Annual Report
City of Carlsbad Habitat Management Plan

Year 4, November 2007 – October 2008

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City of Carlsbad Habitat Management Plan Annual Report

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Revised July 20, 2009 (per public comments)

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I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is a true, and accurate representation of the information currently available.

Don Neu 7-22-09

City of Carlsbad Planning Director Date

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Table of Contents

Contents **Page**

EXECUTIVE SUMMARY **E-1**

ACRONYMS AND DEFINITIONS **1**

1.0 IMPLEMENTATION AND PLAN ADMINISTRATION **5**

1.1 INTRODUCTION 5

1.2 HMP COMPLIANCE MONITORING AND EFFECTIVENESS MONITORING 5

1.2.1 HMP Conservation Goals *5*
1.2.2 Compliance Monitoring *6*
1.2.3 Effectiveness Monitoring *6*

1.3 CURRENT STATUS OF PRESERVES 7

1.3.1 Ecological Reserves *7*
1.3.2 Privately Owned Pre-Existing Preserves *9*
1.3.3 City-Owned Preserves *10*
1.3.4 Project-Related Preserves *12*
1.3.5 Mitigation Bank and City Mitigation Parcel *14*
1.3.6 Wildlife Movement Corridors and Crossings *15*
1.3.7 Carlsbad's Gnatcatcher Core Area Obligation *18*

1.4 HABITAT GAINS AND LOSSES 18

1.4.1 Target Acreage *19*
1.4.2 Project-Related Gains and Losses *20*
1.4.3 Changes Made in Habitrak *22*
1.4.4 Rough-Step Preserve Assembly *24*
1.4.5 Land Acquisitions *24*

1.5 REGULATORY COMPLIANCE 24

1.5.1 HMP-related Permits and Amendments *25*
1.5.2 City Compliance with Terms and Conditions of Take Authorization *25*
1.5.3 City Compliance with HMP Zone-Wide Standards *32*

1.6 OTHER IMPLEMENTATION ACTIVITIES 34

1.6.1 Guidelines and Policies *34*
1.6.2 Public Outreach *35*

2.0 MANAGEMENT AND MONITORING **37**

2.1 MANAGEMENT 37

2.1.1 Levels of Management Responsibilities *37*
2.1.2 City Owned Preserves *37*
2.1.3 Preserves not Owned by the City *38*
2.1.4 Major Threats and Issues of Concern *38*
2.1.5 Key Management Activities *38*
2.1.6 Enforcement *39*

2.2 MONITORING RESULTS 41

2.2.1 Lagoon/Coastal Species *51*
2.2.2 Riparian Species *55*
2.2.3 Vernal Pool Species *56*
2.2.4 Vernal Pool/Upland Species *58*

2.2.5 Upland Species *60*

3.0 FINANCIAL SUMMARY **64**

3.1 CITY FUNDING IN SUPPORT OF HMP 64

3.1.1 HMP Implementation *64*

3.1.2 In-Lieu Habitat Mitigation Fees *65*

3.1.3 Other City Funding that Benefited the HMP Preserve *65*

3.2 STATUS OF PRESERVE MANAGEMENT ENDOWMENTS 66

4.0 REFERENCES **67**

APPENDIX A: Habitrak Reports Re-run for Years 1 - 4

APPENDIX B: Preserve Status Detail for CDFG- and CLNM-Managed Preserves

APPENDIX C: Management and Monitoring Summary by Management Unit

APPENDIX D: MHCP Critical Location and Major Population Maps

List of Figures

Contents **Page**

Figure 1. Current Preserve Ownership/Management 8

Figure 2. Preserves with Pending Management 11

Figure 3. Wildlife Movement Corridors, Linkages, and Crossings 16

Figure 4. Project Gains/Losses by Report Year 23

Figure 5. Lagoon and Coastal Species 44

Figure 6. Riparian Species 45

Figure 7. Vernal Pool Species - Plants 46

Figure 8. Vernal Pool Species - Invertebrates 47

Figure 9. Upland/Vernal Pool Species 48

Figure 10. Upland Species - Plants 49

Figure 11. Upland Species – Birds 50

List of Tables

Contents **Page**

Table 1. Current Status of Ecological Reserves within the HMP Preserve 9

Table 2. Privately Owned Pre-Existing Preserves 10

Table 3. City-Owned Preserves and Mitigation Parcel 12

Table 4. Project-Related Preserves 13

Table 5. Mitigation Acreage Provided at Lake Calavera Mitigation Parcel 15

Table 6. Current Status of Wildlife Movement Corridors and Existing Crossings 17

Table 7. HMP Target Conservation of Habitats 19

Table 8. Summary of Cumulative Habitat Losses and Gains 21

Table 9. HMP Permits Issued During Years 1-3. 25

Table 10. Summary of City Compliance with HMP Requirements 26

Table 11. Summary of City Compliance with Terms and Conditions..... 29
Table 12. Summary of City Compliance with the Terms and Conditions..... 29
Table 13. Compliance with Zone-Wide Standards through Year 3..... 33
Table 14. Status of HMP-Related Guidelines and Policies. 34
Table 15. Summary of Surveys Conducted for Priority Species 42
Table 16. In-Lieu Mitigation Fee Account Activity during Current Reporting Period 65
Table 17. Endowment Status for HMP Preserves..... 66

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Executive Summary

This is the fourth annual HMP summary report, covering the period of November 1, 2007 to October 31, 2008. In addition to summarizing preserve status, implementation activities, and preserve gains and losses, this report also summarizes the current status of "priority species" (covered species that require population tracking, as opposed to monitoring indirectly through habitat tracking). Highlights of HMP activities are summarized below.

Current Status of Preserves

Two activities of note occurred during report preparation (after the reporting period): (1) the management contract with CNLM for management of the City properties was finalized in December 2008; (2) CDFG was given authorization to take on management of properties previously owned by The Environmental Trust (TET), a total of four properties within Carlsbad.

City Mitigation Parcel

No activity during the reporting period; 183.8 credits remaining.

Carlsbad Gnatcatcher Core Area Obligation

No activity during the reporting period**.**

Habitat Gains and Losses

No gains or losses occurred within the HMP planning area between November 1, 2007 and October 31, 2008. To date, cumulative habitat gains and losses are 5,407.2 acres and 169 acres, respectively. This represents 83% (5,407/6,478 acres) of the target acreage for the HMP Preserve, not counting the Gnatcatcher Core Area. These cumulative gains and losses differ from those previously reported due to adjustments made in the Habitrak reporting system as explained in Section 1.4 of this annual report. *Post-reporting period update*: The management contract with CNLM was approved by the City Council on December 16, 2008, and therefore an additional gain of conserved City-owned property will be counted in Habitrak, bringing the total gain to 88% of the conservation target.

Rough Step Preserve Assembly

The rough step policy, which requires that development (losses) occur in rough step with land conservation (gains), is built into the City's project permitting process. For projects within the HMP, the City requires that the associated open space (impact mitigation) be conserved prior to issuing a grading permit.

Land Acquisitions

No land acquisitions were made inside the HMP Preserve System; however, 18 acres of upland habitat (the Mitsuuchi property), which is adjacent to the preserve on the north shore of Batiquitos Lagoon, was purchased through a combination of grant funds from the State Coastal Conservancy ($1.7 Million) and from a federal section 6 grant ($700,000) administered by the California Wildlife Conservation Board. The property is now held in fee-title by the Batiquitos Lagoon Foundation.

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, as summarized in Tables 10 – 13 in the body of the report.

Other Implementation Activities

The City and Preserve Steward completed (1) the Guidelines for Biological Studies and conducted user workshops for City Planning Dept staff, biological consultants, Wildlife Agencies, and developers; (2) a draft of the Guidelines for Preserve Management; and (3) a review of current policies and penalties, and those of other cities as part of a trail enforcement goal team.

Public Outreach

In the spring of 2008, the City launched Phase I of an interactive HMP website (www.carlsbadhmp.org), which includes maps, documents, and information about the HMP program and natural resources of Carlsbad. Presentations about the HMP were given to community groups, such as the League of Women Voters, to provide information and to build relationships for partnering opportunities. A brochure discussing preserve edge effects was distributed to the public and made available in the public information areas of City facilities. In addition, the City gave its first annual public HMP meeting on March 3, 2008.

Management

In general, habitat management throughout the HMP Preserve has focused on invasive species removal and access control. The City and Preserve Managers continued to coordinate with other stakeholders on issues of enforcement, which is very important to protecting habitat and species from unauthorized uses.

- Carlsbad Police Department staff worked with the local Preserve Managers to improve coordination and work with the City Attorney's office to draft local ordinances and procedures to assist in identification and enforcement of potential violations.
- A multi-departmental team was formed to draft a Trail Safety Enhancement Program. City staff from CPD, Parks and Recreation, and Planning worked on developing

recommendations to assist in trail safety and education of trail users about the sensitivity of the natural environments and proper activities within preserves.

- CNLM hired two part-time rangers to assist with problems related to unauthorized access and misuse of the preserve.

Biological Monitoring

- Biological monitoring included regional surveys by CDFG of state and/or federally listed lagoon species, which were conducted on Carlsbad's three lagoons. In general, species populations appear stable, except for the snowy plover, which has shown a steep decline since 2006. CDFG continues to implement their program of predator control, site preparation, nest exclosures and monitoring for threats.

- Coastal California gnatcatcher (*Polioptila californica californica*) surveys were conducted on all properties managed by CDFG or CNLM between 2007 and 2008. A total of 94 pairs and 32 individuals were observed on 18 properties. Populations throughout the City preserves appear to be stable.

- Rare plant surveys conducted by CNLM showed that there are thriving populations of San Diego thornmint (*Acanthomintha ilicifolia*) in Carlsbad Oaks North and La Costa Villages preserves, and of thread-leaved brodiaea (*Brodiaea filifolia*) in six preserves, the largest of which is La Costa Villages (29,589 plants were counted on only a portion of the occupied habitat).

- Based on conversations with the Wildlife Agencies and Dudek and Associates, all three vernal pool complexes that occur in Carlsbad appear to be in good condition, although no surveys have been conducted in recent years. None of the pools are being actively managed at this time. Two of the vernal pool complexes have been restored – Hieatt property in 2006, and Manzanita Property in 2000. In addition, the upland habitat (Water's End) within the watershed of the Poinsettia Lanes vernal pool was restored and monitored for five years, which ended in mid 2008.

Financial Summary

- In-lieu Mitigation Fee Program. A total of $159,313.97 of in-lieu mitigation fees were collected during the reporting period. As of October 31, 2008, the total amount of money in the fund was $945,765.74.

- Preserve Management Endowments. During the reporting period, a total of $414,760 was used by CNLM and CDFG for management and monitoring activities on 8 preserves. Endowment funds for these properties totaled $6,310,139 (adjusted for inflation) as of October 31, 2008.

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Acronyms and Definitions

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

ASMD – Area Specific Management Directive.

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.

City – City of Carlsbad.

CDFG – California Department of Fish and Game.

CNDDB – California Natural Diversity Database.

CNLM – Center for Natural Lands Management.

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 conserved substantially for a particular species to be adequately conserved by the MHCP. Critical locations often coincide with major populations, 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 predicted.

ESA – Endangered Species Act.

Existing Hardline 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.

FPA – Focused Planning Area.

GIS – Geographic Information System.

Habitrak – A GIS-based tool that was developed 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.

HCC – Helix Community Conservancy. Update: HCC changed its name to the San Diego Habitat Conservancy in February of 2009.

HCP – Habitat Conservation Plan.

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

IA – Implementing Agreement.

Landowner – The landowner 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.

Major Population – A population 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.

NCCP – Natural Community Conservation Planning Program.

Non-wasting Endowment – an endowment with sufficient principal such that, through investment returns, it will provide for the set up costs and management/monitoring of a preserve in perpetuity. Furthermore, 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, which is referenced in Section 12.3 of the Implementing Agreement.

PAR – Property Analysis Record (a type of cost analysis conducted to estimate the cost of a specific preserve in perpetuity). It is based on user-defined 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 single PMP for all City-owned preserves; however, this PMP addresses each preserve individually.

Preserve – Land conserved with a conservation casement, 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.

Preserve Manager – The entity responsible for monitoring and managing the preserve. The majority of preserve lands are owned/managed by the City, CDFG, 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 CDFG before they can begin managing lands in the City.

Priority Species – Species that have site-specific permit conditions, which require populations to be tracked individually through GIS.

Proposed Hardline 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.

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 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.

TAIC – Technology Associates International Corporation.

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.

USFWS – U.S. Fish and Wildlife Service.

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

1.0 Implementation and Plan Administration

1.1 Introduction

The purpose of this document is to provide an update on the current status of the Habitat Management Plan (HMP) preserve system, including the current status of individual preserves, a summary of habitat gains and losses for the reporting period (November 1, 2007 – October 31, 2008), a summary of HMP-related permits, amendments, and other implementation activities, a discussion of HMP compliance, a summary of management activities and issues, current status of priority covered species, and summary of HMP-related funding and expenditures. This information will be used in *compliance monitoring* to determine if the HMP is being properly implemented pursuant to relevant regulations and permit conditions, and in *effectiveness monitoring* to determine if the current management is meeting conservation goals stated in the HMP. Annual tracking of the HMP Preserve's gains, losses, management, and monitoring is required by the Implementing Agreement (IA) and the HCP/NCCP take permits/authorizations. The City of Carlsbad (City) approved the IA on November 9, 2004.

The previous report, HMP Annual Report, Years 1 - 3, contained information from HMP inception (November 2004) through year 3 (October 2007), as well as additional historical information. This additional information was included to provide a background for understanding assumptions about implementing the MHCP and HMP. From this point forward the HMP annual reports will only report on activities conducted during a given reporting year. Every three years the report will include a three year summary of species monitoring results. Because a complete dataset was not available, a three year summary of monitoring results was not included in the third report, but is presented in Section 2.2 of the current report.

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*; gnatcatcher) 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 monitoring, is required 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, such as conserving particular species locations and acres of habitat, monitoring the condition of the habitat and performing required management actions (MHCP Vol III). 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 1.6; and management and monitoring activities are summarized in Section 2.0.

1.2.3 Effectiveness Monitoring

Effectiveness monitoring (biological monitoring) will evaluate 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 will be 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., ecological reserves owned by CDFG) and for conducting subregional monitoring and analysis.

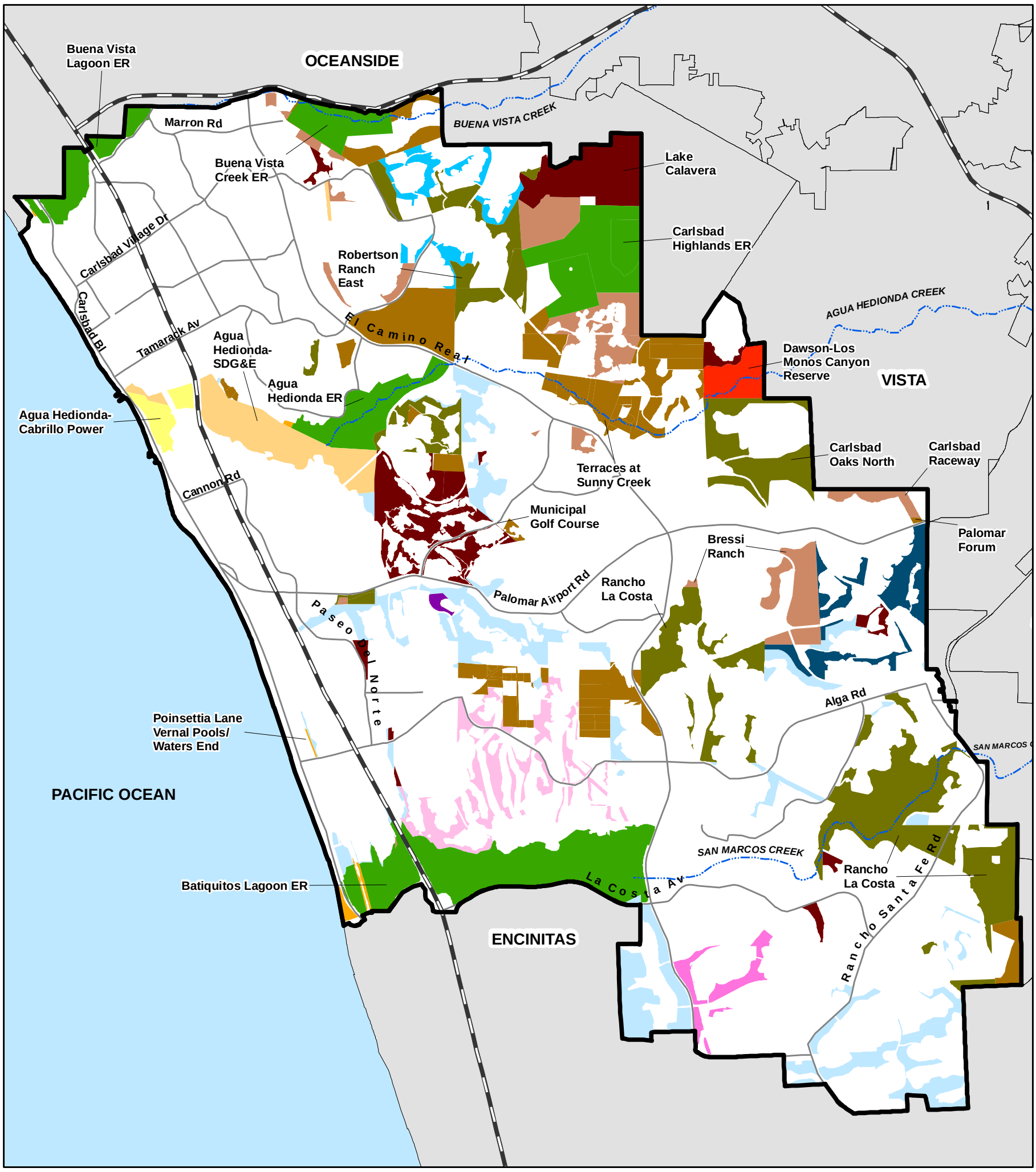
Monitoring the effectiveness of the MHCP and HMP is more challenging than compliance monitoring because the biological goals are broad and it may take many (5-10) years before trends in species populations and habitat conditions are detectable. Species and habitat monitoring is conducted by the Preserve 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.

1.3 Current Status of Preserves

The current status of individual preserves within the HMP Preserve is given in Sections 1.3.1 – 1.3.3, including the primary preserve management entity, underlying landowner, overall acreage, and status of conservation easement, endowment, preserve management plan, and annual reports, where applicable. Preserve locations are shown in Figure 1. Note that this information can also be obtained from www.carlsbadhmp.org. The preserves have been grouped according to management status and type of ownership, which have been determined in the HMP. Section 1.3.4 summarizes mitigation bank/parcel activity, and is followed by a status summary of the wildlife movement corridors and crossings in Carlsbad (Section 1.3.5) and Gnatcatcher Core Area obligation (Section 1.3.7).

1.3.1 Ecological Reserves

Table 1 includes five Ecological Reserves that are owned by CDFG. Ecological Reserves in existence prior to the HMP (Existing Hardline areas) require management to HMP standards pursuant to available funding. Management of these preserves (all except Buena Vista Creek Ecological Reserve) is funded through annual state budget appropriations for CDFG. Ecological Reserves acquired after the HMP may include a non-wasting endowment and management contract with a non-CDFG preserve manager, as is the case with Buena Vista Creek Ecological Reserve, which is being managed by CNLM.



Legend

City of Carlsbad

City of Carlsbad Preserves
- Batiquitos Drive
- Carlsbad Drive
- Carlsbad Village
- Carrillo Ranch
- La Costa Canyon Park
- La Costa/Romero
- Lagoon Lane
- Lake Calavera
- Los Monos
- Macario Canyon
- Municipal Golf Course
- Poinsettia Park
- Research Center
- Veteran's Memorial Park

Other Public/Sem-Public

Cabrillo Power

SDG&E

Other Public Agencies
- North San Diego County Transit
- San Dieguito union High School
- State of California

Wildlife Agencies

Calfornia Deptartment of Fish and Game
- Agua Hedionda Lagoon Ecological Reserve (ER)
- Batiquitos Lagoon Ecological Reserve (ER)
- Buena Vista Lagoon Ecological Reserve (ER)
- Carlsbad Highlands Ecological Reserve (ER)
- Buena Vista Creek Ecological Reserve (ER)

University of California Reserve System

University of California Reserve System
- Dawson - Los Monos Canyon Reserve

Conservation Management Entity

Center for Natural Lands Management
- Calavera Hills Phase II
- Carlsbad Oaks North
- Kelly Ranch
- North County Habitat Bank
- Rancho La Costa
- Robertson Ranch East Village

Helix Community Conservancy
- Emerald Point Estates

Other Entities (Pending or Unknown)

Management Under Negotiation
- Batiquitos Lagoon Parcel
- Bressi Ranch
- Brodiaea Preserve
- Calavera Heights Mitigation Site
- Cantarini/Holly Springs
- Carlsbad Raceway
- Encinitas Wetlands
- Fox Miller Brodiaea Site
- Summit

Unmanaged Properties
- Palomar Forum
- Terraces at Sunny Creek
- Undeveloped Standards Area
- Inactive Proposed Hardline Area

Private

Arroyo La Costa Master HOA

Aviara HOAs

Calavera Hills Phase I HOAs

Rancho Carrillo Master HOA

Other HOAs and Private Open Space

Basemap Legend

City of Carlsbad

Jurisdictional Boundary

Freeway

Major Road

River

N

Feet

0 4,750

* Management boundaries may extend beyond the HMP boundary.

Technology Associates International Corporation

City of Carlsbad
Current Preserve Ownership/Management

Figure 1

Document: Management of HMP Preserves_11x17.mxd

Date: Nov 25, 2008

Table 1. Current Status of Ecological Reserves within the HMP Preserve

Preserve / Project Name	Acres	PM[1]	PMP[1]	Annual Reports
Agua Hedionda Lagoon Ecological Reserve	195	CDFG	None	None
Batiquitos Lagoon Ecological Reserve	621	CDFG	1999	None
Buena Vista Creek Ecological Reserve	134	CNLM	Draft 2008[2]	2008
Buena Vista Lagoon Ecological Reserve	139	CDFG	None	None
Carlsbad Highlands Ecological Reserve	364	CDFG	None	None

[1] Abbreviations: PM – Preserve Manager; PMP – Preserve Management Plan; CDFG = California Department of Fish and Game; CNLM = Center for Natural Lands Management.

[2] A draft Preserve Management Plan was submitted to the Wildlife Agencies in May of 2008, and it is currently under review.

1.3.2 Privately Owned Pre-Existing Preserves

Pre-existing HMP preserves (called Existing Hardline Conservation Areas in the HMP) that are privately owned include the areas in or near Agua Hedionda Lagoon that are owned by Cabrillo Power and SDG&E, UCSD-owned Dawson-Los Monos Reserve, TET bankruptcy properties, and HOA lands that were in existence prior to the planning for the HMP (Table 2). The HMP requires that these lands be managed according to pre-existing levels of management (i.e., management agreements in place prior to HMP approval). Keep the following in mind when reviewing the table:

- Preserve Managers in parentheses indicate that management is currently under negotiation. (*Post-reporting period update*: in December 2008, the Wildlife Conservation Board (WCB) approved CDFG's request to take on management of the TET properties. Quitclaim deeds are expected to be approved in early 2009.)
- GIS data for pre-existing HOA properties (which are Existing Hardline areas) are contained in a single GIS layer; therefore, acreages for individual properties are currently unknown, but will be calculated during subsequent mapping updates.

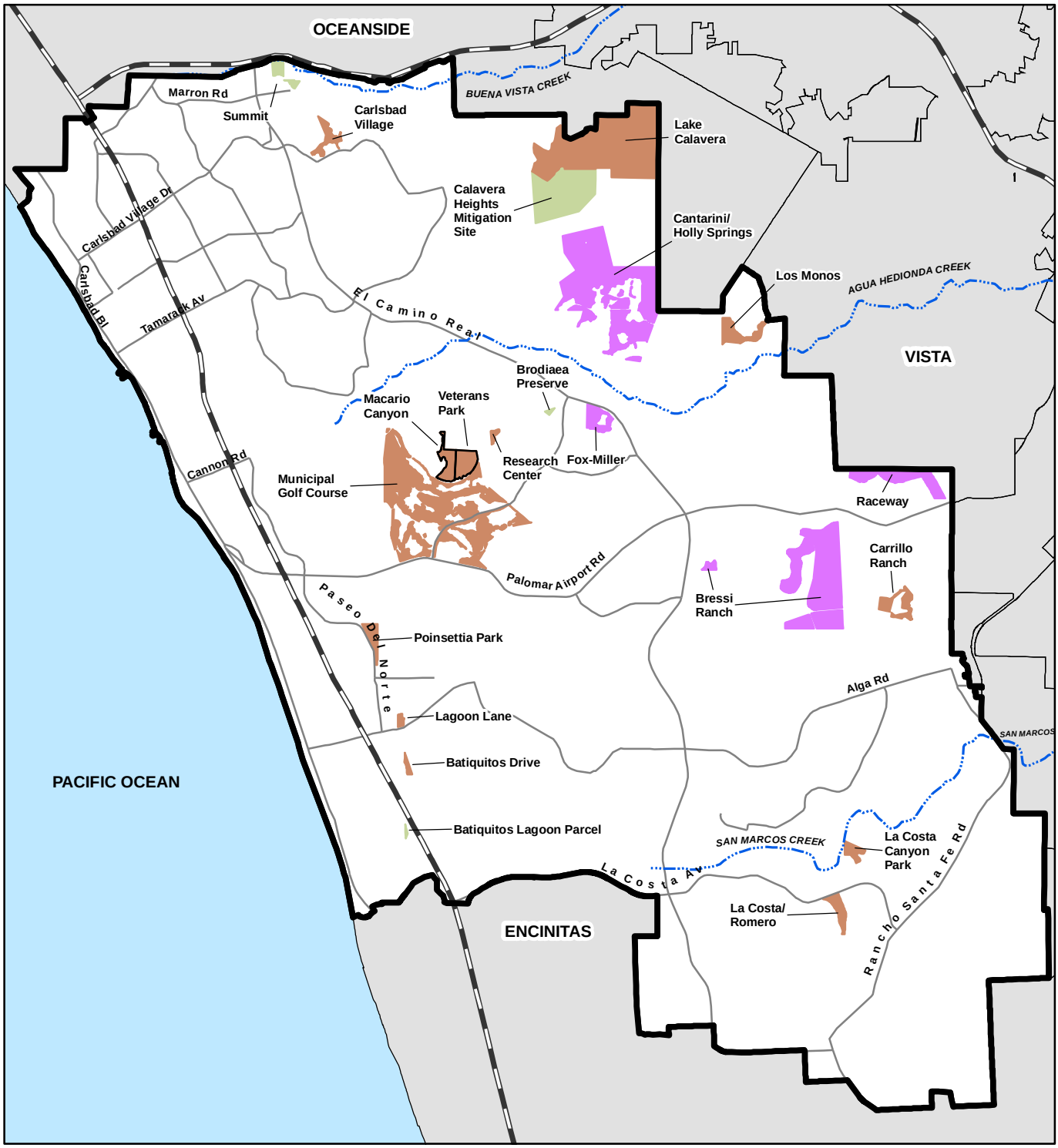
Table 2. Privately Owned Pre-Existing Preserves

Preserve	Acres	Land Owner[1]	PM[2]
Agua Hedionda –Cabrillo Power	73.2	Cabrillo Power	Cabrillo Power
Agua Hedionda –SDG&E	280.2	SDG&E	SDG&E
Arroyo La Costa	Unknown[3]	HOA	HOA
Aviara Conservation Area	Unknown[3]	HOA	HOA
Batiquitos Lagoon Parcel	1.5	Previously TET	(CDFG)
Brodiaea Preserve	1	Previously TET	(CDFG)
Calavera Heights Mitigation Parcel	110	Previously TET	(CDFG)
Calavera Hills Phase I	120	HOA	HOA
Dawson-Los Monos Reserve[4]	106	UCSD	UCSD
Encinitas Creek	Unknown[3]	Multiple HOAs	HOAs
Encinitas Wetlands	19	CNLM	CNLM
Rancho Carrillo Conservation Area	204	Continental Residential Inc.	HOA
Poinsettia Lanes Vernal Pools	2.3	NCTD	NCTD
Summit	11.6	Carlsbad Apts. LLC/TET	(CDFG)

[1] Abbreviations: CDFG = California Department of Fish and Game; HCC = Helix Community Conservancy; HOA = Home Owner's Association; PM – Preserve Manager; NCTD = North County Transit District; TET = The Environmental Trust; UCSD = University of California at San Diego.
[2] Preserve Managers in parentheses indicate that management is currently under negotiation.
[3] GIS data for pre-existing HOA properties are contained in a single GIS layer; therefore, acreages for individual properties are currently unknown, but will be calculated during subsequent mapping updates.
[4] Located partially in City of Vista.

1.3.3 City-Owned Preserves

Table 3 shows City-owned preserves, for which ongoing management will be continuously funded through the City's annual budget appropriation process. City preserves require permanent Level 3 management (see Section 2.1.1), a preserve management plan, and annual reports. Center for Natural Lands Management (CNLM) has prepared a Property Analysis Record (PAR) and PMP, which have been reviewed and approved by the City and Wildlife Agencies. (*Post reporting period update*: the management contract with CNLM was approved by the City Council on December 16, 2008. CNLM will begin actively managing City-owned lands in 2009, which will fulfill the City's obligation to provide management for the Lake Calavera Mitigation Parcel and other City-owned lands as described in the HMP and Implementing Agreement.) Figure 2 shows City properties and other preserves for which management was not finalized as of October 31, 2008.



Legend

- Center for Natural Lands Management-Pending - City Properties*
- Helix Community Conservancy-Pending
  - Bressi Ranch
  - Cantarini/Holly Springs
  - Carlsbad Raceway
  - Fox-Miller Brodiaea Site
- California Dept of Fish and Game-Pending
  - Batiquitos Lagoon Parcel
  - Brodiaea Preserve
  - Calavera Heights Mitigation Site
  - Summit

Basemap Legend

- City of Carlsbad
- Jurisdictional Boundary
- Freeway
- Major Road
- River

N

Feet

0 6,250

*City properties under management as of December 2008.

Technology Associates International Corporation

City of Carlsbad
Preserves with Pending Management

Figure 2

Document: PendingMgmntEntities.mxd

Date: Nov 24, 2008

Table 3. City-Owned Preserves and Mitigation Parcel

Preserve / Project Name	Acres
Batiquitos Drive	2.7
Carlsbad Village	12.7
Carrillo Ranch	16.6
La Costa Canyon Park	8.9
La Costa /Romero	13.0
Lagoon Lane	2.7
Lake Calavera Mitigation Parcel	266.1
Los Monos	20.5
Macario Canyon	33.2
Municipal Golf Course	198.2
Poinsettia Park	12.4
Research Center	2.6
Veterans Park	21.1
Total Acres	**610.7**

1.3.4 Project-Related Preserves

Table 4 shows all project-related preserves (called Proposed Hardline Conservation Areas and Standards Areas in the HMP). Projects that mitigated impacts through an in-lieu mitigation fee rather than land preservation are not included in this table. Note that Moonstone was removed from the table because it is not considered an active project at this time, and Terraces at Sunny Creek was added to the table because the impacts from this project, which occurred outside of the HMP, were mitigated *inside* the HMP. This occurred prior to final HMP approval.

It is useful to understand all of the steps involved in land conservation (i.e., management to HMP standards), because it can take several years after a project is approved to finalize protection and management of a project-related preserve. Projects that were approved after the 1999 draft of the HMP, but prior to final approval of the revised HMP (November 2004), were conditioned to comply with the land preservation requirements; however, due to difficulties in processing Conservation Easements and/or securing a Preserve Manager, some of these “pre-HMP” projects were allowed to grade prior to completion of all preservation-related conditions, deferring the Conservation Easement recordation and other provisions to building permit issuance or Certificate of Occupancy. In Table 4, these are shown as “pending.” If a preserve management contract is still

Table 4. Project-Related Preserves

Preserve / Project Name	Acres	Grading Permit	PAR[1]	Endwmt[1]	CE[1]	Land Owner	PM[1, 2]	PMP[1]	Annual Reports	Comments
Bressi Ranch	154	Jan-03	Pending	Pending	Pending	Lennar	(HCC)	Jul-05	None	Latest PAR draft Mar-08.
Calavera Hills Phase II (Calavera West or Calavera Heights)	133	2002	2006	May-06*	May-06	Calavera Hills HOA	CNLM	2002	2006-2008	*CNLM merged funds with Robertson Ranch East for cost savings since client uses CNLM for both projects.
Cantarini/Holly Springs	115	No	Pending	Pending	No	Benteq/Bentley-Monarch	(HCC)	None	None	Project was redesigned; PAR must be re-run
Carlsbad Oaks North Habitat Consv. Area	221	11/12/04	2006	Jun-06	Nov-05	CNLM, County	CNLM	2006	2005-2008	
Carlsbad Raceway	43	Jan-03	Pending	Pending	Sep-08	H.G. Fenton	(HCC)	None	None	Under review: cost est: Dec-05; CE Sep-06; PM Nov-06.
Emerald Pointe Estates	9.4	3/21/06	Feb-06	12/12/06	Feb-06	Saddleview LLC	HCC	None	None	CE to be recorded; Escrow expected to close in November 2008.
Encinas Creek (Biltmore)	8	No	Nov-07	Dec-07	May-08	Ascent Biltmore Clsbad, LLC	Merkel/ HCC	Dec-06	None	Under 5 yr restoration program with Merkel. HCC to start permanent management Aug-2012.
Kelly Ranch HCA	57.8	2003	2002	Feb-02	Feb-02	multiple	CNLM	2002	2002-2008	
N. County Habitat Bank	18.7	N/A[1]	5/24/07	5/07/07	Unknown	Westmark Dvp	CNLM	2006	None	Pre-existing; no grading permit required.
Palomar Pointe/Hieatt	6.5	2/03/05	Date unknown	No (see comments)	No	Larry Jet; Lanikai Mgmt Group	Helix	2005	None	Offsite mitigation (8.7) at Whelan Ranch, 16.8 ac creation. Financial guarantee: Mgmt is contracted out and paid for by landowner (L. Jett).
Rancho La Costa (La Costa Villages)	1,026	3/31/04	2001	2002 and 2003	Pending	CNLM	CNLM	2006	2002-2008	Includes the CAGN Core Area parcels outside of the City limits.
Robertson Ranch East	72	1/16/07	Feb-07	2/6/07*	2/6/07	Calavera Hills II LLC	CNLM	2006	2008	*CNLM merged funds with Calavera Hills Phase II for cost savings since client uses CNLM for both projects.
Special Resource Area 1: Fox Miller Brodiaea site	16.3	12/28/05	Pending	Pending (see comments)	Sep-08	HG. Fenton	Helix EPI (HCC)	Dec-05	None	Relocation, restored and non-restored areas managed by Helix (by annual contract). HCC will manage property when 5-yr restoration is complete.
Terraces at Sunny Creek	43.2	4/26/00	No	No	No	Rancho Milagro LLC	Glen Lukos (developer)	None	None	Pre-HMP project outside HMP; mitigation w/in HMP; endowment etc. not required.
Water's End[4]	3.3	5/15/02	No	Yes, see comments	1994	HOA	HOA	None	None	Mitigation fee of $100,000 paid by developer for long-term management, held by City.

[1] Abbreviations: PAR – Property Analysis Record; Endwmt – endowment; CE – Conservation Easement; PM – Preserve Manager; PMP – Preserve Management Plan; NCTD = North County Transit District; N/A Not applicable

[2] Preserve Manager names in parentheses indicate that the management contract is currently under negotiation.

[3] In general, TET properties have no endowment (due to bankruptcy) or have an endowment that is too small to adequately manage the property.

[4] Water's End is not in the HMP. However, it is protected open space adjacent to the Poinsettia Lanes Vernal Pools (vernal pool watershed). Five years of restoration monitoring was completed this last year, and the HOA took over preserve management.

under negotiation, the preserve manager is shown in parentheses (see Figure 2 for preserve location). Currently (since November 2004), as a condition of final project approval, all of the following steps must be taken by the landowner or developer before a grading permit will be issued by the City:

- Preparation of a Property Analysis Record (PAR) to assess the initial start up costs and costs of management and monitoring of the preserve in perpetuity.
- Preparation of an area-specific Preserve Management Plan (PMP) to ensure adequate management and monitoring of biological resources.
- Establishment of a non-wasting endowment to provide funds for preserve management in perpetuity.
- Establishment of a Conservation Easement on the preserve.
- Procurement of a Preserve Manager for the preserve whose qualifications are consistent with Wildlife Agency guidelines.

1.3.5 Mitigation Bank and City Mitigation Parcel

Currently there is only one active mitigation bank in Carlsbad. The North County Habitat Bank began providing 18.7 acres of wetland/riparian and upland credits in May 2007. The acreage includes credits for CDFG and Army Corps of Engineers wetland and riparian creation/restoration and enhancement, and credits for upland habitat preservation. Currently there are 14.1 wetland/riparian credits and 0.8 upland credits remaining.

The City-owned Lake Calavera Municipal mitigation parcel will provide mitigation only for City projects. Credits will be deducted on an acre-for-acre basis for impacts to upland habitat (except for gnatcatcher-occupied coastal sage scrub, southern maritime chaparral, and maritime succulent scrub) and wetlands as needed for City project-related impacts. No credits will be sold to outside entities. Table 5 shows total debits to date. No debits occurred during the reporting period. A PAR and PMP have been prepared and approved by the City and Wildlife Agencies. A preserve management contract with CNLM was approved by the City Council on December 16, 2008.

Table 5. Mitigation Acreage Provided at Lake Calavera Mitigation Parcel

Credits and Debits	Acres[1]
INITIAL CREDITS	*266.1*
Total Debits as of October 31, 2007	82.3
Year 4 Project-Related Deductions (Nov 2007 – Oct 2008) 1. None *Subtotal Year 4 debits*	*0*
Total Debits	***82.3***
TOTAL ACRES AVAILABLE AS OF OCTOBER 31, 2008	**183.8**

[1] Rounded to the nearest tenth of an acre.

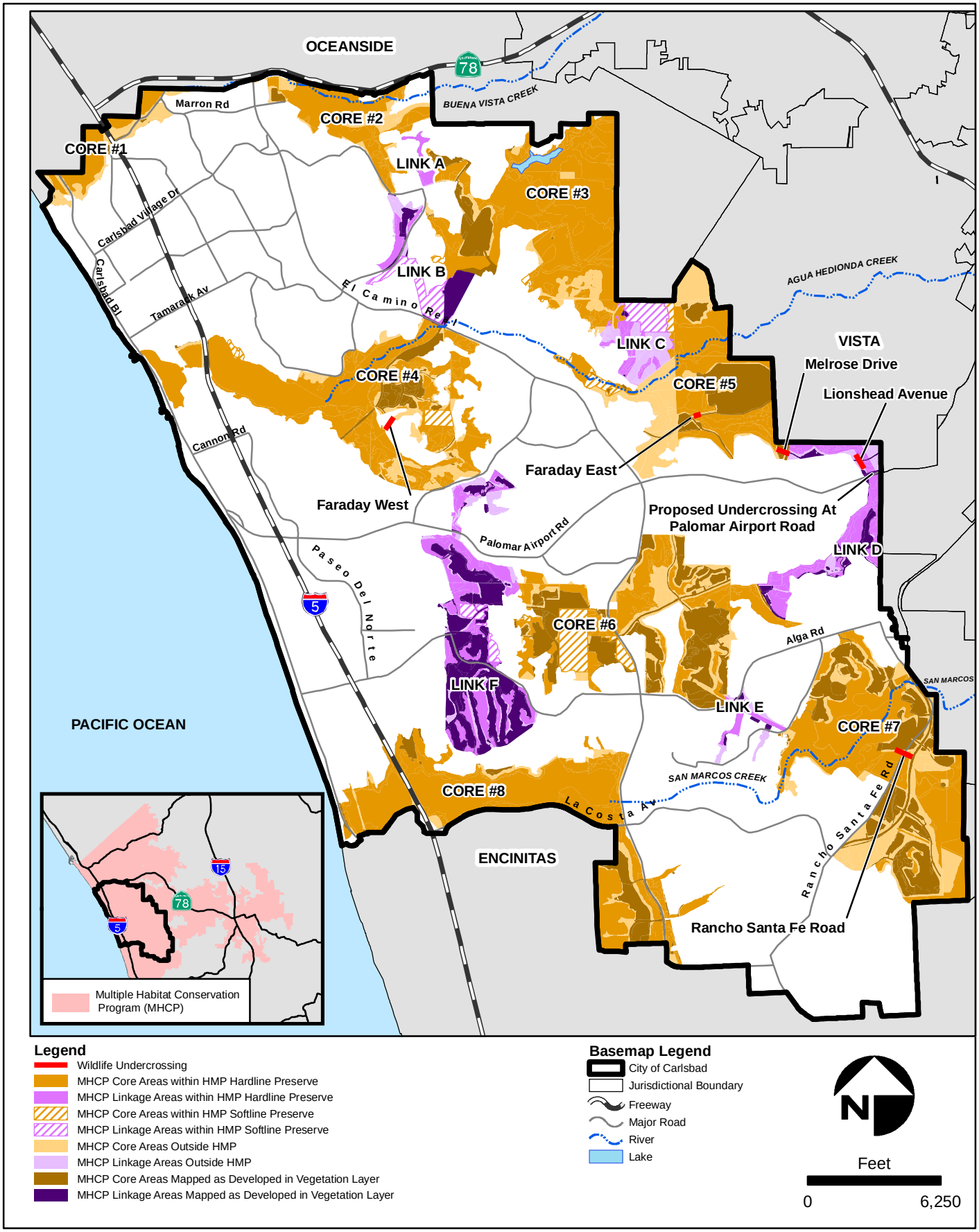
1.3.6 Wildlife Movement Corridors and Crossings

Current Status of Core and Linkage Planning Area

During the design phase of the MHCP, the Focused Planning Area (FPA) was developed to accommodate regional wildlife movement. It included the areas of highest priority for conservation, and consisted of blocks of core habitat connected by habitat linkages. The FPA was a planning area within which each MHCP subarea plan, such as the Carlsbad HMP, that would later be developed. Core Areas 1 – 8, and HMP Linkages A – F were included in the FPA within Carlsbad (Figure 3).

To support wildlife movement in these areas, wildlife-friendly undercrossings are occasionally required as a condition of approval for new development projects to ensure continued functionality of the HMP Linkages and to reduce road-kill incidents. Four such undercrossings have been built: under Rancho Santa Fe Road, Lionshead Avenue, Melrose Drive, Faraday Avenue West, and Faraday Avenue East.

The current status of the major wildlife movement corridors and existing crossings in the HMP preserve area is summarized in Table 6. Figure 3 shows this information graphically. Medium shades of orange (core areas) and purple (linkages) show portions of the original FPA that are now hardlined into the preserve; light shades of orange and purple show areas in the FPA that were not included in the HMP preserve; dark shades of orange and purple are areas within the FPA that have been developed; and hatched areas are softline preserve areas (Standards Areas that have not yet been preserved) within the FPA. Figure 3 illustrates that the interconnected system of core and linkage areas is almost complete. Only a few unpreserved areas remain, and one of these areas (Robertson Ranch West) has already been planned, although it has not been preserved.



Technology Associates International Corporation

City of Carlsbad
Wildlife Movement Corridors, Linkages, and Crossings

Figure 3

Document: WildlifeMovement_Undercrossings.mxd

Date: Jun 25, 2009

Table 6. Current Status of Wildlife Movement Corridors and Existing Crossings

Corridor/Crossing[1]	Description	Current Status
HMP Linkages A-F and associated projects A - Calavera Hts Village K, EH B - Roberston Ranch, SA C - Mandana; Holly Springs/Cantarini; Kato (no current action) D - Carlsbad Raceway; Bressi, EH E - EH; No current projects F - NC Calvary Chapel; Emerald Pt Estates; golf course, EH	Habitat linkages identified in the HMP that serve as wildlife movement corridors between core habitat areas (HMP Figure 3).	Linkage Status A- Entire linkage conserved B- Built out consistent with HMP (RR final map approved) C- Built out except for Kato and Mandana properties D- Built out E- Mostly built out F- Built out except for a few Standards Area properties.
Rancho Santa Fe Road undercrossing	Roadway undercrossing located within the Villages of La Costa Preserve Area.	In place – management performed by CNLM and City.
Lionshead Avenue undercrossing	Roadway undercrossing located within the Carlsbad Raceway industrial development.	In place – management performed by local Owner's Association until PM secured.
Melrose Drive undercrossing	Roadway undercrossing located within the Carlsbad Raceway industrial development.	In place – management performed conjointly with Lionshead undercrossing.
Faraday Avenue West undercrossing	Roadway undercrossing located at Veteran's Memorial and Hub Park.	In place – management performed by City.
Faraday Avenue East undercrossing	Located at intersection with El Fuerte, Carlsbad Oaks N. Preserve.	In place – management performed by CNLM.

[1] EH = Existing Hardline; SA = Standards Area

Wildlife Corridor Studies

CNLM began conducting a wildlife movement study in Carlsbad Oaks North in March of 2007 using wildlife cameras. The goal of the study is to understand trends in wildlife movement at "pinch point" locations and potential movement corridor locations throughout the preserve, and to determine if the Faraday Avenue East undercrossing is being used by wildlife. During the current management year, photographs of three coyotes and two mule deer were taken at four locations. In addition, signs of usage (pellets and tracks) were abundant along the middle section of La Mirada Creek, nearby El Fuerte and Faraday intersection, and along the eastern margin of the preserve north of Faraday Avenue along freshwater marsh habitat. Based on two years of data, it appears that animals tend not to use dense streamside habitat or stream channels for through travel or foraging. However, more data are needed to more accurately assess movement patterns.

A wildlife corridor study was also initiated in Rancho La Costa preserve; however, the cameras were stolen or vandalized, and therefore no information has been collected yet.

1.3.7 Carlsbad's Gnatcatcher Core Area Obligation

Acreage

As of October 31, 2008, 264.75 acres of the 307.6-acre Gnatcatcher Core Area obligation have been met through up-front acquisitions, project-related mitigation, and credit for habitat restoration within the City, leaving 43.02 acres that must still be acquired and conserved by the City (see the Third HMP Annual Report for details). The City, however, must also reimburse the cost of up-front land acquisition (50.13 acres). Upfront acquisition is land in excess of the La Costa Villages Project mitigation requirements that were purchased by the developer (Lennar) in anticipation of the HMP Core Area requirements. In-lieu mitigation fees will be used to purchase the remaining 43 acres after all reimbursement obligations have been met. Lands within the Gnatcatcher Core Area are currently being managed by CNLM as part of the Rancho La Costa Open Space Preserve.

In-Lieu Habitat Mitigation Fee Program.

Under certain conditions, project impacts that occur outside of the HMP preserve area may be mitigated through a fee, rather than onsite land conservation. A total of $159,313.97 of in-lieu mitigation fees were collected during the reporting period. As of October 31, 2008, the total amount of money in the fund was $945,765.74. A detailed accounting of these fees 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) habitat loss is occurring in rough step with development, (b) the HMP Preserve is being assembled as anticipated, and (c) the habitat conservation goals of the HMP are being achieved. Habitrak is a software 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

The number of acres of each habitat projected to be conserved in the HMP Preserve at build-out is given in Table 8 of the HMP (reproduced in Table 7 below), including 6,478 acres of habitat within the City and an additional 307.6 acres of habitat within the Gnatcatcher Core Area outside of City limits (note that some of these requirements have been met through habitat enhancement within the HMP). According to this table, the total projected amount of conserved land is 6,786 acres. However, the Implementing Agreement states that the City is obligated to establish a preserve of 6,757 acres, a difference of 29 acres. At this time the origin of this discrepancy is unknown.

Table 7. HMP Target Conservation of Habitats (Comparison of Habitat Categories in HMP and Habitrak)

HMP Table 8		Habitrak	
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
		Subtotal	*2,139*
Chaparral	676	Chaparral	676
Southern maritime chaparral	342	Southern maritime chaparral	342
Oak woodland	24	Coast live oak	20
		Other oak woodland	4
		Subtotal	*24*
Riparian	494	Riparian forest	82
		Riparian woodland	17
		Riparian scrub	395
		Subtotal	*494*
Marsh	1,252	Southern coastal salt marsh	143
		Alkali marsh	9
		Freshwater marsh	165
		Freshwater	53
		Estuarine	789
		Disturbed wetland	93
		Subtotal	*1,252*
Grassland	707	Grassland	707
Eucalyptus woodland	99	Eucalyptus woodland	99
Disturbed lands	745	Agriculture	185
		Disturbed Land	244
		Developed	316
		Subtotal	*745*
Total Target Conservation within Carlsbad	**6,478**	**Total Target Conservation within Carlsbad**	**6,478**
Carlsbad's Gnatcatcher Core Area Contribution	308[1]	Not tracked in Habitrak	N/A
Total HMP Target Conservation	**6,786**		

[1] Rounded to the nearest acre.

Habitrak 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 7 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 Project-Related Gains and Losses

During the reporting period, there were no habitat losses mitigated through habitat preservation (Table 8). A gain of 8.97 acres of habitat outside of the HMP Preserve is described in Section 1.4.5. Habitat losses mitigated through *in-lieu* fees rather than habitat preservation included 1.13 acres of unoccupied coastal sage scrub, 2.5 acres of nonnative grassland, and 38.22 acres of disturbed habitat (see Section 3.1.2).

To date, cumulative habitat gains and losses inside the Preserve are 5,407.2 acres and 169 acres, respectively (Table 8). This represents 83% (5,407/6,478 acres) of the target acreage for the HMP Preserve, not counting the Gnatcatcher Core Area. It should be noted that these cumulative gains and losses differ from those previously reported due to adjustments made in the Habitrak reporting system as explained in Section 1.4.3 below. When the management contract for City-owned lands is finalized (see explanation in next section), an additional 310.4 acres of gain will be counted in Habitrak, bringing the total gain to 88%. *Update:* The management contract with CNLM was approved by the City Council on December 16, 2008.

Note that Proposed Hardline areas, as shown in HMP Figure 28, were pre-negotiated areas of mitigation (preserved open space) for proposed projects. When setting preserve boundaries during the development of the HMP, project-related losses within a given Proposed Hardline property were not included, and therefore these losses show up as losses outside of the preserve (shown in Table 8). Losses within Standards Areas are shown as losses inside the preserve. Losses associated with Existing Hardline areas will show as baseline loss when data for gains and losses *outside* of the HMP preserve are collected and input into Habitrak during next year's analysis.

Table 8. Summary of Habitat Losses and Gains

Year 4

Plan: MHCP West San Diego County

Date Range: 11/1/2007 - 10/31/2008

Project Gain Status: Gain

Project Loss Status: Loss

City of Carlsbad

		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	
Habitat Type	**Target Cons.**	**Current Period**	**Cummulative**	**Current Period**	**Cummulative**	**Cons. to Date %**	**Current Period**	**Cummulative**	**Current Period**	**Cummulative**	**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
Maritime Succulent Scrub	29	0.0	1.6	0.0	25.5	88.0 %	0.0	0.0	5.5	5.5	0.0	1.6	5.5	31.1
Coastal Sage Scrub	2,003	0.0	11.4	0.0	1,455.3	72.7 %	0.0	141.9	0.0	0.1	0.0	153.3	0.0	1,455.4
Chaparral	676	0.0	0.5	0.0	507.5	75.1 %	0.0	65.7	0.0	0.0	0.0	66.2	0.0	507.5
Southern Maritime Chaparral	342	0.0	0.0	0.0	328.2	96.0 %	0.0	15.5	0.0	1.5	0.0	15.5	0.0	329.6
Coastal Sage-Chaparral Scrub	107	0.0	0.0	0.0	98.8	92.3 %	0.0	153.5	0.0	0.0	0.0	153.5	0.0	98.8
Grassland	707	0.0	21.8	0.0	609.9	86.3 %	0.0	216.7	0.0	0.3	0.0	238.5	0.0	610.2
Southern Coastal Salt Marsh	143	0.0	0.0	0.0	127.8	89.4 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	127.8
Alkali Marsh	9	0.0	0.0	0.0	0.0	0.0 %	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Freshwater Marsh	165	0.0	0.0	0.0	121.7	73.8 %	0.0	0.9	0.0	0.3	0.0	0.9	0.0	122.0
Riparian Forest	82	0.0	0.9	0.0	62.4	76.1 %	0.0	1.3	0.0	0.4	0.0	2.2	0.0	62.8
Riparian Woodland	17	0.0	1.3	0.0	8.8	51.9 %	0.0	0.0	0.0	0.0	0.0	1.3	0.0	8.8
Riparian Scrub	395	0.0	0.1	0.0	351.8	89.1 %	0.0	9.8	0.0	0.6	0.0	9.8	0.0	352.4
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
Coast Live Oak	20	0.0	0.0	0.0	0.8	4.0 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
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	4.8
Freshwater	53	0.0	0.0	0.0	36.2	68.4 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2
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	776.5
Disturbed Wetland	93	0.0	0.0	0.0	88.6	95.3 %	0.0	11.7	0.0	0.0	0.0	11.7	0.0	88.6
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
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
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
Agriculture	185	0.0	117.0	0.0	200.0	108.1 %	0.0	430.1	2.1	2.2	0.0	547.2	2.1	202.1
Eucalyptus Woodland	99	0.0	1.3	0.0	94.9	95.8 %	0.0	0.5	0.0	0.0	0.0	1.9	0.0	94.9
Disturbed Land	244	0.0	0.0	0.0	202.8	83.1 %	0.0	190.2	1.1	4.5	0.0	190.3	1.1	207.3
Urban/Developed	0	0.0	13.0	0.0	304.8		0.0	42.3	0.3	0.7	0.0	55.4	0.3	305.5
Southern Foredunes	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
Agency Total:		**0.0**	**169.1**	**0.0**	**5,407.2**		**0.0**	**1,280.3**	**9.0**	**16.0**	**0.0**	**1,449.4**	**9.0**	**5,423.2**

1.4.3 Changes Made in Habitrak

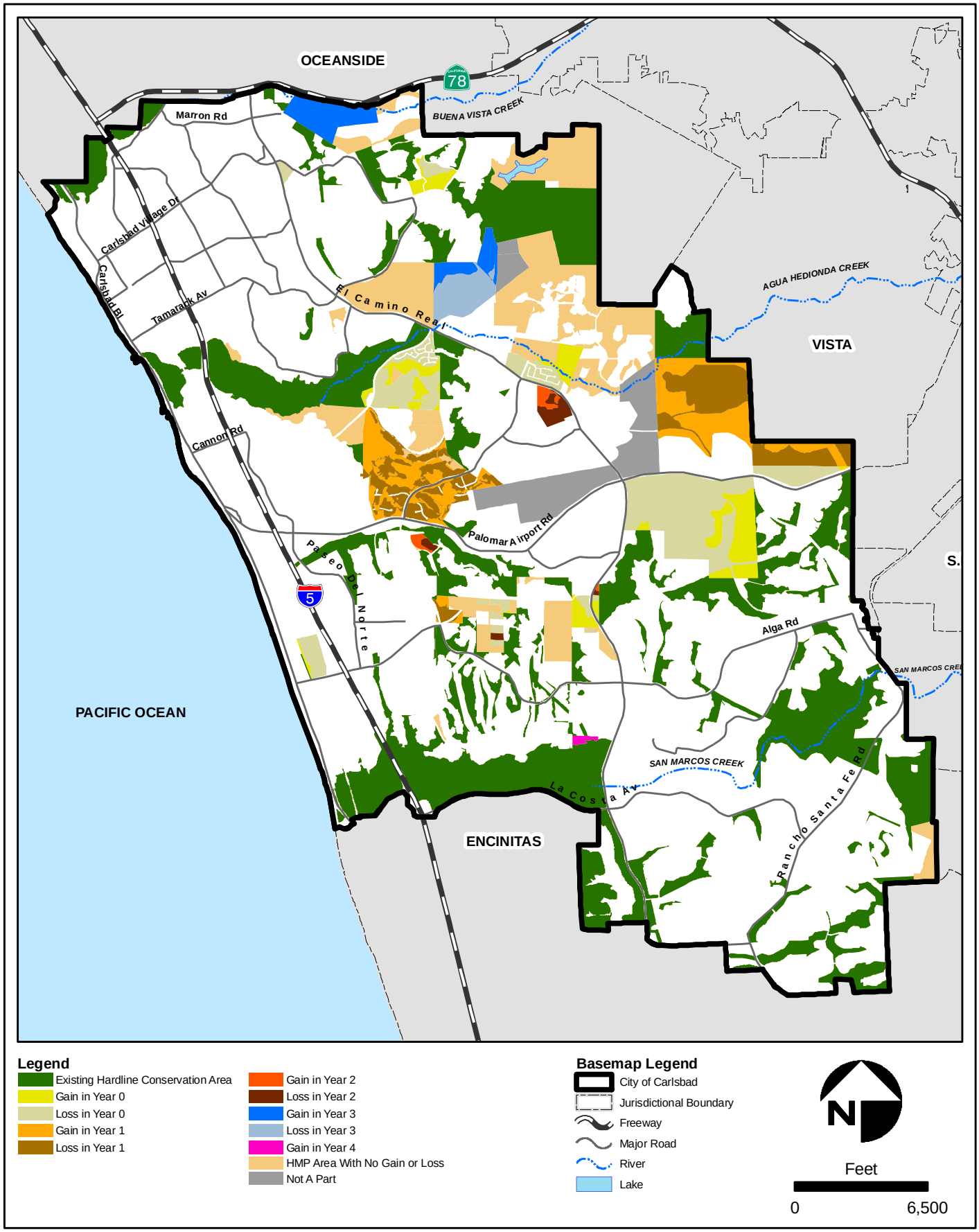
An accuracy check was conducted to ensure that all projects were entered into Habitrak correctly, and to verify project information. Based on the results of this assessment, the changes below were made to Habitrak (see Appendix A for Habitrak reports that were re-run for years 1 through 4). Cumulative gains and losses are shown graphically on Figure 4, and a summary table showing gains and losses by habitat type is shown below (Table 8).

- Macario Canyon, Veteran's Memorial Park, and Lake Calavera (310.4 acres total) show as Proposed Hardline in the HMP. These City properties were input as Existing Hardline (gain) during the initial run of Habitrak; however, they do not currently have HMP-level management and were therefore changed back to Proposed Hardline (i.e., not a gain), until management is secured. (*Post reporting period update*: management was secured on December 16, 2008). See Section 1.4.2 above for a discussion about the effect of this change in Habitrak.
- Aviara habitat gains (43.94 ac) and losses (140.69 ac) had been input as project-related losses inside the HMP preserve. Since this HOA property is an Existing Hardline in the HMP, project-related gains and losses for Aviara were removed from Habitrak. When data for gains and losses *outside* of the preserve are collected and analyzed, habitat losses for Aviara will show as baseline loss outside the HMP.
- The Shelley (48.86 ac) and Cantarini/Holly Springs (234.15 ac) properties were removed from Habitrak because grading permits have not yet been issued.
- Palomar Forum was added to Habitrak as a separate project. The parcel was initially thought to be part of the Raceway property.

Known Issues to be Corrected During the Next Reporting Cycle

During the Wildlife Agency review of this report, it was noted that the boundary for Carlsbad Highlands Ecological Reserve was incorrect. Three Proposed Hardline parcels in the Holly Springs area were purchased by CDFG in 2002, but are not reflected in the current GIS database. Figure 1 was updated to reflect the correct boundary; however, because Habitrak reports have already been run for the current reporting period, the acreage will be corrected in next year's annual report.

In addition, habitat losses mitigated by *in-lieu* fees rather than habitat preservation have not been incorporated into Habitrak. These will be included in next year's annual report.



Technology Associates International Corporation

City of Carlsbad

Project Gains and Losses By Reporting Year

Figure 4

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\projects_gain_loss_yr4.mxd

Date: Dec 04, 2008

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 agencies is that acres of habitat gain must be within approximately 10% of habitat losses (Christine Beck, CDFG, pers comm.). Rough step development is built into the City's project permitting process. For projects within the HMP, the City requires that the following are approved and/or in place before a grading permit will be issued: PAR analysis, non-wasting endowment for perpetual management, conservation easement, preserve management plan, and a contract with an approved preserve manager. Some projects that were initiated *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. Habitat impacted *outside* of the HMP is mitigated through an *in-lieu* mitigation fee.

1.4.5 Land Acquisitions

Although no land acquisitions have occurred inside the HMP preserve area, the Batiquitos Lagoon Foundation (BLF) was able to purchase the Mitsuuchi property, which is adjacent to the preserve hardline on the north shore of Batiquitos Lagoon. According to the restrictions associated with ESA Section 6 grant money, this property cannot count toward target acreage or other 10(a) permit requirements. As described on the BLF website:

> Funding for the $2.4 million purchase of this 18 acre property of California wetland and sage habitats was made possible through grants from the California Coastal Conservancy ($1.7 million) and the California Department of Fish and Game's Wildlife Conservation Board (WCB - $700,000). The WCB funding was made possible by Section 6 non-traditional habitat conservation plan grant funds provided by the U. S. Fish and Wildlife Service. Pre-acquisition funding support for such activities as a property appraisal, brokerage, legal services, site assessments, and other related services was provided by a grant of up to $50,000 from the California Coastal Conservancy. Planning has already begun for development of an Open Space Easement, habitat restoration and trails for public access.

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

when take of a listed species is anticipated; and (4) by ensuring consistency with the terms and conditions of the IA, and State NCCP and federal HCP permits.

1.5.1 HMP-related Permits and Amendments

During the current reporting period, 3 HMP permits for development projects have been reviewed by the City, 1 of which has been approved (Table 9). Table 9 also includes a status update for HMP permits that were initiated prior to the reporting period, but had not been approved as of last year's annual report. No incidental take permits have been issued and no minor or major amendments have been completed.

Table 9. HMP Permits Issued During Years 1-3.

HMP Permit No.	Project Name	Date	Status
HMP 06002	Johnson Residence	03/31/2006	Pending
HMP 06003	Agua Hedionda Creek	04/04/2006	Complete
HMP 06007	Encina East Stormwater	09/21/2006	Complete
HMP 06009	Dos Colinas	10/19/2006	Incomplete
HMP 06012	Aura Circle	12/15/2006	Pending
HMP 07001	Rancho Carrillo Trail Extension	01/04/2007	Pending
HMP 07002	Muroya Subdivision	01/10/2007	Incomplete
HMP 07004	Adams Street Subdivision	04/23/2007	Complete
HMP 07005	Villagio – Kelly Ranch	05/14/2007	Pending
HMP 07006	S. Coast Materials Quarry	07/31/2007	Incomplete
HMP 07007	Seascape	08/23/2007	Void
HMP 07008	El Camino Real Rd Widening	09/19/2007	Pending
HMP 07009	Seascape	12/03/07	Pending
HMP 0504X1	Shelley Property	2/12/08	Approved
HMP 0606X1	La Costa Condominiums	3/12/08	Complete

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 10-13. 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 10. Summary of City Compliance with HMP Requirements Outlined in the Implementing Agreement (IA).

IA Section	Obligation	City Compliance
10.10	**Duty to Enforce:** To enforce the terms of the Take Authorization, HMP, and IA and ensure HMP lands are conserved in perpetuity.	▪ The City requires compliance with the HMP as a condition of approval for new development projects, which includes conservation in perpetuity, a non-wasting endowment, and a management agreement with a preserve manager. ▪ On March 14, 2006 the City passed the Habitat Preservation and Management Requirements Ordinance (Carlsbad Municipal Code § 21.210), which includes a section on enforcement (§21.210.19) for violations of the HMP. ▪ The City is currently developing an enforcement policy as well as a coordinated multi-departmental trail enforcement program (Section 2.1.6). ▪ Complaints made by citizens regarding possible violations of the HMP within preserves are investigated on a case by case basis.
11.1	**Preserve System:** To ensure the establishment and management in perpetuity of a 6,757-acre Preserve System.	▪ The City has currently gained 5,407 acres of habitat within the HMP planning area (83% of target acreage). See Section 1.4.2 for more details. *Update*: As of December 16, 2008 (management contract with CNLM approved by City Council) the cumulative gain is 5,717 (88% of target acreage).
11.2	**Project Mitigation Measures:** To require additional mitigation measures to mitigate impacts to covered species in all future development projects.	▪ As a condition of approval for new development projects, the City requires that all potential impacts to HMP covered species be avoided, minimized, or mitigated.
11.3	**Regulatory Implementation:** A. Urgency Ordinance – interim HMP enforcement B. Amend Open Space and Conservation Element of General Plan to incorporate HMP C. Amend Open Space Ordinance to incorporate Conserved Habitat Areas D. Amend Municipal Code to incorporate Standards Area compliance E. Amend General Plan to identify HMP as priority use for open space lands F. Wetlands Protection Program	A. The Emergency Ordinance was approved by the City Council November 9, 2004. B. Revisions to the policy statements regarding the HMP were approved by the City Council in July, 2005. C. Revisions were made to Carlsbad Municipal Code § 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 – awaiting approval. 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 – awaiting approval. 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. 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 – awaiting approval. Compliance is enforced on a project by project basis during environmental review. In addition, the City is developing Guidelines for Riparian and Wetlands buffers, which will further protect wetland habitat.

Table 10. Summary of City Compliance with HMP Requirements *continued*

IA Section	Obligation	City Compliance
11.4	**Additional Implementation Measures:** To implement measures included in MHCP.	▪ The MHCP, HMP, and OSMP conservation measures are currently being implemented during the approval process for all development projects and preserve management activities. ▪ See Section 1.6 for details about additional implementation measures.
11.5	**Regional Conservation:** To effectuate the conservation of 307.6 acres of land within the MHCP Gnatcatcher Core Area, and convey the property to a qualified preserve manager.	▪ The City has met 264.39 acres of its coastal sage scrub conservation obligation through up-front acquisition (50.13 acres), project mitigation (150.26 acres), and habitat enhancement credit (64 acres). ▪ The City must reimburse Lennar (developer) for the 50.13 acres that were purchased up-front (see above), and acquire an additional 43.02 acres, and. ▪ A non-wasting endowment was established prior to final HMP approval to provide for management of the land in perpetuity. ▪ The Core Area properties are protected under a Conservation Easement, and are being monitored and managed by the Center for Natural Lands Management (CNLM).
11.6	**Cooperative Regional Implementation:** To participate in MHCP Elected Officials Committee.	▪ To date, Carlsbad is the only MHCP jurisdiction with an approved subarea plan, so this is not applicable at this time. However, the City participates in meetings to discuss MHCP-wide issues with other MHCP jurisdictions and SANDAG as needed.
12.1 **12.2** **12.4** **12.5**	**Monitoring and Reporting:** To track habitat gains and losses within the HMP area (which should occur in rough step with one another); to maintain its database of biological resources; to submit an annual report by December 1 of each year; and to hold a public meeting to discuss HMP implementation; to provide the Wildlife Agencies with additional reports if necessary for compliance monitoring; and to certify all reports.	▪ Habitat gains and losses are being tracked through Habitrak. Rough step preserve assembly is built into the City's permitting process (See Section 1.4 for details.) ▪ Currently the City Planning Department is working with the Preserve Steward, preserve managers, and City GIS staff to determine the best approach to develop and manage monitoring data. ▪ Protocols and standards will be developed with regard to baseline surveys and monitoring (survey methods and data format), entry and attributing of GIS data, and data management. ▪ The first public workshop was held on May 3, 2008. It was given in the spring so that participants could be taken on a field trip to learn about the preserve lands. The current report was submitted to the Wildlife Agencies on December 31 of 2008.

Table 10. Summary of City Compliance with HMP Requirements *continued*

IA Section	Obligation	City Compliance
12.3	**Preserve Management and Monitoring Plan:** To prepare a preserve management and monitoring plan that will detail recommendations in HMP Section F.	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; however, the City is currently implementing OSMP policies.
13.0	**Adaptive Management:** To ensure that adaptive management actions do not result in less mitigation than provided for the HMP Covered Species under the original terms of the HMP unless approved by the Wildlife Agencies..	▪ 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. ▪ Carlsbad is developing a compliance checklist for the preserve managers; the checklist will include a section on adaptive management activities (pilot study design, methods, results, etc.).
14.0	**Funding:** 14.1 MCHP Core Area Participation 14.2 Preserve Management and Monitoring Plan 14.3 Management of City owned public lands 14.4 Management of private lands in HMP area 14.5 Management of Existing Hardline areas 14.6 Program Administration 14.7 Habitat In-Lieu-Mitigation Fees	14.1 The City has met 264.39 acres of its 307.6-acre coastal sage scrub conservation obligation. The City must acquire an additional 43.02 acres, and reimburse Lennar (developer) for the 50.13 acres that were purchased up-front. Reimbursement and acquisition (in that order) will be paid for by in-lieu mitigation fees. 14.2 The Preserve Management and Monitoring Plan (now called the Open Space Management Plan or OSMP) was completed in September 2004 using City funds. 14.3 In June 2007, the City Council approved a budget of $670,000 for management of City preserves, the Preserve Steward, annual reporting, public outreach, and preserve fencing for the 07/08 fiscal year. The PAR, PMP, and management contract with CNLM have been approved by the City and Wildlife Agencies, and were approved by the City Council on December 16, 2008. Start up costs and management for City-owned preserves for the first year of management will be $344,000, and $170,000 per year thereafter. 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. 14.5 Hardline preserves in existence before final HMP approval are owned and managed by several other entities, including the CDFG and private HOAs. 14.6 The City has contracted with Technology Associates (TAIC) to serve as the City's Preserve Steward, who coordinates management throughout the HMP Preserve, and monitors HMP compliance and management effectiveness. See 14.3 for budget. 14.7 The City has implemented an in-lieu-mitigation fee for new development that will pay for the City's remaining Gnatcatcher Core Area obligations.

Table 11. Summary of City Compliance with Terms and Conditions of the NCCP Take Authorization/Permit

NCCP Permit Terms and Conditions (T&C)	Description of City Compliance
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. A. Urgency Ordinance –interim HMP enforcement. B. Amend OSC Element of General Plan to incorporate HMP. C. Amend Open Space Ordinance to incorporate Conserved Habitat Areas. D. Amend Municipal Code to incorporate Standards Area compliance. E. Amend General Plan to identify HMP as priority use for open space lands. F. Wetlands Protection Program.	See Table 10, IA Section 11.3.
G. This permit is subject to compliance with the MHCP Volumes I-III, HMP, including Addenda 1 and 2, and the IA.	All project approval within the City is subject to these requirements as a condition of approval.
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).	See Table 12, USFWS 10(a) Permit Condition 7 for a description of compliance.
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. MHCP Volume II includes the following policies and conditions: • Standard Best Management Practices (Appendix B) • General Outline for Revegetation Plans (Appendix C) • Narrow Endemic Species and Critical Population Policies (Appendix D) • Conditions for Estuarine Species (Appendix E) • CEQA requirements for quantifying and mitigating impacts	See description for Condition G. MHCP Vol. II policies and conditions are reviewed during regular HMP compliance review for all new projects within Carlsbad. In addition, these policies have been integrated and/or referenced in the Guidelines for Biological Studies.

Table 12. Summary of City Compliance with the Terms and Conditions of the Federal ESA Section 10(a)(1)(B) Take Authorization/Permit

FESA 10(a) Permit Terms and Conditions (T&C)	Description of City Compliance
1. All sections of Title 50 Code of Federal Regulations (CFR) 13, 17.22, and 17.32 are conditions of this permit.	Appropriate language has been integrated into the HMP and IA; therefore, compliance with these documents ensures compliance with Title CFR sections.
2. The permittee is subject to compliance with the MHCP, HMP, and IA.	The City complies with all regulations as described in Tables 10 and 11.
3. The amount and form of take are authorized as described below. Referenced tables are from Attachment 2 of the T&C, and are the same as List 1-3 Species in HMP Section C. Coverage for species in HMP Tables 2 and 3 below require the City to submit in writing a request for coverage, including documentation showing compliance.	See next page.

Table 12. Summary of City Compliance with Terms and Conditions of Federal ESA Section 10(a)(1)(B) Take Authorization/Permit *continued*

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

Table 12. Summary of City Compliance with Terms and Conditions of Federal ESA Section 10(a) Take Authorization/Permit *continued*

FESA 10(a) Permit Terms and Conditions (T&C)	Description of City Compliance
Table 3. (b) Take is contingent upon (a), described above, *and* the City receiving legal control over the vernal pools adjacent to the Poinsettia Train Station. *Eryngium aristulatum* var. *parishii* – San Diego button-celery *Myosurus minimus* ssp. *apus* – Little mousetail *Navarretia fossalis* – Spreading navarretia *Orcuttia californica* – California Orcutt grass *Streptocephalus woottoni* - Riverside fairy shrimp *Branchinecta sandiegonensis* - San Diego fairy shrimp Table 3. (b) Take is contingent upon (a) and (b), described above, and upon other MHCP subarea plans being permitted. *Iva hayesiana* – San Diego marsh-elder	The City has not taken legal control of the Poinsettia Lane Vernal Pools and has not requested take for vernal pool species. No other take authorizations have been requested.
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. *Sterna antillarum browni* - California least tern *Empidonax traillii extimus* - Southwestern willow flycatcher *Vireo bellii pusillus* - Least Bell's vireo *Passerculus sandwichensis beldingi* - Belding's savannah sparrow	The Special Purpose Permit has been in effect during the current reporting period. No take of these species has been granted.
5. The Permittee shall not allow clearing and grubbing in known or potentially occupied California gnatcatcher habitat between February 15 and August 31.	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.
6. Specific standards (described in the T&C) must be met if the City proceeds with any of the following plans: (a) Cannon Road Reach 4 (b) Extension of Melrose Drive through the Shelley Property (c) Marron Road through the Sherman Property (Buena Vista Creek Ecol. Res.)	None of these projects have been proposed at this time.
7. To receive coverage for thread-leaved brodiaea, the City must demonstrate that: (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 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	(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 EPI via annual contract with the landowner. Long term management of the property will be provided by HCC 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.

Table 12. Summary of City Compliance with Terms and Conditions of Federal ESA Section 10(a) Take Authorization/Permit *continued*

FESA 10(a) Permit Terms and Conditions (T&C)	Description of City Compliance
8. To minimize impacts to the California gnatcatcher, rufous-crowned sparrow, and orange-throated whiptail the City must: (a) Maintain and/or widen the habitat corridor between the City and Oceanside as much as feasible, and (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.	(a) The corridor on the NE boundary of Carlsbad is conserved. Along the northern boundary, the Buena Vista Creek ER (Sherman) property was acquired in 2007, resulting in 100% conservation, and the Summit (Kelly-Bartman) property will likely be acquired by CDFG. (b) No other uses for this property have been proposed at this time.
9. As part of the project review process, a qualified biologist shall survey for all species with immediate and conditional coverage.	The City has included this as a condition of approval for all new projects.
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.	The City regularly communicates with the USFWS on regulatory issues, and contacts the appropriate personnel immediately upon learning of any potential problems.
11. The City will notify the USFWS within one working day of finding any dead, injured, or sick threatened/endangered species.	No such individuals have been reported to or observed by the City.
12. All monitoring and reporting for this permit shall be in compliance with the MHCP (Vol. I and III) and the IA (Section 12).	See IA Section 12 discussion in Table 10 above for compliance information.
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.	A copy of this permit is on file with the City and is available to any interested parties.

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. All projects that occur within a Standards Area are processed as a Consistency Finding. During this process, it must be demonstrated that the project complies with the standards before the project will be approved by the City and Wildlife Agencies, and therefore, all development within Standards Areas are consistent with the HMP.

A total of 183.0 acres of coastal sage scrub occurs within Standards Areas throughout the HMP. To date, 11.4 acres have been lost (6.2%), and 53.6 acres have been conserved (29.3%). Zone-wide standards require at least 67% (122.6 acres) of the coastal sage scrub to be conserved. Therefore, the City must conserve at least 69.0 more acres of coastal sage scrub within the Standards Areas at build-out. (Note that project data was reviewed for accuracy, which resulted in slightly different acreages than were reported last year. See Section 1.4 for details). Table 13 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 13. Compliance with Zone-Wide Standards through Year 3

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: 183.0 acres. Coastal sage scrub loss = 11.4 acres (6.2%). Coastal sage scrub gains = 53.6 acres (29.3%). An additional 69.0 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 was changed to a Proposed Hardline preserve in the HMP mapping during Coastal Comm. Processing; however, the HMP text was not corrected.
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.	The Kelly-Bartman property, aka the Summit, is an Existing Hardline preserve that was approved with 50% conservation including an open space corridor, from the SE to the northern site boundary. The Spyglass property has been developed and grassland impacts were mitigated at a 2:1 ratio through restoration at Carlsbad Highlands Mitigation Bank. This project was compliant with all other standards.
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: the property was approved with 75% percent conservation; however, no grading permit has been issued. Callaghan property: no final 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.	Projects: Robertson Ranch East was approved by the City and Wildlife Agencies in 2007. Out of a total of 197.3 acres of coastal sage scrub in zone 14, 11.3 acres (5.7%) has been impacted. A total of 154.0 acres (78%) of the coastal sage scrub has already been conserved.
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 occurs within Core Area 5 in the southern portion of Zone 15. No net loss of coastal sage scrub has occurred. No other projects have final City/Wildlife Agency approval.
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 and North Coast Calvary Chapel. Both 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.	The Manzanita project was a Proposed Hardline preserve area in the HMP, and it was approved by the City and Wildlife Agencies. It provides east-west connectivity from El Camino Real to the project 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 Guidelines and Policies

In support of the HMP, the City and Preserve Steward are working together to develop a series of guidelines that will clarify HMP-related policies and regulations for staff, private developers, consultants, and the general public. These documents do not create additional policies or requirements; rather they are intended to assist users in understanding and fulfilling HMP requirements. Table 14 summarizes the status of these efforts as of October 2008.

Table 14. Status of HMP-Related Guidelines and Policies

Guideline/Policy	Description	Status
Guidelines for Biological Studies	Describes HMP process and associated regulations; impact mitigation; biological resources reporting; checklist to determine which regulations pertain to a given project.	• **Complete**. • User workshops given to City Planning Dept staff, biological consultants, Wildlife Agencies, and developers.
HMP Permit Guidelines	Describes HMP permitting process, including minor and major permits, and permit fees.	• In progress.
Guidelines for Riparian and Wetlands Buffers	Guidelines to protect wetland and riparian resources through the use of buffers; appropriate width, design, allowable uses.	• In progress. • Administrative draft undergoing internal review and refinement.
Penalties and Enforcement Policies	Policies outlining penalties and enforcement structure for non-compliance with HMP regulations.	• In progress. • Review of current policies and penalties, and those of other cities was conducted by trail enforcement goal team (see Section 2.1.6).
Restoration/Revegetation Guidelines	Outlines methods, management, monitoring, and success criteria for restoration projects in the preserve.	• Complete, but will be revised using most current information.
HMP Public Outreach Plan	Framework plan describing goals and components of outreach program.	• **Complete**.
Guidelines for Preserve Management	Provides compliance checklist and guidance for preserve managers.	• In progress. • The following draft sections have been developed: preserve manager reporting checklist and templates, summary of management/monitoring requirements, and GIS database attributes.

1.6.2 Public Outreach

Public outreach activities conducted over the last year include the completion of a public outreach framework plan, launching of the HMP website, annual HMP public workshop, user's group workshops for the newly completed *Guidelines for Biological Studies*, and presentations to the community.

The public outreach framework plan is an internal planning document that will guide the development of a public outreach program. The plan discusses the goals, target audiences, program content, and geographic focus. It also provides a list of potential outreach tools and program resources. A supplemental, more detailed summary of program resources includes a list of local environmental newsletters and organizations, and a checklist of services provided by each organization. The plan emphasizes the importance of coordinating with other City departments and plugging into currently existing programs as much as possible.

In the spring of 2008, the City launched Phase I of an interactive HMP website (www.carlsbadhmp.org) that includes the following elements:

- Announcements – recent HMP-related activities.
- Interactive map showing location and basic information about the individual preserves.
- Information about sensitive species and habitats in Carlsbad.
- Downloadable maps of the preserve system.
- Public outreach materials, HMP-related regulatory documents, guidelines, preserve management plans, area-specific annual reports, and HMP Preserve annual reports.
- FAQs related to management, edge effects, biological monitoring, etc.
- Links to local environmental organizations and State and federal agencies that provide additional information about the natural environment.

The City gave its first public annual meeting for the HMP on March 3, 2008. The purpose of the meeting was to review the information presented in the annual report, to provide an opportunity for the public to comment and ask questions, to educate the public about local plants and animals, and to bring together the City, Preserve Steward, Wildlife Agencies, preserve managers, and members of the public to discuss management and monitoring. More information and photographs of the event are provided at http://www.carlsbadhmp.org/annualreports/2008/workshop2008.html.

As described above, the *Guidelines for Biological Studies* was completed this year. City staff and the Preserve Steward hosted two workshops to provide training for using the guidelines, one for the City Planning Department staff, and the other tailored to biological consultants, Wildlife Agencies, and developers.

When feasible, presentations about the HMP are given to community groups to provide information and to build relationships for partnering opportunities. In the summer of 2008, City staff made a presentation to the League of Women Voters, which provided a comprehensive overview of the City's entire open space program, including the HMP preserve management. According to League members in attendance, the presentation greatly improved their understanding of the complexities of preserve management and the extent of the City's open space planning efforts.

2.0 Management and Monitoring

2.1 Management

2.1.1 Levels of Management Responsibilities

As described in the OSMP (Section 2.4), there are four levels of preserve management. Individual preserves in the HMP Preserve may have different levels of required management responsibility depending on criteria such as land ownership, and time that the preserve was established (pre- or post-HMP). The four levels of management are:

Level 1 - Property Management: Management of property boundaries and trash removal.

Level 2 - Preserve Management: Level 1 management plus management of the overall natural character of the preserve, maintenance of existing habitat values, fire prevention, invasive species control, and management of public use facilities such as trails, fences, and signage.

Level 3 - Species Monitoring and Management: Management Levels 1 and 2 plus species-specific and habitat-specific monitoring as required in conditions of HMP approval and species coverage, existing mitigation agreements, and/or the MHCP (Vol. III). This standard is required for all post-HMP projects and associated preserves.

Level 4 - Regional Monitoring: Monitoring trends in species populations, habitat condition, and wildlife movement across the MHCP planning area and beyond by analyzing data collected on Level 3 preserves. The Wildlife Agencies are responsible for analysis of regional monitoring data.

2.1.2 City-owned Preserves

Except for the municipal golf course (now named The Crossings at Carlsbad), City-owned lands have been managed at Level 2 by the City. This includes basic land management, erosion control, and invasive species removal. Active management and restoration monitoring of the golf course began in July 2007. This activity is being conducted by Dudek. CNLM will take over permanent management when the 5-year restoration is complete. In addition, the Carlsbad Watershed Network has conducted extensive invasive species removal in riparian areas owned by the City, including the Lake Calavera area. Level 3 management of City-owned properties will begin in early 2009.

2.1.3 Preserves not Owned by the City

Existing Hardline Areas (i.e., areas that were already conserved at the time the HMP was approved) will be managed according to pre-existing management funding and arrangements. The majority of Existing Hardline Areas are managed by CDFG (five ecological reserves), and various HOAs. Subject to available funding, and in consultation with the USFWS, CDFG will prepare and implement a preserve management plan consistent with HMP Section F for those portions of habitat areas under its jurisdiction and control (IA Section 15.2). Areas conserved since approval of the HMP will be managed as required by the HMP and MHCP (Level 3).

2.1.4 Major Threats and Issues of Concern

Based on discussions with preserve managers, the top threats for all preserves are (1) unauthorized human access, and (2) invasive species. Annual invasive species removal programs, regular patrols, fencing, signage, gates, and public education are the ongoing management actions taken by preserve managers to address these threats. However, the HMP Preserve is a highly fragmented system surrounded by dense urban development. As such, the pressure on the preserve system from edge effects (including invasive species) and public use is much greater than it would be on a larger, more intact system surrounded by rural development. The most difficult problems to solve are the effects of unauthorized access, which include trails that damage and further fragment the habitat, presence of parasitic cowbirds from equestrian use, trash and illegal dumping, disturbance of wildlife from off-leash dogs and outdoor cats, and public safety issues. Section 2.1.6 discusses enforcement, which is key in solving these issues.

Preserve-specific threat assessments can be found in CNLM's preserve-specific annual reports (www.carlsbadhmp.org/documents) and in Appendix B, which summarizes threats and activities in preserves managed by CNLM and CDFG. For information about how specific threats are being addressed on CNLM-managed properties, refer to the annual work plans, which can be obtained from the webpage above.

2.1.5 Key Management Activities

A review of management activities across the HMP Preserve during the current reporting period was conducted at the level of the Management Unit (Appendices B and C). Although each preserve is the responsibility of a single preserve management entity (the primary Preserve Manager), secondary management entities such as local organizations and volunteer groups often contribute significantly to preserve management, biological

resource management, and public outreach within a given management unit. Additional details can be found in the preserve-specific annual reports and annual work plans, which are available on-line as described above.

2.1.6 Enforcement

City Enforcement Efforts

The City is continuing to take a multi-pronged approach to the enforcement within the HMP Preserve. The City's HMP Ordinance (Chapter 21.210 of the Zoning Ordinance) codifies the enforcement measures and remedies available for enforcement of unauthorized habitat take. These measures include: stop work notice, corrective action, owner notification, recordation of a Notice of Violation, prohibition of development permits, investigation fee, criminal penalties, abatement of public nuisance, and civil action. The City continues to work with the Wildlife Agencies, as well as the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Coastal Commission where applicable, when reports of potentially unauthorized habitat impacts are received. No enforcement cases were opened in the current reporting period.

While the above referenced ordinances apply to unauthorized habitat take, many impacts to the local preserves such as erosion, trash disposal, and excessive noise occur simply from unauthorized entry or activities. The Preserve Managers do not always have adequate resources to address these trespassing issues and have relied upon support from the City of Carlsbad Police Department (CPD). During the reporting year, CPD staff has been working with the local Preserve Managers to improve coordination and work with the City Attorney's office to draft local ordinances and procedures to assist in identification and enforcement of potential violations. Two examples of this coordination are detailed below.

Since most of the public enter the HMP preserve areas through established trails, and many of these trails are part of the Citywide Trail System, a multi-departmental team has been formed to draft a Trail Safety Enhancement Program. City staff from CPD, Parks and Recreation, and Planning are developing recommendations to assist in trail safety and education of trail users about the sensitivity of the natural environments and proper activities within preserves.

CNLM-Managed Properties

CNLM (three full-time staff) patrolled their preserves on a regular basis, sometimes during biological surveys and sometimes during directed patrolling efforts. During the

patrolling efforts, CNLM spent a considerable amount of time blocking off and patrolling trails that are not part of the designated trail system. Fences and signs were installed directing users to the designated trails and contact was made with local users to inform them of the newly established, legal trail system. Specific problem areas are described below.

Box Canyon (La Costa Villages). During the summer of 2007, there were many problems with trespass at Box Canyon. During that year CNLM hired an enforcement company to patrol the area from about mid-August to mid-October. This year, CNLM hired two part time San Diego County rangers to patrol the Box Canyon area every Friday, Saturday and Sunday from the beginning of May 2008 through the middle of October 2008. Using this method combined with increased cooperation from the City of Carlsbad Police Department, the level of trespass into Box Canyon dropped significantly. Approximately 10 or more people per week tresspassed into the canyon between May and June of 2007. This number dropped to 10 per month from June to October of 2007 with increased patrolling, and 10 per month from May to October of 2008, with essentially no trespass Friday through Sunday, as rangers had 4 to 8 hour shifts on those days. Citations were issued when trespassers were caught in Box Canyon, but the majority of the effort was placed on deterring the public from entering Box Canyon. This approach was very effective, and reduced the effort for both CNLM and the Police Department.

Flightline (Carlsbad Oaks North). The entire area has been used illegally for many years by mountain bikers, who not only created jumps, bridges, and many miles of trails, but also posted the site on web pages, and even conducted training exercises on the property. The bikers were disappointed when the Carlsbad Oaks North development commenced, which resulted in a loss of much of their biking routes. As a result, some bikers started to create new biking routes late in 2005 to early 2006. Prohibitive fencing had been placed at the entry from uphill, and at the downhill portion of this trail. Since the Fall of 2007, most of the biking activity had ceased.

CDFG-Managed Properties

CDFG wardens patrol the coastal areas primarily looking for unauthorized fishing or hunting activity, but also conduct sweeps in the western and central basins for unauthorized use, including horseback riders, ATVers, and bikers. The Carlsbad Police Department also assisted in the winter by patrolling the trails at Batiquitos Lagoon. Volunteers with the Batiquitos Lagoon Foundation provided information (including preserve rules) to trail users and visitors to the nature center. In addition, signs and kiosks

are located at trail entrances and around the least tern nesting sites and other sensitive areas that are off limits to the public.

2.2 Monitoring Results

The core conservation strategy for the MHCP is to manage an interconnected system of multiple habitats which, theoretically, will conserve multiple species. As such, the status of many covered species can be assessed by tracking the amount of their preferred habitats that have been conserved/impacted using Habitrak (MHCP Vol. III, Appendix A.2). However, a number of species (narrow endemic species, vernal pool species, and listed species) have site-specific permit conditions, which means that individual populations should be tracked using GIS (MHCP Vol. III, Appendix A.1). Table 15 provides a list of species with site-specific permit conditions by general habitat type (only those that occur in Carlsbad are included), and survey dates for each preserve. Currently, active monitoring only occurs on preserves managed by CNLM or CDFG, and therefore, these are the only preserves included in the table. If a species is absent from a preserve, it is noted in the table.

This section will focus on the status of species with site specific permit conditions (herein called priority species). GIS data showing species observations from 2000 to 2008 were pulled from the following databases: California Natural Diversity Database (CNDDB), USFWS species data, USFWS Final Critical Habitat, CDFG (from surveys conducted by CDFG, not included in CNDDB), San Diego Natural History Museum Bird Atlas, and CNLM (Figures 5–11). Data were also requested from biological consultants who conducted project-specific species surveys in Carlsbad. Some data were obtained from Merkel and Associates, Helix Environmental, and Recon; however, much of the project-specific data for Carlsbad has not yet been received.

Locations of major populations or critical locations within the HMP, as determined by the MHCP (1998 data), were also included in Figures 5–11. Critical locations are areas or populations that are critical for the species to be adequately covered by the MHCP. Major populations are populations that are large enough to be self-sustaining with a minimum of active management, or that support enough breeding individuals to contribute to the overall stability of the species.

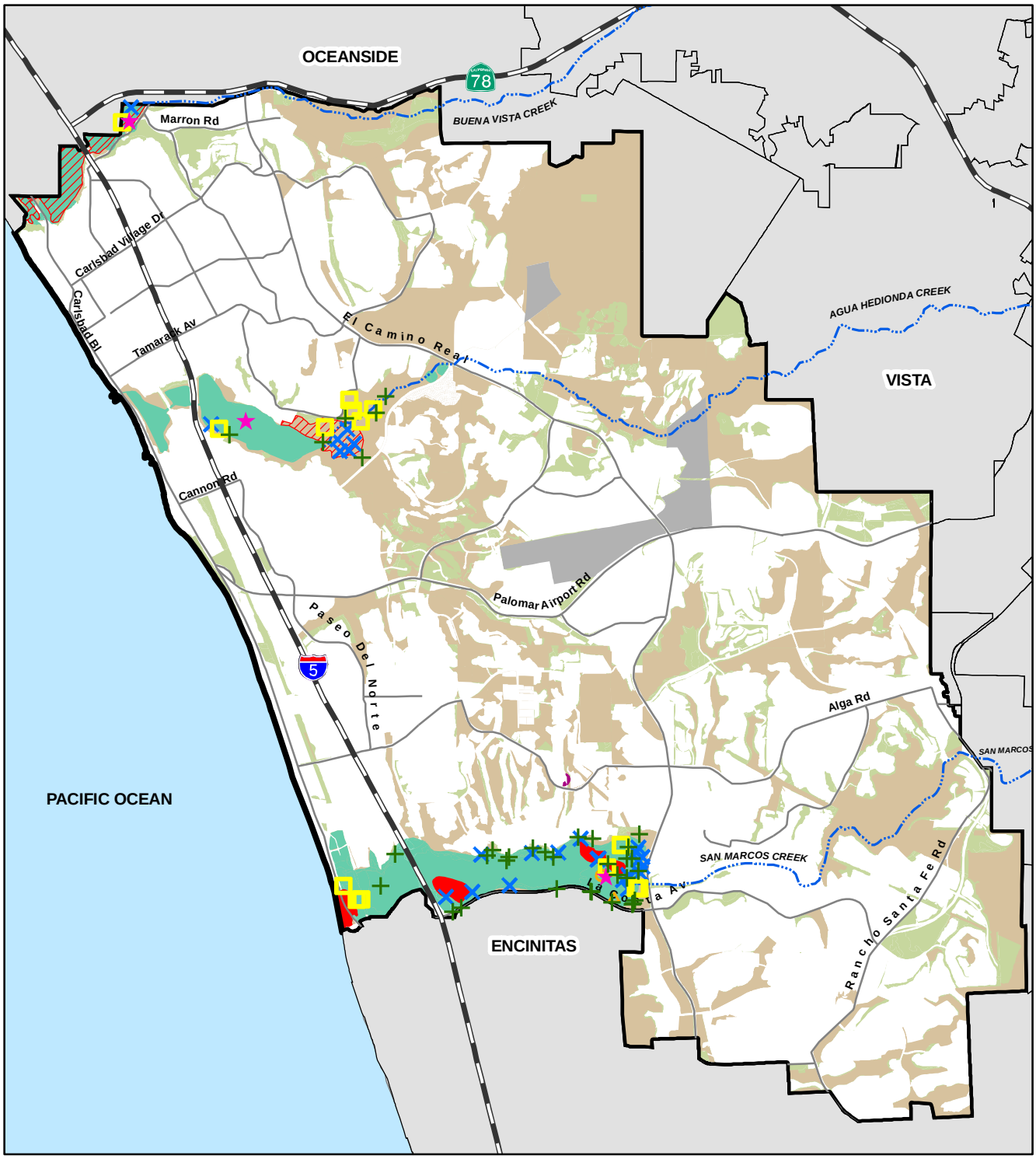
Table 15. Summary of Surveys Conducted for Priority Species

Species	Agua Hedionda Lagoon ER	Batiquitos Lagoon ER	BV Creek ER	BV Lagoon	Calavera/ Rob Ranch E	Carlsbad Highlands	Carlsbad Oaks N	Encinas Ck	Kelly Ranch	Rancho La Costa
Lagoon/Coastal Species										
Belding's savannah sparrow	1973-2006	1973-2006 2001-2008	No lagoon species or habitat in this preserve	1973-2006	Lagoon habitat and species do not occur in these preserves					
California least tern	Not present	2001-2008		Not present						
Light-footed clapper rail	2000-2008	2000-2007		2000-2007						
Western snowy plover	Not present	2001-2008		Not present						
Riparian Species										
Least Bell's vireo	2008	Not present	2008	Not present	2009	Not present	Not present	2009	Not present	Not present[1]
SW willow flycatcher	SWWF does not occur in these preserves									
Vernal Pool Species										
California Orcutt grass	There are no vernal pools on any of these preserves									
Little mousetail										
San Diego button-celery										
Spreading navarretia										
Riverside fairy shrimp										
San Diego fairy shrimp										
Vernal Pool/Upland Spp										
Thread-leaved brodiaea	Not present	Not present	Present; No surveys	Not present	2006-2008	2008	2007-2008	Not present	Not present	2005-2008
San Diego thornmint	Not present				2008	Not present	2007-2008	Not present	Not present	2005-2008
Upland Species										
Del Mar manzanita	Not present								2009	2005-2008
Del Mar mesa sand aster	Not present	unknown	Not present							
Encinitas baccharis	Not present									
California gnatcatcher	7/17/08	6/20/08	6/13/08	Not present	2007	5/23/08	04/2007	2009	2003-2007	2005, 2007

Based on the data sources described above, the current status of priority species is shown in Figures 5-11. When viewing the maps, know that:

- Species "areas," as shown in the legend, originated from the CNDDB database. The exact meaning of these areas is unknown, but it is presumed that they refer to occupied/potentially occupied habitat or species locations for which the accuracy includes a large margin of error.
- Species "locations" are direct observations of a given species with no reported margin of error for accuracy.
- The symbols and colors that represent species areas, species locations, major or critical populations, and USFWS final critical habitat vary from map to map. This was done to ensure that all of the information on a given map, much of which is overlapping, was viewable. Therefore, it is important to look at the legend to see what each color or symbol refers to.
- Critical locations and major populations are based on 1998 MHCP data, and only those that fall within the HMP are included in the figures. In addition, populations discovered since 1998 have not been evaluated as critical locations or major populations.
- Some of the major populations and critical locations reported in the MHCP do not show on Figures 5–11. There are two reasons for this: (1) the area has been developed, and/or (2) the data points fall outside of the HMP. The original MHCP maps showing critical locations and major populations are included in Appendix D for reference.

The rest of this section will include a discussion of the status of each priority species, organized by general habitat type (as in Table 15). Vernal pool/upland species are those that can occur in either habitat. Each species description will include a summary of most recent surveys and results, general condition of the species within Carlsbad, major threats, and management actions taken to protect the species. Many of the species are managed indirectly through habitat management, which includes invasive species removal, unauthorized access control, and erosion control.



Legend

- California Least Tern Location*
- Western Snowy Plover Location*
- Western Snowy Plover USFWS Final Critical Habitat
- Belding's Savannah Sparrow Area*
- California Least Tern Area*
- Light-Footed Clapper Rail Area*
- Overlap of Belding's Savannah Sparrow and Light-Footed Clapper Rail Areas*

* Recent location (2000 to 2008). Sources: CNDDB 2008, USFWS 2008, Bird Atlas 2001.

MHCP Major/Critical Population

- Belding's Savannah Sparrow
- California Least Tern
- Light-Footed Clapper Rail
- Western Snowy Plover

Basemap Legend

- City of Carlsbad
- Hardline/Softline Preserve
- Not A Part
- Jurisdictional Boundary
- Freeway
- Major Road
- River
- Natural Vegetation Outside Preserve

N

Feet

0 6,400

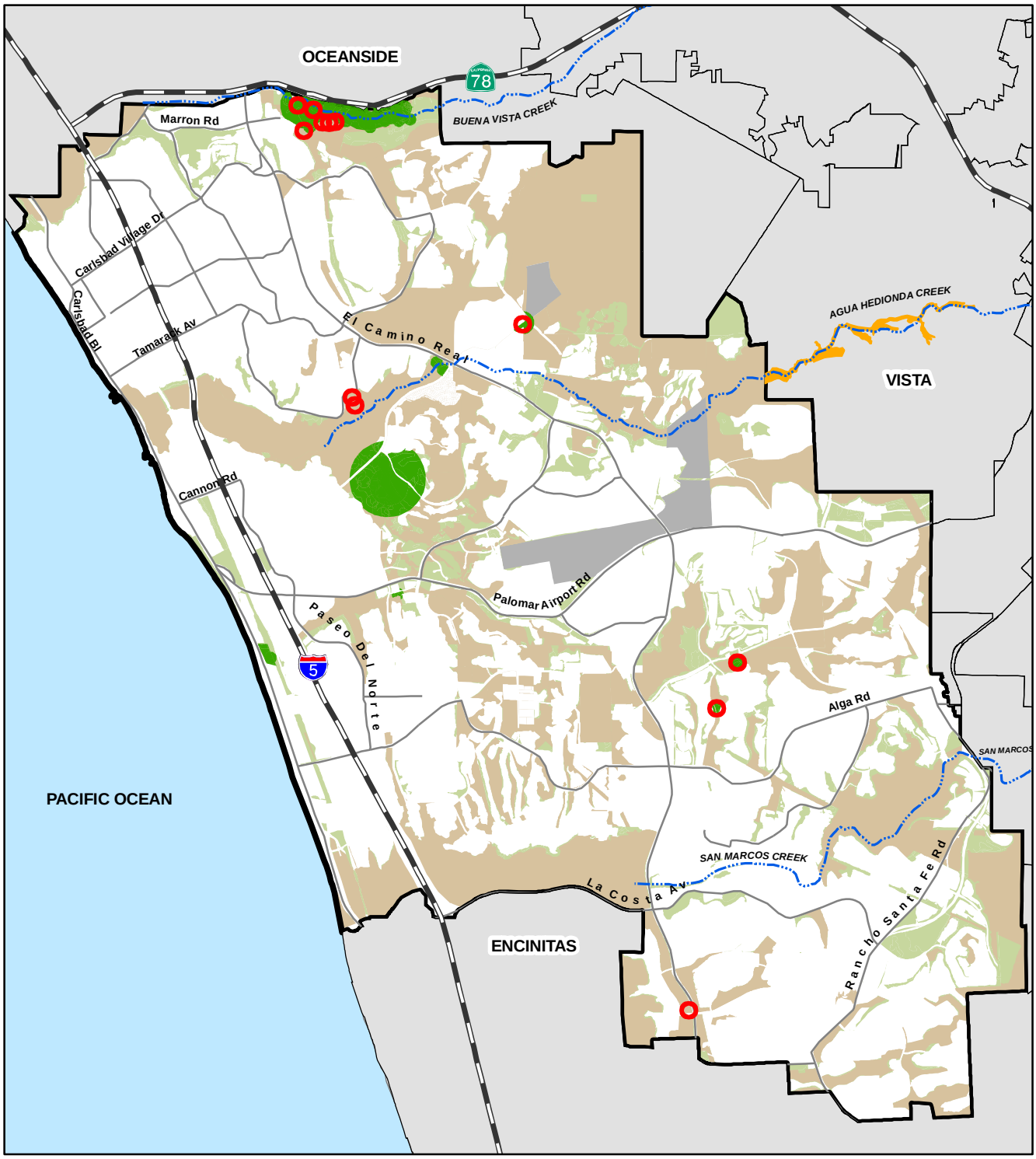
Technology Associates International Corporation

City of Carlsbad
Status of Lagoon/Coastal Species - Birds

Figure 5

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\Birds-Lagoon and Coastal Species.mxd

Date: Dec 15, 2008



Legend

- Least Bell's Vireo Location*
- Least Bell's Vireo Area*
- Southwestern Willow Flycatcher USFWS Final Critical Habitat

* Recent location (2000 to 2008). Sources: CNDDB 2008, USFWS 2008, CDFG 2008, CNLM 2006, Bird Atlas 2001.

Basemap Legend

- City of Carlsbad
- Hardline/Softline Preserve
- Not A Part
- Jurisdictional Boundary
- Freeway
- Major Road
- River
- Natural Vegetation Outside Preserve

N

Feet

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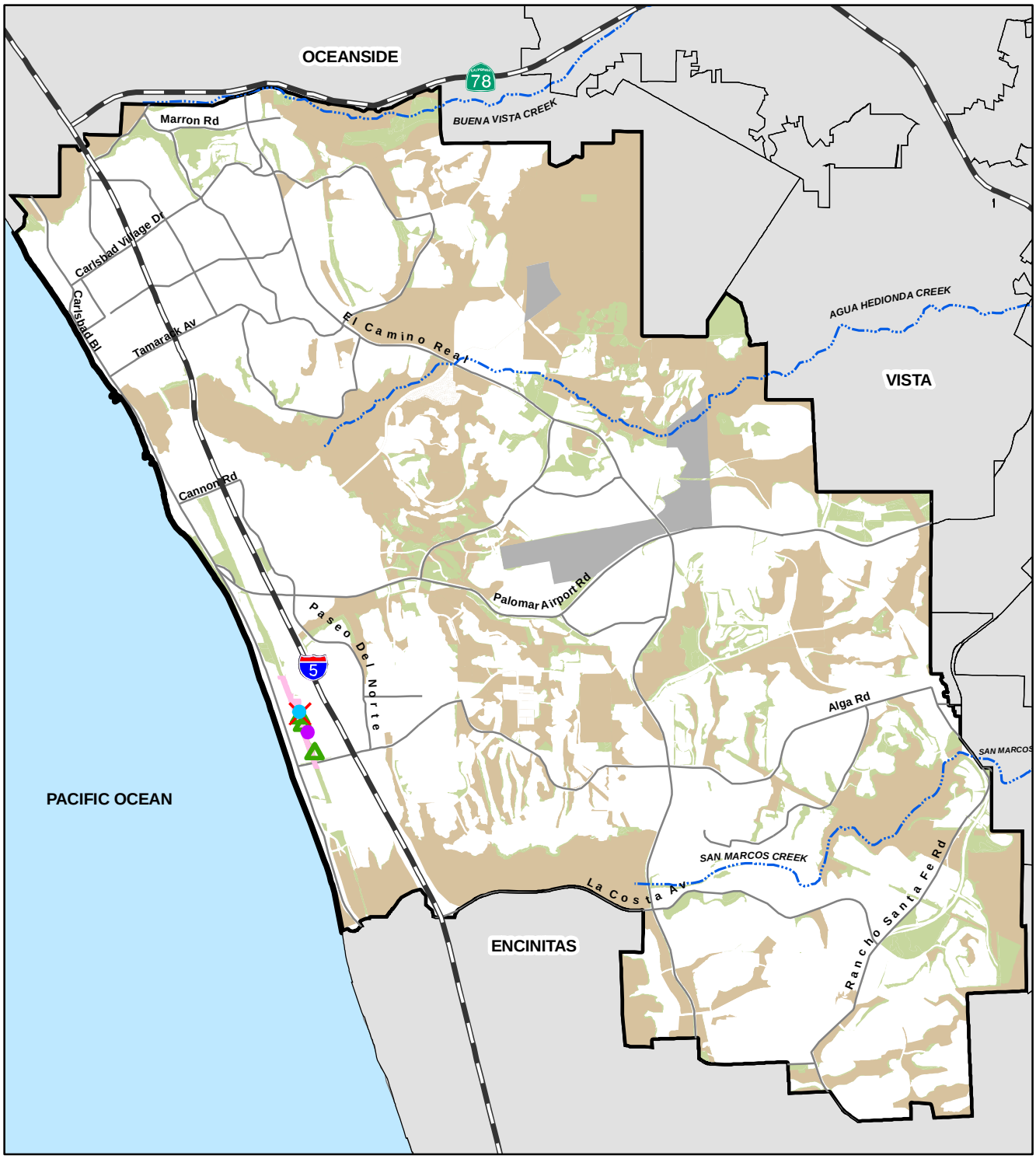
Technology Associates International Corporation

City of Carlsbad
Status of Riparian Species - Birds

Figure 6

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\Birds-Riparian Species.mxd

Date: Nov 24, 2008



Legend

- San Diego Button-Celery MHCP Major/Critical Population
- California Orcutt Grass MHCP Major/Critical Population
- Little Mousetail MHCP Major/Critical Population
- Spreading Navarretia MHCP Major/Critical Population
- Spreading Navarretia USFWS Final Critical Habitat

Basemap Legend

- City of Carlsbad
- Hardline/Softline Preserve
- Not A Part
- Jurisdictional Boundary
- Freeway
- Major Road
- River
- Natural Vegetation Outside Preserve

N

Feet

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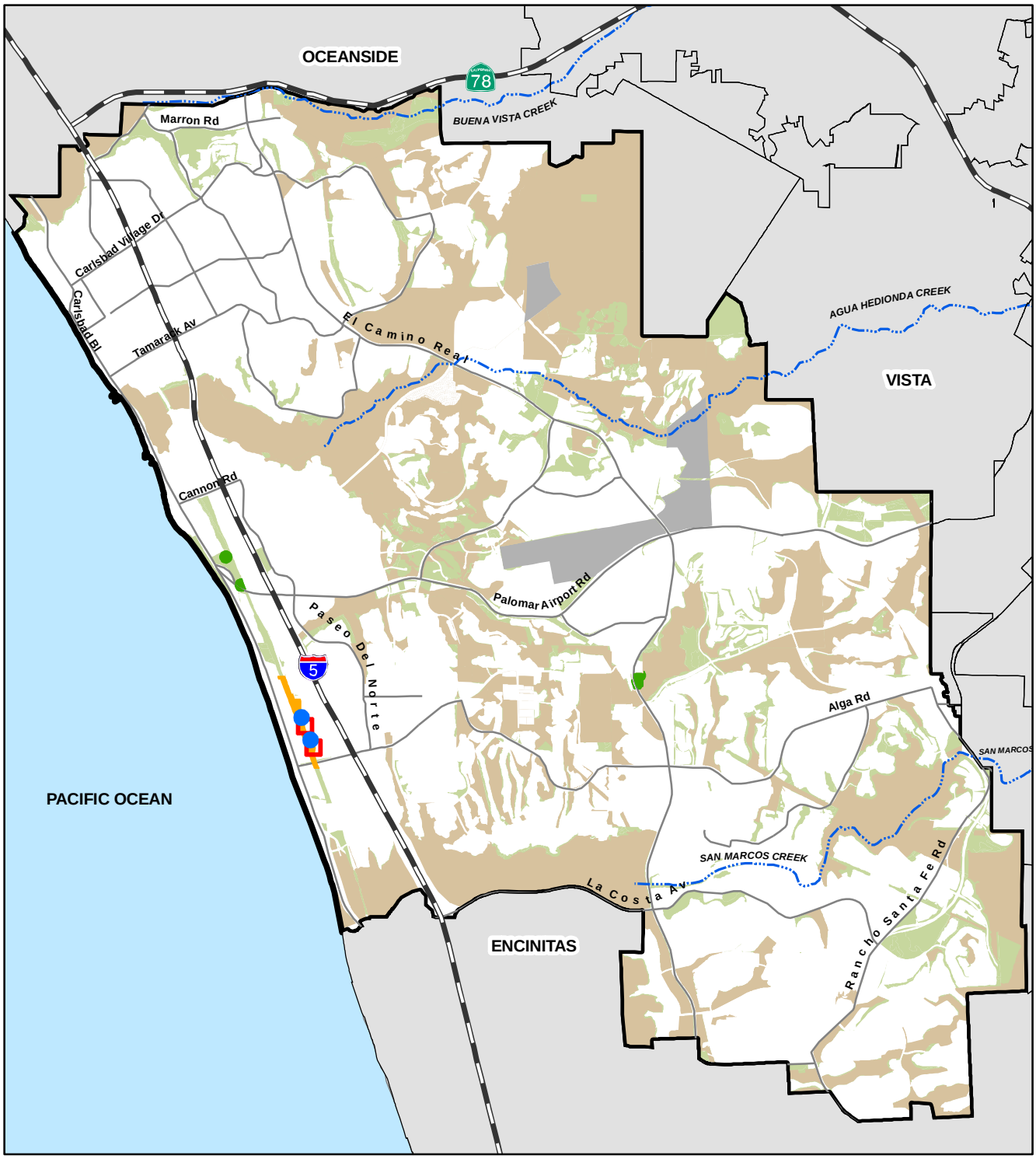
Technology Associates International Corporation

City of Carlsbad
Status of Vernal Pool Species - Plants

Figure 7

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\Plants-Vernal Pool Species.mxd

Date: Mar 27, 2009



Legend

- San Diego Fairy Shrimp MHCP Major/Critical Population
- Riverside Fairy Shrimp MHCP Major/Critical Population
- San Diego Fairy Shrimp Area*
- Riverside/San Diego Fairy Shrimp USFWS Final Critical Habitat

* Recent location (2000 to 2008). Source: USFWS 2008.

Basemap Legend

- City of Carlsbad
- Hardline/Softline Preserve
- Not A Part
- Jurisdictional Boundary
- Freeway
- Major Road
- River
- Natural Vegetation Outside Preserve

N

Feet

0 6,400

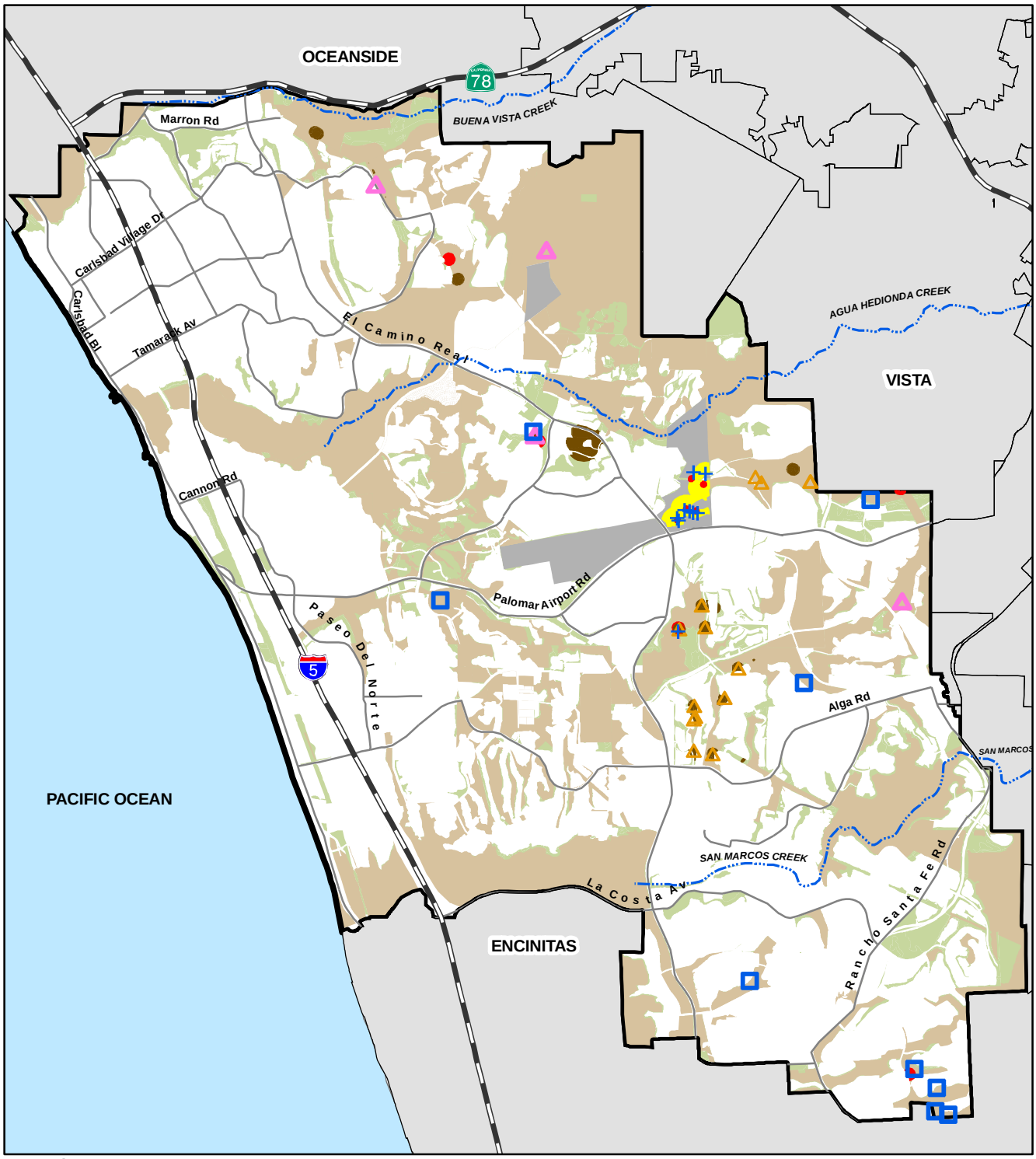
Technology Associates International Corporation

City of Carlsbad
Status of Vernal Pool Species - Invertebrates

Figure 8

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\Invertebrates-Vernal Pool Species.mxd

Date: Mar 27, 2009



Legend

- San Diego Thorn-Mint MHCP Major/Critical Population
- Thread-Leaved Brodiaea MHCP Major/Critical Population
- San Diego Thorn-Mint Location*
- Thread-Leaved Brodiaea Location*
- San Diego Thorn-Mint Area*
- Thread-Leaved Brodiaea Area*
- San Diego Thorn-Mint USFWS Final Critical Habitat

* Recent location (2000 to 2008). Sources: CNDDB 2008, USFWS 2008, CNLM 2007, Merkel and Associates 2000, Helix Environmental 2007.

Basemap Legend

- City of Carlsbad
- Hardline/Softline Preserve
- Not A Part
- Jurisdictional Boundary
- Freeway
- Major Road
- River
- Natural Vegetation Outside Preserve

N

Feet

0 6,400

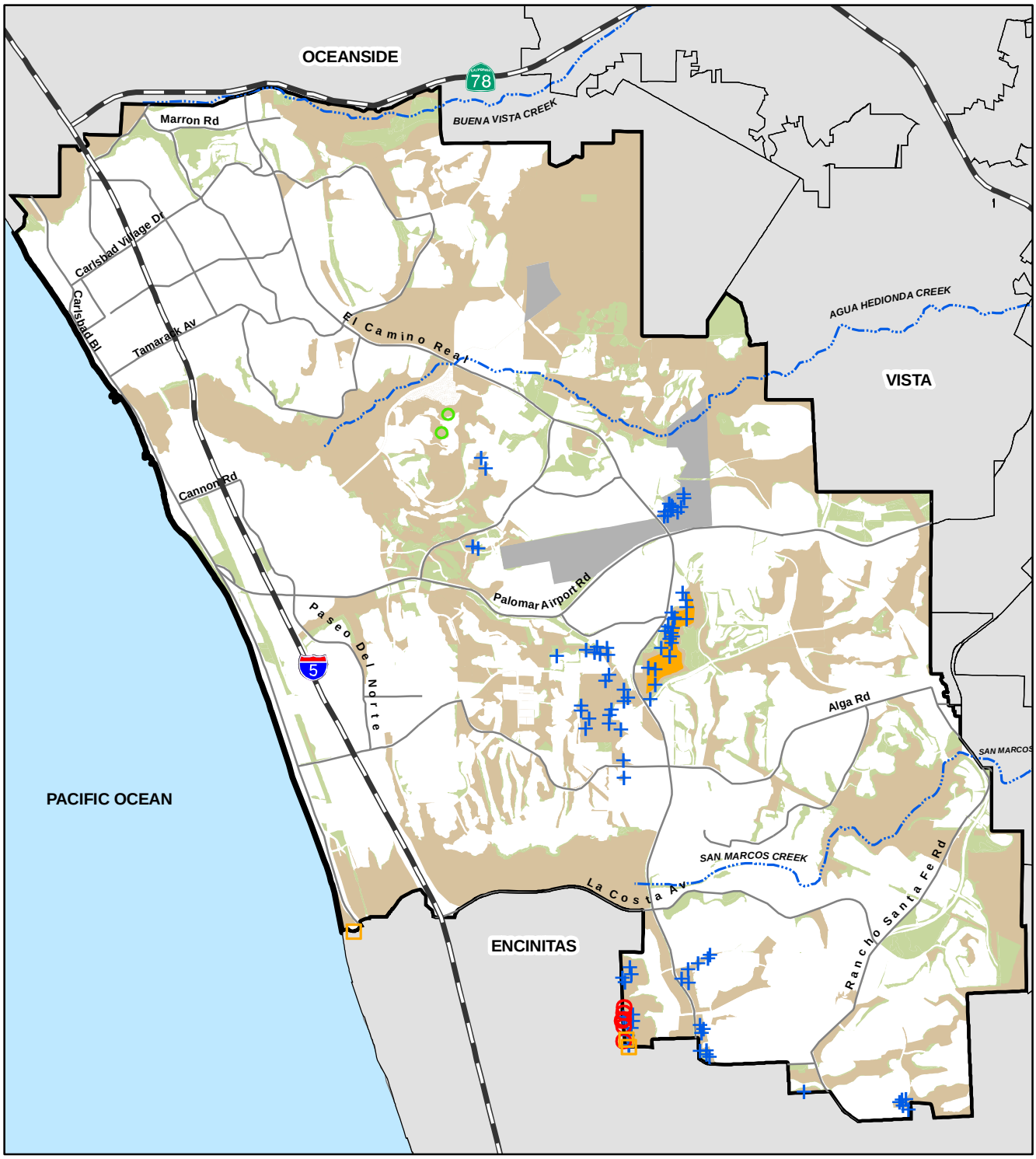
Technology Associates International Corporation

City of Carlsbad
Status of Upland/Vernal Pool Species - Plants

Figure 9

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\Plants-Upland and Vernal Pool Species.mxd

Date: Nov 24, 2008



Legend

- Del Mar Manzanita MHCP Major/Critical Population
- Del Mar Mesa Sand Aster MHCP Major/Critical Population
- Encinitas Baccharis MHCP Major/Critical Population
- Del Mar Manzanita Location*
- Del Mar Manzanita Area*

* Recent location (2000 to 2008). Source: CNLM 2003.

Basemap Legend

- City of Carlsbad
- Hardline/Softline Preserve
- Not A Part
- Jurisdictional Boundary
- Freeway
- Major Road
- River
- Natural Vegetation Outside Preserve

N

Feet

0 6,400

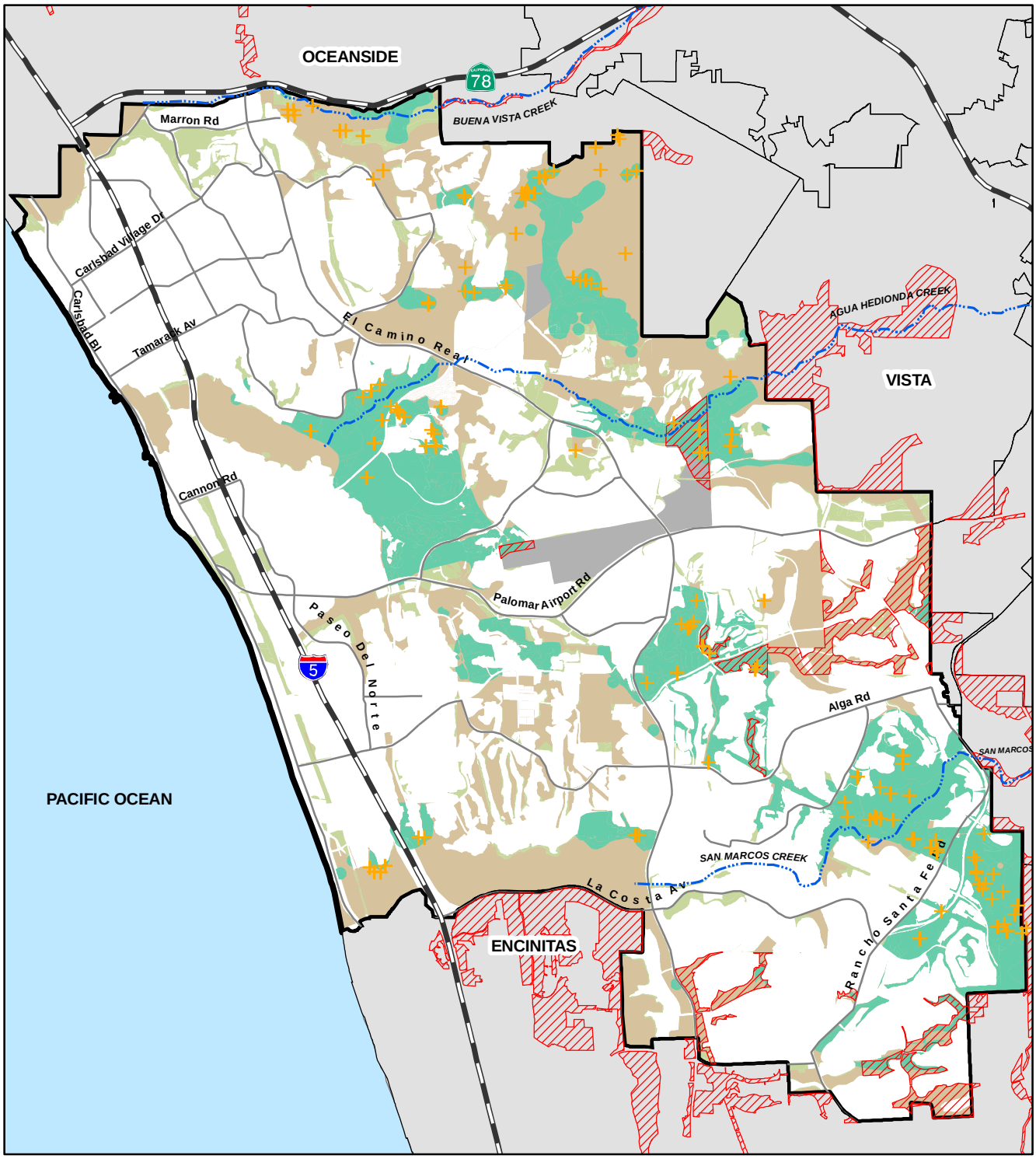
Technology Associates International Corporation

City of Carlsbad
Status of Upland Species - Plants

Figure 10

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\Plants-Upland Species.mxd

Date: Nov 24, 2008



Legend

- California Gnatcatcher Location*
- California Gnatcatcher Area*
- California Gnatcatcher USFWS Final Critical Habitat

* Recent location (2000 to 2008). Sources: CNDDB 2008, USFWS 2008, CDFG 2008, CNLM 2007, Bird Atlas 2000, Merkel and Associates 2001, Helix Environmental 2000, RECON 2000.

Basemap Legend

- City of Carlsbad
- Hardline/Softline Preserve
- Not A Part
- Jurisdictional Boundary
- Freeway
- Major Road
- River
- Natural Vegetation Outside Preserve

N

Feet

0 6,400

Technology Associates International Corporation

City of Carlsbad
Status of Upland Species - Birds

Figure 11

File: T:\projects\carlsbad_ps\plots\figures\08AnnualReport\Birds-Upland Species.mxd

Date: Nov 24, 2008

2.2.1 Lagoon/Coastal Species

Belding's Savannah Sparrow
Passerculus sandwichensis beldingi

Critical Locations and Major Populations

Critical locations and major populations are located in Agua Hedionda Lagoon and Batiquitos Lagoon.

Monitoring Results

In 2006, 32 coastal salt marshes in California were surveyed as part of an ongoing census effort. Results of surveys conducted within Carlsbad are summarized below. See Figure 5 for additional information.

	1973	1977	1986	1991	1996	2001	2006
Buena Vista Lagoon	0	5	1	0	0	6	5
Agua Hedionda Lagoon	37	16	45	13	29	22	24
Batiquitos Lagoon	0	20	47	50	36	66	37

Overall Condition and Major Threats

Approximately 3,135 breeding territories were detected in California during the 2006 census. This is the highest total since counts began in 1973, and 8.2% higher than the next highest count, reported in 2001 (Zembal et al. 2006). However, the number of territories was markedly lower in 2006 than in 2001 at both Agua Hedionda and Batiquitos Lagoons. Predation by ravens and crows is a major threat to the species at Batiquitos Lagoon (N. Frost, CDFG, pers comm.). Other problems include human trespass, off-road bicycles, and off-leash dogs (Zembal et al. 2006). Changing habitat conditions may also be affecting this species.

Agua Hedionda Lagoon: The 2006 surveys revealed approximately 25% fewer territories than in 2001. Tidal flow is consistent due to regular dredging, resulting in good potential for habitat restoration in this lagoon; however, flow is constricted due to the narrowness of the opening. CDFG recently successfully eradicated *Caulerpa* (a highly invasive algae) which threatened aquatic life and habitats.

Batiquitos Lagoon: Past restoration of this lagoon has resulted in the expansion of pickleweed, which is a critical component of the sparrow's habitat, and the Belding's numbers doubled between 1996 and 2001. Since then there has been a 44% reduction in Belding's presumably due to changes in its habitat. For example, freshwater inflow from urban runoff at the eastern edge of the lagoon is resulting in a change from

picklweed-dominated marsh to brackish marsh. The rest of the picklweed belt is too narrow to support the species (Zembal et al. 2006). However, new habitat has grown in around E1 (C. Beck, pers comm.).

Management Actions Conducted to Protect the Species

Habitat management; predator control (nest exclosures) on Batiquitos. The top priorities for CDFG to protect this species are habitat enhancement and restoration, and funding of a statewide census.

California Least Tern

Sterna antillarum browni

Critical Locations and Major Populations

Critical locations occur in all three lagoons. The population at Batiquitos Lagoon is considered a major population.

Monitoring Results

Annual least tern monitoring was conducted at Batiquitos Lagoon. Results are summarized below. Biological data are collected in the following categories: estimation of breeding pairs (based on number of nests, less the number of re-nests), and productivity (total number of nests, number of eggs, number of chicks hatched, number of chicks reaching fledgling age, number of fledglings surviving to disperse). Mortality and predation data are also collected. See Figure 5 for additional information.

	2001	2002	2003	2005	2006	2007	2008
Nests	222	226	615	596	627	594	610
No. Pairs	192	203-205	574	571	601	575-578	596
Estimated No. of Fledglings	73-99	53-66	155-228	109-128	223-270	146-226	143-187

Overall Condition and Major Threats

At Batiquitos Lagoon Ecological Reserve, the populations are stable. There has been a steady increase in clutch size over the last 3 years, but poor fledgling production. One of the greatest threats is predation from black-crowned night herons (*Nycticorax nycticorax*), gull-billed terns (*Gelochelidon nilotica*), American crow (*Corvus brachyrhynchus*), gulls (*Larus* spp.) and coyote (*Canis latrans*).

Management Actions Conducted to Protect the Species

Habitat management; predator control on Batiquitos Lagoon.

Light-footed Clapper Rail

Rallus longirostris levipes

Critical Locations and Major Populations

Critical locations and major populations occur at all three lagoons in Carlsbad.

Monitoring Results

Clapper rails are typically monitored by two methods – spring call counts, and winter high tide counts. In 2008, the 30th consecutive annual census of clapper rails in California coastal wetlands was conducted by mapping territorial pairs based on their calls. Results are available through 2007, and are summarized below for areas within Carlsbad (Zembal et al. 2007). Overall, the numbers appear to be increasing over time. See Figure 5 for additional information.

	2000	2001	2002	2003	2004	2005	2006	2007
Buena Vista Lagoon	5[1]	3[1]	6[1]	5[1]	5[1]	6[1]	8[1]	8[1]
Agua Hedionda Lagoon	2	2	1	4	5	4[1]	7[1]	4
Batiquitos Lagoon	2[1]	3[1]	3[1]	5	11	16[1]	19[1]	22

[1]Unpaired individuals (all others are pairs)

Overall Condition and Major Threats

A total of 443 pairs of light-footed clapper rails exhibited breeding behavior in 19 marshes in 2007. This is the largest statewide breeding population detected since the counts began in 1980, representing an 8.3% increase over the former high count in 2006 and a 36% increase over the 24-year high reached in 1996. Batiquitos Lagoon held a record high of 22 pairs, as did Los Penasquitos Lagoon and Creek with 12 pairs. Three other small subpopulations were at record or recent highs including Buena Vista Lagoon with 8 pairs, San Elijo Lagoon with 12 pairs, and San Diego River with 6 pairs (Zembal et al. 2007).

Management Actions Conducted to Protect the Species

Captive breeding and release program, nest platform augmentation, and predator control conducted by CDFG. Additional priorities for CDFG are habitat enhancement and restoration, and funding of a statewide census.

Western Snowy Plover

Charadrius alexandrinus nivosus

Critical Locations and Major Populations

Critical locations and major populations are located at all three lagoons.

Monitoring Results

Annual western snowy plover monitoring was conducted only at Batiquitos Lagoon. Results are summarized below. See Figure 6 for additional information.

	2001	2002	2003	2005	2006	2007	2008
Nests	19	25	29	24-25	16	5	6
Pairs or Breeding Adults	8-9[1]	10+[1]	26[2]	24[2]+	18[2]	4[2]	8[2]+
No Fledglings	10-16	17	9-10	9-12	10+	2-3	3-4

[1]Pairs
[2]Breeding Adults

Overall Condition and Major Threats

The numbers of nests, breeding adults, and fledglings have plummeted since about 2006. The drop in snowy plover numbers may be due to the growth of cord grass in the last couple of years and predator problems.

Management Actions Conducted to Protect the Species

The following has been conducted on Batiquitos Lagoon Ecological Reserve to encourage snowy plover nesting: **(1) Habitat management** - the sites are cleared of weedy material prior to the nesting season and in 2008 three pathways approximately 5 feet across were cleared so that snowy plover chicks could access the water on the northeastern side of E1. Next fall, CDFG staff will clear vegetation along the eastern/northeastern side of E1 to allow easier access to the shoreline for foraging plover adults and chicks; **(2) Predator control** - personnel remove predators that threaten both plovers and terns, exclosures (wire cage) are placed over the nests to protect the eggs from predators, monitoring of both plovers and terns to assess number of breeding adults and annual productivity, monitors also note predation events and coordinate with predator control personnel.

2.2.2 Riparian Species

Least Bell's Vireo

Vireo bellii pusillus

Critical Locations and Major Populations

There are no critical locations or major populations of least Bell's vireo in the City of Carlsbad.

Monitoring Results

Focused species surveys were conducted on three preserves in 2008, and incidental sightings during other activities were recorded. A total of approximately 9-11 pairs are estimated to occur in these preserves. Additional pairs have been observed during project-specific surveys on various properties; however, these data have not yet been provided to the City. See Figure 6 for additional information.

Preserve	2008 surveys	Estimated No. (Pairs)
Agua Hedionda Ecological Reserve	X	2
Calavera Hills/Robertson Ranch East	X	2
Carlsbad Oaks North	X	0
Buena Vista Creek Ecological Reserve	X	3-4
North County Habitat Bank (Encinas Creek)		1
Rancho La Costa (the Greens)		1-2

Overall Condition and Major Threats

Least Bell's vireo habitat is well-protected and appears to be in good condition on actively managed properties. Although no nest monitoring has occurred, this species appears to be breeding successfully in the Preserve. .

Management Actions Conducted to Protect the Species

Habitat management.

SW Willow Flycatcher

Empidonax traillii extimus

Critical Locations and Major Populations

There are no critical locations or major populations in the City of Carlsbad. USFWS critical habitat is located along Agua Hedionda Creek, just east of the Carlsbad city boundary (Figure 6).

Monitoring Results

All available survey data indicates that the southwestern willow flycatcher does not presently occur in Carlsbad.

Overall Condition and Major Threats

Not applicable (see above).

Management Actions Conducted to Protect the Species

Management of potentially suitable habitat

2.2.3 Vernal Pool Species

California Orcutt Grass
Orcuttia californica

Little Mousetail
Myosurus minimus ssp. *apus*

San Diego Button-Celery
Eryngium aristulatum var. *parishii*

Riverside Fairy Shrimp
Streptocephalus woottoni

San Diego Fairy Shrimp
Branchinecta sandiegoensis

Spreading Navarretia
Navarretia fossalis

Critical Locations and Major Populations

There are three vernal pool complexes in Carlsbad: (1) Poinsettia Lane Train Station, (2) Hieatt property, north of the airport, and (3) Manzanita Partners property, east of El Camino Real and south of the airport. The Poinsettia Lanes vernal pool has been identified as a critical location for all vernal pool species. Populations of these species have also been identified as major populations. The other vernal pools are not identified as critical locations or major populations.

Monitoring Results

No current monitoring results are available for any of these species. However, all of the vernal pool species listed above, as well as Orcutt's brodiaea (*Brodiaea orcuttii*, not covered by MHCP), are known to occur on the Poinsettia Lanes vernal pools, based on 1993 surveys (Dudek 1994; Anita Hayworth, Dudek, pers comm.). In addition, San Diego fairy shrimp and San Diego button-celery occur on the Manzanita Partners site. See Figures 7 and 8 for additional information.

Overall Condition and Major Threats

The Poinsettia Lanes vernal pool preserve does not currently have active management. The right-of-way (ROW), where the pools are located, are mowed as

part of regular ROW maintenance by the North County Transit District (NCTD), but not actively managed. The site has a high percentage of exotic species. The NCTD set aside $50,000 for management as mitigation for Poinsettia Lanes Train Station project impacts. This money is being held by CDFG. In addition, a watershed buffer was set aside to protect the Poinsettia Lane vernal pool as mitigation for the Water's End project. A $100,000 mitigation fee was paid to the City for management of this property. The Water's End vernal pool buffer area was restored to native coastal sage scrub habitat. Dudek completed a 5-year restoration monitoring/management program. The Wildlife Agencies conducted a site visit in July of 2008 and found the condition of the habitat to be very good; however, final sign-off will not occur until permanent management is in place.

The vernal pools on the Hieatt property were restored by Helix Environmental Planning Inc. (Helix). The restoration plan was initiated on March 2, 2006, and was to last 2 years. Restoration monitoring reports have not been submitted to the City or Wildlife Agencies, and no request has been made for sign off on the success of the restoration. The current status of these vernal pools is unknown. Prior to restoration, the pools did not contain any sensitive species, but contained the following vernal pool indicator species: dwarf wooly-heads (*Psilocarphus brevissimus* var. *brevissimus*), water pygmyweed (*Crassula aquatica*), chaffweed (*Centunculus minimus*), and grass poly (*Lythrum hyssopifolia*).

The vernal pool area on the Manzanita Property was enhanced/restored in 2000, and five years of maintenance and monitoring was conducted by Dudek. The five-year success criteria outlined in the restoration plan were met, although no official sign-off by the Wildlife Agencies has occurred. Seven existing degraded pools were enhanced, seven suspected historic vernal pools were restored, and adjacent native upland habitat was enhanced (Dudek 2005The current condition of this restored vernal pool area is good (A. Hayworth pers. comm.); at project completion, all vernal pools held water during the rainy season, all pools had at least one of four vernal pool target plant species present, San Diego fairy shrimp were detected at five of the pools, coastal sage scrub habitat surrounding the pools is mature and healthy, and non-native species were under control and did not pose a threat to the vernal pools (Dudek 2005). Long-term management of the vernal pools was not a requirement for this property.

Management Actions Conducted to Protect the Species

Currently, the Water's End watershed buffer is being managed by the HOA, and the vernal pools are managed by the NCTD (Level 1 management). The $150,000 set aside for management of the vernal pool and the vernal pool buffer has not been used.

The buffer area has been fenced and signed to protect from unauthorized access and to provide public education. The other two vernal pools do not have active management or monitoring at this time.

2.2.4 Vernal Pool/Upland Species

San Diego Thornmint
Acanthomintha ilicifolia

Critical Locations and Major Populations

Critical locations and major populations are located in scattered locations throughout Carlsbad, mostly in private HOA preserve lands. Other populations of San Diego thornmint are located within the Carlsbad Oaks North and La Costa Villages preserves.

Monitoring Results

Monitoring results have been obtained only on the CNLM-managed properties. Note that plant counts can vary tremendously depending on rainfall and if counts were conducted during the flowering season or when plants were in their vegetative state.

	Number of Plants Observed by Year			
Preserve	**2003**	**2006**	**2007**	**2008**
Carlsbad Oaks North	N/A	No surveys	210	505
La Costa Villages	1,000[1]	150	26	194

[1] Estimate rather than direct count
[2] N/A = Not applicable; prior to preserve inception date.

Overall Condition and Major Threats

This species appears to be well protected on CNLM-managed properties, and no current threats, aside from non-native forbs and grasses, have been identified. The status of thornmint on other properties in Carlsbad has not been assessed.

Management Actions Conducted to Protect the Species

This species is under active management within Carlsbad Oaks North and La Costa Villages. However, HOA managed properties generally only include Level 1 management.

Thread-leaved Brodiaea

Brodiaea filifolia

Critical Locations and Major Populations

Critical locations/major populations are located in the following preserves: Calavera Hills Phase II, Carlsbad Highlands Ecological Reserve, Rancho Carrillo, Fox-Miller, Brodiaea Preserve, and La Costa Villages.

Monitoring Results

Plant counts of this species can vary tremendously depending on timing and amount of rainfall, and if counts were conducted during the flowering season (flwr) or when plants were in their vegetative state (veg). CNLM has determined that the plant count during the flowering season may represent only 2%-26% of the actual population size, since only a fraction of a population flowers at a given time. For example, the number of flowering plants at La Costa Villages in 2008 was 8,291. However, plant counts made during the vegetative season over only a portion of occupied habitat was 29,589 plants. The actual population is much higher, and too large to count. Due to the large variability in the plant counts, as described above, this measure may not provide useful information when assessing species status.

	Number of Plants Observed by Year				
Preserve	**2004**	**2005**	**2006**	**2007**	**2008**
Calavera Hills Phase II					
Carlsbad Highlands ER					22 flwr
Carlsbad Oaks North	N/A[1]	N/A[1]	unknown	0 flwr	400 veg 104 flwr
La Costa Villages[2] The Greens	0[3]	2,500-3,000[3]	83[3]	11,000[4] veg 5 flwr	8,291 flwr

[1] N/A = Not applicable; prior to preserve inception date
[2] Population counts conducted during the flowering period represent 2 to 26% of the actual population (only 2-26% of plants flower in a given year). See CNLM's annual report for more details.
[3] Unknown if surveys were conducted during flowering or vegetative state.
[4] Survey did not cover entire area.

Overall Condition and Major Threats

This species appears well protected on Calavera Hills Phase II, Carlsbad Oaks North, Carlsbad Highlands Ecological Reserve, Fox-Miller restoration area, and La Costa Villages preserves. The Brodiaea Preserve (a TET bankruptcy property) has not been actively managed; however CDFG is expected to take over management in 2009. Approximately 125 flowering individuals were observed during a site visit that was conducted by CDFG on May 14, 2008. In addition, the site was found to be heavily infested with fennel and non-native grasses. The status of the Rancho Carrillo population is unknown; this property is managed by the Rancho Carrillo HOA.

The greatest threat to thread-leaved Brodiaea is invasive species, especially non-native grasses and other annuals. In addition, off-road vehicles may pose a threat to the population on Carlsbad Highlands Ecological Reserve.

Management Actions Conducted to Protect the Species

The Calavera Hills II, Carlsbad Oaks North, and La Costa Villages populations are actively managed through invasive species removal, and annually monitored by CNLM. In addition, CNLM is conducting a pilot study to determine the best method of invasive species removal. See Appendix B or CNLM's annual reports for more details. In 2007, Recon was under contract to provide management for the Fox-Miller property. Due to contractural issues, the management performed by RECON included mostly mowing, and minimal invasive species treatment and access control. Helix EPI took over management and mowed the property in June of 2008. However, after repeated requests by the Wildlife Agencies, protective fencing has not been installed.

2.2.5 Upland Species

Del Mar Manzanita

Arctostaphylos glandulosa ssp. c*rassifolia*

Critical Locations and Major Populations

Critical locations/major populations are located on preserve lands owned by the City, the County, private HOAs, and La Costa Villages.

Monitoring Results

Del Mar manzanita has been surveyed on La Costa Villages Preserve. Approximately 9 plants were located in 2008. Originally, 800 plants were estimated to occur; however, based on a new morphological dichotomous key, it was determined that only a fraction of the manzanita onsite is Del Mar Manzanita. CNLM located the majority of the Del Mar manzanita individuals, confirmed the morphology of each individual, and then mapped the individual if it was Del Mar manzanita.

Overall Condition and Major Threats

The species is well protected within the La Costa Villages Preserve, and no threats to the species require attention at this time. It should be noted, however, that no Del Mar manzanita seedlings were located, which may need to be studied in the future. If this trend continues, it will be necessary to investigate how to get seedlings to establish within the preserve (e.g., fire, manual scarification and/or stratification). The status of Del Mar manzanita on other properties has not been assessed.

Management Actions Conducted to Protect the Species

Habitat management.

Del Mar Mesa Sand Aster

Corethrogyne filaginifolia var. *linifolia*

Critical Locations and Major Populations

There are no critical locations in Carlsbad. The closest major population is at the southern boundary of Carlsbad. The majority of the population within the MHCP Subregion is within the City of Encinitas, but may extend into Carlsbad on private HOA lands.

Monitoring Results

No monitoring is currently taking place.

Overall Condition and Major Threats

Unknown.

Management Actions Conducted to Protect the Species

Habitat management.

Encinitas Baccharis

Baccharis vanessae

Critical Locations and Major Populations

The closest major population is at the southern boundary of Carlsbad. The majority of the population is within Encinitas, but may extend into Carlsbad on private HOA lands. Within this major population, there are critical locations identified that may occur within Carlsbad, although this is difficult to determine from the scale of the map (Figure 10).

Monitoring Results

No monitoring is currently taking place.

Overall Condition and Major Threats

Unknown.

Management Actions Conducted to Protect the Species

Habitat management.

California Gnatcatcher

Polioptila californica californica

Critical Locations and Major Populations

No major or critical populations have been identified in the MHCP. However, the regional stepping-stone corridor that provides dispersal opportunities between south San Diego County and Camp Pendelton (and into Orange and Riverside Counties) runs right through Carlsbad. In addition, several areas of USFWS Critical Habitat have been identified within the City (Figure 11).

Monitoring Results

The following table includes results from CNLM and CDFG monitoring, as well as information from database searches.

Preserve or Area Name	Preserve Manager	Acres CSS*	Most Recent Survey	Most Recent Number	Next Survey
Agua Hedionda Lagoon ER	CDFG		7-17-08	4 pairs + 5 individuals	2009
Alemere-County off-site	CNLM	60	2007	3 pair	2010
Aviara Conservation Area			Before 2000	10-15 pairs	
Batiquitos Drive	City-CNLM	Approx 2 acres	No recent survey data		2009
Batiquitos Lagoon ER	CDFG		6/20/08	1 pair + 8 individuals	2009
Buena Vista Creek ER	CNLM-CDFG	12	2008	3-4 pair	2010
Calavera Hills Phase II	CNLM	110	2008	12 pairs	2010
Carlsbad Highlands ER	CDFG		5/23/08	1 pair + 4 individuals	2009
Carlsbad Oaks North	CNLM	73	2008	1 pair	2009
Carlsbad Village	City-CNLM	Approx 10 acres	No recent survey data	1 individual observed in 2006	2009
Choumas-Pappas-(CAGN Core Area)	CNLM	80	2007	9 pairs + 2 single males	2010
Kelly Ranch HCA	CNLM	49	2007	4 pair	2010
La Costa Canyon Park	City-CNLM	Unknown			2009
La Costa /Romero	City-CNLM	Approx 10 acres	No recent survey data		2009
La Costa Villages	CNLM	480-500	2007	27 pair, 4 individuals	
Lake Calavera	City-CNLM	70	2004-5	4 pair, 2 unpaired	2009
Los Monos	City-CNLM	10	No recent survey data		2009
Macario Canyon	City-CNLM	Approx 15	No recent survey data		2009
Municipal Golf Course	City-CNLM/ Dudek	Approx 120 acres	2008	10	2009
Nelson-County off-site	CNLM	21	2007	1 pair	2010
N. County Habitat Bank	CNLM	1		1 indv heard, 2008	2009
Poinsettia Park	City-CNLM	6	No recent survey data		2009

Preserve or Area Name	Preserve Manager	Acres CSS*	Most Recent Survey	Most Recent Number	Next Survey
Robertson Ranch East	CNLM	28 +10 acres of reveg	2008	4 pair	2009
Robertson Ranch West	CNLM	<1 ac; Reveg in progress		1 individual heard in summer 2008	
Veteran's Memorial Park	City-CNLM	Approx 10	No recent survey data		2009
TOTALS		**1,178 + acres**		**Approx 94 pair and 32 individuals 2007 - 2008**	

Overall Condition and Major Threats

Although a complete assessment has not been conducted, currently available data show at least 1,178 acres of protected coastal sage scrub habitat in the Carlsbad HMP, and approximately 94 pair and 32 individual gnatcatchers. Note that project-specific survey data, has not been included in this analysis. Therefore, the actual number of gnatcatcher territories in the HMP is likely to be higher than 94. The coastal California gnatcatcher appears to be thriving in Carlsbad, and is well-protected within the preserves. The main threat to this species within the HMP is habitat degradation due to edge effects, mountain biking, and unauthorized trails.

Management Actions Conducted to Protect the Species

Habitat management, continual patrolling and protection, fence and sign maintenance, nonnative species removal, erosion control activities, habitat evaluations and monitoring.

3.0 Financial Summary

3.1 City Funding in Support of HMP

The City uses two sources of funding to support implementation of the HMP: (1) new permanent funding that has been allocated specifically for management of City lands and HMP coordination, and (2) existing resources, including planning and administrative staff. The following sections describe these funding sources and how they are being used.

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:

- Oversight of the HMP Preserve, and
- Direct, active management of more than 600 acres of preserve land owned by the City.

To accomplish the first goal, the City dedicated a senior-level staff planner (at approximately 50 percent time) and provides other administrative support for HMP coordination. The City also contracted with TAIC to develop guidelines to (1) assist City planners, developers, biologists, and the public through the HMP process; and (2) to serve as the City's Preserve Steward, coordinating management throughout the HMP Preserve, and monitoring HMP compliance and management effectiveness. The annual cost of program administration was estimated to be approximately $79,750 in 2004 dollars (IA, page 24), which equals approximately $91,433 in 2008 dollars (U.S. Department of Labor Consumer Price Index). The City provides $125,000 in annual administrative costs, which is continuously funded through the City's annual budget appropriation process.

The second goal will be accomplished through the efforts of CNLM, a non-profit preserve management company. (*Post-reporting period update*: The management contract with CNLM was approved by the City Council on December 16, 2008.) The annual cost for implementing the HMP preserve maintenance was initially estimated to be $181,200 in 2004 dollars (IA, page 23), which equals approximately $207,745 in 2008 dollars. Actual start-up costs and management for the first year will be $344,000. Annual maintenance costs thereafter will be $170,000. Installation and maintenance of fencing will be provided by the City; therefore, the cost for fencing is not included.

3.1.2 In-Lieu Habitat Mitigation Fees

As described in Section 1.3.7, in-lieu habitat mitigation fees are collected from developers for project-related impacts to some native habitat outside of the preserve. These habitats include all habitat types in Groups E and F (non-native grassland, disturbed lands, Eucalyptus, and agricultural lands) and some habitat types in Group D (unoccupied coastal sage scrub, coastal sage/chaparral mix, and chaparral, except southern maritime chaparral). These fees will be used to fulfill the City's obligation to acquire, protect, and manage the Gnatcatcher Core Area. Table 16 summarizes the mitigation fee account activity for the current reporting period. Approximately $159,314 in fees were collected, and $22,051 in interest accrued, bringing the account total to $945,766. No withdrawals have been made from this account to reimburse or acquire acreage in the Core Area.

Table 16. In-Lieu Mitigation Fee Account Activity during Current Reporting Period Nov. 2007 – October 2008

Date	Project Required to Pay Mitigation Fee	Habitat Impact	Fee Paid
10/31/07	**Beginning Fund Total**		**$764,400.60**
Fees Paid			
11/15/2007	GR070046 Robertson Ranch	20.4 acres disturbed lands	$52,407.60
11/15/2007	GR070047 Robertson Ranch	15.16 acres disturbed lands	$38,946.04
12/17/2007	CB071995 Davis Residence	0.01 acres unoccupied coastal sage scrub; 0.59 acres disturbed lands	$1,772.54
5/09/2008	GR080007 La Costa Condominiums	1.12 acres unoccupied coastal sage scrub; 2.5 acres non-native grassland; 2.07 acres disturbed lands	$66,187.79
Interest Earned			$22,051.17
	Total Cash Available in Fund		**$945,765.74**

3.1.3 Other City Funding that Benefited the HMP Preserve

Other sources of City funding resulting in direct benefits to the HMP Preserve included the Agricultural Mitigation Conversion Fee Program, which provided grants to the

Batiquitos Lagoon Foundation to conduct studies on the hydrology and bathymetric condition of the lagoon, remove invasive species, restore habitat, and upgrade the Batiquitos Lagoon Nature Center. Additionally, funds became available from the Cities of Carlsbad and Vista, as part of a settlement agreement for a large 2007 sewage spill at the Buena Vista Lagoon, to restore native habitat upstream from the lagoon.

3.2 Status of Preserve Management Endowments

The endowment activity and status for preserves funded through endowments are given in Table 17. This includes all preserves managed by CNLM and HCC, Buena Vista Creek Ecological Reserve, and Batiquitos Lagoon Ecological Reserve. Other ecological reserves owned and managed by CDFG are funded through regular CDFG funds.

Table 17. Endowment Status for HMP Preserves

Site Name	Inception Date	Originial Endowmt	FY-07-08 Budget	FY07-08 Expend.	Endowmt 10/31/08	Initial & Capital 10/31/08	Total Funds as of 10/31/08	Inflation Adj. Endmt 10/31/08
Batiquitos Lagoon Ecological Reserve	1997	$8,654,131[2]	Unknown	$98,507	$5,788,199			
Buena Vista Creek Ecological Reserve	4/2007	$776,644	$93,294	$86,245	$579,906	$109,567	$689,473	$806,439
Calavera Hills II/ Robertson Ranch E	6/2006	$1,650,293	$69,857	$68,476	$1,340,812	$153,864	$1,494,676	$1,745,823
Carlsbad Oaks North	3/2006	$1,020,311	$43,993	$42,821	$805,378	$55,038	$860,416	$1,078,686
Kelly Ranch	3/2002	$296,125	$16,003	$14,661	$294,607		$294,607	$369,803
La Costa Villages	2/2002	$1,364,400	$76,028	$76,371	$1,314,888		$1,314,888	$1,691,758
Nelson Parcel	6/2001	$72,180	$3,850	$3,678	$63,678		$63,678	$84,275
N. County Habitat Bank (new)	5/2008	$427,004	$0	$24,001	$306,900	$71,676	$378,576	$426,071
TOTALS		**$5,707,801**		**$414,760**	**$4,783,268**	**$403,725**	**$5,186,993**	**$6,310,139**

[1] Of this amount, approximately $3 Million is being held by the City of Carlsbad, and will become available in 2027.

[2] CNLM merged funds for these two projects to provide a cost savings for Robertson Ranch. East Village

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