

City of Carlsbad Habitat Management Plan Annual Report

Reporting Year 12, November 2015 – October 2016

January, 2017

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Acronyms and Definitions

Annual Reports – Preserve-specific annual reports, which summarize management and monitoring activities, threats, and monitoring results, are due in November of every year. Pre-HMP preserves are generally not required to prepare annual reports unless stipulated in previously negotiated agreements with the city and/or Wildlife Agencies. HMP-wide annual reports (e.g., the current report) are due to the Wildlife Agencies in December of every year. HMP annual reports summarize gains and losses in the HMP preserve system, current status of individual preserves and species, management and monitoring activities, and a financial summary. Every third year, the HMP annual report includes an analysis of species monitoring data. The latest three-year report was prepared as part of the 2010/2011 HMP annual report.

ASMD – Area Specific Management Directive.

BLF – Batiquitos Lagoon Foundation.

California Gnatcatcher Core Area – An area identified in the MHCP that is considered critical to the recovery of the coastal California gnatcatcher. Approximately 500 acres of core habitat must be conserved by the MHCP jurisdictions as a condition of coverage for gnatcatcher. Although the core area is located outside of the City of Carlsbad, the city is responsible for 307.6 acres of conservation.

Caltrans – California Department of Transportation. Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System and Interstate Highway segments within the state's boundaries.

City – City of Carlsbad.

CDFW – California Department of Fish and Wildlife (formerly CDFG – California Department of Fish and Game).

CNDDDB – California Natural Diversity Database, operated and maintained by CDFW.

CNLM – Center for Natural Lands Management, a non-profit organization that provides management and biological monitoring of mitigation and conservation lands in perpetuity.

Compliance Monitoring – Monitoring to determine if the HMP is being properly implemented pursuant to the Implementing Agreement and state and federal take authorizations/permits.

Conservation Easement (as defined in California Civil Code Section 815.1) – Any limitation in a deed, will, or other instrument in the form of an easement, restriction, covenant, or condition, which is or has been executed by or on behalf of the owner of the land subject to such easement and is binding upon successive owners of such land, and the purpose of which is to retain land predominantly in its natural, scenic, historical, agricultural, forested, or open-space condition.

Critical Location – An area that must be substantially conserved for a particular sensitive species to be adequately conserved by the MHCP. Critical locations often coincide with major populations of the same sensitive species, but not all major populations are considered critical.

Edge Effects – Impacts to natural open space resulting from adjacent, contrasting environments, such as developed or disturbed land. When an edge is created, the natural ecosystem is affected for some distance in from the edge.

Effectiveness Monitoring – Monitoring habitat and species to determine if the HMP is protecting sensitive biological resources as planned and if any adaptive management is needed.

EMP – SANDAG’s TransNet Environmental Mitigation Program, a funding allocation category for the costs to mitigate habitat impacts for regional transportation projects. Funding grants from this program may be used for habitat acquisition, management, and monitoring activities as needed to help implement the Multiple Habitat Conservation Program (MHCP).

ESA – Endangered Species Act.

Existing Hardline Preserve Areas – Natural habitat open space areas, such as Ecological Reserves and Dawson-Los Monos Reserve that were preserved prior to final approval of the HMP, or areas that were previously Proposed Hardline Areas or Standards Areas that have secured preservation, long-term management and monitoring, and a non-wasting endowment to fund activities in perpetuity.

FPA – Focused Planning Area.

GIS – Geographic Information System.

Habitrak – A GIS-based tool that was developed and is maintained by CDFW for habitat accounting. The tool calculates the acreage, type, and location of vegetation communities that are gained (conserved), or lost (impacted) from the HMP planning area.

HCP – Habitat Conservation Plan, a planning document required as part of an application for an incidental take permit from the USFWS that describes the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated, and how the HCP is to be funded.

HMP – Habitat Management Plan; serves as the MHCP Subarea Plan for the City of Carlsbad.

HOA – Home Owners’ Association.

HRS – Habitat Restoration Sciences, Inc. A for-profit native habitat restoration and general engineering firm specializing in installation and long term maintenance of natural areas.

IA – Implementing Agreement. The legal agreement between the City of Carlsbad, CDFW, and USFWS that ensures implementation of the Carlsbad Habitat Management Plan (HMP),

binds each of the parties to perform the obligations, responsibilities, and tasks assigned, and provides remedies and recourse should any of the parties fail to perform.

Landowner – The legal entity that owns the land in fee-title. The landowner has the ultimate responsibility to ensure that preserve management is secured prior to habitat impacts. Often, the management responsibility is contracted to a third party.

LFMZ – Local Facility Management Zone, one of 25 Growth Management Plan sub-areas of the City of Carlsbad used for planning and financing infrastructure improvements and other city services and facilities concurrent with development.

Major Population – A population of sensitive species considered sufficiently large to be self-sustaining with a minimum of active or intensive management intervention (especially for plants) or that at least supports enough breeding individuals to contribute reliably to the overall meta-population stability of the species (especially for animals). Also includes smaller populations that are considered important to long-term species survival.

Management Unit – Groupings of adjacent or nearby preserve parcels that have similar management needs.

MHCP – Multiple Habitat Conservation Program, a subregional conservation plan prepared and administered by SANDAG that encompasses the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. The goal of the MHCP is to conserve approximately 19,000 acres of habitat and contribute toward the regional habitat preserve system for the protection of more than 80 rare, threatened, or endangered species.

NCCP – Natural Community Conservation Planning, a program of CDFW that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity throughout the state. The MHCP is a sub-regional component of the statewide NCCP.

Non-wasting Endowment – An endowment with sufficient principal that provides for the set up costs and management/monitoring of a preserve in perpetuity through investment returns. The endowment is designed to increase in value over time in order for the generated revenues to increase, and thus keep pace with inflation. Pre-HMP preserves generally did not require endowments to fund management, unless specified in a previously negotiated agreement with the city and/or Wildlife Agencies.

OSMP – Open Space Management Plan, which serves as the Preserve Management and Monitoring Plan referenced in Section 12.3 of the Implementing Agreement.

PAR – Property Analysis Record, a cost analysis that estimates the management and monitoring costs of a specific preserve in perpetuity, often in the form of an endowment to fund long-term management. A PAR is based on industry accepted parameters, allows an objective cost/benefit analysis for each line item, and adjusts for inflation.

PMP – Area-specific Preserve Management Plan, the permanent management plan developed for a particular preserve within the preserve System. The city has contracted Center for Natural Lands Management to develop a master PMP for all city-owned preserves which addresses each preserve individually.

Preserve – Land conserved with a conservation easement, restrictive covenant, deed restriction, or transfer of fee title to the city or California Department of Fish and Wildlife that is being managed to HMP and MHCP standards. (Note: lands already set aside for preservation through an open space easement prior to HMP adoption have limited management activities until a regional funding source is available).

Preserve Manager – The entity responsible for monitoring and managing the preserve. The majority of preserve lands are owned/managed by the city, CDFW, CNLM, or private homeowners’ associations (HOAs). Pursuant to State due-diligence legislation that took effect January of 2007, preserve managers must be certified by either the city or CDFW before they can begin managing lands in the city.

Priority Species – Sensitive species that have site-specific permit conditions requiring populations to be tracked individually using GIS.

Proposed Hardline Preserve Areas – Areas identified in the HMP as natural habitat open space that were proposed for permanent conservation and perpetual management during the design phase of development projects but not completed prior to final approval of the HMP.

RY – Reporting Year, or from November 1, 2015 to October 31, 2016.

Rough Step Assembly - A policy that requires development (losses) occur in “rough step” with land conservation (gains) during preserve assembly to ensure that development does not greatly outpace land conservation. It is generally understood by the Wildlife Agencies that losses should be no more than 10% greater than gains.

SANDAG – San Diego Association of Governments. SANDAG is the San Diego region’s primary public planning, transportation, transit construction, and research agency, providing the public forum for regional policy decisions about growth, transportation planning and transit construction, environmental management, housing, open space, energy, public safety, and binational topics.

SDHC – San Diego Habitat Conservancy; a non-profit organization that provides management and biological monitoring of mitigation and conservation lands in perpetuity. Prior to February of 2009, SDHC was called Helix Community Conservancy.

SDMMP – San Diego Management and Monitoring Program, a science based program seeking to provide a coordinated approach to management and biological monitoring of lands in San Diego that have been conserved through various programs including the Multiple Species Conservation Program, the Multiple Habitats Conservation Program, the TransNet Environmental Mitigation Program, and various other conservation and mitigation efforts.

Standards Areas – Areas that were included in the MHCP Focused Planning Area (i.e., considered high priority for inclusion into the preserve system), but for which projects had not been proposed prior to the city’s HMP approval. Because potential protected habitat areas had not been delineated, a set of zone-specific conservation standards were established as a condition of future project approval.

Take – As defined in the Federal Endangered Species Act; to harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect a listed species or attempt to do so, including impacts to the habitats upon which these listed species depend.

TET – The Environmental Trust. TET was a habitat management company that owned and managed several preserves in Carlsbad until declaring bankruptcy in 2005. Their properties were unmanaged until CDFW acquired title and management responsibility in early 2010.

TransNet - The San Diego County half-cent sales tax for transportation improvements first approved by voters in 1988 and extended in 2004. The Environmental Mitigation Program (EMP) is a component of TransNet that funds habitat related environmental mitigation activities required to implement projects identified in SANDAG’s Regional Transportation Plan, including a funding allocation for habitat acquisition, management, and monitoring activities as needed to help implement the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP).

USACOE – U.S. Army Corps of Engineers.

USFWS – U.S. Fish and Wildlife Service.

Wildlife Agencies – Term used collectively for the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service.

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Executive Summary

This is the twelfth annual HMP summary report, covering the period of November 1, 2015 to October 31, 2016. This report summarizes the preserve status, implementation activities, and preserve gains and losses that have occurred during the current reporting period. Highlights of HMP activities are summarized below.

Current Status of Preserves

The existing preserves continued to be managed, monitored, and/or maintained during the reporting period. Established private and city-owned Hardline Preserves were managed and monitored in accordance with their approved Preserve Management Plans; California Department of Fish and Wildlife (CDFW) preserves were managed subject to available funding and resources; and pre-existing natural open space areas were maintained according to their respective Open Space Easements, if applicable. Descriptions of the different categories of preserves are contained in Section 1.3.

Lake Calavera Mitigation Parcel

During the reporting period a total of 4.4 acres were debited from the mitigation parcel for the mitigation (wetland enhancement/restoration) sites for the Lake Calavera Dam vegetation removal that was conducted by the city as part of regular dam maintenance; cumulative debits and adjustments for wetland mitigation sites to date are 94.9 acres. The total credits available (206.1 acres) were adjusted based upon the Implementing Agreement and evaluation of habitat types, leaving a total of 111.2 acres (credits) remaining.

Gnatcatcher Core Area Conservation Obligation

The city has conserved 294.67 acres of the 307.60 acre Gnatcatcher Core Area conservation requirement and continued to explore opportunities to conserve the remaining 12.93 acres during the reporting period.

Land Acquisitions

There were no land acquisitions inside of the HMP Planning Area during the reporting period.

Habitat Gains and Losses

There were no habitat gains or losses during the reporting period.

Rough Step Preserve Assembly

The rough step policy states that during preserve assembly, development (losses) must occur in “rough step” with land conservation (gains). Although a precise definition of “rough step” was not included in the MHCP or HMP, it is generally understood by the Wildlife Agencies that losses should be no more than 10% greater than gains (C. Beck, CDFW, pers. comm. 2007). This policy was developed for NCCP plans to ensure that development does not greatly outpace land preservation. To date, 1,784.1 acres have been lost in Carlsbad since inception of the HMP, and therefore, no less than 1,605.7 acres) must be preserved. A cumulative total of 5,969.7 acres have been gained in the preserve system, which greatly exceeds the minimum required by the rough step policy. The rough step policy will continue to be followed for all new development projects (e.g., in Standards Areas) because the city requires that native habitat be conserved (impact mitigation/habitat gain) prior to issuing a grading permit (habitat impact/habitat loss).

Regulatory Compliance

The city is in compliance with the terms and conditions of the Implementing Agreement, NCCP take authorization/permit, and federal ESA section 10(a)(1)(B) take authorization/permit, and HMP zone-specific standards, as summarized in Tables 5–8 in the body of the report. Three HMP permits were approved, and no amendments were processed during the current reporting period.

Preserve Management and Monitoring

Key management and monitoring activities in HMP preserves conducted this year included invasive species removal, installation and maintenance of fences and signage, rare plant counts and habitat assessments, vegetation mapping, sensitive bird species surveys, wildlife corridor tracking, and public outreach activities.

Patrolling and Enforcement

The Environmental Management division of Public Works continues to coordinate with preserve managers, Carlsbad Parks and Recreation Department, CDFW, and the Carlsbad and Oceanside Police Departments on a multi-pronged approach to enforcement within the preserve system using education, deterrence, and patrolling.

Financial Summary

In-lieu Mitigation Fee Program. A total of \$45,031.59 of *in-lieu* mitigation fees was collected and nothing was expended during the reporting period. As of October 31, 2016, the account had a negative balance of \$370,030.69. This shortfall will be reimbursed with future *in-lieu* mitigation fees.

Preserve Management Endowments. During the reporting period, a total of \$390,369 was used by CNLM, SDHC, HRS, and San Diego Urban Corps Habitat Services for management and monitoring activities on 14 preserves. Endowment and remaining initial funds for these properties totaled \$10,948,650 as of October 31, 2016.

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1.0 Plan Administration

1.1 Introduction

The purpose of this document is to provide an update on the status of the Habitat Management Plan (HMP) preserve system and implementation activities that have occurred during the current reporting period (November 1, 2015 – October 31, 2016). The information in this report will be used in compliance monitoring to determine if the HMP is being properly implemented pursuant to relevant regulations and permit conditions. Annual tracking and reporting of the HMP preserve system's gains, losses, management, and monitoring is required by Sections 12.1 and 12.2 of the Implementing Agreement, dated November 12, 2004; the Federal Fish and Wildlife 10(a)(1)(B) Permit No. TE022606-0, dated November 12, 2004; and the NCCP Permit No. 2835-2004-001-05, dated November 15, 2004. This annual report covers year twelve of the 50-year HMP implementation permits.

1.2 HMP Compliance Monitoring and Effectiveness Monitoring

1.2.1 HMP Conservation Goals

In order to evaluate the city's compliance with the HMP and the effectiveness of the MHCP/HMP program with respect to natural resources protection, it is necessary to understand the underlying goals of the plan, which are summarized below (See HMP p. A-2 for a complete list):

- Conserve the full range of vegetation community types, with a focus on sensitive habitat types.
- Conserve populations of narrow endemic species and other covered species.
- Conserve sufficient habitat, functional biological cores, wildlife movement corridors, and habitat linkages, including linkages that connect coastal California gnatcatcher (*Polioptila californica californica*) populations and movement corridors for large mammals, to support covered species in perpetuity.
- Apply a "no net loss" policy to wetlands, riparian habitats, and oak woodlands.
- Implement appropriate land use measures to ensure the protection of preserve lands in perpetuity.
- Meet conservation goals stated above while accommodating orderly growth and development in the city.
- Coordinate and monitor protection and management of conserved lands within the preserve system.
- Minimize costs of Endangered Species Act (ESA)-related mitigation and HMP implementation.

1.2.2 Compliance Monitoring

Compliance monitoring, also known as implementation or regulatory monitoring, is required pursuant to the city's HMP Implementing Agreement (permit) with the Wildlife Agencies (CDFW and USFWS, collectively) to ensure that the city is performing the conservation and implementation actions described in the Implementing Agreement. Compliance monitoring tracks whether the city is doing what it agreed to do from a regulatory perspective, such as conserving particular species locations and acres of habitat, monitoring the condition of the habitat and species, and performing required management actions (MHCP Vol. I). The Preserve Steward assists the city by conducting compliance monitoring and reporting for agency review. Habitat tracking results are provided in Section 1.4; regulatory compliance is discussed in Section 1.5; and management and monitoring activities are summarized in Section 2.0.

1.2.3 Effectiveness Monitoring

Effectiveness monitoring, also known as biological, ecological or validation monitoring, determines the effectiveness of the conservation program. Effectiveness monitoring evaluates how well the preserve assembly and management actions are achieving the biological goals stated in the MHCP and HMP within the city and across the MHCP planning area as a whole. The preserve-level monitoring program is used to evaluate the effectiveness of management actions at specific preserve areas (MHCP Vol. III). At the subregional (MHCP-wide) level, effectiveness monitoring involves assessing status and trends in populations of covered species, and assessing how well the conservation strategy is working to maintain natural ecological processes (MHCP Vol. III). The city is responsible for biological monitoring on city-owned properties and for reporting monitoring results from other properties within the HMP. The Wildlife Agencies are responsible for monitoring on their own properties (i.e., reserves owned by CDFW or lands within Batiqitos Lagoon owned by the California State Lands Commission) and for conducting subregional monitoring and analysis.

Monitoring the effectiveness of the MHCP and HMP is more challenging than compliance monitoring because the biological goals are broad and it may take many (upwards of ten) years before trends in species populations and habitat conditions are detectable. Species and habitat monitoring, and monitoring to evaluate the effectiveness of management to reduce threats is conducted by the preserve managers. The city, Preserve Steward, preserve managers, and Wildlife Agencies are currently working together to develop a functional citywide monitoring program that will help answer questions about the status of species populations and wildlife movement. In addition, the city is coordinating with the San Diego Management and Monitoring Program (SDMMP), which is developing regional and preserve-level monitoring and management protocols for use throughout San Diego County.

1.3 Current Status of Preserves

This section contains a description of the different categories of preserves within the HMP preserve system, accounting of the mitigation credits at the city's Lake Calavera Mitigation Parcel, status of the city's Gnatcatcher Core Area conservation obligation, and a summary of the *in-lieu* mitigation fee program.

1.3.1 Categories of HMP Preserves

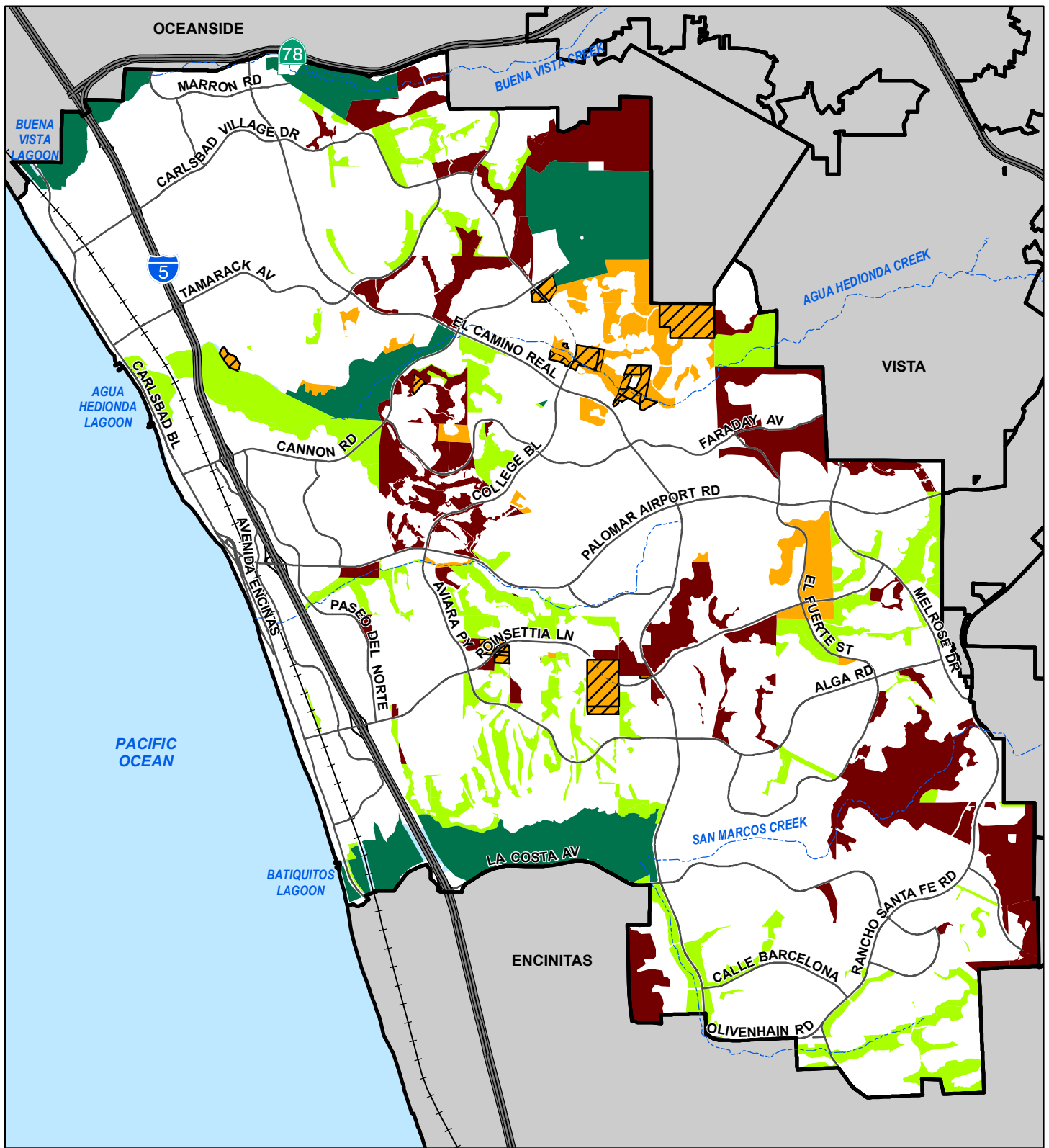
Lands within the HMP preserve system can be grouped into four categories: (1) established private and city-owned Hardline Preserves; (2) California Department of Fish and Wildlife Ecological Reserves; (3) pre-existing natural open space preserves; and (4) future preserves (Proposed Hardline Preserves and Standards Areas). These categories of preserve lands are distinguished by the level of management, ownership, and/or status as described below and shown in Figure 1.

Established Private and City-owned Hardline Preserves

These Hardline Preserves were established during or after the adoption of the HMP. They have approved Preserve Management Plans implemented by preserve managers and funded through non-wasting endowments or, in the case of the city-owned preserves, through annual budget appropriations. The city requires annual reports for all of these preserves. The underlying property owners for these preserves are a preserve management entity, homeowners' association, or the city. Except for the city-owned properties, all of these Hardline Preserves are protected by a recorded conservation easement. Examples of these preserves include Rancho La Costa, Carlsbad Oaks North, Lake Calavera, and the Crossings Golf Course, among others.

California Department of Fish and Wildlife Ecological Reserves

These Hardline Preserves were established prior to or subsequent to the adoption of the HMP and are all owned by the State of California. According to the HMP Implementing Agreement, the level of management and monitoring of the CDFW preserves is based upon the available State funding and resources. Currently there are no finalized long-term management plans for the CDFW Ecological Reserves in Carlsbad but management follows draft plans, which have not been submitted to the city. CDFW obtains State Wildlife Grant funding annually for management and monitoring activities on CDFW's preserves. Management accounts have been established for Carlsbad Highlands Ecological Reserve and Agua Hedionda Lagoon Ecological Reserve. The Batiquitos Lagoon Ecological Reserve is managed and monitored by CDFW and funded through a mitigation account established by the Port of Los Angeles and held by CDFW. The Buena Vista Creek Ecological Reserve is managed by Center for Natural Lands Management (CNLM), a non-profit management entity, through a contract and funded by a non-wasting endowment held by CNLM. The city receives some CDFW monitoring data for the lagoon preserves and a CNLM-prepared annual report for the Buena Vista Creek Ecological Reserve.



Legend

- Established Private and City-owned Preserve
- California Department of Fish and Wildlife Ecological Reserve
- Pre-existing Natural Open Space Preserve
- Future Preserve Proposed Hardline
- Future Preserve Standards Area



Pre-existing Natural Open Space Preserves

These Hardline Preserves predated the adoption of the HMP and are composed of natural open space areas within subdivisions or master plan communities (owned by the respective homeowners' association), the University of California's Dawson-Los Monos Reserve, and areas owned by Cabrillo Power, San Diego Gas and Electric, and the San Dieguito Union High School District. The lands were included in the HMP because of their biological resources and ecological value. There are no Preserve Management Plans or active management and monitoring associated with these preserves, and maintenance of the property is the responsibility of the property owner. Generally, management consists of trash pick-up and fence maintenance. The HMP envisioned that future management and monitoring of these lands would be financed through a regional funding source. All of the preserves owned by homeowners' associations are protected by an Open Space Easement. The Dawson-Los Monos Reserve is owned by the Regents of University of California and has no open space or conservation easement protection. Examples of the homeowners' association owned preserves include Calavera Hills Phase I, Aviara, and Arroyo La Costa.

Future Preserves (Proposed Hardline Preserves and Standards Areas)

These preserves are identified in the HMP and are associated with developable lands but have yet to begin management and monitoring. As a condition of approval for any development on the property, the developer is obligated to establish the preserve by gaining approval of a Preserve Management Plan, contracting with a management entity, depositing a non-wasting endowment or other secure financing mechanism, and recording a conservation easement. An Equivalency Finding, approved by the city and Wildlife Agencies, is required for any alterations to the Proposed Hardline Preserve boundary, and the final preserve design for Standards Areas must be approved by the city and Wildlife Agencies through a Consistency Finding. Examples of these future preserves include Mandana and Kato.

1.3.2 Lake Calavera Mitigation Parcel

The city-owned Lake Calavera Mitigation Parcel, also known as the Lake Calavera Preserve, provides mitigation as needed for upland habitat impacts related to city construction projects. Credits are deducted on an acre-for-acre basis, regardless of the type of habitat being impacted, except for impacts to gnatcatcher-occupied coastal sage scrub, southern maritime chaparral, and maritime succulent scrub. No credits can be sold to outside entities.

There is a discrepancy between the acreage of available credit shown in the HMP (Section D.3.B) and Implementing Agreement (Section 10.7), with the former indicating 266.1 available acres and the latter showing 206.1 available acres. For the first five years of HMP implementation, from 2004 to 2009, the Wildlife Agencies and city used the 266.1 acre credit amount contained in the HMP. In reporting year 6 (Nov. 2009 to Oct. 2010), the city revised the initial credit amount to

256.0 acres to reflect the actual calculated acreage of the Lake Calavera property based on updated mapping. The Wildlife Agencies and city have since agreed to use the more conservative amount of 206.1 acres stated in the Implementing Agreement.

In addition to the use of the Lake Calavera Mitigation Parcel for upland mitigation credits, the city also uses the property for mitigation through active habitat creation, restoration and/or enhancement of disturbed areas within the preserve, in coordination with the Wildlife Agencies (Figure 2). Once an area has been mapped and identified as mitigation for a city project, it is no longer eligible for future mitigation credits, and the acreage of the mitigation site is debited from the available balance. During the reporting period, a total of 4.4 acres were debited from the mitigation parcel for the mitigation sites (wetland enhancement/restoration) for the Lake Calavera Dam vegetation removal that was conducted by the city as part of regular dam maintenance (Table 1). Cumulative debits and adjustments for wetland mitigation sites to date are 94.9 acres, leaving a total of 111.2 acres (credits) remaining.

Table 1. Mitigation Acreage at Lake Calavera Mitigation Parcel RY 12 (2015-2016)

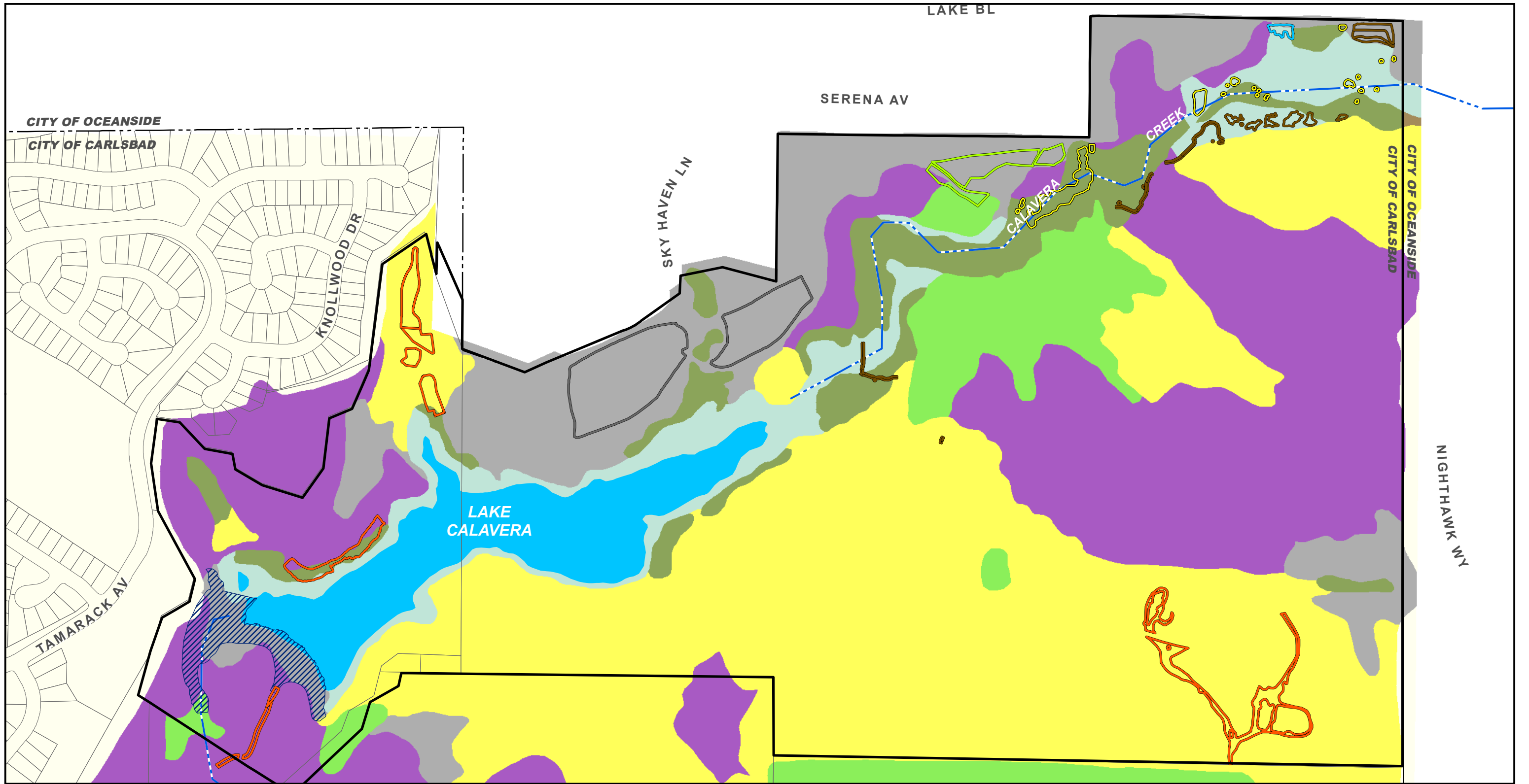
Credits and Debits	Acres¹
<i>INITIAL CREDITS</i>	<i>206.1</i>
Total acres available as of November 1, 2015	115.6
Year 12 Deductions (Nov. 2015-Oct. 2016)	
1. Lake Calavera Dam vegetation removal mitigation sites (wetland enhancement/restoration)	4.4
<i>Subtotal Year 12 debits</i>	<i>4.4</i>
Total acres available as of October 31, 2016	111.2

¹ Rounded to the nearest tenth of an acre.

1.3.3 Gnatcatcher Core Area Preservation Obligation Acreage

As of the final approval of the HMP in 2004, 214.52 acres of the 307.67 acre Gnatcatcher Core Area preservation obligation had been met through project related mitigation in the Core Area and additional onsite restoration within the HMP Plan Area. The remaining obligation consisted of acquisition of 43.02 acres of occupied coastal sage scrub habitat and reimbursement for 50.13 acres of land that was acquired by a private developer in anticipation of the HMP Core Area requirements. The history of the Gnatcatcher Core Area, including how the previous obligations were met, is detailed in earlier annual reports.

No Core Area credits were added during the reporting period. To date, the city has conserved 294.67 acres of the 307.67 acre Gnatcatcher Core Area conservation requirement and continued



Restoration Areas:

- Restoration for Lake Calavera Trails Plan, RY6 2009-2010
- Restoration Funded by SANDAG Transnet EMP Grant, 2009
- Restoration for Dam Improvements, RY2 2005-2006
- Restoration for Boardwalk, RY7 2010-2011
- Restoration for Romeria/LC Drainage, RY11 2014-2015
- Restoration for Dam Maintenance, 2016-2017
- Calavera Dam

Habitat Types:

- Open Freshwater
- Chaparral
- Southern Maritime Chaparral
- Coastal Sage Scrub
- Eucalyptus Woodland
- Oak Woodland
- Grassland
- Riparian Scrub, Woodland and Forest
- Other Wetland
- Agriculture
- Disturbed
- Urban/Developed



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to explore opportunities to conserve the remaining 12.93 acres during the reporting period. Table 2 shows the current status of Core Area conservation credits.

Table 2. Status of Carlsbad HMP Gnatcatcher Core Area Obligation through RY 12 (2015-2016)

Core Area Components	Component Acreage		Total Acreage
TOTAL CORE AREA CONSERVATION REQUIREMENT			307.60
1. Acquisition by the City <i>No acquisitions during RY 12 (2015-2016)</i>	<i>0.00</i>	80.22	
<i>Subtotal of Acquisition RY 12</i>	<i>0.00</i>		
2. Project-Related Mitigation	150.26		
3. Onsite Conservation Restoration Credits	64.19		
Total Core Area Conservation			294.67
REMAINING CORE AREA CONSERVATION REQUIREMENT			12.93

1.3.4 *In-lieu* Mitigation Fee Program

Under certain circumstances, project impacts to non-sensitive upland habitats that occur outside of the HMP preserve may be mitigated through a fee rather than onsite or offsite conservation. These funds can only be used to offset the cost of Gnatcatcher Core Area conservation. A total of \$45,031.59 of *in-lieu* mitigation fees was collected during the reporting period. A detailed accounting of the *in-lieu* mitigation fees and expenditures is given in Section 3.1.2.

1.4 Habitat Gains and Losses

Pursuant to the HMP and Implementing Agreement, the city is required to provide an annual accounting of the amounts and locations of habitat lost and conserved over time due to public and private development projects and land acquisition. This information will be used to demonstrate to the Wildlife Agencies that (a) the HMP preserve is being assembled as anticipated; (b) the habitat conservation goals of the HMP are being achieved; and (c) habitat conserved is in rough step with development. Habittrak is a GIS database tool that was designed to satisfy these tracking and reporting requirements by providing standard tracking protocols and reporting output. It uses standard baseline spatial databases (e.g., vegetation, preserve boundaries, and parcel boundaries) and development project footprints to prepare standardized tables and maps for annual reporting.

1.4.1 Target Acreage

Habittrak, a CDFW maintained database, is used by the city to calculate the number of acres added to the HMP preserve every year (although it does not calculate gains within the Gnatcatcher Core

Area which is outside of the city limits). Some of the habitat types used in the standard Habittrak table outputs are more specific than those used in HMP Table 8. To make it easier to compare the Habittrak tables with the HMP table for compliance monitoring, Table 3 below lists acres of target conservation and compares habitat categories in HMP Table 8 to categories used in Habittrak. Note that the GIS data layers used for this analysis included the more detailed habitat categories.

**Table 3. HMP Target Conservation of Habitats
(Comparison of Habitat Categories in HMP and Habittrak)**

HMP Table 8		Habittrak	
Habitat Type	Target Acres	Habitat type	Target Acres
Coastal sage scrub	2,139	Maritime succulent scrub	29
		Coastal sage scrub	2,003
		Coastal sage-chaparral scrub	107
		<i>Subtotal</i>	<i>2,139</i>
Chaparral	676	Chaparral	676
Southern maritime chaparral	342	Southern maritime chaparral	342
Oak woodland	24	Coast live oak	20
		Other oak woodland	4
		<i>Subtotal</i>	<i>24</i>
Riparian	494	Riparian forest	82
		Riparian woodland	17
		Riparian scrub	395
		<i>Subtotal</i>	<i>494</i>
Marsh	1,252	Southern coastal salt marsh	143
		Alkali marsh	9
		Freshwater marsh	165
		Freshwater	53
		Estuarine	789
		Disturbed wetland	93
<i>Subtotal</i>	<i>1,252</i>		
Grassland	707	Grassland	707
Eucalyptus woodland	99	Eucalyptus woodland	99
Disturbed lands	745	Agriculture	185
		Disturbed Land	244
		Developed	316
		<i>Subtotal</i>	<i>745</i>
Total Target Conservation within Carlsbad	6,478	Total Target Conservation within Carlsbad	6,478
Carlsbad's Gnatcatcher Core Area Contribution	308 ¹	Not tracked in Habittrak	N/A
Total HMP Target Conservation	6,786		

¹ Rounded to the nearest acre.

1.4.2 Land Acquisitions

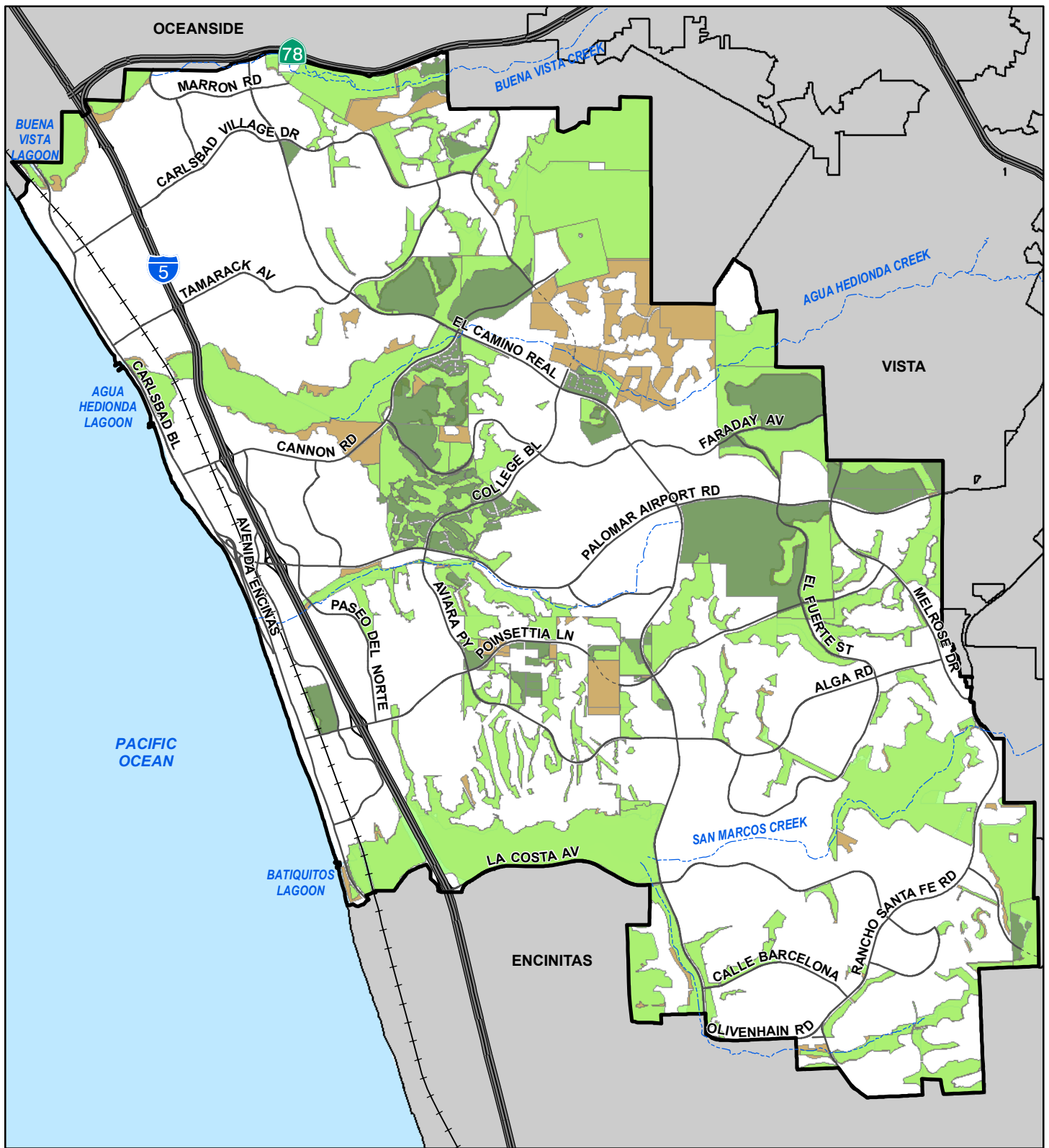
There were no land acquisitions inside of the HMP planning area during the reporting period.

1.4.3 Habitat Gains and Losses

There were no habitat gains or losses during RY 12 (2015-2016). Previous habitat gains and losses to date are shown in Figure 2, and the current condition of the HMP preserve system is shown in Figure 3.

1.4.4 Rough Step Preserve Assembly

As stated in the Implementing Agreement (12.1 Record Keeping), “Habitat conservation under the HMP must proceed concurrently and in rough step with development.” Although ‘rough step’ has not been defined in the HMP or MHCP, the general standard adopted by the Wildlife Agencies is that acres of habitat gain must be within approximately 10% of habitat losses (Christine Beck, CDFW, pers. comm. 2007). This policy was developed for NCCP plans to ensure that development does not greatly outpace land preservation. To date, 1,784.1 acres have been lost in Carlsbad since inception of the HMP, and therefore, no less than 1,605.7 acres (=1,784.1 ac. - 178.4 ac.) must be preserved. A cumulative total of 5,969.7 acres have been gained in the preserve system, which greatly exceeds the minimum required by the rough step policy. The rough step policy will continue to be followed for all new development projects (e.g., in Standards Areas) because the city requires that native habitat be conserved (impact mitigation/habitat gain) prior to issuing a grading permit (project impact/habitat loss) pursuant to the mitigation ratios described in the HMP. Measures required to be in place prior to permit issuance include: management cost analysis, non-wasting endowment for perpetual management, conservation easement, preserve management plan, and a contract with an approved preserve manager. Some projects that were approved prior to final HMP approval were issued grading permits before all of these elements were put in place. The city continues to work towards ensuring permanent management for these properties, either in concert with Wildlife Agency sign-off of project mitigation sites or assisting USACOE and USFWS in enforcing the provisions of the project Biological Opinion. Habitat impacted *outside* of the HMP is mitigated through an *in-lieu* mitigation fee, except for impacts that occur within the Coastal Zone (See Coastal Zone Standards, HMP pages D114-D121).

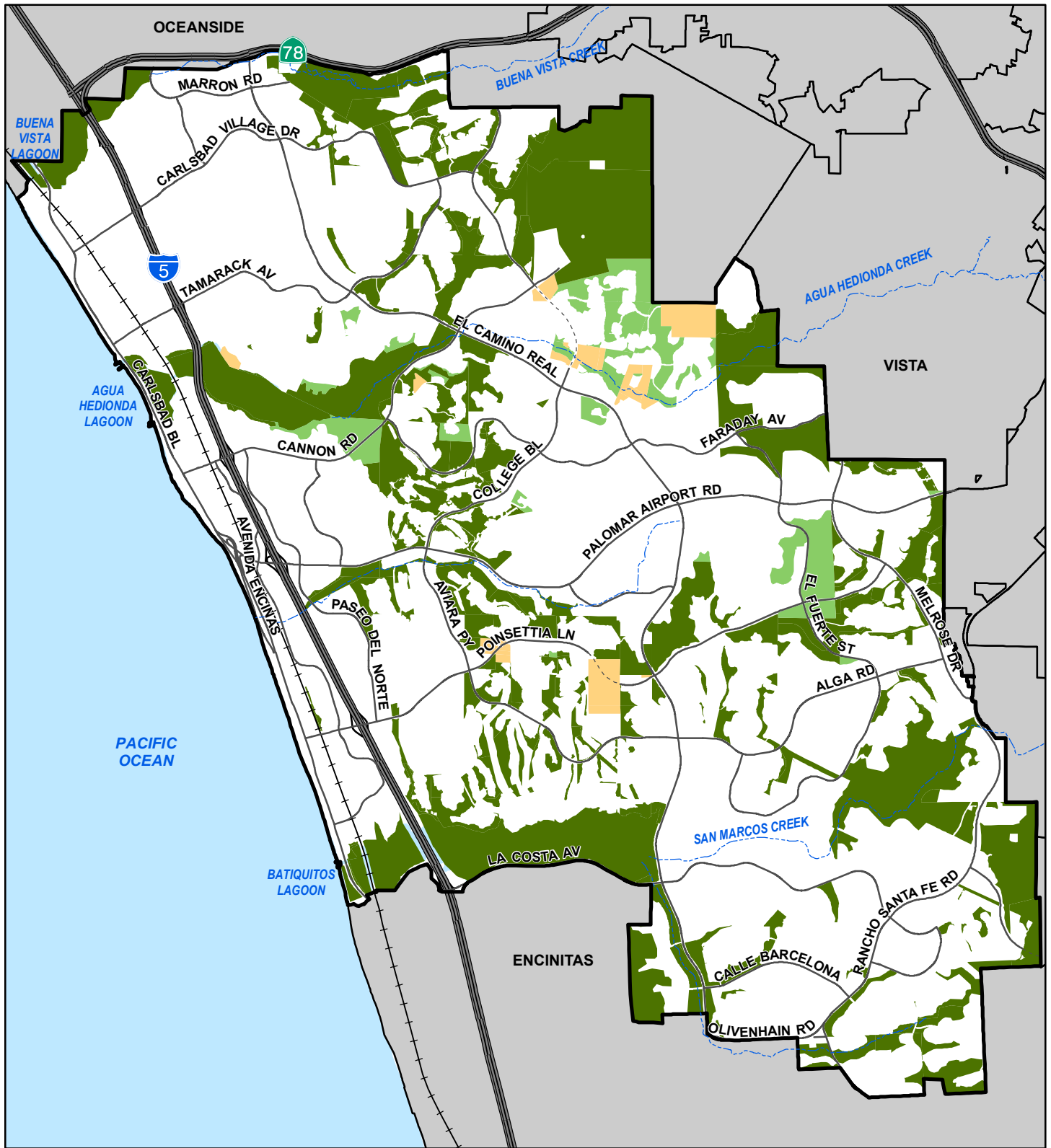


- Habitat Gains Prior to Year 12
- Habitat Losses Prior to Year 12
- HMP Area with No Gains or Losses

NOTE: There were no habitat gains or losses for Year 12.



0 6,400 Feet



Legend

- Existing Hardline
- Proposed Hardline
- Standards Area



1.5 Regulatory Compliance

To ensure regulatory compliance, the city is implementing the HMP (1) through the project review process for new development projects; (2) by issuing HMP permits when impacts to habitat or covered species are involved; (3) by issuing incidental take permits when take of a listed species is involved; and (4) by ensuring consistency with the terms and conditions of the Implementing Agreement, and State NCCP and Federal Fish and Wildlife permits.

1.5.1 HMP-related Permits and Amendments

During the current reporting period, three HMP permits for private development projects were approved by the city. Table 4 also includes a status update for HMP permits that have been submitted but are currently pending, incomplete, or have not been given final approval. No incidental take permits were issued this reporting period.

Table 4 . HMP Permits in Process during RY 12 (2015-2016)

HMP Permit No.	Project Name	Date	Status
HMP 06-12x1	Aura Circle	4/26/16	Pending
HMP 11-03	West Village Robertson Ranch	5/6/11	Incomplete
HMP 14-03	Inns at Buena Vista Creek	11/26/14	Incomplete
HMP 14-04	Poinsettia 61	12/9/14	Closed
HMP 15-01	Martin Residence	01/27/15	Pending
HMP 15-02	Cantarini Ranch	02/03/15	Pending
HMP 15-04	Ponto Beachfront Village West	04/10/15	Incomplete
HMP 15-05	Ocean View Point	6/24/15	Closed
HMP 15-06	Rafferty Residence	06/26/15	Incomplete
HMP 15-07	Agua Hedionda Creek Restoration	11/12/15	Closed
HMP 16-01	Lo Residence	2/25/16	Approved
HMP 16-02	Casa Verde	3/15/16	Approved
HMP 16-03	Manantan Residence	6/2/16	Approved
HMP 16-04	Carlsbad West Oaks	8/26/16	Pending

Amendments processed during the reporting period are described below. See HMP Section E-3 and Implementing Agreement Section 20.1 for a description of Minor Amendment types and the HMP amendment process.

1. **Consistency Finding** No consistency findings were processed during the reporting period.
2. **Equivalency Finding** No equivalency findings were processed during the reporting period.
3. **Other Minor Amendments (pursuant to Section 20.1 of the Implementing Agreement)**
No other minor amendments were processed during the reporting period.

1.5.2 City Compliance with Terms and Conditions of Take Authorization

To satisfy the terms and conditions of the state and federal take authorization, the city is required to fulfill the obligations outlined in Sections 10-14 of the Implementing Agreement, the Conditions of the State NCCP Permit, and Terms and Conditions of the Federal ESA Section 10(a)(1)(B) Incidental Take Authorization/Permit. Implementation tasks associated with these regulations are completed or ongoing, and are described in Tables 5-7. In cases where a particular condition is worded the same in more than one document, a reference is made to a previous table in which compliance is described, to avoid redundancy.

1.5.3 City Compliance with HMP Zone-Wide Standards

The city is also required to ensure that all projects within Standards Areas comply with the zone-specific standards outlined in HMP Section D (Table 8). All projects that occur within a Standards Area are processed as a Consistency Finding. During this process, projects must demonstrate compliance with the standards before they receive concurrence from the Wildlife Agencies and are approved by the city; therefore, all approved development within Standards Areas is consistent with the HMP.

A total of 182.6 acres of coastal sage scrub occurs within Standards Areas throughout the HMP. To date, 16.1 acres have been lost (8.8%), and 62.5 acres have been conserved (34.2%). Zone-wide standards require at least 67% (122.3 acres) of the coastal sage scrub to be conserved. Therefore, the city must conserve at least 59.8 more acres of coastal sage scrub within the Standards Areas. Table 8 summarizes property-specific and linkage-related standards and current status. Refer to HMP Section D pp. D-73 through D-82 for additional zone-specific standards.

Table 5. Summary of City Compliance with HMP Implementing Agreement Requirements through RY 12 (2015-2016)

IA Section ¹	Obligation	City Compliance
10.10	<p>Duty to Enforce: To enforce the terms of the Take Authorization, HMP, and Implementing Agreement and ensure HMP lands are conserved in perpetuity.</p>	<ul style="list-style-type: none"> ▪ The city requires compliance with the HMP as a condition of approval for new development projects, which includes conservation in perpetuity, a non-wasting endowment, and a management agreement with a preserve manager. ▪ On March 14, 2006 the city passed the Habitat Preservation and Management Requirements Ordinance (Carlsbad Municipal Code § 21.210), which includes a section on enforcement (§21.210.19) for violations of the HMP. ▪ The city continues to work closely with local preserve managers on enforcement issues. ▪ Complaints made by citizens regarding possible violations of the HMP within preserves are investigated on a case-by-case basis.
11.1	<p>Preserve System: To ensure the establishment and management in perpetuity of a 6,757-acre preserve system.</p>	<ul style="list-style-type: none"> ▪ The city has currently gained 5,969.7 acres of habitat within the HMP planning area and 294.67 acres of habitat within the MHCP Gnatcatcher Core Area (over 95% of the overall target acreage).
11.2	<p>Project Mitigation Measures: To require additional mitigation measures to mitigate impacts to covered species in all future development projects.</p>	<ul style="list-style-type: none"> ▪ As a condition of approval for new development projects, the city requires that all potential impacts to HMP covered species be avoided, minimized, and/or mitigated.
11.3	<p>Regulatory Implementation:</p> <ul style="list-style-type: none"> A. Urgency Ordinance – interim HMP enforcement B. Amend Open Space and Conservation Element of General Plan to incorporate HMP C. Amend Open Space Ordinance to incorporate Conserved Habitat Areas D. Amend Municipal Code to incorporate Standards Area compliance E. Amend General Plan to identify HMP as priority use for open space lands F. Wetlands Protection Program 	<ul style="list-style-type: none"> A. The Emergency Ordinance was approved by the City Council November 9, 2004. B. Revisions to the policy statements regarding the HMP were approved by the City Council in July, 2005. C. Revisions were made to Carlsbad Municipal Code Chapter 21.33 and approved by the City Council in March, 2006. Conserved Habitat Areas were included as undevelopable open space lands preserved exclusively and in perpetuity for conservation purposes consistent with the HMP. D. A new chapter (§ 21.210) was added to the Zoning Ordinance to address habitat preservation and management requirements. Section 21.210.040 B. specifically addresses Standards Area compliance. Approved by the City Council in March 2006. The new chapter will be included in the implementation plan portion of the Local Coastal Program update, currently underway. E. The General Plan was revised to make conservation of habitat a priority use for the 15% of otherwise developable land which the Growth Management Plan already requires to be set aside for open space purposes (the city defines five categories of open space). Approved by the City Council July 2005, and carried through into the updated General Plan (2015). F. New subsections (§21.210.040 D.5 and §21.210.070 A.5) were added to the Municipal Code to address the protection of wetland habitat. The ordinance states that wetlands impacts will be avoided, minimized, or mitigated (in that order). Approved by the City Council in March 2006. These sections will be included in the implementation plan portion of the Local Coastal Program update, currently underway. Compliance is enforced on a project-by-project basis during environmental review and in conjunction with other wetland permitting agencies such as Coastal Commission, CDFW and USACOE.

Table 5. Summary of City Compliance with HMP Requirements through RY 12 (2015-2016) *continued*

IA Section	Obligation	City Compliance
11.4	Additional Implementation Measures: To implement measures included in MHCP.	<ul style="list-style-type: none"> ▪ The MHCP, HMP, and OSMP conservation measures are currently being implemented during the approval process for all development projects and preserve management activities.
11.5	Regional Conservation: To effectuate the conservation of 307.6 acres of land within the MHCP Gnatcatcher Core Area, and convey the property to a qualified preserve manager.	<ul style="list-style-type: none"> ▪ The city has met 294.67 acres of its coastal sage scrub conservation obligation through acquisition (80.22 acres), project mitigation (150.26 acres), and habitat enhancement credit (64.19 acres). ▪ The city reimbursed Lennar (developer) for the 50.13 acres that were purchased up-front (see above) on April 26, 2011. ▪ The city entered into an agreement on July 26, 2011 with the Wildlife Agencies and Conservation Fund to acquire 30.09 acres of conservation credit over four years. The city made the final payment on October 22, 2014. ▪ The Core Area properties are protected under a conservation easement, and are being monitored and managed by the Center for Natural Lands Management (CNLM).
11.6	Cooperative Regional Implementation: To participate in MHCP Elected Officials Committee.	<ul style="list-style-type: none"> ▪ To date, the City of Carlsbad is the only MHCP jurisdiction with an approved subarea plan, so this is not applicable at this time; however, the city participates in meetings to discuss MHCP-wide issues with other MHCP jurisdictions and SANDAG as needed.
12.1 12.2 12.4 12.5	Monitoring and Reporting: To track habitat gains and losses within the HMP area (which should occur in rough step with one another); to maintain its database of biological resources; to submit an annual report by December 1 of each year; to hold a public meeting to discuss HMP implementation; and to provide the Wildlife Agencies with additional reports if necessary for compliance monitoring; and to certify all reports.	<ul style="list-style-type: none"> ▪ Habitat gains and losses are being tracked through Habittrak. Rough step preserve assembly is built into the city's permitting process. ▪ Currently the city is working with the Preserve Steward, preserve managers, city GIS staff, the San Diego Management and Monitoring Program, and SDSU's Institute for Environmental Monitoring and Management to determine the best approach to collect and manage monitoring data. ▪ Protocols and standards will be developed with regard to baseline surveys and monitoring (survey methods and data format), entry and attributing of GIS data, and data management. ▪ Annual public HMP workshops are held every year to give participants an opportunity to learn about current HMP preserve assembly, management, and monitoring, and to ask questions and provide comments. ▪ Annual HMP status reports are submitted to Wildlife Agencies each year. The public also has an opportunity to view these reports prior to the annual meeting and provide comments.
12.3	Preserve Management and Monitoring Plan: To prepare a preserve management and monitoring plan that will detail recommendations in HMP Section F.	<ul style="list-style-type: none"> ▪ The Open Space Management Plan (OSMP) is the Preserve Management and Monitoring Plan described in Implementing Agreement Section 12.3, and the subarea framework management plan described in MHCP Vol. III, Section 1.2. The first complete draft was finalized in May 2004. The document was completed in September 2004 and accepted by the Carlsbad City Council in December 2005. The OSMP will be considered by the California Coastal Commission as part of the Local Coastal Program update, currently underway; the city is implementing OSMP policies citywide.

Table 5. Summary of City Compliance with HMP Requirements through RY 12 (2015-2016) *continued*

IA Section	Obligation	City Compliance
13.0	<p>Adaptive Management: To ensure that adaptive management actions do not result in less mitigation than provided for the HMP Covered Species under the original terms of the HMP, unless approved by the Wildlife Agencies.</p>	<ul style="list-style-type: none"> ▪ The city complies with this policy by having ongoing discussions with preserve managers on management activities and by requiring adaptive management within all actively managed preserves and annual reporting. ▪ The city is coordinating with the regional adaptive management and monitoring efforts through the San Diego Management and Monitoring Program. ▪ The city has developed Guidelines for Preserve Management (TAIC 2009), which include monitoring and management priorities and a monitoring report checklist (Appendix C).
14.0	<p>Funding:</p> <p>14.1 MCHP Core Area Participation</p> <p>14.2 Preserve Management and Monitoring Plan</p> <p>14.3 Management of City-owned public lands</p> <p>14.4 Management of private lands in HMP area</p> <p>14.5 Management of Existing Hardline areas</p> <p>14.6 Program Administration</p> <p>14.7 Habitat <i>In-lieu</i>-Mitigation Fees</p>	<p>14.1 The city has met 294.67 acres of its 307.6-acre coastal sage scrub conservation obligation. The city must cause conservation of an additional 12.93 acres; this obligation will be funded through <i>in-lieu</i> mitigation fees.</p> <p>14.2 The Preserve Management and Monitoring Plan (known as the Open Space Management Plan or OSMP) was completed in September 2004 using city funds and a Local Assistance Grant from CDFW.</p> <p>14.3 City-owned preserves are currently being actively managed and monitored by CNLM.</p> <p>14.4 The city requires all private development projects within the HMP to fully fund perpetual management of associated preserve land prior to issuing a grading permit.</p> <p>14.5 Hardline preserves in existence before final HMP approval are owned and managed by several other entities, including the CDFW, private HOAs, University of California, SDG&E, Cabrillo Power, and SDUHS.</p> <p>14.6 The HMP program is overseen by Rosanne Humphrey (City of Carlsbad Environmental Management Division). In addition, the city has contracted with Environmental Science Associates to serve as the city’s Preserve Steward, who coordinates management throughout the HMP Preserve, and monitors HMP compliance and management effectiveness.</p> <p>14.7 The city has implemented an <i>in-lieu</i>-mitigation fee program for new development that will fund the city’s remaining Gnatcatcher Core Area obligations.</p>

¹ IA – Implementing Agreement

**Table 6. Summary of City Compliance with Terms and Conditions
of CDFW Permit through RY 12 (2015-2016)**

CDFW NCCP Permit Terms and Conditions (T&C)	Description of City Compliance
<p>Section 6.1 Conditions A through F are the same as those stated in A through F of the Implementing Agreement (IA), Section 11.3 (See Table 12). They are summarized below.</p> <p>A. Urgency Ordinance –interim HMP enforcement.</p> <p>B. Amend Open Space and Conservation Element of General Plan to incorporate HMP.</p> <p>C. Amend Open Space Ordinance to incorporate Conserved Habitat Areas.</p> <p>D. Amend Municipal Code to incorporate Standards Area compliance.</p> <p>E. Amend General Plan to identify HMP as priority use for open space lands.</p> <p>F. Wetlands Protection Program.</p>	See Table 5, IA Section 11.3.
<p>G. This permit is subject to compliance with the MHCP Volumes I-III, HMP, including Addenda 1 and 2, and the IA.</p>	All project approvals within the city are subject to these requirements as a condition of approval.
<p>H. Coverage for thread-leaved brodiaea and approval of the Fox-Miller Project. The conditions are as described in the USFWS 10(a) Permit Condition 7 (Table 12).</p>	See Table 7, USFWS 10(a) Permit Condition 7 for a description of compliance.
<p>I. All monitoring and reporting must comply with MHCP Vol. I and III, and IA Section 12. Annual reports are due no later than December 1 of each year.</p> <p>MHCP Volume II includes the following policies and conditions:</p> <ul style="list-style-type: none"> • Standard Best Management Practices (Appendix B) • General Outline for Revegetation Plans (Appendix C) • Narrow Endemic Species and Critical Population Policies (Appendix D) • Conditions for Estuarine Species (Appendix E) • CEQA requirements for quantifying and mitigating impacts 	See description for Condition G. MHCP Vol. II policies and conditions are reviewed during regular HMP compliance review for all new projects within Carlsbad. In addition, these policies have been integrated and/or referenced in the city's Guidelines for Biological Studies.

**Table 7. Summary of City Compliance with the Terms and Conditions
of USFWS Permit through RY 12 (2015-2016)**

Federal ESA 10(a) Permit Terms and Conditions (T&C)	Description of City Compliance
<p>1. All sections of Title 50 Code of Federal Regulations (CFR) 13, 17.22, and 17.32 are conditions of this permit.</p>	Appropriate language has been integrated into the HMP and Implementing Agreement; therefore, compliance with these documents ensures compliance with Title 50 CFR sections.
<p>2. The permittee is subject to compliance with the MHCP, HMP, and Implementing Agreement.</p>	The city complies with all regulations as described in Tables 5 and 6.
<p>3. The amount and form of take are authorized as described below. Referenced tables are from Attachment 2 of the T&C, and are the same as List 1-3 Species in HMP Section C. Coverage for species in HMP Tables 2 and 3 below require the city to submit in writing a request for coverage, including documentation showing compliance.</p>	See next page.

**Table 7. Summary of City Compliance with Terms and Conditions
of USFWS Permit through RY 12 (2015-2016) *continued***

Federal ESA 10(a) Permit Terms and Conditions (T&C)	Description of City Compliance
<p>3. <i>continued</i></p> <p><u>Table 1. (a) No take authorized for the following species:</u></p> <p><i>Chorizanthe orcuttiana</i> – Orcutt’s spineflower <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> – Blochman’s dudleya <i>Euphorbia misera</i> – Cliff spurge <i>Hazardia orcuttii</i> – Orcutt’s hazardia <i>Quercus dumosa</i> – Nuttall’s scrub oak <i>Pelecanus occidentalis californicus</i> – California brown pelican <i>Falco peregrinus</i> – American peregrine falcon <i>Rallus longirostris levipes</i> - Light-footed clapper rail <i>Sterna antillarum browni</i> – California least tern <i>Charadrius alexandrinus nivosus</i> – Western snowy plover <i>Sterna elegans</i> – Elegant tern</p> <p><u>Table 1. (b) Take authorization is or will be (upon listing) granted for:</u></p> <p>Listed species: <i>Empidonax trailii extimus</i> – Southwestern willow flycatcher <i>Vireo bellii pusillus</i> – Least Bell’s vireo <i>Poliophtila californica californica</i> – Coastal California gnatcatcher</p> <p>Not yet listed: <i>Panoquina errans</i> – Salt marsh skipper <i>Euphyes vestris harbisoni</i> – Harbison’s dun skipper <i>Plegadis chihi</i> – White-faced ibis <i>Accipiter cooperii</i> – Cooper’s hawk <i>Pandion haliaetus</i> - Osprey <i>Icteria virens</i> – Yellow-breasted chat <i>Aimophila ruficeps canescens</i> – So. California rufous-crowned sparrow <i>Passerculus sandwichensis beldingi</i> – Belding’s savannah sparrow <i>P.s. rostratus</i> – Large-billed savannah sparrow <i>Aspodoscels hyperythrus beldingi</i> – Orange-throated whiptail</p> <p><u>Table 2. Take authorization contingent upon other MHCP subarea plans being</u> permitted for the following species:</p> <p><i>Acanthomintha ilicifolia</i> – San Diego thornmint <i>Ambrosia pumila</i> – San Diego ambrosia <i>Ceanothus verrucosus</i> – Wart-stemmed ceanothus <i>Dudleya viscida</i> – Sticky dudleya <i>Ferocactus viridescens</i> – San Diego barrel cactus <i>Quercus engelmannii</i> – Engelmann oak</p> <p><u>Table 3. (a) Take authorization contingent upon adequate funding and legal</u> <u>access</u> to manage and monitor the following species:</p> <p><i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> – Del Mar manzanita <i>Baccharis vanessae</i> – Encinitas baccharis <i>Brodiaea filifolia</i> – Thread-leaved brodiaea <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> – Summer-holly <i>Corethrogyne filaginifolia</i> var. <i>linifolia</i> – Del Mar sand aster <i>Pinus torreyana</i> ssp. <i>torreyana</i> – Torrey pine</p>	<p><u>Table 1 (a).</u> No take of these species has been authorized by the city.</p> <p><u>Table 1 (b).</u> The city did not authorize take for any of these species during the current reporting period.</p> <p><u>Table 2.</u> No other MHCP subarea plans have been permitted, and therefore take authorization for these species has not been granted by the city.</p> <p><u>Table 3 (a).</u> Take authorization for thread-leaved brodiaea was granted by the Wildlife Agencies to the city on December 2, 2005 based upon the management required for Fox-Miller property. Take of this species was not granted during the reporting period. No take of any other species from this list has been granted by the city.</p>

**Table 7. Summary of City Compliance with Terms and Conditions
of USFWS Permit through RY 12 (2015-2016) *continued***

Federal ESA 10(a) Permit Terms and Conditions (T&C)	Description of City Compliance
<p><u>Table 3. (b) Take is contingent upon (a), described above, and the city receiving legal control over</u> the vernal pools adjacent to the Poinsettia Train Station.</p> <p><i>Eryngium aristulatum</i> var. <i>parishii</i> – San Diego button-celery <i>Myosurus minimus</i> ssp. <i>apus</i> – Little mouse-tail <i>Navarretia fossalis</i> – Spreading navarretia <i>Orcuttia californica</i> – California Orcutt grass <i>Streptocephalus woottoni</i> - Riverside fairy shrimp <i>Branchinecta sandiegonensis</i> - San Diego fairy shrimp</p> <p><u>Table 3. (b) Take is contingent upon (a) and (b), described above, and upon other</u> MHCP subarea plans being permitted.</p> <p><i>Iva hayesiana</i> – San Diego marsh-elder</p>	<p><u>Table 3 (b).</u> The city has not taken legal control of the Poinsettia Lane Vernal Pools and has not requested take for vernal pool species.</p> <p>No other take authorizations have been requested.</p>
<p>4. The FESA Section 10(a) constitutes a Special Purpose Permit for the take of HMP covered species which are listed as threatened or endangered under the FESA, and which are also protected by the Migratory Bird Treaty Act of 1918, as amended. The Special Purpose Permit will be valid for three years after effective date and may be renewed as long as 10(a) permit conditions are being met.</p> <p><i>Sterna antillarum browni</i> - California least tern <i>Empidonax traillii extimus</i> - Southwestern willow flycatcher <i>Vireo bellii pusillus</i> - Least Bell's vireo <i>Passerculus sandwichensis beldingi</i> - Belding's savannah sparrow</p>	<p>The Special Purpose Permit has been in effect during the current reporting period. No take of these species has been granted.</p>
<p>5. The Permittee shall not allow clearing and grubbing in known or potentially occupied California gnatcatcher habitat between February 15 and August 31.</p>	<p>This requirement is included in Municipal Code 21.210.040 and HMP Table 9. Compliance is a condition of approval for every new development project.</p>
<p>6. Specific standards (described in the T&C) must be met if the city proceeds with any of the following plans:</p> <p>(a) Cannon Road Reach 4 (b) Extension of Melrose Drive through the Shelley Property (c) Marron Road through Buena Vista Creek Ecological Reserve</p>	<p>None of these projects have been proposed at this time.</p>
<p>7. To receive coverage for thread-leaved brodiaea, the city must demonstrate that:</p> <p>(a) The Fox-Miller project meets the narrow endemic standards for this critical location and major population of this species; (b) The proposed hardline shown in Addendum 2 (2003) of the HMP is not permitted (it does not meet the MHCP standards); (c) The Wildlife Agencies must concur with the Fox-Miller project proposal, and the conserved area must be managed and monitored to MHCP standards in perpetuity; and (d) If all conditions are met, the Fox-Miller project can be permitted under the HMP through the HMP amendment process</p>	<p>(a) The boundary for the brodiaea population has been established. (b) The boundary was expanded. (c) The Wildlife Agencies have approved the Fox-Miller project. The restoration and non-restoration areas are currently under management and monitoring by Helix via annual contract with the landowner. Long term management of the property will be provided by SDHC when the 5-year restoration areas are signed off by the Wildlife Agencies. (d) Brodiaea coverage was granted by the Wildlife Agencies through a minor amendment December 2, 2005.</p>

**Table 7. Summary of City Compliance with Terms and Conditions
of USFWS Permit through RY 12 (2015-2016) *continued***

Federal ESA 10(a) Permit Terms and Conditions (T&C)	Description of City Compliance
<p>8. To minimize impacts to the California gnatcatcher, rufous-crowned sparrow, and orange-throated whiptail the city must:</p> <p>(a) Maintain and/or widen the habitat corridor between the city and Oceanside as much as feasible, and</p> <p>(b) If the driving range adjacent to the Kelly/Bartman property is proposed for a different use, the city will ensure that an on-site corridor is established on the driving range property.</p>	<p>(a) The corridor on the NE boundary of Carlsbad is conserved. Along the northern boundary, the Buena Vista Creek ER was acquired in 2007, resulting in 100% conservation, and the Summit (Kelly-Bartman) property was acquired by CDFW in 2010.</p> <p>(b) No other uses for this property have been proposed at this time.</p>
<p>9. As part of the project review process, a qualified biologist shall survey for all species with immediate and conditional coverage.</p>	<p>The city has included this as a condition of approval for all new projects.</p>
<p>10. The city will contact the USFWS Carlsbad Office immediately regarding any violations or potential violations of the FESA or the Migratory Bird Treaty Act.</p>	<p>The city regularly communicates with the USFWS on regulatory issues, and contacts the appropriate personnel immediately upon learning of any potential problems.</p>
<p>11. The city will notify the USFWS within one working day of finding any dead, injured, or sick threatened/endangered species.</p>	<p>No such individuals have been reported to or observed by the city.</p>
<p>12. All monitoring and reporting for this permit shall be in compliance with the MHCP (Vol. I and III) and the Implementing Agreement (Section 12).</p>	<p>See Implementing Agreement Section 12 discussion in Table 10 above for compliance information.</p>
<p>13. A copy of this permit must be on file with the city, its authorized agents, and third parties under the jurisdiction and direct control of the city.</p>	<p>A copy of this permit is on file with the city and is available to any interested parties.</p>

Table 8. Compliance with Zone-Wide Standards through RY 12 (2015-2016)

Zone	Zone-Specific Standard	Current Status
All Zones	<p>A minimum of 67% of coastal sage scrub and 75% of the gnatcatchers shall be conserved overall within the Standards Areas.</p>	<p>Total coastal sage scrub habitat within Standards Areas: 182.6 acres. Coastal sage scrub loss = 16.1 acres (8.8%). Coastal sage scrub gains = 62.5 acres (34.2%). An additional 59.8 acres must be conserved to meet 67% conservation in the Standards Areas. Occupied gnatcatcher habitat is mitigated at 2:1; therefore, there will be no net loss of gnatcatcher habitat within Standards Areas. The 75% standard is applied to every project individually.</p>
Zone 1	<p>Preserve at least 50% of coastal sage scrub and avoid areas occupied by gnatcatchers. Applies to several vacant lots on north shore of Agua Hedionda Lagoon and a larger, vacant in-fill lot SW of El Camino Real and Kelly Drive.</p>	<p>Vacant lots on north shore of Agua Hedionda: no projects have been finalized for these parcels. In-fill parcel (Aura Circle): property changed to a Proposed Hardline preserve during Coastal Commission processing of HMP. A tentative map conserving the Proposed Hardline preserve was approved however no grading permit has been issued.</p>
Zone 2	<p>1. Kelly/Bartman property: 50% of this property shall be conserved and must form a continuous corridor from the SE corner of the property to</p>	<p>Kelly-Bartman property (Summit): Existing Hardline preserve approved with 50% conservation including an open space corridor from the SE to the northern site</p>

	the northern edge. 2. Spyglass property: grasslands impacted on this property shall have offsite mitigation at 2:1 ratio.	boundary. Spyglass property: has been developed and grassland impacts were mitigated at a 2:1 ratio through restoration at Carlsbad Highlands Mitigation Bank.
Zone 8	1. Kirgis property: a maximum of 25% can be developed. 2. Callaghan property: a maximum of 50% can be developed. No impacts to narrow endemic species on either property.	Kirgis property: tentative map approved with 75% percent conservation however no grading permit has been issued. Callaghan property: no tentative map has been approved for this property.
Zone 14	Areas of upland habitat outside Linkage B may be taken in exchange for restoration and enhancement inside of the linkage as long as the result is conservation of at least 67% coastal sage scrub and associated gnatcatcher populations within southern portions of the zone.	Robertson Ranch encompasses the entirety of Zone 14. Due to agricultural activities, very little coastal sage scrub existed in the southern portion of the zone. The Existing Hardline Preserve, as approved by the Wildlife Agencies in 2005, 2007 and 2012, preserves 70% of the coastal sage scrub throughout the zone.
Zone 15	Maintain and enhance habitat linkages across Linkage C and adjoining Cores 3 and 5. Areas of upland habitat outside Linkage C may be taken in exchange for restoration and enhancement inside of the linkage as long as there is a no net loss of coastal sage scrub and associated gnatcatcher populations within southern portions of the zone.	Terraces at Sunny Creek and Rancho Milagro, occur within Core Area 5 in the southern portion of Zone 15. No net loss of coastal sage scrub has occurred.
Zone 20	Create continuous habitat through Linkage F between Core Areas 4 and 6. No net loss of coastal sage scrub or maritime succulent scrub within standards areas of the zone.	Projects: Emerald Pointe, North Coast Calvary Chapel, and Muroya. All three projects were processed through a Consistency Finding and approved by the City and Wildlife Agencies. No net loss of coastal sage scrub or maritime succulent scrub occurred.
Zone 21	Ensure habitat connectivity and wildlife movement east-west across the zone.	Projects: Poinsettia Place and Manzanita Partners, both Existing Hardline Preserves, provide east-west connectivity from El Camino Real to the Local Facilities Management Zone boundary.
Zone 25	At least 75% of the Sherman property must be conserved.	As of March 2007, 100% of the Sherman property (Buena Vista Creek Ecological Reserve) has been conserved.

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2.0 Preserve Management and Monitoring

A variety of management and monitoring activities were conducted throughout the HMP preserve system during FY 12 (2015-1016), as summarized below. Figure 4 shows the land owner and/or management entity responsible for management of each preserve area. Appendix A provides a more detailed site-specific list of activities performed by the preserve managers as well as other groups, such as the Batiqitos Lagoon Foundation and Preserve Calavera, which also provide an important land stewardship service through public outreach, habitat restoration, fundraising, etc.

2.1 Preserve-Specific Activities

2.1.1 City-Owned Preserves

All city-owned preserves have been actively managed by CNLM since December, 2008. The city preserves consist of 13 properties scattered throughout Carlsbad totaling 600.4 acres (Figure 4). Management activities this year included evaluation, assessment, and treatment of medium and zero tolerance invasive non-native plant species, enforcement patrols, installation of signs and kiosks, public education/outreach, participation in volunteer events, and coordination with police and fire departments on enforcement issues.

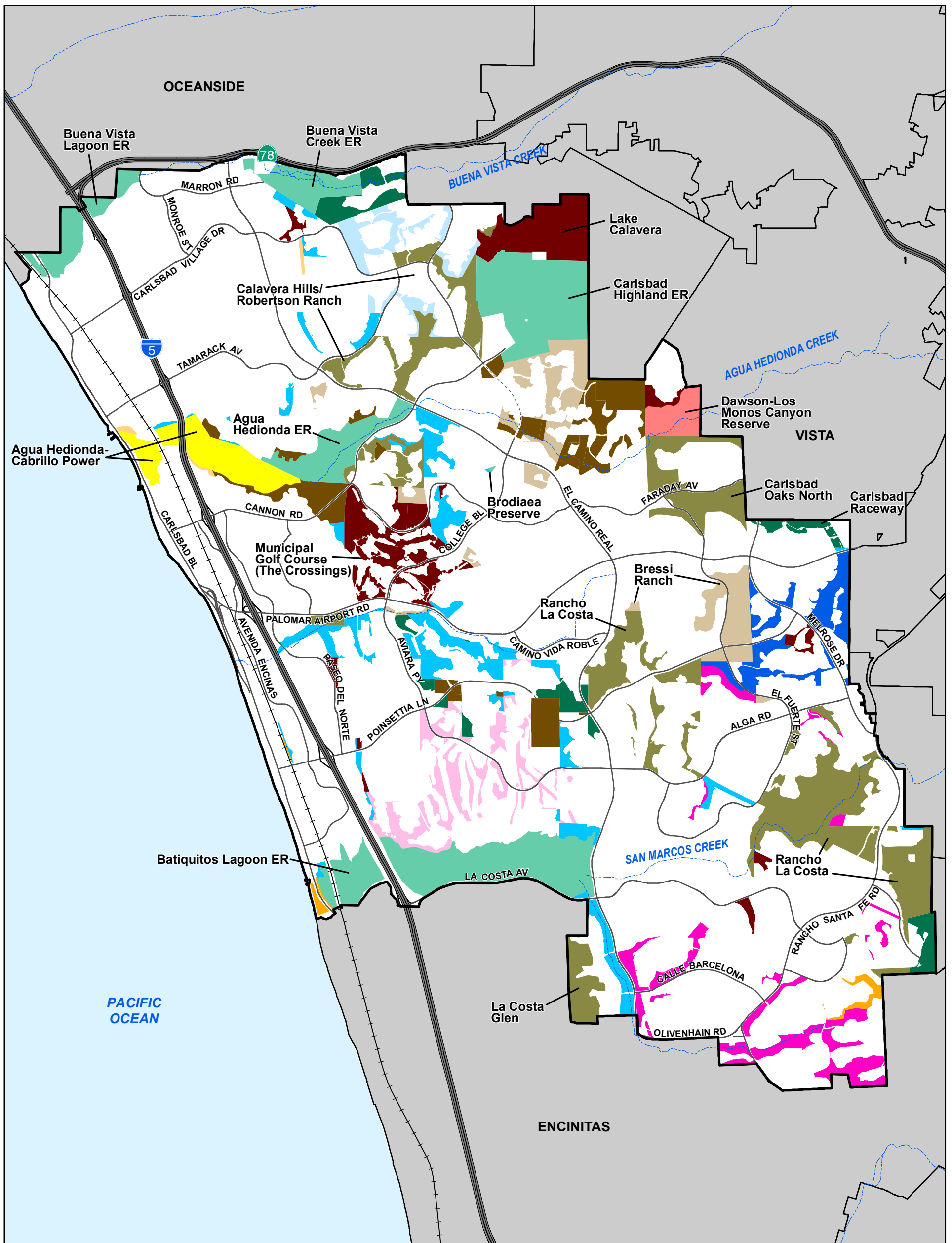
2.1.2 Other Actively Managed Preserves

Areas conserved since approval of the HMP are actively managed and monitored as required by the HMP and MHCP (Level 3, as defined in the MHCP). The preserves in this category are managed by CNLM, CDFW, San Diego Habitat Conservancy, San Diego Urban Corps Habitat Services, Habitat Restoration Sciences, and Helix Environmental. Ongoing management and monitoring activities on preserves throughout the HMP consist of invasive species removal, patrolling, vegetation mapping, species and habitat monitoring, installation and maintenance of fences, signs, and kiosks, and public outreach. A more detailed account of these activities is available in the preserve-specific annual reports, which are available from the preserve managers upon request.

2.1.3 Pre-Existing Natural Open Space Preserves

Pre-existing natural open space preserves (i.e., areas that were already conserved at the time the HMP was approved) continue to be managed according to pre-existing management funding and arrangements. The majority of these preserves are managed by various HOAs. Other landowners responsible for management include University of California San Diego (Natural Reserve System), SDG&E, Cabrillo Power, North County Transit District (NCTD) and San Dieguito Union High School

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City of Carlsbad

- City Preserves*
 - Batiquitos Drive
 - Carlsbad Village Dr
 - Carrillo Ranch
 - Crossings Golf Course
 - Faraday
 - La Costa Canyon Park
 - La Costa/Romeria
 - Lagoon Lane
 - Lake Calavera
 - Los Monos
 - Macario Canyon
 - Poinsettia Park
 - Veteran's Park

Other Public/Semi-Public

- Cabrillo Power
- San Diego Gas & Electric
- Other Public Agencies
 - North County Transit District
 - San Dieguito Union School District
 - State of California

Wildlife Agencies

- California Department of Fish and Wildlife
 - Agua Hedionda ER
 - Buena Vista Creek ER
 - Carlsbad Highlands ER
 - Batiquitos Lagoon ER
 - Buena Vista Lagoon ER
 - Brodiaea Preserve

Conservation Management Entity

- Center for Natural Lands Management
 - Carlsbad Oaks North
 - Encinas Creek
 - La Costa Glen
 - Calavera Hills II/Robertson Ranch
 - Kelly Ranch
 - Rancho La Costa
- Other Management Entity
 - Habitat Restoration Sciences (HRS)
 - Helix Environmental
 - San Diego Habitat Conservancy
 - San Diego Urban Corps Habitat Services

University of California Reserve System

- Dawson-Los Monos Canyon Reserve

Private

- Aviara HOAs
- Calavera Hills HOAs
- La Costa HOAs
- Rancho Carrillo Master HOA
- Other HOAs and Private Open Space

Other

- Pending
- Future Preserves
 - Undeveloped Standards Area
 - Other Future Preserve

* Managed by Center for Natural Lands Management (CNLM)



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District. Pre-existing natural open space preserves are managed at a basic stewardship level, which generally consists of fence maintenance and trash removal.

2.2 City-wide Activities

2.2.1 Wildlife Movement

As mentioned in the previous annual report, the city completed the *City of Carlsbad Wildlife Movement Analysis Final Report* on March 31, 2015 (City of Carlsbad 2015). The purpose of the study was to provide a baseline inventory of potential barriers to movement (pinch points), provide adaptive management recommendations for these pinchpoints, and to document wildlife movement through selected pinch points along identified movement corridors with motion-sensor cameras. During the reporting year, the city, Preserve Steward, and Preserve Managers got together and identified approximately 29 of the pinchpoints as a high priority for adaptive management actions, including installation or removal of fencing, removal of sediment, and/or trimming or clearing vegetation at undercrossing entrances. Because these undercrossings are associated with drainages and wetland habitats that are under the jurisdiction of CDFW, Army Corps of Engineers, and in some cases the California Coastal Commission, permits may be required for some of the management actions. This process can be quite time-consuming, and currently permit acquisition is not funded. However, the priority undercrossings have been added to one of the city's Capital Improvement Projects related to the replacement of headwalls and culverts, so it is our hope that some of the sediment and vegetation removal actions can be undertaken as part of this project.

In addition, camera monitoring has been conducted on various preserves throughout the city as summarized in Table 9.

Table 9. Wildlife Movement Monitoring and Management Activities during RY12 (2015-2016)

Preserve	Preserve Manager	Activity
Carlsbad Oaks North	CNLM	Documented wildlife movement through Faraday undercrossing via camera; modified brush to facilitate mule deer movement; conducted mule deer surveys.
Carlsbad Raceway	SDHC	Installed additional wildlife camera, volunteers checked and recorded data.
Emerald Pointe	SDHC	Installed additional wildlife camera, volunteers checked and recorded data
Encinas Creek	CNLM	Documented wildlife movement via camera; checked and recorded data monthly.
La Costa Glen	CNLM	Monitored two wildlife under-crossings, Calle Barcelona and Leucadia Boulevard, which connect off-site habitat to the preserve. Trimmed overgrown vegetation to encourage more movement. Documented that bobcat, coyote, and raccoon have decreased over the last three years.
Rancho La Costa	CNLM	Wildlife cameras were deployed at 12 different locations and camera data was checked and recorded monthly.
Southern Preserve	Urban Corps	Documented all wildlife tracks.

Many species of wildlife have been observed over the last year including, bobcat (*Lynx rufus*), mule deer (*Odocoileus hemionus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*), greater roadrunner (*Geococcyx californianus*), great blue heron (*Ardea herodias*), among others. However, unimpeded movement in this highly urbanized preserve system may not be adequate to ensure healthy populations of these species in the long term.

Wide, busy roads such as College Boulevard (a four-lane road with a center divide) and Palomar Airport (a six-lane road with a center divide) are significant barriers to wildlife movement. Even where under-crossings do exist, tunnels that are too long and dark, or have dense vegetation on either end that do not allow for a clear line-of-sight have proven to deter movement, especially for large mammals such as mule deer. Active clearing of vegetation in some areas has increased wildlife detections through these tunnels, as seen at Carlsbad Oaks North Preserve this year.

Human presence is another deterrent to wildlife movement; homeless encampments are often found and removed from culverts and bridges through which animals travel, and this is an ongoing problem that discourages movement. Because data collection does not occur systematically throughout the open space areas in Carlsbad (e.g. using a comprehensive, statistically sound sampling design), hard conclusions on species populations and movement are limited.

2.2.2 Poinsettia Fire

During the reporting period, the city continued to work with open space property owners affected by the May 2014 Poinsettia Fire, which burned 295 acres within 18 existing and four future HMP preserves. Following the Carlsbad HMP Post-Fire Monitoring Protocol developed in 2014 (CNLM and ESA 2014), the Preserve Steward and preserve managers continued with Year 2 of the post-fire monitoring program. The purpose of this five-year monitoring program is to determine if the burned areas are recovering as expected, and if any specific management actions are needed to ensure habitat recovery.

Overall, the shrublands appear to be recovering as expected, following the trajectory envisioned by conceptual models developed to evaluate post-fire habitat recovery (Spiegelberg 2016, Tierra Data Inc. 2005). Within coastal sage scrub habitat, although shrub cover did not change between 2015 and 2016, native herbaceous cover increased from 15.1 to 32.3 percent (Table 10). Within chaparral habitat, native shrub cover increased from 14.5 to 25.8 percent in southern mixed chaparral and from 4.5 to 17.3 percent in southern maritime chaparral. Native herbaceous cover increased from 13.7 to 33.1 percent in southern mixed chaparral, and from 9.0 to 35.9 percent in southern maritime chaparral. These patterns are to be expected, as coastal sage scrub is often slow to recover after fire and may take 10 years or more to reach the pre-fire native shrub condition. Chaparral habitats, on the other hand, generally recover fairly well after fire, which is illustrated by the transect results so far (Spiegelberg 2016).

Table 10. Vegetation Community Percent Cover Based on Point Intercept Transects

Vegetation Type	Average Percent Cover by Vegetation Community ¹					
	<u>Coastal Sage Scrub</u>		<u>Southern Mixed Chaparral</u>		<u>Southern Maritime Chaparral</u>	
	2015	2016	2015	2016	2015	2016
Herbaceous-Native	15.1	32.3	13.7	33.1	9.0	35.9
Herbaceous-Nonnative	15.1	15.1	0	2.4	1.2	0.2
Nonnative grass	0	2.2	0	2.4	trace	0.2
Native Shrub	7.5	7.5	14.5	25.8	4.5	17.3
Bare Ground	58.1	47.3	67.7	45.2	81.7	52.9
Litter	14.0	0	6.5	0	4.5	1.3

¹ Number of sampling transects are as follows: coastal sage scrub – 3; southern mixed chaparral – 4; southern maritime chaparral - 15 in 2015, and 17 in 2016.

Oak woodland habitat is recovering slowly, as expected, with a majority of oaks still alive, as evidenced by basal sprouting or branch sprouting. However, few seedlings were observed in both 2015 and 2016. The vernal pools on Manzanita Partners Preserve are dominated by nonnative species, most notably filaree (*Erodium botrys*), which averages 40 percent cover within the basins (A. Hayworth, HRS, pers. comm., 2016). This is not surprising, as the surrounding upland areas were dominated by non-native species prior to the fire, and the last two years have been fairly dry. With adequate rainfall, the vernal pool basins are expected to fill for a sufficient duration to exclude non-native weedy species; however, it remains to be seen if the vernal pool indicator species recover.

Although not shown in the post-fire monitoring data, one of the biggest potential threats to the post-fire habitat recovery is invasive species, which are especially dense within the bottom of drainages where there were no sampling transects. The preserve managers continue to focus on weed abatement, access control, and erosion control; however, most of the preserve areas on HOA lands receive only a basic property maintenance level of management, which does not include invasive species removal. Many of these drainages were treated in 2015 through the Carlsbad Watershed Network's invasive vegetation control program, operated by San Elijo Lagoon Conservancy. However, this resource was not available to the city in 2016. The City of Carlsbad will continue to work with the preserve managers and HOA land owners to ensure high quality habitat recovery, and continue to support the post-fire monitoring effort over the next three years.

1.6.1 Public Outreach

In coordination with the Carlsbad Parks and Recreation Department, the Center for Natural Lands Management and the city's Preserve Steward offer information about the HMP and preserve management at volunteer events such as National Public Lands Day, National Trails Day, and trail maintenance events. Other outreach activities, such as guided nature hikes, were provided by the Center for Natural Lands Management, San Diego Habitat Conservancy, and other preserve managers, as well as environmental groups such as Batiquitos Lagoon Foundation and Preserve Calavera (See Appendix A for details). In addition, the city hosted the Annual HMP Public Meeting at the City Faraday Center on March 1, 2016.

2.3 Patrolling and Enforcement

Enforcement within conserved open space involves a combination of education, deterrence, and punitive actions. The goal of enforcement is to reduce, prevent, or ideally eliminate human impacts to native flora and fauna, habitats, and ecological preserves from unauthorized human activities. The city continues to coordinate and cooperate with local preserve managers and the

Carlsbad and Oceanside Police Departments in enforcing the rules and regulations within HMP preserves.

In general, human activity within most preserves has minimal effect on the sensitive plant and animal species. There have been no reports of threatened or endangered plant populations being impacted or vernal pools being damaged by human activity. The majority of people accessing the preserves do so using authorized trails. However, serious impacts can occur with only a few individuals; therefore, frequent education and outreach, access control efforts, and patrolling are needed on an ongoing basis. Below is a summary of the reported enforcement activities on HMP preserves.

With regard to CDFW Ecological Reserves, Law Enforcement promotes compliance with laws and regulations protecting fish and wildlife resources. CDFW wardens investigate habitat destruction, pollution incidents, and illegal commercialization of wildlife. Wardens also serve the public through general law enforcement, mutual aid and homeland security. In the City of Carlsbad, CDFW enforcement officers conduct regular patrols of the CDFW preserves (i.e. Agua Hedionda Lagoon Ecological Reserve, Batiquitos Lagoon Ecological Reserve, Buena Vista Lagoon Ecological Reserve, Buena Vista Creek Ecological Reserve, Carlsbad Highlands Ecological Reserve, and the Brodiaea Preserve).

Table 11 below summarizes the enforcement activities conducted throughout the HMP preserve system during RY 12 (2015-2016).

Table 11. Enforcement Activities during RY12 (2015-2016)

Preserve	Management Entity¹	Activity
Agua Hedionda Lagoon	AHLF	Conducted weekly inspections to monitor trails and easements.
Buena Vista Creek Ecological Reserve	CNLM	Conducted regular patrols nearly weekly; hired additional ranger to conduct patrols biweekly; removed five homeless encampments.
Calavera Hills	CNLM	Conducted weekly patrols.
Carlsbad Oaks North	CNLM	Conducted visits at least four times per month; responded to inquiries from neighboring residents about human usage of preserve; continued to block off unauthorized mountain bike trails; deconstructed and removed an illegal shack that was constructed near Agua Hedionda Creek.
Carlsbad Raceway	SDHC	Conducted quarterly visits; an employee of Fenton Raceway adjacent business park conducts monthly patrols; made efforts to deter mountain bikers; documented and reported active encampment to police.
City Preserves	CNLM	Conducted patrols for 16 to 20 hours per week at Lake Calavera Preserve; noted steady decline in unwanted activities, including off-trail hiking, fishing, graffiti, kiosk and fence vandalism, dogs-off-leash, dog excrement, and skateboarding in the dam spillway; conducted quarterly to monthly patrols at other city preserves.
Emerald Pointe	SDHC	Conducted quarterly visits; conducted public outreach with neighboring residents and adjacent HOA.
Encinas Creek	CNLM	Conducted monthly visits; noted dogs-off-leash resulting in minimal impacts to habitat; installed gate to reduce trespass, resulting in an average decrease from 10 trespass events per month to 5.
Kelly Ranch	CNLM	Conducted visits one to two times per month; met with neighboring residents about preserve management; reported the installation of a keystone wall, planted citrus trees, and coal from a barbeque within the fuel management zone to HOA and city.
Lo Costa Glen	CNLM	Conducted bi-weekly visits; removed a few encampments; responded to inquiries from neighboring residents about trail usage.
Manzanita Partners	HRS	Conducted regular patrols and site enforcement.
Poinsettia Place	UC	Conducted quarterly visits, patrolling for signs of trespass.
Quarry Creek	SDHC	Conducted monthly patrols to note dumping, human intrusion, formation of trails; removed many encampments; noted two fires that burned adjacent to, and within the revegetation area; provided brochure to the public on wildlife, plants, and illegal dumping.
Rancho La Costa	CNLM	Patrolled daily to weekly, including weekends; noted decrease in trespass attempts at Box Canyon, from 56 in 2015 to 15 in 2016; removed one encampment; installed no trespassing signs where appropriate; blocked off and restored illegal trails.
Southern Preserve	UC	Patrolled twice weekly due to numerous unauthorized uses identified including dogs off-leash, bike jumps, the flying of drones, and the creation of new trails.

¹ Management entities are formal Preserve Managers or environmental groups that provide stewardship for HMP preserve areas. AHLF – Agua Hedionda Lagoon Foundation, CDFW – California Department of Fish and Wildlife, CNLM Center for Natural Lands Management, HRS – Habitat Restoration Services, SDHC – San Diego Habitat Conservancy, UC – Urban Corps.

3.0 Financial Summary

3.1 City Funding in Support of HMP

The city uses funding to support implementation of the HMP in two ways: (1) permanent funding allocated specifically for HMP coordination and management of city lands, and (2) existing resources, including administrative staff and staff from the Environmental Management Division, Planning Division, Parks and Recreation Department, and Police Department.

3.1.1 HMP Implementation

The majority of the city's ongoing costs to support HMP implementation are activities required by the HMP or the Implementing Agreement. Two of the city's main responsibilities are (1) oversight of the HMP Preserve, and (2) direct, active management of 600.4 acres of preserve land owned by the city.

To fulfill the first responsibility, the city dedicates a senior-level coordinator and provides other administrative support for HMP coordination. The city also contracted with a biological consulting firm to serve as the city's Preserve Steward, coordinating management throughout the HMP preserve, and monitoring HMP compliance and management effectiveness. According to Implementing Agreement Section 14.6, at the time of HMP adoption the annual cost of program administration was estimated to be approximately \$102,031 in 2016 dollars (U.S. Department of Labor Consumer Price Index). This reporting period, the city provided \$95,000 in the annual budget to fund the contract for Preserve Steward costs.

The second responsibility is being accomplished through the city's contract with CNLM, a non-profit preserve management company for the management of city-owned HMP preserves. CNLM conducts regular biological monitoring and habitat management throughout the city's preserves, including maintenance fences and signage, closure of unauthorized trails, regular patrols, invasive species removal, and public outreach.

3.1.2 *In-lieu* Habitat Mitigation Fees

As described in Section 1.3.5, *in-lieu* habitat mitigation fees are collected from developers for project-related impacts to certain types of native habitat outside of the preserve. These habitats include non-native grassland, disturbed lands, eucalyptus, agricultural lands, unoccupied coastal sage scrub, coastal sage/chaparral mix, and chaparral (except southern maritime chaparral).

The purpose of these fees is to fund the city's obligation to acquire, protect, and manage the Gnatcatcher Core Area. As noted in Section 1.3.3, the city conserved 30.1 acres of the Perkins

Property between 2011 and 2014. The cost of this conservation exceeded the available *In-lieu* Mitigation Fee funds, requiring an advance from the General Fund. *In-lieu* fees will continue to be collected for habitat impacts, as appropriate, and will be used to reimburse the General Fund and to purchase the remaining required Core Area acreage.

As shown in Table 10, nine mitigation fees (totaling \$45,031.59) were collected during the current reporting period. As of the end of the reporting period, the shortfall in the *In-lieu* Mitigation Fee account was reduced to \$370,030.69.

Table 12. In-lieu Mitigation Fee Account Activity in RY 12 (2015-2016)

Date	Description	Habitat Impacted	Total
11/01/15	Beginning Fund Total		\$(415,062.28)
Fees Collected 11/01/15– 10/31/16			
03/22/16	James Residence	0.25 acres of disturbed lands	\$780.00
06/22/16	Oliver Residence	0.11 acres of disturbed lands	\$336.93
08/9/16	Paseo del Norte	0.4 acres of disturbed lands	\$1,248.00
08/10/16	Bowling Residence	0.29 acres of disturbed lands	\$904.80
08/31/16	Nolan Minor	0.5 acres of coastal sage scrub lands	\$15,597.00
09/6/16	Mathis Parcel	0.5 acres of coastal sage scrub lands	\$2,082.00
10/4/16	Schmaltz Residence	0.11 acres of disturbed lands	\$343.20
10/4/16	Lo Residence	0.59 acres of coastal sage scrub and 0.31 acres of disturbed lands	\$19,371.66
10/31/16	Hoover St. Minor	1.4 acres of disturbed lands	\$4,368.00
<i>Total Fees Collected 11/01/15 – 10/31/16</i>			<i>\$45,031.59</i>
Total Revenue 11/01/15 – 10/31/16			\$45,031.59
Funds Expended for Core Area Conservation 11/01/15 – 10/31/16			
None			\$0.00
Total Funds Expended 11/01/15 – 10/31/16			\$0.00
10/31/16	Account Balance		\$(370,030.69)

3.2 Status of Preserve Management Endowments

The endowment activity and status for preserves funded through endowments are given in Table 11. This includes all preserves managed by CNLM, SDHC, HRS, and UC. CDFW’s Carlsbad Highlands Ecological Reserve and Agua Hedionda Lagoon Ecological Reserve are funded through State Wildlife Grant funding. The Batiquitos Lagoon Ecological Reserve is funded through a mitigation account established by the Port of Los Angeles and held by CDFW.

Table 13. Endowment Status for HMP Preserves in RY 12 (2015-2016)

Site Name	Preserve Manager ¹	Inception Date	Original Endowment	Inflation Adj. Original Endowment ²	RY 15-16 Budget	RY 15-16 Expend.	Total Funds as of 10/31/16 ³
Buena Vista Creek Ecological Reserve	CNLM	4/2007	\$776,644	\$898,998	\$39,099	\$34,835	\$1,101,845
Calavera Hills II/Robertson Ranch E	CNLM	6/2006	\$1,834,813	\$2,184,365	\$84,645	\$96,046	\$2,780,429
Carlsbad Oaks North	CNLM	3/2006	\$1,020,311	\$1,214,691	\$52,300	\$43,621	\$1,429,402
Cassia Professional Offices	CNLM	1/2007	\$100,844	\$116,731	\$5,201	\$4,654	\$145,791
Emerald Pointe	SDHC	12/2006	\$194,068	\$231,040	\$11,048	\$13,442	\$227,363
Encinas Creek	CNLM	5/2008	\$427,004	\$475,999	\$20,657	\$19,213	\$615,221
Kelly Ranch	CNLM	3/2002	\$296,125	\$395,064	\$15,937	\$12,706	\$499,009
La Costa Collection	UC	2012	\$378,756	\$395,934	unreported	\$18,046	\$412,280
La Costa Glen	CNLM	1/2013	\$624,800	\$643,708	\$29,338	\$27,589	\$862,572
La Costa Villages	CNLM	2/2002	\$1,364,400	\$1,820,264	\$90,784	\$97,211	\$2,074,514
Manzanita Partners	HRS	10/2012	\$51,000	\$53,313	\$1,600	\$1,833	\$56,769
Nelson	CNLM	6/2001	\$72,180	\$97,819	\$4,540	\$4,098	\$104,440
Poinsettia Place	UC	7/2011	\$167,935	\$179,184	\$6,991	\$7,154	\$177,268
Southern Preserve	UC	11/2013	\$428,747	\$441,722	unreported	\$9,921	\$461,747
TOTAL			\$7,737,627	\$9,148,832	\$362,140⁴	\$390,369	\$10,948,650

¹ CNLM = Center for Natural Lands Management, SDHC = San Diego Habitat Conservancy, HRS = Habitat Restoration Sciences, UC = Urban Corps.

² Adjusted for inflation to the current dollar value as of 2016 based on Bureau of Labor Statistics Consumer Price Index.

³ Note that for properties managed by CNLM and UC, the value of Total Funds are calculated as of 09/30/16 rather than 10/31/16 because that is the end of their fiscal year.

⁴ This total does not include the unreported information.

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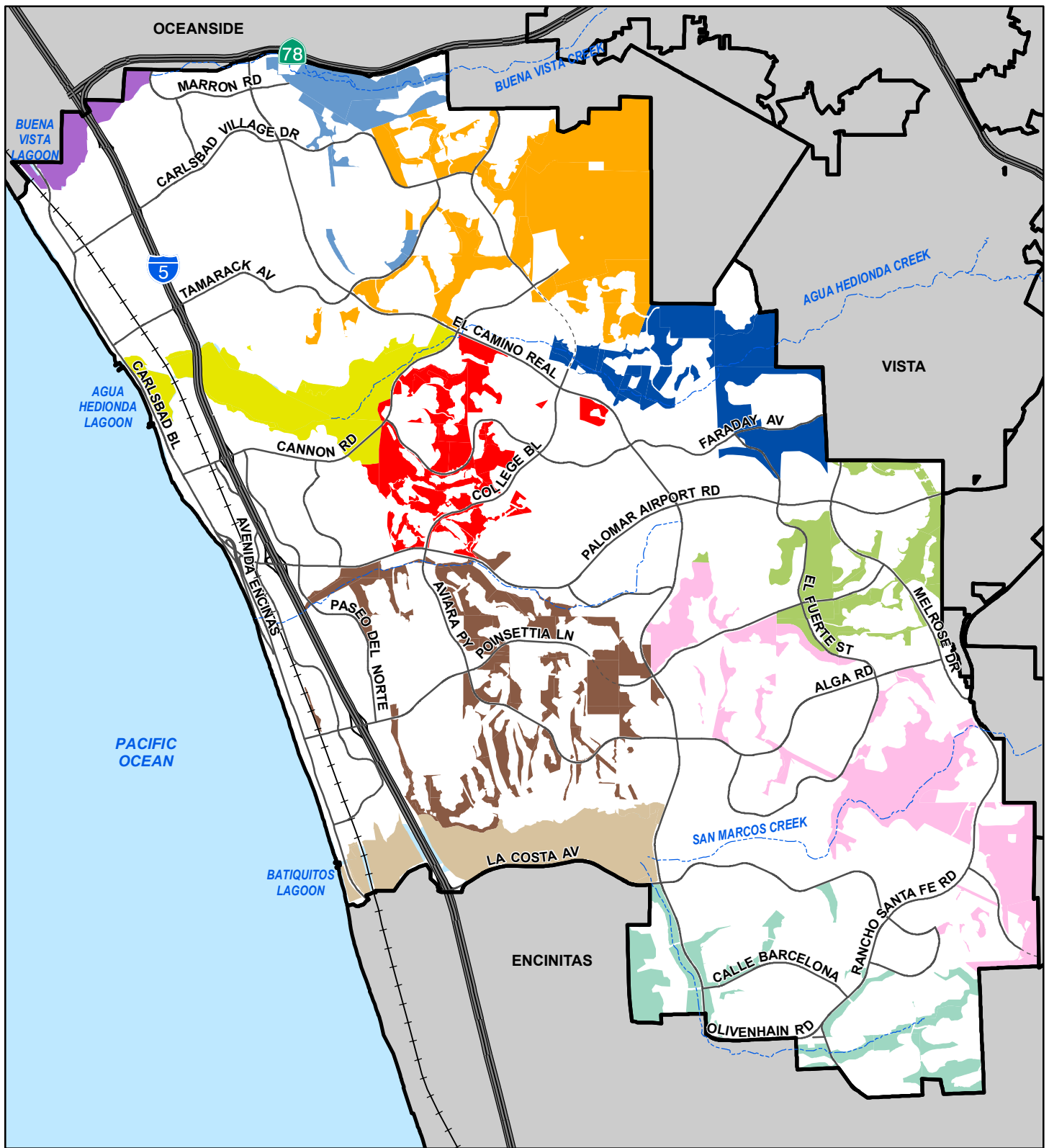
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Appendix A












Summary of Management and Monitoring Activities within HMP Management Units

November 1, 2015 - October 31, 2016

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Management Units:

- | | | |
|---|--|--|
|  Agua Hedionda |  Bressi/Carrillo |  Faraday |
|  Arroyo La Costa |  Buena Vista Creek |  Los Monos |
|  Batiquitos Lagoon |  Buena Vista Lagoon |  Poinsettia/Aviara |
| |  Calavera |  Villages of La Costa |

SOURCE: City of Carlsbad Open Space Management Plan, 2004



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Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See Figure 1 for a map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
Agua Hedionda	Preserve Manager: CDFW	<p><u>Agua Hedionda Lagoon Ecological Reserve</u></p> <ul style="list-style-type: none"> ▪ Performed for light-footed Ridgway’s rail focused species surveys and western snowy plover breeding and wintering window surveys. ▪ Treated invasive Algerian sea lavender. ▪ Removed invasives along Park Drive. ▪ Coordinated with Caltrans on restoration of Village A (Hallmark Property).
	AH Lagoon Foundation	<p><u>Agua Hedionda Lagoon</u></p> <ul style="list-style-type: none"> ▪ Organized public education events including: World Water Day (water conservation, pollution, and wetlands education), Sea Creatures of the Night, Bat Chats, Native American Night, and Astronomy Night. ▪ Continued Environmental Stewardship School field trips for all Carlsbad Unified School District students, and many other North County 3rd graders. ▪ Partnered with Cal State San Marcos to design and create a community-driven species tracking app. ▪ Conducted weekly inspections to monitor trails and easements, document erosion, remove trash, remove graffiti, and flag non-native plants. ▪ Conducted monthly volunteer trail maintenance events. ▪ Continued monitoring 132 acres of open space. ▪ Removed invasive plant species along trails and preserved areas. ▪ Partnered with CDFW to solarize Algerian sea lavender stands in salt marsh habitats. ▪ Hosted weekly community bird walks and guided hikes around the lagoon. ▪ Updated trail regulatory signage. ▪ Repaired a 50ft section of seawall with the help of volunteers. ▪ Planted native species at Discovery Center and on coastal bluffs. ▪ Worked with city and Coastal Commission to ensure public safety on public access easements.
Arroyo La Costa	Preserve Manager: CNLM	<p><u>La Costa Glen Preserve</u></p> <ul style="list-style-type: none"> ▪ Conducted biweekly patrols to deter homeless encampments from being established. ▪ Cut and treated over five hundred individuals of veldt grass with herbicide. ▪ Treated pampas grass, fountain grass, castor bean, fennel, and several other non-native plant species with herbicide ▪ Counted seaside calandrinia. ▪ Mapped all sensitive flora and fauna encountered. ▪ Removed trash from preserve and adjacent wildlife tunnels. ▪ Performed wildlife movement monitoring and management. ▪ Conducted focused surveys for signs of mule deer. ▪ Contacted adjacent land owners regarding invasive species control.
	Landowners	Performed basic land stewardship on pre-HMP open space preserves.

Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See attached map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
Batiquitos Lagoon	Preserve Manager: CDFW	<p><u>Batiquitos Lagoon Ecological Reserve</u></p> <ul style="list-style-type: none"> ▪ Conducted breeding season surveys for California least tern and light-footed Ridgway’s rail; and conducted breeding season and wintering window surveys and banding for the western snowy plover. ▪ Maintained nesting sites. ▪ Monitored Nuttall’s Acmispon following San Diego Management and Monitoring Program’s (SDMMP) inspect and manage protocol.
	Batiquitos Lagoon Foundation	<p><u>Batiquitos Lagoon</u></p> <ul style="list-style-type: none"> ▪ Continued management of Cholla Point property, including erosion control, and installed new signage. ▪ Managed Weed-Whacking/Trail Maintenance program for community, colleges, high schools, elementary schools, scouting organizations, corporations and other groups, which takes place twice a month. Approximately 300 volunteers performed over 1,300 hours of work for this task during the reporting period. ▪ Conducted eleventh annual Kayak Batiquitos Lagoon Clean-Up two-day event in which over 100 volunteers removed approximately 800 pounds of trash. ▪ Conducted monthly bird counts. ▪ Conducted educational public walks and talks. ▪ Hosted over 9,500 visitors at the educational nature center, with expanded operational hours (9 AM-3 PM 7 days a week). ▪ Hosted City of Carlsbad Arts Council Club Pelican art and environmental education program. ▪ Operated educational nature center, open to the public. ▪ Hosted numerous high school and college interns, as well as four Eagle Scout projects. ▪ Continued work to acquire approximately 11 acres of additional property adjacent to the Batiquitos Ecological Reserve. ▪ Continued to remove non-native trees and replanted with fast-growing natives to improve nesting habitat along the North Shore Trail. ▪ Completed new Nature Center with dedicated children’s area, educational exhibits, and a large deck for bird watching. ▪ Hosted community service and Earth Day events for Marstel-Day, North Coast Church, Thermo-Fisher Scientific Solana Beach Presbyterian Church, Callaway Golf, and Eli Lilly. These events allowed for large maintenance and restoration projects to be completed. ▪ Received and continued to work on grants to restore habitat along North Shore trail. ▪ Served on Southern California Wetlands Recovery Project Task Force, North San Diego County Land Management Group, Carlsbad Watershed Network, San Diego Conservation Resources Network, and City of Carlsbad Open Space Advisory Council, among others. ▪ Worked with local and state agencies to implement California’s Marine Life Protection Act. The work involved defining educational signage, enforcement rules, a volunteer watch program, among others. Marine Protected Area signs have been installed. ▪ Provided public outreach and education about open space, lagoons, and marine environment at Science Saturday at Dove Library, Climate Science Alliance meetings, Carlsbad Watershed Network meetings, and community service sessions at Palomar College and Thermo-Fisher Scientific, among others. ▪ Hosted first group of climate kids in North County, in which 84 elementary students attended a 3-hour presentation about the importance of wetlands and the effect of climate change.

Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See attached map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
Bressi/Carrillo	Preserve Manager: SDHC	<p><u>Carlsbad Raceway Preserve</u></p> <ul style="list-style-type: none"> ▪ Conducted quarterly property inspections to assess the condition of the preserve, remove trash, flag non-native plants, and report homeless encampments. ▪ Documented quarterly inspection, including observations and activities using quarterly log reports. ▪ Examined trees for polyphagous shot hole borer and other signs of disease. ▪ Installed an additional wildlife camera. ▪ Assessed vernal pool on preserve. ▪ Performed non-native plant flagging, mapping, and removal consisting mostly of pampas grass, tamarisk, fennel, and fountain grass. ▪ Provided public outreach and education in the form of an annual newsletter.
Buena Vista Creek	Landowner: CDFW Preserve Manager: CNLM	<p><u>Buena Vista Creek Ecological Reserve</u></p> <ul style="list-style-type: none"> ▪ Removed trash from former encampments and other localities. ▪ Treated invasive plant species in riparian corridors and upland enhancement areas, and monitored for new occurrences. ▪ Completed the Supplemental Environmental Project (SEP) restoration area. ▪ Conducted thread-leaved brodiaea population assessments and life-stage monitoring; implemented inspect and manage SDMMMP monitoring protocol. ▪ Surveyed for least Bell's vireo. ▪ Updated information in kiosks. ▪ Mowed fuel zones. ▪ Conducted regular patrols. ▪ Developed an annual work plan.
	Preserve Calavera	<p><u>Buena Vista Creek</u></p> <ul style="list-style-type: none"> ▪ Continued work with San Diego Coastkeeper to conduct water quality and stream condition evaluations at three locations along Buena Vista Creek including testing for pH, conductivity, bacteria, dissolved oxygen, nitrates, and phosphate. ▪ Monitored Implementation of settlement agreement conditions to reduce impacts of development.
	Preserve Manager: SDHC	<p><u>Quarry Creek Preserve</u></p> <ul style="list-style-type: none"> ▪ Performed baseline documentation including general biological surveys to document and map sensitive plant and animal species, and vegetation mapping. ▪ Established photo points and vegetation monitoring transect locations. ▪ Conducted presence/absence surveys for coastal California gnatcatcher, least Bell's vireo, white-tailed kite, yellow warbler, and yellow-breasted chat. ▪ Installed, maintained, and repaired permanent preserve signs. ▪ Conducted monthly inspections and log reports, documented wildlife observations, performed non-native plant removal, and removed homeless encampments and associated trash. ▪ Conducted public outreach: provided annual brochure to homeowners and hosted a volunteer trash clean-up event

Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See attached map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
Buena Vista Lagoon	Preserve Manager: CDFW	<p><u>Buena Vista Lagoon Ecological Reserve</u></p> <ul style="list-style-type: none"> ▪ Conducted western snowy plover breeding season and wintering window surveys and light-footed Ridgway's rail breeding surveys. ▪ Provided lagoon access and staging area for County Vector Control Grant Program.
	Preserve Calavera	<p><u>Buena Vista Lagoon/Watershed</u></p> <ul style="list-style-type: none"> ▪ Partnered with Buena Vista Audubon Society to hold fourth Endangered Species Day event. ▪ Supported community education on native plants, wildlife, and preserve management issues at various fairs and outreach events.
	Buena Vista Audubon Society	<p><u>Buena Vista Lagoon Ecological Reserve</u></p> <ul style="list-style-type: none"> ▪ Conducted monthly bird counts, birding walks, and classes. ▪ Conducted school tours and preschool story-time. ▪ Conducted public outreach through the native plant club, education, and gardening.
Calavera	Preserve Manager: CNLM	<p><u>Calavera Hills Phase II/Robertson Ranch East Preserve</u></p> <ul style="list-style-type: none"> ▪ Monitored wildlife movement via motion sensor cameras, and conducted focused surveys for mule deer. ▪ Continued coastal sage scrub restoration on Village H Property. ▪ Monitored coastal sage scrub plots, and performed thread-leaved brodiaea index plots and population trend monitoring. ▪ Mapped vegetation communities. ▪ Controlled invasive non-native plant species throughout the preserve. ▪ Prepared annual work plans, budgets, and annual reports. ▪ Performed regular patrols, site enforcement, and trash pickup, and installed signs in new preserve areas. ▪ Conducted surveys for Polyphagus Shot Hole Borer- Fusarium Dieback, a pest-disease complex.
	Preserve Manager: CDFW	<p><u>Carlsbad Highlands Ecological Reserve</u></p> <ul style="list-style-type: none"> ▪ Performed thread-leaved brodiaea monitoring using both the SDMMP inspect and manage protocol and index plots.
	Preserve Calavera	<p><u>Calavera Area</u></p> <ul style="list-style-type: none"> ▪ Continued quarterly wildlife tracking surveys. ▪ Supported installation of bat boxes project at Lake Calavera. ▪ Supported public education regarding the benefits of palm removal and concerns with herbicide use. ▪ Held public education hikes focused on native plants and birds. ▪ Partnered with the city on several trail building and clean-up projects. ▪ Continued follow-up work on Village H habitat restoration. ▪ Served as trail co-captains stocking kiosks, picking up dog feces and trash, and monitoring trail conditions.

Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See attached map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
Faraday	Preserve Manager: CNLM	<p><u>Kelly Ranch Preserve</u></p> <ul style="list-style-type: none"> ▪ Noted and mapped sensitive plants and animals when observed. ▪ Surveyed for signs of mule deer. ▪ Counted Orcutt’s hazardia and conducted an “Inspect and Manage” evaluation (SDMMP plant monitoring protocol). ▪ Removed or treated non-native plant species, including mission prickly pear, Natal grass, Sahara mustard, and pampas grass. ▪ Performed regular patrol, site enforcement, and trash removal. ▪ Conducted annual Conservation Easement compliance visit.
	Preserve Manager: CDFW	<p><u>Thread-leaved Brodiaea Preserve</u></p> <ul style="list-style-type: none"> ▪ Conducted monitoring for thread-leaved brodiaea using both the SDMMP inspect and manage protocol and index plots. ▪ controlled invasive on-native plants within the preserve.
Los Monos	Preserve Manager: CNLM	<p><u>Carlsbad Oaks North Preserve</u></p> <ul style="list-style-type: none"> ▪ Mapped incidental observations of sensitive animals. ▪ Performed coastal sage scrub monitoring. ▪ Performed index plot monitoring and life-stage tracking studies of thread-leaved brodiaea, and maintained thread-leaved brodiaea impact area; performed index plot monitoring and assessment for Blochman’s dudleya; counted San Diego thornmint plants and assessed habitat conditions. ▪ Controlled invasive non-native plant species, and performed presence/absence monitoring for invasive Argentine ant. ▪ Developed annual work plan for coming year. ▪ Documented wildlife movement through Faraday undercrossing; modified brush to facilitate mule deer movement; conducted mule deer surveys. ▪ Patrolled the area regularly, cleaned up trash, and performed site enforcement.
Poinsettia/Aviara	Preserve Manager: Helix Environmental	<p><u>North Coast Calvary Chapel Open Space</u></p> <ul style="list-style-type: none"> ▪ Performed wart-stemmed ceanothus inventory. ▪ Treated non-native invasive species, including black mustard, Russian thistle, and pampas grass. ▪ Documented presence of coastal California gnatcatcher.
	Landowners	Performed basic land stewardship on pre-HMP open space preserves.
	Preserve Manager: SDHC	<p><u>Emerald Pointe</u></p> <ul style="list-style-type: none"> ▪ Performed quarterly inspections to document habitat composition and needs, remove trash, and flag non-native plants. ▪ Documented quarterly inspections, including observations and activities, using quarterly log reports. ▪ Conducted on-the-ground confirmation that 2009 vegetation mapping was still accurate for the area. ▪ Performed non-native plant flagging, mapping, and removal (primarily black mustard). ▪ Monitored San Diego thornmint population. ▪ Provided public outreach and education in the form of an annual newsletter.

Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See attached map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
	Preserve Manager: UC	<p><u>City Ventures</u></p> <ul style="list-style-type: none"> ▪ Performed annual biological monitoring, including monitoring for Del Mar Mesa sand aster. ▪ Controlled and removed non-native plants (including landscaped ornamentals). ▪ Removed and monitored trash and debris, and maintained preserve signs. ▪ Conducted site monitoring to inspect overall site condition.
	Preserve Manager: CNLM	<p><u>Encinas Creek/North County Habitat Bank</u></p> <ul style="list-style-type: none"> ▪ Performed surveys for least Bell's vireo. ▪ Performed camera surveys to determine presence and use of the preserve by large mammals and human trespass. ▪ Controlled and removed non-native plant species. ▪ Continued habitat restoration in the southeastern area of the property. ▪ Conducted regular patrols, site enforcement, and trash pickup; installed additional fencing and access gate at western end. ▪ Prepared budgets, annual reports, and work plans, and revised Preserve Management Plan.
	Preserve Manager: HRS	<p><u>Manzanita Partners</u></p> <ul style="list-style-type: none"> ▪ Performed annual post-fire monitoring in vernal pool areas and oak woodland, and conducted annual vegetation monitoring. ▪ Controlled and removed non-native species. ▪ Patrolled and conducted site assessments on a regular basis, removed trash, and monitored non-native presence. ▪ Noted incidental observations of animal and plant species, and mapped locations of sensitive species. ▪ Performed coastal California gnatcatcher surveys.
	Preserve Manager: Dudek	<p><u>Morning Ridge</u></p> <ul style="list-style-type: none"> ▪ Conducted qualitative biological monitoring. ▪ Performed post-fire monitoring. ▪ Provided guidance to Green Valley Landscape. Landscape crew removed trash and debris, controlled invasive species, installed additional erosion control, and managed and maintained planted and seeded native plants.
	Preserve Manager: UC	<p><u>Poinsettia Place</u></p> <ul style="list-style-type: none"> ▪ Performed annual biological monitoring and post-fire monitoring. ▪ Conducted general monitoring to survey for fire-breaks, trash, non-native plant invasions, and illegal encampments. ▪ Removed trash and non-native species (mostly castor bean and ice plant) on-site.
	Preserve Manager: SDHC	<p><u>Muroya</u></p> <ul style="list-style-type: none"> ▪ Performed baseline documentation including vegetation communities and sensitive species surveys and mapping. ▪ Performed focused species survey for coastal California gnatcatcher. ▪ Conducted quarterly monitoring, mapped invasives, removed trash, assessed need for remedial measures. Prepared quarterly log. ▪ Attended HOA meeting for public outreach.

Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See attached map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
Villages of La Costa	Preserve Manager: CNLM	<p><u>Rancho La Costa</u></p> <ul style="list-style-type: none"> ▪ Conducted post-fire monitoring and invasive species monitoring at Cocos-Washingtonia and Poinsettia Fire burn areas. ▪ Continued long-term monitoring plots for coastal sage scrub. ▪ Performed wildlife corridor tracking via motion sensor cameras to monitor human and wildlife activity; additional camera were installed to study mule deer movement. ▪ Conducted focused surveys for sensitive plants: San Diego thornmint, Orcutt’s brodiaea, and Orcutt’s hazardia. ▪ Assessed San Diego thornmint habitat conditions. ▪ Continued long-term research on thread-leaf brodiaea; conducted index plot monitoring and a life stage tracking study. ▪ Conducted surveys for Polyphagus Shot Hole Borer - Fusarium Dieback disease. ▪ Conducted presence/absence survey of invasive Argentine ants during coastal sage scrub monitoring. ▪ Controlled invasive non-native plant species, including Eucalyptus and Wards weed; continued long-term eucalyptus removal project in Copper Creek. ▪ Continued ongoing restoration at the Meadowlark and Wilern parcels, including removal of onion weed and other non-natives. ▪ Installed and replaced erosion control measures in various locations. ▪ Spent considerable amount of time dealing with homeless encampments, cleaning up trash, preventing trespass, and educating the public about conservation and site sensitivities of the preserves. ▪ Conducted trail improvements, assisted by volunteers. ▪ Installed and replaced fence and signs at several locations. ▪ Maintained fuel breaks per City of Carlsbad Fire Department regulations. ▪ Conducted Conservation Easement compliance monitoring and prepared all required documents. ▪ Patrolled (Rangers) throughout the year and ensured summer visitors to Box Canyon did not enter the area.
	Preserve Manager: UC	<p><u>Southern Preserve</u></p> <ul style="list-style-type: none"> ▪ Performed biological resources assessment and documented the locations of sensitive plants: California adolphia, San Diego goldenstar, and ashy spike-moss. ▪ Observed and documented coastal California gnatcatcher, grasshopper sparrow, and coastal whiptail. ▪ Performed annual biological monitoring. ▪ Increased site monitoring and enforcement from once per month to every two weeks; patrolled for unauthorized uses such as bike jumps, use of closed trails, and the flying of drones. ▪ Removed non-native species, mostly artichoke thistle and Russian thistle. ▪ Held community trail dedication February 3, 2016. Volunteers performed weed removal and erosion control efforts. ▪ Installed trail signs and two trash receptacles near the western entrance. ▪ Installed fencing to prevent unauthorized trail use.

Summary of HMP Management and Monitoring Activities, Nov 2015 – Oct 2016*

*See attached map of the HMP Management Units

Management Unit (MU)	Management Entity ¹	Management and Monitoring Activities
Multiple MUs	Preserve Manager: CNLM	<p>City of Carlsbad Preserves</p> <ul style="list-style-type: none"> ▪ Performed habitat assessments and counts of thread-leaved brodiaea. ▪ Conducted long-term coastal sage scrub monitoring. ▪ Conducted surveys for least Bell’s vireo and southwestern willow flycatcher. ▪ Trapped brown-headed cowbird at The Crossings Golf Course Preserve. ▪ Treated or removed invasive non-native species considered to be zero or moderate-tolerance species; removed invasive non-native plants within The Crossing Golf Course Preserve restoration area. ▪ Conducted routine patrols to protect the preserve, maintain fences, and provide information to visitors. ▪ Provided visitors to Lake Calavera Preserve with educational materials. ▪ Met with city staff and the Preserve Steward to discuss preserve management, monitoring , and other issues within the city. ▪ Assessed trees on selected sites for Polyphagus Shot-Hole Borer-Fusarium Dieback disease. ▪ Participated in volunteer events organized by the city. ▪ Revised the PMP for the 2017-2012 period
	City Parks and Recreation Department	<ul style="list-style-type: none"> ▪ Hosted trail clean up and maintenance events twice per year with volunteers. ▪ Hosted quarterly trail volunteer meetings. ▪ Conducted public outreach events such as National Trails Day and National Public Lands Day.
	Preserve Calavera	<ul style="list-style-type: none"> ▪ Continued data collection on wildlife corridor pinch points with mule deer and track and sign surveys at Carlsbad Oaks North and Carlsbad Raceway Preserves.

¹ Bold text signifies a formally assigned Preserve Manager for a given preserve that was established during or after the adoption of the HMP. Other hardline preserves pre-date HMP adoption; maintenance of these properties (which generally consists of fence maintenance and trash pick-up) is the responsibility of the underlying landowner (see Section 1.3 in the HMP Annual Report for a description of HMP preserve categories). In addition to assigned Preserve Managers and landowner caretakers, a variety of environmental groups also contribute significantly to land stewardship on a voluntary basis. These other groups have been included in this table to recognize their enormous contributions.

Preserve Manager acronyms: CDFW – California Department of Fish and Wildlife, CNLM – Center for Natural Lands Management, HRS – Habitat Restoration Services, SDHC – San Diego Habitat Conservancy, UC –Urban Corps.