WELCOME!

Multiple Species Conservation Program
Annual Workshop

August 11, 2015
MHPA BASE REQUIREMENTS

- Total Acreage in City MHPA is 56,831 acres

- 52,012 acres to be conserved by 2047 via original 1997 IA

- 2005 BM Amendment added 715 acres for a BMZ2 compensation – 52,727 acres
MHPA STATS THROUGH 2014

Conserved and Obligated Lands
Approximately 94%
(49,965 acres)

Future Conservation
Approximately 6%
(2,761 acres)
2014 PROJECT LOSS/GAIN

- Habitat Loss of 309 acres
  - 17 acres inside the MHPA
  - 293 acres outside the MHPA

- Habitat Gain of 194 acres
  - 180 acres inside the MHPA
  - 14 acres outside the MHPA
2014 PROJECT LOSS/GAIN

- Loss > gain
  - 238 ac non-mitigable habitats (urban/ag/dist land)
  - 293 ac of loss outside MHPA
  - net gain of 163 ac in MHPA

- A total of $383,552 was also paid in the Habitat Acquisition Fund (HAF).
Habitat Mitigation Efforts

Public Utilities Department
Successful Habitat Restoration

**Canyon View Uplands**

**Los Penasquitos Canyon Preserve**

- 0.89 acre Native Grassland
- 6.49 acres Diegan Coastal Sage Scrub

- Year 3 of 5
- Maintenance/Monitoring
- Over 60% native shrub cover
- Heavy utilization of site by native wildlife
2014 Plant & Habitat Monitoring

- City Park and Recreation
  - 19 rare plant species monitored at 23 parks (City)
- San Diego Natural History Museum (SDNHM)
  - San Diego Plant Atlas collections
- San Diego State University (SDSU)
  - Restoration study
  - Cryptogamic soil study in Mission Trails Regional Park
  - Harbison’s dun skipper and Hermes copper butterflies at Mission Trails Regional Park
- University of California San Diego (UCSD)
  - Vernal pool pollinator study
• 2014 Wildlife Studies & Monitoring
  • City Park and Recreation
    • Least Bell’s vireo surveys in Tecolote Canyon
  • US Geological Service (USGS)
    • Coastal cactus wren regional population and genetics study
    • Wildlife use of road undercrossings/pinch points study
    • Golden eagle study
  • SDSU
    • Greater roadrunner population and habitat survey
    • Bobcat use of regional wildlife corridors
    • Ringtail study
  • UC Davis
    • Regional mountain lion survey
  • Colorado St. University
    • Wildlife and recreation study
Natural Resource Management Plans

- Black Mountain NRMP
  - Approved by City Council April 2014
- Carmel Mountain/Del Mar Mesa NRMP
  - Approved by City Council August 2015
- Mission Trails Regional Park NRMP
  - Draft complete, EIR in process
- Tecolote Canyon Natural Park NRMP
  - Draft complete, wildlife agency and community approval, permits for trail plan in process
- Crest Canyon NRMP
  - Bio surveys complete, partial draft
- Pacific Highlands Ranch NRMP
  - Bio surveys complete, partial draft
Canary Island St. Johnswort Removal at Tecolote Canyon

Hypericum canariense

Photo Credit: Wikimedia commons
May 2014 – SPRAY
Sept 2014 – CUT and REMOVE
March 2015 – SPRAY RESPROUTS

NEXT STEPS:
- Continued monitoring and treatment of resprouts
- Restoration of slope to native habitat

Photo Credit: City of SD, P&R
Presentation Overview

• Chula Vista MSCP Subarea Plan
  • Overview
  • 2014 Report Status
    • Conservation
    • Funding
• Management/Monitoring Update
  • Otay Ranch Preserve
  • Rolling Hills Ranch
  • Central City Preserve
Chula Vista MSCP Subarea Plan

- Subarea Plan Approved: February 2003
- Take Permit and IA: January 2005
- 86 Covered Species
- 99% Hard-line Preserve
- Conservation Estimate: 9,243 acres
  - 4,993 acres within Chula Vista Subarea
  - 4,250 acres outside Chula Vista Subarea
2014 Preserve Acquisitions

2014 Acquisitions:
40 acres (Proctor Valley)
2014 Conservation Status

CHULA VISTA CONSERVATION STATUS

- **Gains Within CV SAP**: 3,542 acres
- **Gains Outside CV SAP**: 4,993 acres
- **Overall Contribution**: 9,243 acres

**ACRES**

- **2014 Status**
- **CV SAP Conservation Estimates**
## FY 2014/15 Preserve Funding

<table>
<thead>
<tr>
<th>Project/Program</th>
<th>FY 14/15 Expenditures</th>
<th>General Description</th>
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<tbody>
<tr>
<td>Otay Ranch Preserve</td>
<td>$520,000</td>
<td>Operations/Maintenance</td>
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<tr>
<td>Rolling Hills Ranch Preserve</td>
<td>$30,000</td>
<td>Operations/Maintenance</td>
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<tr>
<td>OVRP</td>
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<td>QCB Recovery</td>
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<td>Restoration/Enhancement</td>
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<td>EMP Grant - Central City</td>
<td>$36,000</td>
<td>Habitat Restoration</td>
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<td>EMP Grant - Otay Ranch</td>
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<td>FEMA Grant - Central City</td>
<td>$390,000</td>
<td>Brush Management</td>
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<td><strong>Total</strong></td>
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</table>
Otay Ranch Preserve

- 11,375 acre Otay Ranch Preserve
- Assembled and managed by Chula Vista and County
  - Preserve Owner/Manager (POM)
- Funding: Community Facilities District (tax levy)
- 40 acres acquired in 2014
  - Proctor Valley South (40 acres)
  - 3,200 acres under POM management
2014 Monitoring / Management Activities

Monitoring

- Baseline Surveys
- coastal California gnatcatcher
- Least Bell’s Vireo and Yellow-billed Cuckoo Surveys
- Rare Plant Surveys
- Fairy Shrimp Surveys
- Vernal Pool Plant Surveys
- Database Contributions

Management

- Routine Site Visits
- Litter Removal
- Access Control
  - Gate, Fence, and Sign Repairs
- Invasive Species Treatment
Otay Ranch Preserve – EMP Grant

- **Size:** 15 acres
- **Project Objectives:**
  - Increase quality of existing cholla patches
  - Protect against unauthorized access
  - Increase public awareness
  - Implement MSP strategies
- **Techniques:**
  - Treat areas dominated by non-natives
  - Fence restoration areas
  - Collect and redistribute cholla cuttings
Rolling Hills Ranch Preserve

- 214 acre Preserve
- Acquired in 2013
- Funding: Community Facilities District (tax levy)
- 2014 Management Activities
  - Access Control
    - New Signage
  - Fence Repairs
  - Qualitative Surveys
    - CAGN
    - Narrow Endemics
  - Public Outreach
Central City Preserve

- Project: FEMA Brush Management
- Reduce competition with natives & threat of fire
- 25 acres along the Urban/Preserve Interface
  - Zone I: 30 feet from structure
  - Zone II: 50 feet beyond Zone I
- Central City ASMD/CVMSCP
  - Outside avian breeding season
  - Pre-con surveys
  - Biological monitoring
  - Thinning and pruning only (by hand)
• **Project:** Coastal Cactus Wren Habitat Restoration/Enhancement
• **Size:** 9 acres
• **Project Objectives:**
  • Restore/enhance degraded habitat
  • Increase quality/quantity of existing cholla patches
  • Reduce weed and native shrub competition
  • Reduce uncontrolled access
• **Techniques:**
  • Dethatch and treat areas dominated by non-natives
  • Selective thinning, removal and/or treatment of native shrubs
  • Protect restoration areas by blocking unauthorized trails with native plant material
  • Collect and redistribute cholla cuttings
  • Intensive weed control
Central City Preserve – EMP Grant
Central City Preserve – EMP Grant

2009

2014
Central City Preserve – EMP Grant

• **Project:** Otay tarplant/SD Thornmint Habitat Restoration/Enhancement
• **Size:** 15 acres
• **Project Goals/Objectives:**
  • Restore/enhance degraded habitat
  • Manage & increase grassland & clay lens habitat
  • Reduce weed competition
  • Reduce uncontrolled access
• **Techniques:**
  • Dethatching of non-natives
  • Native seed collection and redistribution
  • Planting native plants to increase cover
  • Intensive Weed Control
Central City Preserve – EMP Grant

Otay Tarplant /San Diego Thornmint
Restoration and Enhancement Grant

<table>
<thead>
<tr>
<th>Year</th>
<th>Otay Tarplant</th>
<th>San Diego Thornmint</th>
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<tbody>
<tr>
<td>2011</td>
<td>40,930</td>
<td>8,542</td>
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<tr>
<td>2012</td>
<td>137,550</td>
<td>32,816</td>
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<tr>
<td>2013</td>
<td>154,201</td>
<td>13,240</td>
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<tr>
<td>2014</td>
<td>1,757</td>
<td>215</td>
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</table>
“Wildness is the preservation of the World.”
— Henry David Thoreau
South County Subarea
Preserve Assembly Status

Preserve Size: 98,379 ac
Assembled: 74,343 ac
Remaining: 24,036 ac

76% Assembled
24% Remaining
County Parks & Preserves 1998

1998: 28,000 acres
County Parks & Preserves 1998 - 2001
County Parks & Preserves 1998 - 2007
County Parks & Preserves 1998 - 2015

2015: 48,000 acres
Federal, State, County & Partners

2015: 1.5 mil acres
Badger Occupancy Study
Conducted by USGS

**Purpose:** Understand where badgers occur in the western portion of the County, identify areas with high densities, and assess connectivity between occupied areas.

**County Preserves:** Barnett Ranch, Ramona Grasslands, Santa Ysabel, Volcan Mountain, El Capitan, Boulder Oaks, Del Dios Highlands, Wilderness Gardens and Otay Ranch Preserves.
Badger Occupancy Study: Prelim Results

• 2011 field surveys utilized experienced scent detection canines trained to detect badger scent/scat
  ○ Santa Ysabel Preserve – Old burrow
  ○ Ramona Grasslands – Badger signs present (digging)
• 2015 study will use hair sample collection and infrared cameras to determine abundance
Stephens’ Kangaroo Rat Study
Conducted by San Diego Zoo Institute for Conservation Research

**Purpose:** Understand the genetic structure, dispersal characteristics and population histories of SKR within the Ramona Grasslands

**Objective:** Use landscape level genetics of SKR to provide critical information for species management across the species range

**County Preserves:** Ramona Grasslands
SKR Study: Prelim Results

• Genetic distance and geographic distance may not be significantly correlated

• Suggests that female SKR tend to stay in, or return to, its home area and that gene flow occurs between population fragments

• Additional genetic samples will be collected in 2015
Eagle/Raptor Foraging Study
Conducted by County Dept. of Parks and Recreation
Funded by County, USFWS and SANDAG

**Purpose:** Collect baseline information on eagle/raptor foraging at Ramona Grasslands Preserve. Baseline information will provide a better understanding of species abundance and distribution within the Preserve and be useful in informing management decisions.

**County Preserve:** Ramona Grasslands
Eagle/Raptor Foraging Study: Prelim Results

Bald eagles: 1 pair observed foraging and nesting

Golden eagles: 3 unique individuals observed foraging

Other raptor species were detected using the grasslands include American peregrine falcon, northern harrier, and various hawks
NCCP RESEARCH

in the

South Coast Region

California Department of Fish and Wildlife
Sources of Funding

1. Local Assistance Grants (LAGs)
2. Section 6 (Traditional); SWG
3. Transnet
4. State Propositions (e.g. Prop 1)
Selected Projects

Rancho Jamul ER Update

Orcutt’s Spineflower

Harbison’s Dun Skipper
Rancho Jamul ER

1. Burrowing Owl
2. Tricolored Blackbird
3. Otay Tarplant
Burrowing Owl Habitat Management Area (BOHMA)

Goal: To encourage natural dispersal and establishment of California ground squirrels

(Ultimate goal is to establish Burrowing Owls)

- In 2013, installed 16 wood piles
- Vegetation treatment (mowing + herbicide; cattle grazing began March 2014)
- Experimental Design credit – San Diego Zoo Institute of Conservation Research (J.P. Montagne)
Rancho Jamul ER
Rancho Jamul ER
Tricolored Blackbird

- Vegetation treatment fall of 2013
- Spring 2014 – 135 individuals counted

Pond supports habitat, even during drought conditions
Rancho Jamul ER
Otay Tarplant

- Otay Tarplant Restoration Study (CBI, TNC)
  - Study area was previously burned (control burn)
  - 3 treatments
    - Herbicide
    - Mowing
    - Line trim (weed whacking)
    - Control
Rancho Jamul ER
Otay Tarplant

- Not seen since 2004
- In 2013 -- 0 plants were found
- In 2014 -- 11 plants
- In 2015 -- 1,693 plants
  - 67% (n = 1,141) in the herbicide treated areas
  - 18% (n = 312) line trim treated areas
  - 14% (n = 237) mowed
  - <1% (n = 3) control
Orcutt’s Spineflower
*(Chorizanthe orcuttiana)*

- Federal section 6 grant funding
- Grant lead is Chaparral Lands Conservancy (David Hogan)
- Goals:
  - Prevent extinction, support recovery
  - Protect + enhance populations
Orcutt’s Spineflower

Objectives

• Update surveys + mapping
• Identify suitable habitat
• Protect existing populations
• Enhance existing populations
• Collect seed and bulk
Preliminary Results

- 3 historic populations not found
- Concern for urban edge, trampling
- 6 new locations identified
  (Gonzales Cyn, Crest Cyn)
- Numbers range from a few individuals to thousands
- Report forthcoming
Orcutt’s Spineflower
Harbison’s Dun Skipper

(Euphyes vestris harbisoni)

• LAG funding to SDSU Foundation (Drs. Marschalek + Deutschman)
• Survey historic populations, and new potential areas with host plant
• Surveys for adults, larva, host plant
• Develop monitoring protocols
Harbison’s Dun Skipper
Harbison’s Dun Skipper

- 34 locations searched – 18 were occupied (53%)
- Occupancy rate appears much lower than 1980-81
- 6 historic locations appear to be extirpated
- Primarily in San Diego County
- Confirmed in Orange and Riverside counties, and in Baja

- Green = extant
- Yellow = probable
- White = extirpated
- Black = host plant but no butterflies
- Purple = not surveyed
Thank you!
San Diego National Wildlife Refuge Complex
Conserving wildlife and habitats in Southern California for 40 years

• **Seal Beach NWR - 1974**
• **Tijuana Slough NWR - 1980**
• **San Diego Bay NWR - 1988**
• **San Diego NWR - 1996**

• Protecting over 16,000 acres
• Preserving and restoring intertidal salt marsh, beach and dunes, vernal pools, grasslands, coastal sage scrub, chaparral, oak and riparian forest
• Providing essential breeding and feeding grounds for migratory birds along the Pacific Flyway
• Supporting recovery of T&E species - Light-footed Ridgeway’s rail, Salt Marsh Bird’s- Beak, California Least Tern, Western Snowy Plover, Eastern Pacific Green Sea Turtle, Least Bell’s Vireo, Coastal California Gnatcatcher, Quino Checkerspot Butterfly, Otay Tarplant, San Diego Mesa Mint, San Diego Fairy Shrimp and more...
• Collaborating to conserve MSCP covered species - Cactus Wren, Golden Eagle, Dehesa Nolina, Parry’s Tetracoccus, and more...
National Wildlife Refuges:

- Provide conservation anchor points within urban Southern California
- Work with many conservation partners
- How do we achieve long-term conservation in light of changing American population?
Who will conserve nature in the future? Demographics tell the story

2010 Urban Southern California populations already look like future 2060 US population!
Who will conserve nature in the future?

• 80% of Americans now live in urbanized areas

• Diversity will be the new majority by 2042. Two states, TX and NM, are already there.

• Kids will already be there. In just 10 years, our children will represent a more diverse America.

• Why does this matter? NWR System Visitor Survey showed that over 90% of visitors were white – the average visitor was 50+ year old white male. We need to engage all Americans.

• We must provide a reason and opportunities for urban residents to find, appreciate, and care for nature in their cities and beyond.
• Landscape-scale conservation and science-based decisions

• Creating a connected conservation constituency

• Developing conservation leaders of today and tomorrow
Conserving the Future

- Outdoor recreation means different things to different people
- Urban residents recreate for health, fun, and escape
- Barriers to nature are physical and cultural
- Service needs to shift its thinking
- We can’t achieve conservation goals alone
SoCal Urban Wildlife Refuge Project

San Diego National Wildlife Refuge Complex
Los Angeles River
Hopper Mountain National Wildlife Refuge
SOCAL URBAN WILDLIFE REFUGE PROJECT

Hopper Mountain NWR
Los Angeles River
San Diego NWR Complex

Demographic Profile Areas
SoCal Urban Wildlife Refuge Project

- Access Point
- 25-Mile Buffer of Points of Access
- 30-Minute Drive-Time Service Area
- Metropolitan Statistical Area

Demographic Profile Areas
- Hopper Mountain Refuge
- Los Angeles River
- San Diego NWR Complex

Note: Hopper Mountain Refuge Demographic Profile Area uses a 60-minute drive time service area.
SoCal Urban Wildlife Refuge & Standards of Excellence

- Ensure Adequate Long-Term Resources!
- Build Partnerships!
- Be a Community Asset!
- Stepping Stones to Engagement!
- Provide Equitable Access!
- Build Partnerships!
- Stewardship
- L.I.V.E.
- Student Scientist
- Feel Safe and Welcome!
- Ecology Meets Technology
San Diego National Wildlife Refuge

Comprehensive Conservation Plan and Environmental Assessment
Draft Comprehensive Conservation Plan and Environmental Assessment

- Draft CCP and EA integrated into one document
- National Environmental Policy Act requires analysis of a range of alternatives
- One “No Action” and three “Action” alternatives are presented
- Action alternatives provide slightly different management focus while ensuring actions will not adversely affect achieving Refuge purposes
California Desert Southwest Cooperative Land Acquisition Project

FY15: $5M in Land and Water Conservation Funds
FY17: Proposal submitted for Land and Water Conservation Funds
SOCAL URBAN WILDLIFE REFUGE PROJECT

- Efforts targeted to reach urban populations
- Existing partnerships leveraged and expanded
- US Fish and Wildlife Service participation is value-added
- The projects are sustainable by Service and partners
SO CAL URBAN WILDLIFE REFUGE PROJECT

- CondorKids
- LA River Rover
- LA Conservation Corps
- Conservation Science Education
- Conservation Stewardship
- Live Interactive Virtual Exploration (LIVE)
- Student Science Series
- Ecology Meets Technology
Dear Rangers of NWR,

Thank you for everything you did to today for us. Like showing us the different plants and animals and teaching us about them. Or like using your free time for us, because that makes me feel very special. Also, thank you for trusting us with your binoculars, because I really loved looking at all those great sights. Thank you for teaching us about tracks. Thank you for teaching us about different plants and what they look like. But mostly, thank you for taking us out of school to teach us about amazing plants and animals.

Sincerely, Jack
Habitat Conservation Planning
Endangered Species Act -- Section 10

• Provide a landscape-level conservation framework integrating planning, design, delivery, and evaluation through monitoring and science-based adaptive management
Regional Habitat Conservation Plans

Statewide

Southern California
A Brighter Future

Los Angeles

San Diego
Conservation Design

- Habitats for Wildlife
- Open Spaces for People
69% of the MHPA/PAMA has been conserved to date
Regional Monitoring

[Map of Southwestern California Ecoregion with highlighted areas of Coastal Sage Scrub]

Sources: USGS, ESRI, TANA, and others. "Biological Planning, Assumption-based Research, Outcome-based Monitoring, Conservation Design, Conservation Delivery."
U.S. Geological Survey
2014 MSCP Activities

San Diego Field Station
Western Ecological Research Center
Golden Eagle Research in Southern California: 2014

Jeff A. Tracey (USGS), Robert N. Fisher (USGS), Peter Bloom (BBI)
## Golden Eagle Research in Southern California: 2014

<table>
<thead>
<tr>
<th>Eagle ID</th>
<th>Date</th>
<th>Location</th>
<th>USGS Band</th>
<th>Sex</th>
<th>Age</th>
<th>Wt (kg)</th>
<th>Pb Res</th>
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![Map of Southern California showing eagle movement patterns.](map.jpg)
Pacific Pond Turtle in San Diego County

- Sycuan Peak Ecological Reserve
  - Exotics removal
  - Head-started release
  - Wild hatched juveniles
- Rancho Jamul Ecological Reserve
  - Exotics removal
  - Translocation
  - Continued monitoring

Chris Brown, Melanie Madden, and Robert Fisher
Pacific Pond Turtle in San Diego County

Sycuan Peak Ecological Reserve
Western Pond Turtle - Head Starting
- 5 juveniles released in 2013
- 5 more released in 2014

Western Pond Turtle – Wild hatched
- 1 on 25 June 2010
- 1 on 15 July 2011
- 1 on 24 September 2013
- 2 on 29 April 2014
Pacific Pond Turtle in San Diego County

Rancho Jamul Ecological Reserve
Exotics Removal

• Over 400 African clawed frogs, 60 American bullfrogs, and 800 crayfish have been removed

Translocation and Continued Monitoring

• 11 Turtles were translocated between September and October of 2014

USGS
science for a changing world
U.S. Geological Survey –
San Pasqual Linkages Evaluation

Carlton J. Rochester, Cheryl Brehme, and Robert N. Fisher
U.S. Geological Survey –
San Pasqual Linkages Evaluation

Field Surveys: 31 July through 29 October 2014
Arroyo Toad Habitat Suitability in San Diego County:

Mike Treglia (mike-treglia@utulsa.edu)
Chris Brown (cwbrown@usgs.gov)
Robert Fisher (rfisher@usgs.gov)
Arroyo Toad Habitat Suitability in San Diego County:

Dissertation: Multi-scale Conservation In An Altered Landscape: The Case Of The Endangered Arroyo Toad in Southern California, 2014

Arroyo Toad Habitat Suitability in San Diego County:

Potential habitat
(long term variables)

Current habitat
(remotely sensed land cover characteristics)
USGS Badger Surveys-Connectivity Assessment San Diego County

Conservation Canines
http://conservationbiology.net
USGS Badger Surveys-Connectivity Assessment San Diego County

<table>
<thead>
<tr>
<th>Site</th>
<th>Badger Detections</th>
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<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Rancho Guejito</td>
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<tr>
<td>Hollenbeck Canyon Wildlife Area</td>
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<tr>
<td>Volcan Mountain Ecological Reserve</td>
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<td>Marron Valley</td>
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<td>Barnett Ranch</td>
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<td>Ramona Grasslands</td>
<td>Y</td>
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<tr>
<td>Upper San Diego River - El Capitan</td>
<td>-</td>
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<tr>
<td>Santa Ysabel Ecological Reserve</td>
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</table>

Legend:
- Fresh burrows 2014
- Badger Locations 2011_USGS
- Historic and Current Records
- DogLoggerAll2014
- BadgerTracklogs2011_Visual CanineScent
- BadgerRoads

Conservation Canines
http://conservationbiology.net
USGS Badger Surveys-Connectivity Assessment San Diego County

https://www.facebook.com/sd
riverpark/videos/1015287416
2826898/

Or
search on Facebook for
USGS SD Riverpark Badger

If you see a badger:
Call USGS at (619) 225-6458
E-mail SDBadgers@USGS.gov

Conservation
Canines

http://conservationbiology.net
MSCP ANNUAL REPORT 2015:
Regional Conservation Planning: Moving Forward
EMP Milestone in FY 2015

3,568 acres acquired  cost of $117 million for mitigation
EMP Milestone in FY 2015

$20,000,000 land acquisition grants. Awarded February 2015
• Seven properties totaling 5,483 acres
• Funding Partners $17.9 million

Escrow Closed: May 7, 2015

Escrow Closes Aug 31, 2015
EMP Milestone in FY 2015

$1,500,000 land management grants. Awarded July 2015

• 11 projects received funding
• 81 grants to date totaling $12.5 million
EMP Milestone in FY 2015

$22,000,000 allocated for regional management and monitoring (2006-2015)

www.sdmmp.com
What is Next?

• Update Management Strategic Plan (MSP) — connectivity, wildfire, regional monitoring
• State of the Preserve Report
• Quality of Life Funding Initiative

“The SANDAG Board of Directors will act on additional regional funding measures (a ballot measure and/or other secure funding commitments) to meet long-term requirements for implementing habitat conservation plans in the San Diego region.”