



WELCOME!

Multiple Species Conservation Program
Annual Workshop

August 11, 2015

CITY OF SAN DIEGO MSCP 2014 REPORTING YEAR

August 11, 2015

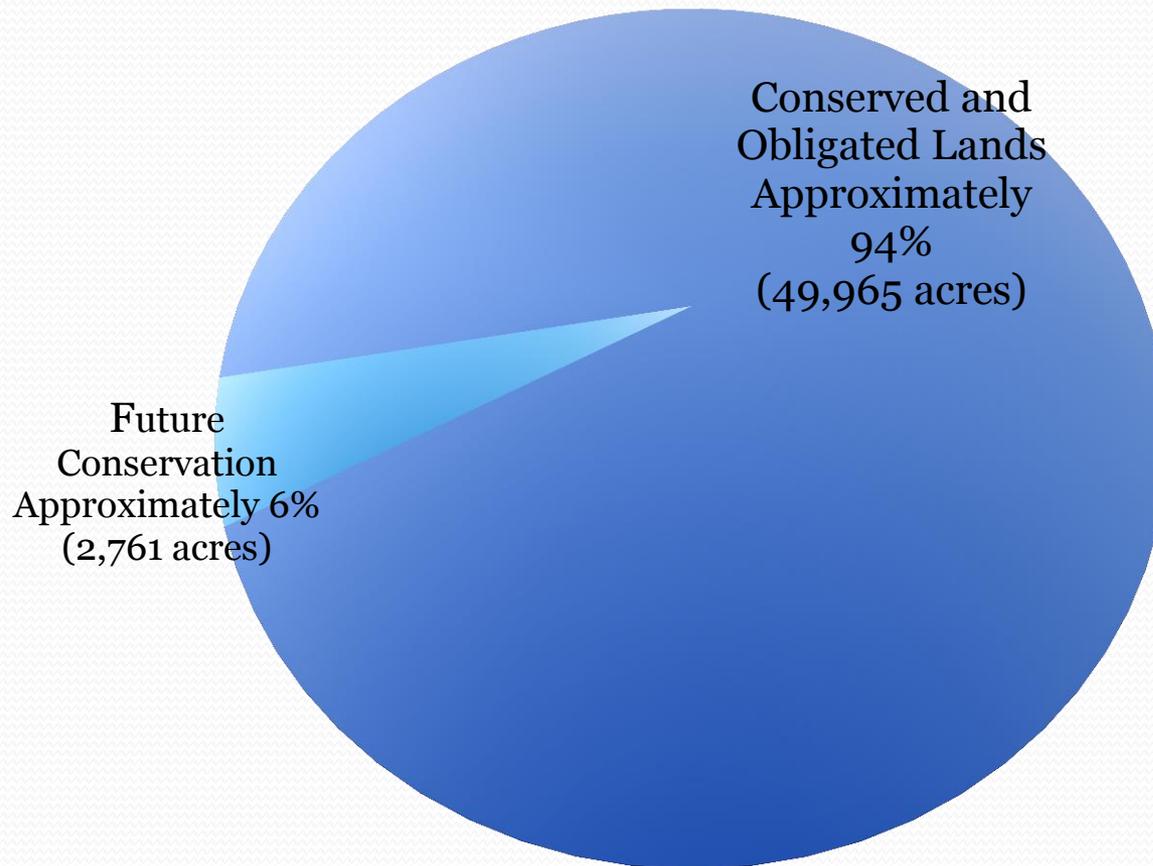


MHPA BASE REQUIREMENTS

- 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



2014 PROJECT LOSS/GAIN

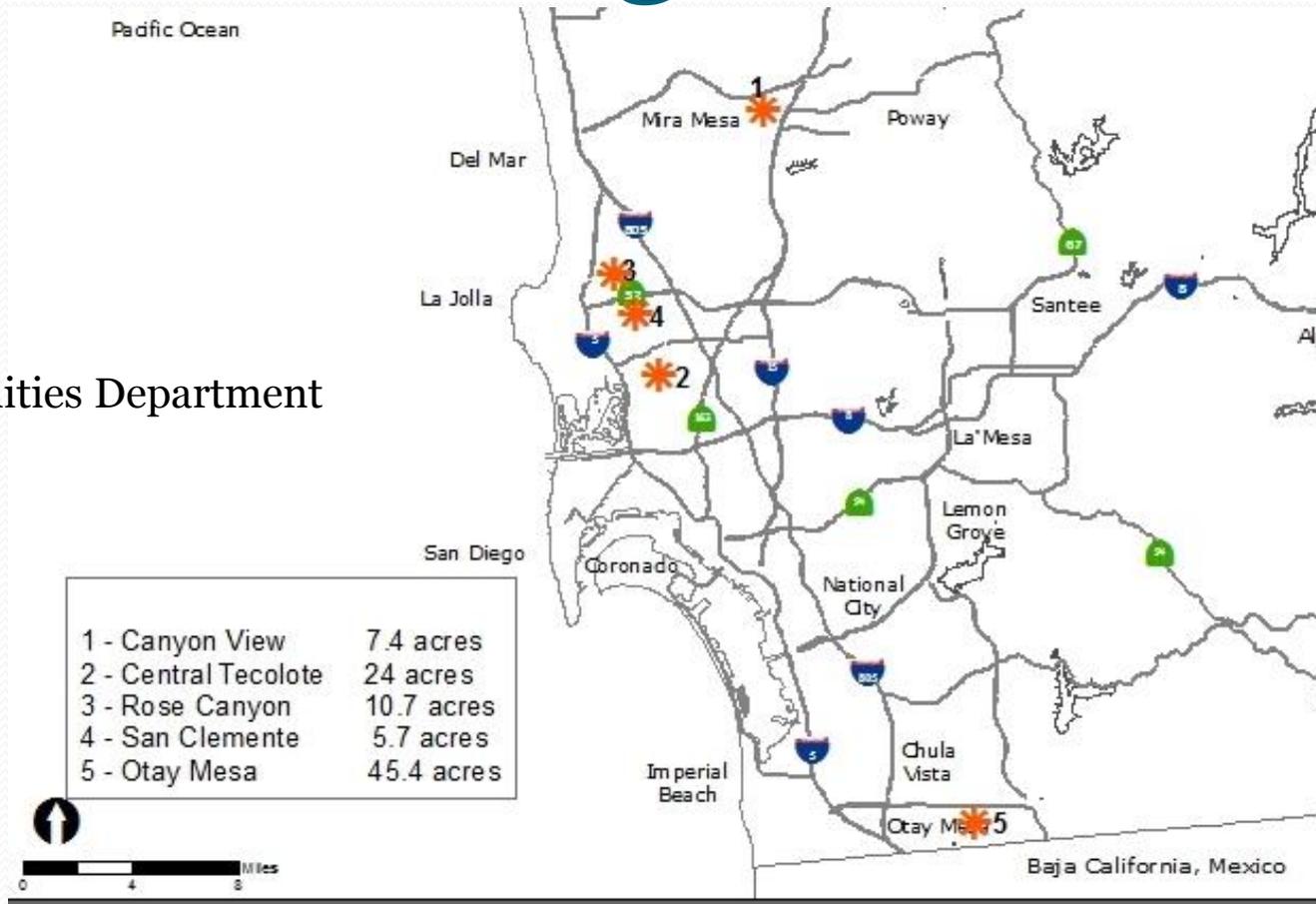
- Habitat Loss of 309 acres
 - 17 acres inside the MHPA
 - 293 acres outside the MHPA
- Habitat Gain of 194 acres
 - 180 acres inside the MHPA
 - 14 acres outside the MHPA

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



**PUD Active Mitigation Sites 2014
Overview Map**

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



MSCP P&R OS DIVISION

Monitoring and Management

- 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

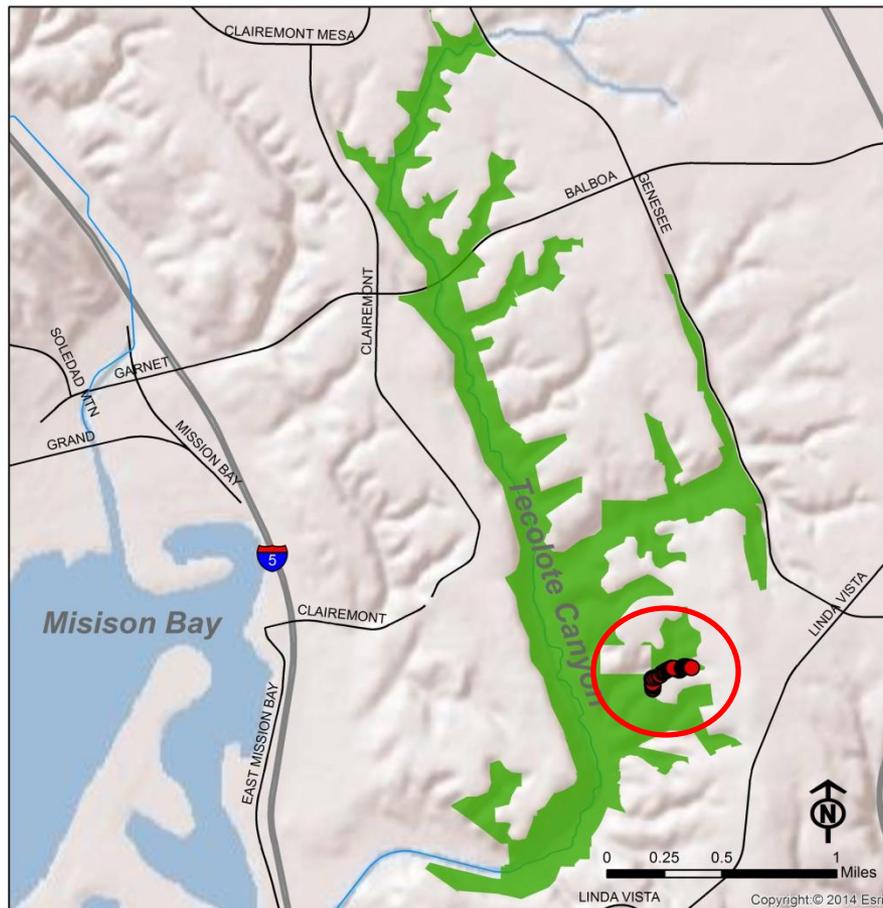
Monitoring and Management

- 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: County of SD, AWM

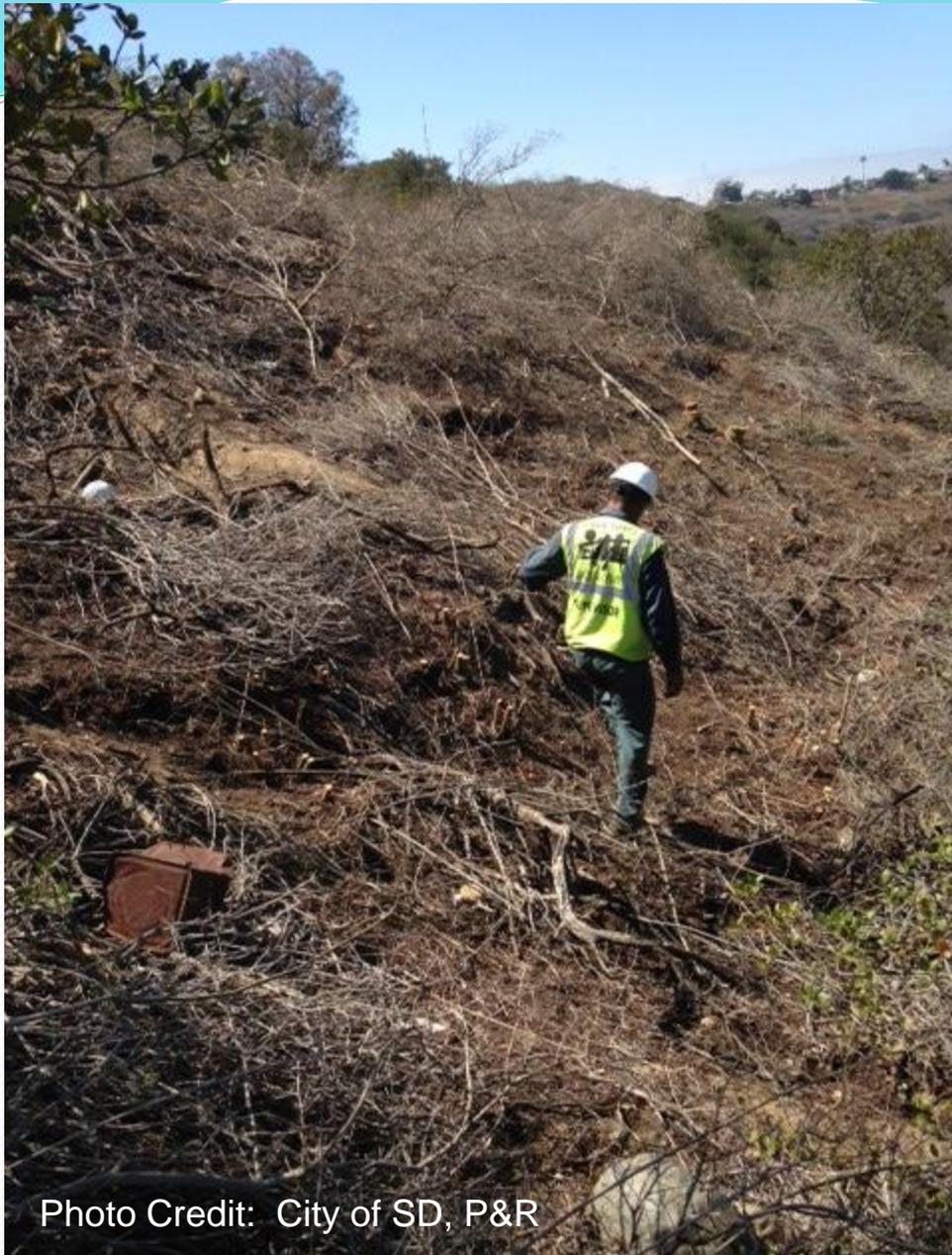


Photo Credit: City of SD, P&R

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

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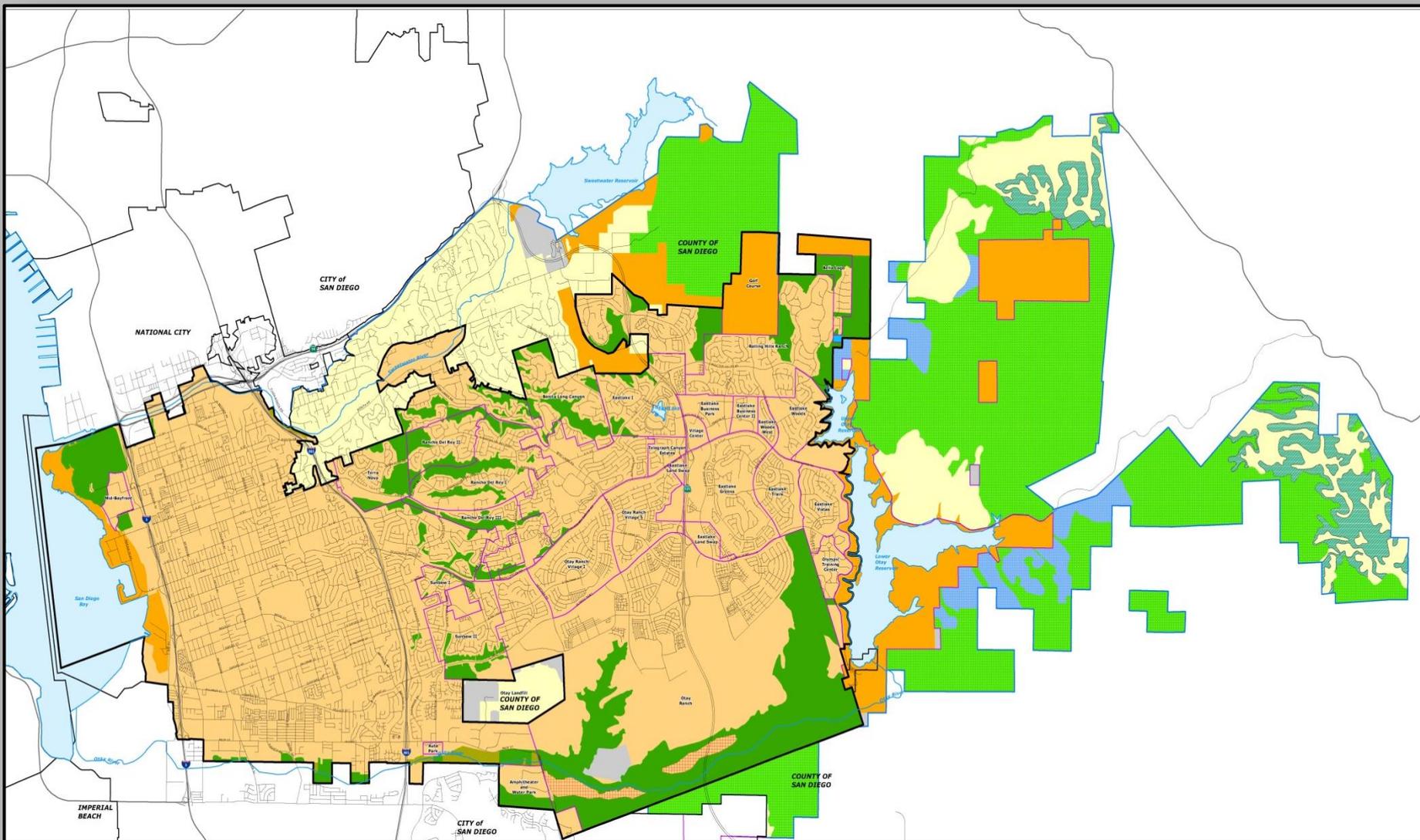
Chula Vista MSCP Subarea Plan

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

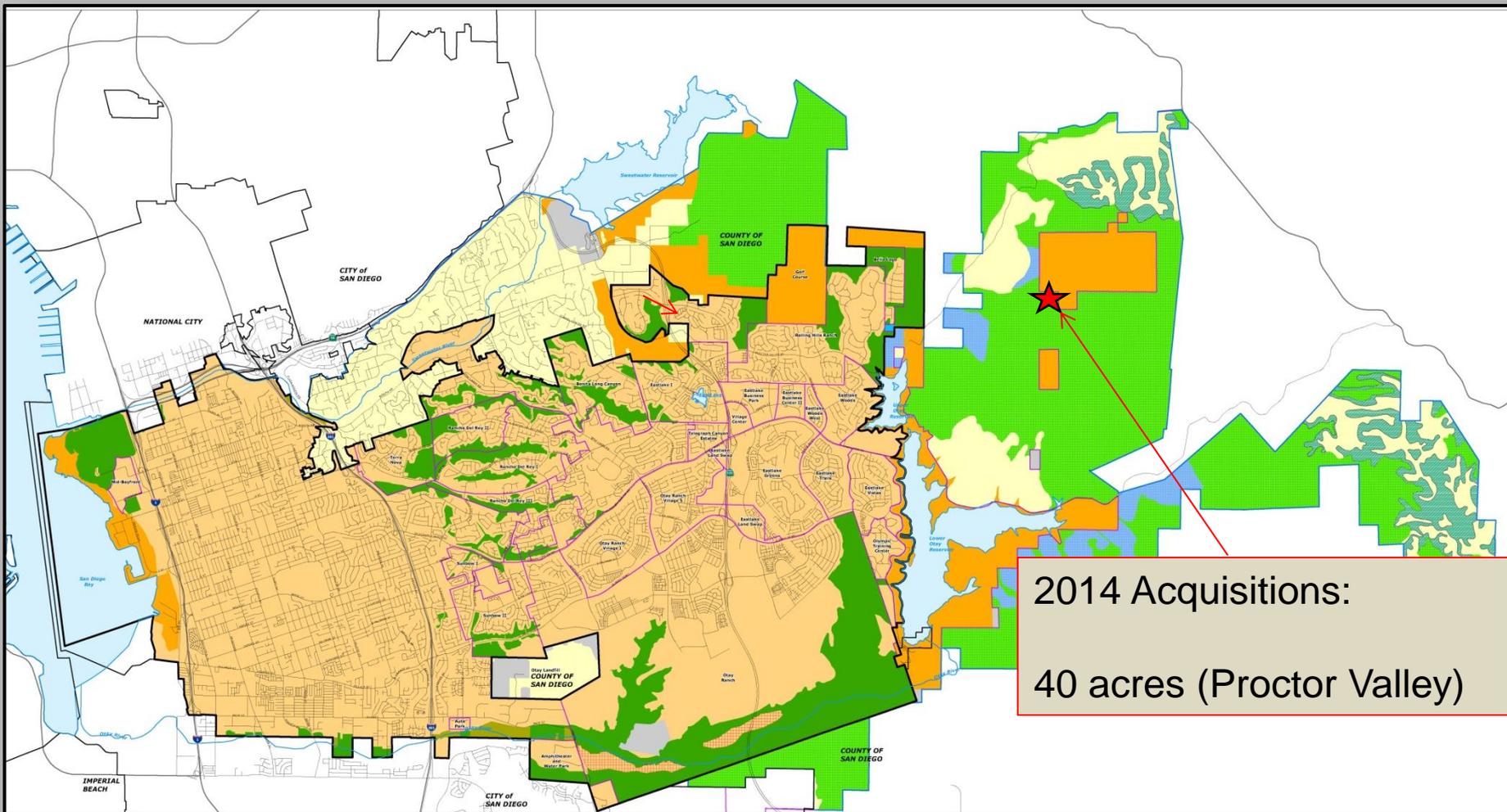


Chula Vista MSCP Subarea Plan

- 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



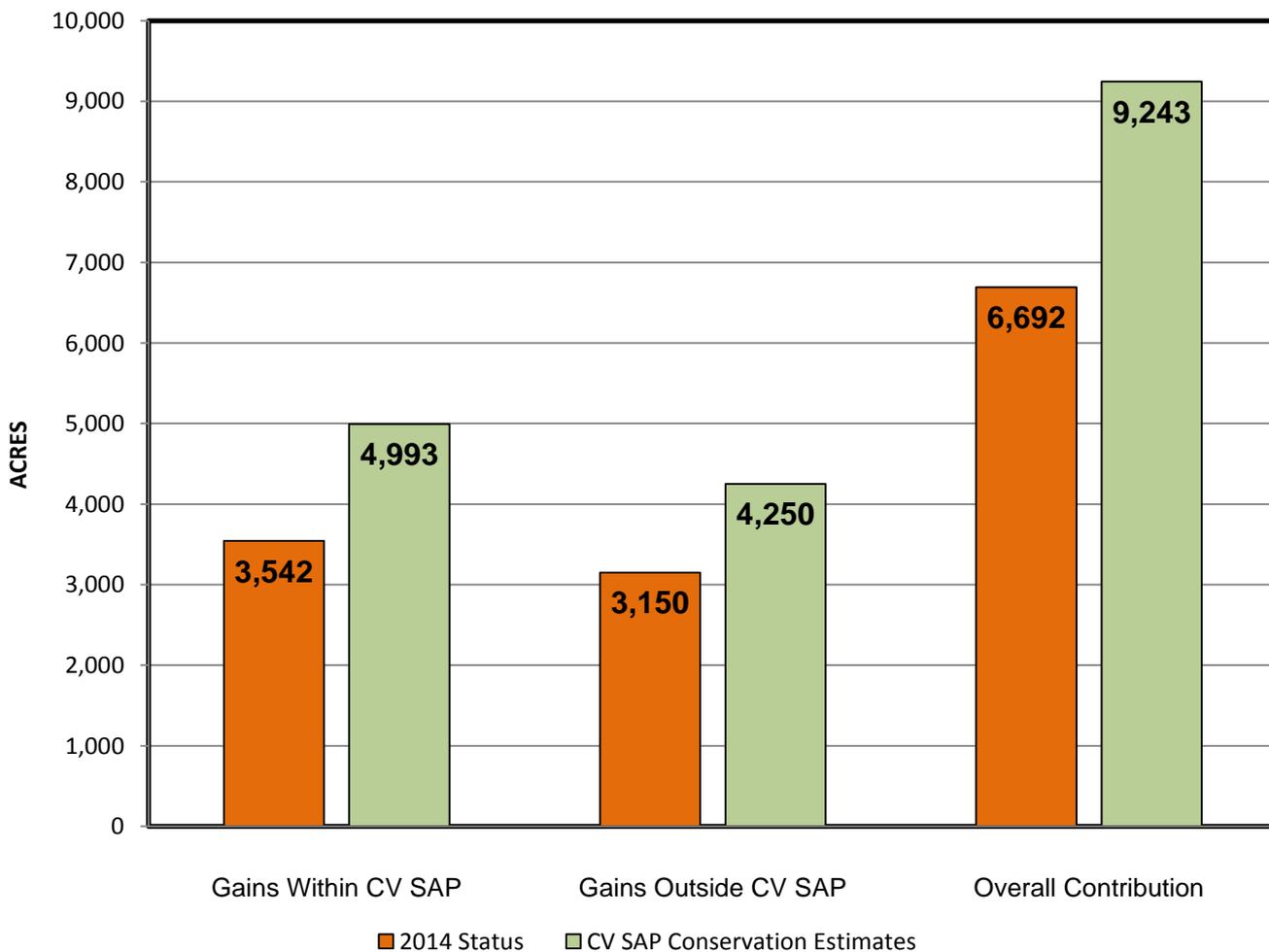
2014 Preserve Acquisitions



2014 Acquisitions:
40 acres (Proctor Valley)

2014 Conservation Status

CHULA VISTA CONSERVATION STATUS



FY 2014/15 Preserve Funding

Project/Program	FY 14/15 Expenditures	General Description
Otay Ranch Preserve	\$ 520,000	Operations/Maintenance
Rolling Hills Ranch Preserve	\$ 30,000	Operations/Maintenance
OVRP	\$ 94,000	Operations/Maintenance
QCB Recovery	\$ 12,000	Restoration/Enhancement
EMP Grant - Central City	\$ 36,000	Habitat Restoration
EMP Grant - Central City	\$ 45,000	Habitat Restoration
EMP Grant - Otay Ranch	\$ 39,000	Habitat Restoration
FEMA Grant - Central City	\$ 390,000	Brush Management
Total	\$ 1,166,000	



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



Otay Ranch Preserve



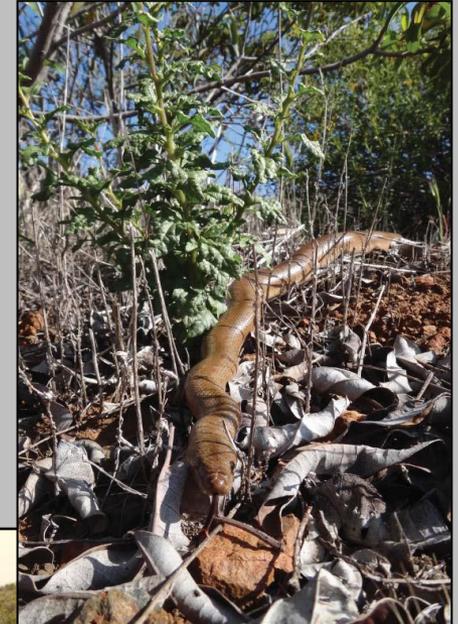
2014 Monitoring / Management Activities

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



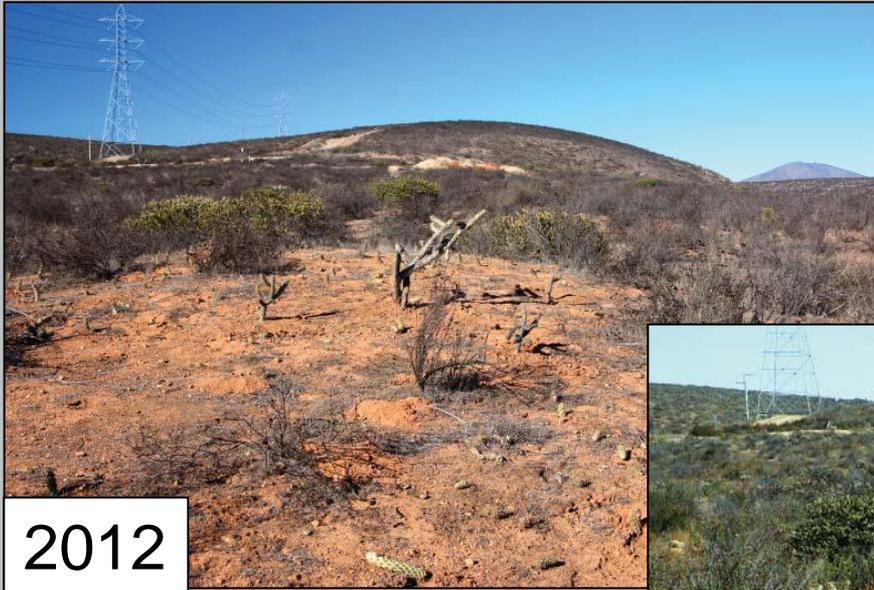
Otay Ranch Preserve – EMP Grant



- 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



Otay Ranch Preserve – EMP Grant



2012



2015

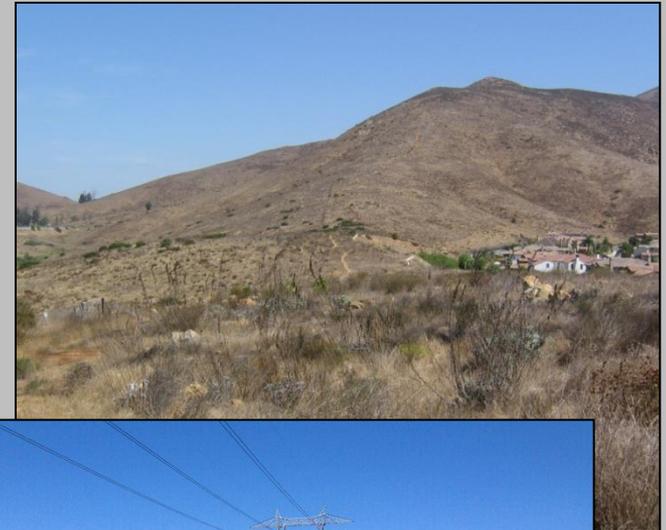
Otay Ranch Preserve – EMP Grant



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 w/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)



Central City Preserve – EMP Grant



- 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



2009



2014

Central City Preserve – EMP Grant



2009



2014

Central City Preserve – EMP Grant



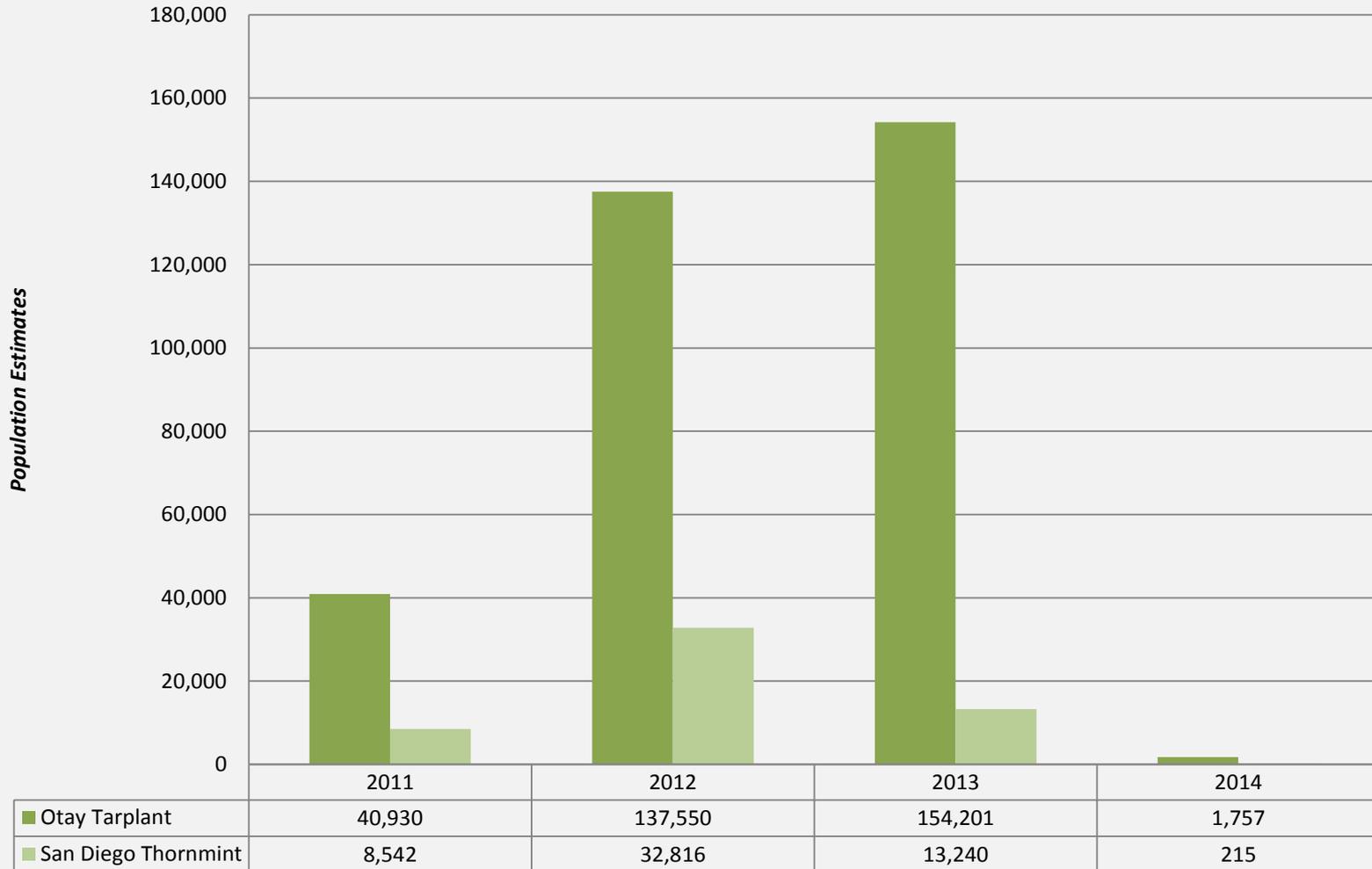
- Project: Otoy tarplant/SD Thornmint Habitat Restoration/Enhancement
- Size: 15 acres
- Project Goals/Objectives:
 - Restore/enhance degraded habitat
 - Manage & increase grassland & clay lens habitat
 - Reduce weed competition
 - Reduce uncontrolled access
- Techniques:
 - Dethatching of non-natives
 - 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**



Central City Preserve – EMP Grant



2011



2015

2015

“Wildness is the preservation of the World.”
— Henry David Thoreau



MSCP Annual Workshop



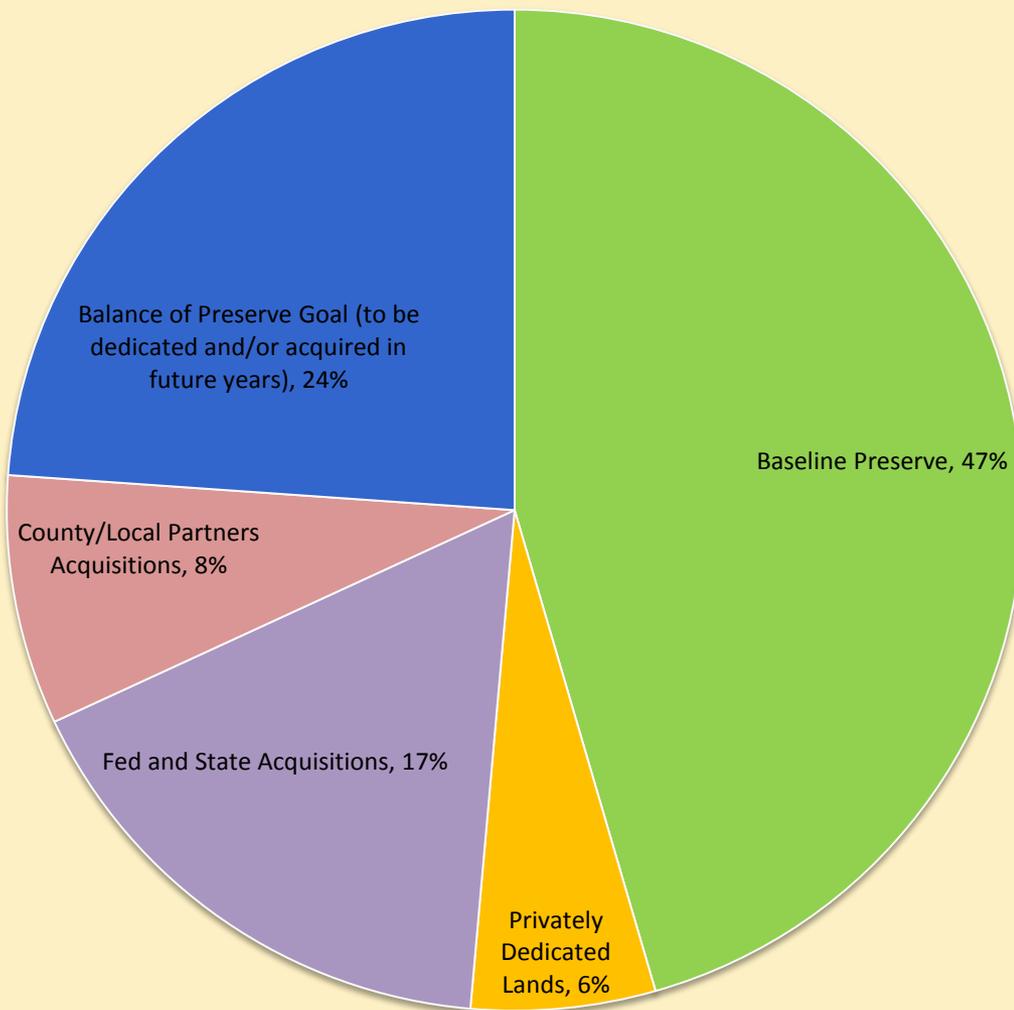
Sycamore Canyon/Goodan Ranch Preserve

County of San Diego
August 11, 2015





South County Subarea Preserve Assembly Status



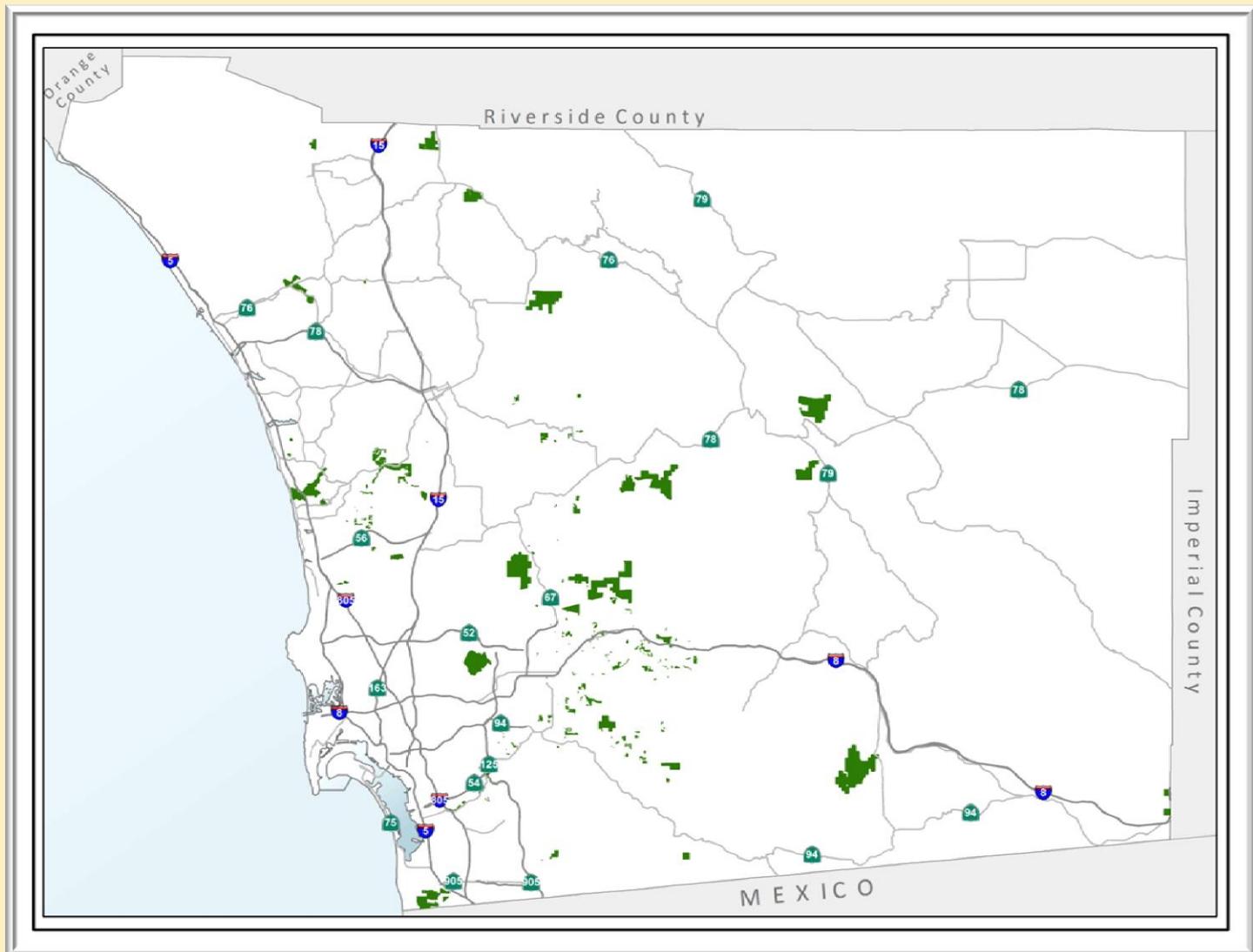
Preserve Size: 98,379 ac
Assembled: 74,343 ac
Remaining: 24,036 ac

76% Assembled
24% Remaining



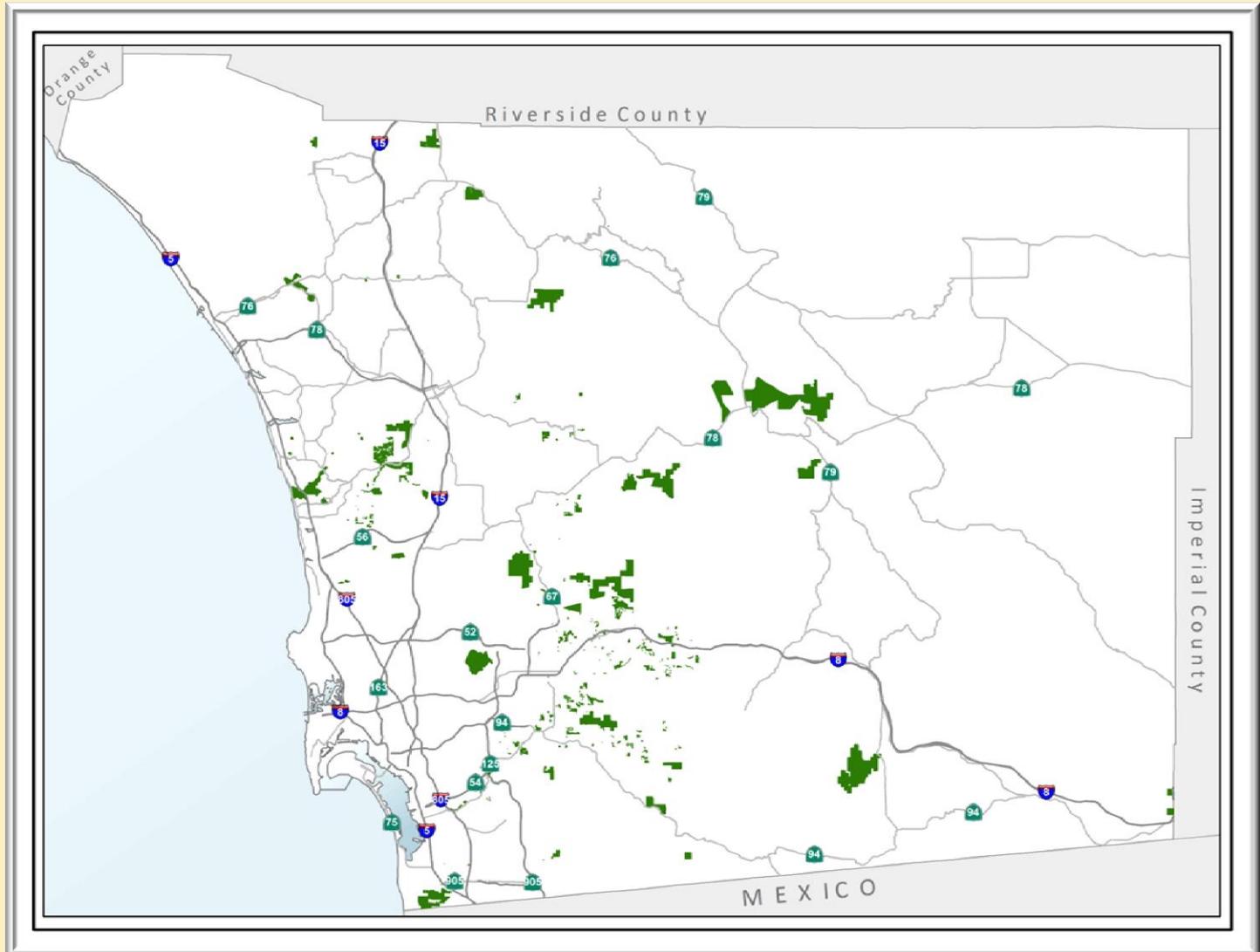
County Parks & Preserves 1998

1998: 28,000 acres





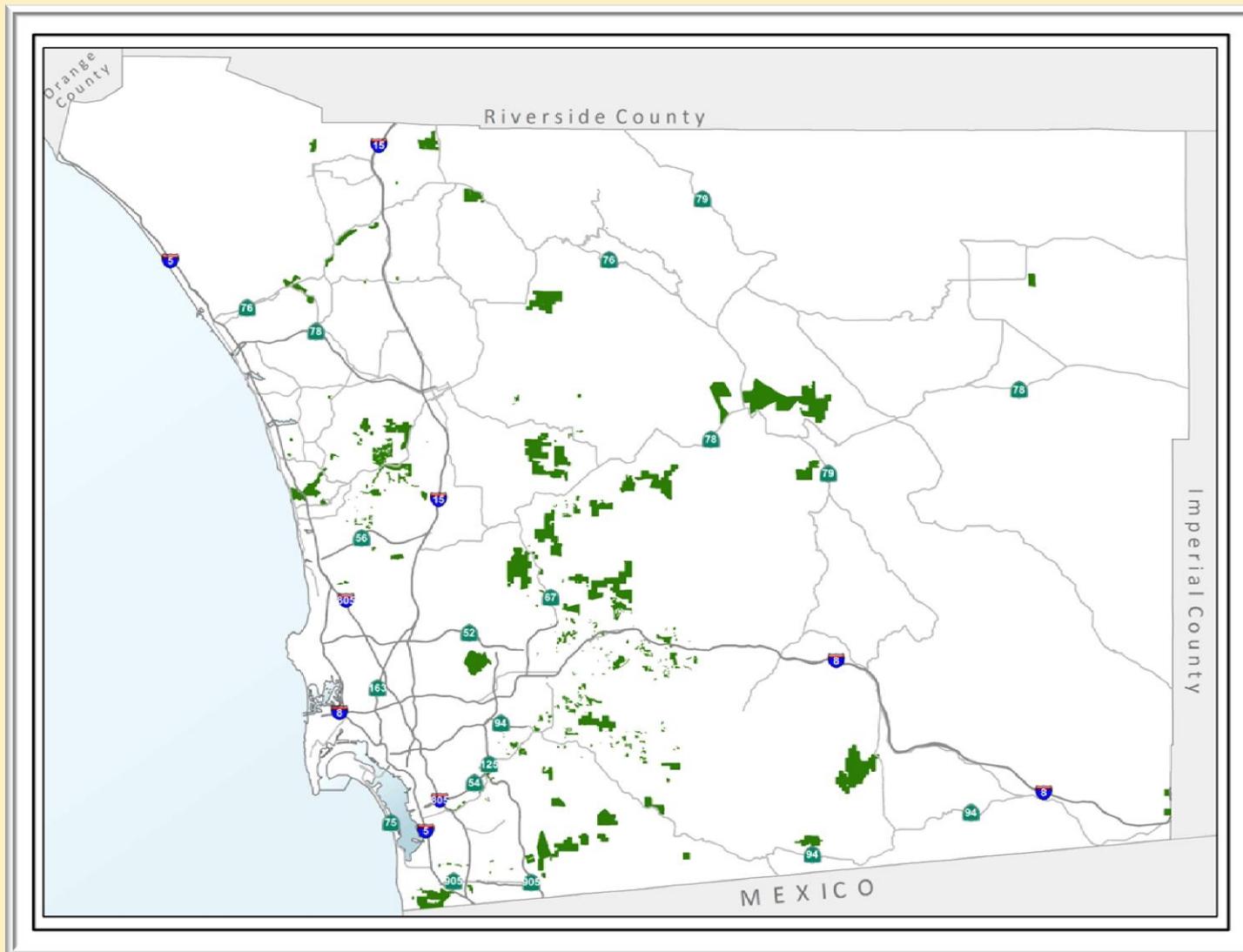
County Parks & Preserves 1998 - 2001

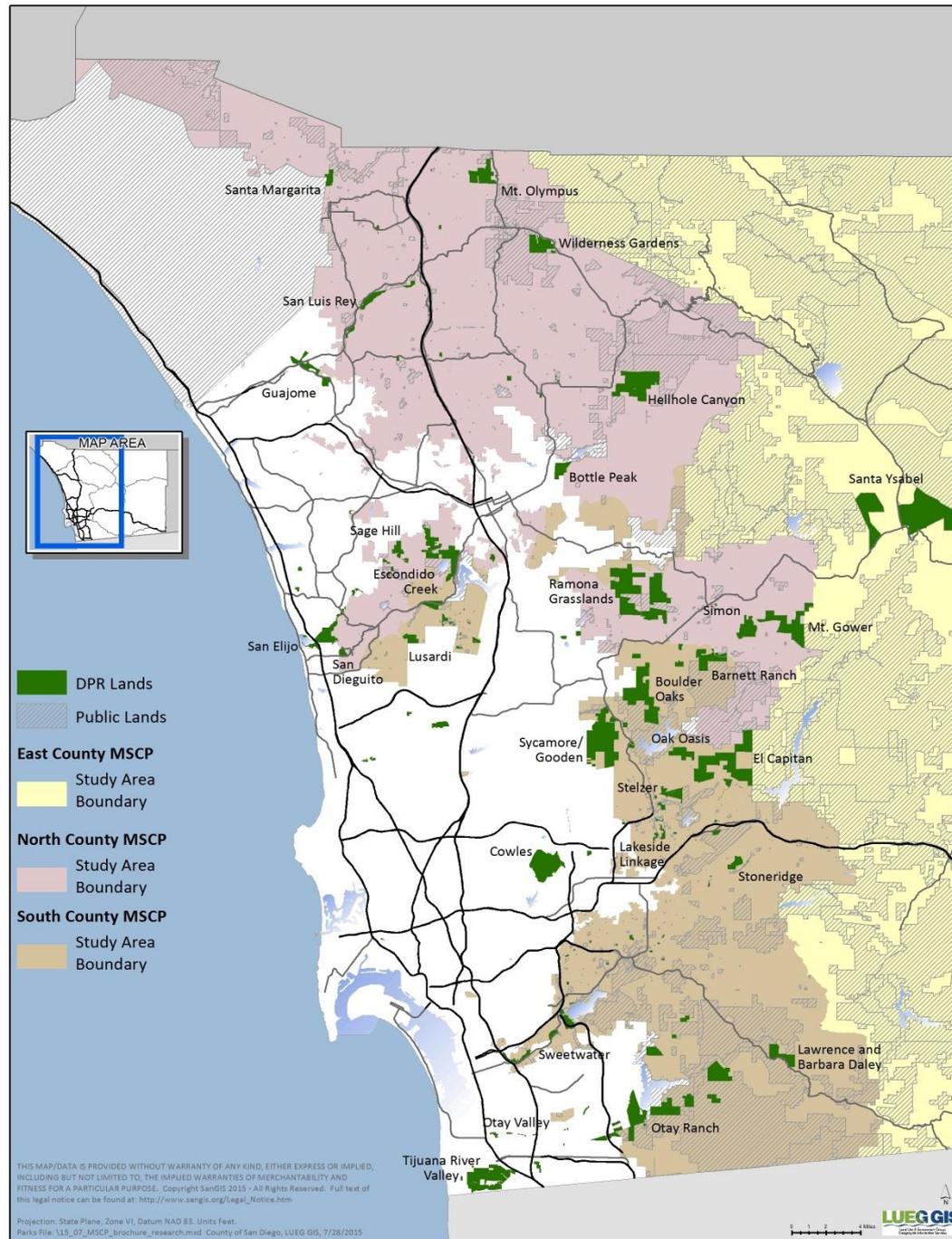




County Parks & Preserves 1998 - 2015

2015: 48,000 acres









Badger Occupancy Study

Conducted by USGS

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

Have you seen a badger?

Please help us find out more about badgers in San Diego!



- Black & white facial markings.
- White Vertical stripes on face (not horizontal like racoons).
- Stocky Flattened body with short legs and gray-yellow fur.
- Dig large oval shaped burrows with claw marks 1" apart often apparent.
- Often dig out squirrel burrows for prey

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



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Mary Niez: mary.niez@sdcounty.ca.gov



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

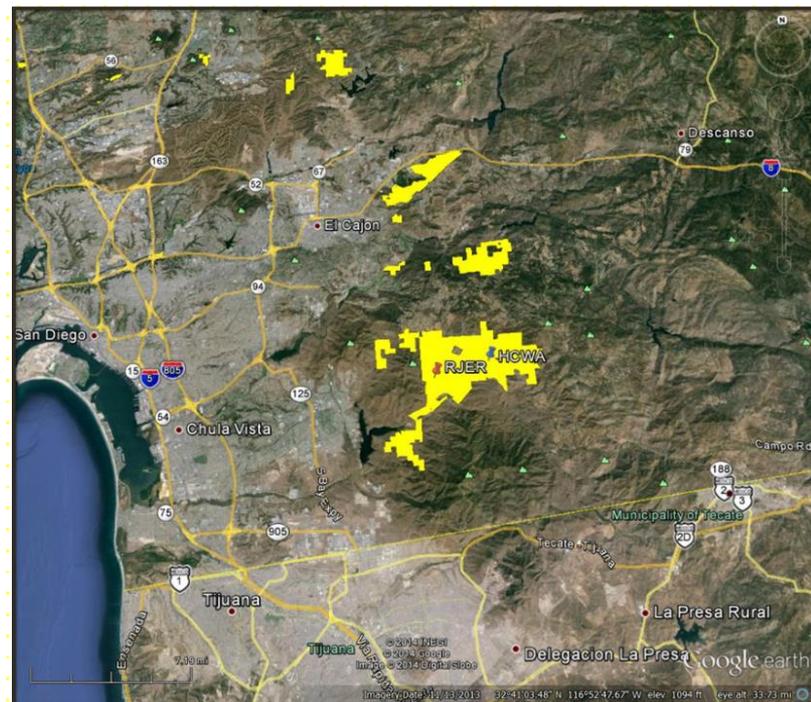
Rancho Jamul ER Update

Orcutt's Spineflower

Harbison's Dun Skipper

Rancho Jamul ER

1. Burrowing Owl
2. Tricolored Blackbird
3. Otay Tarplant





Rancho Jamul ER

Burrowing Owl Habitat Management Area (BOHMA)

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

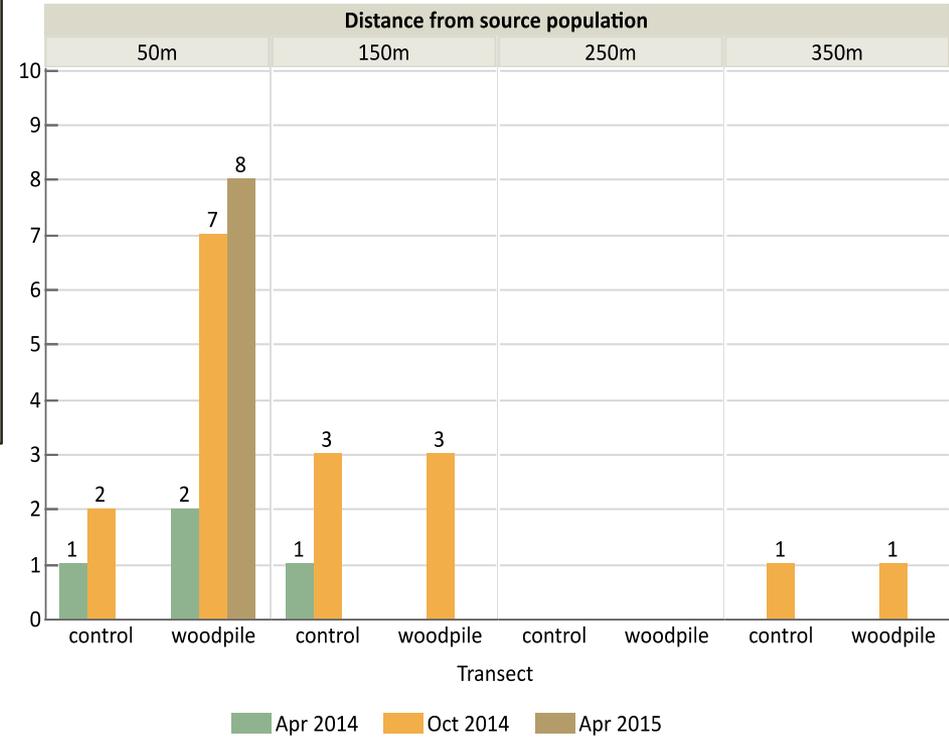
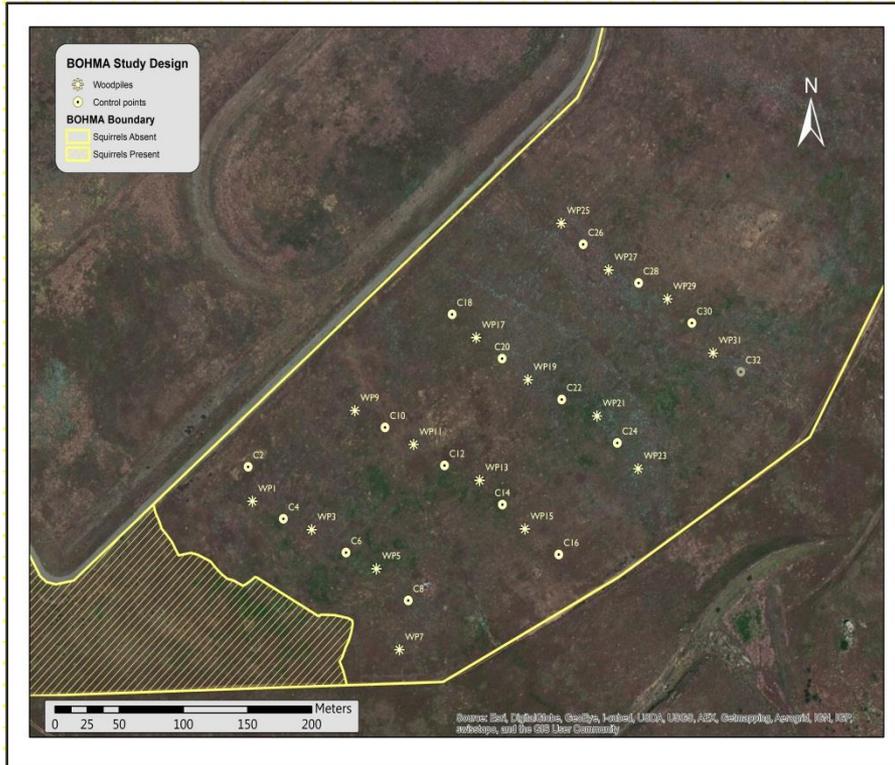
(Ultimate goal is to establish Burrowing Owls)

- **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





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



© 2010 Anna Bennett



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



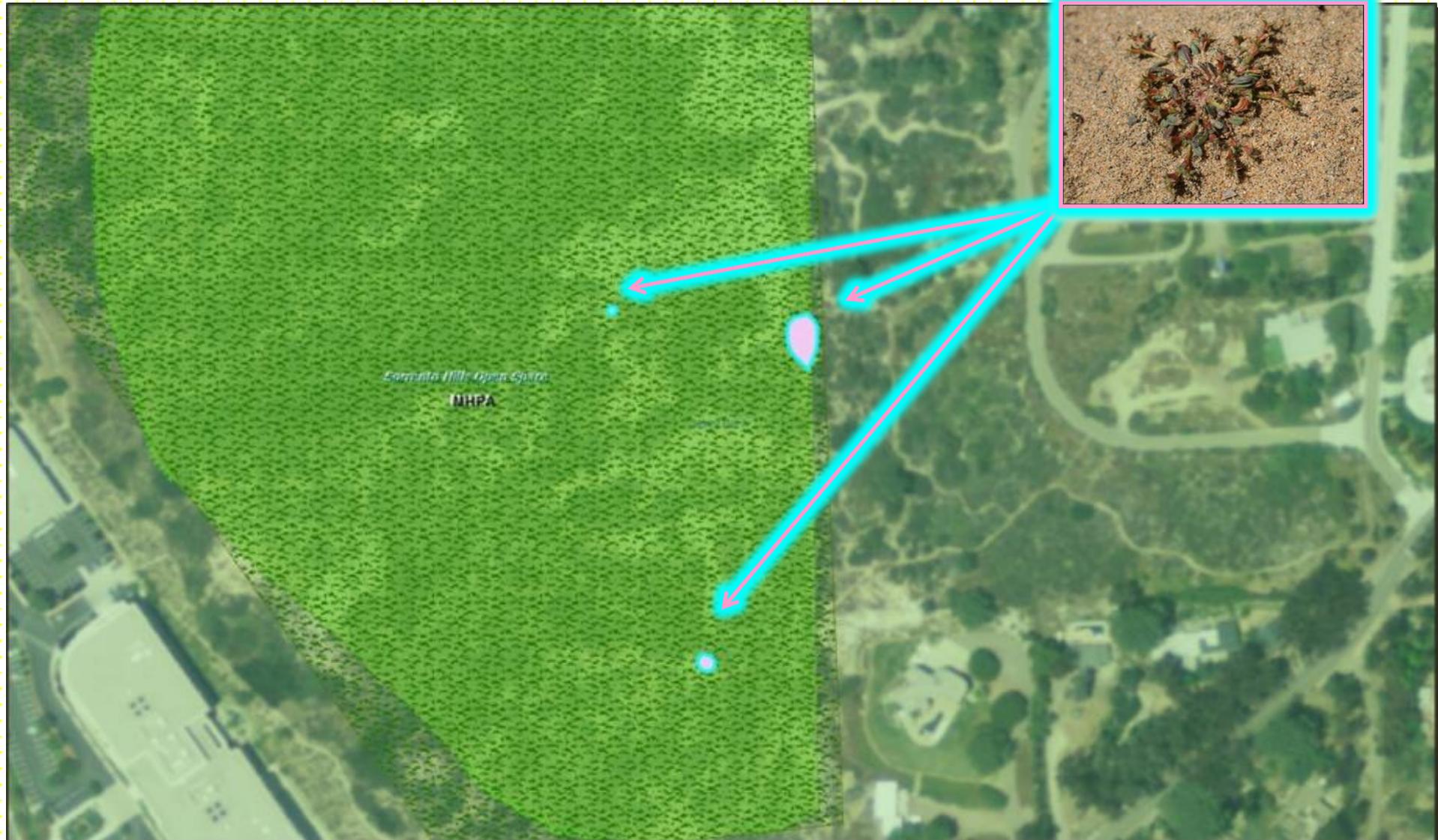
Orcutt's Spineflower

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



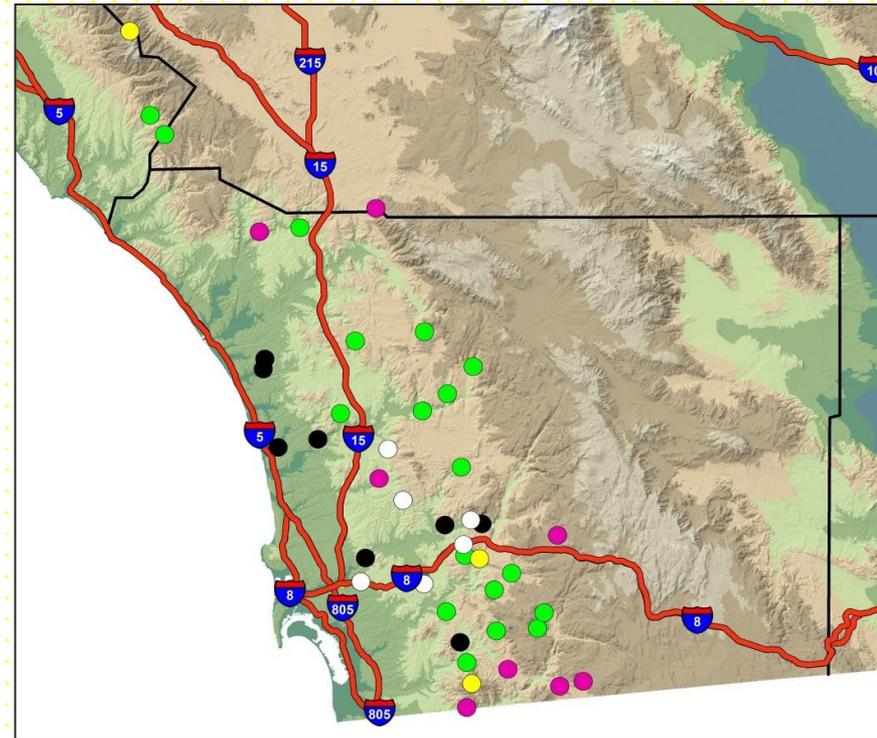


Harbison's Dun Skipper



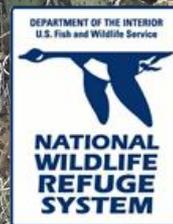
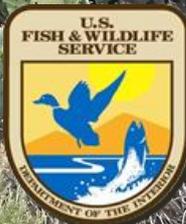
Harbison's Dun Skipper

- 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!





U.S. Fish & Wildlife Service National Wildlife Refuge System

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...

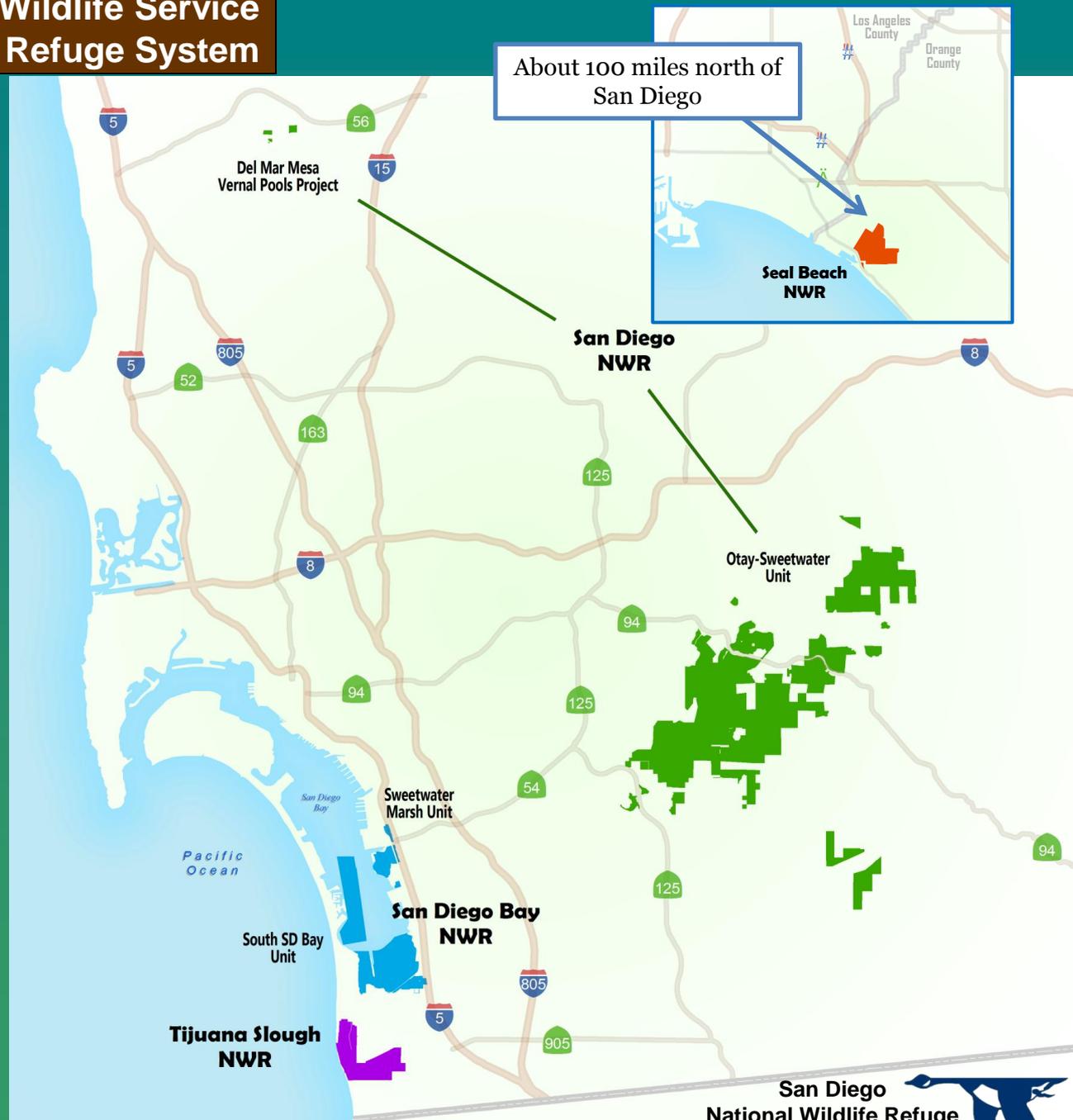




U.S. Fish & Wildlife Service National Wildlife Refuge System

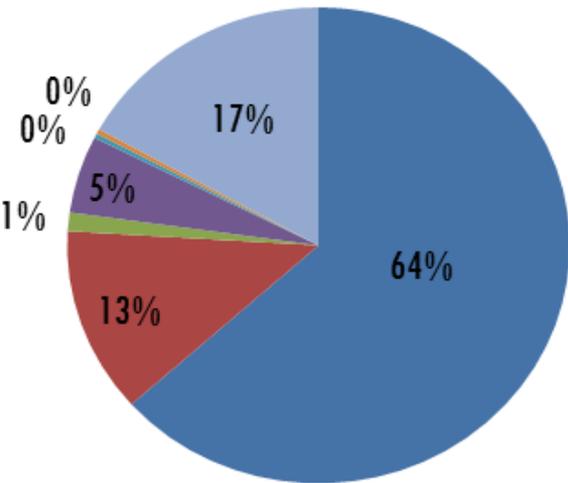
National Wildlife Refuges:

- 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?

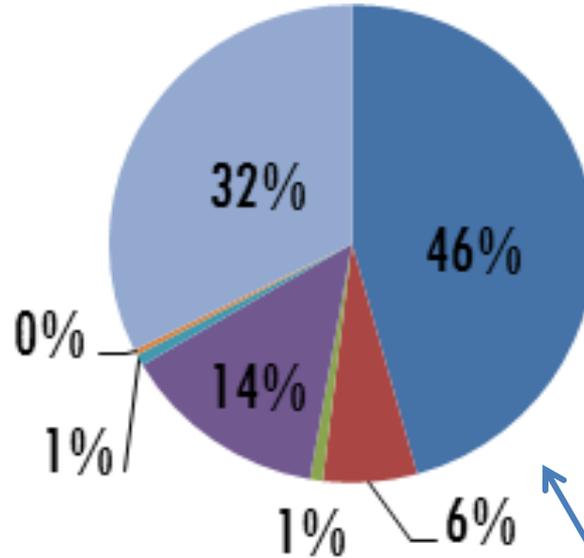


Who will conserve nature in the future? Demographics tell the story

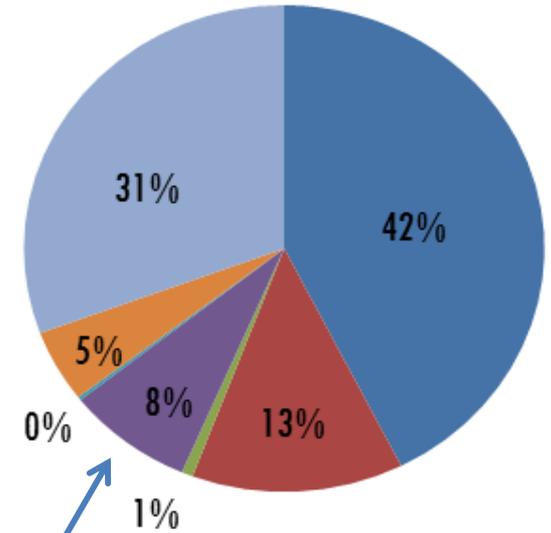
**United States
2010**



**San Diego NWR Complex
2010**



**United States
2060 projection**



- White
- Black / African American
- American Indian or Alaskan Native
- Asian
- Native Hawaiian or Pacific Islander
- Other (includes Two or More Races)
- Hispanic or Latino

2010 Urban Southern California populations already look like future 2060 US population!



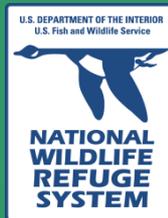
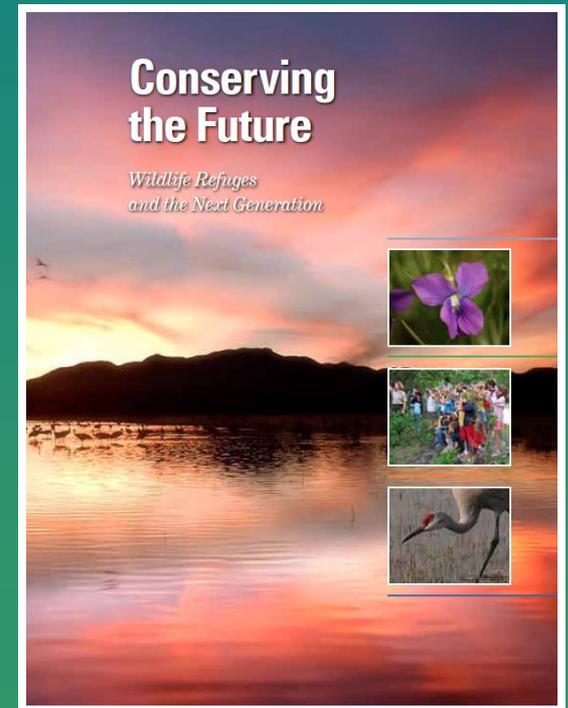
Who will conserve nature in the future?

- 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.*



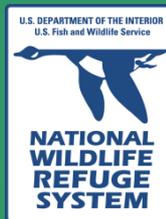
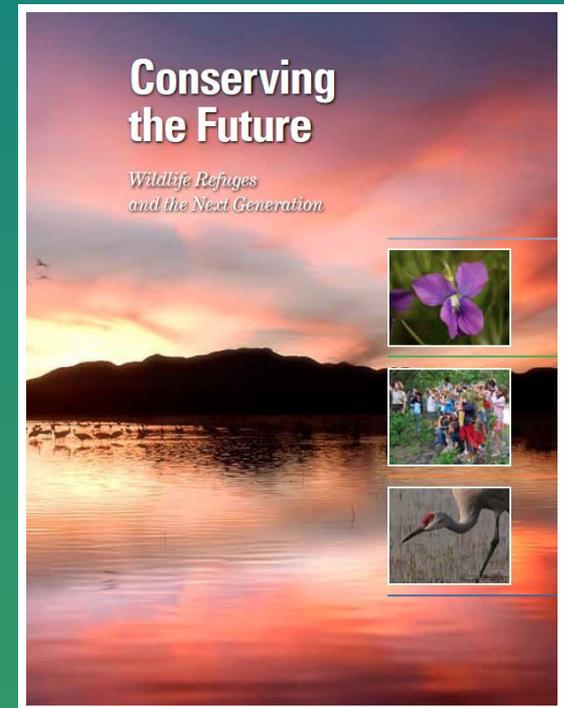
Conserving the Future

- *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*





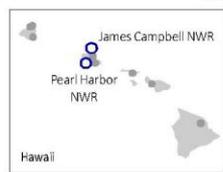
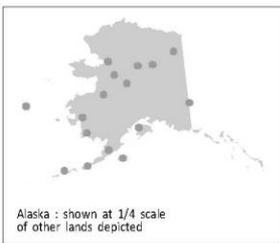
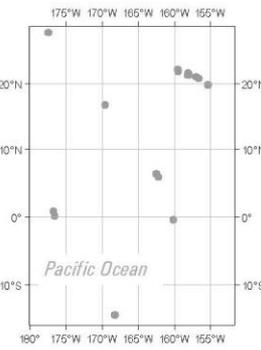
Urban National Wildlife Refuges



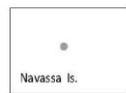
- Urban Bird Treaty Cities**
- Urban Wildlife Refuge Partnership Cities**
- Regional Priority Urban Wildlife Refuges**
- Urban National Wildlife Refuges
- Other National Wildlife Refuges (no labels)



Pacific NWRs and Marine National Monuments: shown at 1/6th scale of other lands depicted

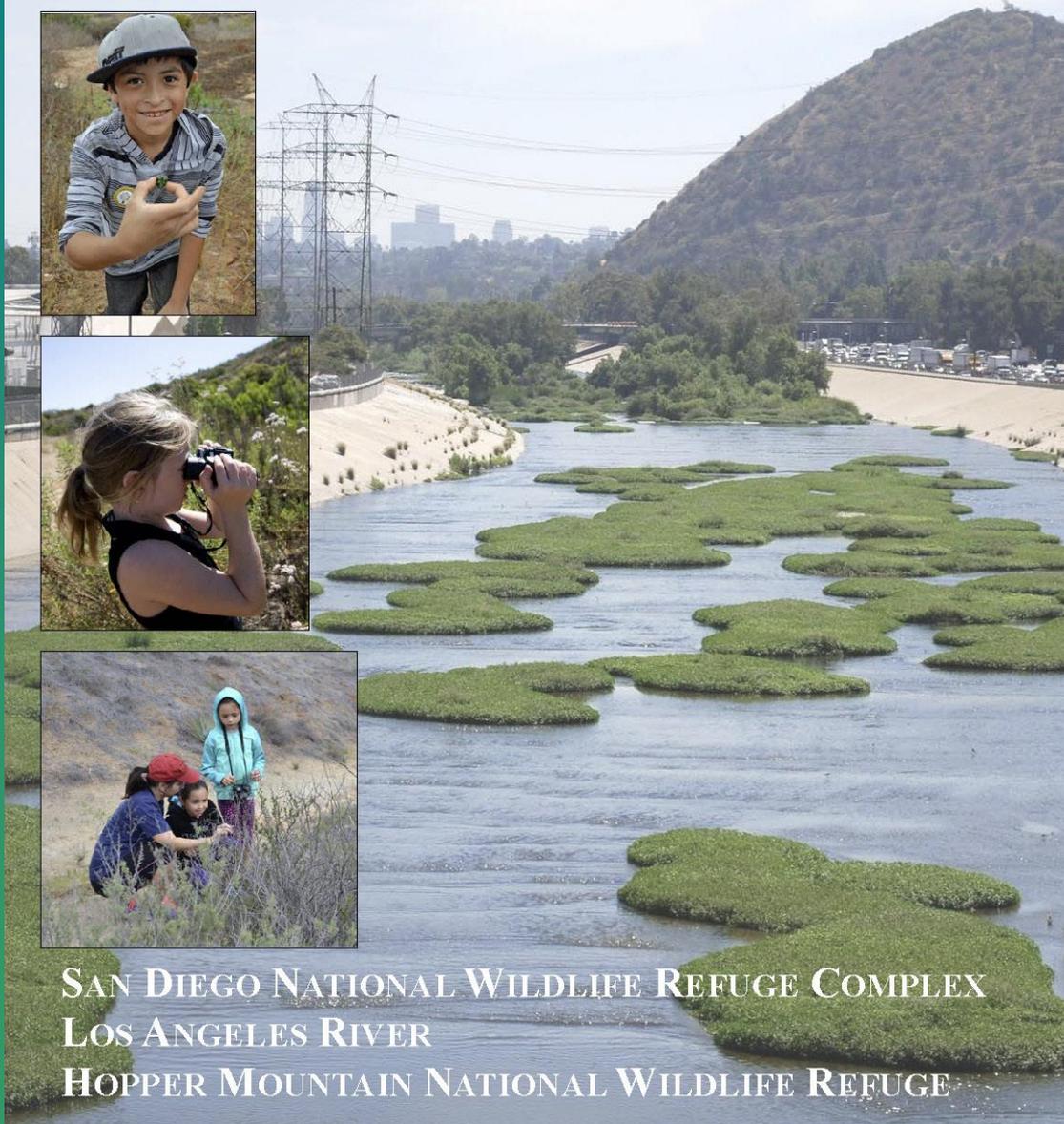


Produced in the Division of Realty
U.S. Fish & Wildlife Service
Falls Church, VA
9/9/2014

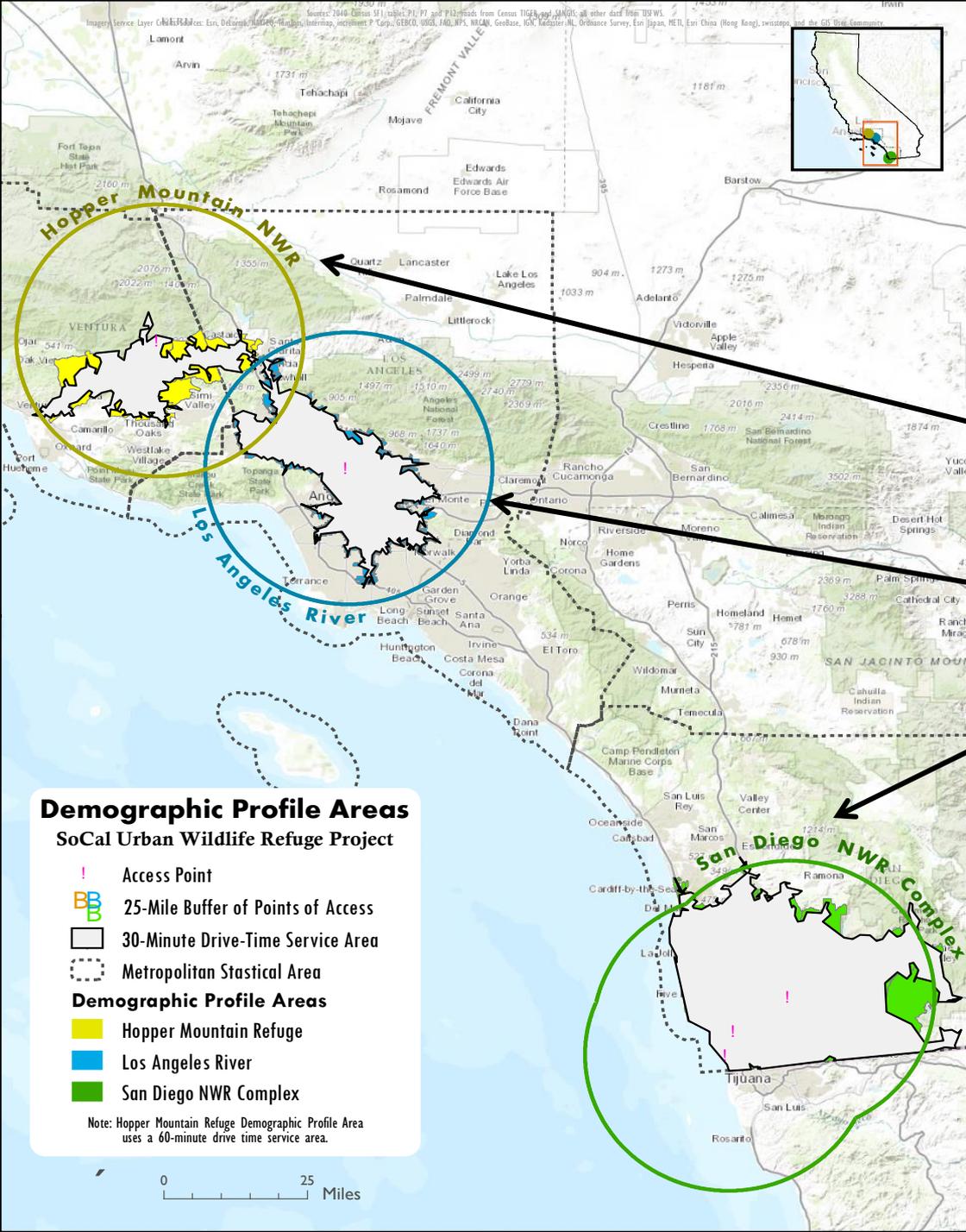




SoCAL URBAN WILDLIFE REFUGE PROJECT



SAN DIEGO NATIONAL WILDLIFE REFUGE COMPLEX
LOS ANGELES RIVER
HOPPER MOUNTAIN NATIONAL WILDLIFE REFUGE



SO CAL URBAN WILDLIFE REFUGE PROJECT

Hopper Mountain NWR

Los Angeles River

San Diego NWR Complex



Ensure Adequate Long-Term Resources!

CondorKids



SoCal Urban Wildlife Refuge & Standards of Excellence

Build Partnerships!

Be a Community Asset!

Hopper Mountain NWR



River Rover



Los Angeles Conservation Corps

Los Angeles River

Conservation Science Education

Stepping Stones to Engagement!



Provide Equitable Access!



Stewardship

San Diego NWR Complex

Build Partnerships!



L.I.V.E.



Student Scientist

Feel Safe and Welcome!



Ecology Meets Technology



U.S. Fish & Wildlife Service National Wildlife Refuge System





**U.S. Fish & Wildlife Service
National Wildlife Refuge System**

San Diego National Wildlife Refuge

*Comprehensive Conservation Plan
and Environmental Assessment*



San Diego
National Wildlife Refuge
Complex





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





U.S. Fish & Wildlife Service
National Wildlife Refuge System

California Desert Southwest Cooperative Land Acquisition Project

FY15: \$5M in Land and Water Conservation Funds

FY17: Proposal submitted for Land and Water Conservation Funds



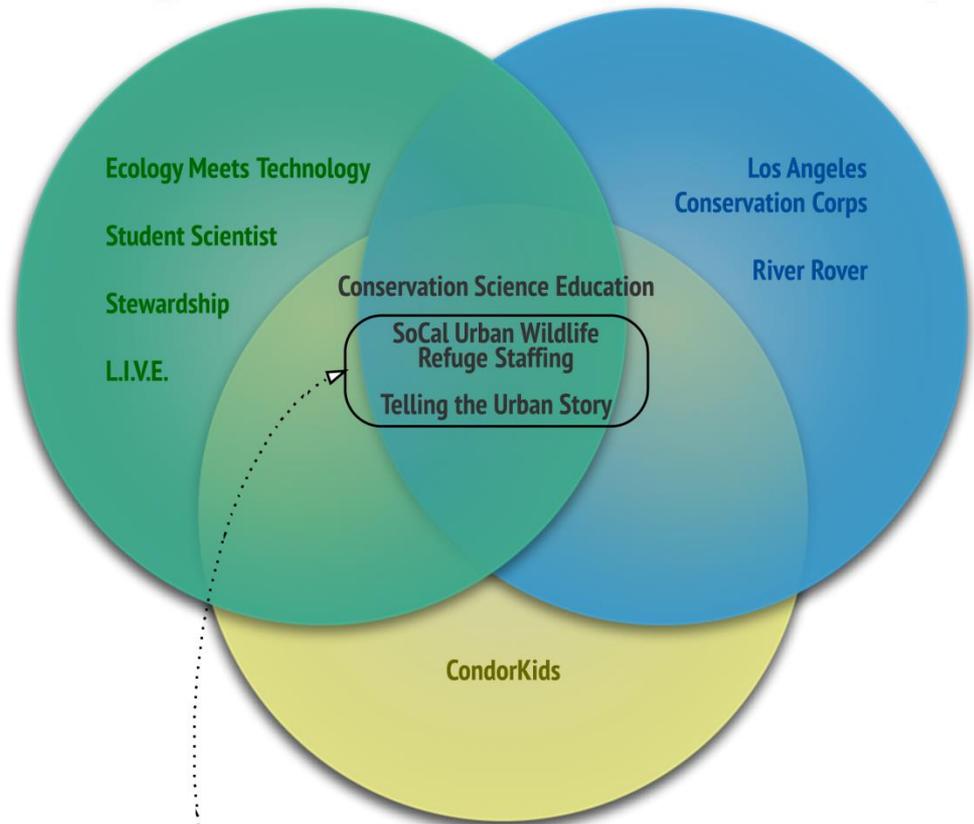


SOCAL URBAN WILDLIFE REFUGE PROJECT

- *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*

San Diego NWR Complex

Los Angeles Urban Partnership



Hopper Mountain NWR Complex





SOCAL 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





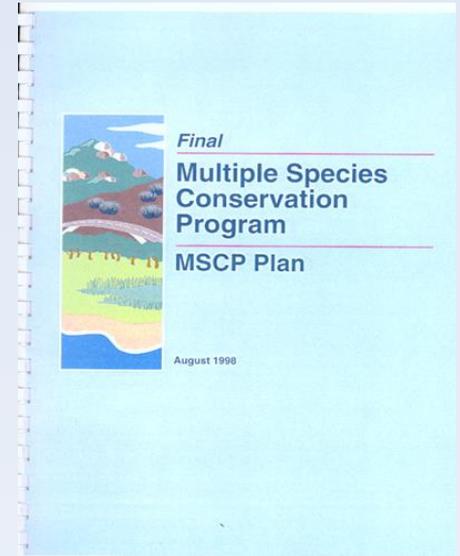
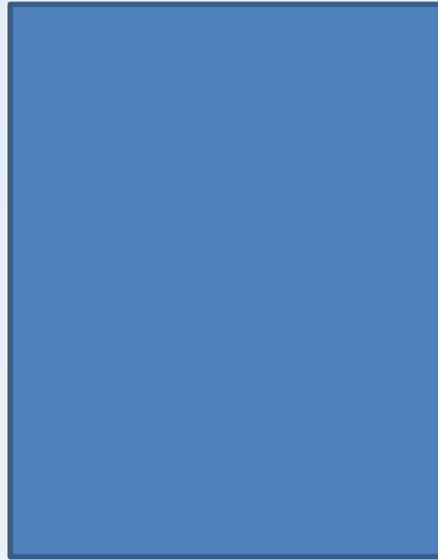
U.S. Fish & Wildlife Service National Wildlife Refuge System

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





MSCP Public Workshop 2015

Habitat Conservation Planning

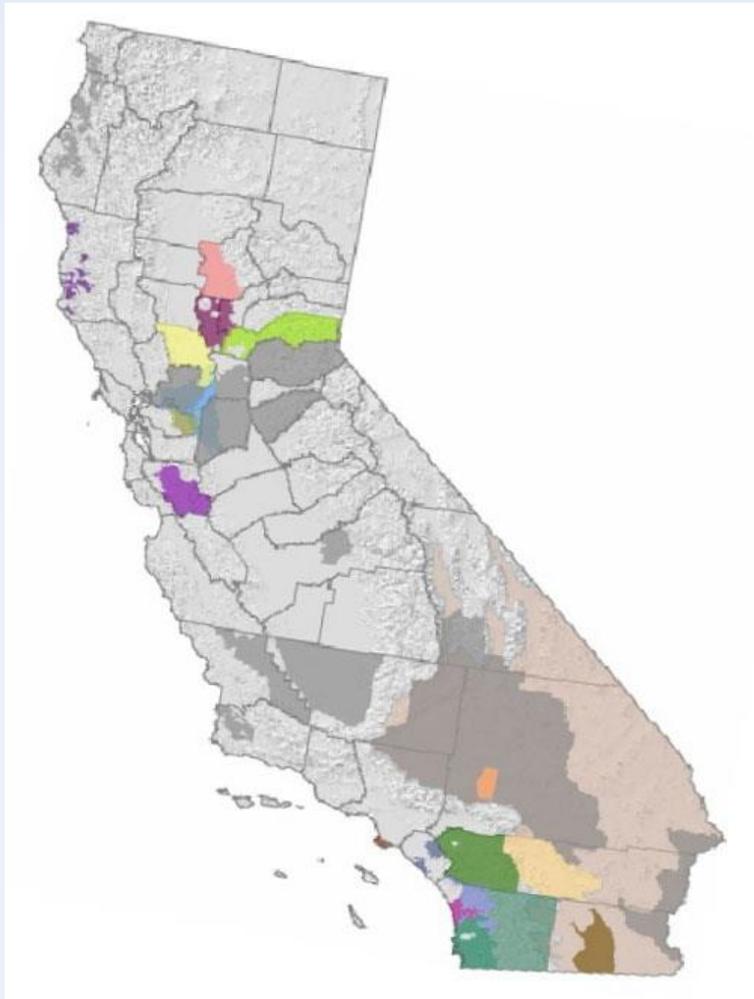
Endangered Species Act -- Section 10

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

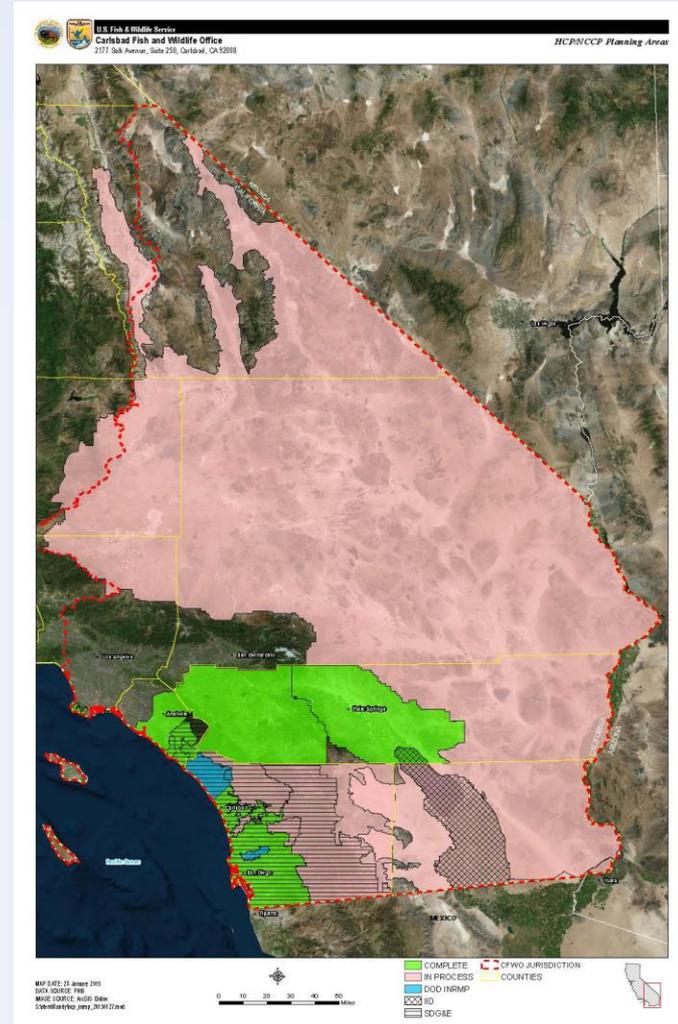


Regional Habitat Conservation Plans

Statewide

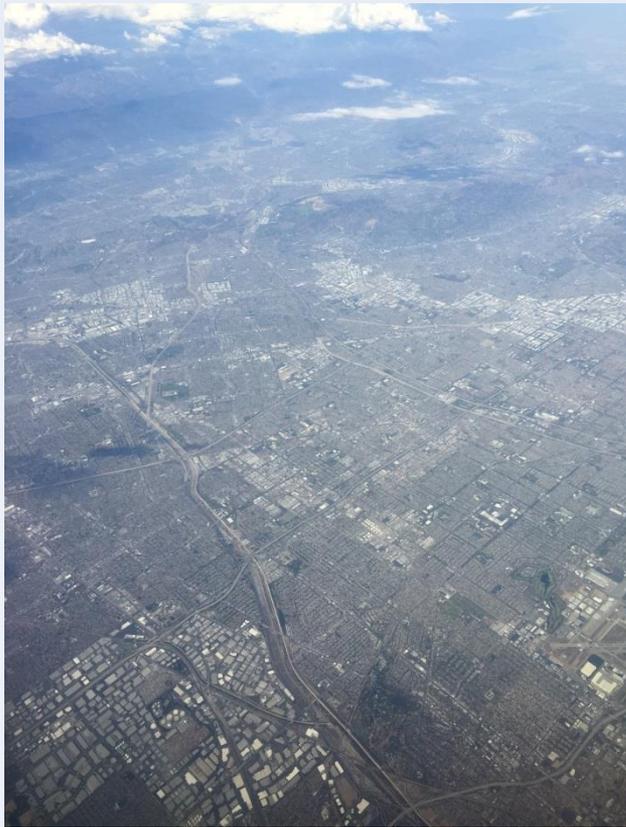


Southern California



A Brighter Future

Los Angeles

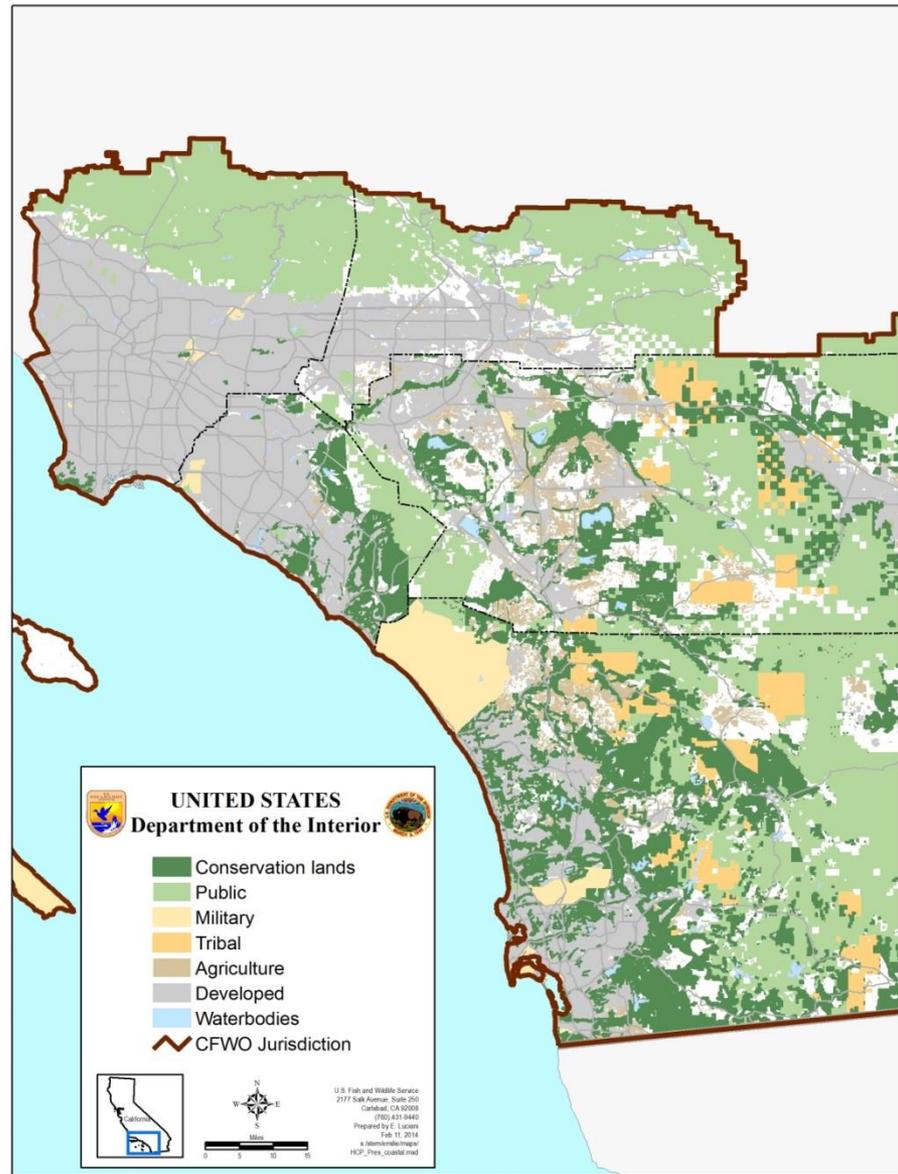


San Diego



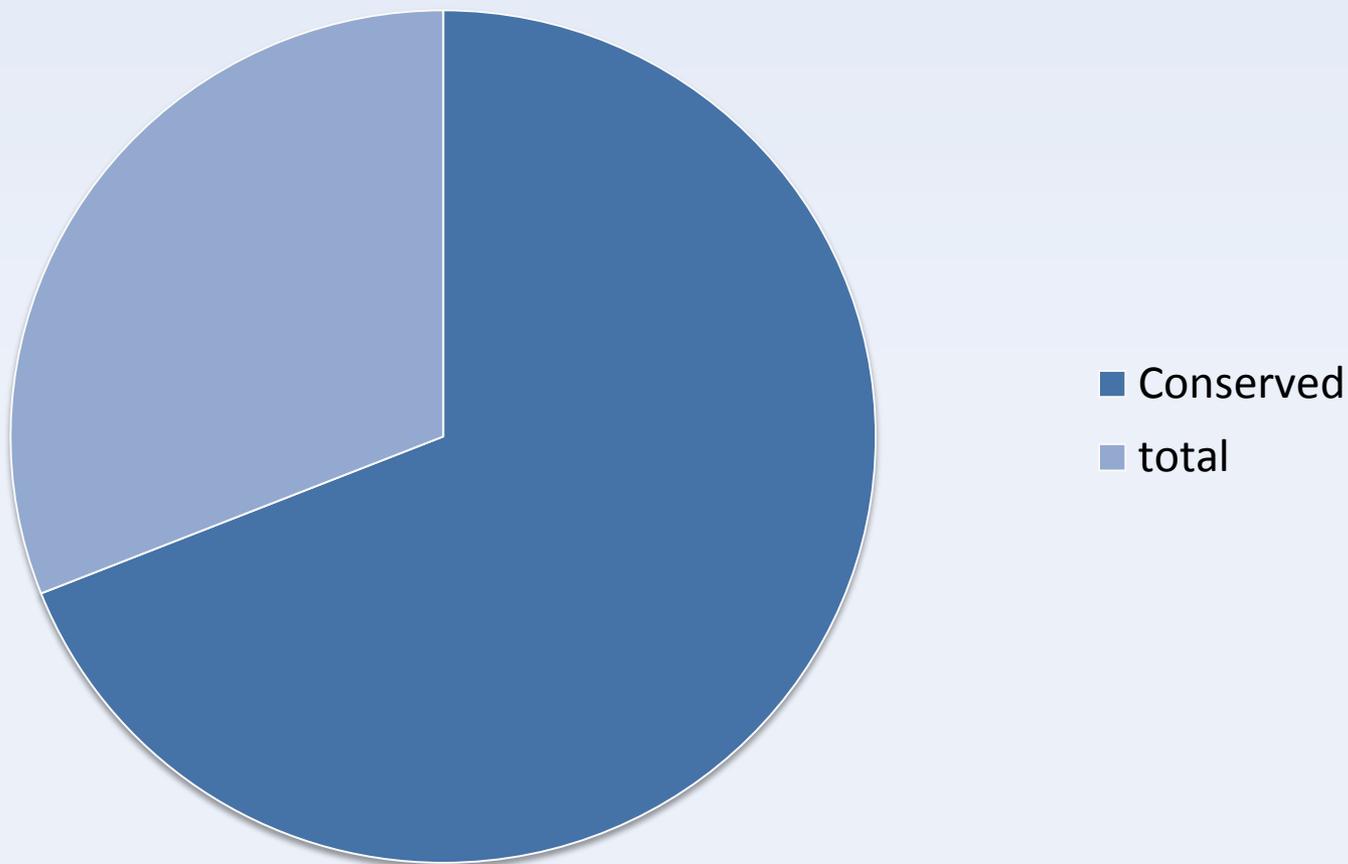
Conservation Design

- Habitats for Wildlife
- Open Spaces for People





Preserve Assembly

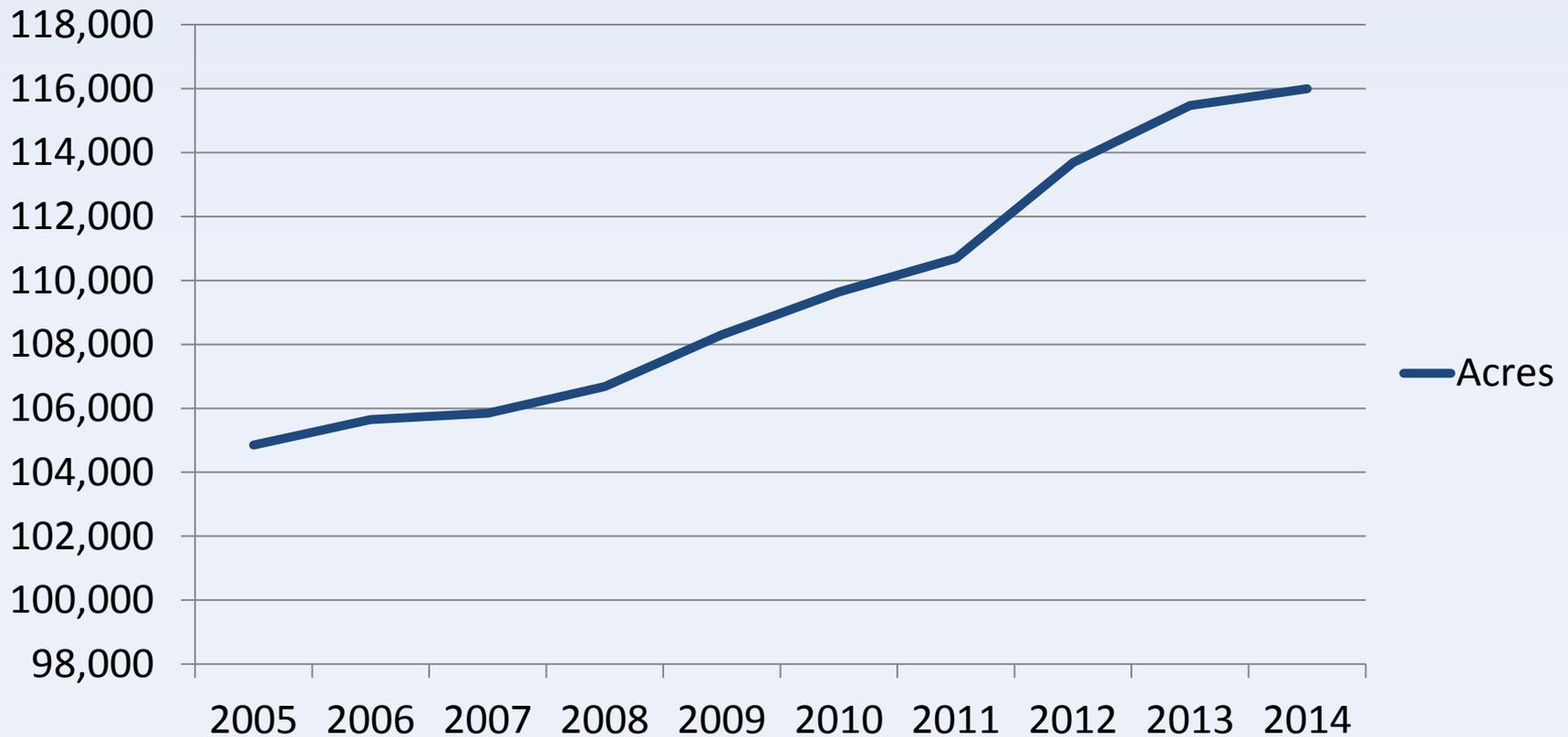


69% of the MHPA/PAMA has been conserved to date



Preserve Assembly

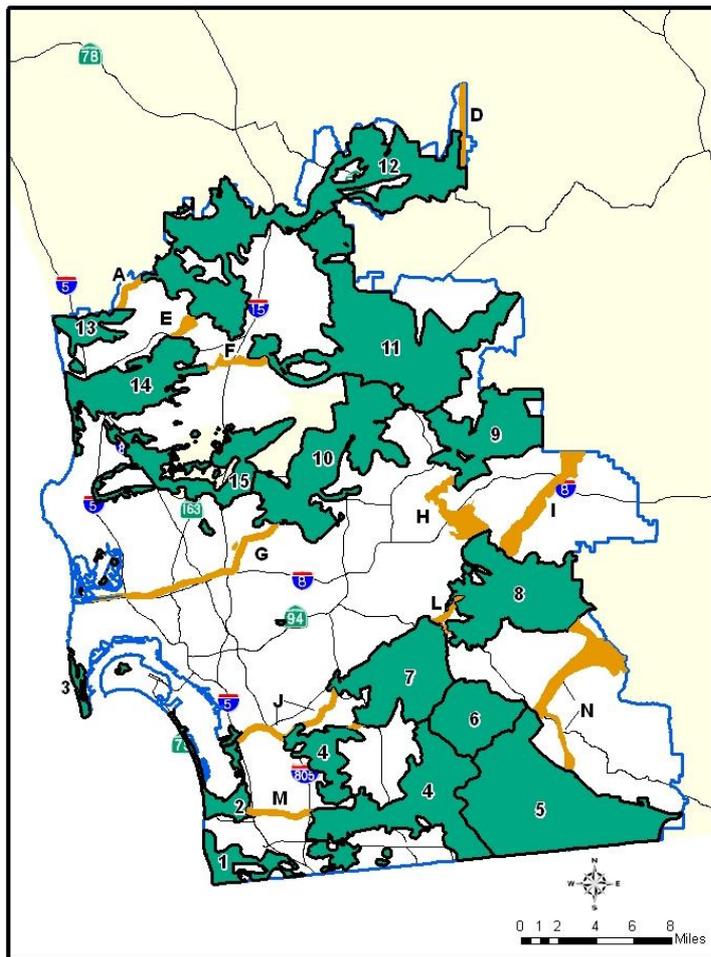
Acres



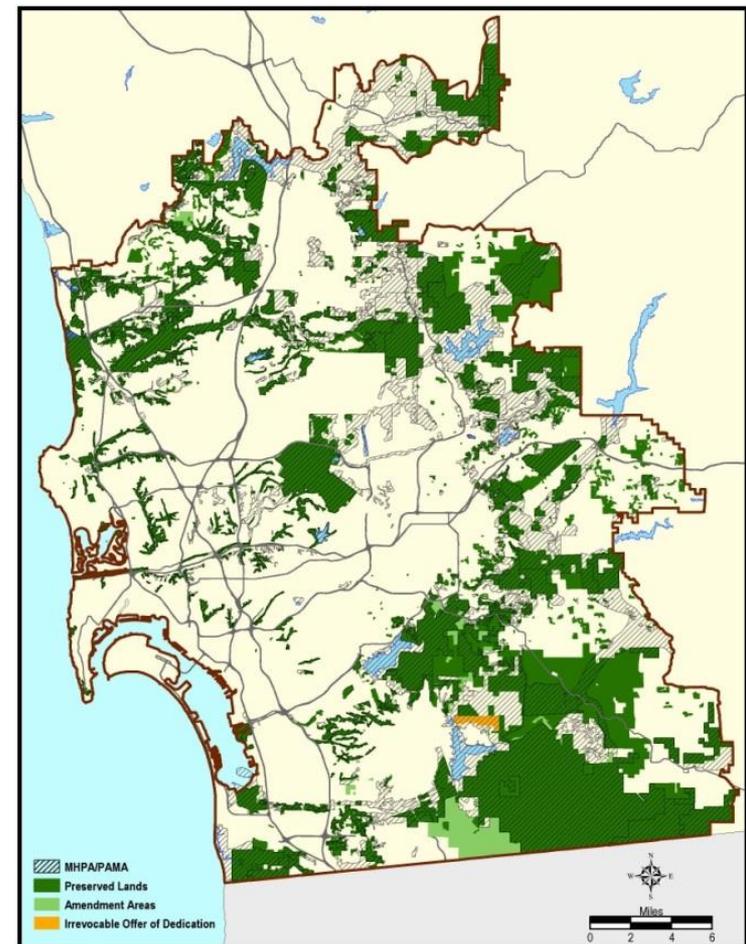


Preserve Assembly

Preserve Design

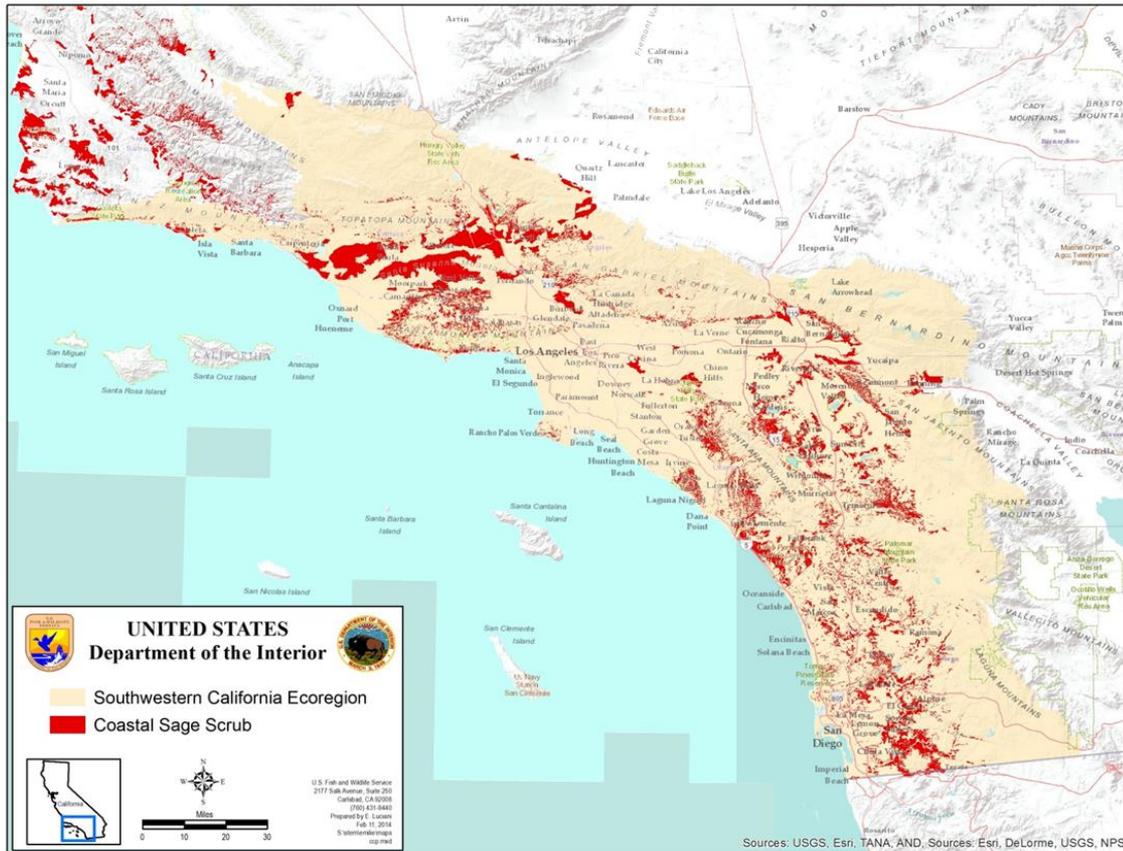


Current Condition





Regional Monitoring

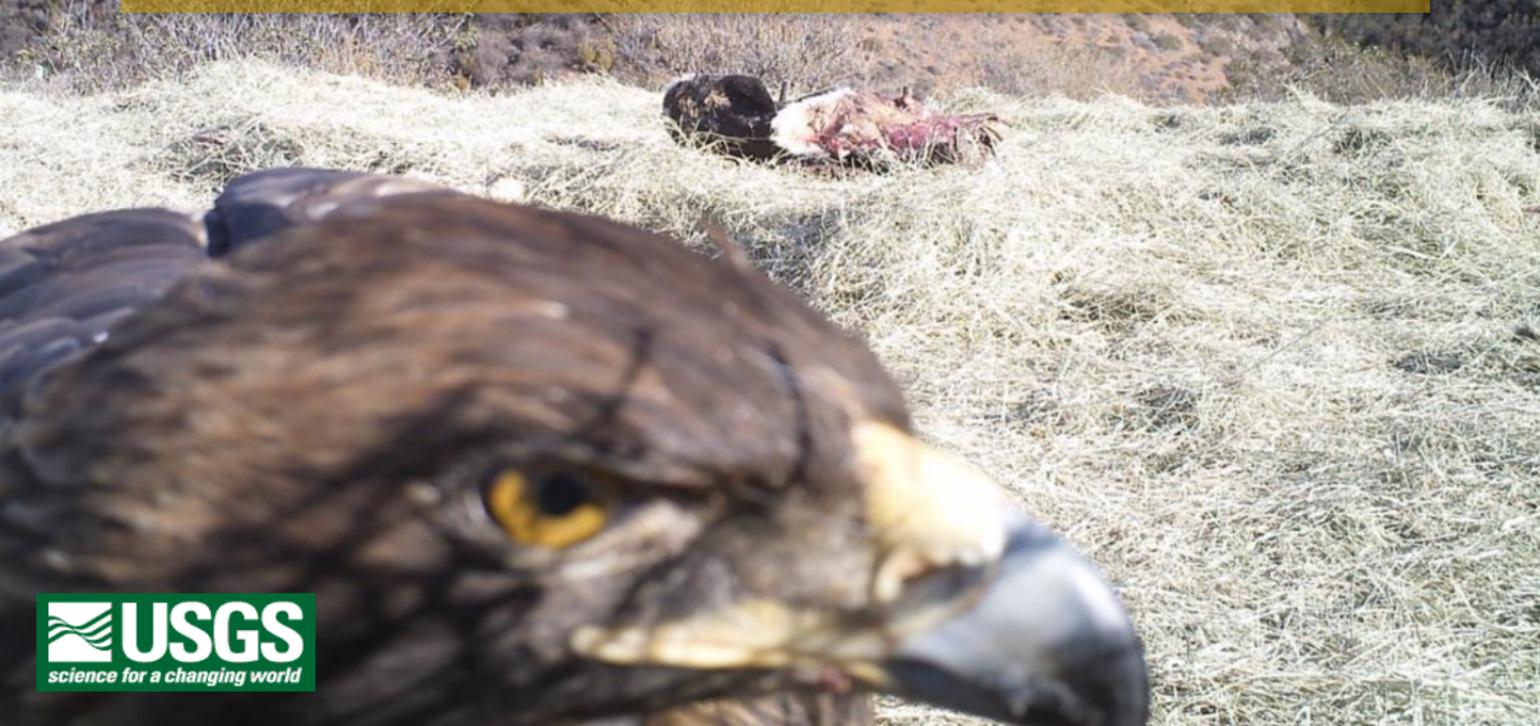


U.S. Geological Survey 2014 MSCP Activities

San Diego Field Station
Western Ecological Research Center

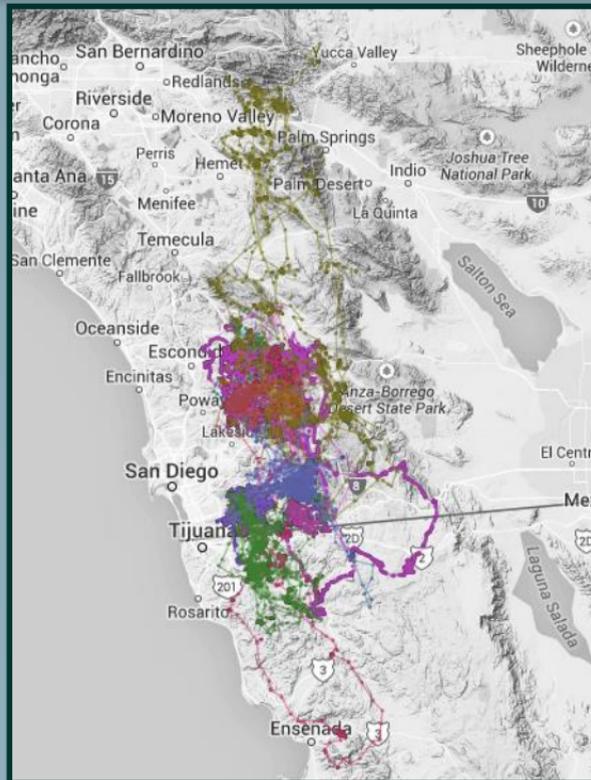
Golden Eagle Research in Southern California: 2014

Jeff A. Tracey (USGS), Robert N. Fisher (USGS), Peter Bloom (BBI)



Golden Eagle Research in Southern California: 2014

Eagle ID	Capture	
	Date	Location
F001	22-Nov-14	Boulder Oaks 1
F002	28-Nov-14	Cedar Ridge (Otay 1)
F003	05-Dec-14	Cedar Ridge (Otay 1)
M001	05-Dec-14	Cedar Ridge (Otay 1)
F004	27-Dec-14	Marron Valley (Otay 5)
F005	03-Jan-15	Otay Mountain (Otay 6)



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**



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 24 September 2013
- 1 on 15 July 2011
- 2 on 29 April 2014





Pacific Pond Turtle in San Diego County

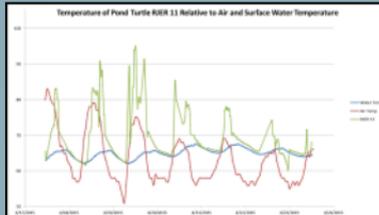


Rancho Jamul Ecological Reserve Exotics Removal

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

Translocation and Continued Monitoring

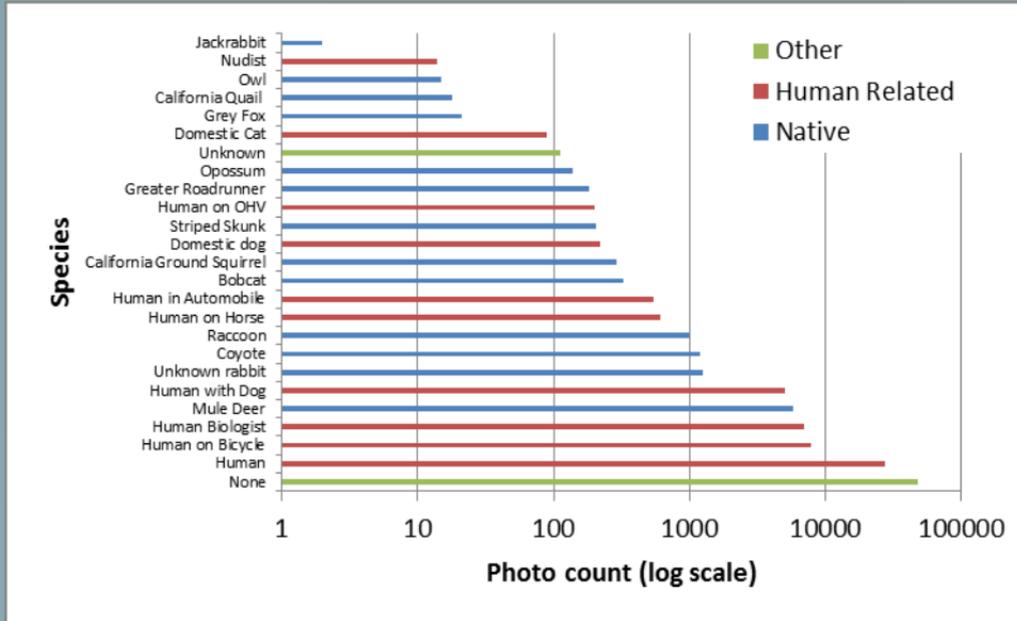
- 11 Turtles were translocated between September and October of 2014



U.S. Geological Survey – San Pasqual Linkages Evaluation



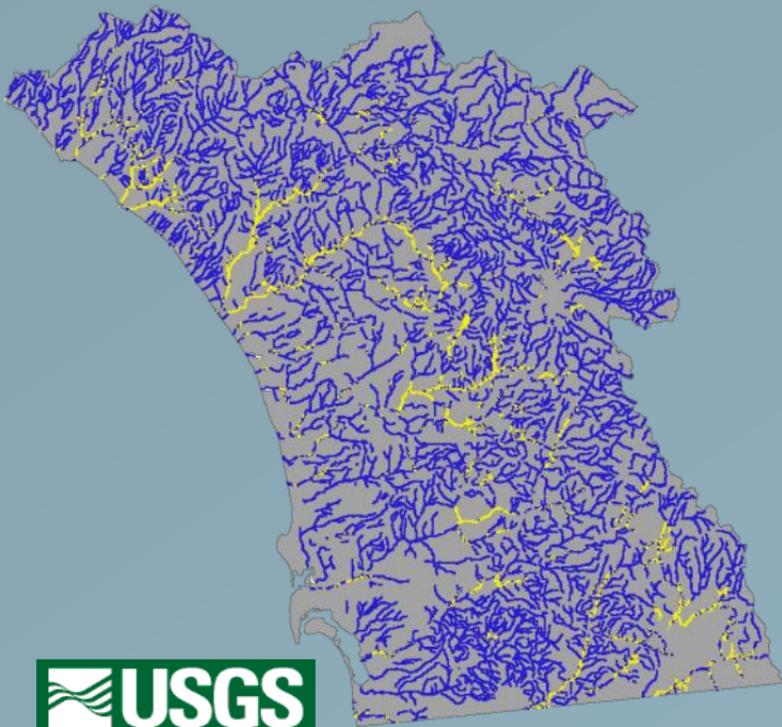
U.S. Geological Survey – San Pasqual Linkages Evaluation



Field Surveys: 31 July
through 29 October 2014



Arroyo Toad Habitat Suitability in San Diego County:

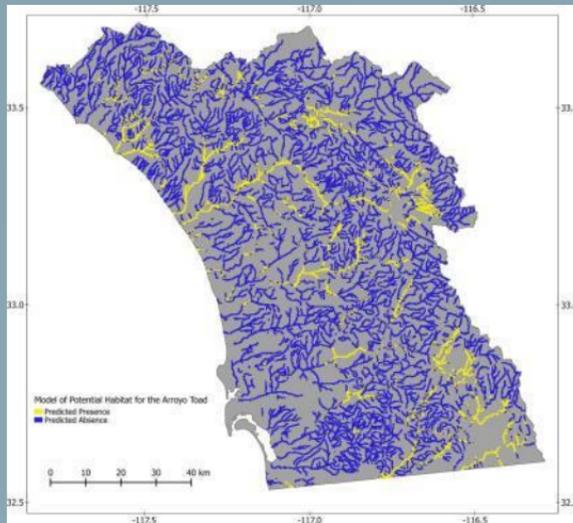


Mike Treglia (mike-treglia@utulsa.edu)

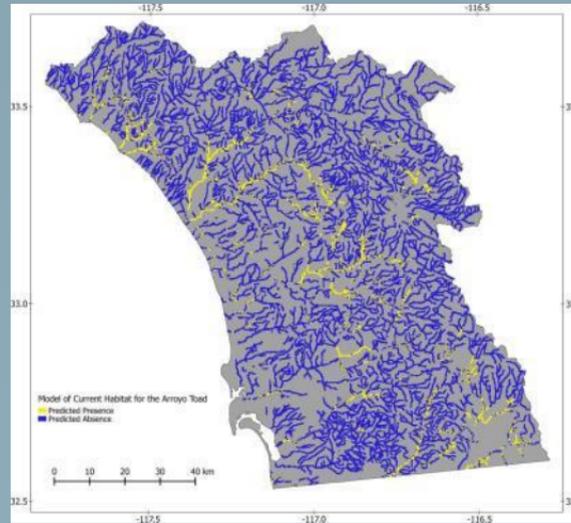
Chris Brown (cwbrown@usgs.gov)

Robert Fisher (rfisher@usgs.gov)

Arroyo Toad Habitat Suitability in San Diego County:



Potential habitat
(long term variables)



Current habitat
(remotely sensed land cover characteristics)



USGS Badger Surveys- Connectivity Assessment San Diego County



Conservation
Canines

CENTER FOR
CONSERVATION BIOLOGY
UNIVERSITY OF WASHINGTON

<http://conservationbiology.net>

USGS Badger Surveys- Connectivity Assessment San Diego County



Site	Badger Detections	
	2011	2014
Rancho Guejito	-	Y
Hollenbeck Canyon Wildlife Area	Y	N
Volcan Mountain Ecological Reserve	-	Y
Marron Valley	Y	N
Barnett Ranch	-	Y
Ramona Grasslands	Y	N
Upper San Diego River - El Capitan	-	Y
Santa Ysabel Ecological Reserve	Y	N



**Conservation
Canines**



<http://conservationbiology.net>

USGS Badger Surveys- Connectivity Assessment San Diego County



https://www.facebook.com/sd_riverpark/videos/10152874162826898/

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>

CENTER FOR
CONSERVATION BIOLOGY
UNIVERSITY OF WASHINGTON

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE



SANDAG

SAN DIEGO ZOO



TEXAS A&M UNIVERSITY



SAN DIEGO ZOO INSTITUTE FOR CONSERVATION RESEARCH

Conservation Canines

Curtis

CENTER FOR CONSERVATION BIOLOGY UNIVERSITY OF WASHINGTON

<http://conservationbiology.net>

Carlton

Donn

Robert

Chip

TransNet



Natural Reserve System UNIVERSITY OF CALIFORNIA

Liz

Trit



USGS science for a changing world

Melanie

Devin

Jord

Ellen

ine



Jeff

Cary

Elise

Mich

Sc

MSCP ANNUAL REPORT 2015:
Regional Conservation Planning: Moving Forward



EMP Milestone in FY 2015

\$20,000,000 land acquisition grants. Awarded February 2015

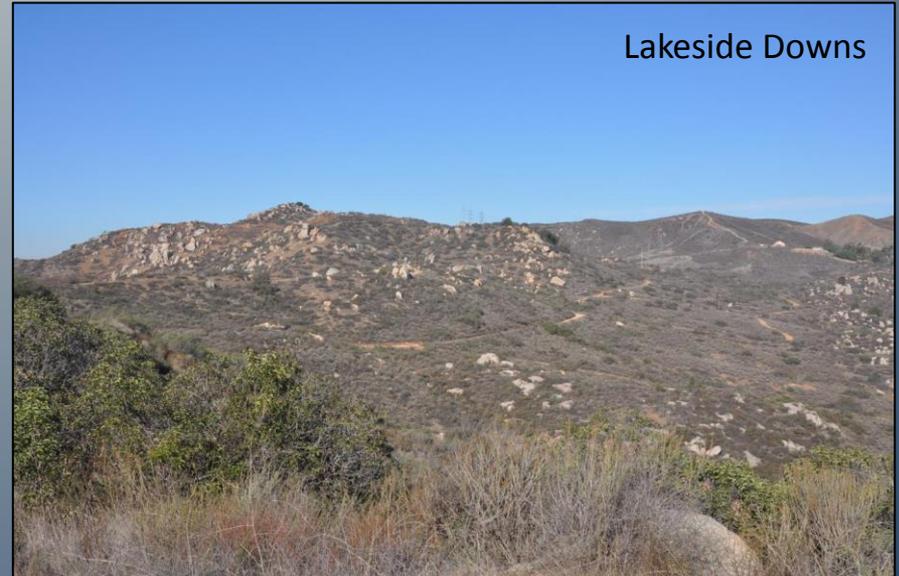
- Seven properties totaling 5,483 acres
- Funding Partners \$17.9 million

Ceilo del Norte



Escrow Closed: May 7, 2015

Lakeside Downs

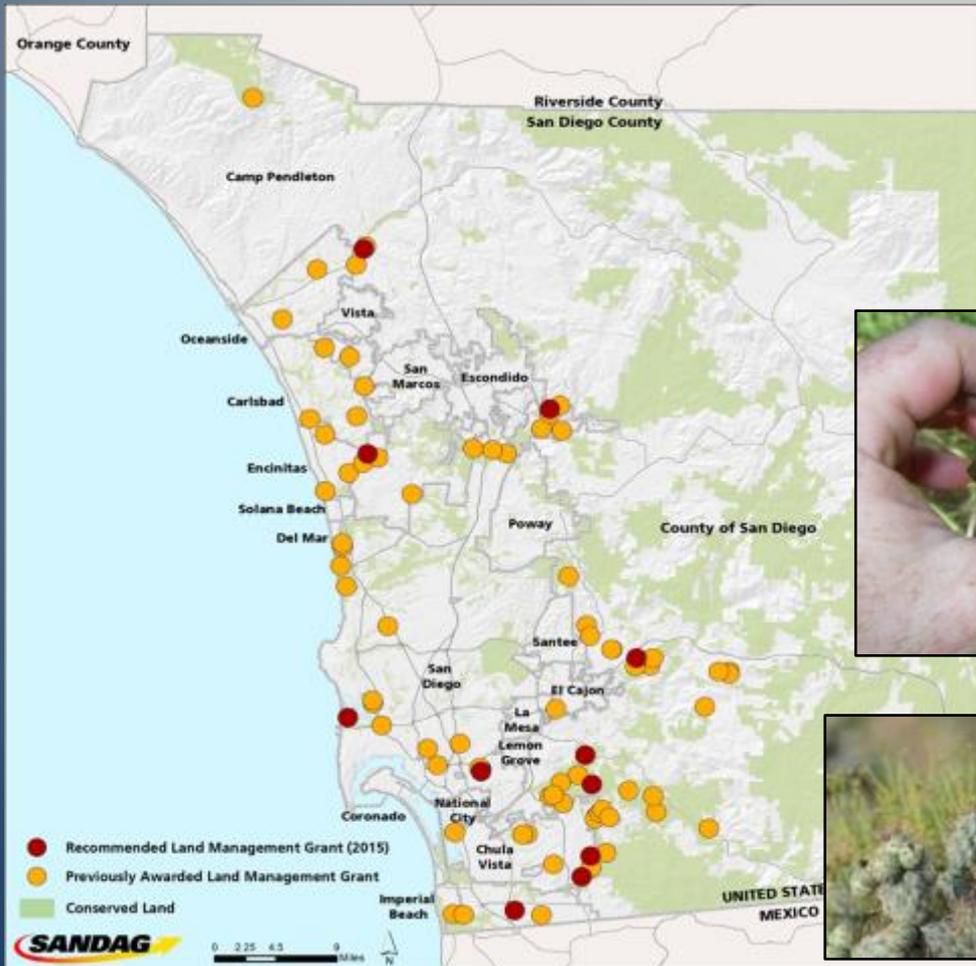


Escrow Closes Aug 31, 2015

EMP Milestone in FY 2015

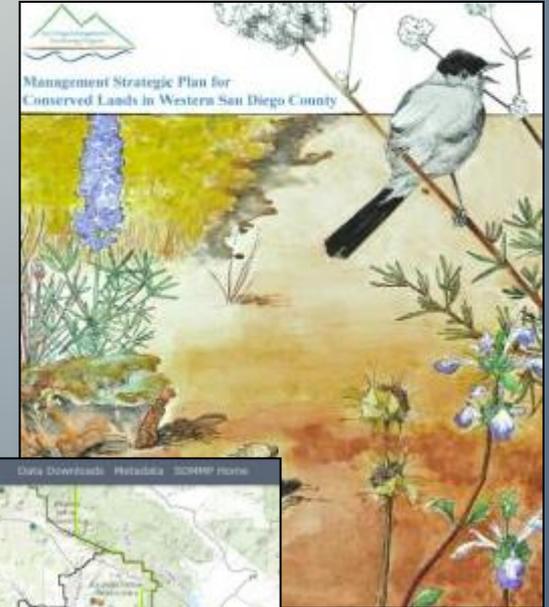
\$1,500,000 land management grants. Awarded July 2015

- 11 projects received funding
- 81 grants to date totaling \$12.5 million



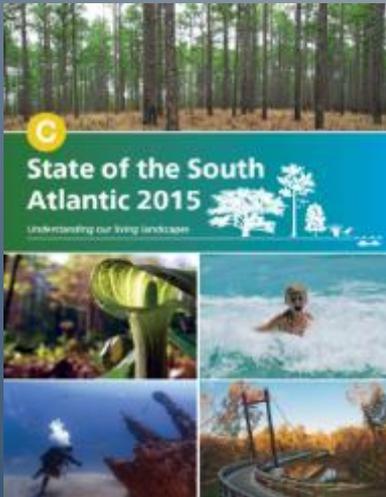
EMP Milestone in FY 2015

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



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.”