

# **Coachella Valley Multiple Species Habitat Conservation Plan/ Natural Community Conservation Plan**



## **2010 Annual Report**

For the Period

January 1, 2010 to December 31, 2010

*Submitted by the*

**Coachella Valley Conservation Commission**

April 2011

# **2010 Annual Report**

## **Coachella Valley**

### **Multiple Species Habitat Conservation Plan**

### **Natural Community Conservation Plan**

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# I. Introduction

## Introduction:

The Coachella Valley Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan (CVMSHCP) is a regional multi-agency conservation plan that provides for the long-term conservation of ecological diversity in the Coachella Valley region of Riverside County. The California Department of Fish and Game (CDFG) issued the Natural Community Conservation Plan (NCCP) Permit for the CVMSHCP on September 9, 2008. The U.S. Fish and Wildlife Service (USFWS) issued the federal permit on October 1, 2008, completing a planning process that was initiated in 1996. The term of the permits is 75 years, which is the length of time required to fully fund implementation of the CVMSHCP.

The CVMSHCP includes an area of approximately 1.1 million acres in the Coachella Valley region within Riverside County. The plan area boundaries were established to incorporate the watersheds of the Coachella Valley within the jurisdictional boundaries of CVAG and within Riverside County. Indian Reservation Lands are not included in the CVMSHCP although coordination and collaboration with tribal governments has been ongoing.

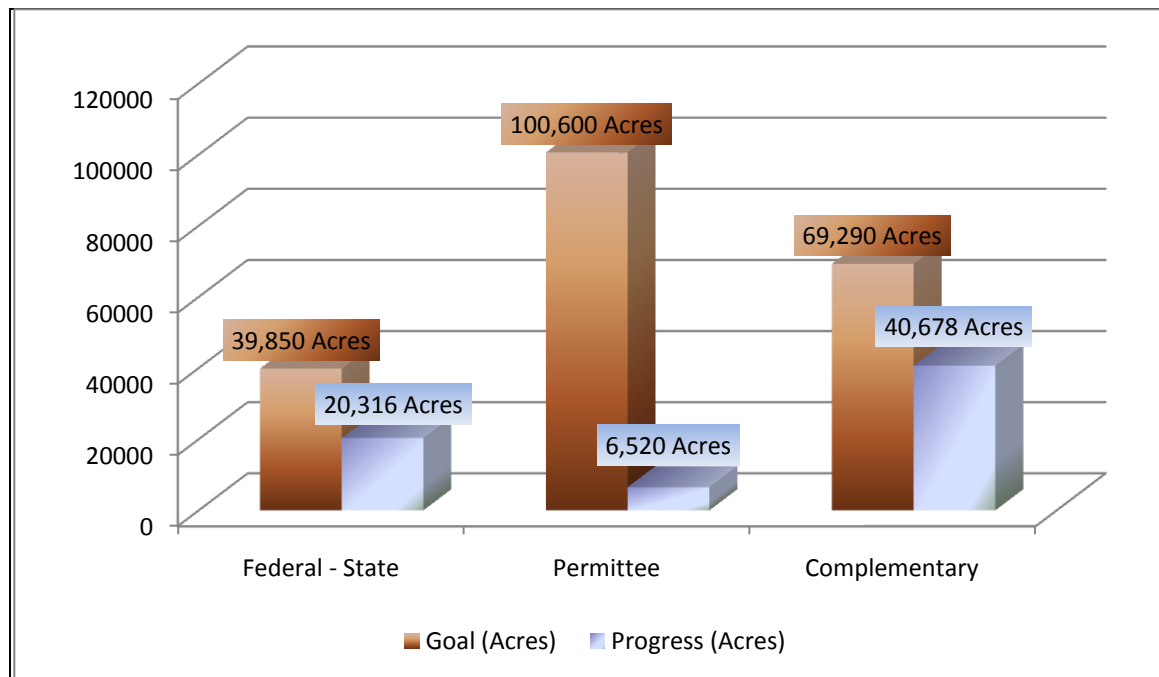
The Coachella Valley Conservation Commission (CVCC) was established in 2006, prior to permit issuance, as the agency responsible for CVMSHCP implementation. The CVCC is comprised of elected representatives of the Local Permittees including Riverside County, the cities of Cathedral City, Coachella, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, the Coachella Valley Water District, and the Imperial Irrigation District. The Riverside County Flood Control and Water Conservation District (County Flood Control), Riverside County Regional Park and Open Space District (County Parks), and Riverside County Waste Resources Management District (County Waste) are also Local Permittees. Other Permittees include three state agencies, the California Department of Parks and Recreation (State Parks), the Coachella Valley Mountains Conservancy (CVMC), and the California Department of Transportation (CalTrans). The major amendment process to include the City of Desert Hot Springs and Mission Springs Water District as Permittees was formally begun in 2010.

The CVMSHCP involves the establishment of an MSHCP Reserve System to ensure the conservation of the covered species and conserved natural communities in perpetuity. The existing conservation lands managed by local, state, or federal agencies, or non-profit conservation organizations form the backbone of the MSHCP Reserve System. To complete the assembly of the MSHCP Reserve System, lands are acquired or otherwise conserved by the CVCC on behalf of the Permittees, or by Permittee contributions in three major categories:

- Lands acquired or otherwise conserved by the CVCC on behalf of the Permittees, or through Permittee contributions
- Lands acquired by state and federal agencies to meet their obligations under the CVMSHCP
- Complementary Conservation lands including lands acquired to consolidate public ownership in areas such as Joshua Tree National Park and the Santa Rosa and San Jacinto Mountains National Monument. These acquisitions are not a Permittee obligation but are complementary to the Plan.

In addition to acquisition, land in the MSHCP Reserve System may be conserved through dedication, deed restriction, granting a conservation easement, or other means of permanent conservation. To meet the goals of the CVMSHCP, the Permittees are obligated to acquire or otherwise conserve 100,600 acres in the MSHCP Reserve System. State and federal agencies are expected to acquire 39,850 acres of conservation land. Complementary conservation is anticipated to add an additional 69,290 acres to the MSHCP Reserve System. Figure 1 shows the progress as of December 31, 2010 toward the land acquisition goals identified in Table 4-1 of the CVMSHCP. Table 1 shows the breakdown of Conservation Credit since the issuance of the federal permit.

**Figure 1: CVMSHCP Conservation Progress Toward Goals**



**Table 1: Acres of Conservation Credit**

Conservation Credit	Goal	Total Progress Towards Goal (as of 12/31/2010)	Prior to Permit Issuance (10/1/2008)	Permit Issuance to 12/31/2008	2009	2010
Federal - State	39,850	20,316	18,361	633	56	1,266
Permittee	100,600	6,520	5,024	10	1,258	228
Complementary	69,290	40,675	37,288	639	1,857	894

## **Reporting Requirements:**

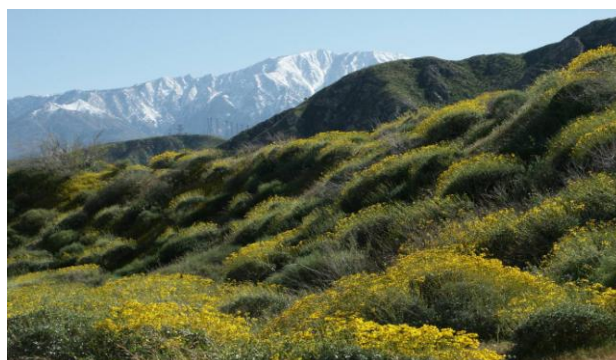
The CVMSHCP describes the requirements for an Annual Report which is to be submitted by March 30 of each year to the Wildlife Agencies and the Permittees. This Annual Report describes the activities for the period from January 1, 2010 to the end of the calendar year on December 31, 2010. The required elements are presented in this Annual Report in the order they are listed. As required by Section 6.4 of the CVMSHCP, this Annual Report will also be presented at the CVCC meeting of April 14, 2011, which will serve as a public workshop where the report will be made available to the public.

## **II. Status of Conservation Areas: Conservation and Authorized Disturbance**

The CVMSHCP identifies both qualitative and quantitative conservation goals and objectives that must be met to ensure the persistence of the Covered Species and natural communities. The CVMSHCP is based on a very quantitative approach that is designed to be as objective as possible. The CVMSHCP includes specific acreage requirements for both the amount of authorized disturbance that can occur and the acres that must be conserved within each Conservation Area. These acreage requirements are identified in conservation objectives for each Covered Species and natural community as well as for essential ecological processes and biological corridors and linkages. The conservation objectives provide one measure of the progress toward meeting the requirements of the CVMSHCP under the state and federal permits. This report provides a detailed accounting of the status of the conservation objectives for each of the Conservation Areas up to December 31, 2010.

The planning process for the CVMSHCP was initiated on November 11, 1996, which is the baseline date for the acreages listed in the tables in Sections 4, 9, 10 and throughout the CVMSHCP document. This Annual Report provides an update of these baseline tables to account for all the Conservation and Authorized Disturbance that has occurred between January 1, 2010 and December 31, 2010.

Table 2 provides a summary of the amount of conservation and the acres of disturbance authorized within Conservation Areas in 2010. In 2010, 2,388 acres were conserved through acquisition or other means. This brings the total acres conserved since 1996 to 67,511. Authorized disturbance results from development projects in the Conservation Areas. There was no disturbance authorized in 2010; to date the acres of authorized disturbance used by the Permittees totals 66 acres.



**Table 2: Conservation and Authorized Disturbance Within Conservation Areas**

Conservation Area	Conserved in 2010 (Acres)	Total Conserved Since 1996 (Acres)	Authorized Disturbance in 2010 (Acres)	Total Authorized Disturbance (Acres)
Cabazon Conservation Area	0	0	0	0
Coachella Valley Stormwater Channel and Delta Conservation Area	0	0	0	5
Desert Tortoise and Linkage Conservation Area	41	1,805	0	0
Dos Palmas Conservation Area	249	2,109	0	0
East Indio Hills Conservation Area	0	109	0	0
Edom Hill Conservation Area	0	1,917	0	1
Highway 111/I-10 Conservation Area	0	0	0	0
Indio Hills Palms Conservation Area	0	1,039	0	0
Indio Hills/Joshua Tree National Park Linkage Conservation Area	0	8,807	0	5
Joshua Tree National Park Conservation Area	120	8,055	0	0
Long Canyon Conservation Area	0	0	0	0
Mecca Hills/Orocopia Mountains Conservation Area	376	4,863 <sup>1</sup>	0	0
Santa Rosa and San Jacinto Mountains Conservation Area	978	24,433	0	9
Snow Creek/Windy Point Conservation Area	0	995	0	0
Stubbe and Cottonwood Canyons Conservation Area	10	665	0	0
Thousand Palms Conservation Area	0	3,012	0	12
Upper Mission Creek/Big Morongo Canyon Conservation Area	0	4,944	0	21
West Deception Canyon Conservation Area	20	1,475	0	0
Whitewater Canyon Conservation Area	0	956	0	0
Whitewater Floodplain Conservation Area	509	546	0	10
Willow Hole Conservation Area	85	1,821	0	3
<b>TOTAL</b>	<b>2,388</b>	<b>67,511</b>	<b>0</b>	<b>66</b>

<sup>1</sup> A parcel with APN number 719-020-012 totaling 661 acres was acquired in 2009 but was not reported in the 2009 Annual Report. The Total Acres Conserved Since 1996 column reflects this correction.

### **III. Biological Monitoring Program**

Baseline surveys of plant and animal species including the flat-tailed horned lizard, Coachella Valley milkvetch and other species associated with the sand dune ecosystem continued during 2010. The Monitoring Program focused on work to better understand the burrowing owl populations in the Coachella Valley, mapping of the mesquite hummocks, and initiation of a study on control methods for Sahara mustard. Other 2010 projects include development of a standardized monitoring data base, an Avian Mortality Protection Plan, as well as standardized survey protocols for monitoring plants, animals, and natural communities. The complete Biological Monitoring Report can be found in Appendix 1.

### **IV. Land Management Program**

Management of lands acquired by CVCC and other local Permittees is coordinated with management of the existing conservation lands owned by state, federal and non-profit agencies. The Reserve Management Oversight Committee (RMOC) is the inter-agency group that provides a forum for coordination of management and monitoring lands within the Reserve System and makes recommendations to the CVCC. The Reserve Management Oversight Committee held meetings on January 27, April 28, and June 23, 2010. The June 23, 2010 meeting was scheduled to review the Reserve Management and Monitoring Work Plans and Priority Activities as well as make recommendations to the CVCC for the 2010/2011 budget. Because of this meeting, the regular July 28 meeting was not held. The October meeting was not held due to a lack of agenda items.

Each RMOC meeting included a report from the Monitoring Program Administrator and the Land Management Program. The recommendations from the RMOC were incorporated into the CVCC budget for FY 2010/11 presented to the CVCC at their July 2010 meeting. Some of the recommendations for the monitoring program included the following priority activities:

- Baseline surveys for covered species
- Completion of survey protocols for Aeolian Sand, Wetland/Riparian, and Alluvial Fan species and natural communities
- Sahara mustard research to look at possible control methods for this invasive species
- Burrowing owl feather study to look at populations of burrowing owls in and beyond the Coachella Valley
- Mesquite mapping and database development
- Biological database for all monitoring data

Significant progress on the Reserve Management Unit Plans (RMUPs) was made during 2010. All of the Reserve Management Unit Plans are due to be completed by September 30, 2011 to comply with the requirements of the CVMSHCP. In order to meet Plan deadlines, CVCC contracted with the Coachella Valley Mountains Conservancy (CVMC) and RECON in November 2009 to prepare a Reserve Management Unit Plan (RMUP) for each of the six Reserve Management Units (RMUs) identified in the MSHCP. The schedule for timely completion of the RMUPs was developed in coordination with the RMUCs and RMOC. The CVMC team began gathering background material and preparing baseline maps for the first RMUP, which is for the Dos Palmas Reserve Management Unit. In early 2010, meetings were held with the appropriate Reserve Management Unit Committees to identify issues

they wanted to include in the Reserve Management Unit Plans. The RMUP development process also included coordination with the Monitoring Program team to ensure that monitoring and research activities inform and support management of the Reserve Management Units.

### **Reserve Management Unit Committees**

The six Reserve Management Units (RMUs) facilitate coordinated management by local, state and federal agencies to achieve the Conservation Objectives within the MSHCP Reserve System. Initial meetings for some of the RMUCs were held in late 2009. Activities of these committees are described below:

- Unit 1. Valley Floor Reserve Management Unit. The Valley Floor Reserve Management Unit Committee met on February 24, 2010. The RMUC discussed the priority management issues on the valley floor and coordination with monitoring activities. A second meeting was held on May 25 to review the draft RMUP which is scheduled for completion in early 2011.
- Unit 2. Joshua Tree National Park Reserve Management Unit. This RMUC includes the National Park Service and the CVCC Land Manager. No meetings of this RMUC have been held yet. They will be scheduled as needed in coordination with the National Park Service.
- Unit 3. Desert Tortoise and Linkage, and Mecca Hills/Orocopia Mountains Reserve Management Unit. The lands within this RMUC are those owned by the Bureau of Land Management. Meetings of this RMUC with the Land Manager will occur when necessary; no meetings were held in 2010.
- Unit 4. Dos Palmas Reserve Management Unit. The Dos Palmas Reserve Management Unit Committee met on January 26, 2010 to initiate work on the RMUP and review the draft Invasive Species Management Options report. Additional meetings were held on May 25, 2010 and November 10, 2010 to discuss management recommendations for the Reserve Management Unit Plan.
- Unit 5. Coachella Valley Stormwater Channel and Delta Reserve Management Unit. The RMUC for this Reserve Management Unit did not meet in 2010. Meetings of this RMUC with the Land Manager will occur in coordination with BLM as needed.
- Unit 6. Santa Rosa and San Jacinto Mountains Reserve Management Unit. The first and only meeting of this RMUC this year was held on April 21, 2010 to coordinate development of the management plan.

### **Trails Management Subcommittee**

The Trails Management Subcommittee meetings were held on January 20, March 17, May 19, July 21, September 15, and November 17, 2010. In addition to the regular meetings held every other month, the Subcommittee held a special meeting on April 23, 2010. This special meeting was to receive comments from the Subcommittee on the draft Request for Proposals for the trails and bighorn sheep research project.

During 2010, the Trails Management Subcommittee continued with the working groups established in 2009. These working groups and a brief summary of their activities include:

- 1. Self-issue Permit System Working Group – this working group completed a draft self-issue permit form to use for tracking trail use and gathering information about trail users
- 2. Signs and Unauthorized Trails Working Group – this group is working on identifying unauthorized trails so they can be removed. Through the National Monument, a



volunteer Trail Stewards group is coordinating with the Subcommittee on dealing with unauthorized trails.

3. Communication and Outreach Working Group – this group drafted guidelines and outreach opportunities for trails issues.

The Subcommittee continued work with jurisdictions on existing ordinances that relate to trail use, including ordinances related to dogs on trails. The City of Palm Desert approved revised ordinances and policies to be consistent with the Trails Plan. Work with other jurisdictions will continue in 2011. The Subcommittee also initiated work on the bighorn sheep and trails research program. The Subcommittee reviewed and provided valuable comment on the draft Request for Proposals for the research, *Analysis of the Effects of Recreational Trail Use on Peninsular Bighorn Sheep Habitat Use, Activity Patterns, and Population Dynamics in the San Jacinto and Santa Rosa Mountains of Southern California*. However, in 2010, the decision was made not to proceed with the research program as the funding available to initiate and complete the research was not certain.

## V. Land Acquisition to Achieve the Conservation Goals and Objectives of the CVMSHCP

In 2010, CVCC completed seven transactions acquiring 15 parcels totaling 603 acres at a cost of \$1.6 million in CVCC funds, and \$3.6 million in federal grant funds. Of this total, 228 acres were purchased with CVCC funds and credit to the Local Permittees. The remaining 375 acres credit to the federal USFWS. These acquisitions are listed in Table 3. These parcels were acquired at an average cost per acre of \$8,540. A table of acquisitions and/or otherwise conserved lands recorded during the period from January 1, 2010 to December 31, 2010 can be found in Appendix 2. Parcels acquired are listed by Assessor Parcel Number (APN). Acreage is calculated using Riverside County Assessor's parcels GIS feature class in the UTM NAD 1983 coordinate system.

**Table 3: Lands Acquired by CVCC in 2010**

Project	Acres	Conservation Area	Purchase Price	Notes
Taylor	161.85	Whitewater Floodplain	\$1,370,000	
LDK Real Estate	160	Whitewater Floodplain	\$1,015,000	Interchange Project Mitigation
Foonberg	141.90	Whitewater Floodplain	\$1,360,000	
Franco	44.99	Willow Hole	\$404,900	
Kading	42.57	Willow Hole	\$325,000	
Alex-Brinkis	39.80	Whitewater Floodplain	\$550,000	
Arrache	11.95	Whitewater Floodplain	\$125,000	
<b>TOTAL PURCHASES</b>	<b>603</b>		<b>\$5,149,900</b>	

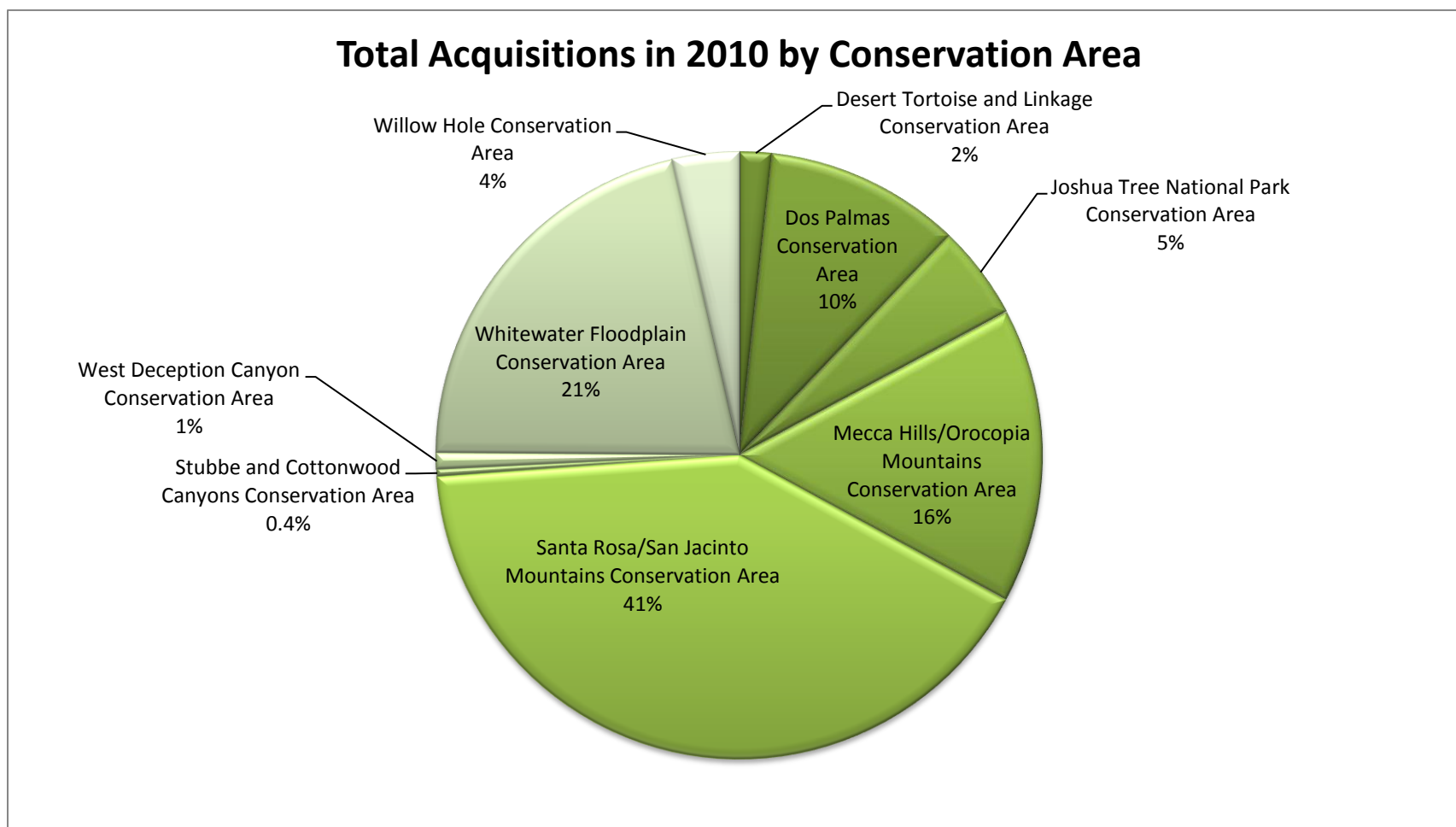
As shown in Table 4, CVCC also received 28 parcels in Land Transfers totaling 666 acres in 2010.

**Table 4: Lands Transferred to CVCC in 2010**

Project	Acres	Conservation Area	Notes
Center for Natural Lands Management	566.54	Thousand Palms, Willow Hole and Edom Hill Conservation Areas	Transfer CVFTL HCP acquisitions from CNLM to CVCC for management
Coyle	99.53	Thousand Palms	Transfer from Friends of the Desert Mountains to CVCC
TOTAL TRANSFERS	666		



**Figure 2: Total Acquisitions in 2010 by Conservation Area**



**Figure 3: CVCC Acquisitions in 2010 by Conservation Area**

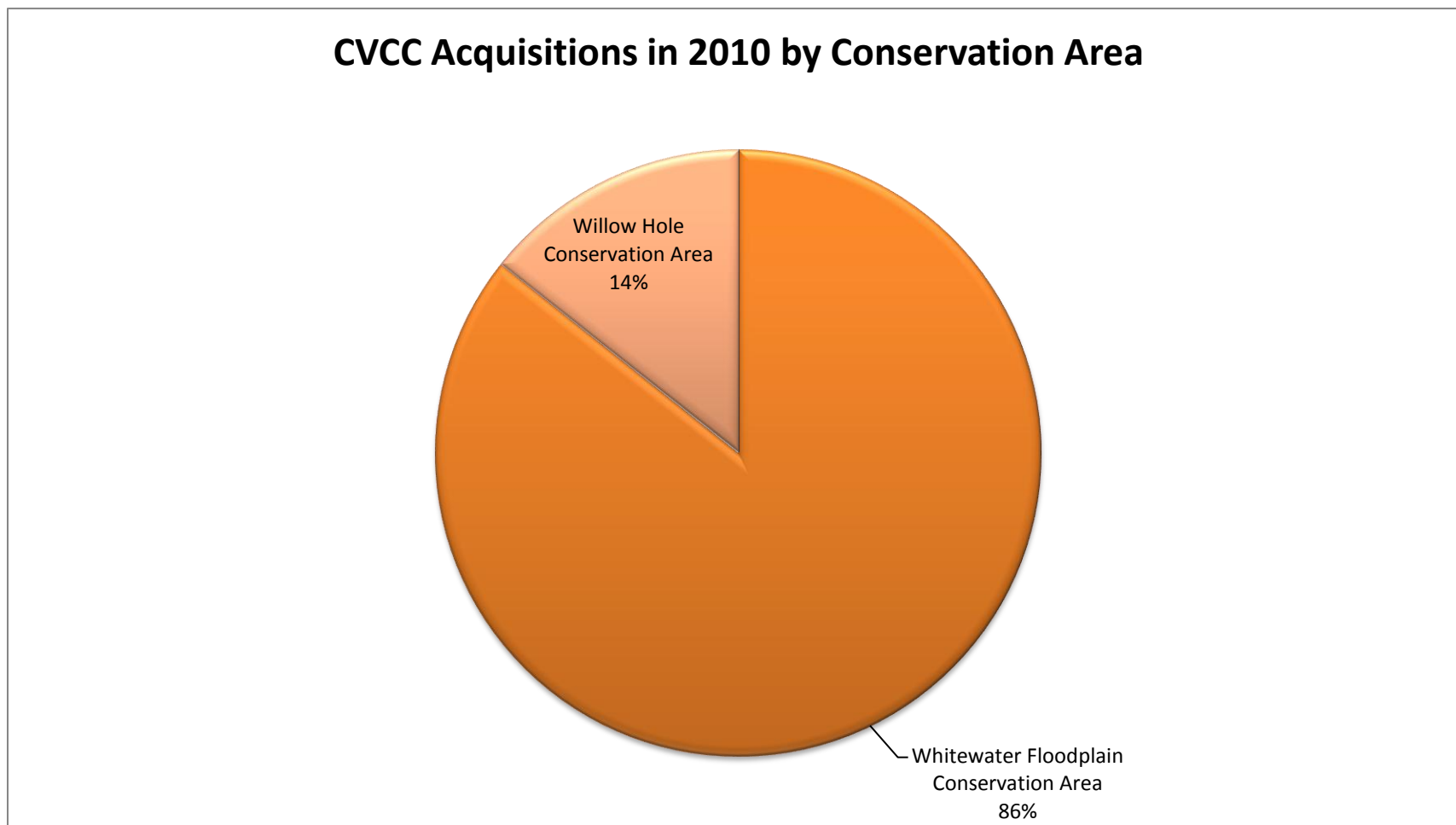
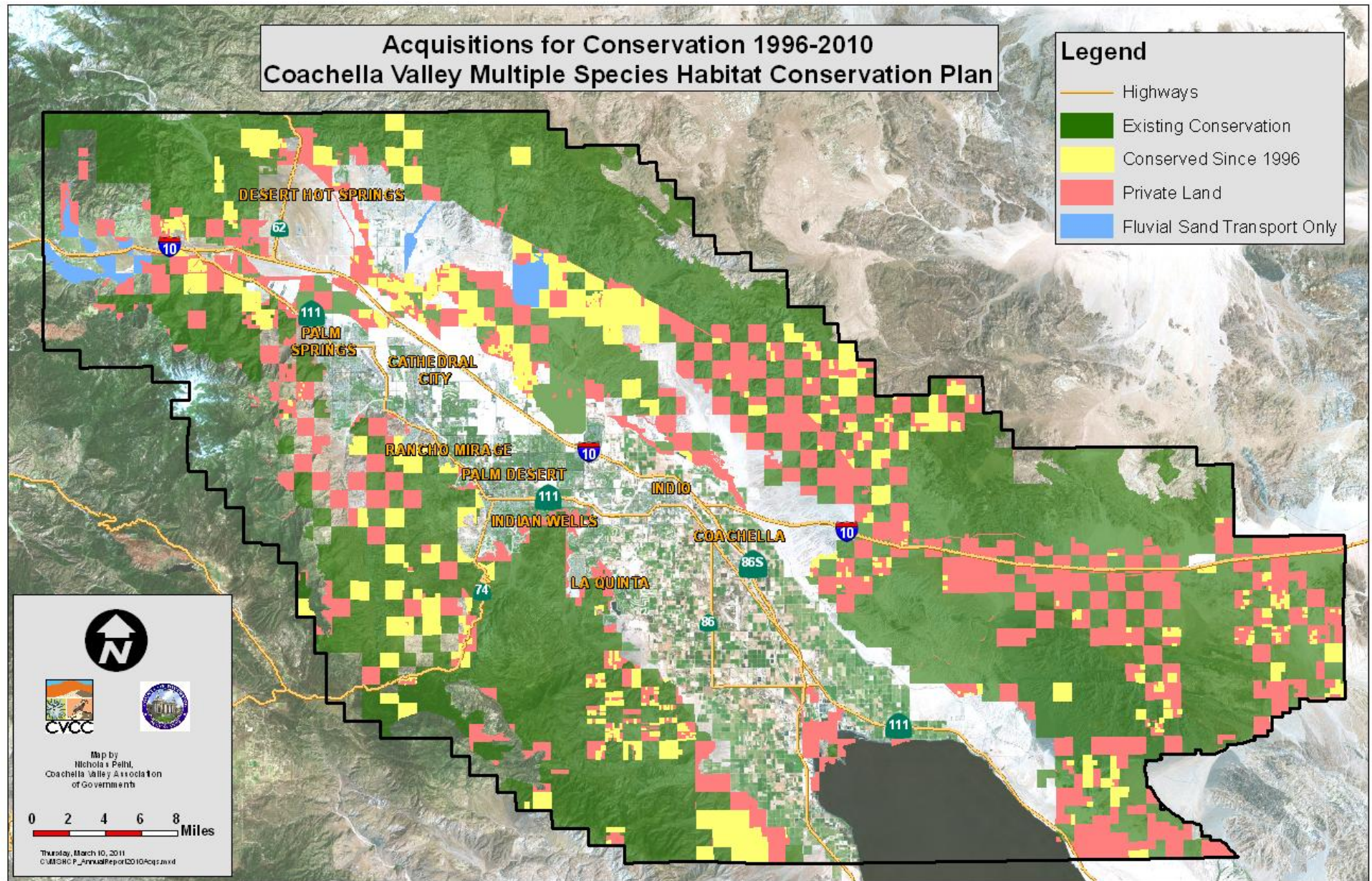


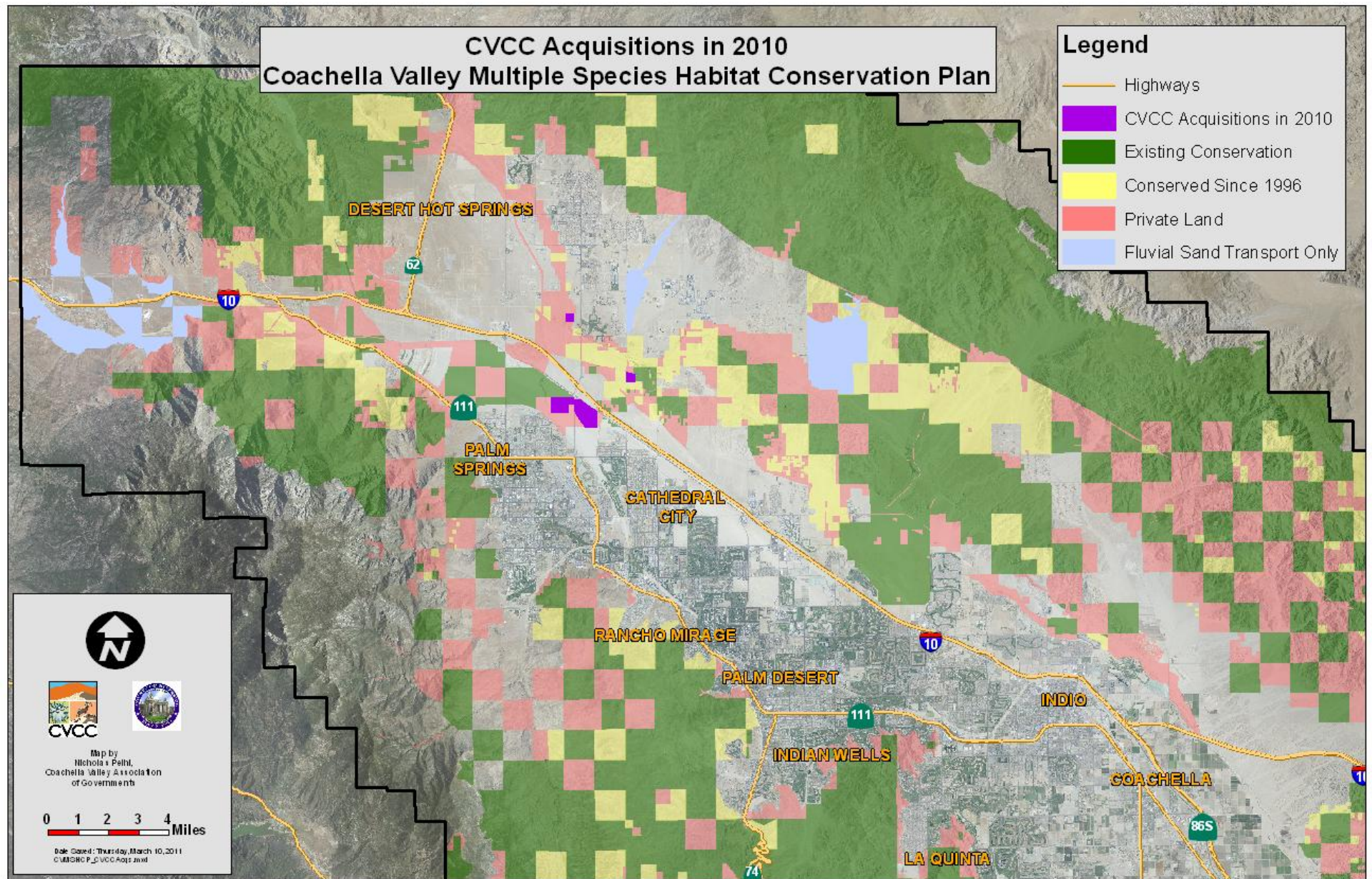


Figure 4





**Figure 5**



## **VI. Conservation and Authorized Disturbance Within Conservation Areas**

The progress toward achieving the Conservation Goals and Objectives for the CVMSHCP is reported here from two different perspectives, by Conservation Objective and by Covered Species or natural community. The CVMSHCP includes Conservation Objectives for conserving Core Habitat for Covered Species and conserved natural communities, Essential Ecological Processes necessary to maintain habitat viability, and Biological Corridors and Linkages within each of the 21 Conservation Areas. The amount of conservation and the amount of disturbance are reported in the same tables for comparative purposes. This Annual Report includes the conservation and authorized disturbance from January 1 to December 31, 2010.

The progress toward our goals in terms of the Conservation Objectives is presented in Appendix 3.

## **VII. Covered Activities Outside Conservation Areas**

The CVMSHCP allows for development and other Covered Activities outside the Conservation Areas which does not have to meet specific conservation objectives. A table that includes an accounting of the number of acres of Core Habitat and Other Conserved Habitat for the Covered Species and conserved natural communities that have been developed or impacted by Covered Activities outside the Conservation Areas can be found in Appendix 4. This information is listed for each of the Permittees with lands impacted by covered activities outside the Conservation Areas.

Development inside Conservation Areas has been carefully tracked and subject to review under the 1996 Memorandum of Understanding that began the planning process for the MSHCP. For development outside Conservation Areas, the acre figures in the table are estimates derived from the Developed area of the California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program GIS coverages from 1996 and 2008.

See <http://www.conservation.ca.gov/dlrp/FMMP/Pages/Index.aspx> for more detail on the Farmland Mapping and Monitoring Program.

## **VIII. Status of Covered Species**

An overview of the status of each of the Covered Species for each Conservation Area can be found in Appendix 3.



## IX. Significant Issues in Plan Implementation

The implementation of the Local Development Mitigation Fee (LDMF) and the overall financing of the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP) continues to be the most significant issue in Plan implementation.. At the direction of the CVCC, a Nexus Study for the Local Development Mitigation Fee and Revised Fee Ordinance have been prepared to address these concerns. However, as of the December 31, 2010, CVCC had taken no action on these items due to concerns from the development community about impacts of fees during difficult economic times.

The LDMF went into effect upon the issuance of the federal permit for the Coachella Valley Multiple Species Conservation Plan on October 1, 2008. The first discussion of the implementation of the LDMF occurred at the CVCC meeting of September 11, 2008; A downturn in the economy occurred in October 2008 and many development projects in the Coachella Valley were stalled at various stages of completion. After much discussion about the potential to exempt projects already in some stage of the development process, CVCC adopted Policy 08-03, to attempt to address these concerns. Work on this issue continued through 2009. At the meeting of January 9, 2010 CVCC amended Policy 08-03, after many months of discussion during which input on Policy 08-03 was received from participating jurisdictions, the building industry, project applicants, environmental groups, the Wildlife Agencies and other plan stakeholders. The amended Policy 08-03 provided for a temporary exemption to all projects issued any grading permit before October 1, 2008. It also called for the completion of a new Nexus Study for the LDMF. The exemption continued until September 30, 2010. The amended Policy 08-03 resulted in approximately half of all projects in the period of January 1, 2010 – September 30, 2010 being exempted from the LDMF.

### **LDMF Collections and Exemptions January 1 – December 31, 2010**

	<b>Amount Collected</b>	<b>Amount Exempted</b>
Cathedral City	\$39,454	\$0
Coachella	\$126,419	\$28,828
Indian Wells	\$12,840	\$0
Indio	\$3,920	\$344,821
La Quinta	\$58,041	\$46,442
Palm Desert	\$41,040	\$1,284
Palm Springs	\$140,965	\$7,715
Rancho Mirage	\$16,161	\$0
County of Riverside	\$258,658	\$0
<b>TOTAL</b>	<b>\$697,499</b>	<b>\$429,089</b>

At the March 11, 2010 meeting, CVCC appointed a subcommittee of Chair Richard W. Kite, Councilman Bill Powers, and Mayor Eduardo Garcia to provide guidance throughout the Nexus Study process. In April 2010, the CVCC initiated a new Nexus



Study to develop funding scenarios that would address the numerous changes in potential revenue for the MSHCP since the 2007 Nexus Study. The study looked at various factors, including the average value of land and the rate of development, the costs for land management, biological monitoring, and the establishment of an endowment. The 2007 Nexus Study anticipated that development would continue at the same rate as the period from 1988 to 2004, 1,370 acres per year. The rate of development in the last year for the Coachella Valley jurisdictions participating in the MSHCP was less than 20% of the historical average year.

The findings of a new Market Study were presented at the June 10, 2010 meeting of the CVCC. As would be expected in current market conditions, the average per acre value of \$2,739 per acre was found to be lower than the average per acre value of the 2006 Market Study of \$3,729 per acre. CVCC has focused acquisition efforts on land with realistic development potential on the Valley floor which contains some of the most biologically sensitive properties with the greatest development threat.

The CVCC Subcommittee continued to work toward a solution that would fully fund the MSHCP. The preliminary results of the Nexus Study were presented at the CVCC meeting of September 9, 2010. The Nexus Study provides an analysis of changes in key program assumptions. One assumption relates to the land price estimates which have been adjusted to reflect the CVCC's recent experience and priority locations in the short run, and updated market study values in the long run. It also provided estimates of annual land development which were revised downward to reflect actual, recent development patterns in the Coachella Valley and the constraints of the current economic climate. The Nexus Study removed Eagle Mountain Landfill as a source of revenue, given recent court decisions on this project. It also incorporated an adjustment to the LDMF when the City of Desert Hot Springs becomes a Permittee through the Major Amendment to the MSHCP.

At the last meeting of 2010 on November 4, the CVCC continued approval of the Nexus Study and a Revised LDMF Ordinance to January 2011. It is anticipated that a final Nexus Study and Revised Ordinance will be finalized in early 2011. Upon approval by CVCC, the Revised Ordinance and Resolution will be sent to the individual Permittees for adoption. If any jurisdiction fails to approve the Revised Ordinance, the current ordinance and Nexus Study would remain in effect and the LDMF would remain at \$5730 per acre in all jurisdictions.



## X. Expenditures for CVMSHCP: 2010/2011 Budget

### COACHELLA VALLEY CONSERVATION COMMISSION

#### Fiscal Year 2010/2011 Budget

	MANAGEMENT AND MONITORING	GENERAL ADMINISTRATION	LAND ACQUISITION	ENDOWMENT	LIZARD ENDOWMENT	TOTAL
<b>BEGINNING FUND BALANCE</b>	\$ -	\$ -	\$ 120,826	\$ 1,948,655	\$ 304,244	\$ 2,373,725
<b>REVENUES:</b>						
Development Mitigation Fees	\$ -	\$ -	\$ 916,237	\$ -	\$ -	\$ 916,237
Agencies Mitigation Fees	-	-	6,272,420	1,448,383	-	7,720,803
Tipping Fees	-	372,000	-	-	-	372,000
Contributions	-	-	-	-	-	-
Grants	57,000	-	10,388,000	-	-	10,445,000
Other Revenue	-	-	-	-	-	-
Investment Income	-	-	4,500	20,500	3,000	28,000
<b>Total Revenues</b>	\$ 57,000	\$ 372,000	\$ 17,581,157	\$ 1,468,883	\$ 3,000	\$ 19,482,040
<b>EXPENDITURES:</b>						
Administrative Fees	\$ -	\$ -	\$ 9,162	\$ -	\$ -	\$ 9,162
Comprehensive Insurance	-	11,187	-	-	-	11,187
Per Diem Payments	-	6,375	-	-	-	6,375
Computer Software	-	-	2,000	-	-	2,000
Office Supplies	-	1,500	-	-	-	1,500
Printing	-	15,000	-	-	-	15,000
Land Improvements	-	-	80,000	-	-	80,000
Legal Services	-	72,000	3,000	-	-	75,000
Professional Services	-	7,890	20,000	-	-	27,890
Consultants	546,000	281,000	378,000	-	-	1,205,000
<b>Sub-Total Expenditures</b>	\$ 546,000	\$ 394,952	\$ 492,162	\$ -	\$ -	\$ 1,433,114
<b>OTHER</b>						
Land Acquisitions	\$ -	\$ -	\$ 16,630,420	\$ -	\$ -	\$ 16,630,420
Furniture and Equipment	-	5,000	24,000	-	-	29,000
Debt Service	-	-	-	-	-	-
Operating Transfers Out	-	-	-	516,952	-	516,952
Operating Transfers In	(489,000)	(27,952)	-	-	-	(516,952)
<b>Sub-Total Other</b>	\$ (489,000)	\$ (22,952)	\$ 16,654,420	\$ 516,952	\$ -	\$ 16,659,420
<b>Total Expenditures and Other</b>	\$ 57,000	\$ 372,000	\$ 17,146,582	\$ 516,952	\$ -	\$ 18,092,534
<b>Net Excess (Deficit)</b>	\$ -	\$ -	\$ 434,575	\$ 951,931	\$ 3,000	\$ 1,389,506
<b>ENDING FUND BALANCE</b>	\$ -	\$ -	\$ 555,401	\$ 2,900,586	\$ 307,244	\$ 3,763,231

## **XI. Compliance Activities of Permittees**

CVCC established procedures for remittance of the Local Development Mitigation Fee in 2008. Permittees have been reporting development and remitting fees collected to CVCC on a monthly basis. During 2010, \$697,499 was remitted to CVCC.

CVCC is working with the City of Desert Hot Springs and Mission Springs Water District (MSWD) on a Major Amendment to add them as Permittees.

On September 29, 2009 the Mission Springs Water District Board passed a Resolution of Intent to participate in the MSHCP as a Permittee. DHS and MSWD have hired a consultant to prepare the necessary environmental documents.

The City of Desert Hot Springs completed an annexation of lands between the current city limits and the I-10 Freeway. The Desert Hot Springs I-10 Community Annexation included approximately 4,000 acres of land, of which approximately 1,900 acres lies within the Willow Hole and Upper Mission Creek Conservation Areas. LAFCO approved the I-10 Community Annexation on December 3, 2009. To ensure consistency with the requirements of the CVMSHCP the CVCC approved an amendment to the Implementing Agreement to require that any development of the annexed lands proceeds in accordance with the Conservation Goals and Objectives of the CVMSHCP. The amendment was signed by the City of Desert Hot Springs, CVCC on behalf of the Permittees, CDFG, and USFWS in August 2010. With completion of the annexation, the City of Desert Hot Springs became a Permittee for the annexed lands.

CDFG has been supporting the CVMSHCP through its competitive program since 2002. In 2010, CVCC continued work on the development of a database for Natural Community Conservation Plans under the CDFG Local Assistance Grants (LAG) grant of \$30,000 awarded in 2009.

## **II. Annual Audit**

CVCC approved their FY 2010/2011 budget at their July 2010 meeting. This budget is presented in Section X.

The first audit of the expenditures for the period July 1, 2009 to June 30, 2010 was completed on February 23, 2011. The financial report was designed to provide citizens, members, and resource providers with a general overview of the CVCC's finances, and to show accountability for the money it receives. Questions about this report or for additional financial information can be obtained by contacting the CVCC Auditor, at 73710 Fred Waring Drive, Suite 200, Palm Desert, CA 92260.

## **XIII. Unauthorized Activities and Enforcement**

CVCC received no reports of unauthorized activities between January 1, 2010 and December 31, 2010.

# Appendix 1

## Biological Monitoring Report

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# Appendix 1

## Biological Monitoring Report

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2009-2010  
ANNUAL REPORT

CVCC-MONITORING PROGRAM FOR  
THE CVMSHCP: TASK ORDER 2

CENTER FOR CONSERVATION BIOLOGY  
UNIVERSITY OF CALIFORNIA AT RIVERSIDE

December 2010

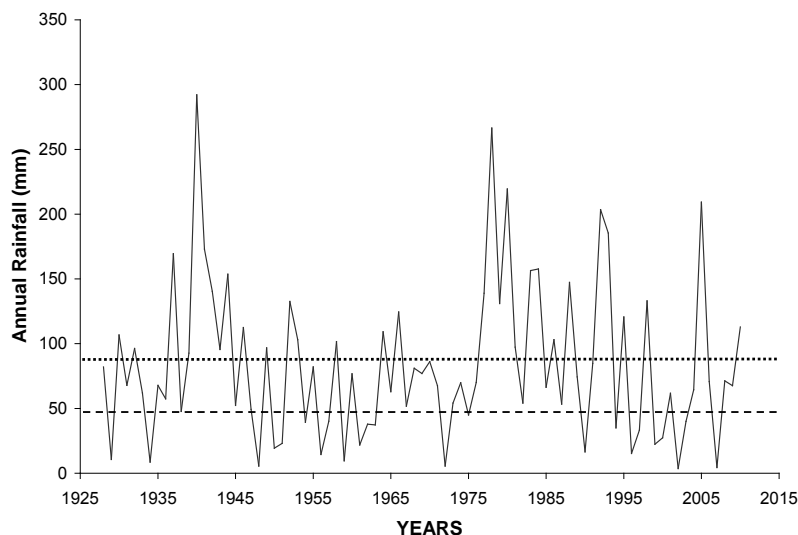
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## INTRODUCTION

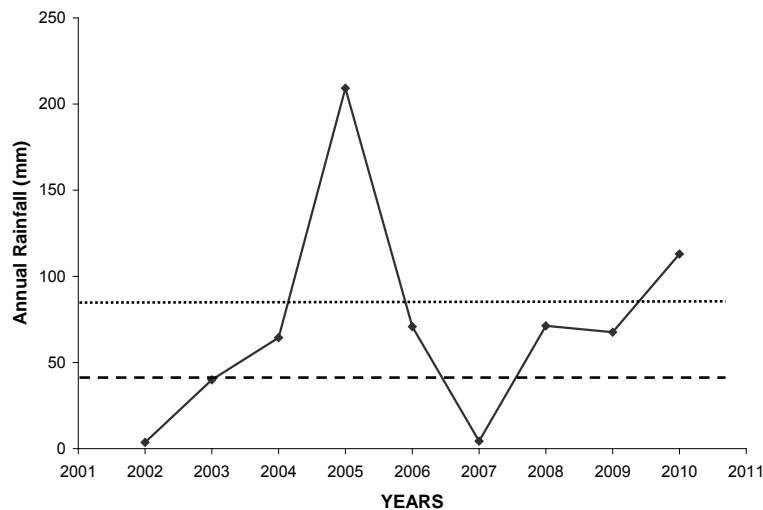
The following descriptions summarize data collected from the 2009-2010 fiscal year. The summaries put those data within a temporal context by including comparisons to previous years, going back as far as 2002 for some species. The data are also placed in a spatial-ecological context by separating the data according to aeolian sand community type. These communities are generally described in CVMSHCP documents, and are specifically described with respect to location, physical processes and biotic associations by Barrows and Allen (2007, 2010). The data presented here come from 106 10x100 m plots, stratified by community type. Those include active dunes (26 plots per 5 discrete habitat patches), stable (mesquite) dunes (19 plots per 2 patches), ephemeral sand fields (24 plots per 3 patches), and stabilized sand fields (37 plots per 3 patches).

The winter of 2009-2010 was a moderate El Niño with slightly above mean precipitation (113 mm) and relatively cool conditions (Figure 1a & b). This follows the 2007-2008 and 2008-2009 winters which were approaching near long-term mean precipitation levels. In arid environments annual rainfall amounts tend to drive biotic responses and so create a basis for predictions of the trajectories of species' population dynamics. Unless subjected to a stressor agent, such as anthropogenic disturbances or competing invasive species, we would expect recent rainfall patterns to result in population increases for most of the covered aeolian-sand associated species. Therefore, this report focuses on the relationship between rainfall and recent population trends for covered species.



**Figure 1a.** Annual rainfall amounts 1927-2010 for the center of the Coachella Valley, California (Indio 1927-1995; southern Thousand Palm Preserve independent rain gauge 1995-2010). Dotted line indicates mean for this reporting period. Dashed line indicates rainfall threshold over which fringe-toed lizard population growth is expected to be positive (Barrows 2006).



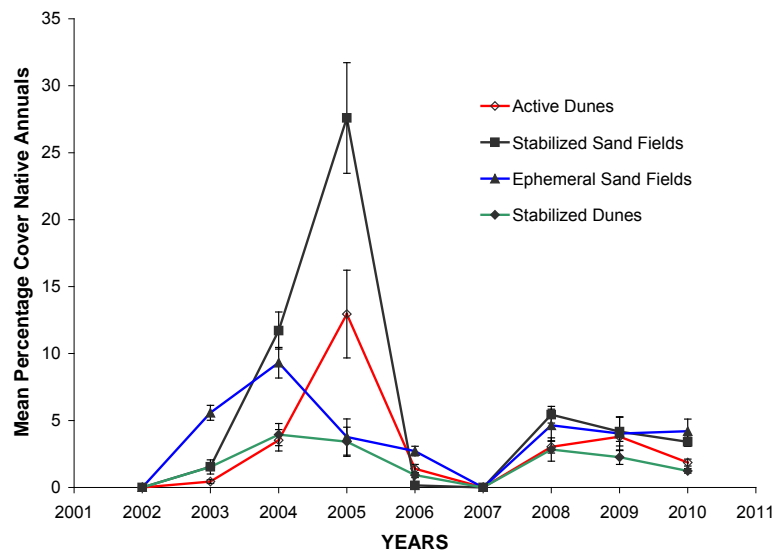


**Figure 1b.** Annual rainfall amounts 2002-2010 for the center of the Coachella Valley, California (southern Thousand Palm Preserve independent rain gauge). Dotted line indicates mean; dashed line indicates the rainfall threshold over which fringe-toed lizard population is expected to be positive (Barrows 2006).

## SURVEY RESULTS

Given the rainfall patterns shown in Figure 1b, we expected an increase in native annual plant cover in 2010 throughout the desert, including in each of the aeolian sand communities (Barrows et al. 2009). Only data collected from ephemeral sand fields supported this prediction; in all other sand communities, native annual plant cover declined in 2010 (Figure 2). Ephemeral sand fields are located in the western portion of the Coachella Valley and as such receive more rain than the other desert communities. In addition, Sahara mustard (*Brassica tournefortii*) increased in abundance in all communities except ephemeral sand fields (Figure 3).

Sahara mustard increased most notably on stabilized sand fields, but increases were also apparent on active and stable sand dunes. Even though 2010 rainfall levels (113 mm) were only 54 percent of 2005 levels (209 mm; Figure 1b), mustard population trajectories during these two years were both strongly positive and similar in magnitude. Our data are not capable of exploring the complex biotic interactions with the onset, intensity and timing of subsequent winter storms that likely drive mustard population dynamics. Nevertheless, when comparing mustard population growth and mean annual rainfall between 2005 and 2010, it appears mustard populations can respond with dense growth to even modest levels of precipitation. By contrast, native annuals did not show a comparably positive response to 2010 rainfall levels. These patterns are consistent with the inhibitory effect of mustard on native plants documented more definitively by an experimental mustard-removal study (Barrows et al. 2009).



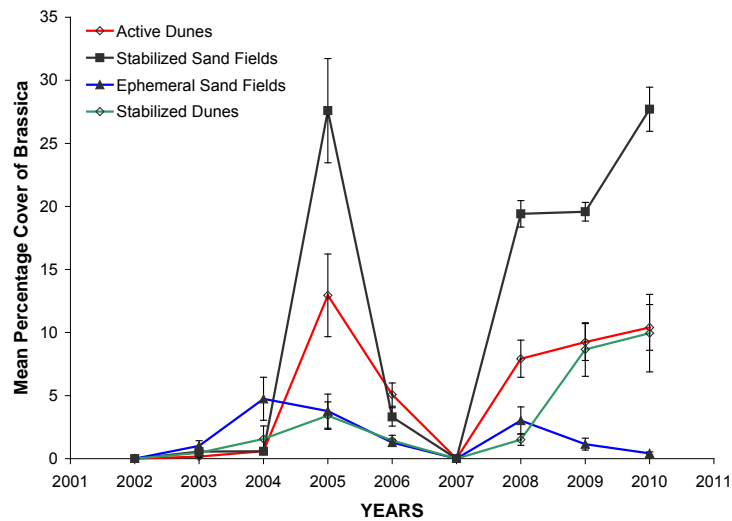
**Figure 2.** Annual patterns of cover for annual plants, separated by aeolian sand community type. Error bars indicate one standard error.

To further understand the inter-play between Sahara mustard and native annual plants, larger-scale analyses of remote-sensed imagery would be valuable. Such analyses would allow us to quantify and track levels of mustard encroachment into active and stable dunes, resultant dune stabilization rates, and whether dunes remain stabilized or become active again during drier conditions. These questions address thresholds for community change, community resistance to change, and the resilience of communities to shift back to original conditions once a stressor abates. These topics are central to understanding how to preserve the long-term viability of the ecological resources provided by these communities.

#### Coachella Valley milkvetch

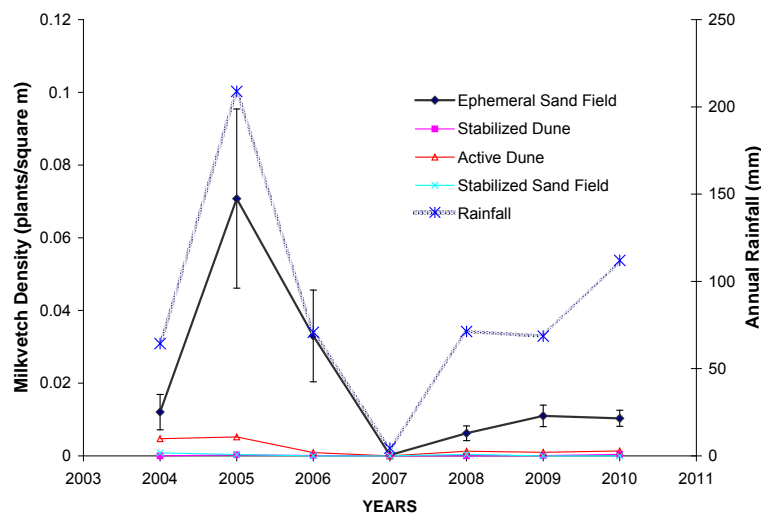
Coachella Valley milkvetch (*Astragalus lentiginosus* var *coachellae*) has an annual-biennial growth pattern. While it occurs in each of the aeolian sand communities it is by far most abundant in the ephemeral sand fields (Figure 4). The recent milkvetch population peak in 2005 has not been matched by the more moderate rainfall events leading up to and including 2009-2010. Since none of the known stressors, such as Sahara mustard, are currently at levels on the ephemeral sand fields that might suggest ecological impacts, the observed patterns of abundances likely represent the interplay between rainfall and sand deposition for that community.

For the communities where Sahara mustard is invading, the temporal shifts in the abundances of milkvetch still show no obvious mustard impacts (Figure 5). The stable dunes and stable sand fields appear to not have had large milkvetch abundances during the data collection period, regardless of mustard abundance. The lack of milkvetch may be due to the low levels of seed scarification, a process important to the germination of milkvetch seeds.

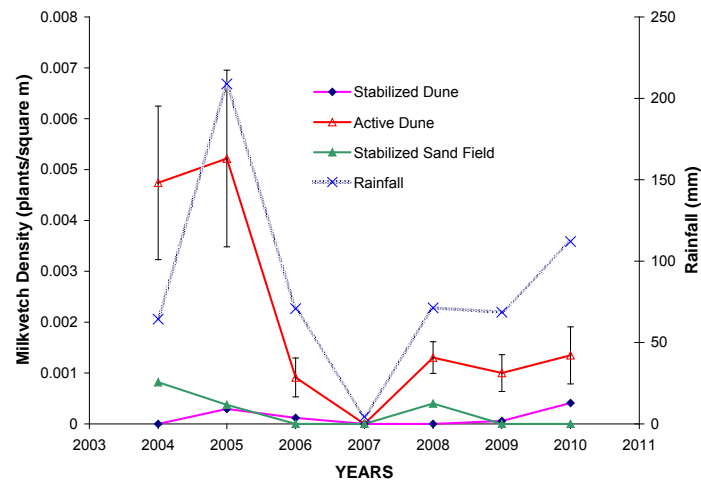


**Figure 3.** Annual patterns of cover of Sahara mustard separated by aeolian sand community type. Error bars indicate one standard error.

The lack of apparent impacts of mustard on the milkvetch is likely a matter of mustard density. Barrows et al. (2009) demonstrated the lower seed pod production of milkvetch under a canopy of mustard compared to mustard-free sites. If the mustard continues to encroach on active dunes, or begins to encroach on the ephemeral sand fields, mustard densities will likely reach thresholds for population level impacts.



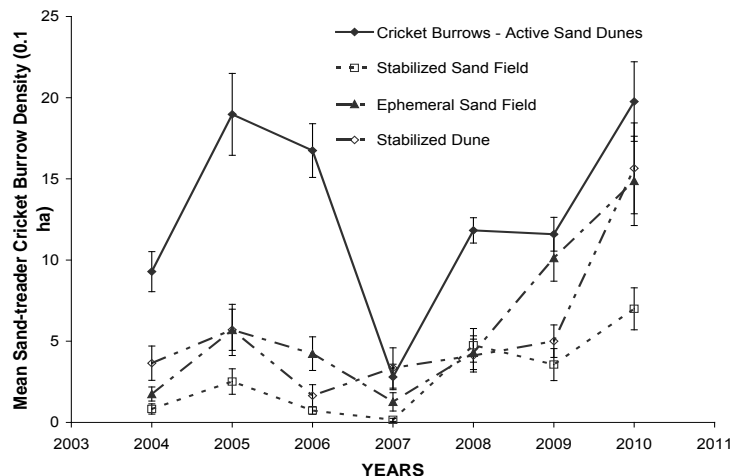
**Figure 4.** Density of Coachella Valley milkvetch among the aeolian sand communities of the Coachella Valley. Error bars represent one standard error.



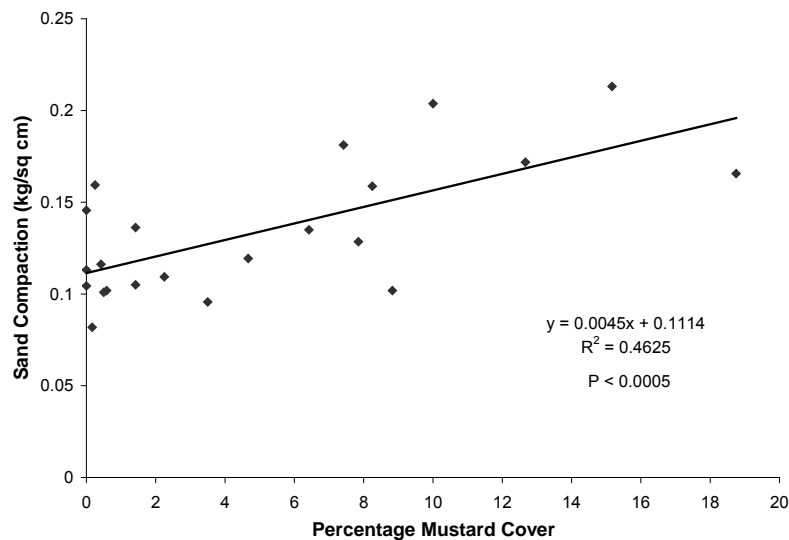
**Figure 5.** Density of Coachella Valley milkvetch among the aeolian sand communities of the Coachella Valley where it occurs in lesser abundances. Error bars represent one standard error.

#### Coachella Valley giant sand-treader cricket

Coachella Valley giant sand treader cricket (*Macrobaenetes valgum*) abundance in 2010 appeared to track rainfall closely; there is no evidence of a negative interaction with Sahara mustard (Figure 6). Active sand dunes provided habitat that has consistently yielded the highest abundances, but cricket numbers in stable dunes and ephemeral sand fields were similar. Only stabilized sand fields continued to have low cricket numbers. Sand density and rainfall are probably the principal population drivers for sand-treader crickets. Stabilized sand fields are most infested by mustard, which has a stabilizing effect on sand (Figure 7), and therefore may inhibit burrowing by crickets. However, stabilized sand fields have always had the most compact sands, regardless of mustard density. The influence of mustard on cricket populations merits further study.



**Figure 6.** Abundance of Coachella Valley giant sand-treader cricket burrows among the aeolian sand communities of the Coachella Valley. Error bars represent one standard error.



**Figure 7.** Regression showing the relationship of Sahara mustard cover on sand compaction.

#### Coachella Valley Fringe-toed lizard

Coachella Valley fringe toed lizard (*Uma inornata*) population growth tracks annual rainfall, with rainfall levels of 45-50 mm being a threshold for positive population growth (Barrows 2006). Rainfall levels for 2007-2008, 2008-2009, and 2009-2010 all exceeded 50 mm (Figure 1b) and so we should expect increasing population trajectories through 2010; however the data indicate a flat or slightly declining trajectory from 2009 to 2010 (Figure 8). These results warrant further analyses. As a first step we examined population growth rates ( $\lambda$ ) on the active dunes where this species is currently most abundant (Figure 9). Of note were the population growth rates in 2006 and 2009, both of which showed a majority of plots with negative rates, despite having annual rainfall well above 50 mm. A commonality characterizing those years was high Sahara mustard levels.

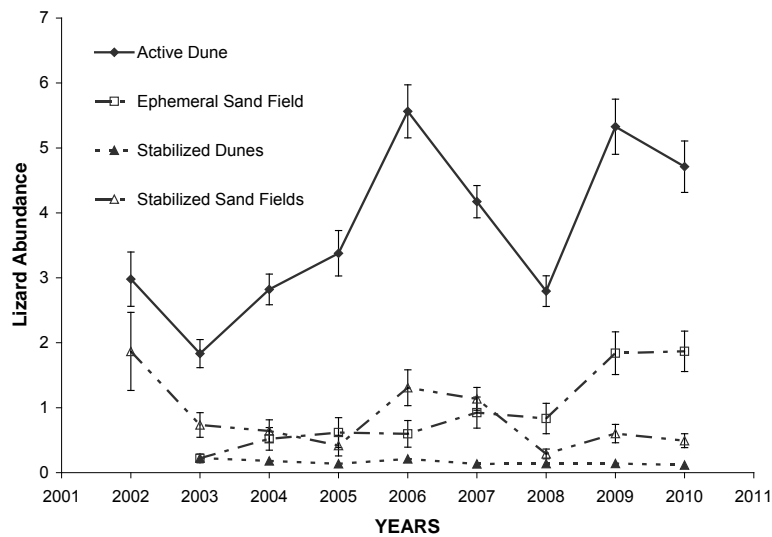
As a second step we looked at a regression comparing population growth rates versus annual rainfall (Figure 10). We then constructed a Discriminant Function Analysis (DFA), a statistical procedure that identifies independent variables that distinguish two groups of data. In this case the two groups were those plots that were outliers, above and below the 95% confidence limits identified on Figure 9. The DFA thus attempted to identify variables that distinguish those plots that had higher than expected population growth from those that have lower than expected population growth.

Multiple variables were iteratively included in the DFA analysis, including mustard cover, mustard density, native plant cover and density, sand compaction, and the change between year<sub>1</sub> and year<sub>2</sub> in mustard cover and sand compaction. The variable combination that yielded the most parsimonious model (highest statistical confidence with the fewest variables) used just

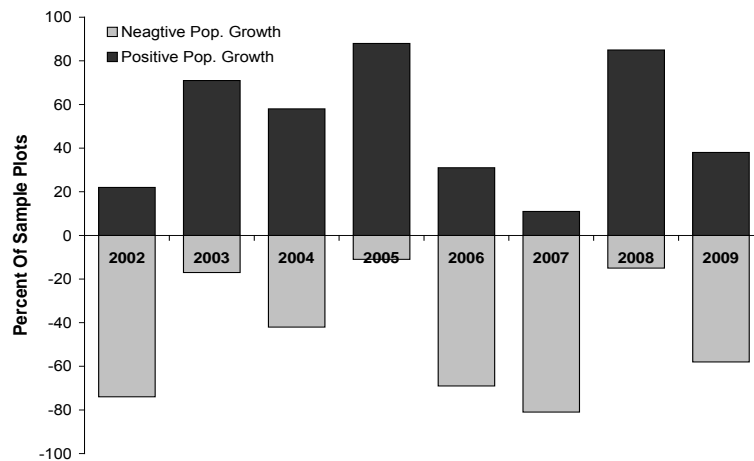
two variables, change between year<sub>1</sub> and year<sub>2</sub> in both mustard cover and sand compaction (80% correct classification into the appropriate group; Wilks' Lambda = 0.666; df = 2; approx. F = 13.552; p < 0.00001). Plots with increasing sand compaction and increasing mustard cover from year<sub>1</sub> to year<sub>2</sub> were associated with negative population growth, despite receiving enough rainfall for positive growth. Sand compaction and mustard cover are inter-related. Mustard has a stabilizing effect on sand, resulting in a positive relationship between these variables (Figure 7). In addition to rain, loose sands are an important habitat requisite for fringe-toed lizards (Barrows 2006). Dune stabilization caused by Sahara mustard encroachment may be a key stressor of fringe-toed lizard populations.

These data further inform our understanding of fringe-toed lizard population ecology. Previous analyses (Barrows et al. 2009) documented short-term impacts of Brassica on fringe-toed lizard populations. The data described here indicate that if mustard cover continues to increase, especially on active dunes, overall fringe-toed lizard population growth will be negative, despite rainfall levels that would otherwise yield positive growth.

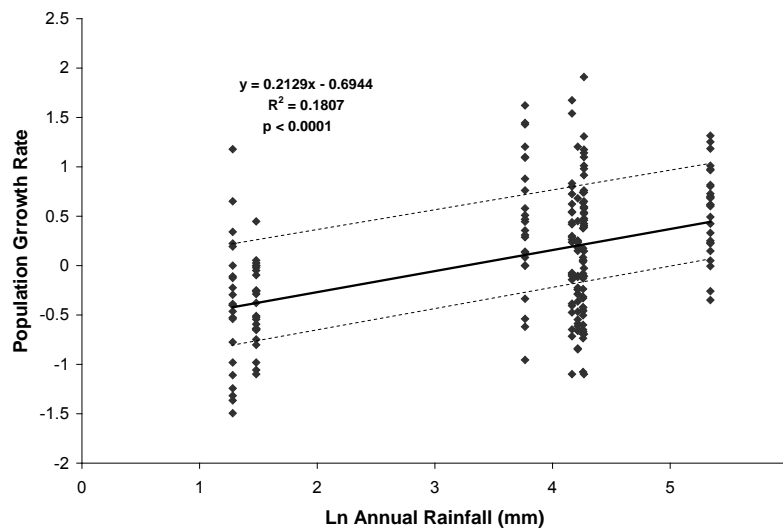
The negative influence of Sahara mustard described above was not however evident from the 2010 reproductive success data (Figure 11). The only site showing a negative trajectory in reproductive success (Ephemeral sand fields [ESF] near Windy Point [Tipton Road]) had no mustard, but had a later reproductive phenology than the other sites due to its western position and a relatively cool summer and fall. It appears that the appearance of another non-native invasive species, a Hemiptera (true bug), *Bagrada hilaris*, which appeared in 2010 for the first time, may have compensated for the effects of the mustard. The *Bagrada* bug occurred in "plague-like" numbers and were readily consumed by the fringe-toed lizards. The lizards were able to convert the bugs to substantial fat deposits which resulted in relatively high levels of reproduction (Figure 12). The news is not all good, as the bugs also killed many (as much as 50-90%) perennial shrubs, especially on the stabilized sand fields. The long-term impacts of this loss of perennial cover has yet to be measured. See the last section for a larger discussion of this bug's potential impacts.



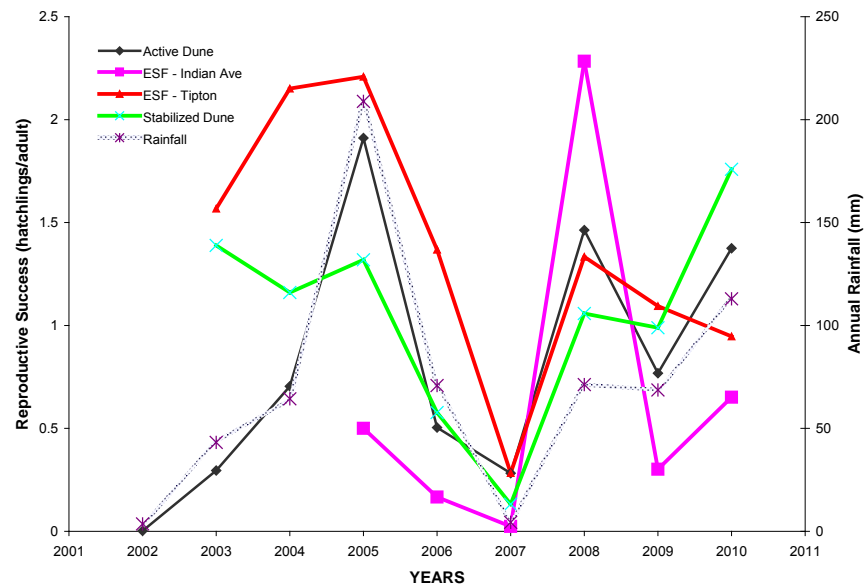
**Figure 8.** Abundance of Coachella Valley fringe-toed lizards among the aeolian sand communities of the Coachella Valley. Error bars represent one standard error.



**Figure 9.** Patterns of population growth rates ( $\lambda$ ) in Coachella Valley fringe-toed lizards from 2002-2009. the years 2002 and 2007 were the driest in instrumental records, however the preponderance of negative growth in 2006 and 2009 are inconsistent with rainfall levels of those years.



**Figure 10.** Regression of fringe-toed lizard population growth rates versus rainfall for 2005-2010. Dotted lines indicate 95% confidence limits. Each dot represents the population growth recorded on a single plot in a single year.



**Figure 11.** Patterns of Coachella Valley fringe-toed lizard reproductive success among all aeolian sand communities. Fringe-toed lizard numbers on stabilized sand fields were too low to calculate reproductive success; ESF = ephemeral sand field.





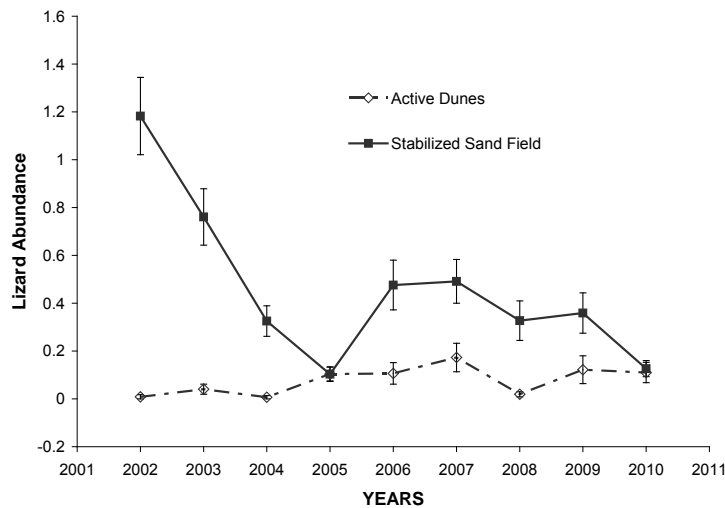
**Figure 12.** Coachella Valley fringe-toed lizard with large fat deposits evident.

#### Flat-tailed horned lizard

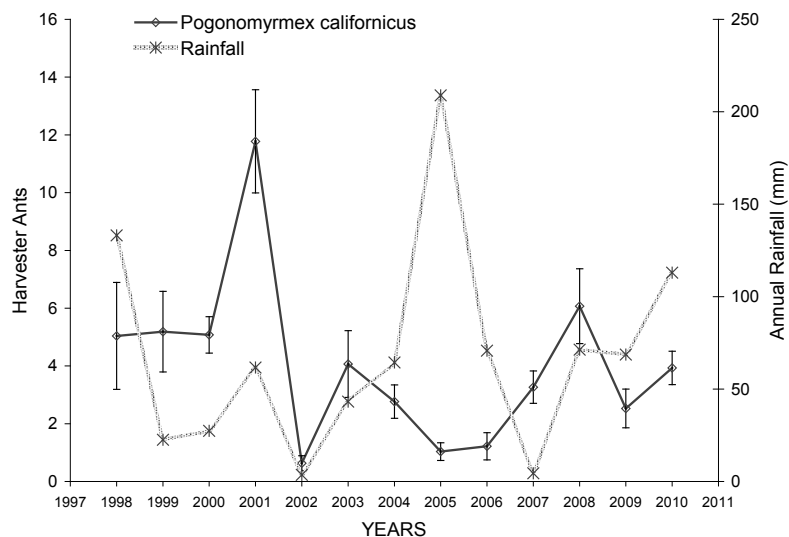
Flat-tailed horned lizard (*Phrynosoma mcallii*) population dynamics continue to be an enigma. Unlike the populations of other species, Coachella Valley flat-tailed horned lizard populations do not track rainfall (Figure 13; Barrows and Allen 2009). Instead, this species more closely tracks harvester ant (*Pogonomyrmex californicus*) abundance, although why ants do not track rainfall remains a mystery (Figure 14) (Barrows and Allen 2009). The 2010 flat-tailed horned lizard data, however, were not consistent with even the previously apparent relationship with harvester ant abundance; in 2010 harvester ants showed a modest increase yet the horned lizards declined (Figures 13 and 14).

Flat-tailed horned lizards were most abundant in stabilized sand fields, the habitat that continues to have the most Sahara mustard. There are at least two potential explanations for the observed decline in their numbers this year. The high mustard density may inhibit flat-tailed horned lizard mobility, consequently hindering their ability to forage and search for mates, and thus limit their populations. Alternatively, mustard may reduce our detection probability by hiding lizards and obscuring their tracks (the cues used to detect lizards during surveys). These two hypotheses are not mutually exclusive, and further analyses may well demonstrate that both influence our data.

The effect of the mustard on harvester ants is also enigmatic. Harvester ants readily and actively “harvest” mustard seeds, which were extremely abundant in 2008-2010. However, the modest 2010 increase in ant abundance is not what might be expected from the apparent abundance of food provided by mustard. The concurrent decline in native annual plants and the likely reduction in seed diversity may reduce resources just as valuable for population growth as overall seed biomass.



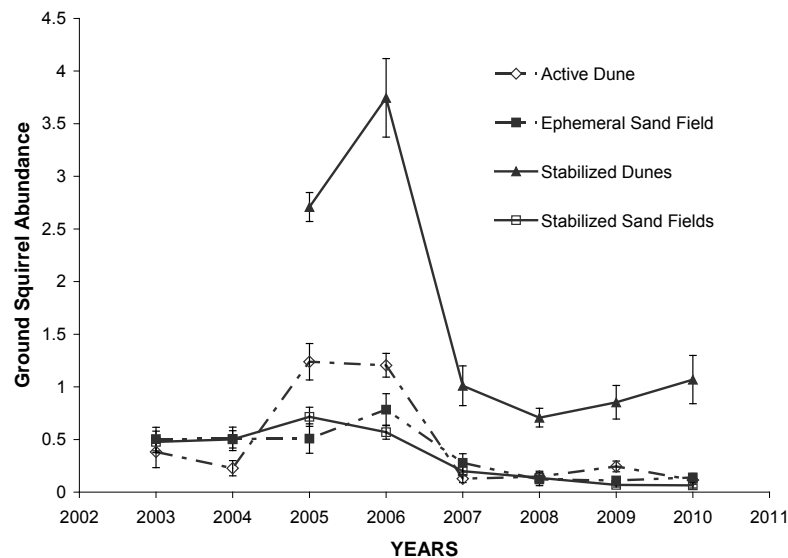
**Figure 11.** Abundance of flat-tailed horned lizards on the stabilized sand fields and active dunes of the Coachella Valley. Error bars represent one standard error.



**Figure 12.** Abundance of harvester ants on the aeolian sand habitats of the Thousand Palms Preserve within the Coachella Valley. Error bars represent one standard error.

### Coachella Valley round-tailed ground squirrel

Round-tailed ground squirrels (*Spermophilus tereticaudus*) in the Coachella Valley continue to be most abundant on the stable dunes (Figure 15), particularly dunes stabilized by mesquite (*Prosopis glandulosa*). Their abundance elsewhere shows no association with mesquite. For example, on the Kelso Dunes, squirrels are abundant around mature creosote plants (Barrows, pers. obs.). The impact of mustard on this species warrants additional study. The inhibition of desert annuals which stay succulent further into the spring when the squirrels are breeding may be a driving factor.



**Figure 13.** Abundance of Coachella Valley round-tailed ground squirrels among the aeolian sand communities of the Coachella Valley. Error bars represent one standard error.

### *Bagrada* Invasion

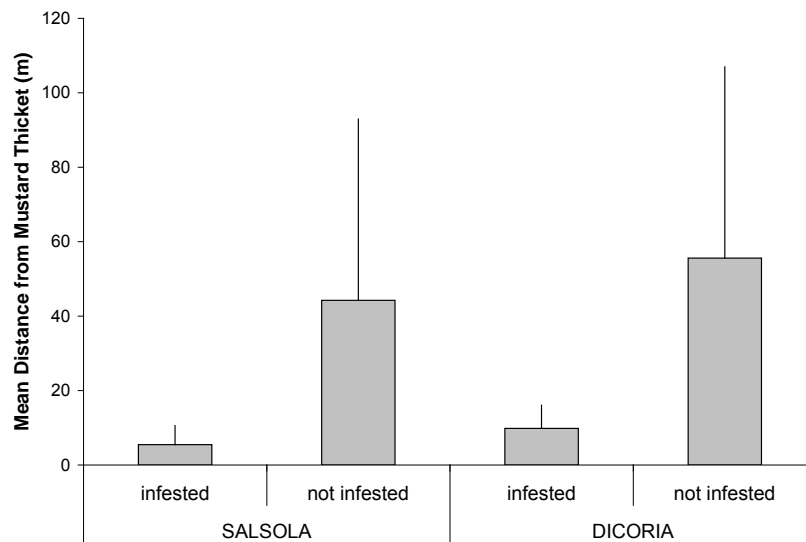
A new invasive species, a Hemiptera, *Bagrada hilaris*, (Figure 16) became abundant on the aeolian sand communities in 2010; in previous years it was either rare or not present. This species' abundance appears to be facilitated by Sahara mustard, in that dense infestations are nearly always in proximity to dense thickets of the mustard (Figure 17). It is likely the Hemiptera's population expanded while the mustard was green, however once the mustard dried this insect moved onto other living plants and was observed on every live annual and perennial plant species occurring within the aeolian sand habitat. The occupied native plant species appeared debilitated and in some cases died (including Coachella Valley milkvetch) as a result of these invasive insects.

The overall impact of this invasion is not known at this point. Important questions that will be answered by future monitoring include:

- What are the impacts on native plant reproduction and survivorship?
- What is the impact on native perennial shrubs in terms of the important thermal cover they provide as well as the dune hummocks that form on their leeward side?
- What are the impacts to native arthropods?
- Fringe-toed lizards as well as other lizard species (but not flat-tailed horned lizards) readily consume this invasive insect. What are the impacts on their reproductive success and population growth?
- Would the reliance on a single insect prey make the lizards more vulnerable if the invasive insect's population crashed?
- What are viable control options?



**Figure 16.** *Bagrada hilaris* on Coachella Valley Milkvetch.



**Figure 14.** Mean infestation distance for *Bagrada hilaris* away from thickets of Sahara mustard, infesting Russian Thistle (*Salsola tragus*) a non-native shrub-like annual, and desert bugseed (*Dicoria canescens*) a native annual species that persists through the summer months.

## OVERALL CONCLUSIONS

With few exceptions our data indicate Sahara mustard is or may be a stressor of populations covered under the CVMSHCP. In particular, the lack of species' responses to increased rainfall from 2008-2010 indicates limitations on covered populations by Sahara mustard. Our data

support development of mustard control strategies within the CVMSHCP protected aeolian sand communities.

#### LONG-TERM INFORMATION NEEDS

Our data to date provide a strong argument that Sahara mustard has the ability to negatively impact many of the covered species and communities within the Coachella Valley's aeolian sand landscape. Other than direct land conversion to non-wildland uses, or the loss of sand transport capacity, no other threat appears as acute and immediate in its ability to impact the CVMSHCP conservation objectives. Critical next steps should include:

- test whether there are effective mustard control tools, and if those tools can be employed without compromising food webs and covered species
- using remote sensing, determine trajectories of the extent of the mustard infestation, and specifically the impacts on the size/configuration of aeolian sand communities
- continue current aeolian sand species/community monitoring protocols to provide a context for evaluating the effectiveness of mustard control methods.

An additional information need addresses the condition and trajectories of the various wetland communities, including in this case the honey mesquite bosques that occur on many of the stabilized dunes. Of the many predicted outcomes of climate change, one that currently lacks consensus is the impact on regional precipitation, and with that the condition of communities dependent on surface and near surface water sources. Warmer temperatures will lead to greater levels of evaporation and evapotranspiration; if the majority of climate models are correct, there will be an associated decrease in annual precipitation and increase in the incidence of severe drought. Alternative models indicate increases in summer monsoon rains, but still reductions in winter rains; conditions for which many of the regional plant species may lack adaptive responses. Locally, changes associated with the lining of the Coachella canal and its impacts on the Dos Palmas core conservation area need to be documented and distinguished from changes that may result from climate change. To understand these impacts we need to:

- use remote sensing to delimit each of the current wetland community distributions (and if available from archived images, historic conditions as well)
- determine ground water depth, and if surface flows exist then flow rates for each community and community patch. Characterize the current annual and inter-annual dynamics those systems undergo
- determine water chemistry using stable isotope analyses for each community and community patch
- using stable isotope analyses determine what fraction of the available water (groundwater, winter rain, summer rain) is used by wetland vegetation. This is particularly useful information when restoration actions are being implemented.
- identify current species associations with the wetland community patches and identify trophic relationships (arthropod food sources/cowbird parasitism/invasive species impacts).

Other information needs focus on the levels of fragmentation the CVMSHCP footprint has already experienced. Those data include:

- an evaluation of sand transport dynamics for each of the core reserves. This would build on previous research (Griffiths et al. 2002, 2009), collecting data of sand movement within each reserve and how that impacts habitat dynamics. How does Sahara mustard impact sand flow, how does current fragmentation impact sand flow?
- a characterization of current genetic structure between patches for covered species. This has been initiated for the Coachella Valley fringe-toed lizard, but other species including Palm Springs pocket mice, round-tailed ground squirrels, flat-tailed horned lizards, Coachella Valley milkvetch and sand-treader crickets should be evaluated as well. This will provide a baseline for evaluating genetic drift and loss of heterozygosity in the future.
- an evaluation of connectivity between core conservation areas; do pocket mice cross roads, what species use highway underpasses, etc. This can be answered both with genetic analyses and in the case of underpasses, remote sensing tools.

#### **2009-2010 DELIVERABLES**

Collected data during 2009-2010

Geodatabase of data summaries 2009-2010

CVCC Monitoring Protocol (Final draft)

Desert Wetland Protocol (Final draft)

#### **2009-2010 GRANTS**

*Pending Notification*

Project Title: Interactions of climate change, shifting land uses and biodiversity of the desert southwest

Agency: NASA ROSES 2010

Project Title: WSC-Category 1: Incubation grant regarding sustainability of ground water resources in southern California in the context of climate change

Agency: NSF Water-Sustainability-Climate Change

Integration of dynamic habitat suitability and population viability models in the context of climate change

Agency: DOD Legacy Program

*Awarded*

Project Title: Evaluating wildlife corridor linkages: do underpasses connect the San Bernardino and Little San Bernardino Mountain Ranges?

Agency: The Community Foundation  
Agency: Friends of the Desert Mountains

Project Title: Niche modeling and implications of climate change on the distribution of plant communities and invasive plants within Joshua Tree National Park  
Agency: DS CESU – NPS

Project Title: Niche modeling and implications of climate change on desert tortoises within Lake Mead National Recreation Area  
Agency: DS CESU – NPS

Project Title: Modeling Current and Future Distributions of Targeted Species in the Greater San Jacinto-Santa Rosa Mountains National Monument Ecosystem  
Agency: BLM/CVCC

*Declined*

Project Title: The biological impacts of solar energy projects in the California desert.  
Agency: California Energy Commission

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#### 2009-2010 PROJECT PERSONNEL

CCB MPA Science Director: Cameron W. Barrows

CCB Science Advisors: Michael F. Allen, Edith B. Allen, Rick Redak, John Rotenberry, Bill Walton, Darrel Jenerette

Post Doctorate Researcher: Quresh Latif

Field Biologists: Kathleen D. Fleming, Michelle Murphy, Michele Felix

GIS Assistant Specialist: Robert Johnson

CCB Project Administrator: Veronique Rorive

Additional Student Support (funded through non-CVCC sources): Margaret Simon (fieldwork – 2 days/week for 3 months), Heather Hulton (data input, 2 weeks)



## Appendix 2

### Table of Acquisitions for Conservation in 2010

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## CVMSHCP Annual Report 2010 - Acquisitions for Conservation

Conservation Area / APN	Acreage
<b>Desert Tortoise and Linkage Conservation Area</b>	
707220028	40
<b>Dos Palmas Conservation Area</b>	
733040003	249
<b>Joshua Tree National Park Conservation Area</b>	
707030007	80
707030011	40
<b>Mecca Hills/Orocopia Mountains Conservation Area</b>	
709550004	160
719160012	44
719160015	44
719160016	44
719160019	42
719160021	42
<b>Santa Rosa and San Jacinto Mountains Conservation Area</b>	
513240010	10
513320021	10
635181005	1
635181006	1
753130004	20
753130008	20
753320010	5
753320013	10
753320017	3
755060006	290
755060007	291
755060009	318
<b>Stubbe and Cottonwood Canyons Conservation Area</b>	
520030001	5
520030002	5
<b>West Deception Canyon Conservation Area</b>	
645350001	20
<b>Whitewater Floodplain Conservation Area</b>	
660290001	2
660290002	10
660290007	19
660290008	10
660290009	5
660290010	19
660290011	6
660290013	40
660290015	60
660300008	81
660300009	96
669460003	80
669460004	80
<b>Willow Hole Conservation Area</b>	
657280002	40
660220003	45

## Appendix 3

### Status of Conservation Objectives by Conservation Area

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## CVMSHCP Annual Report 2010 - Conservation Objectives by Conservation Area

	Total Acres in Conservation Area	Acres of Disturbance Authorized (1996)	Remaining Acres To Be Conserved (1996)	Acres Conserved Since 1996	Acres Conserved in 2010	Percentage of Required Conservation Acquired	Acres of Permitted Disturbance	Acres of Rough Step
<b>Cabazon Conservation Area - Riverside County</b>								
Peninsular Bighorn Sheep - Essential Habitat	264	181	83	0	0	0%	0	18
Mesquite hummocks	13	1	12	0	0	0%	0	0
Southern sycamore-alder riparian woodland	9	1	9	0	0	0%	0	0
Sand Source	7683	181	1629	0	0	0%	0	18
Sand Transport	4538	0	0	0	0	0%	0	0
Fornat Wash Corridor	641	10	631	0	0	0%	0	1
<b>Coachella Valley Stormwater Channel and Delta Conservation Area - Riverside County</b>								
Desert Pupfish - Core Habitat	25	0	25	0	0	0%	0	0
Crissal Thrasher - Core Habitat	896	87	781	0	0	0%	5	4
California Black Rail - Other Conserved Habitat	62	6	52	0	0	0%	0	1
Yuma Clapper Rail - Other Conserved Habitat	62	6	52	0	0	0%	0	1
Le Conte's Thrasher - Other Conserved Habitat	784	78	706	0	0	0%	5	3
Mesquite hummocks	74	7	67	0	0	0%	0	1
Coastal and valley freshwater marsh	61	6	63	0	0	0%	0	1
Desert sink scrub	1349	114	1026	0	0	0%	0	11
Desert saltbush scrub	792	79	713	0	0	0%	5	3

	Total Acres in Conservation Area	Acres of Disturbance Authorized (1996)	Remaining Acres To Be Conserved (1996)	Acres Conserved Since 1996	Acres Conserved in 2010	Percentage of Required Conservation Acquired	Acres of Permitted Disturbance	Acres of Rough Step
<b>Desert Tortoise and Linkage Conservation Area - Coachella</b>								
Desert Tortoise - Core Habitat	300	30	270	0	0	0%	0	3
Le Conte's Thrasher - Other Conserved Habitat	300	30	270	0	0	0%	0	3
Desert dry wash woodland	121	12	109	0	0	0%	0	1
<b>Desert Tortoise and Linkage Conservation Area - Riverside County</b>								
Desert Tortoise - Core Habitat	88878	4998	44978	1804	40	4%	0	680
Orocopia Sage - Core Habitat	779	44	398	0	0	0%	0	4
Mecca Aster - Core Habitat	4731	206	1852	178	0	10%	0	38
Le Conte's Thrasher - Other Conserved Habitat	49114	2813	25319	786	0	3%	0	360
Desert dry wash woodland	13443	752	6771	185	0	3%	0	94
Desert Tortoise and Linkage Corridor	26122	1572	14144	434	0	3%	0	201

	Total Acres in Conservation Area	Acres of Disturbance Authorized (1996)	Remaining Acres To Be Conserved (1996)	Acres Conserved Since 1996	Acres Conserved in 2010	Percentage of Required Conservation Acquired	Acres of Permitted Disturbance	Acres of Rough Step
<b>Dos Palmas Conservation Area - Riverside County</b>								
Crissal Thrasher - Core Habitat	536	38	343	136	1	40%	0	17
Desert Pupfish - Refugia Locations	0	0	0	0	0	0%	0	0
California Black Rail - Other Conserved Habitat	597	37	334	269	46	81%	0	31
Le Conte's Thrasher - Other Conserved Habitat	14882	743	6689	983	226	15%	0	173
Yuma Clapper Rail - Other Conserved Habitat	682	42	374	269	46	72%	0	31
Predicted Flat-tailed Horned Lizard - Other Conserved Habitat	5537	403	3631	265	0	7%	0	67
Desert fan palm oasis woodland	125	6	50	29	26	59%	0	4
Arrowweed scrub	277	13	121	0	0	0%	0	1
Mesquite bosque	482	36	320	126	0	39%	0	16
Desert sink scrub	7195	487	4381	837	0	19%	0	132
Desert dry wash woodland	1856	83	746	170	43	23%	0	25
Cismontane alkali marsh	321	23	205	200	15	98%	0	22
Mesquite hummocks	55	3	23	10	1	46%	0	2
<b>East Indio Hills Conservation Area - Coachella</b>								
Le Conte's Thrasher - Other Conserved Habitat	62	6	56	0	0	0%	0	1
Palm Springs Pocket Mouse - Other Conserved Habitat	8	1	7	0	0	0%	0	0
Coachella Valley Round-tailed Ground Squirrel - Other Conserved Habitat	6	1	5	0	0	0%	0	0
Predicted Flat-tailed Horned Lizard - Other Conserved Habitat	6	1	5	0	0	0%	0	0

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<b>East Indio Hills Conservation Area - Indio</b>								
Le Conte's Thrasher - Other Conserved Habitat	120	12	105	0	0	0%	0	1
Palm Springs Pocket Mouse - Other Conserved Habitat	117	11	1031	0	0	0%	0	1
Coachella Valley Round-tailed Ground Squirrel - Other Conserved Habitat	117	11	103	0	0	0%	0	1
Predicted Flat-tailed Horned Lizard - Other Conserved Habitat	114	11	100	0	0	0%	0	1
Mesquite hummocks	2	0	2	0	0	0%	0	0
Stabilized shielded sand fields	114	11	1001	0	0	0%	0	1
<b>East Indio Hills Conservation Area - Riverside County</b>								
Le Conte's Thrasher - Other Conserved Habitat	1960	139	1253	38	0	3%	0	18
Mecca Aster - Core Habitat	1594	116	1045	48	0	5%	0	16
Coachella Valley Round-tailed Ground Squirrel - Other Conserved Habitat	1353	100	896	21	0	2%	0	12
Predicted Flat-tailed Horned Lizard - Other Conserved Habitat	525	46	415	0	0	0%	0	5
Palm Springs Pocket Mouse - Other Conserved Habitat	1526	105	944	21	0	2%	0	13
Active desert dunes	5	1	5	0	0	0%	0	0
Desert saltbush scrub	8	1	7	0	0	0%	0	0
Stabilized desert sand fields	331	33	295	0	0	0%	0	3
Mesquite hummocks	43	4	39	0	0	0%	0	0
Stabilized shielded sand fields	401	28	256	7	0	3%	0	3

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<b>Edom Hill Conservation Area - Cathedral City</b>								
Coachella Valley Round-tailed Ground Squirrel - Other Conserved Habitat	134	13	121	102	0	85%	0	11
Coachella Valley Milkvetch - Other Conserved Habitat	151	15	136	102	0	75%	0	12
Palm Springs Pocket Mouse - Other Conserved Habitat	114	11	103	87	0	84%	0	9
Le Conte's Thrasher - Other Conserved Habitat	344	34	310	224	0	72%	0	26
Sand Source	345	34	310	224	0	72%	0	26
<b>Edom Hill Conservation Area - Riverside County</b>								
Coachella Valley Giant Sand-treader Cricket - Other Conserved Habitat	103	5	40	43	0	100%	0	5
Coachella Valley Milkvetch - Other Conserved Habitat	1637	134	1205	947	0	79%	0	108
Coachella Valley Fringe-toed Lizard - Other Conserved Habitat	103	5	40	43	0	100%	0	5
Coachella Valley Round-tailed Ground Squirrel - Other Conserved Habitat	1701	145	1302	1024	0	79%	0	117
Palm Springs Pocket Mouse - Other Conserved Habitat	1228	104	935	731	0	78%	0	84
Le Conte's Thrasher - Other Conserved Habitat	2238	194	1745	1204	0	69%	1	139
Active sand fields	73	4	37	41	0	100%	0	4
Stabilized desert sand fields	29	1	3	2	0	81%	0	1
Sand Source	2665	197	1770	1393	0	79%	0	159
Sand Transport	628	63	565	300	0	53%	1	36



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<b>Highway 111/I-10 Conservation Area - Riverside County</b>								
Coachella Valley Round-tailed Ground Squirrel - Other Conserved Habitat	389	39	350	0	0	0%	0	4
Coachella Valley Jerusalem Cricket - Other Conserved Habitat	372	37	335	0	0	0%	0	4
Le Conte's Thrasher - Other Conserved Habitat	389	39	350	0	0	0%	0	4
Coachella Valley Milkvetch - Other Conserved Habitat	372	37	335	0	0	0%	0	4
Palm Springs Pocket Mouse - Other Conserved Habitat	389	39	350	0	0	0%	0	4
<b>Indio Hills Palms Conservation Area - Riverside County</b>								
Mecca Aster - Core Habitat	6091	255	2290	1039	0	45%	0	130
Le Conte's Thrasher - Other Conserved Habitat	106	1	7	0	0	0%	0	0
Desert fan palm oasis woodland	93	5	42	7	0	17%	0	1
Desert dry wash woodland	79	4	33	36	0	100%	0	4
Mesquite hummocks	3	1	1	0	0	0%	0	0
<b>Indio Hills/Joshua Tree National Park Linkage Conservation Area - Riverside County</b>								
Desert Tortoise - Core Habitat	10308	859	7735	6388	0	83%	0	724
Le Conte's Thrasher - Other Conserved Habitat	6396	606	5457	5426	0	99%	0	603
Sand Transport	7304	681	6132	5739	0	94%	5	636
Sand Source	5823	460	4135	3078	0	74%	0	354
Indio Hills / Joshua Tree National Park Corridor	13127	1141	10267	8817	0	86%	5	991

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<b>Joshua Tree National Park Conservation Area - Riverside County</b>								
Gray Vireo - Other Conserved Habitat	30653	134	1208	1822	0	100%	0	134
Le Conte's Thrasher - Other Conserved Habitat	4330	25	222	76	0	34%	0	10
Desert Tortoise - Core Habitat	127161	1708	15367	7422	119	48%	0	913
Desert dry wash woodland	2195	13	119	171	0	100%	0	13
Mojave mixed woody scrub	57099	800	7195	2598	119	36%	0	340
Desert fan palm oasis woodland	5	0	0	0	0	0%	0	0
Mojavean pinyon & juniper woodland	30653	134	1208	1822	0	100%	0	134
<b>Mecca Hills/Orocopia Mountains Conservation Area - Riverside County</b>								
Desert Tortoise - Core Habitat	112575	2624	23617	4873	376	21%	0	750
Le Conte's Thrasher - Other Conserved Habitat	17467	652	5866	1372	256	23%	0	202
Orocopia Sage - Core Habitat	66180	1803	16227	3496	244	22%	0	530
Mecca Aster - Core Habitat	31655	465	4181	308	0	7%	0	77
Desert fan palm oasis woodland	1	0	0	0	0	0%	0	0
Desert dry wash woodland	9317	318	2861	995	0	35%	0	131
<b>Santa Rosa and San Jacinto Mountains Conservation Area - Cathedral City</b>								
Desert Tortoise - Other Conserved Habitat	107	11	95	4	0	4%	0	1
Le Conte's Thrasher - Other Conserved Habitat	13	1	11	4	0	35%	0	0
Peninsular Bighorn Sheep - Rec Zone 2 - Essential Habitat	112	11	97	4	0	4%	0	2
Desert dry wash woodland	20	2	18	2	0	13%	0	0

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<b>Santa Rosa and San Jacinto Mountains Conservation Area - Indian Wells</b>								
Desert Tortoise - Other Conserved Habitat	4375	111	999	0	0	0%	0	11
Le Conte's Thrasher - Other Conserved Habitat	419	23	206	0	0	0%	0	2
Peninsular Bighorn Sheep - Rec Zone 3 - Essential Habitat	4617	114	1158	0	0	0%	0	11
Desert dry wash woodland	128	7	66	0	0	0%	0	1
<b>Santa Rosa and San Jacinto Mountains Conservation Area - La Quinta</b>								
Desert Tortoise - Other Conserved Habitat	5936	157	1409	160	0	11%	0	32
Le Conte's Thrasher - Other Conserved Habitat	683	43	387	51	0	13%	0	9
Peninsular Bighorn Sheep - Rec Zone 3 - Essential Habitat	6185	159	2545	160	0	6%	0	25
Desert dry wash woodland	147	8	76	11	0	14%	0	2
<b>Santa Rosa and San Jacinto Mountains Conservation Area - Palm Desert</b>								
Le Conte's Thrasher - Other Conserved Habitat	43	4	33	0	0	0%	0	0
Desert Tortoise - Other Conserved Habitat	581	48	436	783	0	100%	0	48
Peninsular Bighorn Sheep - Rec Zone 3 - Essential Habitat	78	7	65	0	0	0%	0	1
Peninsular Bighorn Sheep - Rec Zone 2 - Essential Habitat	492	7	65	761	0	100%	0	7
Desert dry wash woodland	38	3	29	1	0	2%	0	0

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<b>Santa Rosa and San Jacinto Mountains Conservation Area - Palm Springs</b>								
Le Conte's Thrasher - Other Conserved Habitat	793	103	560	330	0	59%	0	65
Peninsular Bighorn Sheep - Rec Zone 1 - Essential Habitat	9195	226	2511	1546	0	62%	0	148
Desert Tortoise - Other Conserved Habitat	22571	1317	8856	3455	0	39%	0	594
Peninsular Bighorn Sheep - Rec Zone 2 - Essential Habitat	18426	866	4700	2966	0	63%	0	579
Gray Vireo - Other Conserved Habitat	8416	431	3883	1837	0	47%	0	227
Desert dry wash woodland	40	4	36	36	0	99%	0	4
Peninsular juniper woodland & scrub	7682	353	3177	1837	0	58%	0	219
Semi-desert chaparral	733	51	571	0	0	0%	0	5
Southern sycamore-alder riparian woodland	30	2	24	0	0	0%	0	0
Sonoran cottonwood-willow riparian forest	58	0	58	0	0	0%	0	0
Desert fan palm oasis woodland	218	9	76	0	0	0%	0	1
Southern arroyo willow riparian forest	16	0	0	0	0	0%	0	0
<b>Santa Rosa and San Jacinto Mountains Conservation Area - Rancho Mirage</b>								
Desert Tortoise - Other Conserved Habitat	5249	147	1326	1205	0	91%	0	135
Le Conte's Thrasher - Other Conserved Habitat	19	2	17	0	0	0%	0	0
Peninsular Bighorn Sheep - Rec Zone 2 - Essential Habitat	5262	42	450	1209	0	100%	0	42
Desert dry wash woodland	19	1	9	4	0	45%	0	1

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<b>Santa Rosa and San Jacinto Mountains Conservation Area - Riverside County</b>								
Peninsular Bighorn Sheep - Rec Zone 2 - Essential Habitat	14558	647	4269	2603	0	61%	0	420
Le Conte's Thrasher - Other Conserved Habitat	9123	911	5508	3172	14	58%	0	563
Triple-ribbed Milkvetch - Known Locations	0	0	0	0	0	0%	0	0
Peninsular Bighorn Sheep - Rec Zone 1 - Essential Habitat	24840	830	7252	1204	20	17%	0	207
Gray Vireo - Other Conserved Habitat	58985	881	7930	4913	0	62%	0	579
Peninsular Bighorn Sheep - Rec Zone 3 - Essential Habitat	50972	683	5359	3637	57	68%	0	485
Desert Tortoise - Other Conserved Habitat	86875	2950	23856	10944	67	46%	7	1506
Peninsular Bighorn Sheep - Rec Zone 4 - Essential Habitat	34597	258	2325	5303	0	100%	0	258
Southern sycamore-alder riparian woodland	518	12	117	5	0	5%	0	2
Red shank chaparral	12514	253	2274	1085	0	48%	0	134
Semi-desert chaparral	16869	233	2093	765	0	37%	0	100
Peninsular juniper woodland & scrub	29547	418	2899	3063	0	100%	0	418
Southern arroyo willow riparian forest	16	2	15	0	0	0%	0	0
Desert dry wash woodland	3566	298	1244	700	11	56%	0	181
Desert fan palm oasis woodland	716	45	404	0	0	0%	0	5

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<b>Snow Creek/Windy Point Conservation Area - Palm Springs</b>								
Coachella Valley Milkvetch - Core Habitat	910	91	816	256	0	31%	0	35
Peninsular Bighorn Sheep - Essential Habitat	180	16	144	0	0	0%	0	2
Coachella Valley Round-tailed Ground Squirrel - Core Habitat	934	93	838	260	0	31%	0	35
Coachella Valley Fringe-toed Lizard - Core Habitat	749	75	672	249	0	37%	0	33
Coachella Valley Giant Sand-treader Cricket - Core Habitat	749	75	672	249	0	37%	0	33
Coachella Valley Jerusalem Cricket - Core Habitat	908	90	815	255	0	31%	0	34
Palm Springs Pocket Mouse - Core Habitat	934	93	838	260	0	31%	0	35
Le Conte's Thrasher - Other Conserved Habitat	864	86	775	218	0	28%	0	30
Ephemeral sand fields	680	68	610	207	0	34%	0	28
Active desert dunes	69	7	62	42	0	68%	0	5
Highway 111 - Whitewater River Biological Corridor	276	27	247	0	0	0%	0	3

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<b>Snow Creek/Windy Point Conservation Area - Riverside County</b>								
Coachella Valley Milkvetch - Core Habitat	1700	134	1210	552	0	46%	0	68
Coachella Valley Round-tailed Ground Squirrel - Core Habitat	1880	152	1371	688	0	50%	0	84
Coachella Valley Fringe-toed Lizard - Core Habitat	625	55	502	273	0	54%	0	32
Peninsular Bighorn Sheep - Essential Habitat	525	49	443	0	0	0%	0	5
Coachella Valley Giant Sand-treader Cricket - Core Habitat	625	56	501	273	0	55%	0	33
Le Conte's Thrasher - Other Conserved Habitat	1924	162	1453	733	0	50%	0	90
Coachella Valley Jerusalem Cricket - Core Habitat	782	60	538	277	0	52%	0	34
Ephemeral sand fields	468	45	409	273	0	67%	0	32
Stabilized shielded sand fields	157	10	93	0	0	0%	0	1
Highway 111 - Whitewater River Biological Corridor	474	46	415	0	0	0%	0	5
<b>Stubbe and Cottonwood Canyons Conservation Area - Riverside County</b>								
Desert Tortoise - Core Habitat	5735	253	2276	634	0	28%	0	89
Le Conte's Thrasher - Other Conserved Habitat	1265	123	1111	466	0	42%	0	59
Desert dry wash woodland	289	26	229	71	0	31%	0	10
Sonoran cottonwood-willow riparian forest	267	3	25	0	0	0%	0	0
Sand Transport	1375	125	1129	468	0	41%	0	59
Stubbe Canyon Wash Corridor	1181	117	1058	476	0	45%	0	59

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<b>Thousand Palms Conservation Area - Riverside County</b>								
Coachella Valley Round-tailed Ground Squirrel - Core Habitat	8513	468	2974	1408	0	47%	12	235
Coachella Valley Milkvetch - Core Habitat	4403	111	1001	733	0	73%	4	81
Desert Pupfish - Refugia Locations	0	0	0	0	0	0%	0	0
Coachella Valley Fringe-toed Lizard - Core Habitat	3962	93	834	667	0	80%	0	76
Le Conte's Thrasher - Other Conserved Habitat	11058	552	3879	1539	0	40%	7	245
Predicted Flat-tailed Horned Lizard - Core Habitat	4148	97	877	698	0	80%	0	79
Mecca Aster - Core Habitat	11745	297	2676	747	0	28%	0	104
Coachella Valley Giant Sand-treader Cricket - Core Habitat	3962	93	834	667	0	80%	0	76
Palm Springs Pocket Mouse - Core Habitat	11707	518	3588	1490	0	42%	11	235
Desert dry wash woodland	748	4	34	0	0	0%	0	0
Active sand fields	3543	91	820	664	0	81%	0	75
Active desert dunes	421	2	14	5	0	33%	0	1
Desert fan palm oasis woodland	137	0	0	0	0	0%	0	0
Sonoran cottonwood-willow riparian forest	4	0	0	0	0	0%	0	0
Mesquite hummocks	58	0	0	0	0	0%	0	0
Sand Transport	12550	573	4100	1492	0	36%	12	233
Sand Source	13056	412	3712	1520	0	41%	0	193
Thousand Palms Linkage	25607	983	7816	3012	0	39%	12	427



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<b>Upper Mission Creek/Big Morongo Canyon Conservation Area - Desert Hot Springs</b>								
Coachella Valley Jerusalem Cricket - Other Conserved Habitat	49	0	49	5	0	11%	0	0
Le Conte's Thrasher - Other Conserved Habitat	1832	288	1409	108	0	8%	0	49
Palm Springs Pocket Mouse - Core Habitat	1748	270	1403	107	0	8%	0	46
Little San Bernardino Mountains Linanthus - Core Habitat	1020	53	967	49	0	5%	0	8
Desert dry wash woodland	135	6	58	0	0	0%	0	1
Sand Transport	1869	286	1399	108	0	8%	0	49
Sand Source	343	0	6	0	0	0%	0	0
Highway 62 Corridor	73	7	66	0	0	0%	0	1
<b>Upper Mission Creek/Big Morongo Canyon Conservation Area - Palm Springs</b>								
Le Conte's Thrasher - Other Conserved Habitat	24	2	22	0	0	0%	0	0
Palm Springs Pocket Mouse - Other Conserved Habitat	24	2	22	0	0	0%	0	0

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<b>Upper Mission Creek/Big Morongo Canyon Conservation Area - Riverside County</b>								
Desert Tortoise - Core Habitat	24122	887	7984	3962	0	50%	21	464
Triple-ribbed Milkvetch - Core Habitat	819	47	426	329	0	77%	0	37
Coachella Valley Jerusalem Cricket - Other Conserved Habitat	666	52	460	16	0	4%	10	-3
Le Conte's Thrasher - Other Conserved Habitat	1871	146	1323	294	0	22%	0	44
Palm Springs Pocket Mouse - Core Habitat	1937	151	1363	319	0	23%	0	47
Little San Bernardino Mountains Linanthus - Core Habitat	1390	122	1100	310	0	28%	0	43
Southern sycamore-alder riparian woodland	104	6	52	60	0	100%	0	6
Desert dry wash woodland	125	8	76	37	0	48%	0	4
Sonoran cottonwood-willow riparian forest	100	8	76	74	0	97%	0	8
Sand Transport	2279	168	1509	416	0	28%	0	58
Sand Source	19789	721	6488	3947	0	61%	21	446
Highway 62 Corridor	907	79	715	0	0	0%	0	8
<b>West Deception Canyon Conservation Area - Riverside County</b>								
Sand Source	1302	118	1063	746	20	70%	0	86
<b>Whitewater Canyon Conservation Area - Desert Hot Springs</b>								
Desert Tortoise - Core Habitat	56	0	0	0	0	0%	0	0
Sand Source	56	0	0	0	0	0%	0	0

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<b>Whitewater Canyon Conservation Area - Riverside County</b>								
Desert Tortoise - Core Habitat	4438	120	1084	742	0	68%	0	86
Arroyo Toad - Core Habitat	2082	78	706	676	0	96%	0	75
Little San Bernardino Mountains Linanthus - Other Conserved Habitat	579	39	348	277	0	80%	0	32
Triple-ribbed Milkvetch - Core Habitat	1295	41	368	277	0	75%	0	32
Desert fan palm oasis woodland	1	0	0	0	0	0%	0	0
Sonoran cottonwood-willow riparian forest	166	11	107	105	0	99%	0	11
Sand Transport	1392	48	435	338	0	78%	0	38
Sand Source	12616	94	850	618	0	73%	0	71
Whitewater Canyon Corridor	223	22	201	0	0	0%	0	2
<b>Whitewater Floodplain Conservation Area - Cathedral City</b>								
Coachella Valley Milkvetch - Core Habitat	107	7	61	0	0	0%	0	1
Coachella Valley Round-tailed Ground Squirrel - Core Habitat	105	7	59	0	0	0%	0	1
Coachella Valley Fringe-toed Lizard - Core Habitat	107	7	61	0	0	0%	0	1
Le Conte's Thrasher - Other Conserved Habitat	107	7	61	0	0	0%	0	1
Palm Springs Pocket Mouse - Core Habitat	107	7	61	0	0	0%	0	1
Coachella Valley Giant Sand-treader Cricket - Core Habitat	107	7	61	0	0	0%	0	1
Active sand fields	49	5	43	0	0	0%	0	1
Whitewater River Corridor	28	2	18	0	0	0%	0	0

	Total Acres in Conservation Area	Acres of Disturbance Authorized (1996)	Remaining Acres To Be Conserved (1996)	Acres Conserved Since 1996	Acres Conserved in 2010	Percentage of Required Conservation Acquired	Acres of Permitted Disturbance	Acres of Rough Step
<b>Whitewater Floodplain Conservation Area - Palm Springs</b>								
Coachella Valley Round-tailed Ground Squirrel - Core Habitat	5825	328	2955	526	495	18%	0	85
Coachella Valley Milkvetch - Core Habitat	5432	297	2671	509	509	19%	0	81
Palm Springs Pocket Mouse - Core Habitat	6173	347	3122	532	495	17%	0	88
Coachella Valley Fringe-toed Lizard - Core Habitat	5418	295	2659	509	509	19%	0	80
Coachella Valley Giant Sand-treader Cricket - Core Habitat	5418	295	2659	509	509	19%	0	80
Le Conte's Thrasher - Other Conserved Habitat	6495	381	3433	546	509	16%	0	93
Ephemeral sand fields	2873	132	1185	213	213	18%	0	35
Stabilized desert sand fields	577	44	394	0	0	0%	0	4
Active sand fields	436	44	392	296	296	76%	0	34
Whitewater River Corridor	1183	90	809	37	0	5%	0	13

	Total Acres in Conservation Area	Acres of Disturbance Authorized (1996)	Remaining Acres To Be Conserved (1996)	Acres Conserved Since 1996	Acres Conserved in 2010	Percentage of Required Conservation Acquired	Acres of Permitted Disturbance	Acres of Rough Step
<b>Whitewater Floodplain Conservation Area - Riverside County</b>								
Coachella Valley Milkvetch - Core Habitat	96	6	58	0	0	0%	0	1
Coachella Valley Round-tailed Ground Squirrel - Core Habitat	185	11	100	0	0	0%	0	1
Coachella Valley Giant Sand-treader Cricket - Core Habitat	92	6	57	0	0	0%	0	1
Coachella Valley Fringe-toed Lizard - Core Habitat	92	6	57	0	0	0%	0	1
Palm Springs Pocket Mouse - Core Habitat	701	53	477	0	0	0%	10	-5
Le Conte's Thrasher - Other Conserved Habitat	706	53	480	0	0	0%	10	-5
Ephemeral sand fields	86	6	52	0	0	0%	0	1
Stabilized desert sand fields	5	1	4	0	0	0%	0	0
Whitewater River Corridor	701	53	475	0	0	0%	10	-5

	Total Acres in Conservation Area	Acres of Disturbance Authorized (1996)	Remaining Acres To Be Conserved (1996)	Acres Conserved Since 1996	Acres Conserved in 2010	Percentage of Required Conservation Acquired	Acres of Permitted Disturbance	Acres of Rough Step
<b>Willow Hole Conservation Area - Cathedral City</b>								
Coachella Valley Round-tailed Ground Squirrel - Core Habitat	1485	140	1256	585	45	47%	0	73
Coachella Valley Milkvetch - Core Habitat	938	87	782	167	5	21%	0	25
Coachella Valley Fringe-toed Lizard - Core Habitat	264	24	212	113	4	53%	0	14
Palm Springs Pocket Mouse - Core Habitat	1147	107	959	587	45	61%	0	70
Le Conte's Thrasher - Other Conserved Habitat	1795	167	1505	598	45	40%	0	76
Ephemeral sand fields	227	20	178	91	4	51%	0	11
Active sand fields	37	4	33	22	0	67%	0	3
Stabilized desert sand fields	57	6	51	0	0	0%	0	1
Stabilized desert dunes	1	0	1	0	0	0%	0	0
Sand Transport	966	89	798	576	45	72%	0	67
Sand Source	833	79	710	22	0	3%	0	10

	Total Acres in Conservation Area	Acres of Disturbance Authorized (1996)	Remaining Acres To Be Conserved (1996)	Acres Conserved Since 1996	Acres Conserved in 2010	Percentage of Required Conservation Acquired	Acres of Permitted Disturbance	Acres of Rough Step
<b>Willow Hole Conservation Area - Riverside County</b>								
Coachella Valley Fringe-toed Lizard - Core Habitat	633	50	454	294	0	65%	2	32
Coachella Valley Milkvetch - Core Habitat	2228	195	1751	994	32	57%	3	116
Palm Springs Pocket Mouse - Core Habitat	3465	298	2684	1216	40	45%	3	148
Le Conte's Thrasher - Other Conserved Habitat	3601	298	2677	1223	40	46%	3	149
Desert saltbush scrub	169	17	152	136	0	89%	1	14
Mesquite hummocks	125	11	98	91	0	93%	0	10
Desert fan palm oasis woodland	1	0	0	0	0	0%	0	0
Stabilized desert sand fields	144	14	128	55	0	43%	0	7
Stabilized desert dunes	383	35	319	198	0	62%	2	21
Ephemeral sand fields	906	81	728	170	0	23%	0	25
Sand Transport	3500	304	2734	1215	40	44%	3	149
Sand Source	186	2	17	8	0	48%	0	1
Mission Creek / Willow Wash Biological Corridor	509	44	397	0	0	0%	0	4

# Appendix 4

## Covered Activity Impact Outside Conservation Areas

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## CVMSHCP Annual Report 2010 - Covered Activity Impact Outside Conservation Areas

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Arroyo Toad</b>	
Riverside County	0
<b>Arroyo Toad Total</b>	<b>0</b>
<b>California Black Rail</b>	
Coachella	0
Indio	0
Riverside County	0
<b>California Black Rail Total</b>	<b>0</b>
<b>Coachella Valley Fringe-toed Lizard</b>	
Cathedral City	237
Coachella	0
Indian Wells	424
Indio	358
La Quinta	402
Palm Desert	394
Palm Springs	332
Rancho Mirage	534
Riverside County	198
<b>Coachella Valley Fringe-toed Lizard Total</b>	<b>2879</b>
<b>Coachella Valley Giant Sand- treader Cricket</b>	
Cathedral City	237
Coachella	0
Indian Wells	424
Indio	358
La Quinta	402
Palm Desert	394
Palm Springs	332
Rancho Mirage	534
Riverside County	198
<b>Coachella Valley Giant Sand- treader Cricket Total</b>	<b>2879</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Coachella Valley Jerusalem Cricket</b>	
Cathedral City	245
Desert Hot Springs	0
Palm Desert	5
Palm Springs	332
Rancho Mirage	494
Riverside County	58
<b>Coachella Valley Jerusalem Cricket Total</b>	<b>1134</b>
<b>Coachella Valley Milkvetch</b>	
Cathedral City	197
Desert Hot Springs	0
Indian Wells	334
La Quinta	0
Palm Desert	394
Palm Springs	301
Rancho Mirage	534
Riverside County	194
<b>Coachella Valley Milkvetch Total</b>	<b>1954</b>
<b>Coachella Valley Round-tailed Ground Squirrel</b>	
Cathedral City	372
Coachella	51
Desert Hot Springs	0
Indian Wells	706
Indio	735
La Quinta	500
Palm Desert	518
Palm Springs	340
Rancho Mirage	540
Riverside County	1351
<b>Coachella Valley Round-tailed Ground Squirrel Total</b>	<b>5113</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Crissal Thrasher</b>	
Cathedral City	0
Coachella	6
Desert Hot Springs	0
Indian Wells	21
Indio	203
La Quinta	30
Riverside County	56
<b>Crissal Thrasher Total</b>	<b>316</b>
<b>Desert Pupfish</b>	
Indian Wells	0
NULL	0
<b>Desert Pupfish Total</b>	<b>0</b>
<b>Desert Tortoise</b>	
Cathedral City	1
Coachella	0
Desert Hot Springs	0
Indian Wells	212
Indio	0
La Quinta	235
Palm Desert	351
Palm Springs	3
Rancho Mirage	65
Riverside County	637
<b>Desert Tortoise Total</b>	<b>1504</b>
<b>Gray Vireo</b>	
Palm Springs	0
Riverside County	5
<b>Gray Vireo Total</b>	<b>5</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Le Conte's Thrasher</b>	
Cathedral City	250
Coachella	65
Desert Hot Springs	0
Indian Wells	814
Indio	760
La Quinta	661
Palm Desert	755
Palm Springs	348
Rancho Mirage	672
Riverside County	1848
<b>Le Conte's Thrasher Total</b>	<b>6173</b>
<b>Least Bell's Vireo - Breeding Habitat</b>	
Cathedral City	0
Coachella	2
Desert Hot Springs	0
Indian Wells	21
Indio	30
La Quinta	30
Palm Springs	0
Rancho Mirage	0
Riverside County	3
<b>Least Bell's Vireo - Breeding Habitat Total</b>	<b>86</b>
<b>Least Bell's Vireo - Migratory Habitat</b>	
Cathedral City	0
Coachella	4
Desert Hot Springs	0
Indian Wells	187
Indio	173
La Quinta	55
Palm Desert	167
Palm Springs	0
Rancho Mirage	45
Riverside County	201
<b>Least Bell's Vireo - Migratory Habitat Total</b>	<b>832</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Little San Bernardino Mountains Linanthus</b>	
Desert Hot Springs	0
Riverside County	0
<b>Little San Bernardino Mountains Linanthus Total</b>	<b>0</b>
<b>Mecca Aster</b>	
Indio	1
Riverside County	0
<b>Mecca Aster Total</b>	<b>1</b>
<b>Orocopia Sage</b>	
Riverside County	7
<b>Orocopia Sage Total</b>	<b>7</b>
<b>Palm Springs Pocket Mouse</b>	
Cathedral City	372
Coachella	44
Desert Hot Springs	0
Indian Wells	724
Indio	679
La Quinta	499
Palm Desert	591
Palm Springs	346
Rancho Mirage	584
Riverside County	1591
<b>Palm Springs Pocket Mouse Total</b>	<b>5430</b>
<b>Peninsular Bighorn Sheep</b>	
Cathedral City	1
Indian Wells	1
La Quinta	37
Palm Desert	156
Palm Springs	0
Rancho Mirage	1
Riverside County	134
<b>Peninsular Bighorn Sheep Total</b>	<b>330</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Potential Flat-tailed Horned Lizard</b>	
Cathedral City	0
Desert Hot Springs	0
Palm Springs	12
Riverside County	7
<b>Potential Flat-tailed Horned Lizard Total</b>	<b>19</b>
<b>Predicted Flat-tailed Horned Lizard</b>	
Cathedral City	220
Coachella	22
Indian Wells	424
Indio	401
La Quinta	383
Palm Desert	394
Palm Springs	320
Rancho Mirage	533
Riverside County	395
<b>Predicted Flat-tailed Horned Lizard Total</b>	<b>3092</b>
<b>Southern Yellow Bat</b>	
Cathedral City	0
Desert Hot Springs	0
Palm Springs	0
Rancho Mirage	0
Riverside County	0
<b>Southern Yellow Bat Total</b>	<b>0</b>
<b>Southwestern Willow Flycatcher Breeding Habitat</b>	
Cathedral City	0
Coachella	0
Desert Hot Springs	0
Indio	0
Palm Springs	0
Rancho Mirage	0
Riverside County	0
<b>Southwestern Willow Flycatcher Breeding Habitat Total</b>	<b>0</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Southwestern Willow Flycatcher - Migratory Habitat</b>	
Cathedral City	0
Coachella	6
Desert Hot Springs	0
Indian Wells	209
Indio	203
La Quinta	86
Palm Desert	167
Palm Springs	0
Rancho Mirage	45
Riverside County	204
<b>Southwestern Willow Flycatcher - Migratory Habitat Total</b>	<b>920</b>
<b>Summer Tanager - Breeding Habitat</b>	
Cathedral City	0
Coachella	0
Desert Hot Springs	0
Indio	0
Palm Springs	0
Rancho Mirage	0
Riverside County	0
<b>Summer Tanager - Breeding Habitat Total</b>	<b>0</b>
<b>Summer Tanager - Migratory Habitat</b>	
Cathedral City	0
Coachella	6
Desert Hot Springs	0
Indian Wells	209
Indio	203
La Quinta	86
Palm Desert	167
Palm Springs	0
Rancho Mirage	45
Riverside County	204
<b>Summer Tanager - Migratory Habitat Total</b>	<b>920</b>



Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Triple-ribbed Milkvetch</b>	
Palm Springs	0
Riverside County	0
<b>Triple-ribbed Milkvetch Total</b>	<b>0</b>
<b>Yellow Warbler - Breeding Habitat</b>	
Cathedral City	0
Coachella	0
Desert Hot Springs	0
Indio	0
Palm Springs	0
Rancho Mirage	0
Riverside County	0
<b>Yellow Warbler - Breeding Habitat Total</b>	<b>0</b>
<b>Yellow Warbler - Migratory Habitat</b>	
Cathedral City	0
Coachella	6
Desert Hot Springs	0
Indian Wells	209
Indio	203
La Quinta	86
Palm Desert	167
Palm Springs	0
Rancho Mirage	45
Riverside County	204
<b>Yellow Warbler - Migratory Habitat Total</b>	<b>920</b>
<b>Yellow-breasted Chat - Breeding Habitat</b>	
Cathedral City	0
Coachella	0
Desert Hot Springs	0
Indio	0
Palm Springs	0
Rancho Mirage	0
Riverside County	0
<b>Yellow-breasted Chat - Breeding Habitat Total</b>	<b>0</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Yellow-breasted Chat - Migratory Habitat</b>	
Cathedral City	0
Coachella	6
Desert Hot Springs	0
Indian Wells	209
Indio	203
La Quinta	86
Palm Desert	167
Palm Springs	0
Rancho Mirage	45
Riverside County	204
<b>Yellow-breasted Chat - Migratory Habitat Total</b>	<b>920</b>
<b>Yuma Clapper Rail</b>	
Coachella	0
Indio	0
Riverside County	0
<b>Yuma Clapper Rail Total</b>	<b>0</b>
<b>Active desert dunes</b>	
Palm Springs	0
Riverside County	2
<b>Active desert dunes Total</b>	<b>2</b>
<b>Active sand fields</b>	
Cathedral City	0
Palm Springs	0
Riverside County	121
<b>Active sand fields Total</b>	<b>121</b>
<b>Arrowweed scrub</b>	
Riverside County	0
<b>Arrowweed scrub Total</b>	<b>0</b>
<b>Chamise chaparral</b>	
Riverside County	0
<b>Chamise chaparral Total</b>	<b>0</b>
<b>Cismontane alkali marsh</b>	
Riverside County	0
<b>Cismontane alkali marsh Total</b>	<b>0</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Coastal and valley freshwater marsh</b>	
Coachella	0
Indio	0
Riverside County	0
<b>Coastal and valley freshwater marsh Total</b>	<b>0</b>
<b>Desert dry wash woodland</b>	
Cathedral City	0
Coachella	0
Desert Hot Springs	0
Indian Wells	187
Indio	0
La Quinta	55
Palm Desert	167
Palm Springs	0
Rancho Mirage	45
Riverside County	88
<b>Desert dry wash woodland Total</b>	<b>542</b>
<b>Desert fan palm oasis woodland</b>	
Cathedral City	0
Desert Hot Springs	0
Palm Springs	0
Rancho Mirage	0
Riverside County	0
<b>Desert fan palm oasis woodland Total</b>	<b>0</b>
<b>Desert saltbush scrub</b>	
Coachella	4
Indio	173
La Quinta	0
Riverside County	52
<b>Desert saltbush scrub Total</b>	<b>229</b>
<b>Desert sink scrub</b>	
Riverside County	60
<b>Desert sink scrub Total</b>	<b>60</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Ephemeral sand fields</b>	
Cathedral City	0
Palm Springs	72
Riverside County	7
<b>Ephemeral sand fields Total</b>	<b>79</b>
<b>Interior live oak chaparral</b>	
Palm Springs	0
Riverside County	0
<b>Interior live oak chaparral Total</b>	<b>0</b>
<b>Mesquite bosque</b>	
Riverside County	0
<b>Mesquite bosque Total</b>	<b>0</b>
<b>Mesquite hummocks</b>	
Cathedral City	0
Coachella	2
Desert Hot Springs	0
Indian Wells	21
Indio	30
La Quinta	30
Riverside County	3
<b>Mesquite hummocks Total</b>	<b>86</b>
<b>Mojave mixed woody scrub</b>	
Desert Hot Springs	0
Riverside County	0
<b>Mojave mixed woody scrub Total</b>	<b>0</b>
<b>Mojavean pinyon &amp; juniper woodland</b>	
Riverside County	0
<b>Mojavean pinyon &amp; juniper woodland Total</b>	<b>0</b>
<b>Peninsular juniper woodland &amp; scrub</b>	
Palm Springs	0
Riverside County	0
<b>Peninsular juniper woodland &amp; scrub Total</b>	<b>0</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Red shank chaparral</b>	
Riverside County	0
<b>Red shank chaparral Total</b>	<b>0</b>
<b>Semi-desert chaparral</b>	
Palm Springs	0
Riverside County	0
<b>Semi-desert chaparral Total</b>	<b>0</b>
<b>Sonoran cottonwood-willow riparian forest</b>	
Coachella	0
Indio	0
Palm Springs	0
Riverside County	0
<b>Sonoran cottonwood-willow riparian forest Total</b>	<b>0</b>
<b>Sonoran creosote bush scrub</b>	
Cathedral City	0
Coachella	47
Desert Hot Springs	0
Indian Wells	24
Indio	243
La Quinta	172
Palm Desert	183
Palm Springs	2
Rancho Mirage	20
Riverside County	524
<b>Sonoran creosote bush scrub Total</b>	<b>1215</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Sonoran mixed woody &amp; succulent scrub</b>	
Cathedral City	9
Desert Hot Springs	0
Indian Wells	0
Indio	1
La Quinta	7
Palm Desert	0
Palm Springs	12
Rancho Mirage	0
Riverside County	413
<b>Sonoran mixed woody &amp; succulent scrub Total</b>	<b>442</b>
<b>Southern arroyo willow riparian forest</b>	
Palm Springs	0
Riverside County	0
<b>Southern arroyo willow riparian forest Total</b>	<b>0</b>
<b>Southern sycamore-alder riparian woodland</b>	
Palm Springs	0
Riverside County	0
<b>Southern sycamore-alder riparian woodland Total</b>	<b>0</b>
<b>Stabilized desert dunes</b>	
Cathedral City	0
Riverside County	0
<b>Stabilized desert dunes Total</b>	<b>0</b>
<b>Stabilized desert sand fields</b>	
Cathedral City	0
Indio	0
Palm Springs	0
Riverside County	0
<b>Stabilized desert sand fields Total</b>	<b>0</b>

Conservation Objective / Jurisdiction	Estimated Acres Disturbed Outside Conservation Areas
<b>Stabilized shielded sand fields</b>	
Cathedral City	237
Coachella	0
Indian Wells	424
Indio	358
La Quinta	402
Palm Desert	315
Palm Springs	260
Rancho Mirage	534
Riverside County	67
<b>Stabilized shielded sand fields Total</b>	<b>2597</b>