

# **City of Carlsbad Habitat Management Plan Annual Report**

**Reporting Year 8, Nov. 2011 – Oct. 2012**

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## **Acronyms and Definitions**

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**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 (IA) 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

- 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 metapopulation 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 Program – 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 Game 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 Homeowner’s 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, 2011 to October 31, 2012

**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; The SDMMP is 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.

# Executive Summary

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This is the eighth annual HMP summary report, covering the period of November 1, 2011 to October 31, 2012. 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**

No acres were debited during the reporting period; cumulative debits to date are 84.5 acres. A total of 171.5 acres (credits) remain.

## **Gnatcatcher Core Area Conservation Obligation**

At the start of the reporting period, the remaining Core Area obligation consisted of acquisition of 35.49 acres of occupied coastal sage scrub habitat. During this reporting period the city met its second funding obligation of a four-year agreement to fund an endowment on the Perkins property, owned by Center for Natural Lands Management, bringing the remaining Core Area obligation to 27.97 acres.

## **Land Acquisitions**

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

## **Habitat Gains and Losses**

There were four development projects that resulted in habitat gains and losses during the reporting period: Poinsettia Place, Muroya, La Costa Collection, and Quarry Creek Reclamation. Three of the four projects were located in Standards Areas. In total, these projects resulted in gains of 55.7 acres and losses of 52.0 acres.

### **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, 1,538.6 acres have been lost in Carlsbad since inception of the HMP, and therefore, no less than 1,384.8 acres (1,538.6 – 153.8) must be preserved. A cumulative total of 5,876.6 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 three minor amendments (two Consistency Findings and one mapping correction) 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, wildlife corridor tracking, oak tree assessments, and public outreach activities.

### **Enforcement and Patrolling**

The Property and Environmental Management Department continues to coordinate with CNLM, 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 \$102,316.96 of *in-lieu* mitigation fees was collected and \$217,075.50 was expended during the reporting period. The expenditure, totaling \$217,070.50, was made in October 2012 to purchase 7.52 acres of habitat for the Gnatcatcher Core Area obligation. As of October 31, 2012, the account had a negative balance of \$357,533.71. This shortfall will be reimbursed with future *in-lieu* mitigation fees.

Preserve Management Endowments. During the reporting period, a total of \$225,936 was used by CNLM, SDHC and Helix Environmental for management and monitoring activities on 10 preserves. Endowment and remaining initial funds for these properties totaled \$8,456,408 as of October 31, 2012.

# 1.0 Plan Administration

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## 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, 2011 – October 31, 2012). 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's gains, losses, management, and monitoring is required by Sections 12.1 and 12.2 of the Implementing Agreement (IA), 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 eight 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 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) 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 conservation 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 Batiquitos 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 is conducted by the preserve managers. The city, Preserve steward, preserve managers, and Wildlife Agencies are currently working together to develop a functional city-wide monitoring program that will help answer questions about population trends 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 summary of 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 Game 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.

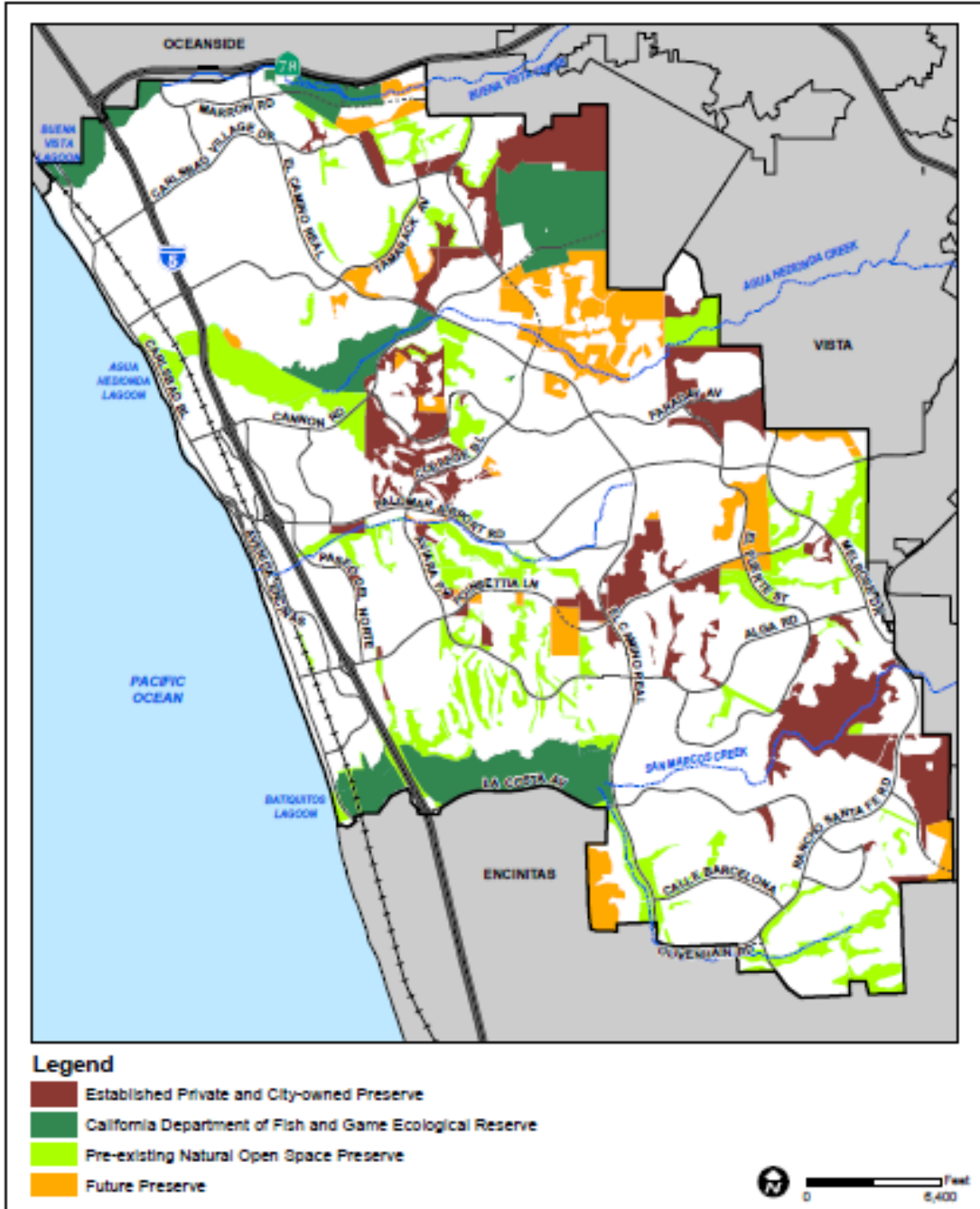
#### Established Private and City-owned Hardline Preserves

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, homeowner's 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 Villages of La Costa, Carlsbad Oaks North, Kelly Ranch, Lake Calavera, and the Crossings Golf Course, among others.

#### California Department of Fish and Game 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 Reserve Management Plans for the CDFW ecological reserves in Carlsbad but management follows draft plans. CDFW obtains State Wildlife Grant funding annually for management and monitoring activities on preserves. Management accounts are 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 an 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 Reserve.

Figure 1. Categories of HMP Preserves



City of Carlsbad  
Categories of HMP Preserves

Figure 1

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### 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 homeowner's 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 homeowner's 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 homeowner's 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 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. Table 1 shows total debits to date. There were no city projects approved during the reporting period that required mitigation of habitat impacts at Lake Calavera Mitigation Parcel, therefore the total acres available remain the same.

**Table 1. Mitigation Acreage at Lake Calavera Mitigation Parcel through RY 8 (2011-2012)**

<b>Credits and Debits</b>	<b>Acres<sup>1</sup></b>
<i>INITIAL CREDITS</i>	<b>256.0</b>
Total Debits as of October 31, 2011	84.5
<b>TOTAL ACRES AVAILABLE AS OF OCTOBER 31, 2012</b>	<b>171.5</b>

<sup>1</sup> 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, 264.5 acres of the 307.6 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.

During the reporting period, the city continued to implement The Agreement Regarding Conservation Credits re: City of Carlsbad HMP Offsite Core Area, dated July 26, 2011. This agreement states that the city will receive 30.09 acres of conservation credit for contributing funds annually over a 4-year period; the conservation credits will be earned incrementally. The second increment was earned as of October 11, 2012. Table 2 shows the current status of Core Area conservation credits.

**Table 2. Status of Carlsbad HMP Gnatcatcher Core Area Obligation through RY 8 (2011-2012)**

<b>Core Area Components</b>	<b>Component Acreage</b>		<b>Total Acreage</b>
<b>TOTAL CORE AREA CONSERVATION REQUIREMENT</b>			<b>307.60</b>
<b>1. Acquisition by the City</b>			
<i>Alemir Property</i> – land in excess of mitigation requirements.	50.13		
<i>Perkins Property</i> – 30.09 acres of conservation credit for endowing long-term management on portion of property.			
October 24, 2011	7.53		
October 11, 2012	7.52		
<b>Subtotal of Acquisition</b>		<b>65.18</b>	
<b>2. Project-Related Mitigation</b>		<b>150.26</b>	
<b>3. Onsite Conservation Restoration Credits</b>		<b>64.19</b>	
<b>Total Core Area Conservation</b>			<b>279.64</b>
<b>REMAINING CORE AREA CONSERVATION REQUIREMENT</b>			<b>27.97</b>

#### **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 \$102,316.96 of *in-lieu* mitigation fees were collected during the reporting period. A detailed accounting of the *in-lieu* mitigation fees and expenditures is given in Section 3 (Financial Summary).

### **1.4 Habitat Gains and Losses**

Pursuant to the HMP and IA, 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. Habitrak 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**

Habitrak, 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 Habitrak table outputs are more specific than those used in HMP Table 8. To make it easier to compare the Habitrak 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 Habitrak. Note that the GIS data layers used for this analysis included the more detailed habitat categories.

#### **1.4.2 Land Acquisitions**

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

**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>
<b>Total Target Conservation within Carlsbad</b>	<b>6,478</b>	<b>Total Target Conservation within Carlsbad</b>	<b>6,478</b>
Carlsbad's Gnatcatcher Core Area Contribution	308 <sup>1</sup>	Not tracked in Habittrak	N/A
<b>Total HMP Target Conservation</b>	<b>6,786</b>		

<sup>1</sup> Rounded to the nearest acre.

### 1.4.3 Habitat Gains and Losses

There were four development projects that resulted in habitat gains and losses during the reporting period: Poinsettia Place, Muroya, La Costa Collection, and Quarry Creek Reclamation. Three of the four projects were located in Standards Areas. In total, these projects resulted in gains of 55.7 acres and losses of 52.0 acres. In addition, Manzanita Partners began long term management and monitoring. A summary of the preserve assembly actions is listed below. The current HMP conditions are shown in Figure 2 and a summary of gains and losses in the HMP is contained in Figure 3. A detailed report of the

gains and losses to the HMP preserve to date is contained in Appendix A – Habitrak Report Years 1 – 8.

- Poinsettia Place – Standards Area became an Existing Hardline with the creation of a 11.4 acre preserve, managed by San Diego Urban Corps Habitat Services;
- Muroya – Standards Area became an Existing Hardline with the creation of a 9.8 acre preserve, with interim management by Dudek and long term management to be conducted by San Diego Habitat Conservancy;
- La Costa Collection – Standards Area became an Existing Hardline with the creation of a 8.0 preserve, managed by San Diego Urban Corps Habitat Services;
- Quarry Creek Reclamation – 26.5 acre Proposed Hardline to become an Existing Hardline upon recordation of the Conservation Easement by the US Army Corps of Engineers, with interim management by Helix Environmental and long term management to be conducted by San Diego Habitat Conservancy;
- Manzanita Partners – 30.7 acre Proposed Hardline became an Existing Hardline, managed by Habitat Restoration Sciences, Inc.

#### **1.4.4 Rough-Step Preserve Assembly**

As stated in the IA (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, CDFG, pers. comm. 2007). This policy was developed for NCCP plans to ensure that development does not greatly outpace land preservation. To date, 1,538.6 acres have been lost in Carlsbad since inception of the HMP, and therefore, no less than 1,384.8 acres (1,538.6 – 153.8) must be preserved. A cumulative total of 5,876.6 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.

Figure 2. 2012 Current Conditions

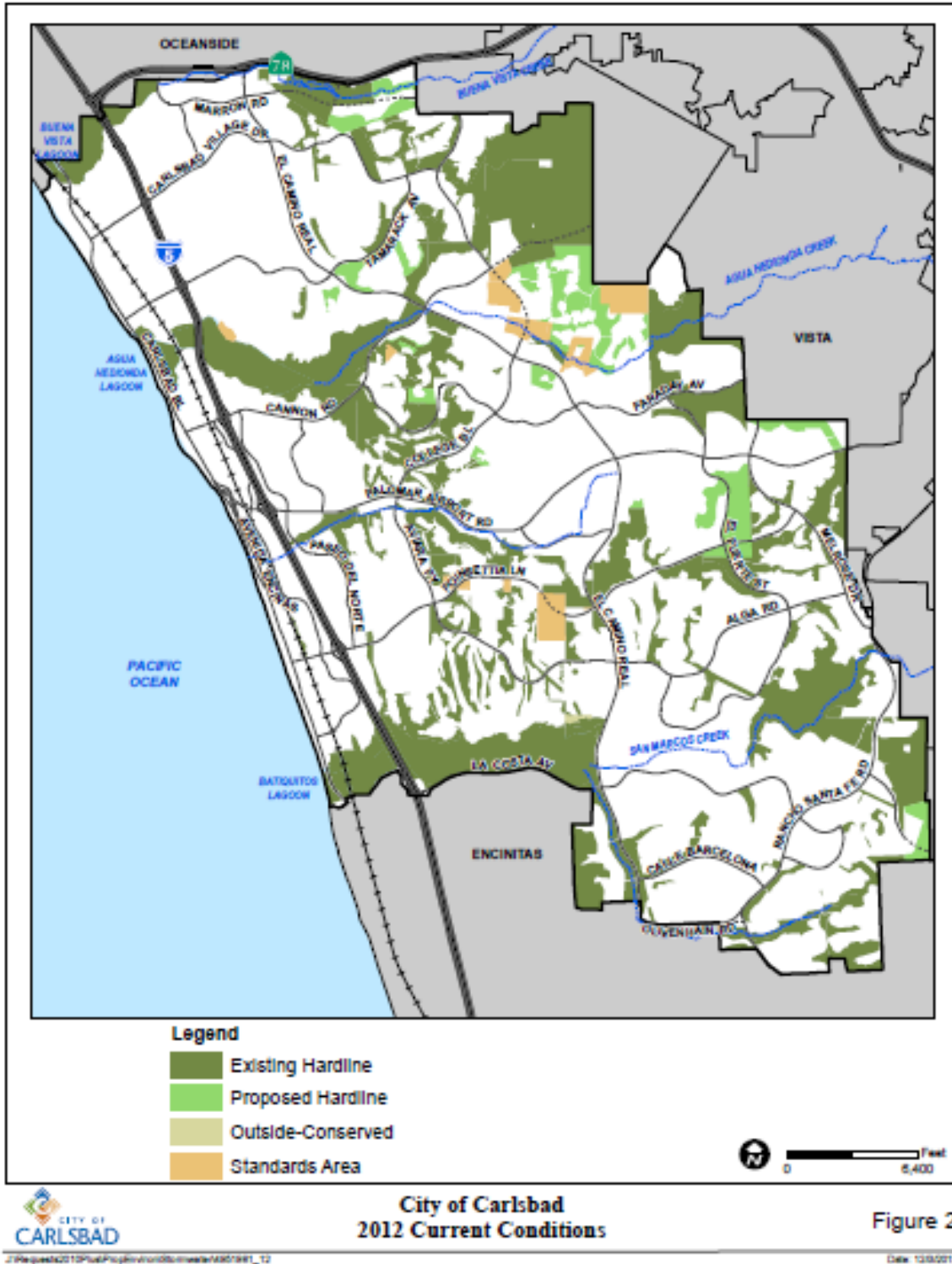
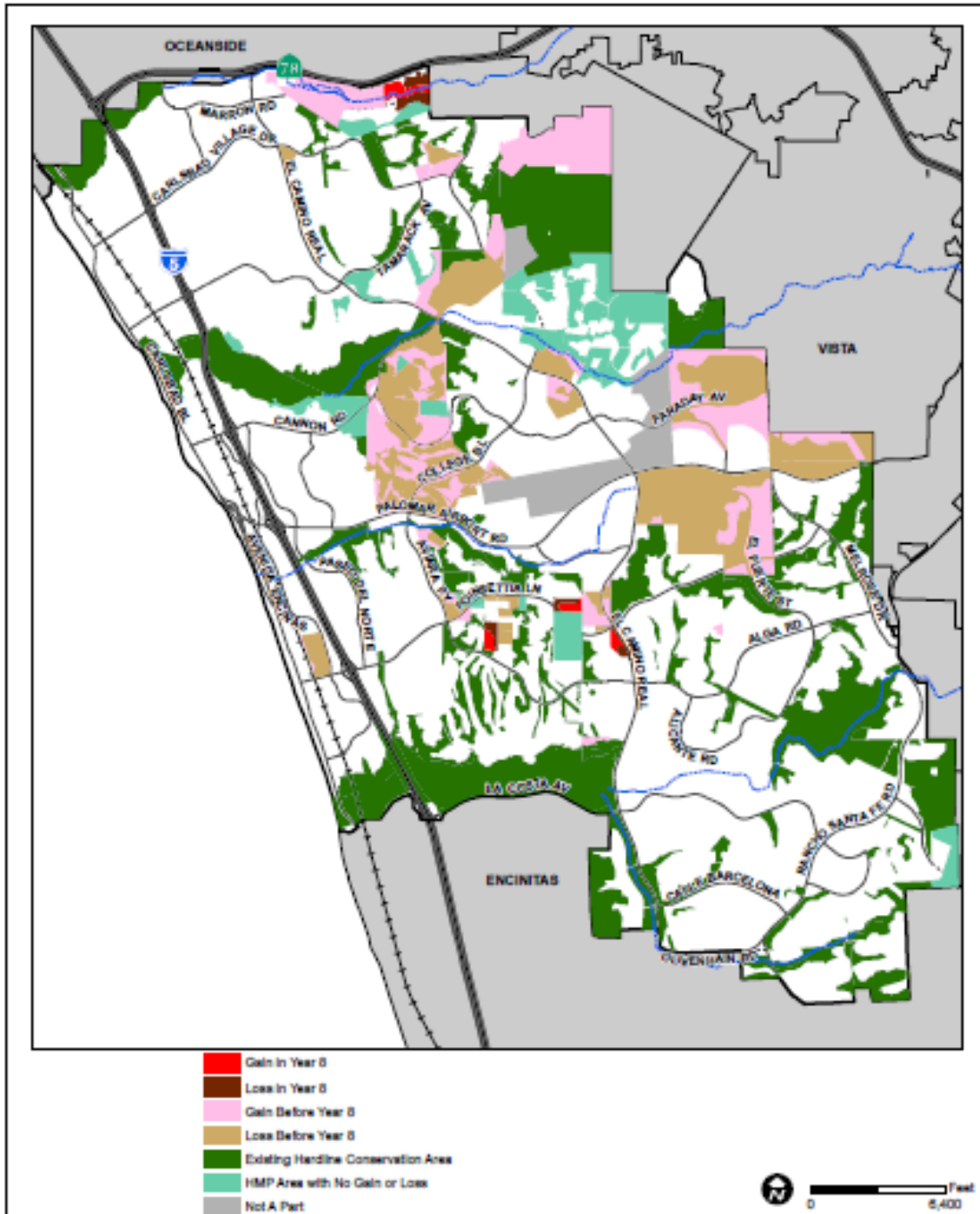


Figure 3. Project Gains/Losses by Report Year



City of Carlsbad  
Project Gains and Losses by Reporting Year

Figure 3

J:\Requests\2013\Public\Projects\HMP\mmaps\MS01981\_T2

Date: 12/4/2012

## 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 IA, 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 or incomplete. No incidental take permits were issued this reporting period.

**Table 4. HMP Permits in Process during RY 8 (2011-2012)**

HMP Permit No.	Project Name	Date	Status
HMP 07005	Villagio – Kelly Ranch	05/14/2007	Pending
HMP 09001	Rancho Milagro	02/15/2012	Approved
HMP 10003	Agua Hedionda Sewer Lift Station	12/16/2011	Approved
HMP 11002	Home Plant Lift Station	03/08/2012	Withdrawn
HMP 11003	Robertson Ranch West Village	05/06/2011	Incomplete
HMP 11004	El Camino Real Southbound Widening	05/20/2011	Incomplete
HMP 11005	Fairfield Carlsbad	06/06/2012	Approved
HMP 11006	Fairfield Carlsbad	03/12/2012	Withdrawn
HMP 11007	Quarry Creek	10/21/2011	incomplete

Two Minor Amendments were processed during the reporting period as 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.** The Dos Colinas project, which is within a Standards Area in LFMZ 15, was processed as a Consistency Finding and received Wildlife Agency concurrence on November 21, 2011. The Muroya residential subdivision, which is within a Standards Area in LFMZ 20, was processed as a Consistency Finding and received Wildlife Agency concurrence on December 27, 2011.
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).**

A minor amendment was processed pursuant to Section 20.1(2) of the Implementing Agreement to correct a mapping error involving two adjacent properties on Paseo del Norte, south of Palomar Airport Road. Wildlife Agency concurrence with the minor amendment was received on October 29, 2012.

**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 IA, 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.

**Table 5. Summary of City Compliance with HMP Implementing Agreement Requirements through RY 8 (2011-2012)**

A Section	Obligation	City Compliance
10.10	<p><b>Duty to Enforce:</b> To enforce the terms of the Take Authorization, HMP, and IA and ensure HMP lands are conserved in perpetuity.</p>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ The city is developing a coordinated multi-departmental trail enforcement program (Section 2.1.6) and continues to work with local preserve managers for enforcement activities.</li> <li>▪ Complaints made by citizens regarding possible violations of the HMP within preserves are investigated on a case by case basis.</li> </ul>
11.1	<p><b>Preserve System:</b> To ensure the establishment and management in perpetuity of a 6,757-acre preserve system.</p>	<ul style="list-style-type: none"> <li>▪ The city has currently gained 5,876.6 acres of habitat within the HMP planning area and 279.64 acres of habitat within the MHCP Gnatcatcher Core Area (91% of the overall target acreage). See Section 1.4.3 for more details.</li> </ul>
11.2	<p><b>Project Mitigation Measures:</b> To require additional mitigation measures to mitigate impacts to covered species in all future development projects.</p>	<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>
11.3	<p><b>Regulatory Implementation:</b></p> <ul style="list-style-type: none"> <li>A. Urgency Ordinance – interim HMP enforcement</li> <li>B. Amend Open Space and Conservation Element of General Plan to incorporate HMP</li> <li>C. Amend Open Space Ordinance to incorporate Conserved Habitat Areas</li> <li>D. Amend Municipal Code to incorporate Standards Area compliance</li> <li>E. Amend General Plan to identify HMP as priority use for open space lands</li> <li>F. Wetlands Protection Program</li> </ul>	<ul style="list-style-type: none"> <li>A. The Emergency Ordinance was approved by the City Council November 9, 2004.</li> <li>B. Revisions to the policy statements regarding the HMP were approved by the City Council in July, 2005.</li> <li>C. Revisions were made to Carlsbad Municipal Code § 21.53.230 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. Submitted to California Coastal Commission on April 3, 2006 – application is under review.</li> <li>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. Submitted to California Coastal Commission on April 3, 2006 – application is under review.</li> <li>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.</li> <li>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. Submitted to California Coastal Commission on April 3, 2006 – application is under review. Compliance is enforced on a project-by-project basis during environmental review and in conjunction with other wetland permitting agencies such as California Coastal Commission, CDFW and USACOE.</li> </ul>

**Table 5. Summary of City Compliance with HMP Requirements through RY 8 (2011-2012) *continued***

A Section	Obligation	City Compliance
11.4	<b>Additional Implementation Measures:</b> To implement measures included in MHCP.	<ul style="list-style-type: none"> <li>▪ The MHCP, HMP, and OSMP conservation measures are currently being implemented during the approval process for all development projects and preserve management activities.</li> <li>▪ See Section 1.6 for details about additional implementation measures.</li> </ul>
11.5	<b>Regional Conservation:</b> 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"> <li>▪ The city has met 279.64 acres of its coastal sage scrub conservation obligation through acquisition (65.19 acres), project mitigation (150.26 acres), and habitat enhancement credit (64.19 acres).</li> <li>▪ The city reimbursed Lennar (developer) for the 50.13 acres that were purchased up-front (see above) on April 26, 2011</li> <li>▪ 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 second payment on October 11, 2012 and received 7.53 acres of credit.</li> <li>▪ The Core Area properties are protected under a Conservation Easement, and are being monitored and managed by the Center for Natural Lands Management (CNLM).</li> </ul>
11.6	<b>Cooperative Regional Implementation:</b> To participate in MHCP Elected Officials Committee.	<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>
12.1 12.2 12.4 12.5	<b>Monitoring and Reporting:</b> 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"> <li>▪ Habitat gains and losses are being tracked through Habittrak. Rough step preserve assembly is built into the city's permitting process (See Section 1.4.4 for details.)</li> <li>▪ 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 develop and manage monitoring data.</li> <li>▪ 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.</li> <li>▪ 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.</li> <li>▪ 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.</li> </ul>

**Table 5. Summary of City Compliance with HMP Requirements through RY 8 (2011-2012) *continued***

IA Section	Obligation	City Compliance
12.3	<p><b>Preserve Management and Monitoring Plan:</b> To prepare a preserve management and monitoring plan that will detail recommendations in HMP Section F.</p>	<p>The Open Space Management Plan (OSMP) is the Preserve Management and Monitoring Plan described in IA 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. Currently the OSMP is being reviewed by the California Coastal Commission as part of the HMP Local Coastal Program Implementation Plan; the city is implementing OSMP policies citywide.</p>
13.0	<p><b>Adaptive Management:</b> 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"> <li>▪ 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.</li> <li>▪ The city is coordinating with the regional adaptive management and monitoring through the San Diego Management and Monitoring Program.</li> <li>▪ The city has developed a compliance checklist for the preserve managers; the checklist includes a section on adaptive management activities (pilot study design, methods, results, etc.).</li> </ul>
14.0	<p><b>Funding:</b></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 279.64 acres of its 307.6-acre coastal sage scrub conservation obligation. The city must cause conservation of an additional 27.96 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&amp;E, Cabrillo Power, and SDUHS.</p> <p>14.6 The HMP program is being overseen by Michael Grim (City of Carlsbad Property and Environmental Management Department). In addition, the city has contracted with Environmental Science Associates (ESA) 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>

**Table 6. Summary of City Compliance with Terms and Conditions of CDFW Permit through RY 8 (2011-2012)**

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 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 9, 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 11, 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"> <li>• Standard Best Management Practices (Appendix B)</li> <li>• General Outline for Revegetation Plans (Appendix C)</li> <li>• Narrow Endemic Species and Critical Population Policies (Appendix D)</li> <li>• Conditions for Estuarine Species (Appendix E)</li> <li>• CEQA requirements for quantifying and mitigating impacts</li> </ul>	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 8 (2011-2012)**

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 IA; therefore, compliance with these documents ensures compliance with Title CFR sections.
<p>2. The permittee is subject to compliance with the MHCP, HMP, and IA.</p>	The city complies with all regulations as described in Tables 10 and 11.
<p>3. The amount and form of take are authorized as described below. Referenced tables are from Attachment 2 of the T&amp;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 8 (2011-2012) *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><b>Listed species:</b>  <i>Empidonax traillii extimus</i> – Southwestern willow flycatcher  <i>Vireo bellii pusillus</i> – Least Bell’s vireo  <i>Polioptila californica californica</i> – Coastal California gnatcatcher</p> <p><b>Not yet listed:</b>  <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>Cnemidophorus 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 8 (2011-2012) *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 mousetail  <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&amp;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 8 (2011-2012) *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 IA (Section 12).</p>	<p>See IA 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>

### 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 are 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 8. Compliance with Zone-Wide Standards through RY 8 (2011-2012)**

Zone	Zone-Specific Standard	Current Status
All Zones	A minimum of 67% of coastal sage scrub and 75% of the gnatcatchers shall be conserved overall within the Standards Areas.	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.
Zone 1	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.	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.
Zone 2	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 the northern edge. 2. Spyglass property: grasslands impacted on this property shall have offsite mitigation at 2:1 ratio.	Kelly-Bartman property (Summit): Existing Hardline preserve approved with 50% conservation including an open space corridor from the SE to the northern site 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 and 2007, 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, a Proposed Hardline Preserve, both 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.

## **1.6 Other Implementation Activities**

### **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 HMP-related public outreach events conducted during the year were:

- Presentation about the HMP at the San Diego Habitat Conservancy Annual Gala at Parioli Italian Bistro in Solana Beach on October 23, 2011;
- Presentation about the HMP to the San Diego Chapter of the Association of Environmental Professionals (AEP) at the Del Mar Hilton on February 23, 2012;
- HMP Annual Meeting at the City Faraday Center on March 21, 2012;
- Panel discussion about habitat preserve management and monitoring with the County of San Diego and CDFW, including a presentation about the HMP, at the State AEP Convention in Sacramento on May 8, 2012;
- Presentation to the volunteers at the Crossings Golf Course about the HMP and preserve management issues at the Crossings HMP preserve on August 7, 2012.

## 2.0 Preserve Management and Monitoring

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### 2.1 Key Management 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. Monitoring during the current reporting period included surveys for thread-leaved brodiaea (*Brodiaea filifolia*), coastal California gnatcatcher, least Bell's vireo (*Vireo bellii pusillus*), and southwestern willow flycatcher (*Empidonax traillii extimus*).

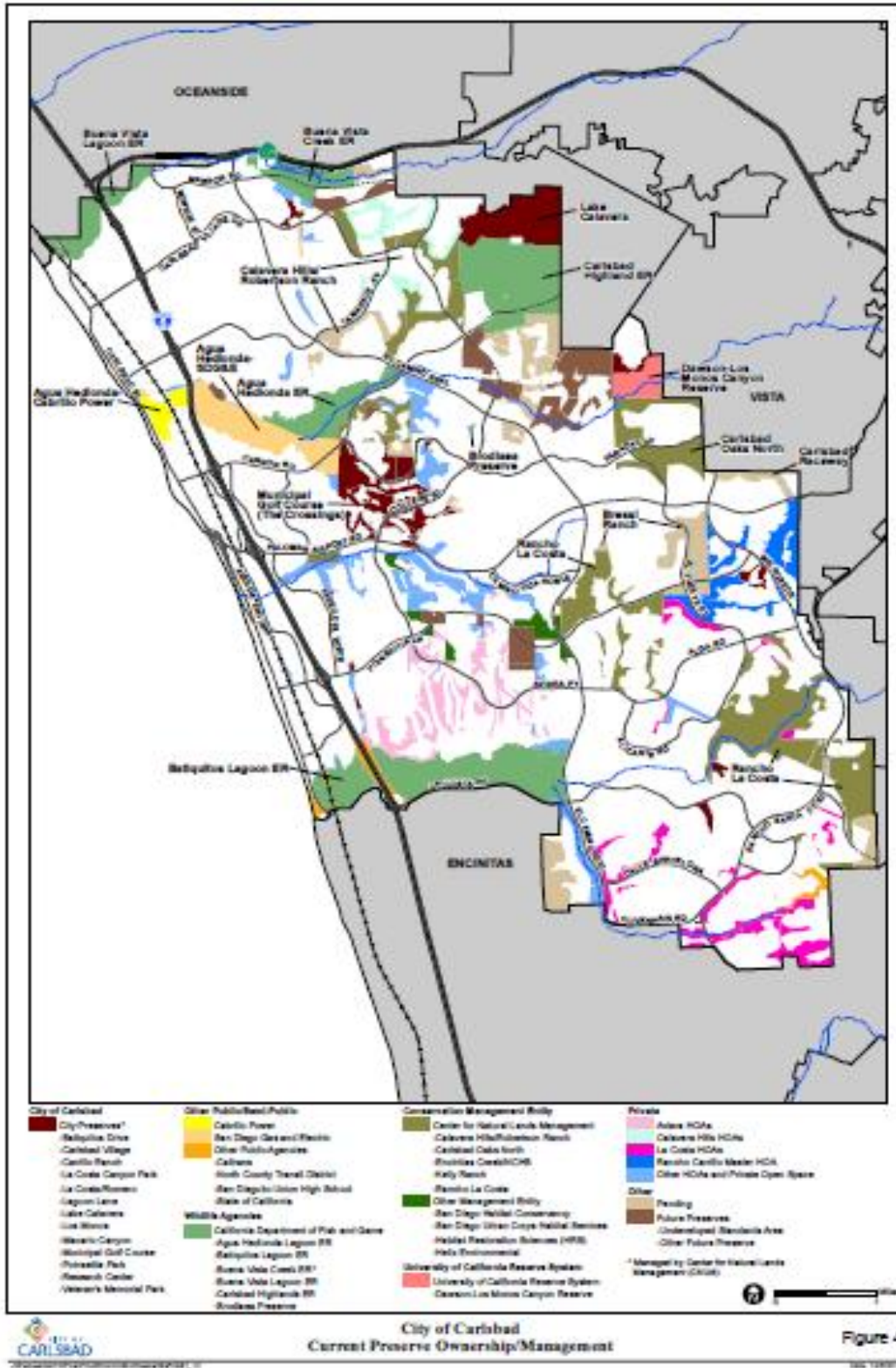
#### 2.1.2 Other Actively Managed Preserves

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. These activities are summarized in Appendix A. A more detailed preserve-specific account of these activities is available in the preserve-specific annual reports submitted by preserve managers, which are available 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 District. Pre-existing natural open space preserves are managed at a property maintenance level, which generally consists of fence maintenance and trash removal.

Figure 4. Preserve Ownership/Management



## 2.2 Monitoring

### 2.2.1 Species and Habitat Monitoring

A variety of biological surveys were conducted throughout the preserve system during the reporting period (Table 9). In addition, incidental observations of sensitive plants and wildlife were recorded by CNLM on properties it manages.

**Table 9. Biological Monitoring Conducted in RY 8 (2011-2012)**

Preserve	Surveys Conducted
Agua Hedionda Ecological Reserve	Light-footed clapper rail and Belding's savannah sparrow surveys.
Batiquitos Lagoon Ecological Reserve	Surveys for light-footed clapper rails, California least terns, and Western snowy plovers; monthly bird counts.
Buena Vista Creek Ecological Reserve	Plant surveys; rare plant surveys; focused-species surveys for thread-leaved brodiaea,
Buena Vista Lagoon Ecological Reserve	Light-footed clapper rail surveys ; monthly bird counts.
Calavera Hills/Robertson Ranch	Coastal sage scrub monitoring; Wiggins chryptantha ( <i>Chyptantha wiggisii</i> ) censused and mapped; Thread-leaved brodiaea index plots installed.
Carlsbad Highlands Ecological Reserve	General condition monitoring.
Carlsbad Oaks North	Documented wildlife movement using wildlife cameras; vegetative cover assessment of thread-leaved brodiaea populations; mapped flowering Blochman's dudleya ( <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> ); monitored coast live oak ( <i>Quercus agrifolia</i> var. <i>agrifolia</i> ) woodland; Coastal sage scrub vegetation study plot monitoring ; monitored and maintained thread-leaved brodiaea impact area.
City Preserves	Sensitive plant mapping at Crossings Golf Course; surveyed coast live oak for gold spotted oak borer; counted and mapped thread-leaved brodiaea occurrences; conducted surveys for bull frog ( <i>Rana catesbeiana</i> ).
Emerald Pointe	Conducted coastal California gnatcatcher ( <i>Polioptila californica californica</i> ) surveys; mapped vegetation communities and sensitive species.
Kelly Ranch	Mapped vegetation associations using the most recent classification system; counted Orcutt's hazardia ( <i>Hazardia orcuttii</i> ) seedlings and adults, conducted cover estimation of habitat; conducted habitat assessment of stand of wart-stem lilac ( <i>Ceanothus verrucosus</i> ).
North County Calvary Chapel	General condition monitoring.
North County Habitat Bank/Encinas Creek	Focused-species surveys for least Bell's vireo; monitored wildlife movement
Rancho La Costa	Wildlife corridor tracking; focused species surveys for thornmint, and Orcutt's hazardia; long-term thread-leaved brodiaea monitoring; coastal sage scrub vegetation study plot monitoring.

### 2.2.2 Wildlife Movement

CNLM manages several areas in Carlsbad that are connected by wildlife undercrossings, bridges, or along wildlife movement corridors. Over the last seven years, CNLM has conducted pilot

studies to determine which movement areas can be continually studied and to develop a standard methodology. The primary objective is to evaluate movement of larger mammals, such as mule deer, coyote, bobcat and raccoon. Wildlife movement studies will continue in 2012-2013.

Three monitoring locations were selected based on potential for wildlife movement and inaccessibility to humans (to avoid vandalism, interference, potentially unsafe interactions). The locations are: (1) the Carlsbad Oaks North Preserve, (2) the Encinas Creek Preserve, and (3) the Rancho La Costa Preserve.

After years of trials, CNLM developed the following protocol, which started in 2010-11. The use of wildlife cameras was the selected methodology, as it is relatively inexpensive compared to active and continual on-the-ground tracking. Each camera (Cuddeback Digital Scout) was set to operate for approximately 60 days per quarter (October-December/January-March/April-June/July-September). The Carlsbad Oaks camera was installed in early 2011 and CNLM has operated the camera at Rancho Santa Fe on and off since 2006.

At location 1, coyotes, raccoon, deer and bobcat have been observed. The primary animal observed is coyote, with 51 occurrences in January and February 2012 and 21 occurrences in April and May 2012. Several raccoon, bobcat and one mule deer were also observed during the year. These observations are deemed very positive for the effectiveness of this undercrossing. Vegetation on each end is dense, which may be inhibiting usage by deer, and the corridor is not necessarily in the best location to facilitate movement. This is an important corridor to allow animals to avoid crossing over Faraday Avenue.

At location 2, coyotes and raccoon are primarily detected with two occurrences of opossum and three of bobcat this reporting period. Movement observations increased after the Vallecitos Water District cleared vegetation in their easement. This area is far from large core areas and is in a highly urbanized setting, therefore occurrences of bobcat or deer are not expected.

At location 3, deer, bobcat and coyote have been observed. It is quite common to have over 30 observations during a session, but it seems that activity decreases in the summer. It is common to have five to ten photos of deer and over 15 photos of coyote in a session (slower in summer). Fewer than four photos of bobcat are observed during any session. These observations show that animals are likely trying to move towards (and back from) the eastern side of the Rancho La Costa Preserve area, but does not prove they are using the wildlife crossing.

During the reporting period, Preserve Calavera, a local, non-profit 501(c)(3) organization, worked with the city in two wildlife movement efforts. The first involved the installation of wildlife crossing warning signs at the Faraday Avenue undercrossing. These signs were installed

in June 2012. The second effort is ongoing and involves potential improvements to an existing culvert under El Camino Real, just north of Cannon Road. The culvert serves as one of the only below grade connections between the Robertson Ranch preserve/Agua Hedionda Creek area and the Agua Hedionda Lagoon Ecological Reserve. Preserve Calavera has been working with a consulting biologist, the developer of the Robertson Ranch West Village, and the city to explore installing a ledge within the culvert to allow animal movement when the culvert contains drainage water.

### **2.3 Enforcement and Patrolling**

Enforcement, as used in the habitat conservation and preservation realm, involves a combination of education, deterrence, and punitive actions. The goal of enforcement is to reduce or ideally eliminate impacts to native flora and fauna, habitats, and ecological preserves from unauthorized human activities.

Education is probably the most effective and efficient enforcement tool available. CDFW Wardens and other preserve managers state that over 90% of all visitors to habitat preserves will behave appropriately if told the rules and shown where they can enjoy the habitat without related impacts. Education can take the form of signage, information kiosks and brochures, and/or targeted public outreach (e.g. brochures, meetings with adjacent residents, and public information). Another important facet of education is on-site personal communication. Having a human presence within the preserve in the form of preserve management staff, docents, and volunteers allows visitors to the habitat to ask questions, learn about the sensitivity of the local floral and faunal species and proper behaviors within the preserve.

To address those individuals for whom education does not provide effective deterrence, deterrence is needed. Deterrence usually involves physical barriers around the preserve perimeter or along trails to protect native habitat. These barriers can include fencing and gating, selective plantings of thorny or impassable vegetation, or grading to preclude motorized vehicles. As with education, a human presence within the preserve can deter unwanted behaviors. According to the experiences of preserve managers throughout San Diego County, the mere placement of a vehicle with security or preserve management insignia can deter behaviors that would negatively impact the habitat.

For the relatively small number of individuals that do not respond to education or deterrence, enforcement takes on its more common definition, that being punitive actions. To most casual observers, punitive action is the most familiar phase of enforcement. However, as described above, they are not the primary phase – punitive actions are only implemented when education and deterrence have not succeeded.

When discussing enforcement within habitat preserves, it is important to understand the balance of the three activities discussed above. Simply hiring more rangers or law enforcement personnel to patrol the open space is not cost effective if other techniques, such as education and deterrence, are not already in place. Law enforcement personnel are the most costly expense related to enforcement and all preserves are managed under a limited endowment or budget. Additionally, the Wildlife Agencies, city, and preserve managers have limited resources to apply to preserve management and effective enforcement of habitat preserves requires a combination of all techniques and continuous coordination among the preserve managers, regulatory agencies, and other interested groups. This combined and coordinated approach allows the uniformed officers to be reserved for only major infractions or individuals that repeatedly refuse to obey the rules.

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. These efforts also include public outreach and fencing and signage.

The city also expanded its contract with Able Security to augment patrolling at the Lake Calavera Preserve. Due in large part to the efforts of city and preserve management staff and contractors, compliant and non-invasive public use of the preserve areas has increased and, as a result, the number of unauthorized trails and incidents has decreased. Previously popular activities, such as the use of radio-controlled planes and cars and unauthorized public events (e.g. mountain bike sales, contests, etc) were not reported during the reporting period. The predominant unauthorized activities at Lake Calavera in 2012 were walking dogs without a leash, not picking up dog feces, vandalizing signs, kiosks, and interior (trail blocking) fences, and skateboarding in the dam spillway. Recently installed fencing has decreased off-trail activities.

At the Rancho La Costa preserve, a ranger has been posted at Box Canyon since 2009 and has been increasingly successful in deterring trespass. The number of trespassers entering Box Canyon has dropped considerably over the last several years due to the use of rangers and increased cooperation from the Carlsbad Police Department. While the number of access attempts has ranged from 30 to 114 annually, the deterrence rate has risen from 42 percent in 2009 to 82 percent in 2012. Reporting Year 8 (2011-2012) represented the lowest trespass level since the increased patrolling efforts began four years ago. Only nine citations were issued when trespassers were caught in Box Canyon because a majority of the enforcement effort was placed on deterring the public from entering that area of the preserve. This deterrence reduced the efforts needed by the Police Department. Despite the extensive trail system at Denk Mountain, further east in the Rancho La Costa preserve, no major illegal or unwanted activities were reported.



The CDFW enforcement program serves the public through resource law enforcement, public safety and hunter education. Law Enforcement promotes compliance with laws and regulations protecting fish and wildlife resources; investigates 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. Buena Vista Lagoon Ecological Reserve, Carlsbad Highlands Ecological Reserve, Agua Hedionda Lagoon, and Batiquitos Lagoon).

Observations of unlawful activity and citations on the preserves vary. The predominant unlawful activities identified on Buena Vista, Agua Hedionda, and Batiquitos Lagoons are unauthorized access by pedestrians and recreational activity. Carlsbad Highlands Ecological Reserve encounters the highest unlawful activity; namely, motorized off-road vehicles, horseback riding, off-trail biking, building of unauthorized trails, and vandalism of signs and fencing. The Carlsbad Police Department has also responded to citizen reports of illegal activity on CDFW properties in the past. The City has secured an access letter from CDFW that allows Carlsbad Police Department personnel to enter CDFW reserves.

## 3.0 Financial Summary

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### 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 Property and Environmental Management Department, the Planning Division of the Community Development and Economic Department, the Parks and Recreation Department, and the 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 IA. 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 dedicated a senior-level staff planner 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 IA Section 14.5, at the time of HMP adoption the annual cost of program administration was estimated to be approximately \$97,695 in 2012 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. Installation and maintenance of boundary fencing will be provided by the city; therefore, the cost for fence installation is not the responsibility of CNLM. However, CNLM installs and maintains sections of interior fencing to block off unauthorized trails as feasible.

#### 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 shown in Table 10, six mitigation fees (totaling \$102,316.96) were paid during the current reporting period. One expenditure was made during the reporting period. On October 11, 2012, \$217,075.50 was used to purchase 7.52 acres of coastal sage scrub habitat in the Core Area, which will be actively managed in perpetuity in accordance with the HMP. The shortfall was advanced by the City using 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.

**Table 10. *In-lieu* Mitigation Fee Account Activity in RY 8 (2011-2012)**

Date	Description	Habitat Impacted	Total
<b>11/01/11</b>	<b>Beginning Fund Total</b>		<b>\$(357,533.71)</b>
<b>Fees Collected 11/01/11 – 10/31/12</b>			
11/14/11	Muroya	1.58 ac. of disturbed lands	\$4,257.24
03/23/12	La Costa Bluffs	0.49 ac. of coastal sage scrub 1.13 ac. of disturbed lands	\$17,102.52
04/11/12	La Posada Guadalupe	2.32 ac. of coastal sage scrub 0.11 ac. of non-native grassland	\$65,193.86
05/18/12	Palomar Commons	1.40 ac. of disturbed lands	\$3,820.60
08/23/12	Hartung Aviara 5	0.59 ac. of non-native grassland 0.41 ac. of disturbed lands	\$9,224.20
09/27/12	Vista La Costa Apts.	0.99 ac. of disturbed lands	\$2,718.54
<i>Total Fees Collected 11/01/11 – 10/31/12</i>			<i>\$102,316.96</i>
<b><i>Total Revenue 11/01/11 – 10/31/12</i></b>			<b><i>\$102,316.96</i></b>
<b>Funds Expended for Core Area Conservation 11/01/11 – 10/31/12</b>			
10/11/12	Perkins Property	7.52 acres conservation credit	\$217,070.50
<b><i>Total Funds Expended 11/01/11 – 10/31/12</i></b>			<b><i>\$217,070.50</i></b>
<b>10/31/12</b>	<b>Account Balance</b>		<b>(\$472,292.25)</b>

### 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 and SDHC, as well as the North County Calvary Chapel Preserve managed by Helix. 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 11. Endowment Status for HMP Preserves in RY (2011-2012)**

Site Name	Preserve Manager <sup>1</sup>	Inception Date	Original Endmt	Inflation Adj. Original Endmt as of 9/30/12 <sup>2</sup>	Endowmt 9/30/12	RY 11-12 Budget	RY 11-12 Expend.	Initial & Capital 9/30/12	Total Funds as of 09/30/12
Buena Vista Creek Ecological Reserve	CNLM	4/2007	\$776,644	\$869,197	\$875,797	\$38,680	\$31,314	\$0	\$875,797
Calavera Hills II/Robertson Ranch E <sup>3</sup>	CNLM	6/2006	\$1,650,293	\$1,881,423	\$1,949,098	\$70,153	\$55,059	\$38,448	\$1,949,098
Carlsbad Oaks North	CNLM	3/2006	\$1,020,311	\$1,181,257	\$1,128,472	\$43,483	\$33,909	\$0	\$1,128,472
Cassia Professional Offices	CNLM	1/2007	\$100,844	\$115,242	\$115,128	\$3,117	\$3,476	\$0	\$115,128
Emerald Pointe	SDHC	12/2006	\$194,068	\$222,454	\$224,476	\$9,822	\$10,933	\$0	\$224,476
Kelly Ranch	CNLM	3/2002	\$296,125	\$383,102	\$387,351	\$13,128	\$11,039	\$0	\$387,351
La Costa Villages	CNLM	2/2002	\$1,364,400	\$1,775,076	\$1,691,516	\$68,817	\$66,265	\$0	\$1,691,516
Nelson	CNLM	6/2001	\$72,180	\$93,800	\$84,260	\$3,350	\$1,864	\$0	\$84,260
Encinas Creek	CNLM	5/2008	\$427,004	\$455,949	\$468,613	\$18,192	\$12,077	\$14,593	\$483,206
<b>TOTAL</b>			<b>\$5,989,445</b>	<b>\$6,874,965</b>	<b>\$8,441,845</b>	<b>\$268,742</b>	<b>\$225,936</b>	<b>\$53,041</b>	<b>\$8,456,408</b>

<sup>1</sup> CNLM = Center for Natural Lands Management, SDHC = San Diego Habitat Conservancy.

<sup>2</sup> Adjusted for inflation to the current dollar value as of 9/30/12 based on Bureau of Labor Statistics Consumer Price Index.

<sup>3</sup> CNLM merged funds for these two projects to provide a cost savings for Robertson Ranch East Village

<sup>4</sup> As of June 2011

## 4.0 References

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- Beck, Christine. 2007. Personal communication. Biologist. California Department of Fish and Game, San Diego, California.
- City of Carlsbad Open Space Management Plan (TAIC). 2005
- Habitat Management Plan for Natural Communities in the City of Carlsbad (City of Carlsbad). 2004.
- Multiple Habitat Conservation Program (MHCP). 2003. Final MHCP Plan. Volumes I-III. Prepared for the Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, March 2003.

# **Appendix A**

## **Habitrak Report**

**Years 1 - 8**

# Summary of Project Gains

## MHCP West San Diego County

From 1/1/2000 To 12/31/2012

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**City of Carlsbad**

Project Tracking #	Project Name	Location	Applicant	APN	Date Cons.	Status	Mgmt Resp.	Conservation Type	Mit. Bank Credits Used	Acres		
										Outside Habitat Preserve	Acres Inside Habitat Preserve	Total Acres
001-002	Aviara Pointe		Aviara		10/29/2004	Gain	Other	In-Lieu Fees	0.00	0.00	0.00	0.00
001-043	Black Rail Ridge		Black Rail Ridge		5/18/2004	Gain	Other	In-Lieu Fees	0.00	0.00	0.00	0.00
001-003	Bressi Ranch		Bressi Ranch		1/24/2003	Gain	Unknown	Easement	0.00	0.00	153.75	153.75
001-029	Buena Vista Creek Ecological Reserve		Buena Vista Creek Ecological Reserve		3/31/2007	Gain	Non-Profit	Acquisition	0.00	0.04	133.18	133.22
001-004	Calavera Heights Village K		Calavera Heights		1/2/2002	Gain	Non-Profit	Easement	0.00	0.01	33.34	33.35
003-002	Calavera Hills Village R		Calavera Hills		6/1/2006	Gain	Non-Profit	Easement	0.00	3.35	0.00	3.35
002-052	Carlsbad Highlands Ecological Reserve		Carlsbad Highlands Ecological Reserve		5/22/2002	Gain	State	Acquisition	0.00	0.00	101.60	101.60
001-006	Carlsbad Municipal Golf Course		Carlsbad Municipal Golf Course		12/31/2008	Gain	Non-Profit	Easement	0.00	0.09	207.02	207.12
001-007	Carlsbad Oaks North		Carlsbad Oaks North		11/12/2004	Gain	Non-Profit	Acquisition	0.00	0.01	221.27	221.28
001-008	Carlsbad Raceway		Carlsbad Raceway		12/1/2004	Gain	Unknown	Easement	0.00	0.00	43.29	43.30
002-049	Cassia Professional Offices		Cassia Professional Offices		6/30/2006	Gain	Non-Profit	Easement	0.00	1.17	0.00	1.17
001-019	Emerald Point Estates		Emerald Point		3/21/2006	Gain	Non-Profit	Easement	0.00	0.01	9.41	9.43
001-009	Fox-Miller		Fox-Miller		12/28/2005	Gain	Local	Easement	0.00	0.00	16.33	16.33
001-010	Hieatt		Hieatt		2/3/2005	Gain	Unknown	Easement	0.00	0.01	6.50	6.51
001-011	Kelly Ranch		Kelly Ranch		6/18/2003	Gain	Non-Profit	Easement	0.00	0.00	57.77	57.77
CT 04-08	La Costa Collection		City Ventures	215-050-80	3/6/2012	Gain	Non-Profit	Covenant	0.00	0.12	7.97	8.08
002-046	Lake Calavera Mitigation Parcel		Lake Calavera Mitigation Parcel		12/31/2008	Gain	Non-Profit	Easement	0.00	0.00	250.90	250.91
002-044	Macario Canyon		City of Carlsbad		12/31/2008	Gain	Non-Profit	Easement	0.00	0.00	21.35	21.35
001-012	Manzanita		Manzanita		9/26/2003	Gain	Unknown	Easement	0.00	0.00	30.73	30.73
002-051	Mitsuuchi		Batiquitos Lagoon Foundation		7/10/2008	Gain	Non-Profit	Acquisition	0.00	8.97	0.00	8.97
CT 06-27	Muroya		Taylor Woodrow Homes	215-040-32	11/14/2011	Gain	Non-Profit	Covenant	0.00	0.00	9.79	9.79

**City of Carlsbad**

Project Tracking #	Project Name	Location	Applicant	APN	Date Cons.	Status	Mgmt Resp.	Conservation Type	Mit. Bank Credits Used	Acres		
										Outside Habitat Preserve	Inside Habitat Preserve	Total Acres
001-013	North Coast Calvary Chapel		North Coast Calvary Chapel		11/17/2004	Gain	Unknown	Easement	0.00	0.02	10.69	10.71
002-048	Palomar Forum		Palomar Forum		6/25/2004	Gain	Unknown	Easement	0.00	0.01	1.42	1.43
CT 04-10(A)	Poinsettia Place		Shea Homes	215-022-03	2/9/2012	Gain	Non-Profit	Covenant	0.00	0.00	11.42	11.42
GR 11-05	Quarry Creek Reclamation		Hanson Aggregates	167-040-21	12/27/2011	Gain	Private	Easement	0.00	16.77	9.72	26.48
001-028	Robertson Ranch - East		Robertson Ranch - East		1/16/2007	Gain	Non-Profit	Easement	0.00	0.02	71.64	71.66
003-003	Robertson Ranch - West		Robertson Ranch - West		1/16/2007	Gain	Non-Profit	Easement	0.00	1.15	35.47	36.62
001-017	Spyglass		Spyglass		7/3/2001	Gain	Unknown	Easement	0.00	0.00	0.00	0.00
001-040	Steiner Property		Steiner Property		1/5/2000	Gain	Other	In-Lieu Fees	0.00	0.00	0.00	0.00
001-041	Tabata 2001		Tabata		1/17/2001	Gain	Other	In-Lieu Fees	0.00	0.00	0.00	0.00
001-042	Tabata 2004		Tabata		9/1/2004	Gain	Unknown	Easement	0.00	0.00	0.42	0.42
001-018	Terraces at Sunny Creek		Terraces at Sunny Creek		4/26/2000	Gain	Unknown	Easement	0.00	1.18	15.29	16.47
002-045	Veterans Park		City of Carlsbad		12/31/2008	Gain	Non-Profit	Easement	0.00	0.00	18.95	18.95
003-001	Villages of La Costa West		Villages of La Costa West		1/16/2007	Gain	Non-Profit	Easement	0.00	3.37	0.00	3.37
002-047	Waters End		Waters End HOA		5/15/2002	Gain	Private	Easement	0.00	3.36	0.00	3.36
001-020	Yamamoto		Yamamoto		4/17/2006	Gain	Other	In-Lieu Fees	0.00	0.00	0.00	0.00
<b>Total for Agency: City of Carlsbad</b>									<b>0.00</b>	<b>39.68</b>	<b>1,479.22</b>	<b>1,518.90</b>



# Summary of Project Losses

## MHCP West San Diego County

From 1/1/2000 To 12/31/2012

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**City of Carlsbad**

Project Tracking #	Project Name	Location	Applicant	APN	Date of Loss Status	CEQA Doc.	Activity Type	Acres Outside Habitat Preserve	Acres Inside Habitat Preserve	Total Acres
001-002	Aviara Pointe		Aviara		10/29/2004 Loss	0		0.00	4.53	4.53
001-043	Black Rail Ridge		Black Rail Ridge		5/18/2004 Loss	0		0.00	3.16	3.16
001-003	Bressi Ranch		Bressi Ranch		1/24/2003 Loss	0		419.22	0.00	419.22
001-004	Calavera Heights Village K		Calavera Heights		1/2/2002 Loss	0		16.16	0.00	16.16
002-052	Carlsbad Highlands Ecological Reserve		Carlsbad Highlands Ecological Reserve		5/22/2002 Loss	0		0.00	0.00	0.00
001-006	Carlsbad Municipal Golf Course		Carlsbad Municipal Golf Course		12/6/2004 Loss	0		188.12	0.02	188.15
001-007	Carlsbad Oaks North		Carlsbad Oaks North		11/12/2004 Loss	0		195.44	0.00	195.45
001-008	Carlsbad Raceway		Carlsbad Raceway		12/1/2004 Loss	0		92.61	0.00	92.61
002-049	Cassia Professional Offices		Cassia Professional Offices		6/30/2006 Loss	0		1.51	0.00	1.51
001-019	Emerald Point Estates		Emerald Point		3/21/2006 Loss	0		0.07	6.42	6.49
001-009	Fox-Miller		Fox-Miller		12/28/2005 Loss	0		35.62	0.00	35.62
001-010	Hieatt		Hieatt		2/3/2005 Loss	0		7.11	0.00	7.11
001-011	Kelly Ranch		Kelly Ranch		6/18/2003 Loss	0		133.85	0.61	134.46
CT 04-08	La Costa Collection		City Ventures	215-050-80	3/6/2012 Loss	0	Single-Family Residential	0.05	5.42	5.47
002-046	Lake Calavera Mitigation Parcel		City of Carlsbad		12/31/2008 Loss	0		0.00	0.00	0.00
002-044	Macario Canyon		City of Carlsbad		12/31/2008 Loss	0		0.00	0.00	0.00
001-012	Manzanita		Manzanita		9/26/2003 Loss	0		12.67	0.00	12.67
CT 06-27	Muroya		Taylor Woodrow Homes	215-040-32	11/14/2011 Loss	0	Single-Family Residential	0.00	9.46	9.46
001-013	North Coast Calvary Chapel		North Coast Calvary Chapel		11/17/2004 Loss	0		14.56	0.00	14.56
002-048	Palomar Forum		Palomar Forum		6/25/2004 Loss	0		64.08	0.00	64.08
CT 04-10(A)	Poinsettia Place		Shea Homes	215-022-03	2/9/2012 Loss	0	Single-Family Residential	0.04	7.77	7.80
GR 11-05	Quarry Creek Reclamation		Hanson Aggregates	167-040-21	12/27/2011 Loss	0	Single-Family Residential	23.99	5.29	29.28
001-014	Redeemer		Redeemer		10/29/2002 Loss	0		9.67	0.00	9.67
001-028	Robertson Ranch - East		Robertson Ranch - East		1/16/2007 Loss	0		0.00	125.95	125.96

**City of Carlsbad**

Project Tracking #	Project Name	Location	Applicant	APN	Date of Loss	Status	CEQA Doc.	Activity Type	Acres		Total Acres
									Outside Habitat Preserve	Inside Habitat Preserve	
001-029	Sherman		Sherman		3/31/2007	Loss	0		0.00	0.00	0.00
001-017	Spyglass		Spyglass		7/3/2001	Loss	0		0.00	10.61	10.62
001-040	Steiner Property		Steiner Property		1/5/2000	Loss	0		0.00	1.84	1.84
001-041	Tabata 2001		Tabata		1/17/2001	Loss	0		0.00	5.60	5.60
001-042	Tabata 2004		Tabata		9/1/2004	Loss	0		0.00	4.48	4.48
001-018	Terraces at Sunny Creek		Terraces at Sunny Creek		4/26/2000	Loss	0		31.46	0.88	32.34
002-045	Veterans Park		City of Carlsbad		12/31/2008	Loss	0		54.92	0.00	54.92
002-047	Waters End		Waters End HOA		5/15/2002	Loss	0		40.43	0.00	40.43
001-020	Yamamoto		Yamamoto		4/17/2006	Loss	0		0.00	4.92	4.92
<b>Total for Agency: City of Carlsbad</b>									<b>1,341.61</b>	<b>197.00</b>	<b>1,538.60</b>

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# Summary of Habitat Losses and Gains

Plan: MHCP West San Diego County  
Date Range: 1/1/2000 - 12/31/2012

Project Gain Status: Gain  
Project Loss Status: Loss

**City of Carlsbad**

Habitat Type	Acres Inside the Habitat Preserve Planning Area						Acres Outside the Habitat Preserve						Total Acres			
	Habitat Loss			Habitat Gain			Habitat Loss			Habitat Gain			Habitat Loss		Habitat Gain	
	Current Period	Cummulative	Target Cons.	Current Period	Cummulative	Cons. to Date %	Current Period	Cummulative	Cons. to Date %	Current Period	Cummulative	Cons. to Date %	Current Period	Cummulative	Current Period	Cummulative
Southern Coastal Bluff Scrub	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maritime Succulent Scrub	29	1.6	1.6	5.1	25.5	88.0 %	0.0	0.0	0.0	5.5	5.5	1.6	1.6	10.7	31.1	
Coastal Sage Scrub	2,003	16.3	16.3	399.5	1,825.4	81.2 %	160.4	160.4	8.0	160.4	8.0	176.7	176.7	407.4	1,633.5	
Chaparral	676	1.9	1.9	163.1	605.3	89.5 %	65.7	65.7	0.0	65.7	0.0	67.6	67.6	163.1	605.3	
Southern Maritime Chaparral	342	3.5	3.5	54.2	344.6	100.8 %	16.2	16.2	1.2	16.2	1.5	19.8	19.8	55.5	346.2	
Coastal Sage-Chaparral Scrub	107	0.0	0.0	100.8	112.4	105.1 %	153.5	153.5	0.0	153.5	0.0	153.5	153.5	100.8	112.4	
Grassland	707	25.0	25.0	234.4	635.8	89.9 %	226.5	226.5	1.6	226.5	1.6	251.5	251.5	236.0	637.4	
Southern Coastal Salt Marsh	143	0.0	0.0	0.2	127.8	89.4 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	127.8	
Alkali Marsh	9	0.0	0.0	0.0	0.0	0.0 %	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	
Freshwater Marsh	165	0.0	0.0	20.8	138.8	84.1 %	0.9	0.9	0.0	0.9	0.3	0.9	0.9	20.8	139.1	
Riparian Forest	82	0.9	0.9	40.7	62.8	76.6 %	1.3	1.3	0.4	1.3	0.4	2.2	2.2	41.2	63.3	
Riparian Woodland	17	1.3	1.3	11.3	11.7	68.6 %	0.0	0.0	0.0	0.0	0.0	1.3	1.3	11.3	11.7	
Riparian Scrub	395	0.2	0.2	132.3	376.6	95.3 %	9.8	9.8	0.6	9.8	0.6	10.0	10.0	132.8	377.2	
Englemann Oak Woodland	0	0.0	0.0	0.0	0.0	0.0 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Coast Live Oak	20	0.0	0.0	7.7	7.7	38.3 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	7.7	
Other Oak Woodland	4	0.0	0.0	0.0	4.8	120.5 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	
Freshwater	53	0.0	0.0	15.2	51.4	97.0 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.2	51.4	
Estuarine	789	0.0	0.0	0.0	776.5	98.4 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	776.5	
Disturbed Wetland	93	0.0	0.0	18.3	88.6	95.3 %	11.7	11.7	0.5	11.7	0.5	11.7	11.7	18.8	89.1	
Natural Floodchannel	0	0.0	0.0	0.0	0.0	0.0 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Beach	0	0.0	0.0	0.0	0.0	0.0 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Saltpan/Mudflats	0	0.0	0.0	0.0	0.0	0.0 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Agriculture	185	128.5	128.5	170.3	222.8	120.4 %	462.2	462.2	3.2	462.2	3.2	590.7	590.7	173.5	226.0	
Eucalyptus Woodland	99	1.3	1.3	2.5	94.9	95.9 %	0.5	0.5	0.0	0.5	0.0	1.8	1.8	2.5	94.9	
Disturbed Land	244	3.3	3.3	86.0	239.2	98.1 %	190.5	190.5	18.1	190.5	18.2	193.8	193.8	104.1	257.4	
Urban/Developed	0	13.1	13.1	16.4	307.0	42.3	42.3	42.3	0.5	42.3	0.9	55.4	55.4	17.0	307.9	

**City of Carlsbad**

Habitat Type	Acres Inside the Habitat Preserve Planning Area				Acres Outside the Habitat Preserve				Total Acres			
	Habitat Loss		Habitat Gain		Habitat Loss		Habitat Gain		Habitat Loss		Habitat Gain	
	Current Period	Cummulative	Current Period	Cummulative	Current Period	Cummulative	Current Period	Cummulative	Current Period	Cummulative	Current Period	Cummulative
Southern Foredures	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Agency Total:</b>	<b>197.0</b>	<b>197.0</b>	<b>1,479.1</b>	<b>5,859.7</b>	<b>1,341.6</b>	<b>1,341.6</b>	<b>39.7</b>	<b>40.8</b>	<b>1,538.6</b>	<b>1,538.6</b>	<b>1,518.8</b>	<b>5,900.5</b>

Note: The Agriculture and Urban/Developed category is included to account for all land included within a project and habitat preserve planning area.

# Habitat Conservation Accounting Model

## MHCP West San Diego County

From 1/1/2000 To 12/31/2012

Project Gain Status: Gain

Project Loss Status: Loss

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<i>City of Carlsbad</i>	Total Subarea Habitat Preserve	Conservation Target	Estimated Take	Conservation Ratio	Cumulative Conservation Inside Habitat Preserve	Max. Allowable Impacts for the Current Period	Actual Loss Inside Habitat Preserve for Current Period	+ or - Max. Allowable Impacts
Southern Coastal Bluff Scrub	0	0	0	0.00	0.00	0.00	0.00	n/a
Maritime Succulent Scrub	29	29	0	0.00	25.51	0.00	1.55	+
Coastal Sage Scrub	2,003	2,003	0	0.00	1,625.44	0.00	16.28	+
Chaparral	676	676	0	0.00	605.27	0.00	1.92	+
Southern Maritime Chaparral	391	342	49	6.98	344.64	49.34	3.55	-
Coastal Sage-Chaparral Scrub	113	107	6	17.83	112.43	6.27	0.00	-
Grassland	756	707	49	14.43	635.79	44.56	25.05	-
Southern Coastal Salt Marsh	143	143	0	0.00	127.79	0.00	0.00	n/a
Alkali Marsh	9	9	0	0.00	0.00	0.00	0.00	n/a
Freshwater Marsh	165	165	0	0.00	138.83	0.00	0.00	+
Riparian Forest	82	82	0	0.00	62.84	0.00	0.92	+
Riparian Woodland	17	17	0	0.00	11.66	0.00	1.33	+
Riparian Scrub	395	395	0	0.00	376.57	0.00	0.16	+
Englemann Oak Woodland	0	0	0	0.00	0.00	0.00	0.00	n/a
Coast Live Oak	22	20	2	10.00	7.65	0.89	0.00	-
Other Oak Woodland	5	4	1	4.00	4.82	1.18	0.00	-
Freshwater	53	53	0	0.00	51.42	0.00	0.00	n/a
Estuarine	789	789	0	0.00	776.50	0.00	0.00	n/a
Disturbed Wetland	93	93	0	0.00	88.63	0.00	0.00	n/a
Natural Floodchannel	0	0	0	0.00	0.00	0.00	0.00	n/a
Beach	0	0	0	0.00	0.00	0.00	0.00	n/a
Saltpan/Mudflats	0	0	0	0.00	0.00	0.00	0.00	n/a
Agriculture	692	185	507	0.36	222.78	600.17	128.54	-
Eucalyptus Woodland	105	99	6	16.50	94.92	5.78	1.34	-
Disturbed Land	286	244	42	5.81	239.25	41.26	3.28	-
Urban/Developed	0	0	0	0.00	307.01	0.00	13.06	+
Southern Foredunes	0	0	0	0.00	0.00	0.00	0.00	n/a
<b>Total Acres for Agency: City of Carlsbad</b>					<b>5,859.74</b>		<b>197.00</b>	

Note: The Agriculture and Urban/Developed category is included to account for all land included within a project and habitat preserve planning area.

# **Appendix B**

## **Summary of Management and Monitoring Activities within HMP Management Units**

**November 1, 2011 - October 31, 2012**

## Summary of HMP Management and Monitoring Activities, Nov 2011 – Oct 2012

Management Unit (MU)	Management Entity <sup>1</sup>	Management and Monitoring Activities
<b>Agua Hedionda</b>	Preserve Manager: CDFG	<p><b><u>Agua Hedionda Lagoon Ecological Reserve</u></b></p> <ul style="list-style-type: none"> <li>▪ Focused species surveys and surveys for nests, nestlings, predators, etc. for Belding’s savannah sparrow and light-footed clapper rails.</li> </ul>
	AH Lagoon Foundation	<p><b><u>Agua Hedionda Lagoon</u></b></p> <ul style="list-style-type: none"> <li>▪ Public education including: bat pollination talk, migratory bird festival (perils of migrating birds talk), World Water Day (water conservation, pollution, and wetlands education), Earth Day (<i>Caulerpa taxifolia</i> talk).</li> <li>▪ Environmental Stewardship School field trip serving all Carlsbad Unified School District students, other students residing in Carlsbad.</li> <li>▪ Trail Clean Up: North Shore Hubbs Trail (invasive species removal), and Trail Clean Up Day (all trails), weekly cleaning of North Shore trail, Kelly School Trail, and Discovery Center Trail.</li> <li>▪ Hosted Carlsbad Watershed Network meetings.</li> <li>▪ Birding walks (monthly).</li> <li>▪ Eco Tours on Standup Paddle Boards.</li> <li>▪ Community Outreach at businesses, schools and City of Carlsbad events.</li> <li>▪ Lagoon Day run and Kayak Regatta for public awareness of Carlsbad lagoons.</li> </ul>
<b>Arroyo La Costa</b>	<b>HOAs</b>	Property-level management
<b>Batiquitos Lagoon</b>	Preserve Manager: CDFG	<p><b><u>Batiquitos Lagoon Ecological Reserve</u></b></p> <ul style="list-style-type: none"> <li>▪ Partnered with State Lands Commission to dredge approximately 112,000 cubic yards of sand from flood shoal in central basin; sand was pumped into nearshore on South Ponto Beach.</li> <li>▪ Replaced fencing around western nesting sites (to be completed in February 2013).</li> <li>▪ Entered into MOA with Batiquitos Lagoon Foundation to foster coordination on management, protection and restoration of lagoon.</li> <li>▪ Removed vegetation along shoreline in preparation of habitat for the nesting season for California least terns and Western snowy plovers.</li> </ul>
	Batiquitos Lagoon Foundation	<p><b><u>Batiquitos Lagoon</u></b></p> <ul style="list-style-type: none"> <li>▪ Executed MOA with CDFG for management and monitoring of Ecological Reserve.</li> <li>▪ Worked with Aviara Master Association and CDFG to remove and trim eucalyptus trees along North Shore Trail for public safety.</li> <li>▪ Worked with Aviara Master Association, CDFG, and Boy Scouts to replace trail bridge.</li> <li>▪ Continued management of Cholla Point property.</li> <li>▪ Created native plant demonstration garden near Park Hyatt-Aviara North Shore trailhead.</li> <li>▪ Continued Weed-whacking/Trail Maintenance program for community, colleges, high schools, elementary schools, scouting organizations, corporations and other groups.</li> <li>▪ Conducted seventh annual Kayak Batiquitos Lagoon Clean-up event.</li> <li>▪ Conducted monthly bird counts.</li> <li>▪ Conducted educational public walks.</li> <li>▪ Implemented college and high school internship program and hosted Eagle Scout service projects.</li> <li>▪ Developed strategic plan to improve bird nesting areas along North Shore Trail.</li> <li>▪ Public outreach and education about open space, lagoons, and marine environment at Lagoon Day, Street Faire, and Beach Fest</li> </ul>

## Summary of HMP Management and Monitoring Activities, Nov 2011 – Oct 2012 *continued*

Management Unit (MU)	Management Entity <sup>1</sup>	Management and Monitoring Activities
Bressi/Carrillo		Property-level management
Buena Vista Creek	<b>Landowner:</b> CDFG <b>Preserve Manager:</b> CNLM	<u><b>Buena Vista Creek Ecological Reserve</b></u> <ul style="list-style-type: none"> <li>▪ Trash removed from former encampments and other localities.</li> <li>▪ Drug user encampments were disbanded, materials and trash were removed.</li> <li>▪ Coordinated with the Carlsbad Watershed Network on maintenance of two habitat enhancement areas.</li> <li>▪ Problematic nonnative species treatment and removal within the riparian and upland areas.</li> <li>▪ The Supplemental Environmental Project (SEP) restoration area was hydro-seeded and the site was maintained.</li> <li>▪ Conducted general plant survey; searched for sensitive plant species.</li> <li>▪ Surveyed the thread-leaved brodiaea localities previously discovered.</li> <li>▪ Installed 2 brown-headed cowbird (<i>Molothrus ater</i>) traps resulting in the capture of 25 birds.</li> <li>▪ Conducted regular patrols, noting new weed infestations as they were encountered, and dissuading illegal users from trespass.</li> <li>▪ Fuel zones were mowed as required.</li> <li>▪ Developed an annual work plan for the upcoming management year.</li> </ul>
	Preserve Calavera	<u><b>Buena Vista Creek</b></u> <ul style="list-style-type: none"> <li>▪ Continued volunteer projects to support two Phase 2 restoration sites.</li> <li>▪ Worked with City of Oceanside, CDFG and CNLM toward mitigation plan and site clean-up after sewer spill from broken Haymar sewer line in Buena Vista Creek.</li> <li>▪ Supported planning for public trails.</li> <li>▪ Continued efforts toward permanent preservation of the remainder of the Buena Vista Valley.</li> <li>▪ Continued work with Coastkeeper for water quality and stream condition evaluations of Buena Vista Creek.</li> </ul>
Buena Vista Lagoon	<b>Preserve Manager:</b> CDFG	<u><b>Buena Vista Lagoon Ecological Reserve</b></u> <ul style="list-style-type: none"> <li>▪ Restarted previously suspended lagoon restoration planning in partnership with SANDAG as lead agency.</li> </ul>
	Preserve Calavera	<u><b>Buena Vista Lagoon/Watershed</b></u> <ul style="list-style-type: none"> <li>▪ Partnered with Buena Vista Audubon Society in completing first two tasks of a comprehensive Watershed Management Plan for the Buena Vista Watershed.</li> <li>▪ Supported community education on native plants, wildlife and preserve management issues at various fairs and outreach events.</li> <li>▪ Identified problem with invasive snails and led volunteer "snail picking parties" at Carlsbad Oaks North and Buena Vista Creek Ecological Reserve.</li> </ul>
	Buena Vista Audubon Society	<u><b>Buena Vista Lagoon Ecological Reserve</b></u> <ul style="list-style-type: none"> <li>▪ Conducted monthly lagoon bird counts.</li> <li>▪ Conducted monthly basic birding class at lagoon.</li> <li>▪ Conducted school tours of Nature Center and lagoon and Summer Nature Camp.</li> <li>▪ Native Plant Outreach, Native Plant Club, and weekly native plant gardening.</li> <li>▪ Invasive plant species removal in conjunction with CDFG.</li> <li>▪ Weekly lagoon clean-up by challenged individuals.</li> <li>▪ Lagoon clean-ups in conjunction with Kiwanis and Eagle Creek Outfitters.</li> </ul>



## Summary of HMP Management and Monitoring Activities, Nov 2011 – Oct 2012 *continued*

Management Unit (MU)	Management Entity <sup>1</sup>	Management and Monitoring Activities
Calavera	Preserve Manager: CNLM	<p><b><u>Calavera Hills/Robertson Ranch Preserve</u></b></p> <ul style="list-style-type: none"> <li>▪ Noted sensitive animals observed on-site while conducting patrols, maintenance, or other monitoring tasks.</li> <li>▪ Performed fourth year of coastal sage scrub monitoring at several locations in the Preserve.</li> <li>▪ Treated invasive perennial pepperweed (<i>Lepidium latifolium</i>) along Calavera Creek.</li> <li>▪ Partner's for Fish and Wildlife funded coastal sage scrub restoration at Village H was initiated.</li> <li>▪ Treated invasive, non-native plant species at Village H adjacent to and surrounding thread-leaved brodiaea populations.</li> <li>▪ Restoration of Village R was maintained.</li> <li>▪ Wiggins chryptantha (<i>Chyptantha wiggisii</i>) censused and mapped at Village X.</li> <li>▪ The rare south coast saltscare (<i>Atriplex pacifica</i>) was found along Preserve boundary.</li> <li>▪ Thread-leaved brodiaea index plots were installed and performed.</li> <li>▪ Pampas grass (<i>Cortaderia sp.</i>) were treated throughout Preserve.</li> <li>▪ Performed regular patrol, site enforcement and trash pickup to protect the Preserve.</li> <li>▪ Prepared Conservation Easement compliance documentation and report.</li> </ul>
	Preserve Manager: CDFG	<p><b><u>Carlsbad Highlands Ecological Reserve</u></b></p> <ul style="list-style-type: none"> <li>▪ Removed non-native biomass from areas inhabited by <i>Brodiaea filifolia</i>.</li> </ul>
	Preserve Calavera	<p><b><u>Calavera area</u></b></p> <ul style="list-style-type: none"> <li>▪ Continued quarterly wildlife tracking surveys.</li> <li>▪ Worked with developer and city to provide fencing and plan improvements to wildlife undercrossing.</li> <li>▪ Gave demonstration on wildlife tracking at National Public Lands Day event.</li> <li>▪ Worked on interpretive signs and provided for two signs</li> <li>▪ Worked with city staff toward first formal counts and trail user survey.</li> <li>▪ Held annual native plant hike.</li> <li>▪ Partnered with the city on several trail building and clean-up projects.</li> <li>▪ Supported trail captain in stocking kiosks, picking up dog poop and monitoring trail conditions.</li> </ul>
Faraday	Preserve Manager: CNLM	<p><b><u>Kelly Ranch Preserve</u></b></p> <ul style="list-style-type: none"> <li>▪ Noted rare animals when observed.</li> <li>▪ Mapped vegetation associations using the most recent classification system.</li> <li>▪ Counted Orcutt's hazardia (<i>Hazardia orcuttii</i>) seedlings and adults.</li> <li>▪ Conducted point-intercept cover estimation of Orcutt's hazardia habitat.</li> <li>▪ Conducted habitat assessment of stand of wart-stem lilac (<i>Ceanothus verrucosus</i>).</li> <li>▪ Removed or treated nonnative plant species, including dozens of Natal grass (<i>Melinis repens</i>), hundreds of Saharan mustard (<i>Brassica tournefortii</i>), and physically removed a few stands of mission prickly pear (<i>Opuntia ficus-indica</i>).</li> <li>▪ Performed regular patrol, site enforcement, and trash removal.</li> <li>▪ Conducted a Conservation Easement compliance visit and report.</li> </ul>

## Summary of HMP Management and Monitoring Activities, Nov 2011 – Oct 2012 *continued*

Management Unit (MU)	Management Entity <sup>1</sup>	Management and Monitoring Activities
Los Monos	Preserve Manager: CNLM	<p><u><b>Carlsbad Oaks North Preserve</b></u></p> <ul style="list-style-type: none"> <li>▪ Documented wildlife movement using wildlife cameras.</li> <li>▪ The plant species list was expanded.</li> <li>▪ Assessed the vegetative cover within the largest thread-leaved brodiaea (<i>Brodiaea filifolia</i>) population.</li> <li>▪ Flowering Blochman's dudleya (<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>) were mapped.</li> <li>▪ The San Diego thornmint (<i>Acanthomintha ilicifolia</i>) population was counted and habitat conditions were assessed.</li> <li>▪ More localities of thread-leaved brodiaea were counted.</li> <li>▪ Monitored previously established coastal sage scrub study plots.</li> <li>▪ Coast live oak (<i>Quercus agrifolia</i> var. <i>agrifolia</i>) woodland was monitored.</li> <li>▪ Monitored and maintained thread-leaved brodiaea impact area.</li> <li>▪ Fine detail weed treatments and hand-removal took place at a patch of thread-leaved brodiaea.</li> <li>▪ Exotic weeds were controlled or eliminated in several areas.</li> <li>▪ Pacific Rim school students and staff removed non-native grass thatch in one area.</li> <li>▪ An intern and other volunteers hand-removed purple falsebrome (<i>Brachypodium distachyon</i>) from clay lens openings.</li> <li>▪ Regularly patrolled Preserve, picking up trash, removing weeds, and looking for other potential problems; one itinerant was removed.</li> </ul>
	Preserve Calavera	<p><u><b>Carlsbad Oaks North Preserve</b></u></p> <ul style="list-style-type: none"> <li>▪ Worked with city to install wildlife crossing warning signs on Faraday Ave through Preserve.</li> </ul>
	UCSD	<p><u><b>Dawson-Los Monos Preserve</b></u></p> <ul style="list-style-type: none"> <li>▪ Property-level management</li> </ul>
Poinsettia/Aviara	Helix Environmental	<p><u><b>North Coast Calvary Chapel Open Space</b></u></p> <ul style="list-style-type: none"> <li>▪ General condition monitoring and management</li> </ul>
	Aviara Master HOA	<ul style="list-style-type: none"> <li>▪ Property-level management</li> </ul>
	Other HOAs	<ul style="list-style-type: none"> <li>▪ Property-level management</li> </ul>
	Preserve Manager: San Diego Habitat Conservancy	<p><u><b>Emerald Pointe Preserve</b></u></p> <ul style="list-style-type: none"> <li>▪ Conducted coastal California gnatcatcher (<i>Polioptila californica californica</i>) surveys.</li> <li>▪ Mapped vegetation communities and sensitive species.</li> <li>▪ Replaced and added signs.</li> <li>▪ Treated and removed invasive species.</li> <li>▪ Removed trash.</li> <li>▪ Coordinated with neighboring apartment complex regarding trespassing and trash.</li> <li>▪ Presented at HOA meeting and coordinated with HOA Board of Directors.</li> <li>▪ Coordinated with site restoration contractor on status of restoration.</li> </ul>

## Summary of HMP Management and Monitoring Activities, Nov 2011 – Oct 2012 *continued*

Management Unit (MU)	Management Entity <sup>1</sup>	Management and Monitoring Activities
Poinsettia/Aviara <i>continued</i>	Preserve Manager: CNLM	<p><u>Encinas Creek Preserve</u></p> <ul style="list-style-type: none"> <li>▪ Performed surveys for least Bell's vireo (<i>Vireo bellii pusillus</i>).</li> <li>▪ Performed camera surveys to determine presence and use of the Preserve by large mammals.</li> <li>▪ Trapped brown-headed cowbirds (<i>Molothrus ater</i>).</li> <li>▪ Conducted regular patrols, site enforcement, and trash pickup.</li> </ul>
Villages of La Costa	Preserve Manager: CNLM	<p><u>Rancho La Costa Preserve</u></p> <ul style="list-style-type: none"> <li>▪ Continued long-term monitoring plots for coastal sage scrub.</li> <li>▪ Continued long-term maintenance and monitoring at the Huff and Hubbard Slope restoration sites..</li> <li>▪ Wildlife corridor tracking (tracking of wildlife).</li> <li>▪ Focused surveys for sensitive plants: San Diego thornmint (<i>Acanthomintha ilicifolia</i>) and Orcutt's hazardia (<i>Hazardia orcuttii</i>).</li> <li>▪ Continued long-term monitoring of the sensitive thread-leaf brodiaea (<i>Brodiaea filifolia</i>).</li> <li>▪ Removal and treatment of non-native and invasive species.</li> <li>▪ Mitigation projects implemented at the La Costa Greens.</li> <li>▪ Trail improvements conducted by staff and volunteers.</li> <li>▪ Fence, signs, and a new shade structure installed.</li> <li>▪ Fuel breaks were mowed and maintained per City of Carlsbad Fire Department regulations.</li> <li>▪ Public education on conservation values and site sensitivities was performed throughout the year.</li> <li>▪ Conservation Easement compliance monitoring was conducted and all required documentation was prepared.</li> <li>▪ One full-time ranger and two part-time rangers conducted patrols and enforced compliance.</li> </ul>
Multiple MUs	Preserve Manager: CNLM	<p><u>City of Carlsbad Preserves</u></p> <ul style="list-style-type: none"> <li>▪ Mapped sensitive plants at the Crossings Golf Course.</li> <li>▪ Counted and mapped thread-leaf brodiaea occurrences.</li> <li>▪ Conducted surveys for bull frog (<i>Rana catesbeiana</i>).</li> <li>▪ Surveyed coast live oak (<i>Quercus agrifolia</i>) for evidence of gold-spotted oak borer (<i>Agrilus auroguttatus</i>).</li> <li>▪ Treated or removed zero and moderate-tolerance nonnative plant species.</li> <li>▪ Hydro-seeded approximately four acres of disturbed area at the Crossing Golf Course.</li> <li>▪ Conducted routine patrols to protect the preserve and provide information to visitor.s</li> <li>▪ Participated in volunteer events organized by the City and provided public outreach events or education.</li> </ul>
	City Parks and Recreation Department	<ul style="list-style-type: none"> <li>▪ Monthly trail clean up and maintenance through volunteers.</li> <li>▪ Quarterly trail volunteer meetings.</li> <li>▪ Public outreach events such as National Trails Day and National Public Lands Day.</li> </ul>