any proposed Major Amendment to the Wildlife Agencies at least sixty (60) days prior to scheduling the action and/or project for any public hearing. Such notice will include a copy of any required application for the proposed amendment, a statement of the reason for the amendment and an analysis of its environmental effects, if any, including any effects on Covered Species. Major Amendments include, but are not limited to, changes to the Plan that result in a higher level of take, greater or different impacts to the Covered Species and their habitats or to the environment generally, than were analyzed in the NEPA and CEQA documents prepared for the Plan as approved and by the Wildlife Agencies in reviewing the plans under ESA and the NCCP Act. Major Amendments will also require an amendment to the Take Authorizations in accordance with all applicable Federal and state laws and regulations, including ESA, NCCPA, NEPA, and CEQA. Examples of potential Major Amendments to this Plan include the following:

- An annexation of land that requires Take Authorizations for development, and is not covered by an existing NCCP/HCP and associated Take Authorizations; or a substantive variation in design or implementation from an existing NCCP/HCP.
- Land excluded from a Plan at the time of approval, and therefore not covered by Take Authorizations, but is later planned for development purposes.
- A substantive deviation in the proposed mitigation for Covered Projects or Activities described in Section 5.3 of the Plan, including but not limited to deviations in the identified area and dimensions of potentially dedicated Preserve that is not equivalent to the proposed Plan mitigation as determined by the Wildlife Agencies.
- An increase in habitat impacts from any Covered Activity described in Section 5.0 and Tables 5-1 and 5-2 of this Plan.
- Major changes in conservation levels or Preserve design.
- Removal of lands from conserved areas.
- Reconfiguration of the Preserve system resulting in a decrease of acreage or quality of habitat as determined by the Wildlife Agencies.
- Substantial changes to the implementing regulations upon which this NCCP/HCP is based on including CEQA, the General Plan, local zoning ordinances, etc.

6.8.2.1 Process for Adding Species to Covered Species List

If a species not on the Covered Species list is proposed for listing pursuant to the ESA or CESA or a listed species not on the Covered Species list is discovered in the NCCP/HCP Area, the Wildlife Agencies will determine whether Additional Conservation Measures, beyond those prescribed by the NCCP/HCP, are necessary to adequately protect the species. If no such measures are necessary, the species will be added to the Permits, following application by the City for a Major Amendment.

If the conservation measures already contained in the Plan are not sufficient to meet Permit issuance standards under ESA and NCCP, then upon written request by the City, the USFWS and CDFW will use their reasonable efforts to provide technical assistance to the City to identify Additional Conservation Measures necessary to add such species to the list of Covered Species. In developing Additional Conservation Measures, the Parties will first look to habitat management practices and enhancement opportunities within the Preserve using existing management resources, provided the redirection of such resources would not adversely affect any Covered Species.

If these options are not adequate to meet the species' conservation requirements, the Wildlife Agencies will provide technical assistance to the City in developing additional measures necessary to add the species to the Covered Species list. If conservation measures necessary to add the species to the Covered Species list are identified when or after the species is proposed for listing, the City (or other parties holding permits issued by the City through this NCCP/HCP) and the PVPLC shall follow the planned response to Changed Circumstances identified in Section 6.10.2 of the Plan, but will not be required to approve or implement these conservation measures until such time as the species is listed.

6.8.3 Annexations

For annexations where no take authorization is required because the lands do not contain listed species or habitat:

The City will ensure that the any proposed annexations are consistent with the NCCP/HCP requirements and that the project design will not result in impacts to the Preserve. Proposed annexation projects will be reviewed and approved by the City. No consultation with the Wildlife Agencies is required for this process and such lands and project shall not be covered under the City's existing Take Authorizations.

In the case of annexations of land that require Take Authorizations of Covered Species, one of the following processes shall be required depending on whether the lands to be annexed are covered by an existing, operative NCCP/HCP and Federal and state permits:

- A Major Amendment to the Plan and amendment of the Take Authorizations to cover the annexed lands.
- If the lands proposed for annexation are covered by another approved NCCP/HCP and Federal and state permits, transfer of that portion of the Take Authorizations applicable to the

annexation lands to the City and PVPLC accompanied by a written commitment by the City and PVPLC to fund and implement the same or equivalent take avoidance, minimization, and mitigation measures applicable to the lands to be annexed under the original Take Authorizations. This process could apply to de-annexation from another jurisdiction has an existing, operative NCCP/HCP and Federal and state permits.

- If the lands to be annexed will require Take Authorizations for any species that is not covered under the original plan or under the City's Permits, then a Major Amendment to the City's NCCP/HCP and Permits shall be required.

6.9 Changed Circumstances and Unforeseen Circumstances

The "No Surprises" Rule of the United States Department of the Interior, (50 C.F.R. § 17.22(b)(5) and 17.32(b)(5), 1998) generally provides that as long as the Permit is being properly implemented, the Federal government will not require additional land or money from the City beyond that provided under the NCCP/HCP without the City's consent in the event of Unforeseen Circumstances. Unforeseen Circumstances are defined in 50 C.F.R. § 17.3 as changes in circumstances affecting a Covered Species or geographic area covered by the Plan that could not reasonably have been anticipated by the City or Wildlife Agencies at the time of Plan negotiation and development and that results in a substantial and adverse change in the status of a Covered Species. Changed Circumstances are defined in 50 C.F.R. § 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and USFWS and that can be planned for (e.g., the listing of new species, or a fire or other natural catastrophe in areas prone to such events). The No Surprises Rule requires that Changed Circumstances, and planned responses to those Changed Circumstances be incorporated into an HCP. (see 50 C.F.R. §§ 17.22(b)(5) and 17.32 (b)(5)).

6.9.1 Unforeseen Circumstances

Assurances under the ESA

Pursuant to the No Surprises Rule at 50 C.F.R. §§ 17.22(b)(5) and 17.32(b)(5), and provided that the Permittees are properly implementing the Plan, the USFWS shall not require the Permittees to provide additional land, water or other natural resources, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level provided for under the Plan, the IA and the section 10(a)(1)(B) Permit with respect to Covered Projects and Covered Activities without the consent of the Permittees. Adaptive Management modifications and plan responses to Changed Circumstances are provided for under the Plan and are not subject to the mitigation assurances in the No Surprises Rule.

The regulatory assurances provided to the City by the No Surprises Rule are contained in 50 C.F.R. §§ 17.22(b)(5) and 17.32(b)(5) and are changes in circumstances affecting a species or geographic area covered by the Plan that could not reasonably have been anticipated by the City, PVPLC, or Wildlife Agencies, at the time of the Plan's negotiation and development, and that result in a substantial and adverse change in the status of a Covered Species.

Assurances Under the NCCP Act

Provided the CITY and PVPLC are implementing the Plan, the Permits, and the IA, CDFW shall not require additional land, water or financial compensation or additional restrictions on the use of land, water, or other natural resources for the life of the NCCP permit without the consent of CITY, unless CDFW determines that continued implementation of the Plan would jeopardize the continued existence of a Covered Species. Adaptive Management modifications and Plan responses to Changed Circumstances are provided for under the Plan. Accordingly, the resources identified to support such modifications and planned responses, together with the other resources commitments of the Permittees reflected in the Plan, constitute the extent of the obligations of the Permittees pursuant to the NCCP Act assurances.

Process to Respond to Unforeseen Circumstances

If the USFWS, CDFW, or the Permittees believe that an Unforeseen Circumstance exists, it shall immediately provide written notice of its proposed finding of Unforeseen Circumstances to the Parties. Within 30 days of such notice, USFWS in coordination with CDFW shall clearly document the basis for the proposed finding regarding the existence of Unforeseen Circumstances pursuant to the requirements of 50 C.F.R. §§ 17.22(b)(5)(iii)(C) and 17.32(b)(5)(iii)(C). Within fifteen (15) days of receiving such notice, the Permittees and the Wildlife Agencies shall meet and confer to consider the facts cited in the notice and potential changes to the Plan or management and operation of the Preserve lands. Pursuant to 50 C.F.R §§ 17.22(b)(5)(iii)(C) and 17.32(b)(5)(iii)(C), USFWS in coordination with CDFW shall make an Unforeseen Circumstances finding based on the best available scientific information, after considering any responses submitted by the City and PVPLC pursuant to this section and as described in Section 6.10 of the Plan, and the USFWS in coordination with CDFW shall have the burden of demonstrating that Unforeseen Circumstances exist.

Interim Obligations Upon a Finding of Unforeseen Circumstances

If USFWS in coordination with CDFW makes a finding of Unforeseen Circumstances, during the period necessary to determine the nature and extent of additional measures required and available, if any, to address the Unforeseen Circumstances, the City and PVPLC shall avoid contributing to appreciably reducing the likelihood of the survival and recovery of the affected Covered Species and the City shall accordingly exercise its enforcement authorities as provided by law over third parties under the City's jurisdiction and control that are carrying out Covered Activities.

6.9.2 Changed Circumstances

Changed Circumstances and the NCCP/HCP's responses to those circumstances are provided below. The Plan generally provides that most Changed Circumstances will be mitigated via the ongoing monitoring and Adaptive Management program developed in Section 7.0 of the Plan. If additional conservation or mitigation measures beyond the ongoing monitoring and Adaptive Management are deemed necessary to respond to the changes in circumstances described in this section, the City and PVPLC will implement the planned responses specified in this section. If Changed Circumstances listed in this section of the Plan

occur, the City, in coordination with PVPLC, shall immediately provide written notification within seven (7) working days to the Wildlife Agencies upon learning of any Changed Circumstances. Within thirty (30) working days, the City shall modify its activities and shall require affected third persons under its direct control to modify their activities in accordance with this section of the Plan, as appropriate, to the extent necessary to minimize and mitigate the effects of the Changed Circumstances. The City and/or PVPLC shall report to the Wildlife Agencies on its actions within 30 days. Such modifications will be initiated without awaiting notice from the Wildlife Agencies.

Because the Preserve contains the majority of available native habitat capable of supporting Covered Species, planned responses to most Changed Circumstances involve reprioritizing and, when necessary, modifying the Preserve management program in place at the time and/or subsequent to the event. Any required planned response will be funded equally by the two entities responsible for the implementation of this Plan, the City and the PVPLC, as described below. In February 2006, the Board of Directors of the PVPLC approved the establishment of a special fund to benefit and manage all of its properties, including the Preserve. The April 2009 value of the PVPLC fund was approximately $470,000. Additionally, PVPLC have reserves of about $477,000. These are contingency funds wherein a portion of these funds may be used as necessary for Preserve Management or to respond to Changed Circumstances as described in Section 8.2.1.2 of the Plan. The City has a Habitat Restoration Fund as part of the approved City budget, which would be used to fund its share of the planned responses as described in Section 8.2.1.1 of the Plan. The City's Habitat Restoration Fund will be maintained with at least $50,000 (adjusted annually for inflation by the City using the Consumer Price Index (CPI) index), to provide the necessary funding for the planned responses described below. Based on the cost analysis for responses to Changed Circumstances summarized below, the total shared cost of a planned response by the City and PVPLC is not anticipated to exceed $25,000 (adjusted annually for inflation by the City using the CPI) per occurrence.

A description of potential Changed Circumstances, an assessment of the potential for these circumstances to occur, and the preventative measures and planned responses for these circumstances are provided below. Circumstances that exceed the thresholds identified below are not considered reasonably foreseeable during the 50-year term of the Plan and are therefore considered "Unforeseen Circumstances."

6.9.2.1 Fire

Much of the land covered by the Plan is located in arid areas that are susceptible to wildfires, which can adversely affect or impact habitat communities and ecosystems. It is important to acknowledge that fire is a natural phenomenon in southern California and CSS is a fire-adapted plant community. In implementing the Plan, the City will use best management practices and coordinate with local fire departments to minimize adverse impacts associated with fire, and to monitor and respond to potential adverse biological impacts when they occur.

According to statistics provided by the Los Angeles County Fire Department and research of the Peninsula News archives, the City has determined that in the 20 years between 1989 and 2009, there have been 11 fires within the Preserve properties identified in Section 4.2 of the Plan. This averages out to approximately

0.55 fire per year. In addition, the fire size for fires within these properties has ranged from 1.0 acre to 194.0 acres with an average fire size of 56.0 acres.

Because fire is a natural feature of the region, under normal circumstances natural re-growth of habitat is expected. However, extensive fires (covering a large area) or repeated fires (in the same area) in the same location of the Preserve may adversely affect the Covered Species conserved by the Plan because habitat type conversion from existing habitat(s) to invasive or non-native weeds can occur. Based on the existing data, a fire greater than 200.0 acres is not anticipated to occur within the Preserve during the Permit Term, and such a fire will be considered an Unforeseen Circumstance. Similarly, we do not anticipate any area greater than 5.0 acres to burn two or more times within any 5-year period, and that situation will be considered an Unforeseen Circumstance.

Preventative Measures for Fire

In order to reduce the likelihood of or harm from fire in the Preserve, the following preventative measures will be followed by the City and PVPLC to prevent or respond to the effects of fire on Covered Species and/or habitats.

In order to reduce the risk of fire, the City and PVPLC will perform the Los Angeles County Fire Department/Agricultural Commissioner approved fire and fuel modification described in Section 5.2.15 along with the management described in Section 9.2.2 of the Plan.

As part of the City's procedures for responding to emergencies, the City will notify the Wildlife Agencies as soon as feasible after the onset of the fire.

The City may restrict public access, as necessary, to the Preserve following fires and in times when fire hazard may be very high.

Planned Responses for Fire

If a fire less than 200.0 acres occurs in the Preserve or a repeat fire less than 5.0 acres occurs, the PVPLC will monitor the natural re-growth of the fire area for a period of no less than 3 years to determine if the habitat is recovering. If negative impacts on Covered Species are identified from the monitoring of burned area (e.g., habitat type conversion), PVPLC will notify the Wildlife Agencies and the City, and an expedited analysis of the Preserve areas impacted by the fire will occur. Measures determined necessary by the Wildlife Agencies, after full consultation with the City and PVPLC, to address impacts caused by the fires will be implemented by the City and PVPLC. These measures may include erosion control, noxious species control, reseeding, or other measures identified during the analysis. Ongoing projects and Covered Activities within the Preserve may continue in the Preserve while the new measures resulting from the analysis are developed provided they do not significantly worsen the impacts to the Preserve caused by the fires.

The City may seek reimbursement from the party it determines is responsible for the fire for the funds expended by the City and/or PVPLC in implementing the planned response. If no responsible party is identified, the City and PVPLC shall share equally the costs of implementing the planned response. The cost is expected to be $500 per acre of burn area for weed abatement and $800 per acre of burn area for reseeding for areas requiring restoration due to habitat type conversion.

6.9.2.2 Flood

For purposes of defining a Changed Circumstance, a flood is defined as an event occurring within the Preserve at greater than 50-year levels and up to and including 100-year levels, as classified by the Federal Emergency Management Agency and determined by the Department of Public Works. Due to the narrow and steep configuration of the drainage courses within the NCCP/HCP Plan Area, it is very unlikely that a flood will damage existing or restored habitat within the NCCP/HCP Plan Area.

Preventative Measures for Flood

Most major development projects approved by the City will include implementation of BMPs for stormwater and surface runoff pursuant to the standards promulgated by the California Regional Water Quality Control Board (RWQCB). For all discretionary projects involving new development projects abutting the Preserve approved by the City, the City will include mitigation measures or other conditions, as appropriate, to reduce the likelihood that a flood would adversely impact Covered Species and the conserved habitat. As a co-permittee of the RWQCB NPDES Permit, the City is required to adopt a SUSMP. The large majority of new development projects and significant redevelopment projects must meet SUSMP requirements to reduce pollution and runoff flows. The City's SUSMP includes a list of recommended source control and structural treatment BMPs. Additionally, City land use policies ensure that land use regulations and public improvements accommodate flood events that approximate the rate, magnitude, and duration of natural flood flows.

Planned Response

If flood damage within the Preserve requires repair and/or remediation of public facilities, the repair work will be performed by the City's Public Works Department and/or Los Angeles County Department of Public Works in consultation with the PVPLC. Any loss of CSS resulting from flood response work is a Covered Activity under this NCCP/HCP up to the acreage total identified in Table 5-1 (Total Loss of Habitat by Covered City Projects and Activities). Any on-site restoration deemed necessary by the Wildlife Agencies after full consultation with the City and PVPLC will be performed and funded equally by the City and PVPLC. The City will obtain all necessary wetland permits for planned response to flood damage.

6.9.2.3 Landslide

As there has not been a history of sudden landslide events in the Preserve but rather the relatively steady movement of the Portuguese Bend landslide complex, for purposes of defining a changed circumstance, a landslide is the relatively steady movement of the existing Portuguese Bend landslide complex. Impacts

and activities associated with other landslides have been identified as Covered Activities in Section 5.2 of the Plan.

Preventative Measures for Landslide

The preventative measures for landslide are minimization of the water intrusion into the slide plane and avoiding the redistribution of earth in a manner that would adversely affect the dynamics of the landslide complex.

Planned Response

If landslide damage within the Preserve requires repair and/or remediation of public facilities, the repair work will be performed by the City's Public Works Department in consultation with the PVPLC. Any loss of CSS resulting from landslide response work is a Covered Activity under this NCCP/HCP. Any on-site restoration necessary will be performed and funded equally by the City and PVPLC.

6.9.2.4 Drought

Drought is a natural part of a Mediterranean climate system to which species and natural communities have adapted. However, prolonged drought could cause serious damage to the Preserve, especially to newly restored and enhanced habitat areas that have yet to become established. Drought is not uncommon in southern California, and it is a phenomenon to which local natural habitats and species have of necessity adapted over time. Drought conditions may adversely affect the Covered Species and their associated vegetation communities. Covered Species may be at greater risk than other species if their habitat needs or population numbers are already compromised. As Covered Species and habitats begin to react to a prolonged reduction in rainfall, carry-over supplies in reservoirs are depleted and water levels in groundwater basins also decline, making imported water resources less available for non-potable uses.

To estimate how many drought years might be expected to occur during the Permit Term, annual rainfall records from downtown Los Angeles were reviewed from 1912 to 2011 by water year (July 1 to June 30) (Western Regional Climate Center website http:wrcc.dri.edu). We define drought as two or more successive water years with 75% or less of the average rainfall (mean seasonal precipitation or MSP). These data show that, on average, droughts of 2 years or more occurred 1.5 times over any 50-year period, droughts of 3 years occurred once in any 50-year period, and droughts of 4 years or more occurred less than once (0.5 times) over the same interval. Therefore, during the 40-year Permit Term, a drought of 4 or more years in length has an approximately 50% chance of occurring. The average number of droughts (2 years or more) within a 50 year interval was 3 droughts. Based on the historical rainfall data, we consider more than 3 droughts of 2 or more years in duration during the Permit Term or any drought for more than 4 successive years unlikely, and such a drought will be treated as an Unforeseen Circumstance. While climate change is anticipated to result in increased drought potential, the extent of such change is not fully understood, and we are unaware of any viable models of the impact of climate change on drought frequency or severity at a relevant local scale. Therefore, we are relying on historic data to inform our response to drought.

Based on these historic rainfall data, remedial actions to address predictable drought impacts are likely to be necessary over the Permit Term and will be funded. Over the course of Plan implementation, actions to remediate drought impacts will be funded through the contingency fund for up to 3 droughts during the Permit Term. Of the 3 droughts, only one is anticipated to be 4 or more years in duration. Droughts that occur within this expected frequency are considered a Changed Circumstance (see Section 6.10). More than 3 droughts during the Permit Term or any one drought exceeding 4 years in duration are considered Unforeseen Circumstances (see Section 6.10.1) and are not funded by the Plan.

Planned Response

The City and PVPLC, from the funding sources designated above, will share the costs of any planned response to drought deemed necessary by the Wildlife Agencies following coordination with the City and PVCLC. Because vegetation communities within the NCCP/HCP Area are drought-tolerant, short-term drought may not result in negative impacts on the existing habitat within the NCCP/HCP Plan Area.

The NCCP/HCP includes a Habitat Restoration Plan (see Section 7.5) for restoration and enhancement of habitat with in the Preserve that supports the Covered Species. The restoration and enhancement habitat areas will also be subject to the maintenance program and monitoring along with Adaptive Management. Implementation of the Habitat Restoration Plan will minimize the risks to the restored/enhanced habitat areas associated with drought. If drought conditions seem likely, measures will be incorporated into the monitoring and management program and implemented by the City and PVPLC to ameliorate the effects to restored habitat and Covered Species associated with drought. Some or all of the measures listed below are to be implemented in coordination with the Wildlife Agencies and will be documented in a report/damage assessment submitted to the City and Wildlife Agencies.

- Monitor Los Angeles County rain data in the area to determine if the seasonal rainfall at the end of March and April indicate a drought (near 75% of MSP).
- Monitor the Preserve to determine if the drought is adversely affecting the Preserve (i.e., decreasing seedling recruitment, promoting invasive species). Provide a report with the findings to the City and Wildlife Agencies.
- Monitor restoration/enhancement sites that are beyond their establishment periods (i.e., no longer sustained by irrigation) but that have not achieved their success goals potentially due to low soil moisture or high evapotranspiration rates.
- If possible, within restoration areas, the irrigation system provided during the initial planting phases may have to be prolonged in a drought to achieve restoration success goals, or the irrigation system may have to be limited to targeted priority areas.
- If necessary, temporarily reprioritize areas targeted for restoration and enhancement to focus on habitat areas that include more drought tolerant species such as plants comprising cactus wren habitat.

- If necessary, temporarily adjust the success goals (criteria/performance standards) associated with restoration and enhancement sites. For example, increasing the length of time a restored/enhanced habitat area has to fully achieve the success goals or the percent of anticipated cover of the plant species within the restored/enhanced habitat area could be adjusted until the drought has subsided. Final success criteria/performance standards should not generally be reduced in order for a restoration site to be considered complete; however, the Wildlife Agencies may deem restoration complete that lacks some of the anticipated success criteria by considering overall habitat function, including its use by Covered Species.

If drought results in limited or no ability to provide supplemental water to restoration areas, then Adaptive Management strategies and remedial measures (which may include some listed above or below) will be employed in coordination with the Wildlife Agencies. Should habitat damage or losses occur due to drought, the PVPLC will assess the drought damage and initiate the following remedial measures within one year of damage or loss and document the information a report submitted to the City and Wildlife Agencies. These strategies and measures are listed below.

- Prepare a damage assessment.
- Identify Adaptive Management actions to mitigate the effects of the drought on Covered Species and vegetation within the Preserve, including habitat areas that have been enhanced or restored that have not achieved their success goals [e.g., provision of temporary or supplemental artificial water sources (subject to water availability)]. These may include:
    - Temporarily adjust the success goals (criteria/performance standards) and practices for restoration sites to maximize planting survival during periods of reduced water availability/drought. This may include increasing the length of time a restoration site has to achieve its success goals.
    - Revise the methods for monitoring of vegetation conditions to identify areas that may require additional management.
    - Conduct additional weed abatement in restored/enhanced habitat areas. Temporarily redirect habitat restoration/enhancement efforts towards invasive species removal until drought conditions subside.
    - Postponing habitat restoration/enhancement until irrigation or rainfall resumes.
    - Redirecting habitat restoration/enhancement efforts during drought conditions towards trail management of habitat areas damaged by off trail uses.

6.9.2.5 Invasive Species

For the purpose of defining changed circumstance, invasion of exotic species is defined as an increase of invasive species within the Preserve to the extent that, as determined by the Wildlife Agencies following

consultation with the City and PVPLC, such increase is of sufficient magnitude to significantly, adversely affect any Covered Species.

Although invasive, exotic, or pest species of plants and/or animals may currently be present within the Preserve, an unexpected and/or sudden increase in certain invasive species (i.e., cowbirds) may have a significant adverse effect on one or more of the Covered Species within the conserved habitat. Opportunities for increases in invasive species could occur as urban development expands in areas surrounding the conserved habitat, or if new invasive species not currently in the area are introduced. Additionally, certain events, including fire and other changed circumstances, may precipitate sudden increases of invasive species. Planned responses to those events include measures to reduce the opportunity for invasion by exotic species.

Preventative Measures

The landscaping guidelines described in Section 5.6.4 of the Plan contain measures to prevent the use of invasive plants adjacent to the Preserve. Additionally, the Targeted Exotic Removal Plan for Plants (TERPP) described further in Section 7.6 of the Plan contains measures to remove invasive plants, which will help prevent the spread. Invasive species will, under normal circumstances, be discovered prior to becoming a threat to Covered Species.

This 2012 Predator Control Plan (PCP) for the PVPLC outlines appropriate provisions and measures to adequately comply with the Preserve Management requirements of the NCCP/HCP. This PCP provides the framework for the pet/feral animal education program and the native predator education program, and establishes the need for monitoring for feral or domestic animals, native large predators, and mesopredators. The PVPLC will plan for predator control as follows: (1) Note observations and impacts of potential predators within the Preserve as a part of its regularly monitoring schedule; (2) Provide education programs regarding the impacts of predators on natural open spaces and habitat; (3) Consult with the Wildlife Agencies or establish a trapping program for brown-headed cowbirds if necessary; (4) Consult with the Wildlife Agencies or control predators such as feral cats and mesopredators if necessary.

Planned Response

A key component of Preserve management is the TERPP. If invasive species begin to adversely affect any Covered Species in a given area, this area will be prioritized for invasive species control in the TERPP and potentially as part of the 5-acre annual restoration (Section 7.5 of the Plan) requirement. If more than the 5 acres of targeted exotic removal is required as determined by the Wildlife Agencies following consultation with the City and PVPLC, the costs will be shared by the City and PVPLC, from the funding sources designated above.

If the City, PVPLC, and the Wildlife Agencies collectively determine that an increase in invasive plant species has occurred within the Preserve that cannot be adequately addressed by the TERPP, the City in consultation with the Wildlife Agencies and PVPLC, will assess and implement changes to the Adaptive Management program, which may be necessary to control the invasive species.

If cowbirds become a problem in the Preserve, through increased numbers, incidental observations of cowbird parasitism on a gnatcatcher nest, or other issues, a cowbird trapping program may be initiated by PVPLC, following coordination with Wildlife Agencies. Similarly, if evidence indicates that key predator species are extirpated, and there is an increase in non-native mesopredators adversely affecting Covered Species, initiate a program to control mesopredators under the Plan's Changed Circumstances.

6.9.2.6 Future Listing of Non-Covered Species or Designation of Critical Habitat for Covered or Non-Covered Species

For purposes of defining a changed circumstance, future listing of non-covered species is defined as the state or Federal listing under CESA or ESA, respectively, of any non-covered species with the potential to occur or historically occurring within the City. Although NCCPs and HCPs contribute to the conservation of habitat for species and are aimed to prevent the listing and contribute to the recovery of species, for several reasons (including factors outside of the control of the City) it is still reasonably foreseeable that a species occurring within the City may become listed; therefore, there is no Unforeseeable Circumstance related to this category. Additionally, it is foreseeable that critical habitat could be designated under the ESA within the Plan Area for a Covered Species or a non-covered species.

Planned Response

Currently non-listed species that are not addressed as Covered Species in this NCCP/HCP will not be included in the Permits and will not automatically receive Permit coverage in the event of listing. To the extent that the Wildlife Agencies determine that any such species would likely be taken, jeopardized, or the critical habitat of such species be adversely modified or destroyed as a result of the Covered Activities, the City and PVPLC will implement the "no jeopardy/no take/no adverse modification" measures, if any, identified by Wildlife Agencies until there is a Major Amendment for the NCCP/HCP permits as an option for the City to obtain permit coverage for the species by providing additional conservation measures or until the Wildlife Agencies notify the City and its Preserve Habitat Manager (PVPLC) that such measures are no longer needed to avoid jeopardy to, take of, or adverse modification to the critical habitat of the non-covered Species. It is reasonable to expect that the management activities of the NCCP/HCP would benefit the newly listed species. If critical habitat is designated for a Covered Species, the City and PVPLC will implement the "no adverse modification" measures, if any, identified by the USFWS until the USFWS notifies the City and PVPLC that such measures are no longer needed to avoid adverse modification of the habitat of the Covered Species. Based on currently available information, the City believes that the land within the Preserve, and the associated management provided under the Plan for the Preserve lands, provides the necessary management and protection for the habitat features on those lands that are essential for the conservation of the Covered Species within the Plan Area.

6.10 Coordination with Other NCCPs

No other jurisdiction within the Los Angeles County subregion is currently participating in the NCCP program. Should new NCCP Planning programs be initiated throughout other subregions, the City will coordinate with those jurisdictions, as appropriate.

7.0 BIOLOGICAL OBJECTIVES AND METHODOLOGY

7.1 Biological Objectives

The NCCP/HCP is a comprehensive habitat protection program that addresses multiple species habitat needs and the conservation of natural communities in the City of Rancho Palos Verdes. In addition to identifying areas for preservation and conditionally compatible land uses within and adjacent to the Preserve, this NCCP/HCP also seeks to maintain biological values of the Preserve over time by reducing human-related impacts to Covered Species and their habitats. The overall objective of the NCCP/HCP is to ensure that the biological values of natural resources, where land is preserved as part of the NCCP/HCP through acquisition, regulation, mitigation or other means, are maintained over time. Biological monitoring will allow the City, its Preserve Habitat Manager (i.e., PVPLC), and the Wildlife Agencies to evaluate whether the Preserve system is meeting conservation goals for covered plant and animal species and their habitats, identify threats to Covered Species and habitats, and help prioritize management needs. Monitoring activities will be tracked through a formal reporting program that will assess the need for remedial or Adaptive Management and provide research recommendations. The City, PVPLC, and the Wildlife Agencies will have detailed maps providing locations of habitats and Covered Species populations included in the Preserve and/or targeted for conservation. Land located in the Preserve will be managed and maintained in accordance with specific biological objectives as follows:

1. Maintain or increase populations of Covered Species to ensure the long-term viability and sustainability of native ecosystem function and natural processes throughout the Preserve. Document changes in the presence of conserved populations of Covered Species. This will be accomplished through monitoring Covered Species within conserved habitats.
2. Maintain or increase the acreage of habitat for Covered Species within the Preserve. To enhance and restore, where feasible, appropriate native plant associations and wildlife connections to adjoining habitat in order to provide viable wildlife and sensitive species habitat.
3. Document the loss of and the protection of habitats and Covered Species in the annual Habitat Tracking Report and Covered Species Report as specified in this NCCP/HCP and IA. This will be accomplished as the City tracks habitat impacts and take of Covered Species.
4. Manage the populations of non-native invasive plant species in the Preserve via the Targeted Exotic Removal Plan for Plants.
5. Describe new biological data collected, such as new species sightings, information on wildlife movements, and frequency of road-killed wildlife, as such information is available. Although not the focus of the monitoring program, collection of new biological data will occur during Covered Species monitoring. This information will be disseminated through the annual reporting program.
6. Apply Adaptive Management when necessary as described below.

7.2 Adaptive Management

Adaptive Management is a key element of implementing effective conservation programs. Adaptive Management combines data from monitoring species and natural systems with new information from management and targeted studies to continually assess the effectiveness and adjust conservation actions.

Adaptive management may include re-prioritizing monitoring efforts, as indicated by monitoring results and the resultant degree of management required for a given resource. For example, if a specific population proves stable over a period (e.g., 10-20 years) the frequency of monitoring may be reduced, particularly if a species' habitat and physical site characteristics remain unchanged. Conversely, another species may require more intensive monitoring because of declining trends. The remediation and Adaptive Management program will achieve the objectives of providing corrective actions where (1) resources are threatened by land uses in and adjacent to the Preserve, (2) current management activities are not adequate or effective, or (3) enforcement needs are identified.

The highest priority monitoring tasks will be those (1) that provide direct evidence of changes in key biological resources and (2) for which corrective or remedial management actions are possible.

The Wildlife Agencies will work cooperatively with the City and its Preserve Habitat Manager to set any potential new priorities that can be identified from results of Annual and/or Comprehensive Reports. Moreover, the City will consider the input from the Wildlife Agencies, science advisors, other land management agencies, and the public. Any major changes in the Adaptive Management program will require the approval of the Wildlife Agencies prior to implementation, including, but not limited to, any proposed actions that would be inconsistent with the Plan or detrimental to a Covered Species introducing new and untested management techniques, discontinuing and replacing ineffective management techniques that are recommended in the Conservation Strategy, or applying management techniques on a much larger or smaller scale than envisioned in the Plan.

7.3 Covered Species Surveys Methodologies

This section outlines the necessary monitoring tasks, including methodologies, data collection, and analysis. Section 7.8 of the Plan provides more information on additional research that may be implemented as funds and/or researchers become available. Preservation of rare plant and animal populations in protected areas is the initial step in achieving long-term conservation. Monitoring efforts are needed to ensure that human-related activities do not present immediate threats to conserved populations nor threaten the ability of a population to persist over time. The Covered Species monitoring program will identify (1) short-term threats to species persistence, (2) longer-term trends that may suggest declining populations, and (3) proposed measures to improve species viability. In each case, active management may be required. The Covered Species monitoring effort will achieve NCCP/HCP objectives of documenting the protection of Covered Species and changes in conserved populations of Covered Species as well as collecting new biological data. The PVPLC has developed an initial Preserve Habitat Management Plan (PHMP) (Appendix H) for the Preserve as described in Section 9.0 of the Plan that consists of the following four

plans: (1) Initial Management and Monitoring Plan; (2) Predator Control Plan; (3) Habitat Restoration Plan; and (4) TERPP. In an Adaptive Management context, the PHMP may require new management directives if changes in population size of Covered Species are identified as a result of this monitoring (Dudek, 2007). The Wildlife Agencies will work cooperatively with the City and its Preserve Habitat Manager (i.e., PVPLC) to set any potential new priorities that can be identified from results of Annual and/or Comprehensive Reports. Any new priorities identified in the PHMP will be subject to the Wildlife Agencies' review and approval.

7.3.1 Plant Species Monitoring

Six target Covered Plant Species occur within the City's jurisdictional limits. These are aphanisma, South Coast saltscale, island green dudleya, woolly seablite, Santa Catalina Island desert-thorn, and Catalina crossosoma. The first four species occur in southern bluff scrub, whereas the latter two species occur in CSS. An additional two sensitive species have not been observed in the City limits, but may occur on the Peninsula: Peirson's morning-glory (*Calystegia peirsonii*) and state-listed Lyon's pentachaeta (*Pentachaeta lyonii*). The following discussion of plant species monitoring focuses only on Covered Plant Species currently known from the Plan Area.

Field monitoring will focus on detecting both immediate threats to population viability and long-term trends that indicate population decline. Immediate threats may include habitat loss or degradation (e.g., vehicles, trampling, plant collecting, illegal trash disposal, invasive species, plant competition, and erosion) and will be measured through visual assessments. PVPLC will identify any new infestations on an ongoing basis from information gathered when working in the Preserve during species surveys and on trail and restoration projects and include these observations for appropriate management actions in the TERPP. Natural events that temporarily affect plant populations will be recorded but typically will not be considered detrimental to the long-term survival of a population. Population declines may be more difficult to assess because many species experience natural fluctuations in population size over time. Efforts will be made to correlate apparent changes in population status with environmental or ecological factors.

During the initial monitoring effort of 2006 by PVPLC, a reconnaissance survey was conducted for all populations included in the field-monitoring program. The purpose of this survey was to refine existing information and establish baseline conditions. Specific objectives of this survey were to define population limits, estimate population sizes, and map populations onto base maps. The reconnaissance survey was a one-time effort, and there will be no formal effort to identify additional populations. Field monitoring includes a qualitative assessment of disturbance factors that may threaten the populations. These factors will be recorded on the appropriate data sheets and monitored over time to determine their effect on the target population. Where adverse effects are obvious, however, remedial measures may be implemented immediately.

Each known occurrence of Covered Plant Species will be completely censused during each sample season with the exception of island green dudleya, which occurs in relatively large, inaccessible populations that are difficult to census. For island green dudleya populations, abundance and density are assessed by direct

counts or estimates in sample plots using binoculars from vantage points or by photo documentation, as discussed below and in the Preserve Habitat Management Plan.

Photo Documentation

Permanent photo documentation points have been established for all monitored plant species plots but will be particularly valuable for species for which direct monitoring of individual plants is impossible because of accessibility problems and for which individuals may be reasonably counted or assessed from photographs (e.g., island green dudleya). Photo documentation points will be established for at least three vantage points adjacent to the subject population(s). Digital photographs will be taken concurrent with monitoring according to the schedule described in the Monitoring Frequency section below. Additionally, cameras will maintain the same orientation and focal length from year to year. Photographs should be taken during each monitoring effort.

Climatic Data

Climatic information (e.g., precipitation and temperature) will be collected and recorded from the nearest weather station monthly. This information will be used to correlate climatic conditions with species presence and population size in any given year, for both plant and animal target species. Established weather stations are located throughout the Peninsula.

Timing

Monitoring of Covered Plant Species should be conducted at the most phenologically appropriate time for each species, depending on the type of monitoring being conducted. The phenological condition of each species should be verified before initiating the monitoring effort. Target dates for monitoring are between April and May for aphanisma, between May and July for South Coast saltscale, between April and June for island green dudleya, June for Santa Catalina Island desert-thorn, and between February and May for Catalina crossosoma.

Monitoring Frequency

Monitoring frequency for Covered Plant Species will vary according to species' habit (e.g., annual versus perennial). Other considerations in monitoring frequency may include population trends noted over time. As stated above, annuals and herbaceous perennials will be monitored once every three years in the spring in years where rains on the Peninsula exceed 75% of the long-term average annual precipitation, as measured during the July–June rain year. This will allow for an unbiased assessment of the population status under comparable weather conditions between monitoring years. Longer-lived shrubs should typically be monitored once every three years.

Population Parameters

- ***Long-term monitoring.*** Long-term monitoring will focus on population parameters that indicate whether a population is expanding, stable, or declining, such as population size,

population density, and population structure (e.g., age classes). Parameters to be measured may vary from species to species according to species life history (see below). Two additional parameters, survivorship and fitness (e.g., significant decreases in fruit or seed set), are acknowledged as important in identifying causes of population decline but will not be included in the field monitoring program.

- ***Population Size.*** It is well recognized that small populations are at an increased risk for extirpation through both short-term catastrophic events and long-term genetic events that threaten population viability (Allendorf, 1983; Gilpin and Soulé, 1986; Messick, 1986; Falk and Holsinger, 1991; Ellstrand and Elam, 1993). Although it will be desirable to determine minimum viable population sizes for the plant species of concern and manage populations accordingly, this task is beyond the scope of this monitoring program. All Covered Species included in the field effort (aphanisma, South Coast saltscale, island green dudleya, Santa Catalina Island desert-thorn, woolly seablite, and Catalina crossosoma) will be monitored to determine trends in population size. Population size data will be correlated with environmental and ecological data, to the degree feasible, to determine possible causes for declining trends. Depending on the cause, significant declines in population size over time may warrant remedial measures (including but not limited to reintroduction) to reverse the declining trend.

- ***Population Structure.*** For some species (e.g., Santa Catalina Island desert-thorn and Catalina crossosoma), the presence of flowering plants does not provide an adequate indication of the state of the population or its potential for persistence (Oostermeijer *et al.*, 1992). For example, a high percentage of flowering may be observed in a relatively old, even-aged stand of plants. By its very structure, however, this population may be more susceptible to extirpation than a population with a lower percentage of flowering but a variety of age classes. Population structure, as measured by the presence of various age classes, can provide an additional indication of the overall vigor and long-term "potential" of a population. The presence of individuals representing more than one stage of a life cycle (e.g., seedlings, juveniles, flowering and non-flowering adults) is representative of a "dynamic" population. Conversely, populations characterized by minimal or no seedling recruitment are typically considered "stable", even if there is a high degree of adult flowering or non-flowering individuals. Although stable populations may persist for long periods, they have a greater probability of becoming extinct over time because of their lack of recruitment. Additionally, stable populations may experience declining trends in population size, even if the rate of mortality is relatively low, simply because individuals that die are not replaced (Oostermeijer *et al.*, 1992).

  The presence of age classes within a population will be monitored for herbaceous perennials (e.g., island green dudleya) or shrubs (Santa Catalina Island desert-thorn, Catalina crossosoma) that are on the Covered Species list and located in accessible locations. For example, it is uncertain whether age class monitoring will be possible for island green dudleya because of its generally inaccessible location on bluffs. The presence of vegetative reproduction (e.g., clones, stem, or corm offshoots) will be considered evidence of recruitment in a population.

Data Analysis

Data analysis will be performed as part of the Comprehensive Report every three years. Population parameters measured to indicate whether a population is expanding, stable, or declining include population size, plant density, and population structure (e.g., expressed as age class frequency) as appropriate given the size of local populations. The data will be presented for each plant population and summarized for the entire Plan Area. Once multiple sample years are available, the data will be presented in simple graphs to help visualize potential trends. Data will be included in the Annual Reports to the Wildlife Agencies to determine future management actions. The raw data will be made available to regional databases and the Wildlife Agencies as requested for additional statistical analyses.

7.3.2 Animal Species Monitoring

The goal of population monitoring is to implement a monitoring program sufficient to demonstrate presence or absence of animals from various locations, develop a database that can help assess population trends, and identify important threats of Covered Species within the Preserve system. The three Covered Species to be monitored are gnatcatcher, cactus wren, and ESB. A complete survey of all occupied and potential habitats within the Preserve will be conducted every three years for populations of the gnatcatcher, cactus wren, and ESB. If the PVB is rediscovered or reintroduced within the Preserve, this species will be added to the monitoring program. Federally listed animal species surveys will be conducted by a qualified biologist familiar with the target species. Qualified biologists will either possess ESA section 10(a)(1)(A) permits for the target species or be approved by the USFWS, in coordination with the CDFW, prior to conducting surveys. Any incidental take of federally listed species that may occur through these monitoring efforts will be addressed in the Plan rather than the individual biologist's section 10(a)(1)(A) permit. It is expected that gnatcatcher and cactus wren surveys will be done concurrently. This survey protocol for the NCCP/HCP is detailed below:

Coastal California gnatcatcher and cactus wren surveys

1. Survey Frequency. Gnatcatchers/cactus wrens are difficult to detect and can easily be missed with just one site visit. Every three years, CSS within the Preserve will be surveyed twice per year with at least a seven-day interval between site visits during February through May.
2. Time of Day. Surveys will be conducted from 6:00 a.m. to noon. Surveys will begin later in the morning when ambient morning temperatures are less than 40°F.
3. Coverage of Survey. The calling rate of gnatcatchers is highly variable (Preston *et al.*, 1998). Relatively slow, methodical transects through presumptive gnatcatcher habitat are required to maximize the potential for detecting gnatcatchers/cactus wrens.
4. Survey Weather Conditions. Gnatcatchers/cactus wrens may be more difficult to detect under windy (>10 mph) and/or cold (<40°F) conditions. Very hot conditions (> 95°F) also seem to depress activity. Surveys should not be conducted under these extreme weather conditions.

5. Taped Vocalizations. Taped vocalizations will be used on all surveys because there may be extensive inter-observer variation in "pishing." Volume of tape players should be similar to that of a quiet mew call or contact note produced by a gnatcatcher/cactus wren. Excessive volume can either draw in or scare off birds from their normal territory and thus influence the estimate of population size. Use of the tape should be infrequent in both time and space. Allow sufficient time for the birds to respond (e.g., 5-10 minutes) before playing the tape again. Do not induce detected birds to follow the taped call, thereby minimizing potential double counting.
6. Survey Routes. Survey routes through the habitat patch will be systematic so that the area is completely covered. Survey routes will be varied relative to time of day between visits. A zigzag pattern that starts from the center of the habitat patch and moves toward the periphery of the patch is highly recommended. Note the location of territorial behavior, if observed.
7. Detailed Recording of Sighting Information. Gnatcatcher/cactus wren sightings will be recorded on a standard field data form, as well as on a standard field topographic map of the plot. Attribute and location data should be stored digitally in such a way that it can be easily incorporated into the statewide monitoring database currently being developed by CDFW and others. Information to be recorded for each sighting will include, at a minimum, the following:
    a. Date and start/stop time of sighting
    b. Sex and age (if feasible) of individual(s)
    c. Are any of the birds detected color-banded? Record the color code, if present.
    d. Habitat type, dominant plant species, and vegetative condition (i.e., extent of disturbance/invasive plant species) will be documented and photographed
    e. Is the sighting a single bird, a pair, or a family group?
    f. Is there any evidence of breeding activity (e.g., nesting behavior, carrying of prey items)?
    g. Are there any other sensitive CSS species or Species of Special Concern near the sighting?
    h. Any observations of brown-headed cowbirds

El Segundo blue butterfly and Palos Verdes blue butterfly surveys

Every three years, qualified biologist will survey occupied and potential habitat within the Preserve for ESB and PVB (if discovered or reintroduced with the NCCP/HCP Plan Area) during the peak flight period of these species (ESB = June 20-August 20 [Mattoni *et al.* 2001]; PVB = February 25-April 25 [Mattoni and Longcore 2002]). For both species, during six consecutive weeks of the peak flight period, each occupied or potential habitat area will be surveyed once per week for a total of six surveys. Numbers of adults detected, sex, behavior, weather, and condition of the larval habitat, including hostplant abundance and condition, will be assessed and reported after each survey season. An estimate of the number of hostplants will be conducted in conjunction with the butterfly surveys. Hostplants established as a part of a restoration project will have baseline populations set after the fifth year of monitoring, or as noted in the restoration

plan. As new areas with occupied or potential habitat are discovered for the butterflies, they will be incorporated into the survey areas.

Animal Species Data Analysis

Following each survey period, data for each species will be presented for individual locations (as defined in the Preserve Habitat Management Plan) and summarized for the entire Plan Area. These data will include, at a minimum, the number of observations per location, estimated number of individuals per location, and sex ratios. In addition, qualitative observations on behavior, habitat conditions and other potentially important variables (as determined by surveyors) will be presented. Once multiple sample years are available, the data will be presented in simple graphs to help visualize potential trends. The raw data will be made available to the Wildlife Agencies as requested for additional statistical analyses.

7.3.3 Data Collection for Plant and Animal Species

Implementation of the monitoring program is the responsibility of the City and conducted by the PVPLC, with the monitoring assistance from the City, the USFWS, and CDFW, as available. A critical factor in the success of the program will be coordination of monitoring efforts to ensure spatial and temporal consistency in data collection and analysis, and to allow compilation of data from different sources into comprehensive monitoring reports issued every three years. A centralized data storage system will be established at the PVPLC office and will be structured in such a way that data can be easily incorporated into the statewide monitoring database currently being developed by CDFW and others. Data will be made accessible to biological monitors, researchers, and reviewers (including the Wildlife Agencies), facilitating the coordination of monitoring programs with other NCCP subregions.

It is critical to the success of the monitoring program that a central data collection system and a central repository for data are established and accessible to all personnel involved in the monitoring program, including the Wildlife Agencies. A statewide monitoring database structure is currently being developed by CDFW and others to allow for NCCP and other monitoring data to be stored consistently. Data collected will be stored in PVPLC offices in an Access database. From this database PVPLC can export data in the format specified by the statewide monitoring program, once it is developed. Standardizing data collection is essential to meeting monitoring objectives and streamlining the data collection, analysis, and reporting efforts. Protocols and/or refinements can be made as the program evolves and as monitoring priorities shift; however, any changes should be well documented and accessible to all persons involved in monitoring.

Monitoring documentation will include the following: hard copy or electronic data collection field forms, data reduction forms, and final summary forms. Establishing these forms in advance of the field effort will ensure that all aspects of the monitoring effort are examined, and will focus the effort on the stated objective(s). Additionally, maps will be provided (as needed) that depict individual site disturbances and other indicators/evidence of change.

Collected data will be input into the PVPLC database for eventual electronic submission to the statewide monitoring database. Data will be summarized to develop statistical estimates of population sizes (e.g.,

means, variances, standard deviations) and population trends. In addition, data should be assessed to determine spatial and temporal trends for each species. Summaries of the assessment data will be presented in the monitoring reports.

7.4 Non-Native Animal Species Management Plans

Native species are often at a disadvantage after exotic species or non-native predators are introduced, so special management measures may be needed to control these invading species. Non-native animal species have few natural predators or other ecological controls on their population sizes, and they thrive under conditions created by humans. These species may aggressively out-compete native species or otherwise harm sensitive species. When top predators are absent, intermediate predators can multiply and increase predation on native wildlife species and their nests. Feral and domestic animals, particularly cats, also prey on small native wildlife species. Stables may provide resources for increased populations of parasitic cowbirds, which can adversely affect native songbird breeding (e.g., gnatcatcher) populations if not adequately monitoring/managed.

7.4.1 Feral and Domestic Animal Control

These measures shall be considered for inclusion in the management of the Preserve.

1. PVPLC shall document evidence of feral or domestic animal use in the Preserve.
2. The City shall establish an education program for homeowners regarding responsible pet ownership. The program should encourage (1) keeping pets indoors, especially at night; (2) having pets neutered or spayed to reduce unwanted reproduction and long-range wanderings; (3) belling of cats to reduce their effectiveness as predators; (4) keeping dogs on leashes when walking them on trails in Preserves; (5) discouraging release of unwanted pets into the wild; and (6) prohibiting the feeding of feral animals.

7.4.2 Cowbird Trapping Program

1. Brown-headed cowbirds can adversely affect native songbird breeding (e.g., gnatcatcher) if populations are not adequately monitoring/managed. Observations of cowbird presence and numbers within the Preserve will be provided every three years during the gnatcatcher and cactus wren surveys. Additionally, all incidental sightings of cowbird during restoration activities or other time spent in the Preserve will be reported in the Annual Report.
2. If cowbirds become a problem in the Preserve, through increased numbers, incidental observations of cowbird parasitism on a gnatcatcher nest, or other issues, a cowbird trapping program may be initiated by PVPLC, associated with Changed Circumstances (Section 6.10.2.5), following consultation with Wildlife Agencies (see Section 5.6.3, Equestrian Use).

7.4.3 Other Predator Control

1. Institute an educational program to explain the role and necessity of large native predators within the ecosystem and the need to protect them from disturbance.
2. If evidence indicates that key predator species are extirpated, and there is an increase in non-native mesopredators adversely affecting Covered Species, initiate a program to control mesopredators under the Plan's Changed Circumstances.

7.5 Habitat Restoration Plan

Restoration is the process of re-establishing or enhancing historical biological functions and values to degraded habitats. The City shall be required to restore a minimum of 250.0 acres of habitat over the Permit Term within the Preserve. A minimum of 5.0 acres of native habitat shall be restored each year, or a total of 15.0 acres every three years if exigencies prevent restoration of 5.0 acres each year. Restoration within the Preserve will consist of actively establishing native habitat in areas currently dominated by non-native habitat or disturbed lands, based on a three-year Restoration Plan to be developed by the PVPLC in coordination with the City and the Wildlife Agencies. The plan will include recommendations for restoration sites beyond the three-year period, and will be updated and reviewed by the Wildlife Agencies every three years to incorporate changes in priorities, conditions, or unique situations while maintaining long-range planning perspective. Restoration will proceed as detailed in the NCCP/HCP unless changes are requested by the PVPLC or by the Wildlife Agencies.

Active restoration and enhancement of non-native habitats and disturbed lands will require removal of existing non-native vegetation, seeding and/or planting with native species, and monitoring the restoration effort. The habitat restoration plan will focus on the creation of habitat for target species with the objective of increasing the overall habitat carrying capacity and functionality of the Preserve for the Covered Species populations. Key habitats for restoration are CSS, cactus scrub, PVB butterfly habitat, and ESB butterfly habitat.

The PVPLC maintains a native plant nursery and seed bank at the Defense Fuel Supply Point (DFSP) in San Pedro, California. The approximately 2.0-acre nursery site contains a small greenhouse, shade tables, automated irrigation, and office space with a dry seed storage room. The facility averages 30,000 container plants and an additional rotating supply of seedling germination flats. On average, 73 species are grown as container plants and 83 species of seeds (including Covered Species) are collected and stored for direct seeding and propagation. PVPLC staff maintains monthly inventory of the container plants, germination flats, and seed storage.

In interest of preserving local plant genetic diversity, seed collection within the Plan Area is considered a Covered Management Activity under this Plan. Seed collection protocol for PVPLC staff and volunteers states the collector must collect from a range of different plants of the same species when collection in bulk, only collect 10% or less material from any given plant, and must make a positive identification of the plant prior to collecting. Any staff or volunteer must be trained in this protocol and be confident in plant

phenology to correctly identify mature seeds on the species they are collecting from. Once seeds are collected and cleaned, they are propagated in germination flats then transplanted into individual containers grown for specific restoration projects. Container plants and direct seeding are used in restoration and enhancement projects throughout PVPLC's managed lands.

7.5.1 Management Recommendations

Restoration is necessary to increase the quantity and quality of native habitat in the Preserve and is considered a Covered Management Activity under this Plan. Habitat-specific restoration should occur only on sites assessed as suitable for that habitat type. Once the site and size of the restoration effort is determined, a project-specific restoration program will be prepared according to the following guidelines.

7.5.2 Develop a Detailed Habitat Restoration Plan

The PVPLC developed a three-year Habitat Restoration Plan in 2006 and has continued to update the Habitat Restoration Plan every three years with review and approval by the Wildlife Agencies. This Habitat Restoration Plan describes the location, project goals, restoration guidelines, and habitat restoration or enhancement methods for 15.0 acres (5.0 acres per year). The restoration shall:

1. Prepare a 5.0-acre area(s) each year by removing exotics;
2. Revegetate or enhance that same 5.0-acre area(s) with native species in the subsequent year; and
3. Include design, installation procedures, maintenance and monitoring success goals.

Every three years, PVPLC will update the Habitat Restoration Plan.

Every effort will be made to obtain funding for additional restoration within the Preserve beyond the 250.0 acres required under the NCCP/HCP. Additional work may be included in the Habitat Restoration Plan, with site-specific monitoring requirements for each area. In situations where supplemental sites are added to those included in the Habitat Restoration Plan, a site-specific Habitat Restoration Plan will be developed with monitoring requirements appropriate to the situation.

7.5.3 Restoration Design

The following will be included in the habitat restoration design criteria:

1. Specified plant and seed palettes that will be used in the restoration effort. Tables 8-1 through 8-3 of the Plan are recommended seed lists for use in the Preserve. These seed mixes should be modified by PVPLC or their restoration biologist to make them more site-specific and correspond to site-specific restoration goals. Transplantation of appropriate salvaged plants, in coordination with the

Wildlife Agencies and the Preserve Habitat Manager, from impacted sites (e.g., cacti) is encouraged to be incorporated into the restoration design.

2. The types of erosion control that will be used and how they will be applied shall be outlined in the detailed Habitat Restoration Plan. Erosion-control measures can include, but are not limited to, straw wattles, blown straw, crimped straw, and/or erosion-control matting. No erosion control devices shall be used that contain seed from non-native plants.
3. Incorporation of local plant species of concern (seeding and container plants) into the restoration program wherever possible and appropriate to the site conditions. Plan ahead when adding a sensitive species to the Habitat Restoration Plan to be able to obtain enough seed to have a viable restoration effort (Section 6.2.7 of the Plan).
4. No irrigation systems shall be installed within the City's Landslide Moratorium Area or the City's coastal setback zone unless such installation is approved by the City's geotechnical consultants. The following will be included in the preparation criteria:
    a. Prepare the site by restoring it to existing grade, fixing any erosion that may have occurred, and scarifying any compacted areas.
    b. Weed control shall begin in the winter before installation of the restoration. Treatment should continue during the winter and spring months as needed. After the weeds have been controlled, the site shall be raked to remove above ground biomass and remain fallow until the appropriate time to begin revegetation.
    c. PVPLC shall oversee any use of herbicide to control weeds, following the recommendations of a licensed Pest Control Advisor and shall be supervised by a Qualified Applicator provided however that use of herbicides is not a Covered Activity under the NCCP/HCP.

Table 7-1. Rancho Palos Verdes Coastal Sage Scrub Seed Mix

Scientific Name	Common Name	Pound per Acre	Percent Pure Live Seed
Artemisia californica	California sagebrush	5	7.5
Astragalus trichopodus var. *lonchus*	Ocean locoweed	2	—
Encelia californica	California sunflower	2	24
Eriogonum cinereum	Ashy-leaf buckwheat	2	—
Eriogonum fasciculatum	California buckwheat	5	6.5
Eriogonum parvifolium	Coast buckwheat	5	—
Eriophyllum confertiflorum	Golden-yarrow	2	18
Lotus scoparius	Deerweed	2	54
Lupinus succulentus	Arroyo lupine	2	83
Malosma laurina	Laurel sumac	1	—
Nassella lepida	Foothill needle-grass	2	36
Nassella pulchra	Purple needle-grass	2	42
Salvia leucophylla	Purple sage	2	49
Salvia mellifera	Black sage	3	35
	Total	**37**	—

Table 7-2. Rancho Palos Verdes Coastal Cactus Scrub Seed Mix

Scientific Name	Common Name	Pounds per Acre	Percent Pure Live Seed
Seeds			
Artemisia californica	California sagebrush	4	7.5
Encelia californica	California sunflower	2	24
Eriogonum cinereum	Ashy-leaf buckwheat	2	—
Eriogonum fasciculatum	California buckwheat	5	6.5
Eriophyllum confertiflorum	Golden-yarrow	2	18
Peritoma arborea	Bladderpod	2	58.5
Lupinus succulentus	Arroyo lupine	2	83
Nassella lepida	Foothill needle-grass	2	36
	Total	**21**	
Cuttings		*Plants per Acre*	
*Opuntia littoralis***	Coast prickly pear	200	
*Opuntia prolifera***	Coast cholla	160	
*Opuntia oricola***	Prickly pear	75	
	Total	**435***	

* Three meters (10 feet) on center

** Transplantation of appropriate salvaged cacti is encouraged for this community. Incorporating larger (1-3 feet tall) cacti arranged in clusters to provide vertical structure for cactus wren is also recommended.

Table 7-3. Potential Rancho Palos Verdes Butterfly Habitat Seed Mix*

Scientific Name	Common Name	Pounds per Acre	Percent Pure Live Seed
Artemisia californica	California sagebrush	4	7.5
Astragalus trichopodus var. *lonchus*	Ocean locoweed	4	—
Eriogonum fasciculatum	California buckwheat	4	6.5
Eriogonum parvifolium	Coast buckwheat	4	—
Eriophyllum confertiflorum	Golden-yarrow	2	18
Guiterrezia californica	California matchweed	3	2
Lotus scoparius	Deerweed	2	54
Lupinus succulentus	Arroyo lupine	2	83
Mirabilis californica	Wishbone bush	2	—
Nassella lepida	Foothill needle-grass	2	36
Nassella pulchra	Purple needle-grass	2	42
	Total	**31**	

*Seed mix selection will vary according to site location and historic information to minimize type conversion from butterfly habitat to dense coastal sage scrub.

7.5.4 Restoration Maintenance Program

1. PVPLC will perform the following maintenance activities to facilitate restoration success: weed control, erosion control, and access control.

   a. Remove or control invasive exotic species. Weed control will require diligence by the maintenance personnel. Invasive exotic species, such as pepper trees (*Schinus* spp.), pampus grass (*Cortaderia selloana*), fountain grass (*Pennisetum setaceum*), gum tree (*Eucalyptus* spp.), castor bean (*Ricinus communis*), tree tobacco (*Nicotiana glauca*), and fennel (*Foeniculum vulgare*), will be removed wherever they occur within the restoration area. Annual weeds such as mustard (*Brassica* spp.), wild radish (*Raphanus sativus*), and annual grasses may also need to be controlled. The City and PVPLC will determine what annual weeds need to be controlled to ensure restoration success.

   b. Control erosion as necessary. Potential erosion-control measures include hay bales, sandbags, silt fencing, and/or erosion-control jute matting. PVPLC will identify the need for erosion control during regular site visits.

   c. Control access to restoration sites. Access to restoration sites should be on existing trails that can accommodate authorized vehicles. All vehicles should remain outside the restoration areas. If off-road vehicle or human activities become a problem in the restoration area, PVPLC will recommend remedial measures to the City for consideration and implementation.

2. Maintain the restoration site for five years following installation.

3. Perform maintenance on an as-needed basis, as recommended by the PVPLC.

7.5.5 Restoration Site Monitoring and Reporting

The PVPLC will monitor and report on the restoration work underway in the Preserve. Each site will be monitored for five years, with reports prepared in years one through three, and five. Monitoring should document restoration progress and provide direction and maintenance recommendations. Monitoring will include both horticultural and botanical components. PVPLC or their agents shall:

1. Conduct horticultural monitoring to determine plant composition, plant health, performance of maintenance personnel, and recommended maintenance activities.
2. Conduct botanical monitoring to quantitatively measure the progress of the restoration effort by measuring plant cover, plant composition, and weed cover. Botanical monitoring shall follow the California Native Plant Society field sampling protocol (CNPS 2011).
3. Take photographs of the restoration site viewing the site from different locations. Photographs shall be taken at the same locations each year.

7.5.6 Restoration Site Success Goals

The success of each restoration project will be specific to its location and design. Success goals will vary depending on it the degree of restoration implemented such as an enhancement of a more native ecosystem versus complete revegetation of a disturbed landscape. Goals will incorporate metrics for survivorship, diversity, and cover. Another site specific factor affecting success goals is the ability to irrigate, which may be limited in portions of the landslide moratorium area. The following criteria shall be used as examples to measure the success of a habitat restoration project:

1. Soil at the site is stable and shows no significant erosion.
2. After five years, non-native plant cover is less than 25% with less than 15% cover of invasive perennial species. After five years, there will be no presence of species on Cal-IPC List A with the possible exception of Cal-IPC List A non-native annual grasses.
3. Native plant cover after three years in the CSS community should be greater than 40% with at least 30% cover from perennial species. At five years, total native cover should be greater than 50% percent with appropriate species diversity.
4. Native plant cover after three years in the cactus scrub community should be greater than 30% with at least 20% cover from perennial species and 5% cover from cactus species. Native plant cover after five years in the cactus scrub community should be greater than 40% with at least 10% cover from cactus.
5. Native plant cover after three years in PVB habitat should be greater than 30%, but not more than 70%. The remainder should be bare ground. Perennial (shrub) species should be maintained at between 10% and 50% cover. Ocean locoweed (*Astragalus trichopodus* var. *lonchus*) or deerweed (*Lotus scoparius*) should constitute at least 10% cover. Some replacement of ocean locoweed by deerweed is acceptable, particularly in the northern portions of the Preserve.

6. Recommendations for Adaptive Management of restoration sites will be incorporated into Annual Reports.

7.6 Targeted Exotic Removal Plan for Plants (TERPP)

In addition to its obligation to restore 250.0 acres of land within the Preserve to native habitat in accordance with Section 7.5 of the Plan, the City is required to conduct weed control activities to remove exotic species. PVPLC will conduct weed control activities in fulfillment of the City's obligation through the TEPRP. Annually, the PVPLC, in coordination with the City and the Wildlife Agencies shall identify and evaluate locations where exotic species are prevalent as described in the Preserve Habitat Management Plan. PVPLC will identify any new infestations on an ongoing basis from information gathered when working in the Preserve, during species surveys, and on trail and restoration projects and include these observations for appropriate management actions in the TERPP. Five acres or 20 small sites will be selected for treatment each year during the Permit Term. This City's weed control requirement is in addition to the City's requirement to restore a minimum of 5.0 acres each year under the habitat restoration program. The Targeted Exotic Removal Plan for Plants will:

1. Prioritize areas for exotic species control based on aggressiveness of invasive species and degree of threat to the native vegetation. (see Appendix D for a list of exotic plant species that could threaten native habitats in the Plan Area). Eradicate species based on biological desirability and feasibility of successful implementation.
2. Use an integrated pest management approach (i.e., use the least biologically intrusive control methods), at the most appropriate period of the growth cycle to achieve the desired goals.
3. Consider both mechanical and chemical methods of control. Only herbicides compatible with biological goals should be used. Only licensed pest control advisers are permitted to make specific pest control recommendations. Use of herbicides is not a Covered Activity under the NCCP/HCP.
4. Properly dispose of all exotic plant materials removed from Preserve lands (e.g., in off-site facilities).
5. A summary of targeted exotic removal efforts, with before and after photographs of the work done, along with an analysis of their effectiveness and recommendations for follow-up work, will be provided in the Annual Report.

7.7 Covered Species Reintroduction

This section describes reintroduction of Covered Species within the Plan Area. In this context, reintroduction refers to putting the species back into a known historical site or habitat within its historic range. Reintroduction is generally used to enhance the overall species population viability.

The following concerns shall be addressed by the City and PVPLC in consultation with the Wildlife Agencies before initiating a reintroduction effort: (1) does the reintroduction effort benefit the species or population; (2) does the reintroduction site afford long-term stability; (3) are there higher competing values

(e.g., economic or land-use issues that could threaten the long-term success of the effort); and (4) does the reintroduction effort provide the opportunity for natural evolutionary processes to continue (Morse 1993, 1996). Reintroduction of any federally or state listed threatened or endangered species will be done in coordination with the Wildlife Agencies.

7.7.1 Management Recommendations

The decision to reintroduce a species depends on numerous species- and site-specific factors, and any reintroduction effort will require detailed planning and monitoring, as well as available funding for planning and implementation. Reintroduction is not a requirement under the NCCP/HCP or Permits. Current information on target species in the Plan Area may be insufficient to determine whether reintroduction efforts are warranted. Guidelines on determining the appropriateness of reintroduction, as well as reintroduction methodologies, are provided below in case Covered Species monitoring (Section 7.3.1 of the Plan) indicates that such efforts are warranted.

Reintroduction efforts are appropriate if the species or proposed reintroduction site displays all or most of the following characteristics:

1. High priority species (e.g., listed as Federal- or state-endangered).
2. Such release will further the conservation of the species.
3. Species biology is known or is being researched (some research may be conducted as part of the reintroduction effort).
4. The site is ecologically appropriate.
5. Suitable donor populations/propagule sources exist.
6. The site is in the Preserve and threats to its establishment and long-term viability have been minimized.
7. The City's Plan Area is within the historic range of all target species. Monitoring of selected target species is expected to determine population trends that will indicate whether extant populations are stable or declining. If declining trends are observed and reintroduction is determined appropriate, potential reintroduction sites will be assessed for suitability in terms of ecological conditions and site protection status.
8. Reintroduction may not be feasible for all species under consideration, based on biological, physical, logistical, or evolutionary factors. Although a general assessment of these factors is presented below, a more complete assessment will be made before committing resources to a reintroduction effort (Fiedler, 1993; Fiedler and Laven, 1996). Determine the type of rarity (e.g., is the species a local endemic, relict, new species or hybrid, or rare because of loss of habitat from development).
9. The species Pierson's morning glory, state-listed Lyon's pentachaeta, and the Palos Verdes blue butterfly are candidates for reintroduction (Lipman *et al.*, 1999). The El Segundo blue butterfly

may also meet the above criteria. Once sufficient butterfly habitat is restored, a reintroduction program may be attempted by the Wildlife Agencies.

10. Before reintroduction, biological, physical, logistical, and evolutionary factors should be evaluated. Key criteria include existing site conditions; presence or potential for appropriate pollinators and seed dispersal agents; possible genetic contaminants (hybrids or cultivars); soils; topography; slope; aspect; elevation; drainage; hydrologic regime; species competition; light environment; site protection status and degree of protection; access for monitoring and research; site location [e.g., known versus potential habitat]; and evolutionary potential.
11. As sufficient funding becomes available, the City and PVPLC may conduct studies to determine the feasibility of reintroduction, as necessary (e.g., propagation studies, propagule viability studies).

7.7.2 Use an Experimental Approach

Any attempted reintroductions could be treated as experimental (White, 1993, 1996; Guerrant, 1993, 1996; Pavlik, 1993b, 1996). Following this approach, it should be recognized that the reintroduction may be successful because of the knowledge obtained during the process, even if not all goals and objectives are met. Any reintroduction program should institute an experimental design to test propagation methodologies, measure ecological or other life history parameters, and validate appropriate establishment and management techniques. The design and data collection should allow for appropriate quantitative analyses of results with spatially appropriate replication of plots.

7.7.3 Develop a Detailed Reintroduction Plan

The goal of any reintroduction effort shall be to establish self-sustaining population(s) of the species of concern. Species-specific Reintroduction Plans shall:

1. Specify design criteria, including a scientifically valid experimental design.
2. Indicate the appropriate time of year for reintroduction, based on species phenology and/or life history.
3. Indicate reintroduction methods, including any specialized equipment that may be needed.
4. Specify type and source of source material, and provide a schedule for procuring source materials in a timely fashion.
5. Outline preliminary evaluation criteria.
6. Specify the process for implementing remedial measures.

The Reintroduction Plan shall also specify project management and implementation responsibilities. The City and PVPLC may be responsible for implementation of this plan provided sufficient funding is available.

1. Develop formal documents (as needed) that address the specific responsibilities and authorities of applicable personnel (the landowner, contractors, monitors, etc.). Specifications shall include all pertinent conditions, coordination requirements, schedules, necessary permits, warranty periods, protected areas, and restricted activities.
2. Specify propagule procurement procedures a year in advance of actual planting. Integrate genetic conservation considerations (Center for Plant Conservation, 1991; Brown and Briggs, 1991) into procurement specifications. Collect seeds, cuttings or other propagules from locally growing natural sources. For example, if a population is being destroyed by development, the entire population may be collected for reintroduction purposes. Conversely, if propagules are to be collected from an extant conserved population with greater than 400 individuals, a maximum of 5% of the population should be sampled in a given year.
3. Annual plants (e.g., aphanisma, South Coast saltscale) should be reintroduced only through seed, whereas corm-forming species (e.g., island green dudleya) may be additionally (or alternatively) reintroduced through installation of plants grown from seed or cuttings under nursery conditions. Shrubs (e.g., Santa Catalina Island desert-thorn, Catalina crossosoma) may be additionally (or alternatively) reintroduced through cuttings or installation of plants grown from seed under nursery conditions. Where seed availability is limited and alternative methods of reintroduction are unavailable, a seed increase program may be warranted to ensure that enough seed is available for the reintroduction to have a reasonable chance of success. In such cases, the potential genetic consequences of artificial propagation must be weighed against the threat of extinction or local extirpation.
4. Delineate site protection measures both during installation and afterward during the establishment period. Protection may include the use of fences, flagging, signs, patrols, and other barriers. Site protection may require management of off-site resources and contaminants, drainage, exotic plant species, vandalism, and trash.
5. Establish maintenance standards to ensure reintroduction success. Intensive maintenance at least once a month during the first two years after planting is often required and may include weed control, debris removal, reseeding, pest control, and site protection.

7.7.4 Include Reintroduction Sites in a Population Monitoring Program

1. Reintroduction sites shall be monitored, and monitoring shall include both biological and horticultural components. Biological monitoring will require collection of field data to assess whether project goals are being met. At a minimum, biological monitoring should consist of direct measures of population size, percent cover, vigor, and yearly fluctuations in these variables, particularly as they relate to climatic conditions. Other potential factors to be assessed include natural colonization and increases or decreases in species distribution, reproductive success, habitat

quality, herbivory, survivorship, and soil moisture content, among others. Monitoring should be conducted yearly, as needed, and will occur in spring or summer for most species.

2. In accordance with guidelines issued by the California Botanical Society (1998), reintroduction-monitoring efforts shall be conducted for at least seven years. Horticultural monitoring and management will consist primarily of weed control and site protection. It may also include recommendations for supplemental fertilization, irrigation, and pruning, where appropriate. Weed control shall focus largely on removal of exotic plants or noxious weeds and/or control of areas in which the weed cover is so high as to inhibit germination of the target species. Site protection includes implementing measures to ensure that the reintroduction site is undisturbed by mechanical, vehicular, or other human-related impacts. In some cases, temporary or permanent fencing may be required to protect the reintroduction area.
3. Off-site monitoring procedures shall be established to the degree feasible. The off-site populations shall be close enough to the reintroduction site that they are subject to the same climatic conditions as those found on site. Monitoring off-site populations allows consideration of factors (e.g., temperature, precipitation, and disease) that contribute to fluctuations in population size, particularly for annual and herbaceous perennial plants. These data will allow a realistic yearly assessment of success criteria.

7.7.5 Establish Success Criteria

Specify performance standards or success criteria by which the reintroduction will be judged. Because few sensitive species have been grown commercially or received widespread (if any) use in reintroduction programs, it may not be practical to pre-establish performance standards or success criteria. Therefore, it is recommended that an assessment of the success of each species be determined yearly, using available propagation data, climatic data, and monitoring data from off-site populations (i.e., reference sites). Design biological monitoring of the reintroduction site to supply data to evaluate these standards. Develop remedial measures in advance of project implementation to provide a means of response should performance standards not be met.

7.7.6 Reporting

All biological monitoring data will be quantitatively analyzed and presented in an Annual Report yearly, with a Comprehensive Report submitted every three years, along with recommendations (including remedial measures, as necessary) for the next year's program.

7.8 Research Recommendations

The following is a summary of recommendations for future studies as part of the Adaptive Management of the Preserve by the City and PVPLC that will advance knowledge and improve the ability to manage Covered Species and their habitats in the Preserve. Some of these studies may be conducted as part of future Preserve management and monitoring efforts, whereas others may be the focus of longer-term university or agency research projects. These research recommendations are not included in the monitoring plan

budget. The research recommendations provided below can be grouped into several generalized categories, including basic inventories, habitat and life history studies, population biology and genetic studies, habitat restoration and/or population reestablishment studies, and management studies. These recommendations are consistent with the research agenda recommended by the Scientific Review Panel for the state's NCCP program. Additional recommendations may be generated based on results of the monitoring program and/or findings of the studies recommended below.

PVPLC promotes scientific investigation to inform restoration, conservation, education and stewardship programs, and to address the interface of the natural and human systems of the urban environment. To achieve this, collaborative research projects involving PVPLC staff, middle school, high school, university students, classes and professors, and professional researchers are encouraged to take place in the Preserve. When appropriate, PVPLC will provide links to posters and articles on their website (www.pvplc.org).

PVPLC maintains a Science Advisory Panel consisting of science researchers from universities and organizations having a diversity of expertise for the purpose of supporting its research activities. Typically, research projects are driven by the interests and funding of individual professors, their students and classes. However, whenever possible, PVPLC will seek projects that directly support its habitat restoration efforts and special status species concerns as well as questions provided below.

Habitat and Life History Studies

Determine the ecological requirements and life histories of Covered Plant Species. This information will complement the long-term status monitoring of key covered plant species, and will provide the practical information necessary to enhance or establish populations. Specific studies might focus on the following:

1. Microhabitat requirements
2. Reproductive, pollination, and dispersal strategies
3. Seed and pollen viability studies
4. Germination requirements
5. Seedbank ecology
6. Seedling mortality studies

Population Biology and Genetic Studies

1. On a species-specific basis, determine (a) the minimum size for viable self-sustaining plant populations, (b) the minimum effective population size; and (c) the minimum and optimum densities of stable plant populations (Messick, 1986).
2. Monitor a representative sample of individuals of focal target animal species (gnatcatcher, cactus wren, PVB, and ESB) to refine the variance estimate in demographic parameters and dispersal capability.

3. Conduct genetic studies of populations of the cactus wren and gnatcatcher to assess relative levels of genetic variation and possible inbreeding depression. Determine the need for supplementation of genetic stock with individuals from coastal Orange County.
4. Conduct inter- and intra-population genetic analyses of representative populations of covered plant species.
5. Habitat Restoration and/or Population Enhancement/Reintroduction Studies
6. Using results of studies identified above, conduct and monitor small-scale habitat restoration studies within the Preserve.
7. Conduct reintroduction studies for the PVB and potentially the ESB.
8. Using results of the studies above and species' distribution and risk status, identify candidates for population enhancement or reintroduction studies. Conduct and monitor transplantation or reintroduction studies.
9. Establish and maintain seedbanks in conjunction with recognized institutions for certain covered plant species as a possible source of research and enhancement/reintroduction material.

Management Studies

Conduct and monitor small-scale experiments that use alternative methods to restore or enhance native habitat. These experiments may include but are not limited to alternatives to irrigation, planting techniques, and methods to simulate the effects of natural disturbances (e.g., fire). The scale and locations of these experiments will be appropriate to avoid impacts to Covered Species. Experiments that will impact more than 1 acre will be reviewed and approved by the Wildlife Agencies. Results of any management studies will be included in Annual Reports.

8.0 FUNDING AND FINANCING OF NCCP/HCP

8.1 Estimated Implementation Cost

Implementation of the NCCP/HCP will require funding to provide services and management and conduct habitat restoration, invasive species control, monitoring, Adaptive Management, and post-permit perpetual management of the Preserve. Within the Preserve, the City will be responsible for services such as storm drain maintenance and control, public security, trash disposal, fuel modification for fire prevention purposes on lands owned by the City, utility services, and maintenance of some signs, fences, and trails in perpetuity. PVPLC, as the Preserve Habitat Manager, will be responsible for carrying out the biological objectives and methodology described in Section 7.0 of the Plan for monitoring of the Preserve. Surveys for Covered Species, control of invasive species, and fuel modification for fire prevention purposes on lands owned by the PVPLC (Lunada Canyon)(see Section 9.0 of the Plan for Preserve Management) will be the responsibility of PVPLC in perpetuity. These management related activities will be provided in the form of in-kind services, or funded by cash, as appropriate for each item, as described below.

8.1.1 Management Budget Analysis

The City and the PVPLC developed a Management Budget Analysis for the proposed Preserve (see Appendix C). Since that time, levels of services necessary have changed, and each Permittee's annual cost to manage the Preserve were calculated. Based on the updated Preserve Management budget, the City and PVPLC's total cost of managing the Preserve is estimated at $1,785,438. The methodology combines actual costs with the methodology of the Center for Natural Lands Management's Property Analysis Record in which the characteristics and needs of the properties are analyzed to derive the management requirements on a yearly basis. Management tasks were specified and their costs provided or estimated, as were the administrative costs to provide for the cost of yearly management. The cost of habitat management and biological monitoring varies according to habitat type, condition, and specific tasks needed to maintain biological value. The budget (Appendix C) is presented by line item costs for services such as biological surveys, habitat restoration (site construction/maintenance, habitat restoration, and habitat maintenance), invasive plant control, reporting, fuel modification, sanitation, signage, patrolling, etc. Even though some tasks, such as gnatcatcher surveys, are required every three years, the budget annualizes these costs.

Some of the factors that affect the Management Budget Analysis include:

1. The costs will increase if acres beyond the 1,402.4 identified under the Plan are added to the Preserve.
2. Levels of service may be increased or decreased depending on management needs of the Preserve.
3. The City's services and contributions include the costs of providing perpetual public safety to the Preserve. Based on the costs to the City in fiscal year 2016-17 to provide public safety enforcement services in the Preserve, this cost has been estimated at $567,000 per year and was used for the Management Budget Analysis.

4. Habitat Restoration Plan: The Habitat Restoration Plan defined in Section 7.5 of the Plan will be implemented. There will be no additional costs for habitat installation; these costs are included in the management cost estimates of the Management Budget Analysis.
5. Targeted Exotic Removal Program for Plants (TERPP): In addition to the Restoration Program, each year the TERPP will remove invasive plant species from 20 small sites or 5.0 acres within the Preserve. The TERPP does not include seeding or planting.
6. Covered Species Monitoring: The costs of Preserve monitoring were charged in full when the initial surveys were completed in 2006. Subsequent surveys are required every third year.
7. Fuel Modification: Based on the costs to the City in fiscal year 2016-2017 to provide the mandated fuel modification work in the Preserve, this cost has been estimated at $108,000 per year and is used for the Management Budget Analysis.
8. The City's annual services and contributions include public services (staff, enforcement, etc.); general maintenance (fuel modification, restroom facilities, road and trail maintenance, signage, etc.); and vehicles and equipment. The City has committed to performing these services and contributions in perpetuity, and the cost of the services will be adjusted as necessary.

8.2 Funding Sources

The following funding sources will be used to implement this NCCP/HCP:

8.2.1 Summary of Habitat Management Funding

The NCCP/HCP relies on dedicated funding sources to fulfill its requirements for the permit duration and associated perpetual management of the Preserve. The requirements for funding have been detailed in the Budget Management Analysis (Appendix C). The annual service commitments for Preserve management during the 40-year Permit Term are identified in Table 8-1 of the Plan. The funding amounts shown in Table 8-1 are based on costs expended during the fiscal year 2016-2017 and are adjusted annually for inflation or as needed to cover the cost of the activities. No additional funding from the City or the PVPLC other than what is described here is anticipated to be required to implement the NCCP/HCP. To supplement this funding, the City and PVPLC will actively pursue public and private funding sources on an annual basis. This may enable both parties to undertake projects above those required by the Plan, such as implementing more habitat restoration. The Permittees may also use or establish other local funding measures, including, but not limited to, utility surcharges, special taxes or assessments, or bonds, to the extent allowed by law.

Table 8-1. Annual Funding for Preserve Management During the Permit

SOURCE	*AMOUNT	FROM
City	$ 144,300	**Annual payment for the Management Agreement with PVPLC
City	$ 1,391,119	**Services/financial contributions
PVPLC	$ 250,019	Volunteer time/in-kind services in addition to $144,300 annual payment for the Management Agreement from the City
Total	***$1,785,438***	

*Includes habitat restoration and Preserve management based on FY 2016-2017 costs
*Excludes the $50,000 Habitat Restoration Fund required funds
**See Section 8.2.1.1

8.2.1.1 City's Funding Commitments

The City began its funding commitments for lands that are to be included in the Preserve system in January 2006, which was when the City began implementation of the management and monitoring under the Plan. Specifically, the City committed to provide PVPLC $100,000 per year for Preserve habitat management and $15,000 per year for managing the City's Oceanfront Estates habitat area and to adjust these payments for inflation. As noted in Table 8-1 above, due to the annual adjustments for inflation the City's combined payment to the PVPLC amounted to $144,300 in fiscal year 2016-2017. The City will also commit services and contributions including road maintenance, sign maintenance, public safety, enforcement, waste removal, fuel modification for fire prevention purposes on City-owned lands, staff time (e.g., Planning, Parks and Recreation, and Public Works), and maintenance as shown in the Budget Management Analysis in Appendix C. The City has funded these Plan obligations since 2006 and will continue to allocate funds annually at the costs necessary to implement the tasks identified in Table 8-1 of the Plan.

In addition to its annual funding commitments described above, the City will maintain a dedicated Habitat Restoration Fund as part of the approved City budget, with at least $50,000 (adjusted annually for inflation by the CITY using the Consumer Price Index (CPI-U)) to be used to fund its share of planned responses to Change Circumstances pursuant to Section 6.10.2 of the Plan. The Habitat Restoration Fund was established in 2006 and may be periodically augmented by Mitigation Fees paid by applicants of certain Covered Private Projects identified in Section 5.3 of the Plan. Mitigation Fees will be used by the City to manage the Preserve, including the nearly 500.0 acres the City has dedicated as mitigation for certain Covered Projects/Activities. Monies in the City's Habitat Restoration Fund, above the $50,000 balance noted above, may be used by the City for habitat conservation/restoration purposes including but not limited to the following:

1. As payment to the PVPLC to meet the City's cash obligation for Preserve management; and/or
2. As a contribution toward the City's non-wasting endowment fund discussed below which is necessary to assure maintenance of the Preserve once the NCCP/HCP Permit expires; and/or
3. As a contribution to the PVPLC to perform habitat conservation activities beyond the requirements of this Plan; and

4. The City understands and acknowledges that its obligation to fully fund the Habitat Restoration Fund and to fully fund each of its other obligations under the NCCP/HCP, including, its habitat management, monitoring, and restoration requirements, which are independent of and do not depend on the existence of periodic payments from private project applicants or from Third-Party Participants.

To assure maintenance of the Preserve once the NCCP/HCP Permits expire, beginning in 2006, the City shall provide annual payment to the PVPLC with a minimum of $10,000, adjusted annually using Consumer Price Index (CPI-U) for a separate non-wasting endowment fund. The PVPLC shall manage the endowment to cover its costs for post-Permit conservation management thereby removing any financial obligations related to conservation management by the City post-Permit Term. The City will continue to fulfill its funding responsibilities identified in Appendix C (Exhibit C-2) of the Plan post-Permit Term. Currently, there is approximately $126,946 within the account that will be transferred to the PVPLC within 60 days after the City Council's adoption of the Plan. A minimum payment of $10,000 (as described above) will be provided to the PVPLC by the City every year, and continuing for the Permit Term. Principal, interest, dividends and/earnings will remain in the fund until the Permit expires. A Fiscal Report on the status of the fund will be included in the Annual Report to the Wildlife Agencies (see Sections 8.2 and 9.3). The PVPLC's investment strategy of the fund is anticipated to generate at least $863,000 (adjusted for CPI-U) by the end of the 40 year-Permit Term which will assure sufficient funding for the perpetual management of the Preserve.

The interest and dividends on the endowment, but no part of the principal, will be used by the PVPLC for conservation easement management when the Permit Term expires. Management of the conservation easement by the PVPLC will include monitoring the lands in accordance with the conservation easements, providing monitoring reports and any needed follow up, communication with the landowner (City), communication with City staff and utility companies as needed with regard to conservation easement requirements, reviewing permitted rights and approvals for activities, dealing with minor violation incidents, and coordinating the resolution. The estimated annual cost that the PVPLC will fund from the endowment for such post-Permit activities is $22,030, adjusted annually by the CPI-U as of February of each year beginning in 2018, based on the PVPLC's experience monitoring the lands under conservation easement (Summary of Estimated Post-Permit Costs, Appendix C). The PVPLC will also provide basic land stewardship, including monitoring, sign and trail maintenance, and invasive species control on City-owned lands post-Permit expiration. The endowment will be enough to cover these post-Permit costs. The City will perpetually provide services and contributions for road maintenance, sign maintenance, public safety, enforcement, waste removal, landslide abatement district assessment, fuel modification for fire prevention purposes, staff time (e.g., Planning, Parks and Recreation, and Public Works), and maintenance for allowable activities in the Preserve apart from the long-term conservation easement endowment post Permit Term. The City will also encourage and promote additional habitat maintenance or restoration to be conducted.

Long-term management of the Preserve will require funding to provide services, and conduct invasive species control, monitoring, and Adaptive Management. Within the Preserve, the City will continue to be

responsible for the maintenance and repair of City-owned public infrastructure such as sewer and storm control, public safety enforcement services, road maintenance, trash disposal, fuel modification for fire prevention purposes on lands owned by the City, and maintenance of signs, fences, and trails stipulated in the agreement between the City and PVPLC. Implementation of these and other activities may require a Federal and state permit, as necessary, after the Permits expire if take of Covered Species is anticipated.

8.2.1.2 PVPLC's Funding Commitments

To fulfill the Preserve management obligations, the PVPLC will commit $250,019 per year (to be adjusted annually for inflation), consisting of in-kind services or cash to fund services required to meet permit requirements. In addition, PVPLC will commit the equivalent of $75,579 per year in volunteer time (approximately 2,800 volunteer hours) dedicated to the Preserve to complete its obligations for management and maintenance activities in the Preserve as described in Section 9.0 of the Plan and as required under the permit. The extent of PVPLC's volunteer support is discussed in Section 8.2.2 of the Plan and has been factored into the Plan. In-kind services from the PVPLC will consist of staff time from its stewardship and restoration technicians for the maintenance and restoration of the Preserve, staff time from conservation staff to perform biological monitoring, and staff time to organize and lead volunteer work days that bring the community onto the land to experience hands-on stewardship related tasks, such as weeding, planting, etc. PVPLC in-kind services also provide the use of equipment and fuel modification for fire prevention purposes on PVPLC-owned lands (Table 8-1).

PVPLC has a record of significant and increasing support from the Peninsula and the areas nearby. Revenue from direct mail and other fundraising has risen steadily as the organization has grown. Figure 8-1 of the Plan illustrates PVPLC's revenue from 2000-2012. In addition, PVPLC has long-term investments which had a balance of $1,437,316 as of December 2013. With authorization from the Board of Directors, the long-term investments may be used for Preserve Management or to respond to Changed Circumstances. While these funds may be available for use on the NCCP/HCP, they have not been specifically designated for use in this Plan and thus are not included in Table 8-1 as annual funding for plan implementation during the Permit. When appropriate, PVPLC will solicit donations to augment the special fund and/or long-term investments. The organization also has a planned giving program and expects to receive legacies from several supporters; however, these sources are also not included in the annual funding for plan implementation.

Post-Permit expiration, PVPLC, as the Preserve Habitat Manager, will be responsible for ensuring the preservation of habitat, which will in part be achieved through the monitoring of the conservation easements on the Preserve lands. PVPLC will also provide basic land stewardship, including monitoring, fencing, sign and trail maintenance, and invasive species control on City-owned lands post Permit expiration. The interest and dividends generated from the non-wasting endowment fund will have a balance of $863,000 after the 40 year-Permit Term. The annual cost for PVPLC's post-Permit activities is to be about $22,030 (Summary of Estimated Post-Permit Costs, Appendix C). Through these conservation easements, the PVPLC has committed to perpetual stewardship. This means that the PVPLC has an ongoing obligation to regularly monitor the land under conservation easement, as well a basic invasive species control, document the

monitoring, maintain contact with the landowner (City), and enforce conservation easement terms, if they are violated. The PVPLC maintains a policy with Terrafirma, a charitable risk pool owned by participating land trusts that insures its members against the legal costs of defending conservation.

Other management activities such as fuel modification will be addressed by PVPLC independent of the post-Permit Term endowment funding source. PVPLC will also be responsible for fuel modification for fire prevention purposes on lands owned by the PVPLC. These management-related activities will be provided in the form of in-kind services, or funded by the City's non-wasting endowment, as appropriate for each item. PVPLC will continue to provide in-kind support for Preserve management and monitoring in the form of volunteer time and will continue to seek outside sources of funding through grants and donor support.

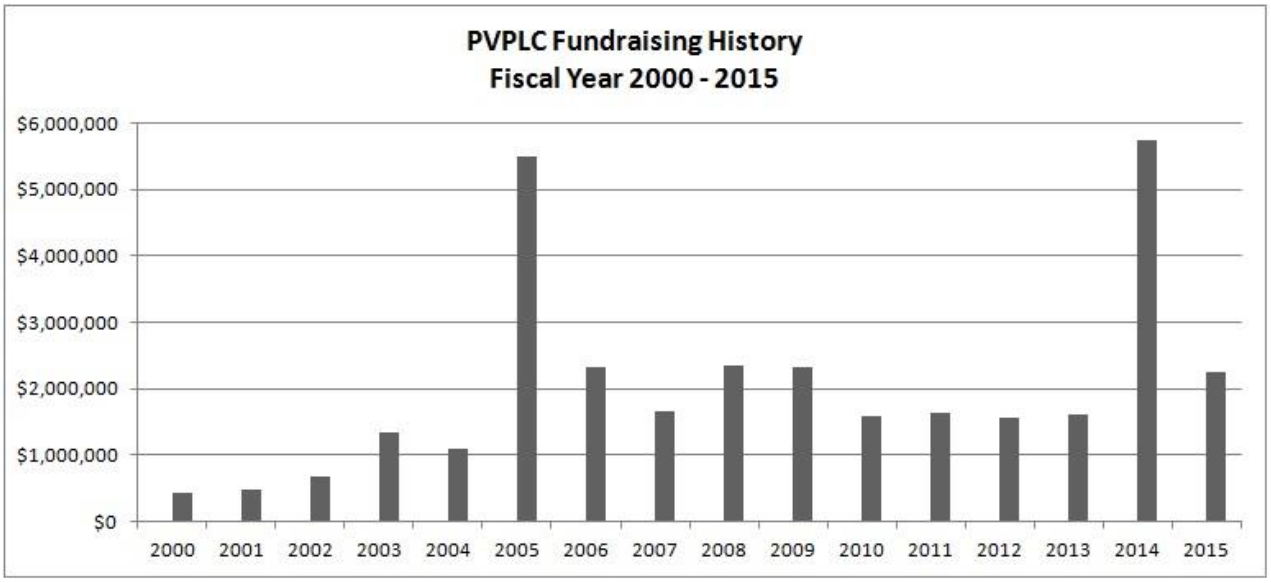

Figure 8-1. PVPLC Fundraising History (Fiscal Year 1998–2006)

8.2.2 PVPLC Land Management

The PVPLC was founded in 1988 by a group of concerned area residents to preserve open space on the Peninsula. The organization is a 501(c)(3) nonprofit corporation, with the mission to "preserve land and restore habitat on the Peninsula for the education and enjoyment of all." The PVPLC has been very successful through the years, preserving open space by working with cities and property owners to locate funds for purchasing land, to provide tax benefits for land donation, and to encourage preservation of publicly owned land. The organization provides an educational program consisting of monthly nature walks for adults and a third-grade program that brings students to natural open space near the schools. Habitat restoration is an important priority, with work underway on many of the properties managed by the PVPLC. In 2005, the PVPLC succeeded in obtaining the private funds necessary to allow the City to purchase and preserve 463 acres of open space in Portuguese Bend.

The PVPLC currently has a 16-person board of directors. Its members come from all the Peninsula cities, and bring varied backgrounds and experiences to the oversight of the organization. Professions on the board in 2008 were diverse: aerospace engineer, retired banker, real estate investor, architect, attorney, community volunteer, chief financial officer, investment banker, retired marketing and sales executives, accountant, and college professor. The organization sets up advisory boards for the properties it manages, involving the neighbors and interested parties in its preservation and restoration work.

The PVPLC has a dedicated biological staff skilled in such areas as habitat restoration planning and implementation, conservation ecology, botanical identification, and scientific research and documentation. The PVPLC staff drafts habitat restoration plans, implements habitat restoration projects, and performs monitoring. Restoration ecologists are also contracted to provide restoration plans, monitoring support, and peer review if needed. In addition, PVPLC staff members have the appropriate permits for the Palos Verdes blue butterfly and will submit applications for monitoring permits for the California gnatcatcher. PVPLC also maintains a Science Advisory Panel consisting of science researchers from universities and organizations having a diversity of expertise for the purpose of supporting its research activities (see Section 7.8).

In January 2006, the City entered into an interim contract with the PVPLC to manage and monitor all of the conserved land in the City's NCCP/HCP Preserve. A formal long-term contract was entered into by the City and PVPLC in November 2011. Consistent with the contract, PVPLC has written and submitted the initial management and monitoring plan, undertaken an annual program of TERPP, CSS habitat restoration, and Covered Species monitoring in advance of the Federal and state permits being issued by the Wildlife Agencies. The monitoring and management plan began in 2006.

The PVPLC is an active participant in the stewardship of the properties that it manages. PVPLC has been successful in obtaining many grants for habitat restoration, invasive-plant management, interpretive signage and trail construction, and environmental education. The funding sources for PVPLC projects are varied and include contributions from private foundations and corporations, as well as various grants from the Wildlife Conservation Board, California Coastal Conservancy, Center for Invasive Plant Management, USFWS, Weed Management Area, and State Parks. Some of these projects are described in the following list of lands that are managed by the PVPLC:

Forrestal Nature Preserve

1. The Forrestal Nature Preserve totals 157.9 acres and has some of the best remaining native wildlife habitat and hiking trails, this preserve is within City and a key component of the peninsula's natural environment and a significant part of the proposed NCCP/HCP Palos Verdes Nature Preserve.
2. A 2003 grant from the Wetlands Recovery Project (Coastal Conservancy) allowed the PVPLC to restore a wetland on the property.
3. Regularly scheduled volunteer days and scout projects provide assistance with habitat restoration, trail repair, and other tasks.

Lunada Canyon Preserve

1. This 20.0-acre canyon within City was once prime land for development. A gift to the PVPLC in 1992 from the E.K. Zuckerman family created the PVPLC's first natural area.
2. A grant from the Wetlands Recovery Project Small Grants Program (Coastal Conservancy) enabled the PVPLC to restore a riparian area within this canyon.
3. A grant from the USFWS Endangered Species Act Landowner Incentives Program enabled the PVPLC to restore 3.0 acres of CSS.
4. A partnership with the Environmental Science classes at the local high school provides approximately 150 students with the opportunity to plant and weed at various times during the year; scout projects have also made major contributions to the Preserve.

Linden H. Chandler Preserve

1. An island of habitat, this 28.5-acre property is a critical part of the natural environment in Rolling Hills Estates.
2. The Preserve is owned jointly by the City of Rolling Hills Estates and the PVPLC and managed by the PVPLC.
3. Funds from the Wildlife Conservation Board and a USFWS Recovery Implementation Grant allowed the restoration of habitat for the Palos Verdes blue butterfly on the site; two reintroduction efforts have been made.
4. The PVPLC has performed wetlands mitigation work for the City on this Preserve.
5. The PVPLC is implementing 5.0 acres of habitat restoration in support of a Wildlife Extension Agreement with USFWS.

Navy Defense Fuel Supply Depot

While the primary use of this site is as storage for U.S. Navy fuel reserves, it also is home to the rediscovered and endangered PVB.

PVPLC has entered into a cooperative agreement with the Navy to conduct habitat restoration and monitoring, and to propagate the food plant for the endangered PVB in support of the captive rearing project. The PVPLC maintains a native plant nursery and seed bank at the Defense Fuel Supply Point (DFSP) in San Pedro, California. The approximately 2.0-acre nursery site contains a small greenhouse, shade tables, automated irrigation, and office space with a dry seed storage room. The facility averages 30,000 container plants and an additional rotating supply of seedling germination flats. On average, 73 species are grown as container plants and 83 species of seeds are collected and stored for direct seeding and propagation. PVPLC staff maintains monthly inventory of the container plants, germination flats, and seed storage.

White Point Nature Preserve

1. This scenic 102.0-acre parcel in San Pedro is owned by the City of Los Angeles. The PVPLC has a 25-year management agreement for the property, which is now being restored as a nature preserve.
2. The PVPLC secured and implemented a $1,000,000 from the Wildlife Conservation Board to restore CSS and native grassland habitats. This project has demonstrated successes as gnatcatchers have nested in the restored habitat.
3. The work at White Point has involved extensive community participation, including volunteer days, a yearly fundraiser, and an active community committee.
4. The PVPLC assisted in securing and successfully implemented the Habitat Trails grant from the State of California for the construction of trails, including a handicapped accessible loop.
5. The PVPLC assisted in securing and successfully implemented an Urban Recreational and Cultural Facilities grant for public restrooms, interpretive signage, and a native plant demonstration garden.
6. The PVPLC obtained and implemented a grant awarded from the Coastal Conservancy to rehabilitate a former military building into a nature/education center with public restrooms.
7. PVPLC secured corporate funding to design, fabricate, and install educational exhibits in this building.

George F. Canyon Nature Center and Preserve

1. The 36.0-acre George F. Canyon Nature Center is owned by the City of Rolling Hills Estates and operated by the PVPLC. The trail passes through one of the most pristine and beautiful of the many canyons on the peninsula. Visitors can walk or ride on horseback through willow-riparian and CSS habitats, culminating in a view of the Los Angeles Basin.
2. The PVPLC implemented a habitat restoration grant awarded to the City of Rolling Hills Estates. This grant for $258,500 is providing funding for approximately 16.0 acres of riparian, coastal sage, and native grassland habitat/enhancement through a Riparian and Riverine Grant funded by the state of California Parks and Recreation Department.

In addition to the diverse and extensive grants that have been awarded to the PVPLC for habitat restoration and management as displayed above, PVPLC has demonstrated the ability to generate significant amounts of volunteer support. Figure 8-2 demonstrates the PVPLC's history of volunteer services. Volunteer stewardship hours are separated from other types of volunteer support such as office assistance, special event assistance, and committee service hours. Volunteer stewardship hours may include site preparation, planting, weeding, plant propagation, and other direct assistance in habitat restoration and maintenance. The volunteer stewardship hours are primarily generated from work conducted during outdoor volunteer work days. The hours dedicated to stewardship activities from 2006 to 2013 are all valued well above $75,000. Based on Figure 8-2, PVPLC has demonstrated that the volunteer component of the PVPLC's

commitment is sustainable at a $75,000 (2,800 volunteer hours) annual level. PVPLC maintains records of volunteer time which will be summarized in the Annual Report to the Wildlife Agencies.

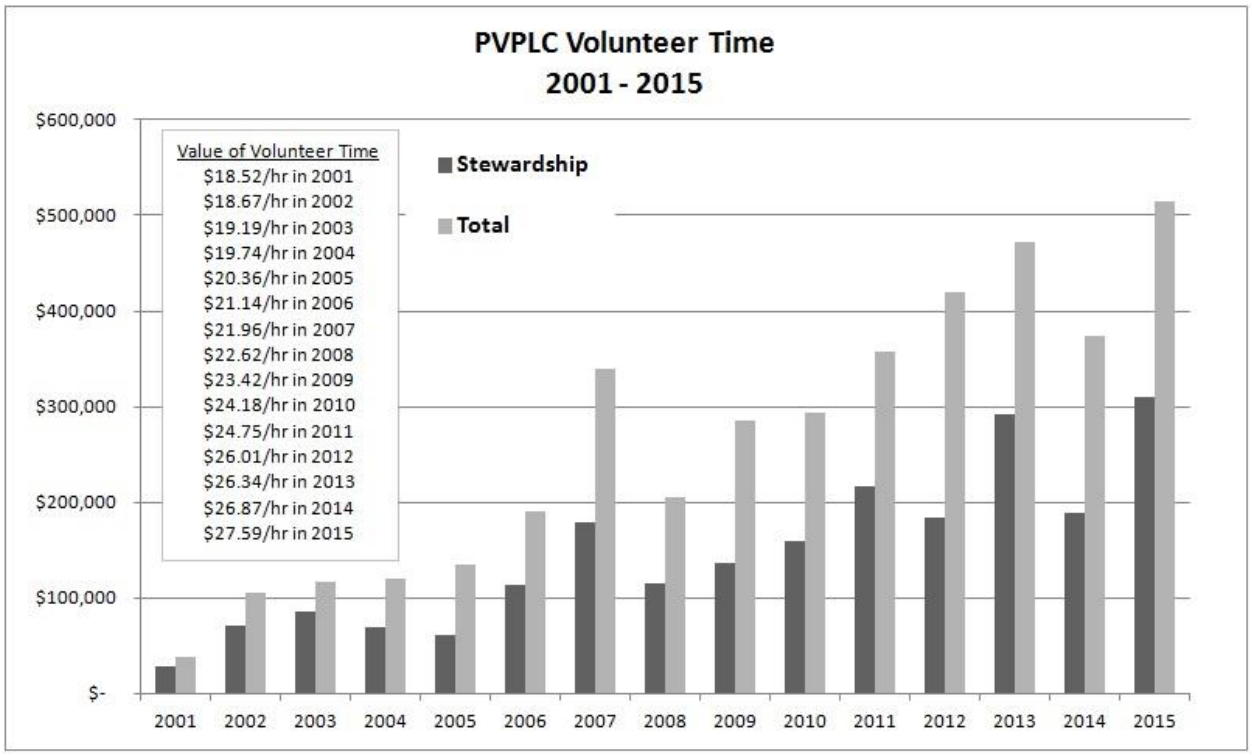

Figure 8-2. PVPLC Volunteer Support 2001–2015

9.0 PRESERVE MONITORING, MANAGEMENT, AND REPORTING

As an urban Preserve plan for wildlife and plants, the NCCP/HCP will enhance the City's quality of life and provide the City with recreational and educational opportunities while conserving, maintaining and enhancing the City's unique biodiversity and conserving viable populations of Covered Species and their habitats.

Preserve monitoring and management is essential for maintaining net habitat value on a long-term basis. The PVPLC has developed an initial Preserve Habitat Management Plan (PHMP) (Appendix H) for the Preserve that consists of the following four plans: (1) Initial Management and Monitoring Plan; (2) Predator Control Plan; (3) Habitat Restoration Plan; and, (4) Targeted Exotic Removal Plan for Plants. Through the PHMP reporting program, there is an opportunity for an assessment of the effectiveness of specific management to occur through the habitat and Covered Species-monitoring. In collaboration with the City, PVPLC will discuss management and enforcement issues in the reporting program, along with remediation or Adaptive Management strategies, as necessary. There will also be an evaluation of funding needs and the ability to accomplish resource management goals. An assessment of funding needs and management goals will be provided every three years in the Comprehensive Management and Monitoring Report. Accomplishment of management goals will be measured against specific habitat and species conservation targets set forth in this NCCP/HCP and IAs.

9.1 Preserve Habitat Manager

The City has selected the PVPLC as the designated Preserve Habitat Manager to carry out the management and monitoring specified in Sections 7.0 of the NCCP/HCP. The PVPLC will facilitate implementation of an effective management program through implementation of the PHMP and this Plan. Some conserved habitat areas addressed by this NCCP/HCP are currently managed by other organizations contracted by the private landowners (e.g., Trump National/Ocean Trails HCP). Management of these private lands may be transferred to the PVPLC provided adequate funding is provided by the private property owner.

9.2 Preserve Habitat Management

9.2.1 Preserve Habitat Management Plan

The PVPLC has developed an initial PHMP for the Preserve. The PHMP consists of four plans (described below):

1. **Initial Management and Monitoring Plan**. This plan includes the results of the focused baseline surveys for covered plant and wildlife species.
2. **Predator Control Plan.** Based on the focused baseline surveys, this plan describes potential provisions for control of predators to wildlife within the Preserve and provides framework for education programs and monitoring for feral or domestic animals, native large predators, and mesopredators. It will be revised every three years or if additional controls are needed.

3. **Habitat Restoration Plan.** This plan identifies habitat restoration projects consisting of a minimum of 5 acres of habitat, or a total of 15.0-acres over three years, in suitable locations in the Preserve and will be updated/revised every three years.
4. **Targeted Exotic Removal Plan for Plants.** This plan provides details regarding prioritizing exotic plant control within the Preserve. It describes the methodology of the proposed targeted exotic plant removals, wherein each year exotic plants on 5.0 acres or 20 individual sites are to be removed.

9.2.2 The Public Use Master Plan

In order to balance the public's passive recreational needs with the protection of natural resources within the Preserve, a Public Use Master Plan (PUMP) (Appendix I of the Plan) was developed jointly by the City and PVPLC to address public access issues. The PUMP includes the Preserve Trails Plan, which is described further in Section 5.2.8 of this Plan. The PUMP received approval from the Wildlife Agencies and was adopted by the City Council on April 2, 2013. Public use and trail routes/configurations will be compatible with the Preserve by avoiding disruption of any native vegetation (e.g., CSS), habitat, or wildlife to the maximum extent practicable consistent with the Plan. The public uses and activities in the PUMP are considered conditionally compatible uses under the NCCP/HCP, provided they are consistent with the following guidelines:

9.2.2.1 Public Use Master Plan Guidelines

The following guidelines shall be used by the City and PVPLC when implementing the PUMP and when considering any future amendments to the PUMP:

1. Development of the Preserve Trail Plan placed an emphasis on avoiding or minimizing impacts to CSS habitat and Covered Species. Future modifications to the approved Preserve Trails Plan that will result in additional impacts to the Covered Species or Preserve habitat will require the prior written concurrence of the Wildlife Agencies. Existing trails within the Preserve that are not included in the approved Preserve Trails Plan will be closed to foster habitat recovery.
2. Development of a Preserve Trails Plan proposes new trail construction that avoids direct access to sensitive resource areas and major biological features (e.g., 7.6-meter [25-foot] setback to coastal bluffs) and the following measures are taken into consideration:
    a. Limit public use to specified trails where impacts to habitat can be minimized. If trails become degraded because of heavy use, rotate or limit use during certain seasons to minimize further degradation.
    b. Limit trails for shoreline access to prevent extensive trampling and compaction.
    c. Locate new trails away from sensitive resources or restrict their use.
    d. Provide a 30-foot upland buffer along major drainages for new trails sited adjacent to drainages.

3. Determine allowable passive recreational activities within the Preserve, depending on the resources to be protected, season, and successional stage of the adjacent habitat.
4. Restrict any passive recreational uses to areas where impacts to habitat can be avoided.
5. Include site-specific measures for any passive overlook areas, benches, tie rails, portable toilets, and trash cans, so that no existing native habitat will be lost.
6. Include site-specific litter control measures, such as closed garbage cans and recycling bins, and restrict such receptacles to access points for the Preserve.

9.2.2.2 Public Use Master Plan (PUMP) Implementation

Public use of the Preserve is considered a conditionally compatible use under the NCCP/HCP and shall be consistent with the protection and enhancement of biological resources set forth in this Plan. Existing recreational facilities shall be managed to promote the maintenance of habitat value surrounding these facilities. The following public uses and activities identified in the PUMP are considered conditionally compatible uses, provided they comply with the requirements set forth below:

1. Existing Trails

   Baseline Trail Surveys

   It is estimated that current non-vehicle trail widths vary between 2 feet and 6 feet in the Preserve, and trails that accommodate authorized vehicular access vary between 10 feet and 12 feet in the Preserve. Within 3 years of Plan approval, the PVPLC will complete baseline surveys to assess and document current trail widths and identify all unauthorized trails throughout the Preserve. Following the completion of these surveys, PVPLC, the City, and the Wildlife Agencies will meet to determine and finalize appropriate widths for all approved trails including trails that accommodate authorized vehicles as described in Section 5.5 and identified in the Council-approved PUMP. The final width determinations, will take into consideration the current trail widths as documented by the baseline surveys, trail topography, nearby sensitive species and their habitats, trail prism, public use (taking into consideration the PUMP), and other factors. Once the final widths have been determined and agreed upon, they will be memorialized in the PUMP and will be referenced for comparison during 5-year monitoring events (see below). The determined trail widths will be will monitored and maintained as a condition of trail coverage.

   The baseline survey will consist of measuring trail widths in the Preserve (approximately 100 trails and 32 miles) using recent aerial imagery, and field verification of a subset (at least 2 points on each trail randomly selected) of those measurements. Specifically, trail widths will be measured on each trail segment along 3 of the widest trail sections and 3 “control points” that characterize the trail width overall. The “control points” will be recorded on a GPS unit and referenced in 5-year monitoring efforts described below. Unauthorized trails will be recorded in the field using a GPS unit (sub-meter) and supplemented by digitizing the area in GIS based on current aerial imagery.

2. New Trails

   The locations of new trails shall be sited to avoid/minimize impacts to biological resources as follows:

   a. Use existing dirt trails and disturbed areas for access within the Preserve to the maximum extent practicable;

   b. Where new trail impacts are demonstrated to be the biologically superior alternative to existing routes, minimize impacts by siting trail alignments through areas that have limited concentrations of sensitive species see Figure 2-4 of the Plan.

   c. New non-vehicle trails shall be limited to no greater than 5 feet in width and be monitored every 5 years to assess any changes to the baseline widths, usage patterns, and indirect effects consistent with the monitoring plan described below.

3. Unauthorized Trails

   Within 5 years of the completion of baseline surveys, the City will close unauthorized trails using natural barriers (i.e., rocks or plants), fencing or signage, etc. to prevent the continued use of or the creation of unauthorized trails, and to protect sensitive species adjacent to established trails consistent with Number 1 above.

4. 5-Year Monitoring

   The City, in coordination with PVPLC, will monitor existing access points and trails to prevent degradation of the Preserve. Subsequent to the initial trail baseline survey described above, every 5 years, timed with the arrival of updated aerial photos provided to the PVPLC by the City, PVPLC will conduct trail monitoring using the same protocol as described in Number 1 above to assess changes in the width of approved trails, and identify unauthorized trails for closure throughout the Preserve.

   The GPS point locations captured in the initial baseline survey and aerial imagery as described above will be used to compare changes in trail width and unauthorized trails every 5 years by PVPLC. Trail width data and unauthorized trail occurrence will be compared to the baseline survey to determine if a substantial change has occurred that will trigger a response to remedy trail widening and unauthorized trail creation.

   The following criteria will be used to determine whether substantial widening of an existing trail has occurred over the baseline survey at the monitoring GPS point locations or in areas that exhibit substantial widening outside of the GPS locations:

   For Non-Vehicular Trails:

   a. Over 2 feet wide: Substantial change is defined as widening more than an average of 2 feet (total both sides) beyond the baseline width over 10% of the total trail length.

   b. Equal to or less than 2 feet wide: Substantial change is defined as widening more than an average of 1 foot (total both sides) beyond the baseline width over 10% of the total trail length.

For Vehicular Access Trails:

c. Over 8 feet wide: Substantial change is defined as widening more than an average of 2 feet (total both sides) beyond the baseline width over 10% of the total trail length.

d. Equal to or less than 8 feet wide: substantial change is defined as widening more than an average of 1 foot (total both sides) beyond the baseline width over 10% of the total trail length.

In addition to the 5-year trail monitoring efforts, PVPLC and City will proactively identify potential trail problems and coordinate and implement solutions on an ongoing basis from information gathered when working in the Preserve and on trail and restoration projects.

5. Trail Widening and New Unauthorized Trail Remedies

If substantial trail widening is identified, the City, PVPLC, and the Wildlife Agencies shall meet to discuss this matter within 90 days of the completion of the 5-year monitoring. Authorized trail widths will be determined by the baseline information addressed in Numbers 1 and 4 above and in meetings between the City, PVPLC, and the Wildlife Agencies. These meetings will review the 5-year monitoring data and develop a plan to prioritize and remedy trail widening and unauthorized trails (below). The subject area will be managed so that it can return back to its authorized widths, which may involve either passive (e.g., use of barriers) and/or active measures (e.g., install vegetation).

If new unauthorized trails are identified, as discussed above in Numbers 1 and 4 above, the City, PVPLC, and Wildlife Agencies will discuss a plan for their closure. The City will close unauthorized trails as they are detected to prevent their continued use or the creation of new unauthorized trails, and to protect sensitive species.

The area subject to trail widening or unauthorized trail installation/use will be managed so that it can return back to its authorized trail width, which may involve either passive (e.g., use of barriers) and/or active measures (e.g., install vegetation). These management actions for trail widening or closure for new unauthorized trails will take place within 60 days after the City, PVPLC, and the Wildlife Agencies meet to discuss the 5-year monitoring results. These closure actions will take place within 60 days of detection of new unauthorized trails. Acceptable closure methods may include, but not limited to, rocks barriers, fencing, and signage and will be coordinated between the City and PVPLC.

6. Permanent Habitat Loss Caused by Trail Widening

Permanent unplanned habitat loss from trails that exceeds the level of substantial change is not a Covered Project or Activity addressed by this Plan and is not included in the habitat loss identified in City-Covered Project or Activity identified in Table 5-1. The City, in coordination with PVPLC, will work to remediate trail widening and restore the trail to the authorized trail widths based on Numbers 1 and 4 above. The acreage of trail widths beyond the documented baseline survey, and approved by this Plan, that are not successfully remediated after 5 years despite management and

restoration efforts shall be deducted from the City's Trails Plan Implementation acreage as defined in Section 5.2.8 of the Plan, and illustrated in Table 5-1. However, attempts to minimize trail widening will continue beyond the 5 years in highly sensitive habitat that provide habitat for Covered Species as determined by the PVPLC, in coordination with the City and Wildlife Agencies. The remediation will be subject to Wildlife Agency approval. If a trail is successfully returned to its authorized trail width, the City's Trail Plan Implementation acreage (Table 5-1) will be reimbursed.

7. Trail Management

The City ensures that public access to the Preserve is consistent with the Council-approved PUMP to provide a safe experience for people visiting the Preserve and protection of biological resources consistent with the Plan. If circumstances warrant, the PVPLC may recommend to the City closure of specific approved trails or access points for appropriate time periods to minimize biological impacts in coordination with the Wildlife Agencies. A detailed list of trail management responsibilities for both the City and the PVPLC is attached to the Management Agreement (Exhibit D of the IA and on file with the City). The City's trail management responsibilities include, but are not limited to:

a. City Council approval of the Preserve Trails Plan, and subsequent amendments;

b. At the City's discretion when funding is available, and consistent with the Plan, construction of new trails identified in the PTP;

c. Conducting routine trail inspection and maintenance to monitor trail conditions, and detect vandalism and habitat degradation;

d. Controlling access by maintaining City gates and barriers that prevent/control unauthorized access;

e. Waste management on an as needed basis;

f. Public safety (Ranger patrols, City staff or the L.A. County Sheriff) to enforce the City's municipal code; and

g. Installation and maintenance of regulatory and informational signage

Adverse effects of passive recreation such as trampling vegetation, erosion, and unauthorized trail widening will be minimized by the City, in coordination with PVPLC, by implementing the following management actions:

h. Install signage, post and cable, rock barriers, and/or plant vegetation;

i. Limit or rotate use if trails become degraded because of heavy use. Limiting use can occur during certain seasons to minimize further degradation. Changing the types of designated uses on certain trails may also be considered to reduce trail degradation;

j. Seasonally restrict access to certain trails, if deemed necessary by the City and/or recommended by PVPLC, to prevent disturbance of breeding activities of Covered Species;

k. Maintain trail surfaces to minimize erosion;

l. Install trail features to minimize erosion and sedimentation;

m. Avoid utilizing materials for trails that will be sources of seed of invasive exotic species; and

n. Construct barriers and/or signage at viewpoints or prominent features to discourage access to sensitive coastal bluff and sensitive habitat areas

9.2.3 Fire and Fuel Modification in the Preserve

The City and PVPLC are responsible for performing fuel modification on their respective lands in the Preserve (see Figure 5-1). While fire and fuel modification will be carried out with a priority for human safety, where practicable, the City and PVPLC shall also consider the minimization of impacts to biological resources, where appropriate (i.e., habitat types and Covered Species, proximity to developed areas, and type of development). Standard fire protection measures include vegetation management and fuel reduction by prescribed burning, disking, chaining, and vegetation clearing and removal. The biological impacts of alternative methods of fuel reduction should be weighed against their effectiveness in reducing fuel loads and fire frequency. For example, disking creates opportunities for invasive weeds to gain a foothold in the Preserve. With both biological resources and human safety considerations in mind, the following management guidelines shall be implemented for performing the required fuel modification within the Preserve.

1. Maintain fuel modification zones for human safety by mowing, grazing, chopping, crushing, chaining, vegetation removal, and herbicide application (consistent with the labels) when recommended by a licensed pest control adviser in areas that do not support the PVB or ESB.
2. If recommended by the City, and approved by PVPLC, debris produced by the vegetation removal process will be removed from the site or converted into mulch by a chipping machine and evenly dispersed on site to a maximum depth of 6 inches.
3. The use of goats to clear brush is allowed provided that the goats are physically restricted to the required fuel modification areas with appropriate fencing and closely monitored.
4. Any fuel modification that will occur in CSS during bird breeding/nesting season shall be conducted consistent with Section 5.5 of this Plan.
5. Cactus (*Opuntia* spp.) shall be avoided and retained to the maximum extent practicable.

9.2.4 Fencing and Signage

Fencing

Fencing plays an important role in the use of the landscape by humans, domestic animals, and wildlife. Fencing can control human access, particularly off-highway vehicles, and can prevent road kills of terrestrial wildlife. Fencing, however, also can restrict normal wildlife movement and access to food and water, and guide wildlife onto roads. Therefore, existing fencing inside the Preserve shall be dismantled, to the extent practicable, and no new fencing shall be installed except as necessary to:

1. Protect particularly sensitive species or habitats. For example, perimeter fencing could be used in habitat linkage areas where Preserve widths are narrower and there is greater exposure to adverse edge effects.
2. Direct human access away from sensitive resource areas. Efforts to limit human access will involve the use of natural vegetation, topography, signs, and limited fencing.
3. Protect from natural hazards or other public safety needs.
4. Design and locate new fences within the Preserve so they do not impede wildlife movement or impact Covered Species.

Signage

Signs educate, provide direction, and promote the sensitive use and enjoyment of natural areas, but they can also inadvertently invite vandalism and other destructive behavior. Signs that explain the rules of the Preserve (e.g., hiking, bicycle riding and horseback riding) are most effective at public entrance points. Signs for educational nature trails and on roads near wildlife corridors (to reduce road kills) shall be posted at appropriate locations. Therefore, the following recommendations shall be considered.

1. Provide educational brochures, interpretive kiosks, and signs to educate the public about the resources and goals of the NCCP/HCP and Preserve.
2. Establish signs for access control and education at the periphery of the Preserve that are accessible to individuals. Post signs to prohibit firearms and unleashed pets.
3. Install signs for educational nature trails.
4. Limit the use and/or language of signs that might attract attention to sensitive species, because such designation may invite disturbance of their habitat.
5. Install temporary signs to indicate habitat restoration or erosion-control areas.
6. Install barriers and informational signs to discourage shortcuts between established trails.
7. Establish road signs near wildlife corridors to help reduce road kills.

8. Consider signs denoting reduced speed limits along roads that have relatively high incidence of road killed wildlife.
9. Include, where appropriate, contact information for law enforcement, and management staff.

9.3 Reporting

9.3.1 Annual Reports

The PVPLC and City shall prepare an Annual Report based on the calendar year (January to December) for the purposes of evaluating the implementation of the NCCP/HCP during the preceding year and the adequacy of the overall progress being made towards reaching the conservation goals of the NCCP/HCP, utilizing Habitrak or a similar system acceptable to the Wildlife Agencies. The Annual Report timeline following the first full year the Permits are in affect is as follows: PVPLC will submit the Annual Report of the previous calendar year to the City and Wildlife Agencies by February 28th, the Wildlife Agencies will review and submit comments to the City by March 31st, and the report will be submitted to City Council for approval on or around May 30th. Items to be considered in the evaluation include, but are not limited to: gains/losses (by Project and CEQA reference) to habitat within the Plan Area (both inside and outside the Preserve); impacts of public uses (PUMP) and recommendations, if necessary, for minimizing impacts to the Preserve; all contributions towards the preservation of habitat lands, such as public lands, private mitigation lands, land donations, land acquisitions, and management activities undertaken or proposed on habitat lands; and, a summary of night time use of the Preserve. Also included in the Annual Reports is a description of the management of invasive plant species, documentation of the habitat restoration efforts to enhance and restore native plant communities and the results of biological monitoring of the Preserve. It shall also report on the impacts of public uses and provide recommendations, if necessary, for minimizing impacts to the Preserve. During the first 5 years of management, there will also be an annual evaluation of management activities, enforcement activities, funding needs, funding needs, and the ability to accomplish resource management goals. A separate Fiscal Report prepared jointly by the City and PVPLC will be provided to the USFWS and CDFW yearly, as part of the Annual Report.

For lands within the Preserve, the conservation of habitat and species locations will be accounted for when habitat is permanently conserved (e.g., date of recordation of title transfer, recordation of a conservation easement, or execution/recordation of any other instrument that confers third-party beneficiary status to the project/property) will be included in the Annual Report. The accounting information for conserved acres also will identify the protection mechanism, owner and agency or person responsible for conservation and management, and other related information.

A separate Fiscal Report prepared jointly by the City and PVPLC will be provided to the USFWS and CDFW yearly, as part of the Annual Report, which will also be included in the Comprehensive Report. After the first five years, following Permit issuance, this evaluation will be part of the Comprehensive Report submitted every three years. The Fiscal Report shall include an accounting of all funds received and expended during the previous year to implement the Plan, including the amounts received and expended on habitat acquisition, restoration, management, and monitoring. The Fiscal Report will be used by the

Wildlife Agencies to evaluate whether adequate progress toward implementation of the Plan is being achieved. An annual public workshop or public meeting will be held by the City and attended by PVPLC to disseminate and discuss the Annual Report.

Annual Reports shall also include a summary of clerical changes made to the Plan in the preceding calendar year, corrections to maps or exhibits made to the Plan in the preceding calendar year, and changes made to survey, monitoring, or reporting protocols in the preceding calendar year.

Habitat Tracking. The City shall produce an annual accounting of the acreage, type, and location of habitat and species conserved or lost within the Plan Area (by Project and CEQA reference). The habitat tracking would include areas gained/conserved, restored, and areas lost/removed by projects and other activities covered under the Plan. The City will maintain records in ledger and GIS format using the HabiTrak application (or similar methodology) which is currently being used in other NCCPs. The report will include a list of all Covered Activities performed the previous year. It will specify the review process for each Covered Activity and describe impacts to Covered Species and vegetation from each project. The information will contribute to the annual public report demonstrating compliance with the terms and conditions of this NCCP/HCP, IA, and Permits.

9.3.2 Comprehensive Reports (Every Three Years)

A Comprehensive Report will be prepared by the PVPLC, in coordination with the City, every 3 years, and will include both a synthesis of all data collected in the preceding three years and an analysis of overall trends in biological resources. Where monitoring indicates that biological resources are imminently threatened and in need of immediate attention, interim letter reports may be used to document problems and notify the appropriate personnel in a more timely fashion. All monitoring reports will be reviewed by the City, USFWS and CDFW. The Comprehensive Report timeline following the first full year the Permits are in affect is as follows; PVPLC will submit the Report for the previous three calendar years to the City and Wildlife Agencies by March 31st, the Wildlife Agencies will review and submit comments to the City by April 30th, and the report will be submitted to City Council for approval on or around May 30th. The reporting program will be the primary vehicle for (1) providing monitoring results and (2) identifying habitats or species that require specific Adaptive Management activities. A separate Fiscal Report prepared jointly by the City and PVPLC will be provided to the USFWS and CDFW yearly, as part of the Annual Report, which will be included as an appendix in the Comprehensive Report.

Comprehensive Report Contents

The Comprehensive Report will contain the following components:

1. **Updated Covered Species Surveys.** Surveys and data analysis regarding covered plants, gnatcatchers, cactus wren, and butterflies. For covered plants, monitoring occurs every third year in spring unless rains do not exceed 75% of the long-term average annual precipitation as measured during the July-June rain year. In survey years that do not meet this threshold, monitoring will occur during the next season that meets the above criteria as approved by the Wildlife Agencies. If

less than 75% of the long-term average precipitation occurs for 3 consecutive years, monitoring will take place to record impacts of such a drought.

2. **Updated Predator Control Plan**, see Section 9.3.1.
3. **Updated Habitat Restoration Plan**, see Section 9.3.1.
4. **Management Recommendations.** The Comprehensive Management and Monitoring Report issued every three years will provide specific Adaptive Management recommendations based on information from species monitoring, management and targeted studies to continually assess PHMP effectiveness and attempt to reverse any declining trends in habitat or species' populations. Although it is difficult to anticipate the types of remediation that will be required before monitoring, potential actions may include the following:
    a. Fencing, signage, or redirecting trails to protect habitat or species populations from trampling or other adverse, direct impacts;
    b. Removal of invasive exotic plant species to protect native habitats, plant populations, and wildlife values;
    c. Removal or control of non-native animal species (e.g., cowbirds, feral cats) to protect native animal populations;
    d. Erosion-control measures to protect key habitats or populations of Covered Species;
    e. Habitat enhancement to provide pollinator habitat, breeding areas for covered wildlife species, or structural diversity for covered wildlife species;
    f. Habitat restoration to reverse the effects of habitat disturbance and/or improve habitat quality for Covered Species where natural regeneration processes are expected to be unacceptably slow or delayed;
    g. Vegetation management techniques (e.g., mechanized methods of fuel reduction) to revitalize senescent stands of habitat or promote germination of fire-adapted covered plant species (note: prescribed burns likely will be prohibited within the Preserve);
    h. Plant population enhancements where conserved population numbers become so low, because of human- or environmentally induced factors, as to threaten the continued viability of the population, and where suitable habitat and other factors necessary for survival still exist;
    i. Plant population reintroductions in areas where species populations have been extirpated; and,
    j. Evaluation of management activities, enforcement service needs, funding needs, and the ability to accomplish resource management goals. An annual financial audit of PVPLC will be submitted as part of the Annual Report, and also included with the Comprehensive Report.

9.4 Annual Coordination Meetings

Once each year, the City and PVPLC shall meet or (at the discretion of the Wildlife Agencies) communicate with the USFWS and the CDFW to review and coordinate implementation of the NCCP/HCP, as documented by the Annual Report and annual Habitat Tracking Report (see Section 9.3.3 of the Plan). Progress toward achieving conservation requirements will be reviewed, and habitat management issues will be discussed, along with a review of Plan approvals affecting undeveloped lands issued by the City over the course of the year.

Every third year, the meeting with the Wildlife Agencies will discuss the Comprehensive Report, which includes restoration planning, management and the results of species surveys. It is the responsibility of the City to schedule this meeting by April 30th annually or as otherwise agreed to by the City and Wildlife Agencies. To meet the stipulations of the IA, this NCCP/HCP must be implemented in a way that issuance of authorizations for taking of species and habitats is roughly proportional with implementation of the conservation strategy in this NCCP/HCP.

If the Wildlife Agencies determine that this NCCP/HCP is not being implemented as required, the Wildlife Agencies, PVPLC, and the City will take the actions specified in the IA to remedy the situation. These actions may include additional management activities, modification of the project compliance process, or redirection of acquisition and/or other Plan funds, as long as they are consistent with the provisions of the IA, provided; however, that nothing in the IA is intended, or shall be construed to limit the remedies available to either of the Wildlife Agencies under law to enforce, or remedy violations of their respective Permits.

If the Wildlife Agencies determine that adequate progress towards implementation of the NCCP/HCP is being achieved, but the NCCP/HCP is nevertheless not providing sufficient protection to Covered Species, CDFW and USFWS shall set forth their findings and the basis for such findings in writing; then the Parties shall work cooperatively and take appropriate actions consistent with the NCCP/HCP (such as altering management activities, redirecting mitigation, and acquisition).

10.0 LITERATURE CITED

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