

Welcome
to the
**Multiple Species Conservation Program
Annual Workshop**

July 22, 2014

CITY OF SAN DIEGO MSCP 2013 REPORTING YEAR

July 22, 2014





MHPA STATS

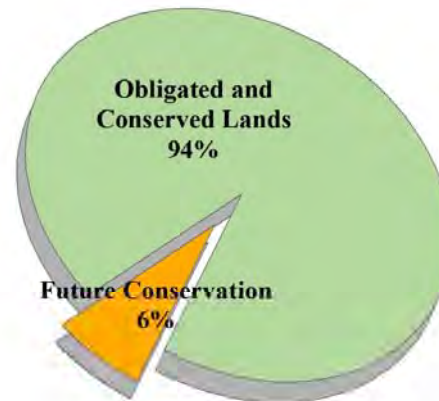
- Total Acreage in City MHPA 56,831 acres w/ approx 90% to be preserved for bio purposes
- 52,012 acres required by 2047 via original 1997 IA
- 2005 BM Amendment added 715 acres for a BMZ2 compensation – 52,727 acres

MHPA STATS THROUGH 2013

As of January 1st 2013	Acres
Obligated and Conserved Lands	49,780.9
Future Conservation	2,946.1

City of San Diego Conservation within the MHPA

Total Conserved and Obligated Land: 49,780.9 Acres , or 94% of City's 52,727 Acre MSCP Obligation



Note: 1) 34,848.9 Acres (66%) Conserved Lands have been conserved via fee title or conservation easement; 2) 14,932 Acres (28%) Obligated Lands have been entitled by the City, have pending conservation easements or have existing mitigation bank agreements in place; 3) 2,946.1 Acres (6%) Future Conservation are lands which are the target of current efforts.



MHPA VEG STATS BY 2013

• HABITAT (ac)	CONSERVED by 2013	TARGET
• DCSS	12,396	19,260
• SMC	947	1,128
• GL	3,345	5,014
• RS	1,776	2,749
• OW	182	332



2013 PROJECT LOSS/GAIN

- Habitat Loss of 8.34 acres
 - 0.94 acres inside the MHPA
 - 7.4 acres outside the MHPA
- Habitat Gain of 13.46 acres
 - 10.49 acres inside the MHPA
 - 2.97.0 acres outside the MHPA
- A total of \$140,855 was paid in the HAF



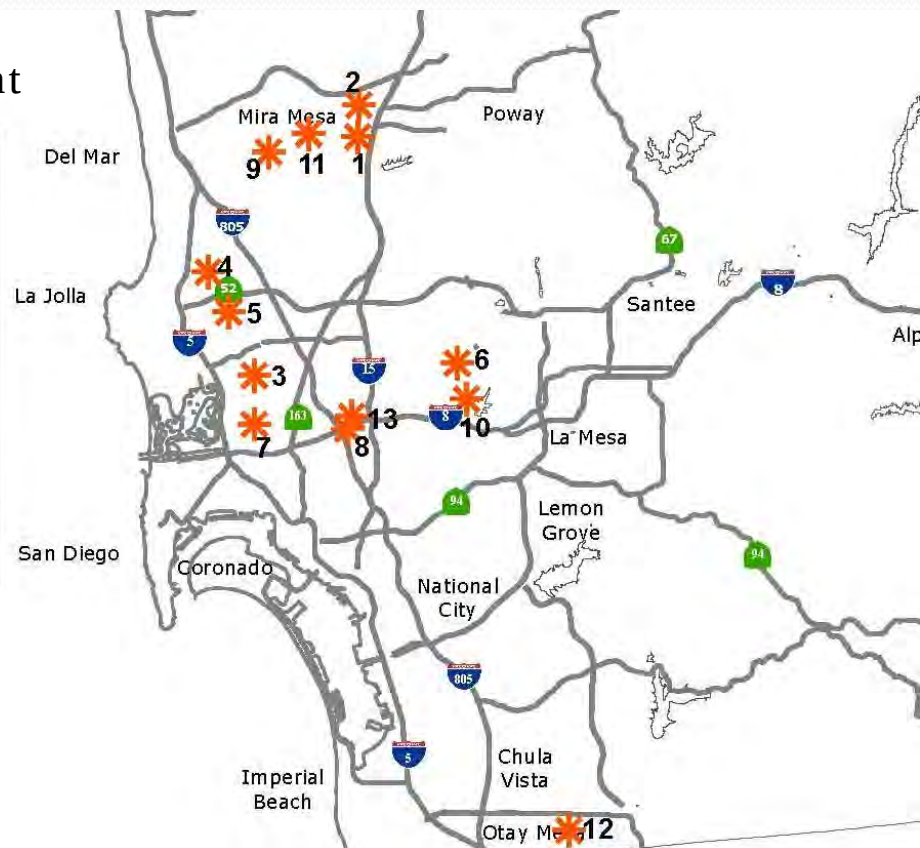
2013 PROJECTS

- Gains /losses in 2013 year all associated with private SFR dev or City projects
- 2013 – 1st project under the 2012 Biology Guidelines Wetland Deviations process

Habitat Mitigation Efforts

Pacific Ocean
Public Utilities Department

- 1 - Black Mountain
- 2 - Canyon View
- 3 - Central Tecolote
- 4 - Rose Canyon
- 5 - San Clemente
- 6 - Rancho Mission
- 7 - Tecolote Canyon
- 8 - San Diego River
- 9 - Los Penasquitos North
- 10 - Lake Murray
- 11 - El Rancho Penasquitos
- 12 - Otay Mesa
- 13 - Stadium



Successful Habitat Restoration (by P.U.D.)



Canyon View Uplands

Los Penasquitos Canyon Preserve

0.89 acre Native Grassland

6.49 acres Diegan Coastal Sage
Scrub

- Year 2 of 5
Maintenance/Monitoring
- Over 60% native shrub cover
- Utilization of site by coastal
California gnatcatcher



MSCP P&R OS DIVISION

Monitoring and Management

- 2013 Plant & Habitat Monitoring
 - 17 rare plant species monitored at 25 parks (City)
 - San Diego Plant Atlas collections (SDNHM)
 - San Diego thornmint genetic study (Center for Natural Lands Management)
 - Regional vegetation mapping (SDSU)
 - Cryptogamic soil study in Mission Trails Regional Park (SDSU)
 - Harbison's dun skipper and Hermes copper butterflies at Mission Trails Regional Park (SDSU)
 - Vernal pool pollinator study (UCSD)

Monitoring and Management

- 2013 Wildlife Studies & Monitoring
 - US Geological Service (USGS)
 - California gnatcatcher regional population and genetics study
 - Wildlife use of road undercrossings/pinch points study
 - San Diego Zoo- Institute of Conservation Research (ICR)
 - Burrowing owl survey and regional reintroduction study
 - SDSU
 - Greater roadrunner population and habitat survey
 - Bobcat use of regional wildlife corridors
 - UC Davis
 - Regional mountain lion survey
 - Colorado St. Univ
 - Wildlife and recreation study



Natural Resource Management Plans

- Black Mountain Open Space Park NRMP– Approved by City Council April 2014
- Carmel Mountain/Del Mar Mesa NRMP
 - final MND by end of summer 2014
- Mission Trails Regional Park NRMP
 - draft complete, EIR in process
- Tecolote Canyon Natural Park NRMP
 - draft complete, circulated for internal review
- Pacific Highlands Ranch NRMP
 - contract for bio surveys in process

San Diego Ambrosia

Mission Trails Regional Park



Photo by Meredith Osborne, CDFW





June 2010



June 2011



June 2012



June 2013



June 2014



June 2014

MSCP Annual Workshop

July 22, 2014



Chula Vista MSCP Subarea Plan

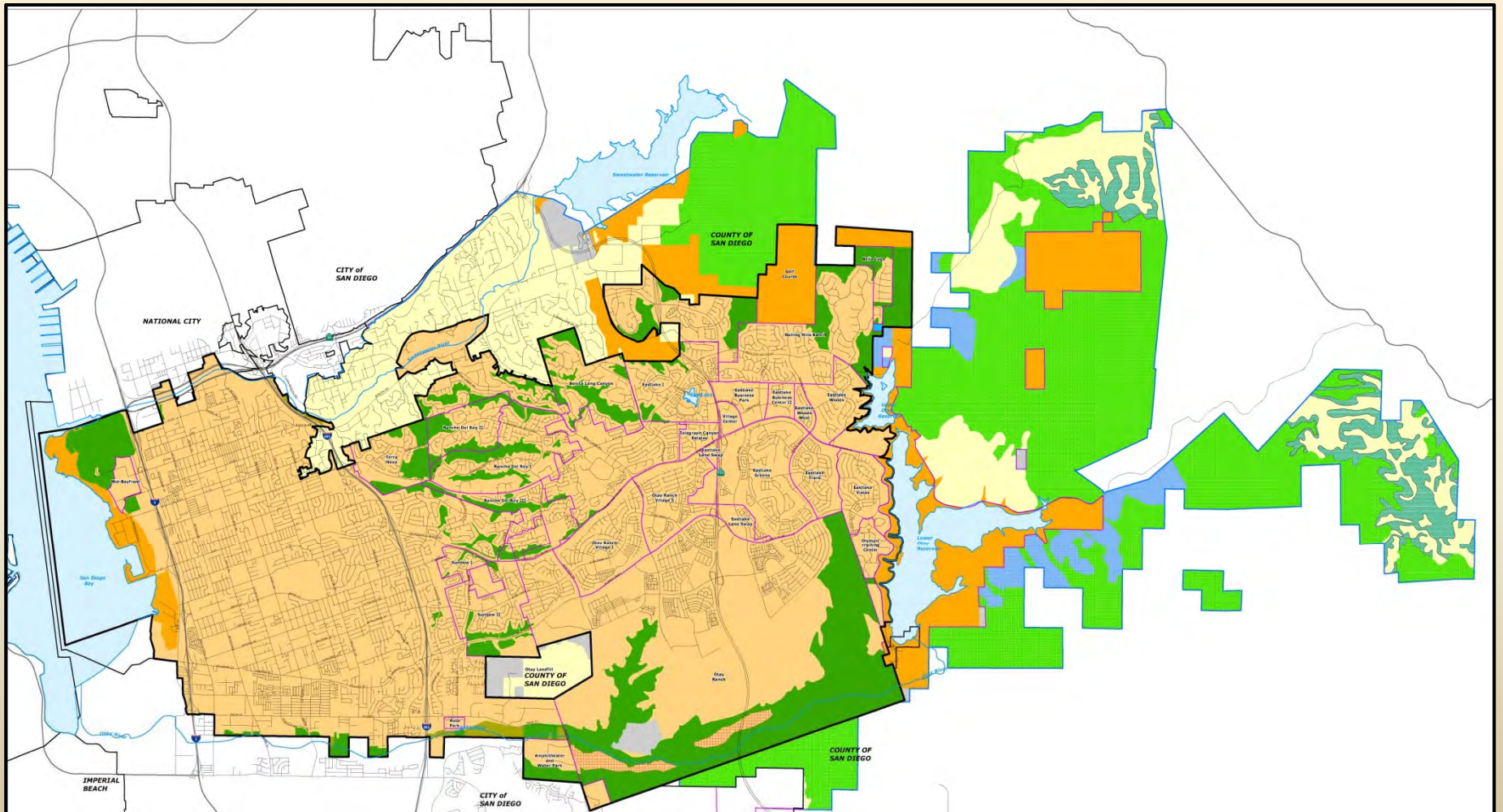


Presentation

- Chula Vista MSCP Subarea Plan
 - Overview
 - Conservation Status
- Management/Monitoring Update
 - Otay Ranch Preserve
 - Grant Updates



Chula Vista MSCP Subarea Plan



Chula Vista MSCP Subarea Plan

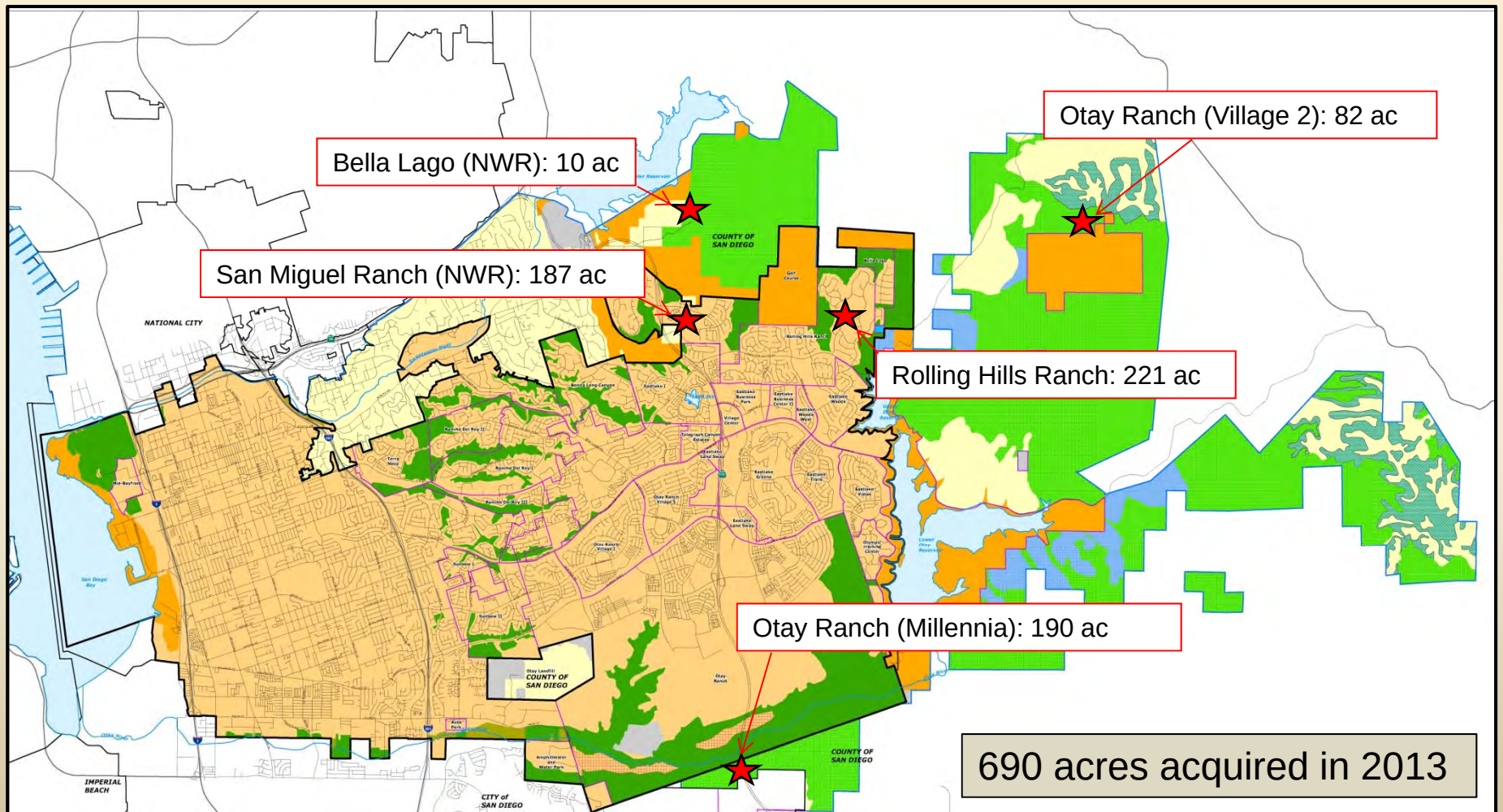


Chula Vista MSCP Subarea Plan

- 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



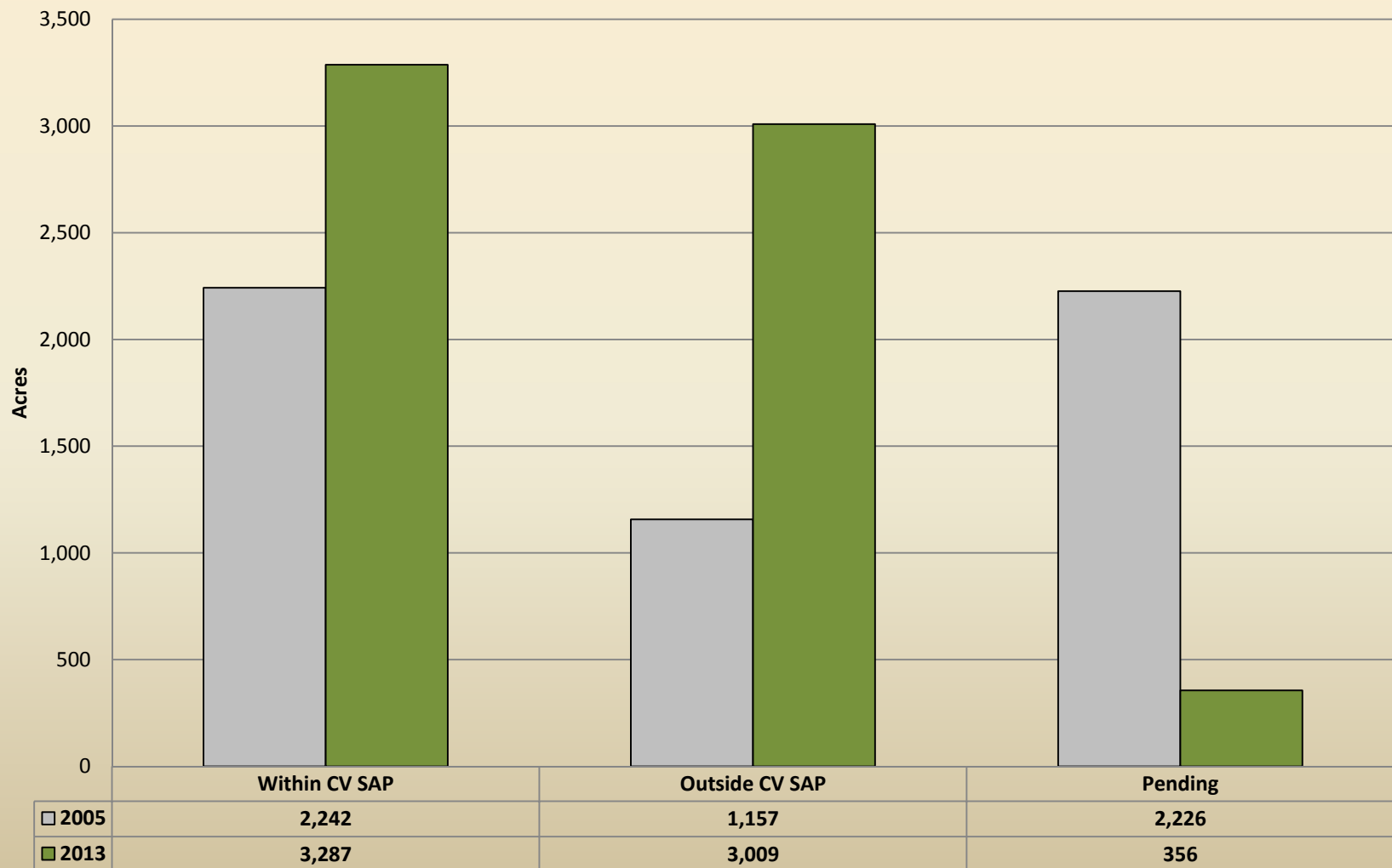
2013 Preserve Acquisitions



Chula Vista MSCP Subarea Plan



Conservation Status

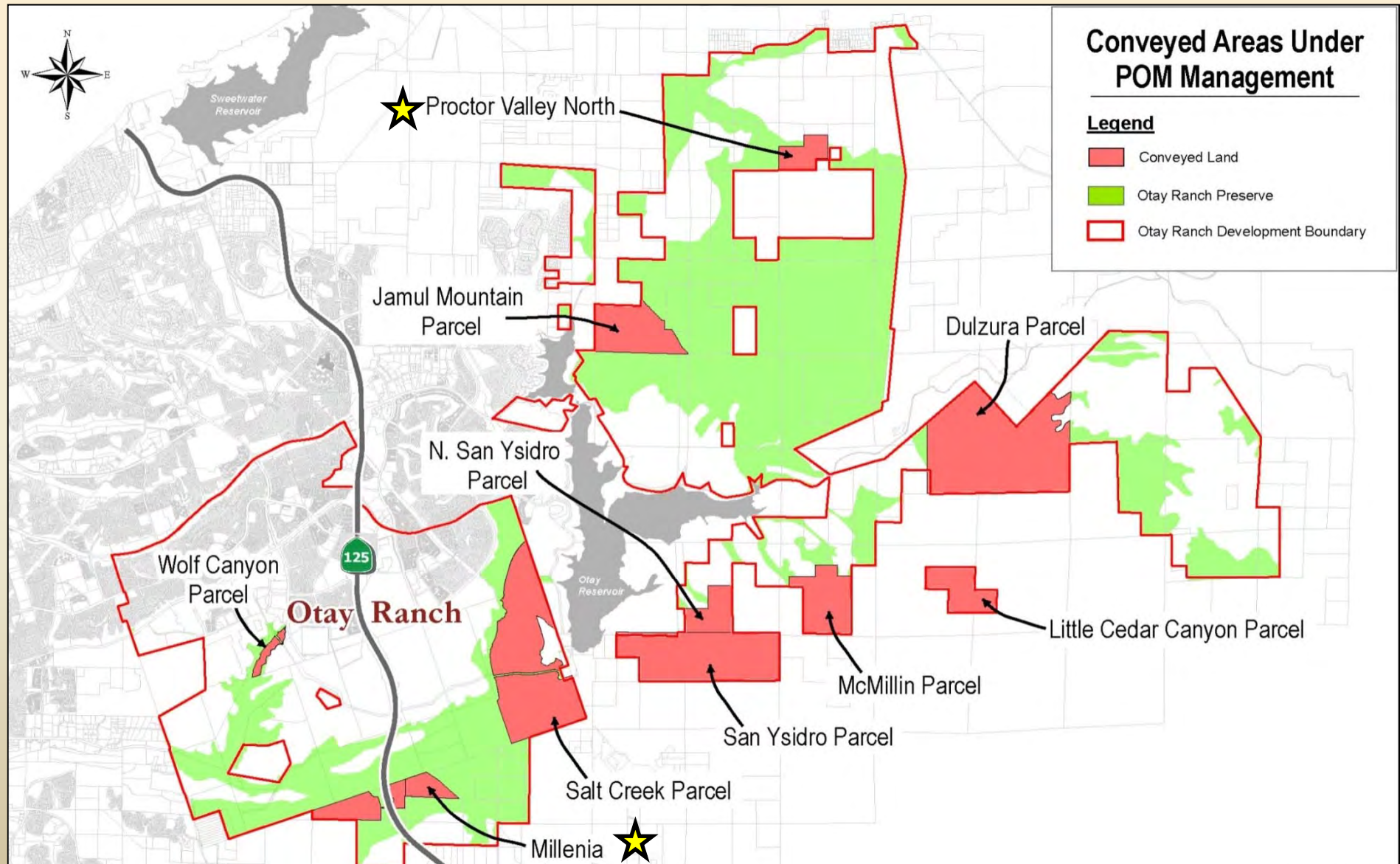




Otay Ranch Preserve

- 11,375 acre Otay Ranch Preserve
- Jointly assembled and managed by Chula Vista and County
 - Preserve Owner/Manager (POM)
- Conveyance Program: 1.188ac preserve / 1ac development
- Funding: Community Facilities District (tax levy)
- CV conveyance requirement of approximately 6,352 acres
- 272 acres acquired in 2013
 - Proctor Valley North (82 acres)
 - Millennia (190 acres)
- 3,200 acres under POM management

Chula Vista MSCP Subarea Plan



Otay Ranch Preserve



2013 Monitoring / Management Activities

Monitoring

- Baseline Surveys
- Quino Checkerspot Habitat Assessment and Butterfly Surveys
- Least Bell's Vireo and Yellow-billed Cuckoo Surveys
- Focused Rare Plant Surveys
- Fairy Shrimp Surveys
- Vernal Pool Plant Surveys



Management

- Routine Site Visits
- Litter Removal
- Access Control
- Fence and Sign Repair
- Invasive Species Treatment



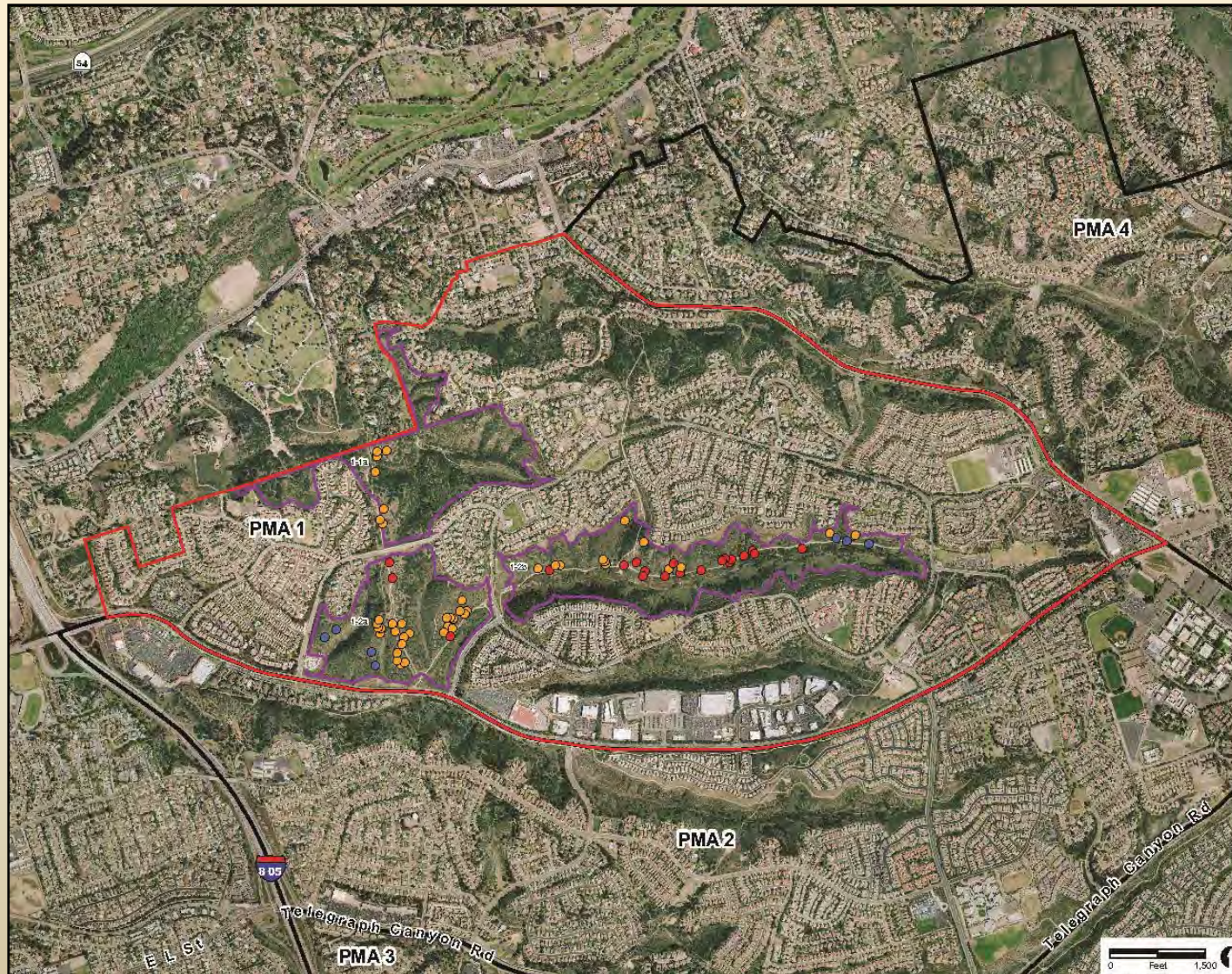
Cactus Wren Habitat Restoration Grant



- Location: Central City Preserve
- Size: 9 acres
- Funding: SANDAG EMP Grant
- 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



Cactus Wren Habitat Restoration Grant



Cactus Wren Habitat Restoration Grant



2009 Before Starting



2010



2013

Cactus Wren Habitat Restoration Grant



Results:

- Cholla cover, density and height is increasing
- Wren can re-occupy sites where shrub thinning and cholla planting have occurred

Regional Benefits:

- Implements MSP conservation strategies
- Increases the amount of suitable habitat
- Facilitates the dispersal of wrens within the region



Otay Tarplant/San Diego Thornmint Restoration Grant



- Location: Central City Preserve
- Size: 15 acres
- Funding: SANDAG EMP Grant
- Project Goals/Objectives:
 - Restore/enhance degraded habitat
 - Manage & increase grassland & clay lens habitat
 - Reduce weed competition
 - Reduce uncontrolled access
- Techniques:
 - Dethatching of non-native weeds using weed whips in the fall
 - Native seed collection and redistribution
 - Planting native plants to increase cover
 - Intensive Weed Control



Otay Tarplant/San Diego Thornmint Restoration Grant



Results:

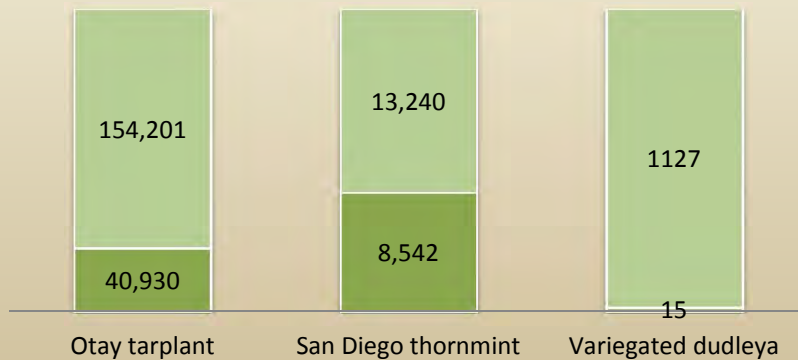
- Increased population/density despite below average rainfall

Regional Benefits:

- Implements MSP conservation strategies
- Protects and enhances a major population within the region

Year 2 Population Estimates

■ 2011 Population Estimates ■ 2013 Population Estimates



Cactus Wren Habitat Restoration Grant

- Location: Otay Ranch Preserve
- Size: 15 acres
- Funding: SANDAG EMP Grant
- Project Objectives:
 - Increase quality of existing cholla patches
 - Protect against unauthorized access
 - Increase public awareness
- Techniques:
 - Treat areas dominated by non-natives
 - Fence restoration areas
 - Collect and redistribute cholla cuttings

Regional Benefits:

- Implements MSP conservation strategies
- Facilitates the dispersal of wrens within the region







Multiple Species Conservation Program South County Subarea Plan



July 22, 2014
Multiple Species Conservation Program
Annual Workshop
2013 County Acquisitions



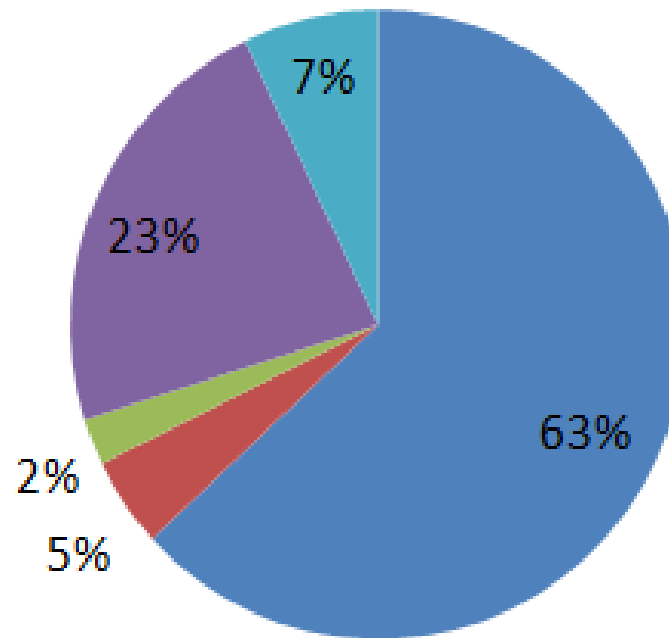
Subarea Preserve Assembly as of 12/31/13



**Preserve Goal:
98,379 acres**

**Preserve
Assembled:
74,058 acres**

75% Assembled



■ Baseline Preserve

■ Dedicated Private Hardline

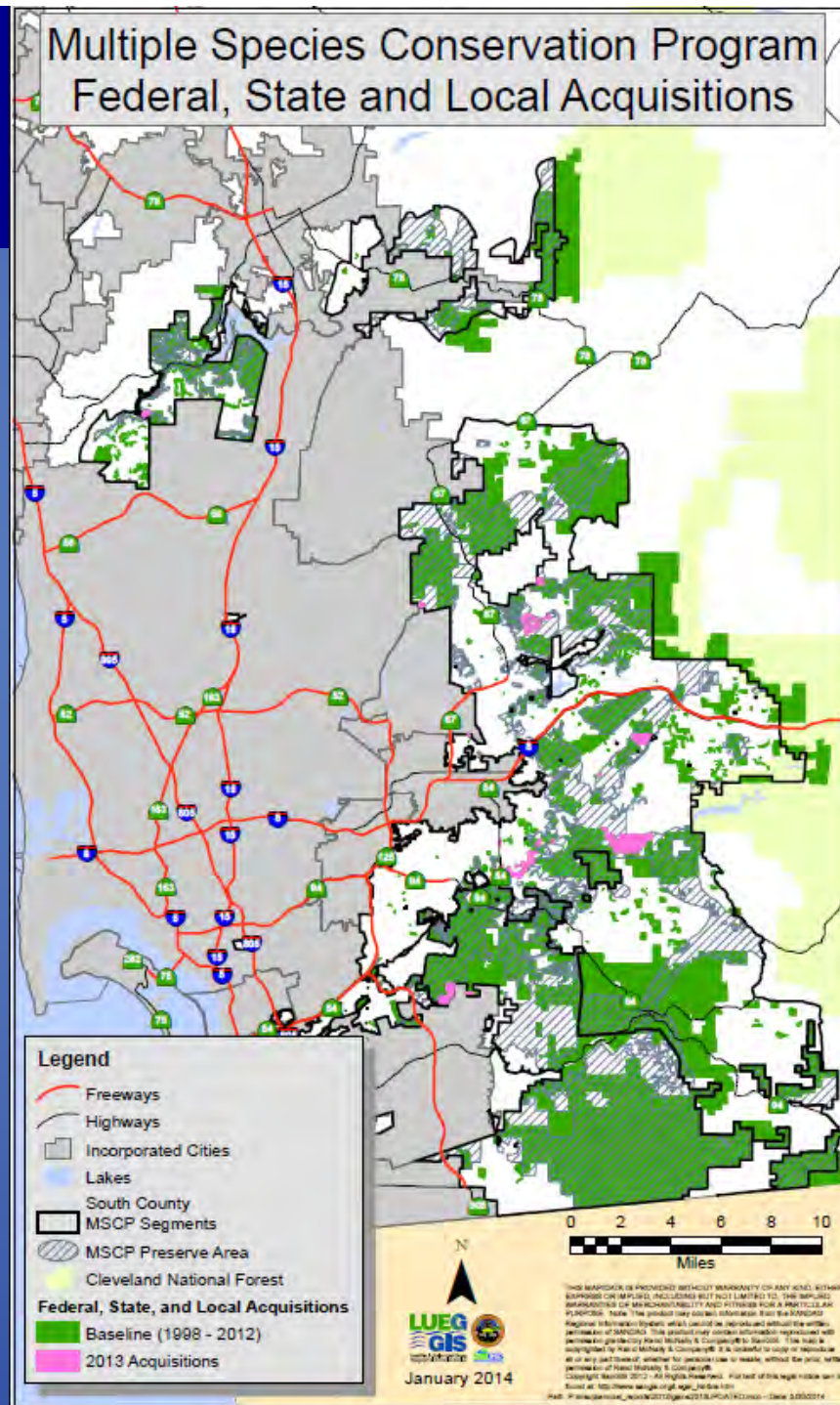
■ Privately Dedicated Lands

■ Fed and State Acquisitions

■ County/Local Acquisitions

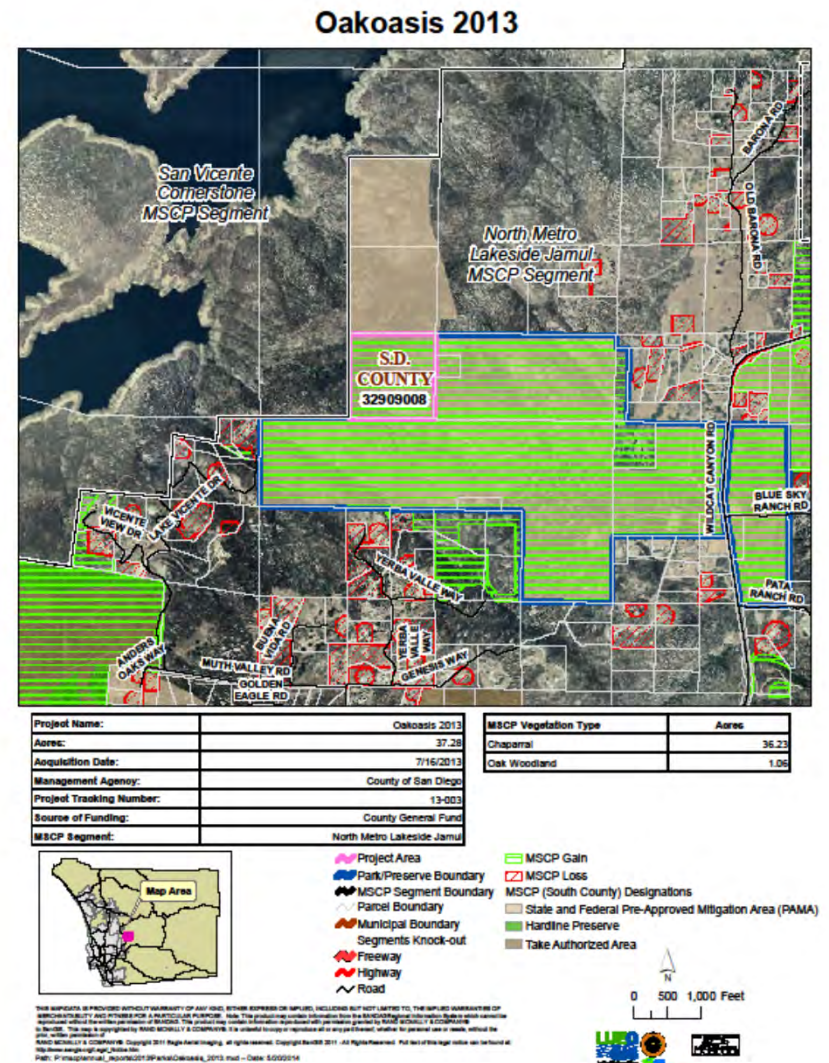
2013 Subarea Acquisitions

- **Oak oasis**
37 acres
- **Sycamore/Goodan**
18 acres
- **Lusardi**
31 acres
- **Otay Valley**
16 acres



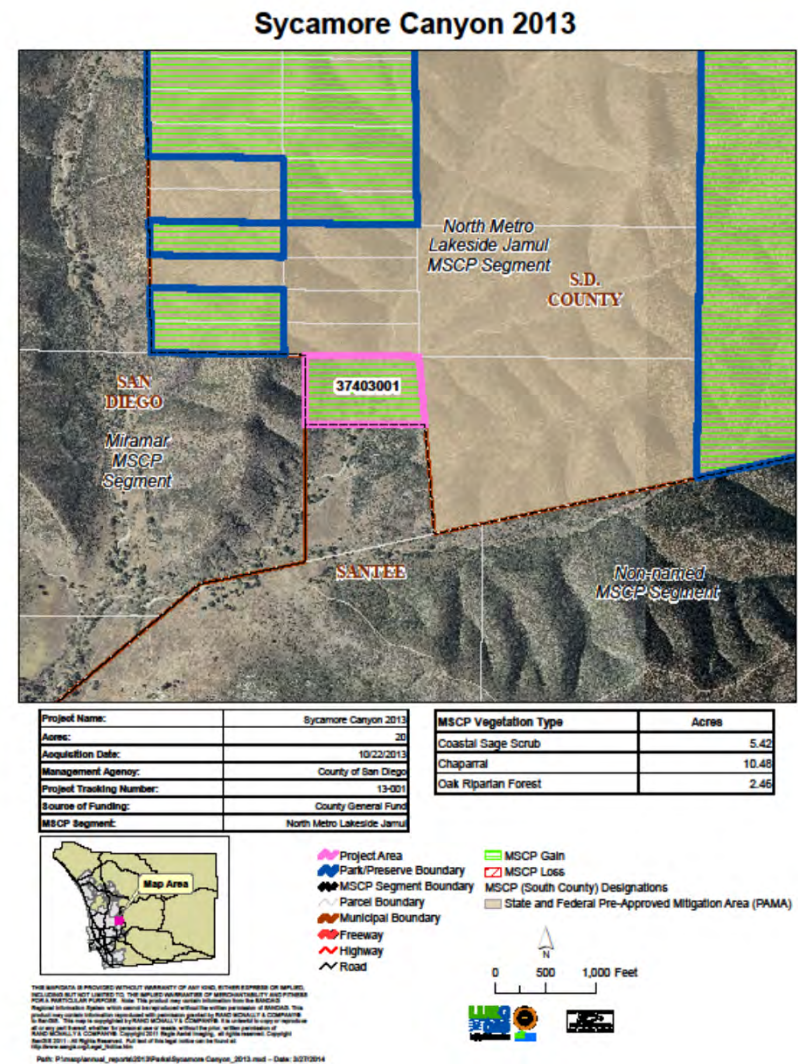
Oakoasis, 37-acre acquisition

- **36 acres of chaparral**
- **1 acre of oak woodland**

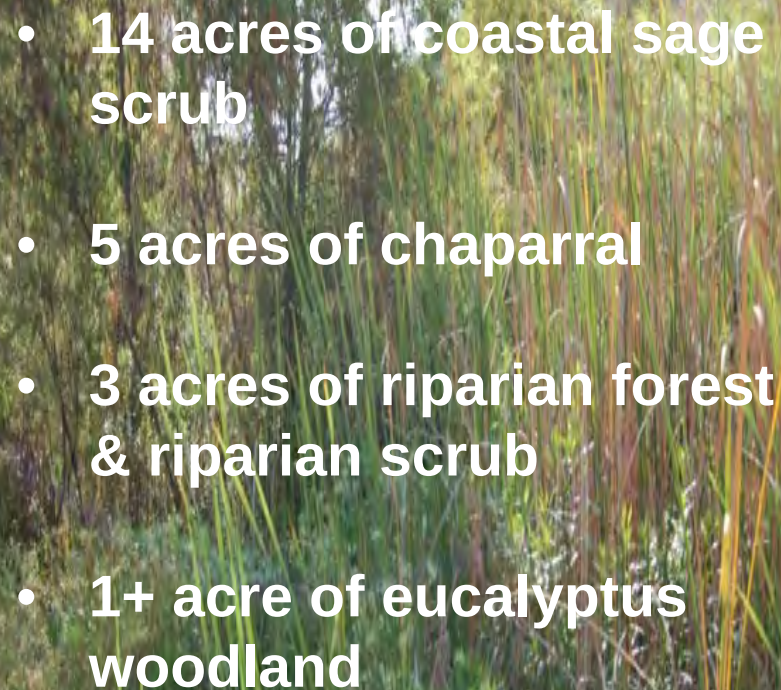


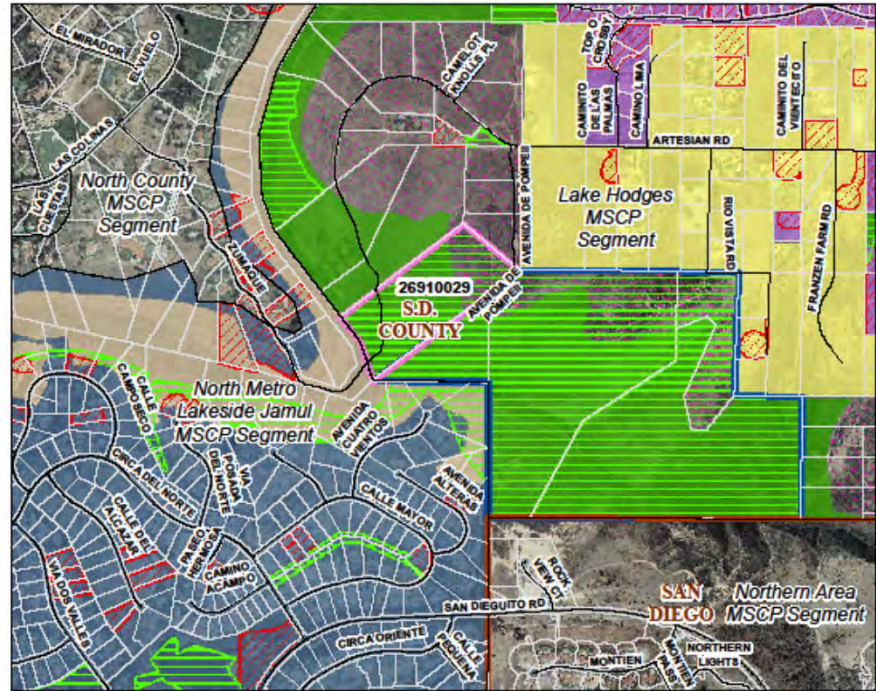
Sycamore Canyon/Goodan Ranch, 18-acre acquisition

- 5+ acres of coastal sage scrub
- 10+ acres of chaparral
- 2+ acres of oak riparian



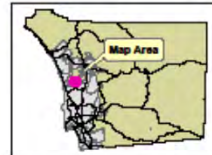
- 14 acres of coastal sage scrub
- 5 acres of chaparral
- 3 acres of riparian forest & riparian scrub
- 1+ acre of eucalyptus woodland

- 
- **14 acres of coastal sage scrub**
 - **5 acres of chaparral**
 - **3 acres of riparian forest & riparian scrub**
 - **1+ acre of eucalyptus woodland**

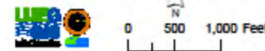


Project Name:	Lusard Creek 2013
Acres:	31.08
Acquisition Date:	12/10/2013
Management Agency:	County of San Diego
Project Tracking Number:	13-004
Source of Funding:	County General Fund & State HCP
MSCP Segment:	Lake Hodges, North Metro Lakeside Jamun

MSCP Vegetation Type	Acre
Coastal Sage Scrub	14.34
Chaparral	5.28
Riparian Forest	2.19
Riparian Scrub	0.59
Eucalyptus Woodland	1.41
Disturbed Wetland	1.19
Natural Floodchannel/Streambed	0.96
Disturbed Land	4.79
Urban/Developed	0.33



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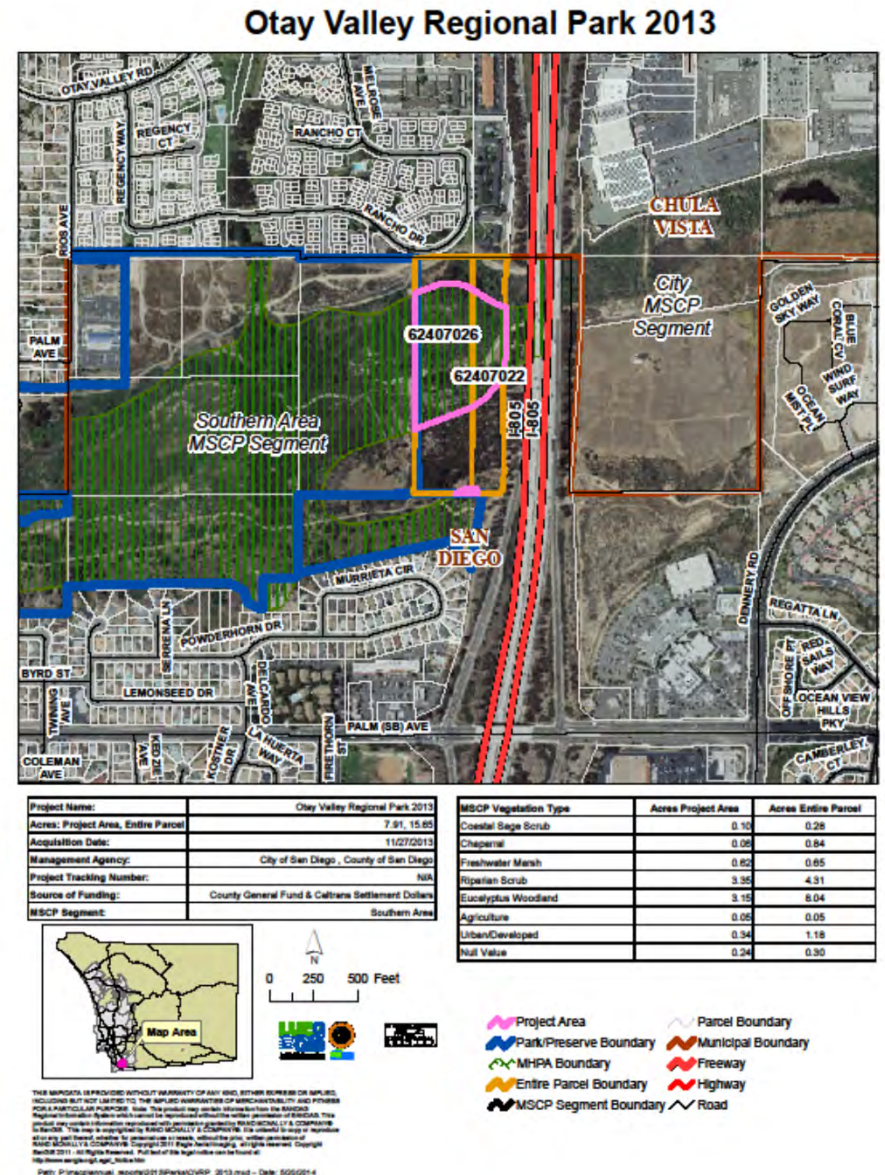
Legend

	Project Area		MSCP (South County) Designation
	Park/Preserve Boundary		State and Federal Pre-Approved Mitigation Area (PAMA)
	MSCP Segment Boundary		Hardline Preserve
	Parcel Boundary		Take Authorized Area
	Municipal Boundary		Minor Amendment Area
	Freeway		Santa Fe Valley Sensitive Biological Habitat "D" Designator Areas
	Highway		Unincorporated Land in Metro-Lakeside-Jamul Segment
	Road		
	MSCP Gain		
	MSCP Loss		

Ref: P:\mccpl\mccpl reports\2013\Period used: Creek, 2013.mxd - Date: 5/28/2013

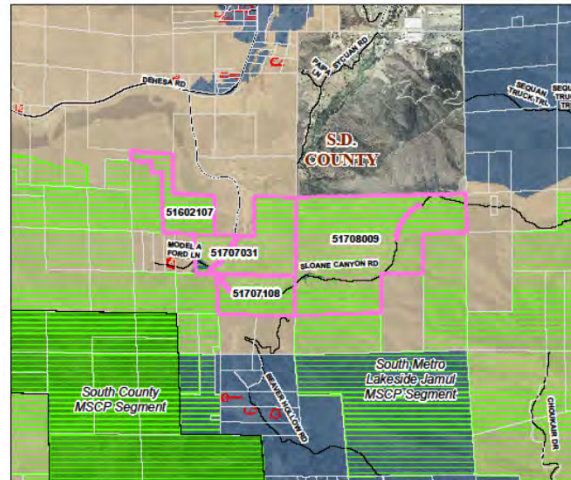
- **Almost 8 acres are in the City's MSCP**

- **8 acres of eucalyptus woodland**

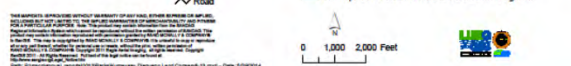


Partners

Kumeyaay Diegueno Land Conservancy 6-13



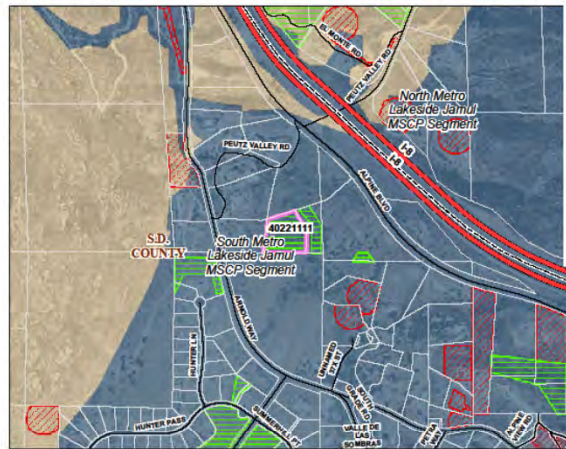
Project Name:	Kumeyaay Diegueno Land Conservancy 6-13	MSCP Vegetation Type	Acres
Acres: (Total of four parcels)	606.89	Coastal Sage Scrub	287.93
Acquisition Date:	8/20/2013	Chaparral	134.06
Management Agency:	Kumeyaay Diegueno Land Conservancy	Coastal Sage-Chaparral Scrub	7.07
Project Tracking Number:	13-055	Crested	12.48
MSCP Segment:	South Metro Lakeside Jamul	Oak Riparian Forest	104.74
		Shrubland	1.75
		Cultivated	21.45
		Native Grassland	1.33
		Native Grassland/Grassland	0.95
		Grassland	0.95
		Unincorporated Land in Metro-Lakeside-Jamul Segment	2.96



Endangered Habitats Conservancy 133 acres

Kumeyaay Digueno Conservancy 606 acres

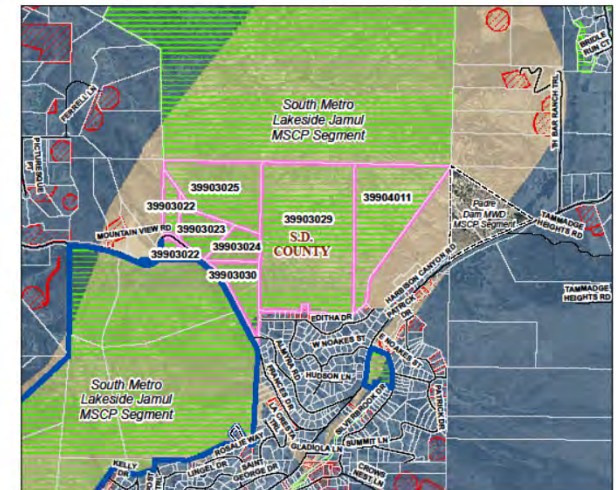
Endangered Habitats Conservancy, Palmer 2013



Project Name:	Endangered Habitats Conservancy-Palmer	MSCP Vegetation Type	Acres
Acres:	2.35	Coastal Sage Scrub	0.67
Acquisition Date:	8/21/2013	Chaparral	0.66
Management Agency:	Endangered Habitats Conservancy	Oak Riparian Forest	1.00
Project Tracking Number:	13-055	Grassland	0.14
Source of Funding:	WCB and SANDAG		
MSCP Segment:	South Metro Lakeside Jamul		



Endangered Habitats Conservancy, Kemerko 2013



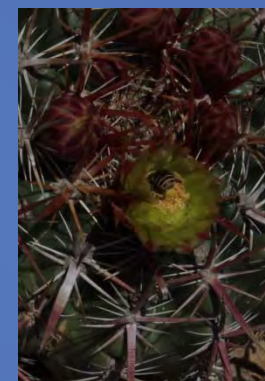
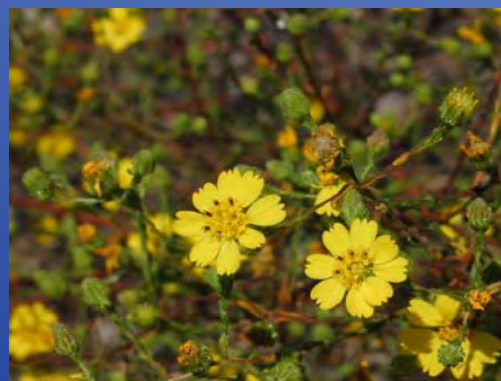
Project Name:	Endangered Habitats Conservancy, Kemerko 2013	MSCP Vegetation Type	Acres
Acres:	136.27	Coastal Sage Scrub	16.18
Acquisition Date:	8/20/2013	Chaparral	118.10
Management Agency:	Endangered Habitats Conservancy	Oak Riparian Forest	0.96
Project Tracking Number:	13-055	Unincorporated	0.91
Source of Funding:	Section 6 & WCB		
MSCP Segment:	South Metro Lakeside Jamul		



County Acquisitions



Plan Area	Acres	Total \$
South	6,942	\$65,186,724
North	5,368	\$73,234,746
East	6,474	\$14,833,574
TOTAL	18,784	\$153,255,044



2013: A Year of Partnerships and Progress

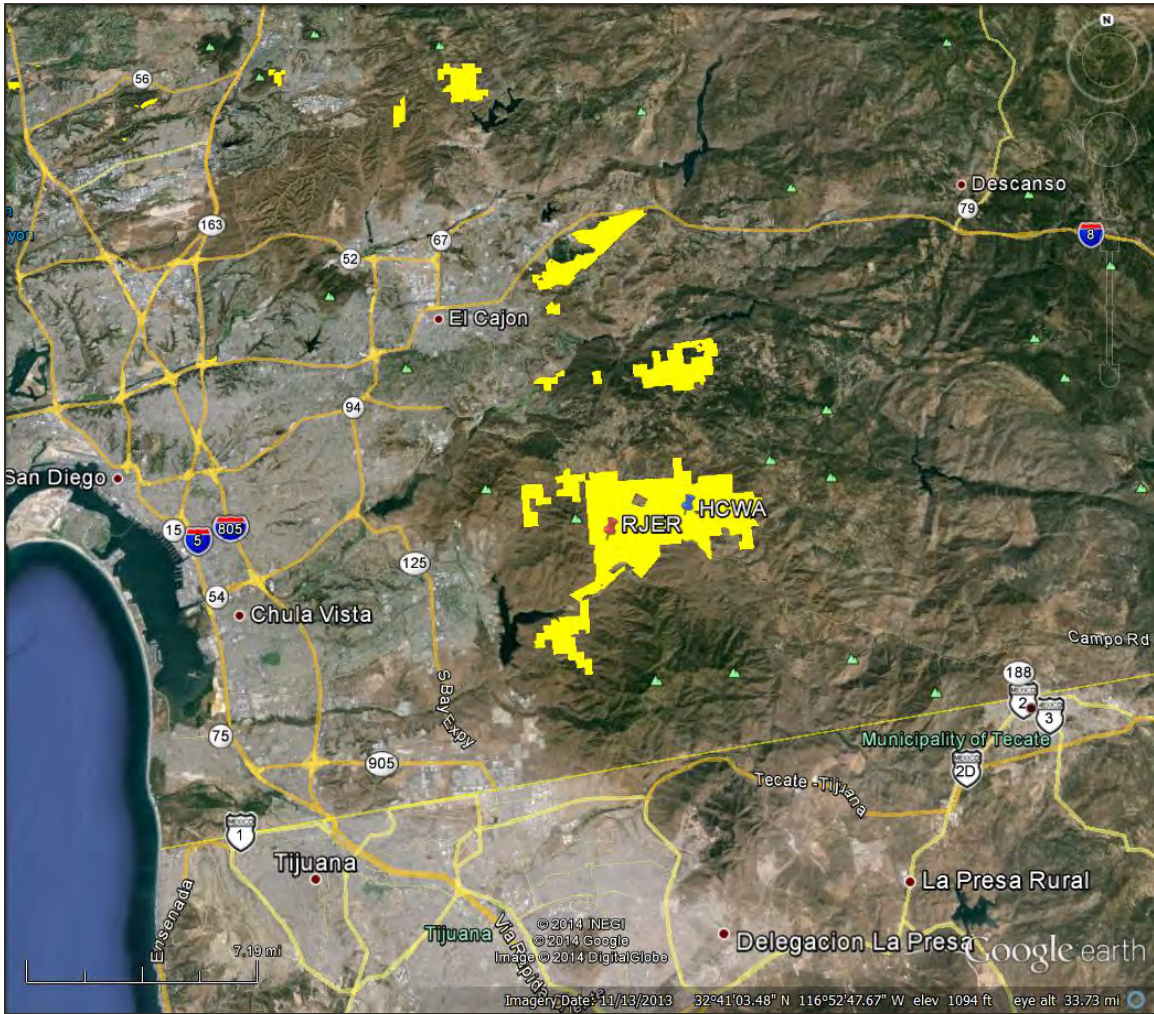
at Rancho Jamul Ecological Reserve and Hollenbeck Canyon Wildlife Area

California Department of Fish and Wildlife
2013 MSCP Annual Report Workshop

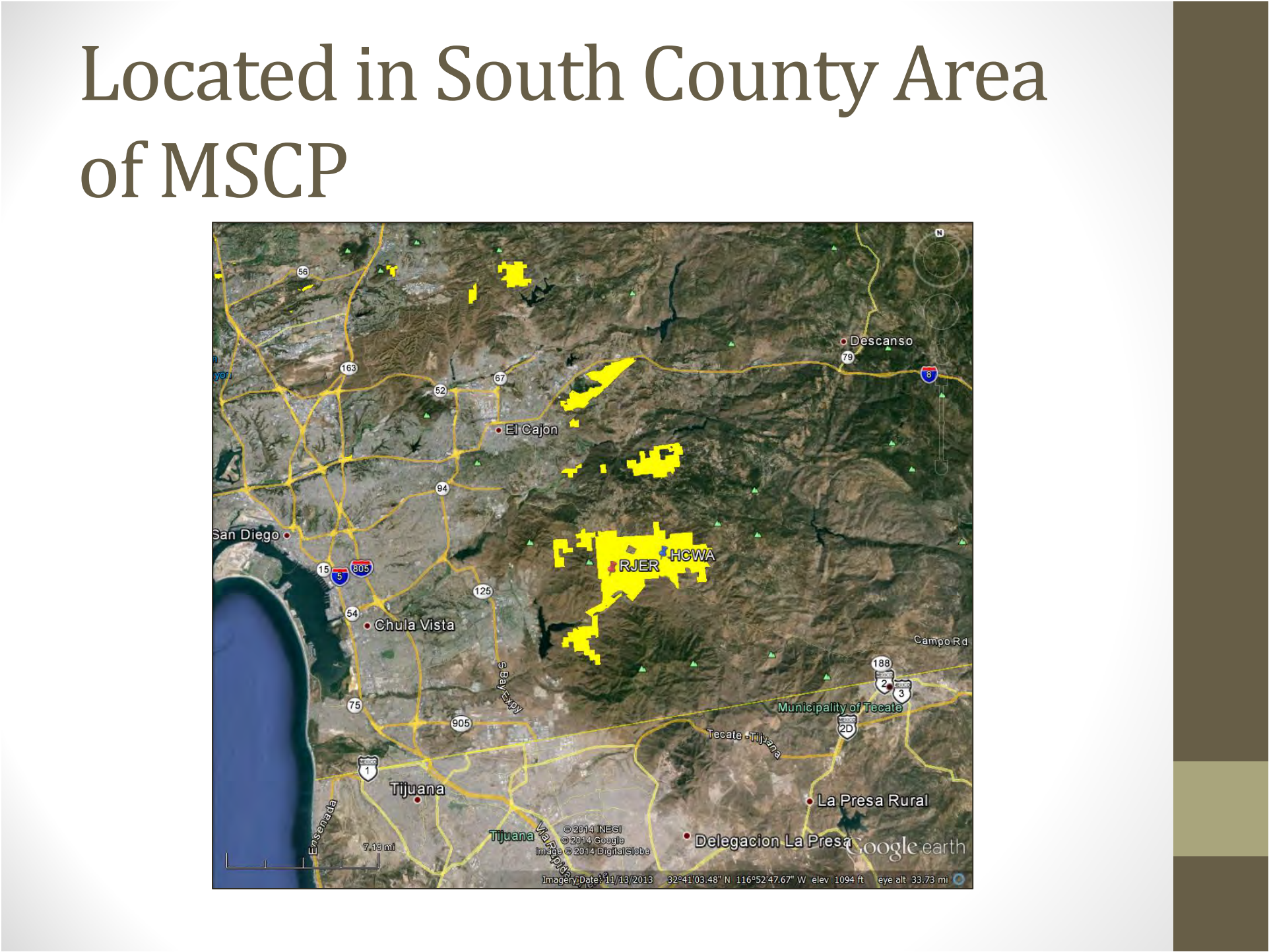


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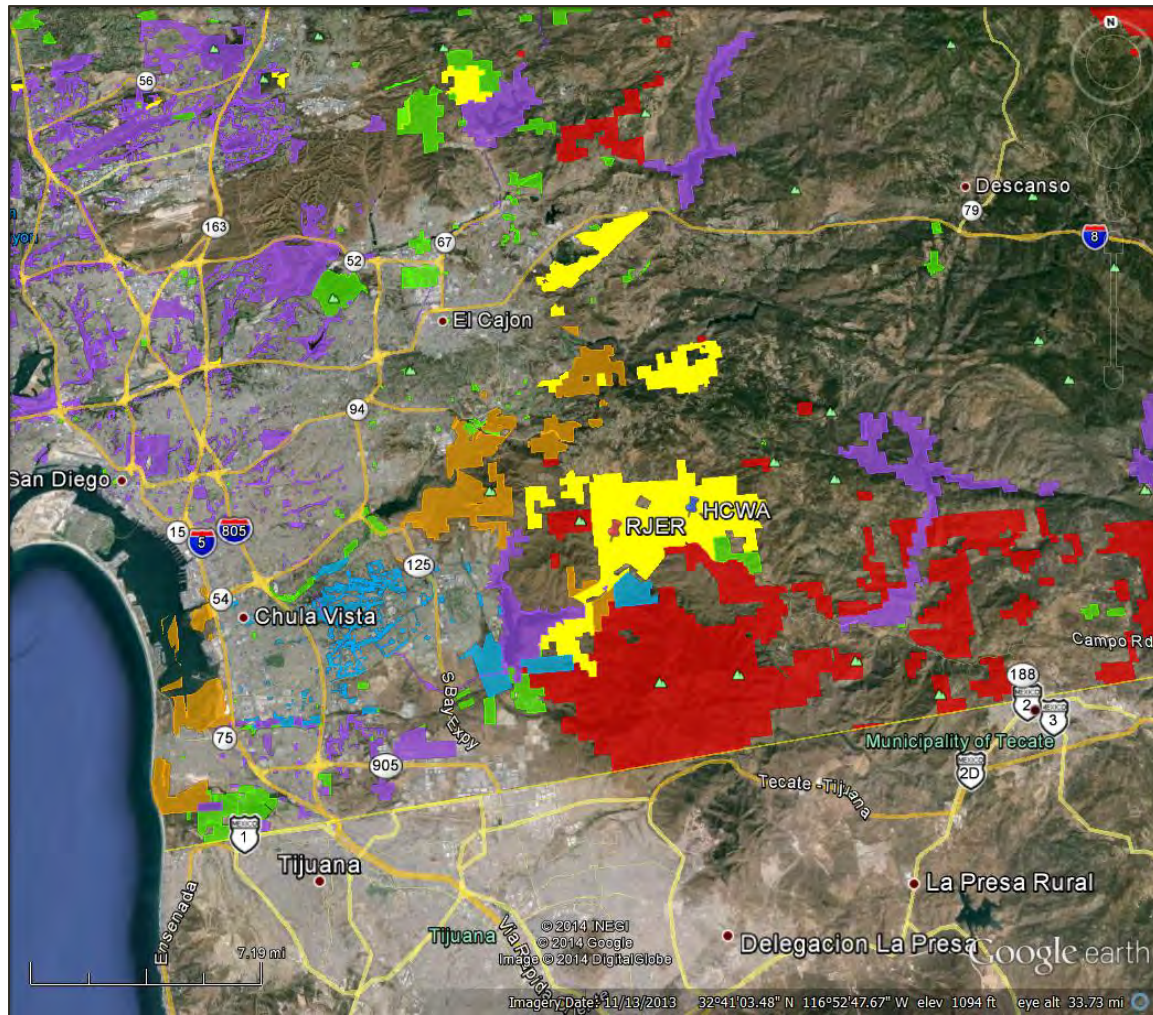
Located in South County Area of MSCP



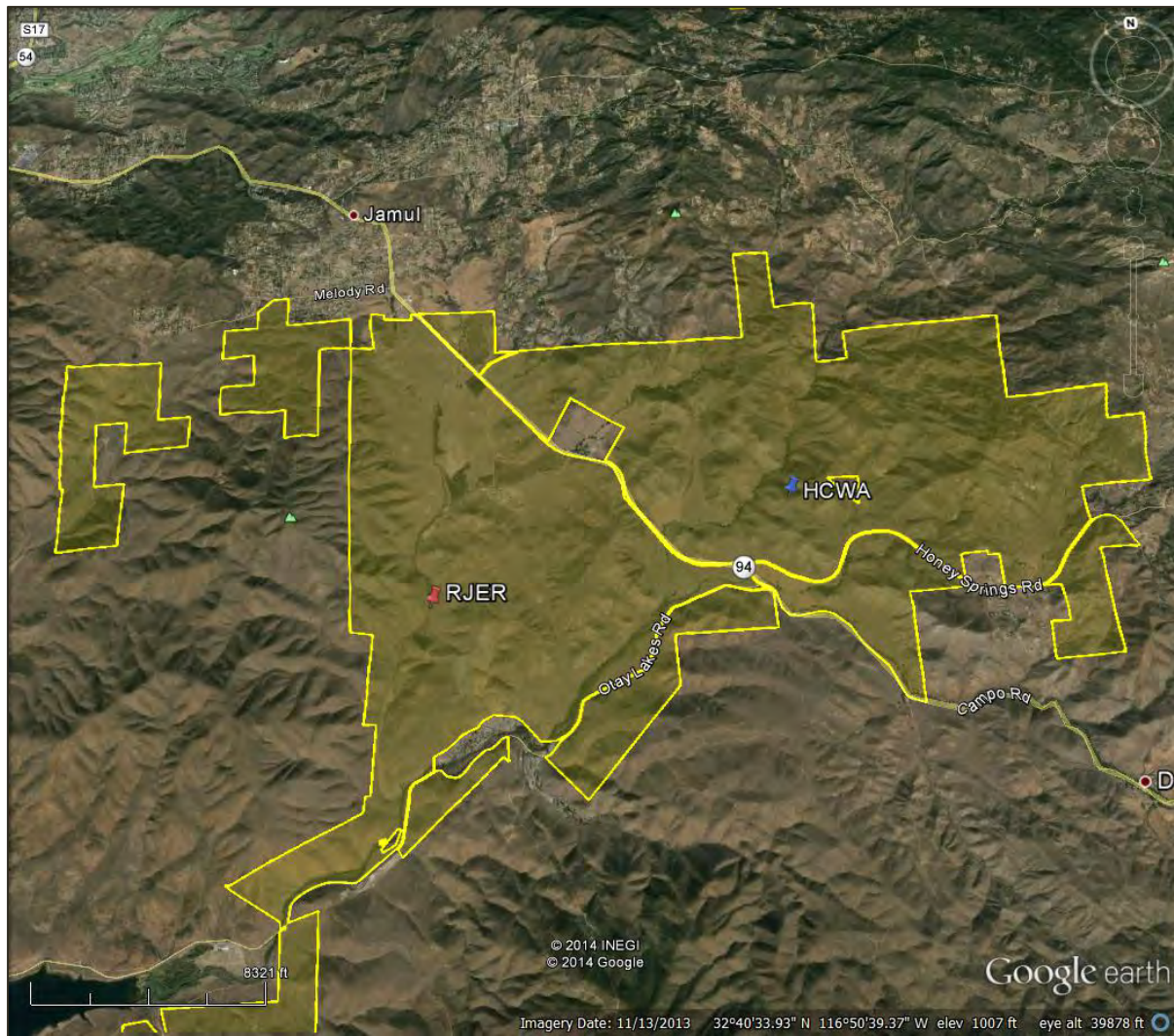
A satellite map of the South County Area of the MSCP, showing the highlighted regions in yellow. The map includes major roads, cities, and geographical features. Key locations labeled include San Diego, Chula Vista, Tijuana, El Cajon, Descanso, and La Presa Rural. The highlighted areas are primarily in the central and northern parts of the region, with some smaller patches in the south. The map also shows the coastline and the Gulf of California. A scale bar indicates 7.19 miles. The map is credited to Google Earth and includes copyright information for 2014.



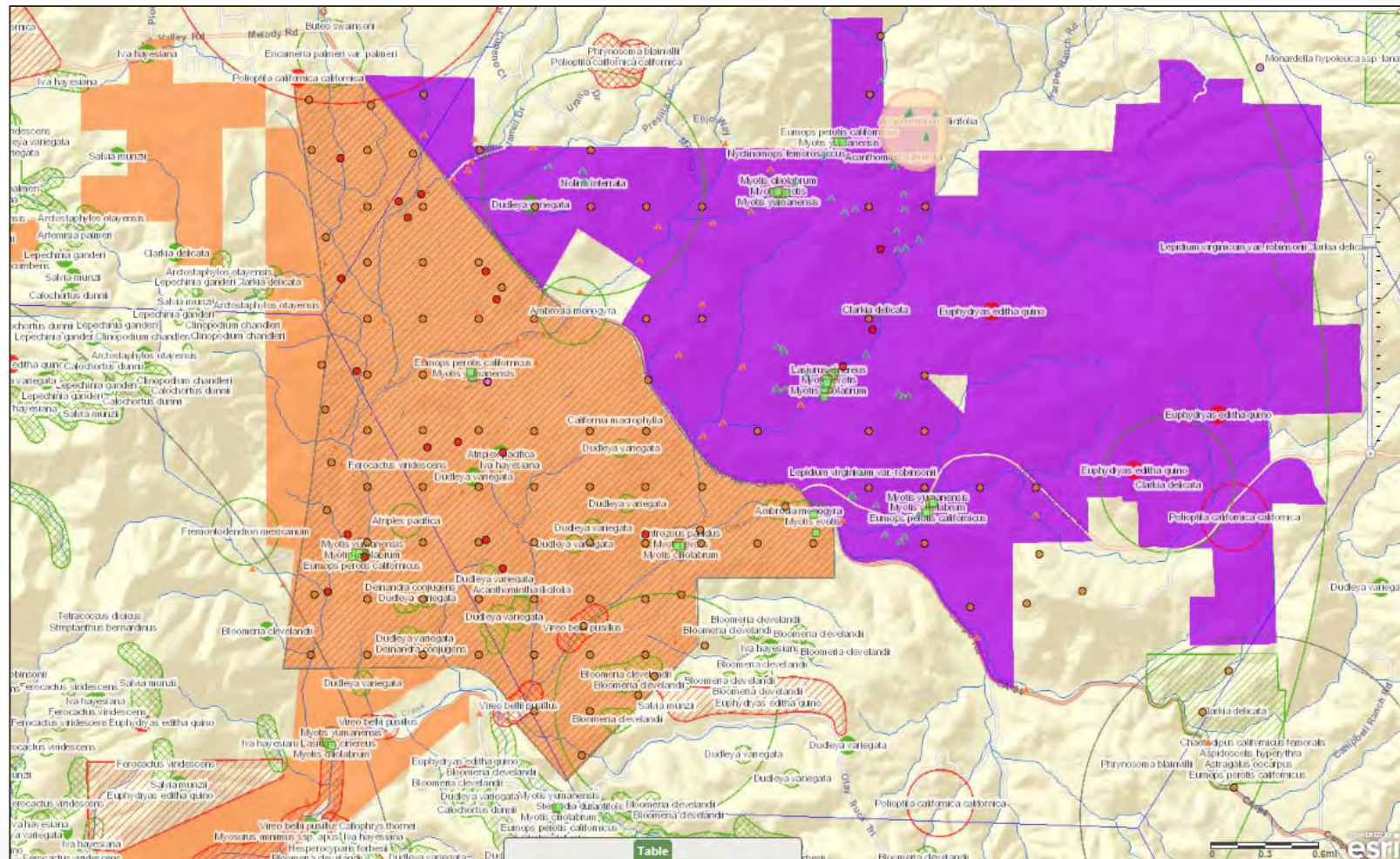
Adjacent or nearby other conserved lands:



RJER + HCWA = > 12,000 Acres



With lots of habitats and species....



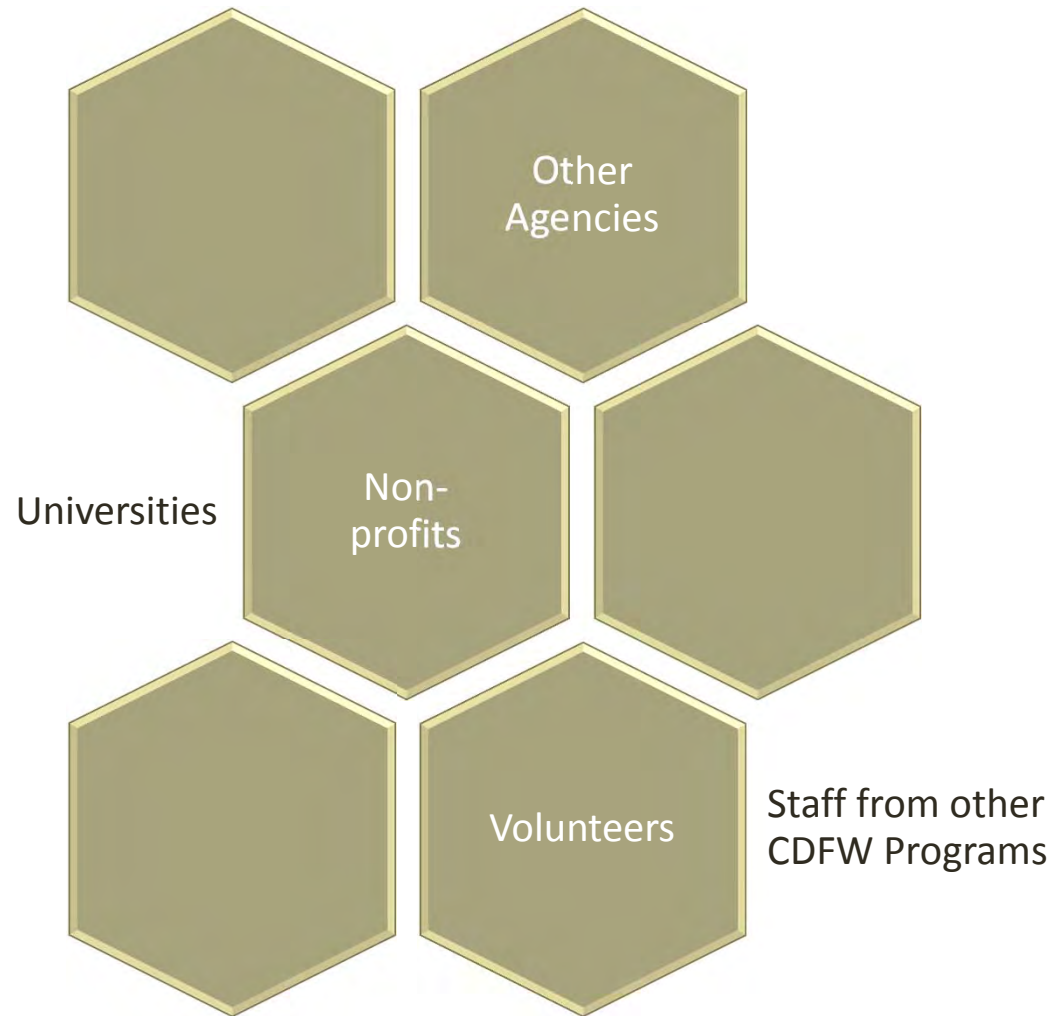
Rancho Jamul and Hollenbeck staffing challenges





How do we manage?

Partnerships!



Who They Are

- We'll get to that.

First let's talk about....

What we did:



Together

Ongoing maintenance of existing efforts:



Outreach and Education Program

Biological Surveys

Native Landscape Demonstration Garden

Burrowing Owl Habitat Management Area

Prescribed Burning Spring and Fall

San Diego Thornmint Management Area

Tecate Cypress Grove

The Great Squirrel Exchange

Integrated Pest Management Program



© 2007 Andrew Borchert

New and/or better in 2013:



Dulzura Creek Restoration Project

Otay Tarplant Study Site

Grasslands Study (Otay Tarplant)

Native Cover Project at the Honey Springs Hunting Dog Training Area

The Tricolored Pond Project

Proctor Valley ORV Barrier (Phase III)

Squirrel Habitat Enhancement in the Burrowing Owl Habitat Management Area



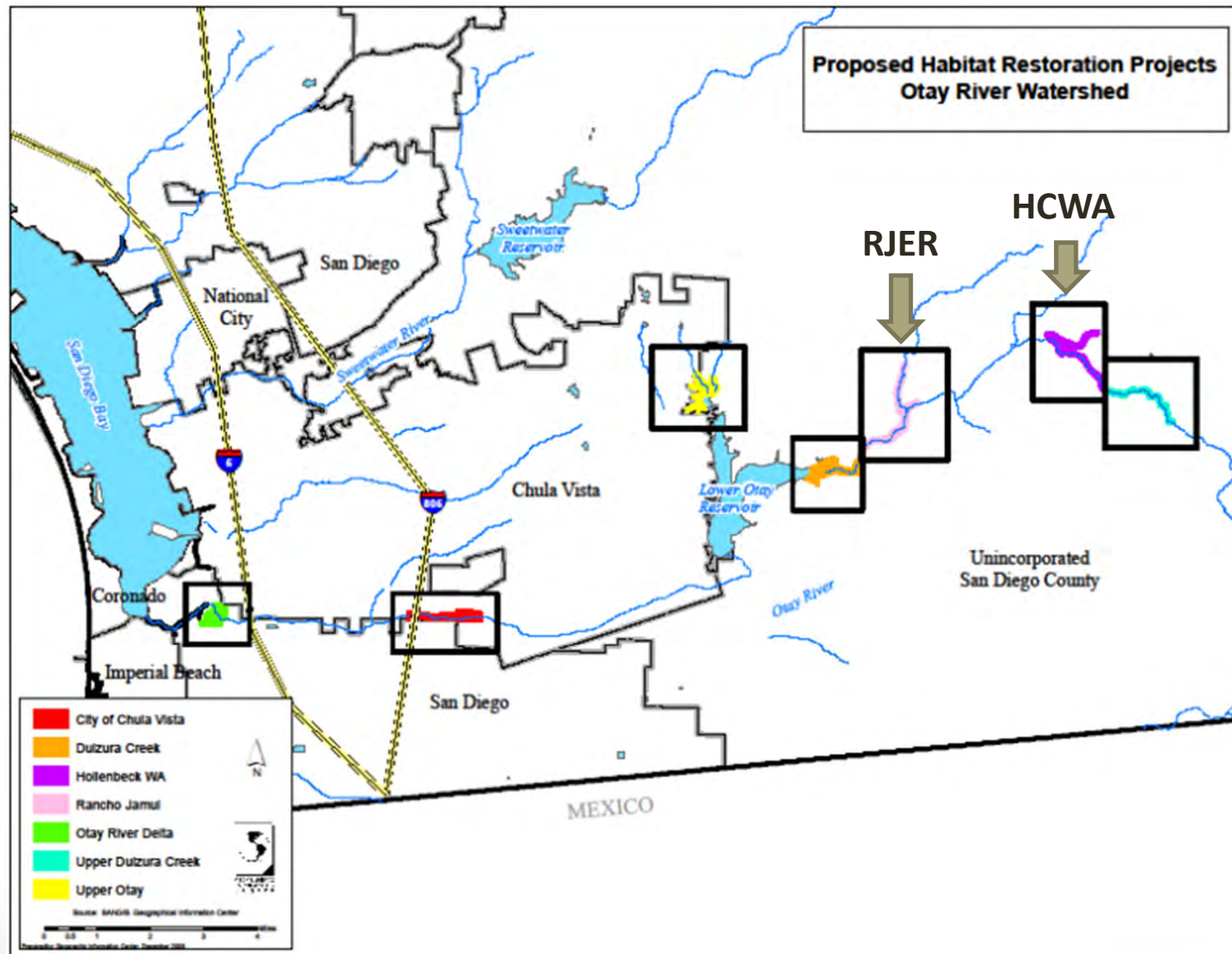
© 2001 Greg Mason



© 2006 Joyce Gross

RIVER PARTNERS

Dulzura Creek Restoration Project; part of a larger effort in the Otay River Watershed





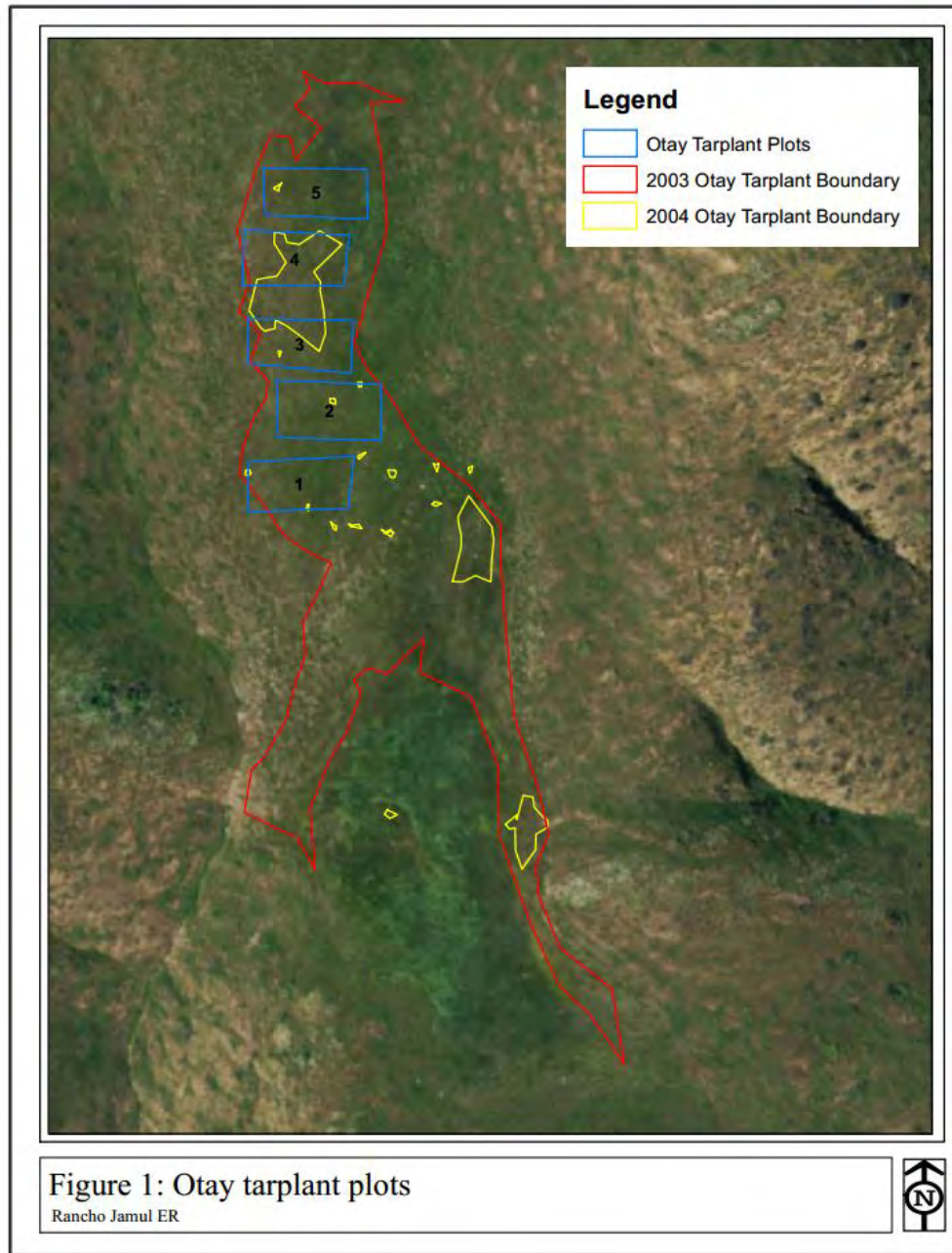


What it looks like now



Otay Tarplant Site

- As observed 2003 and 2004
- The blues represent a schematic of our experimental treatment test plots



Otay Tarplant Site



Oct 2012



March 6, 2013

The Otay Tarplant Site Post-Fusilade Treatment March 2013





THE 'GRASSLANDS' STUDY (OTAY TARPLANT)

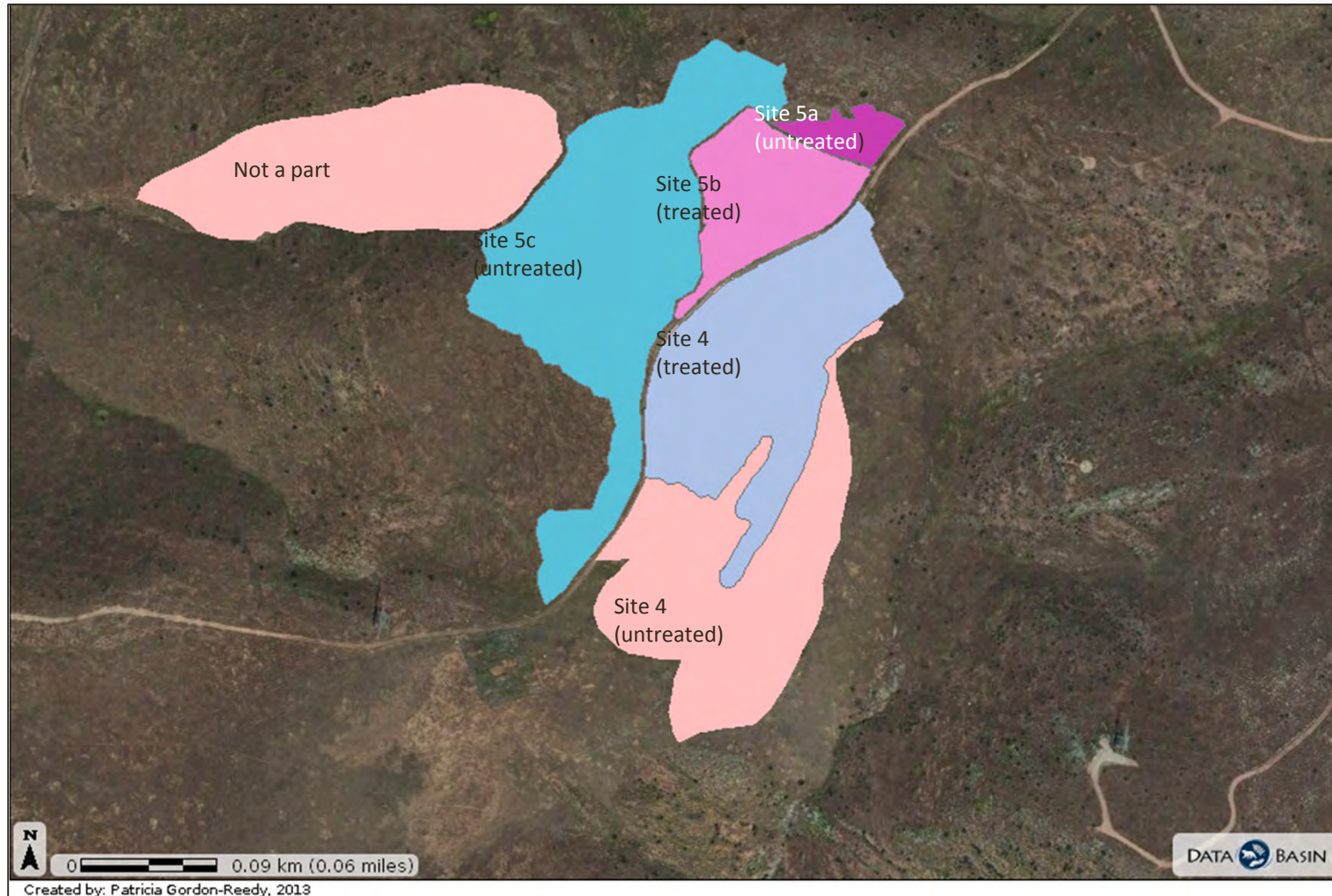
Conservation
Biology
Institute



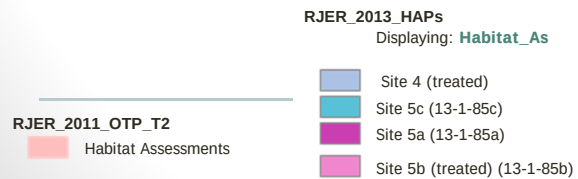
© 2010 Anna Bennett



CBI's Grasslands Study



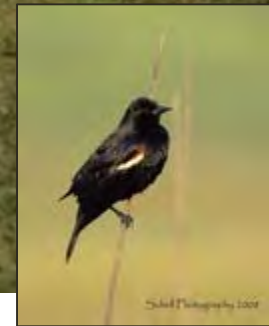
Legend



Native Cover Project

at the Honey Springs Dog Training Area





The Tricolored Black Bird Pond (Wildlife Pond) © 2009 Rob Schell

CDFW (Lands) implemented treatments in the fall of 2013 to encourage new cattail growth and preserve a section of open water



The Results:

Tricolors returned to breed here this year (spring 2014). One of the few places that had amenable habitat in the area, due to the drought.

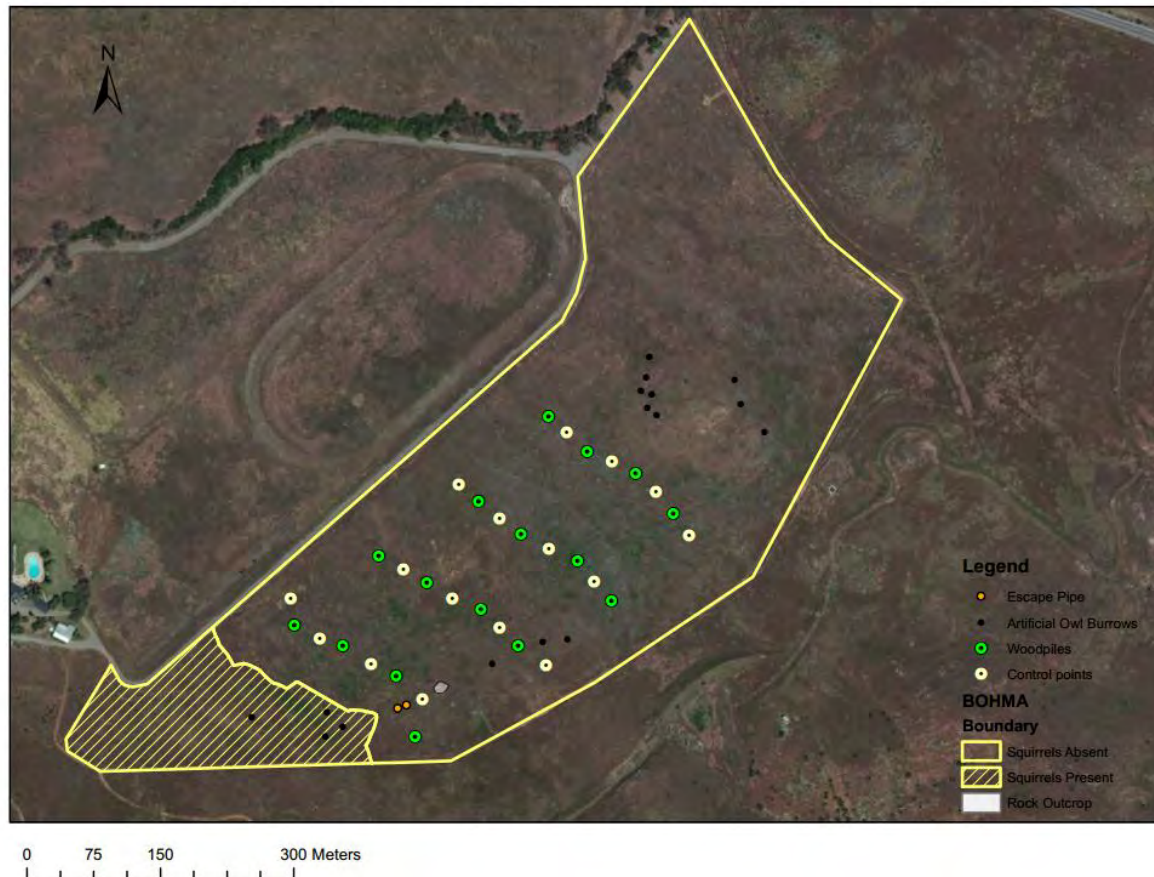


The Proctor Valley ORV Barrier

Phase III The Chaparral Lands Conservancy with assistance
from The Nature Conservancy and SANDAG
(and a bunch of city, county, state and federal agencies)

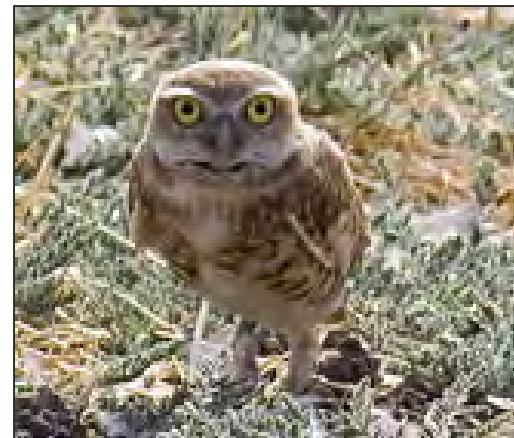
Squirrel Habitat Enhancement

in the Burrowing Owl Habitat Management Area



Dr. Lloyd Glenn Ingles ©
California Academy of
Sciences

- In consultation with ICR, CDFW (NCCP) Staff began enhancing ground squirrel habitat within the BOHMA. A monitoring component is underway.



© 2006 William McCarey

Together, in 2013

We enhanced more wildlife habitat at RJER and HCWA than in any given year previously

'Touched' in 2013





Other Programs



SAN DIEGO ZOO
INSTITUTE FOR
CONSERVATION
RESEARCH.

Thank you to our Partners!



Coming in 2014...



**Conservation education for primary school aged kids
- -school field trips at RJER, oh my!**

And cattle grazing!

**So, stay tuned for another exciting year in conserved lands
management!**



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

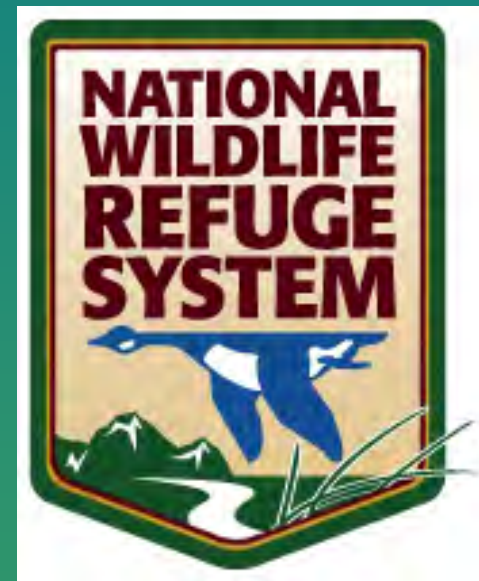




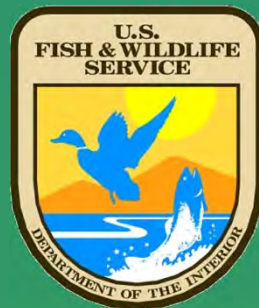
U.S. Fish & Wildlife Service
National Wildlife Refuge System

The National Wildlife Refuge System

The only national network of public lands set aside for the conservation of fish, wildlife, and plants.



“Wildlife First”



San Diego
National Wildlife Refuge
Complex





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

National Wildlife Refuge System Improvement Act

Enacted by Congress in 1997, the Act establishes the process for how we plan for uses on National Wildlife Refuges.

Our Mission Statement – *“To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”*

San Diego
National Wildlife Refuge
Complex





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

Why prepare a Comprehensive Conservation Plan?

- Guides Refuge management for consistency with the National Wildlife Refuge System Mission (*Wildlife First*).
- Ensures current and future uses are compatible with Refuge establishment purposes.
- Provides long-term continuity for Refuge management.
- Addresses wildlife and habitat management for listed and other species including surveys and habitat restoration; public use, fire management, law enforcement, and Refuge operations and maintenance.





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

Wildlife-Dependent Recreational Uses



Hunting



Fishing



Wildlife Observation



Photography



Environmental
Education



Interpretation

San Diego
National Wildlife Refuge
Complex



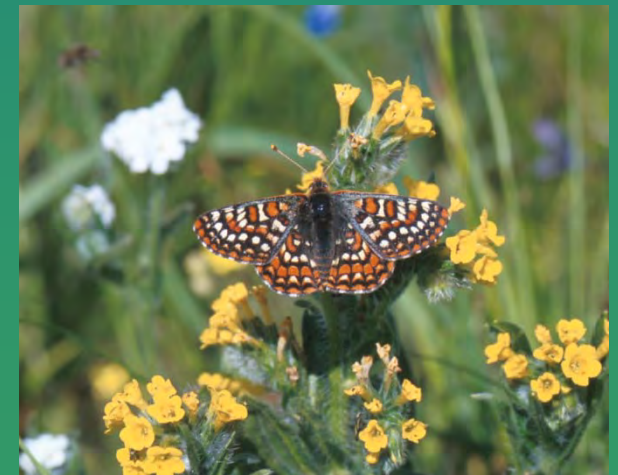
San Diego National Wildlife Refuge

Established in 1996 to:

- Conserve and help recover endangered and threatened species populations
- Conserve migratory birds and the biological diversity in San Diego
- Be the Federal government's contribution to the Multiple Species Conservation Program's (MSCP) preserve system



Rare Vernal Pool Habitat



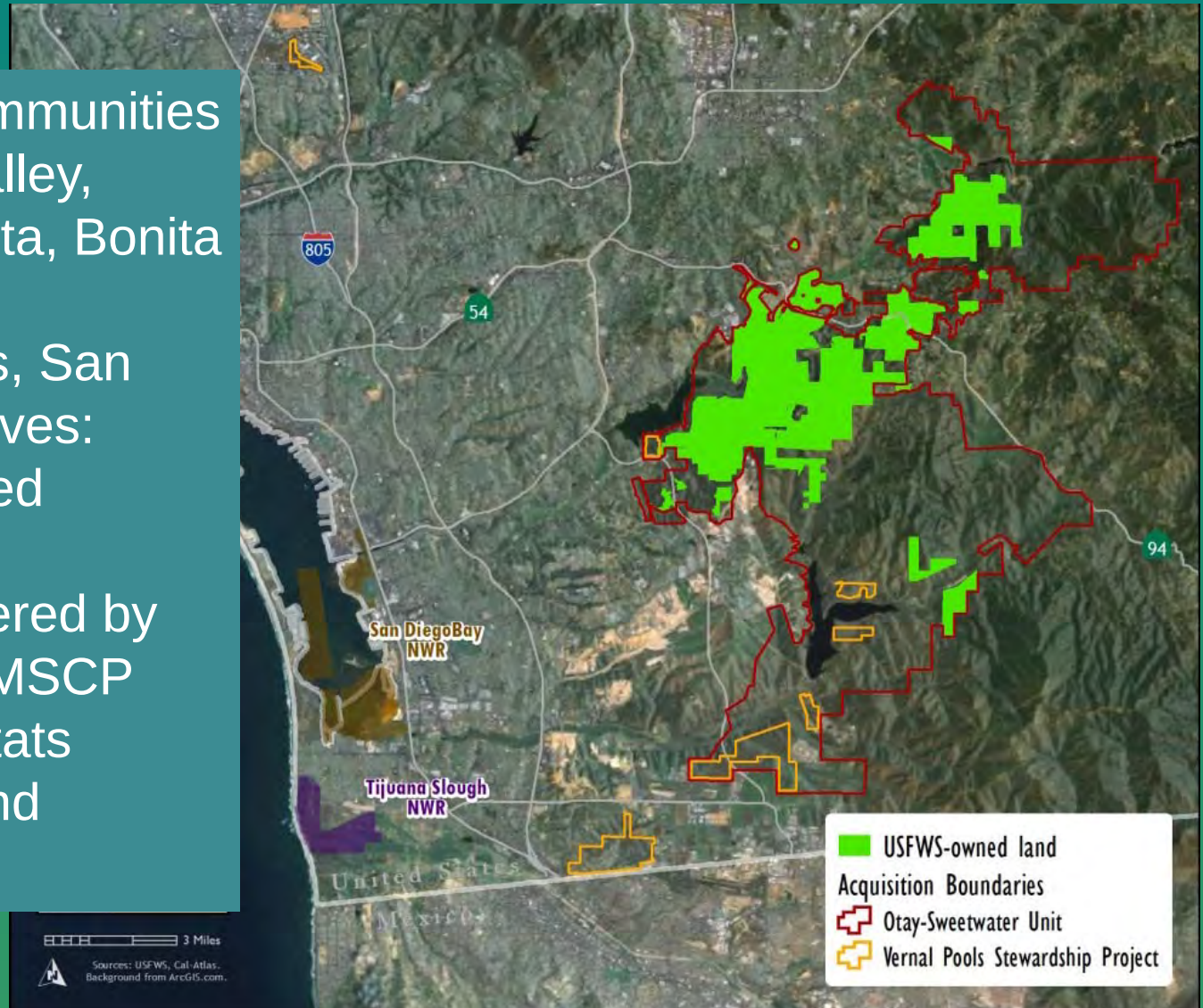
**Endangered Quino
Checkerspot Butterfly**

San Diego National Wildlife Refuge

Located in/near communities of Jamul, Spring Valley, El Cajon, Chula Vista, Bonita

Within 11,537 acres, San Diego NWR conserves:

- 16 federally listed species
- 35 species covered by the San Diego MSCP
- 11 Critical Habitats
- Other wildlife and habitats





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

Draft Comprehensive Conservation Plan and Environmental Assessment

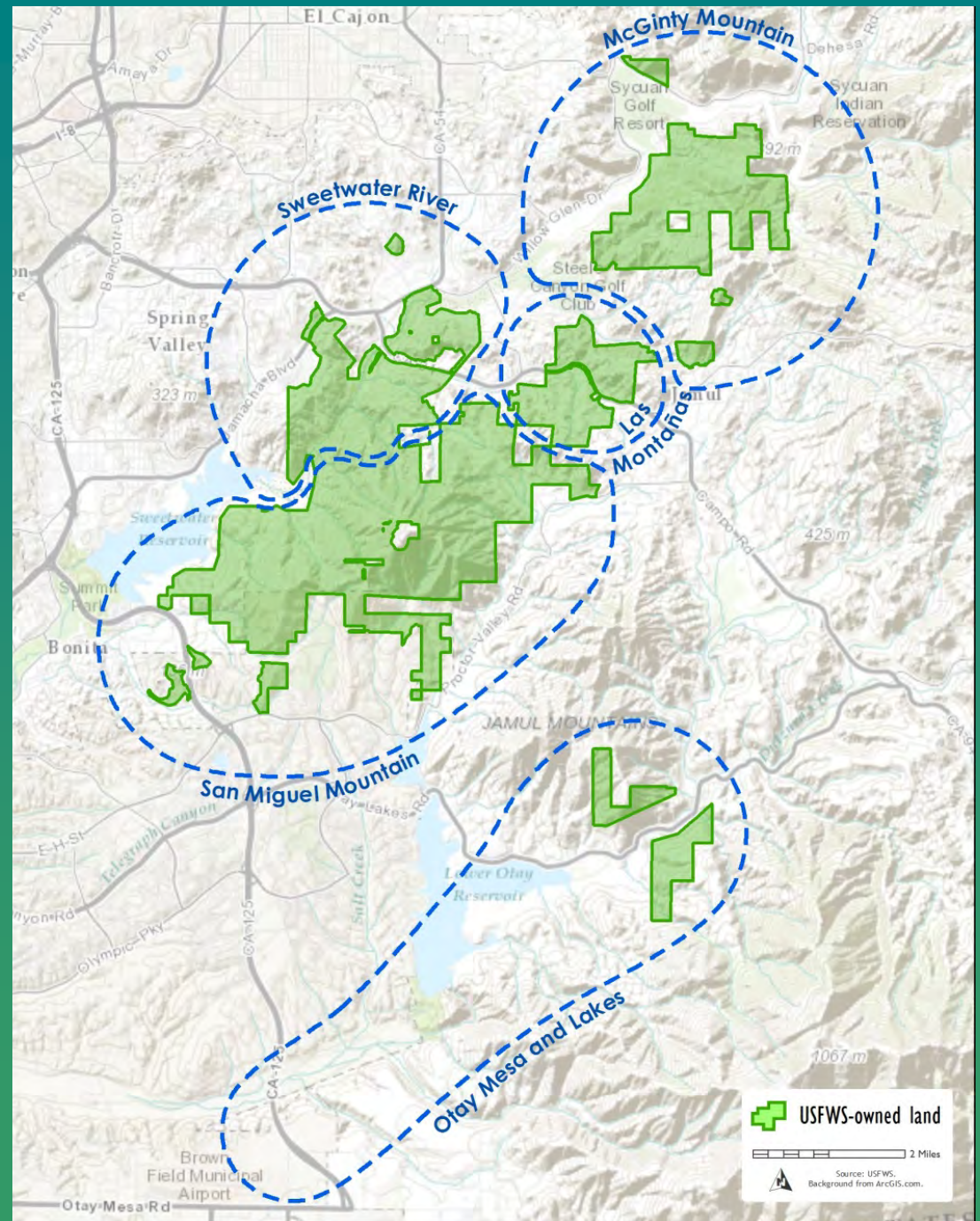
- Draft CCP and EA integrated into one document
- National Environmental Policy Act requires analysis of a range of alternatives
- One “No Action” and three “Action” alternatives are presented
- Action alternatives provide slightly different management focus while ensuring actions will not adversely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

San Diego
National Wildlife Refuge
Complex



Management Areas described in the CCP/EA

- McGinty Mountain
- Sweetwater River
- Las Montañas
- San Miguel Mountain
- Otoy Mesa and Lakes





San Diego National Wildlife Refuge: Draft CCP Management Alternative A

PUBLIC USE

- Information Kiosk
- Trailhead
- Parking

Multiple Use Trail

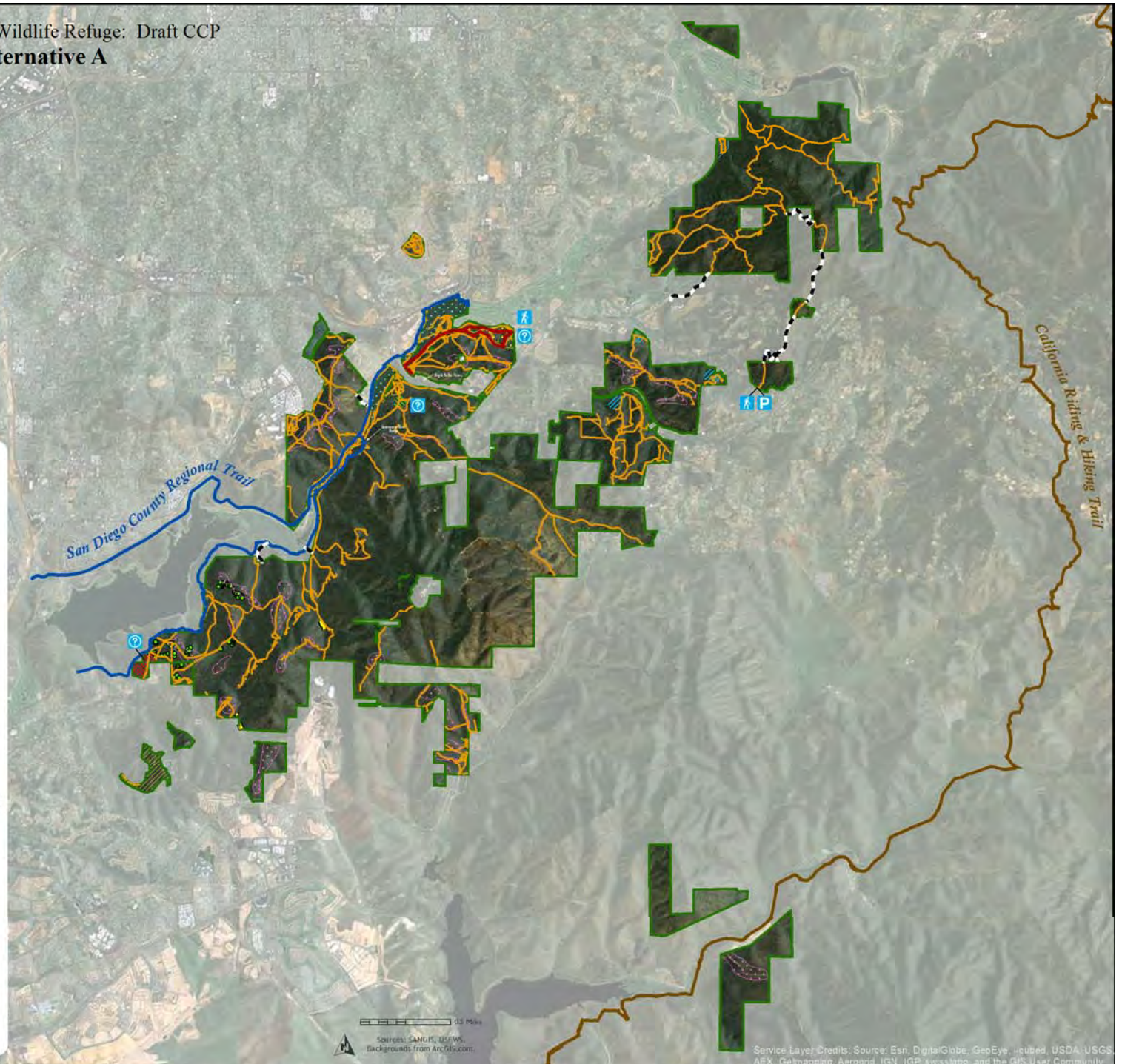
Non-Refuge Trail

Sample of Existing Unofficial Routes
Subject to closure

Existing County Regional Trail

HABITAT MANAGEMENT

- Cactus Wren Habitat
- Mexican Flannelbush Translocation Site
- Quino Checkerspot Monitoring
- San Diego Ambrosia Protection/Monitoring
- Least Bell's Vireo Monitoring
- Otay Tarplant Enhancement
- Hermes Copper Monitoring
- Vernal Pool Restoration/
Burrowing Owl Nest Boxes (maintain)
- Planted Oaks (maintain)
- Native Grassland and
Annual Forbs Restoration
- USFWS-owned land





San Diego National Wildlife Refuge: Draft CCP Management Alternative B

PUBLIC USE

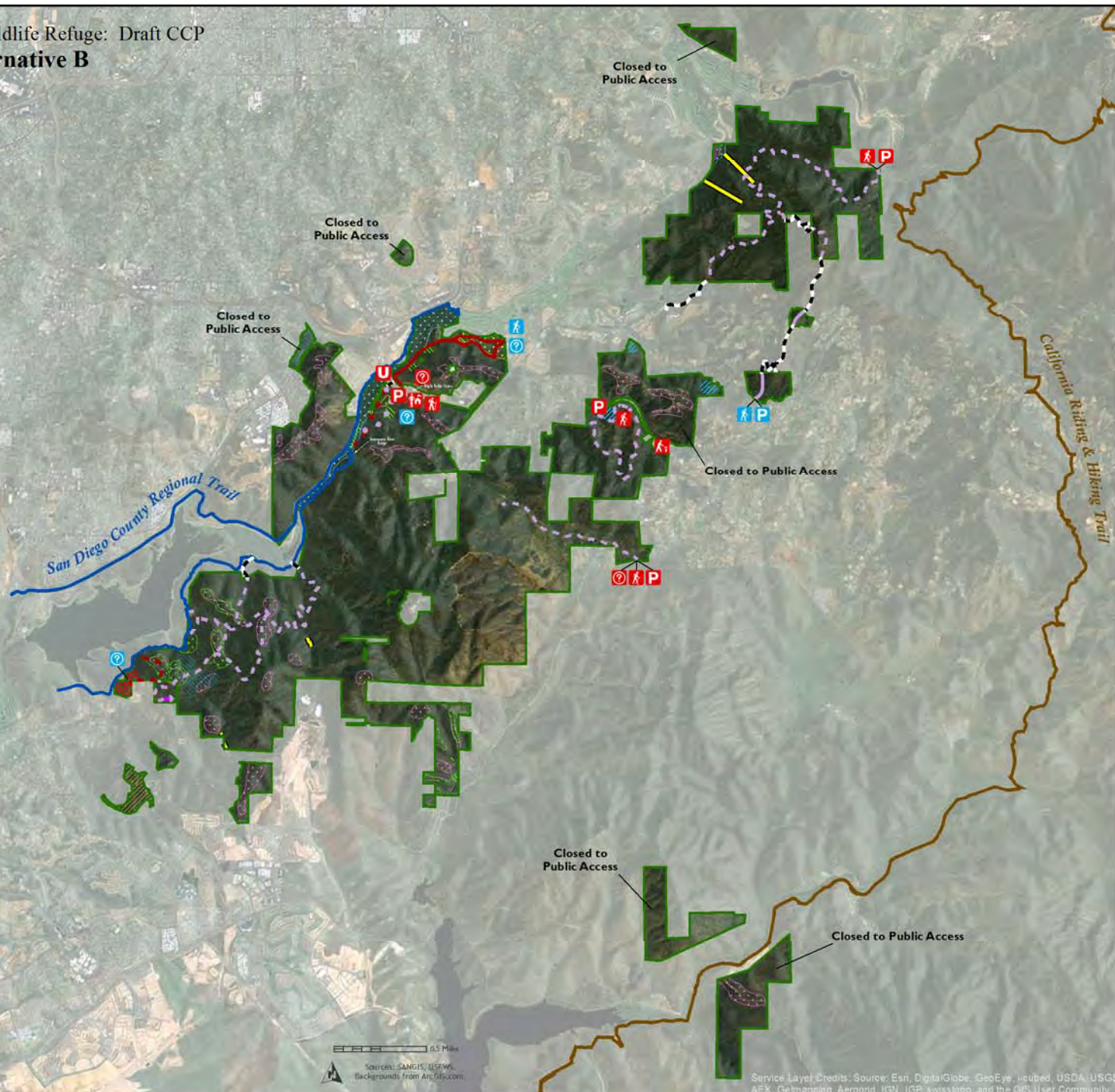
- Information Kiosk
- Trailhead
- Parking
- Future Information Kiosk
- Future Interpretive Site
- Future Parking
- Future Refuge Office/Visitor Contact Station
- Future Trailhead
- Potential Future Undercrossing

- Proposed Trail Corridor (Hiking Only)
- Multiple Use Trail
- Enhanced Interpretive Trail (Hiking Only)
- Enhanced Interpretive Trail (Multiple Use)
- Existing County Regional Trail
- Non-Refuge Trail

HABITAT MANAGEMENT

- Mexican Flannelbush Translocation Site
- Quino Checkerspot Monitoring
- San Diego Ambrosia Protection/Monitoring
- Cactus Wren Habitat Enhancement
- Least Bell's Vireo Monitoring
- Otay Tarplant Enhancement
- Hermes Copper Monitoring
- Vernal Pool Restoration/Burrowing Owl Nest Boxes (maintain)
- Planted Oaks (maintain)
- Native Grassland and Annual Forbs Restoration
- Wetland Enhancement
- USFWS-owned land

Dogs prohibited.



0.5 Miles
Sources: SANGIS, USFWS,
Backgrounds from ArcGIS.com

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Geonapping, Aerognd, IGN, IGP, swisstopo, and the GIS User Community



San Diego National Wildlife Refuge: Draft CCP Management Alternative C

PUBLIC USE

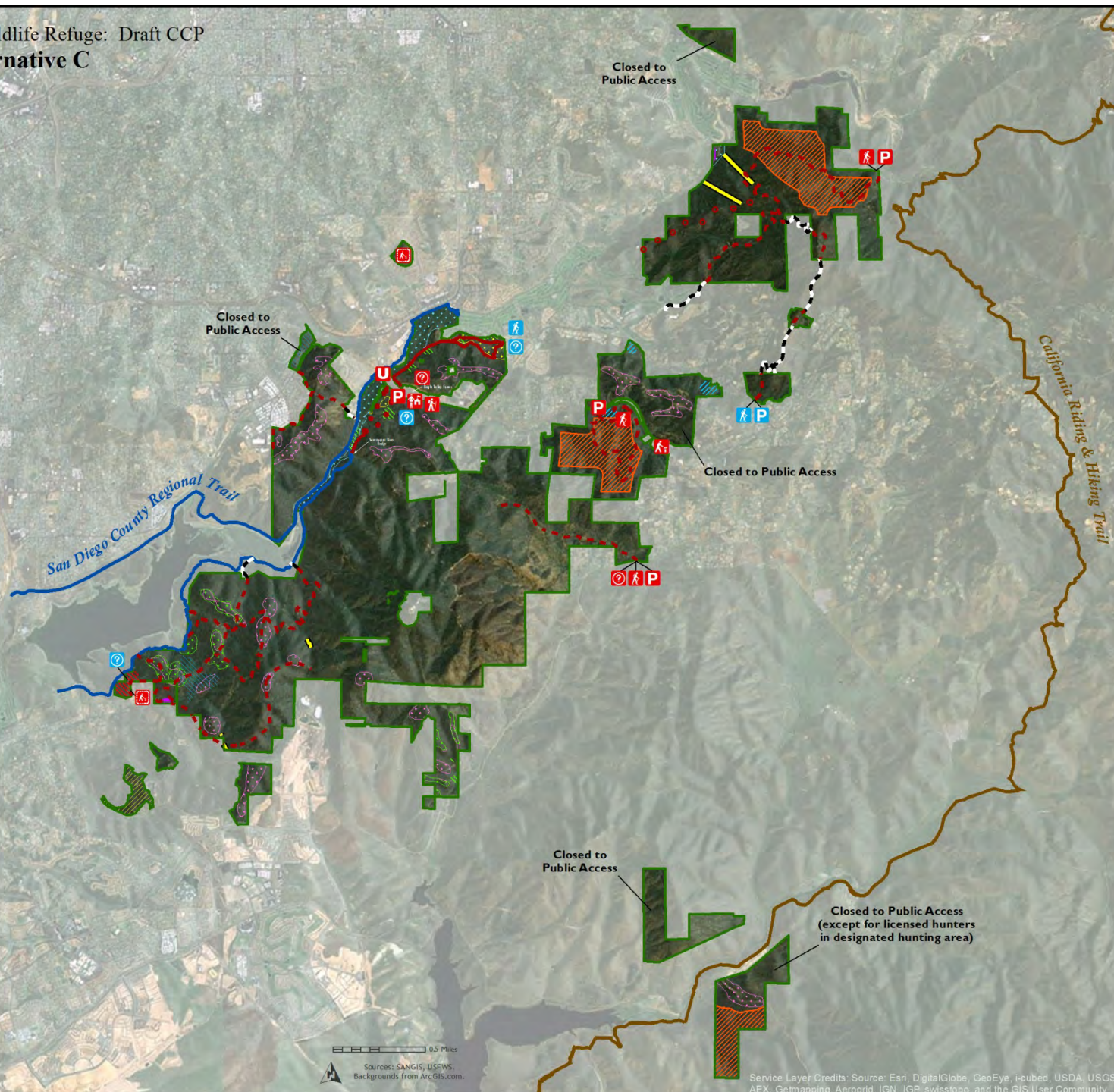
- Information Kiosk
- Trailhead
- Parking
- Future Information Kiosk
- Future Interpretive Boardwalk Trail
- Future Interpretive Site
- Future Parking
- Future Refuge Office/Visitor Contact Station
- Future Trailhead
- Potential Future Undercrossing

- Future Hunting Area
- Multiple Use Trail
- Enhanced Interpretive Trail (Multiple Use)
- Proposed Trail Corridor (Multiple Use)
- Existing County Regional Trail
- Non-Refuge Trail

HABITAT MANAGEMENT

- Mexican Flannelbush Translocation Site
- Quino Checkerspot Monitoring
- San Diego Ambrosia Protection/Monitoring
- Cactus Wren Habitat Enhancement
- Least Bell's Vireo Monitoring
- Otay Tarplant Enhancement
- Hermes Copper Monitoring
- Vernal Pool Restoration/Burrowing Owl Nest Boxes (maintain)
- Planted Oaks (maintain)
- Native Grassland and Annual Forbs Restoration
- Wetland Enhancement
- USFWS-owned land

Dogs permitted with restrictions.



Sources: SANGIS, USFWS, Backgrounds from ArcGIS.com.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Geomapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



San Diego National Wildlife Refuge: Draft CCP Management Alternative D

PUBLIC USE

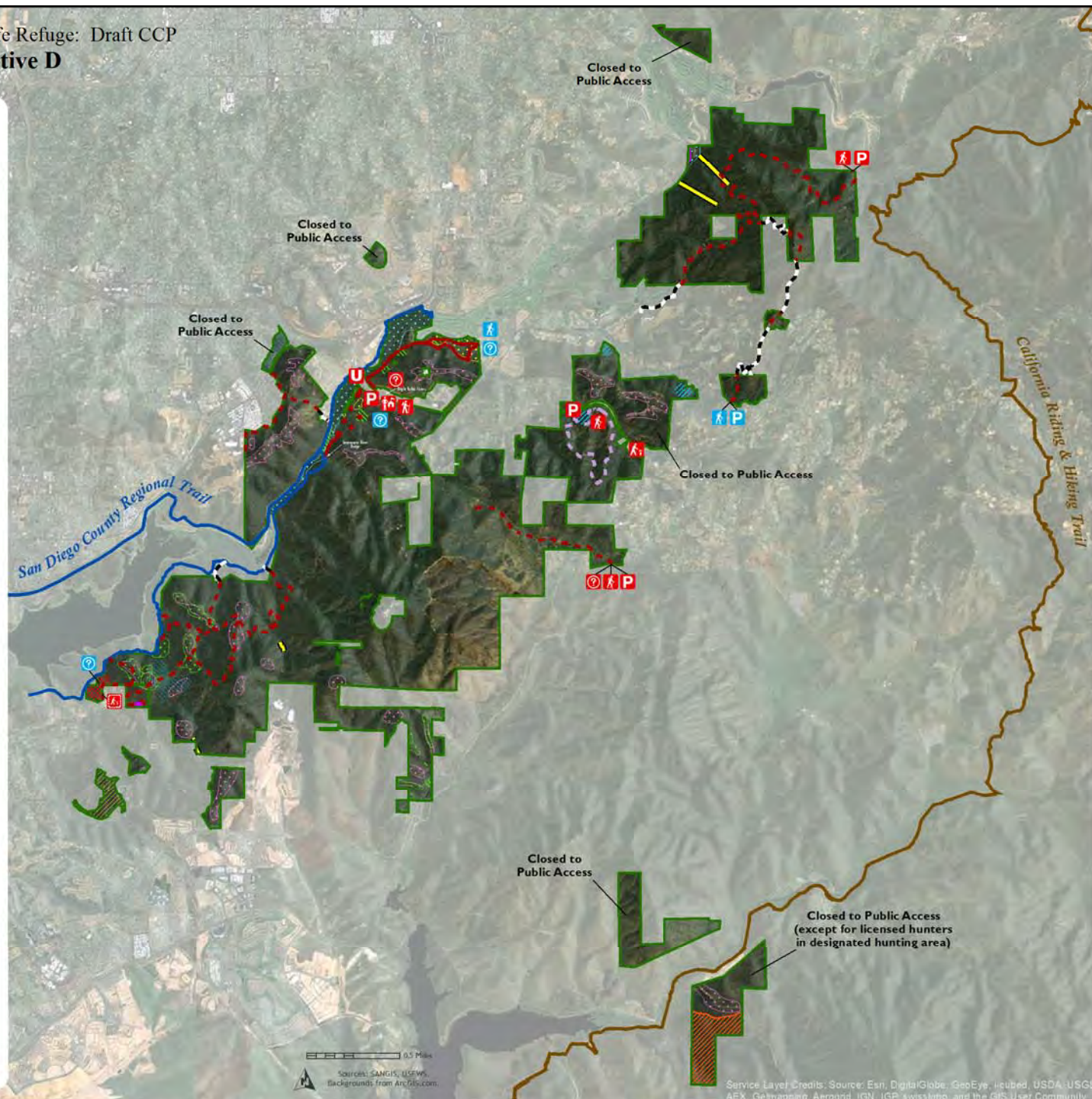
- Information Kiosk
- Trailhead
- Parking
- Future Information Kiosk
- Future Interpretive Boardwalk Trail
- Future Interpretive Site
- Future Parking
- Future Refuge Office/Visitor Contact Station
- Future Trailhead
- Potential Future Undercrossing

- Future Hunting Area
- Proposed Trail Corridor (Hiking Only)
- Multiple Use Trail
- Enhanced Interpretive Trail (Multiple Use)
- Proposed Trail Corridor (Multiple Use)
- Existing County Regional Trail
- Non-Refuge Trail

HABITAT MANAGEMENT

- Mexican Flannelbush Translocation Site
- Quino Checkerspot Monitoring
- San Diego Ambrosia Protection/Monitoring
- Cactus Wren Habitat Enhancement
- Least Bell's Vireo Monitoring
- Otay Tarplant Enhancement
- Hermes Copper Monitoring
- Vernal Pool Restoration/Burrowing Owl Nest Boxes (maintain)
- Planted Oaks (maintain)
- Native Grassland and Annual Forbs Restoration
- Wetland Enhancement
- USFWS-owned land

Leashed dogs permitted on designated multiple use trails.



Scale: 0.5 Miles
Sources: SANGIS, USFWS, Backgrounds from ArcGIS.com

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Geonapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Trail Proposals

- About 20 miles of trails provided under Alternatives B or D
- About 25 miles of trails provided under Alternative C

Hunting Proposals

- Alternative C: hunting for rabbit, dove, quail on 700 acres at Las Montanas/McGinty areas, with bow hunting of deer at McGinty. Also, 160 acres in Otay Lakes/Mesa area for big game (deer, feral pig), resident small game (rabbits), resident and migratory upland game bird (dove, quail, wild turkey)
- Alternative D: 160 acres in Otay Lakes/Mesa area as described in Alternative C



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

Step Down Plans

Within CCP/EA are:

- Integrated Pest Management Plan

- Feral Pig Monitoring and Eradication Plan

After CCP finalization:

- Development of Trail Plan

- Development of Hunt Plan (if Alt. C or D selected)

Public involvement will be an integral part of the Step Down Plans

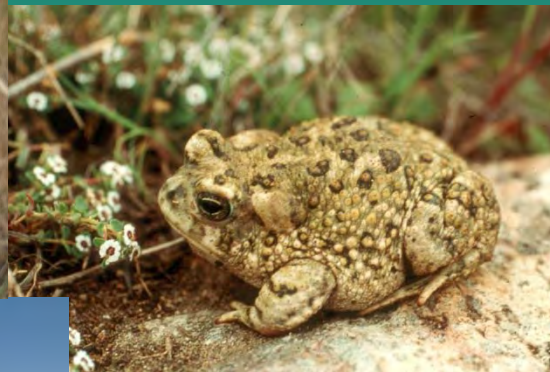




U.S. Fish & Wildlife Service
National Wildlife Refuge System

Draft Comprehensive Conservation Plan/ Environmental Assessment is online at:

www.fws.gov/refuge/San_Diego/what_we_do/planning.html



San Diego
National Wildlife Refuge
Complex





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

Provide Your Comments by Monday, August 18th

- Comment tonight by verbal statement (will be recorded)
- Comment by Mail, Fax, Email (put "San Diego NWR CCP" in subject line) to:

Victoria Touchstone

USFWS, San Diego NWR Complex

P.O. Box 2358, Chula Vista, CA 91912

Fax: 619-476-9149

Email: Victoria_Touchstone@fws.gov

www.fws.gov/refuge/San_Diego/what_we_do/planning



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

Contact Information

Jill Terp, Refuge Manager
619-468-9245 extension 226
Jill_Terp@fws.gov

Victoria Touchstone, Refuge Planner
619-476-9150 extension 103
Victoria_Touchstone@fws.gov

Provide Your Comments by Monday, August 18th

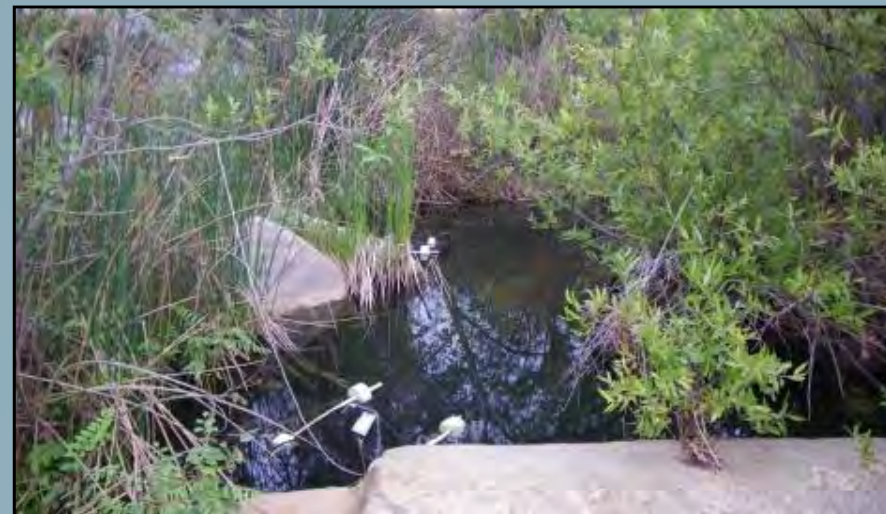
www.fws.gov/refuge/San_Diego/what_we_do/planning

San Diego
National Wildlife Refuge
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Western Pond Turtle Restoration at Sycuan Peak ER

- Initial surveys to determine population (10 females, 14 males)
- Harvest eggs for head start program (3 females producing eggs)
- Utilize traps, nets, visual encounter surveys to remove nonnative aquatic species
- Continue monitoring to determine population response and harvest eggs
- Continue nonnative species removal as needed
- Release head started individuals, monitor for site fidelity



Western Pond Turtle Restoration at Sycuan Peak ER

- Five head started WPT released in July of 2013, five more to be released this month.
- WPT monitoring after nonnative species removal has detected four wild juveniles

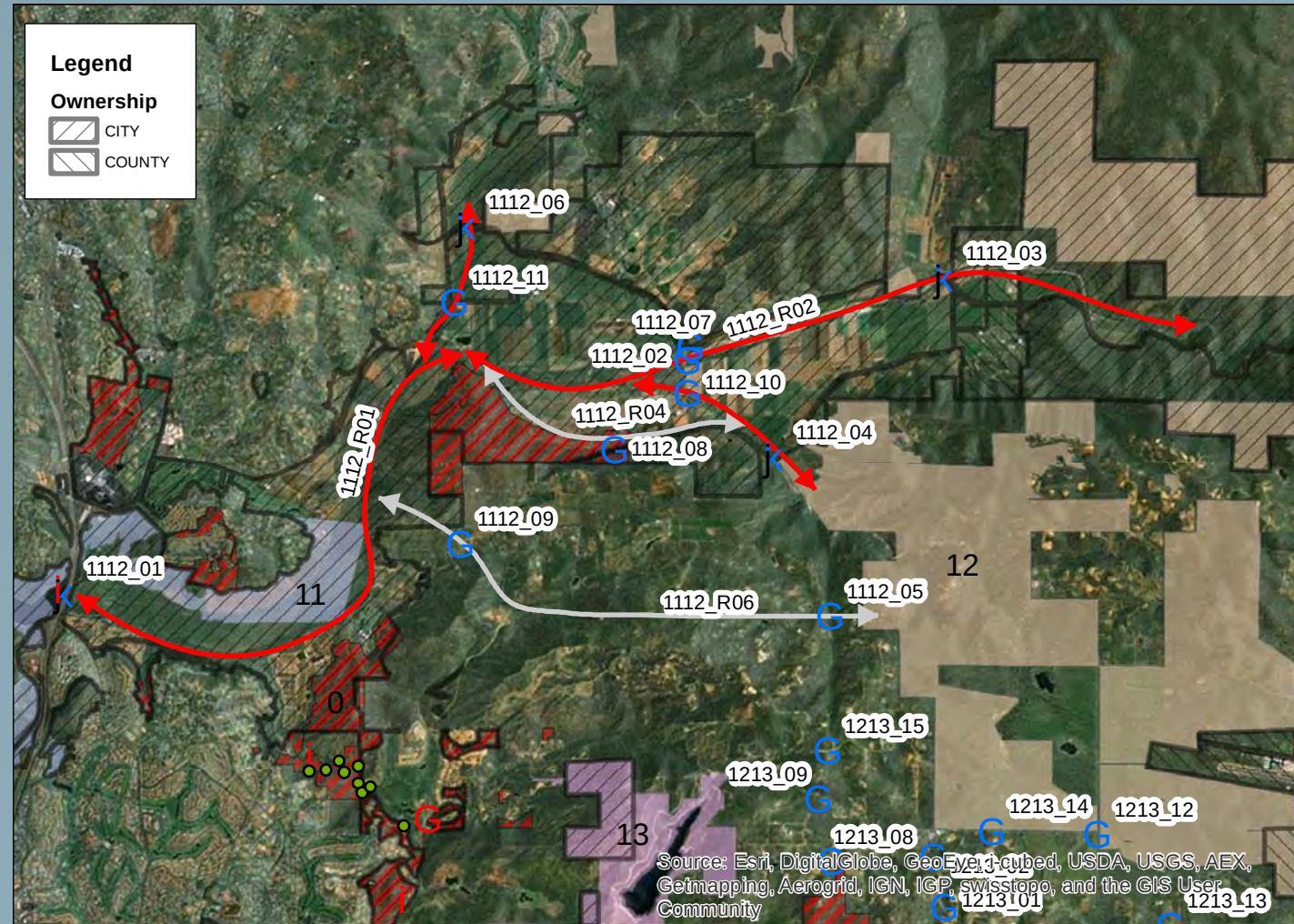


Western Pond Turtle Restoration at SPER



Wildlife Linkage Evaluation

- Prioritize potentially functioning linkages between core conserved areas
- Coordinate with San Diego Management and Monitoring to select three sites for monitoring



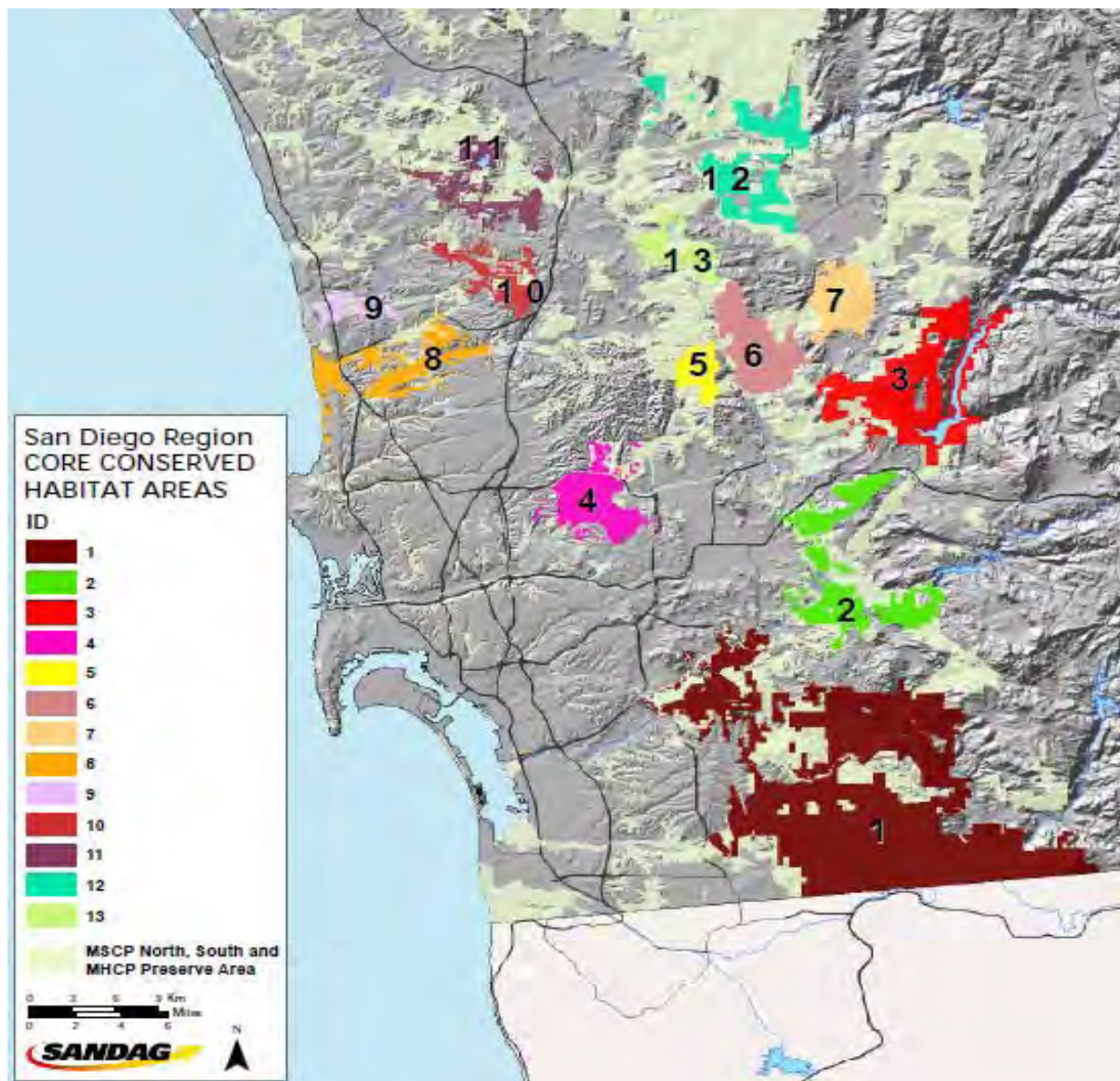


Population Genetics of Coastal Cactus Wrens and California Gnatcatchers

Amy Vandergast
Barbara Kus
Kelly Barr
Scarlett Howell

Western Ecological Research Center
San Diego Field Station

U.S. Department of the Interior
U.S. Geological Survey



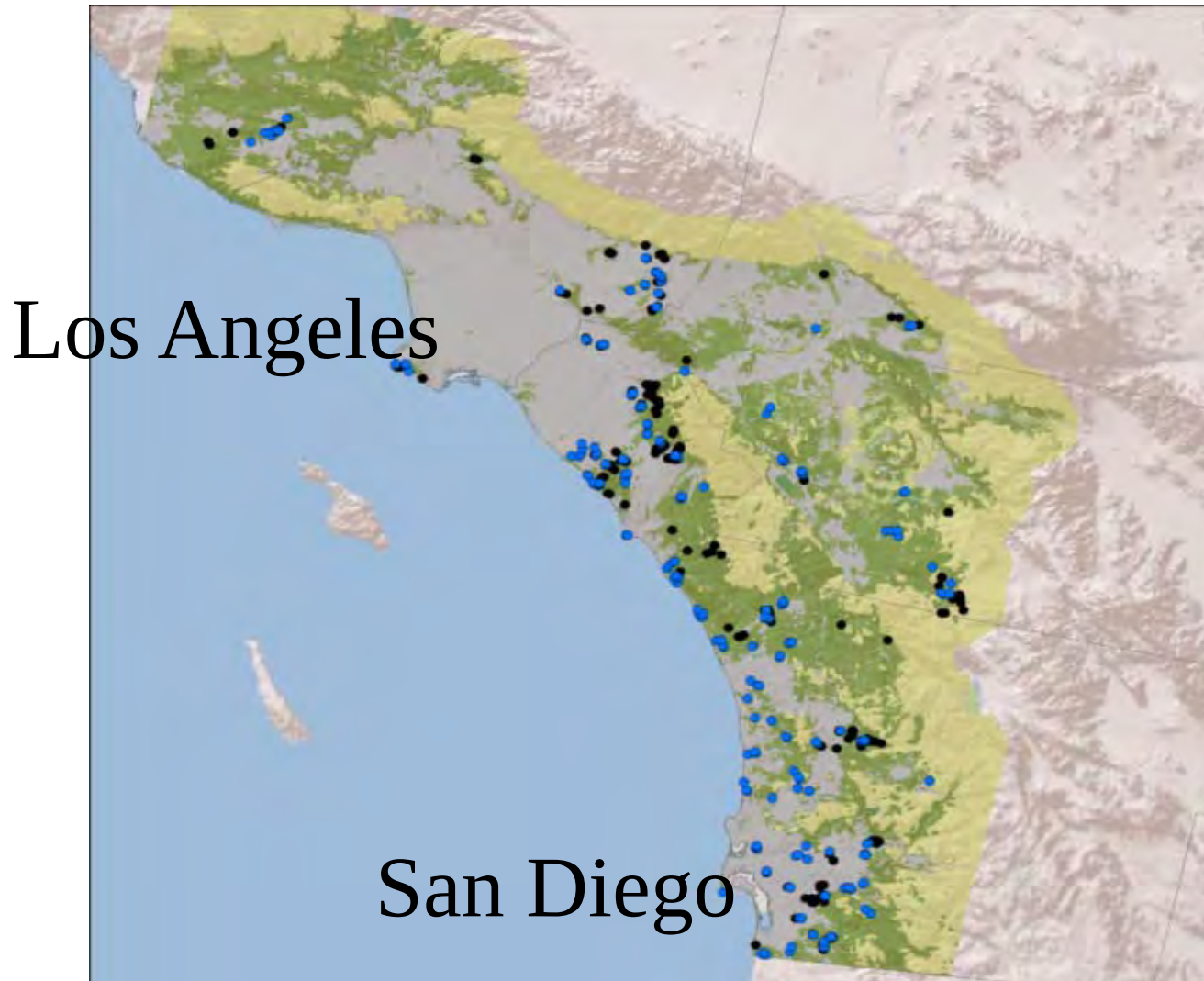
What is the functional connectivity among core areas for

- large animals
- small animals
- birds

Priority bird species:

- Coastal Cactus Wren
- Ca. Gnatcatcher
- Least Bell's Vireo
- SW. Willow Flycatcher

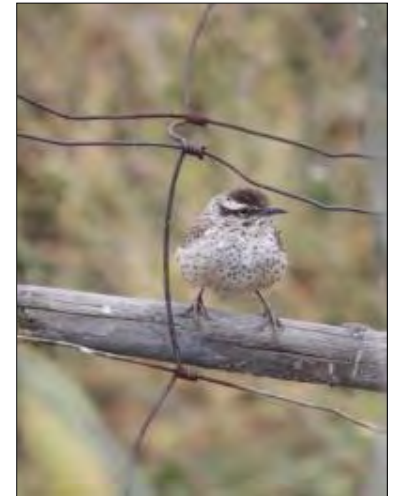
Sampling throughout So. Cal. ranges



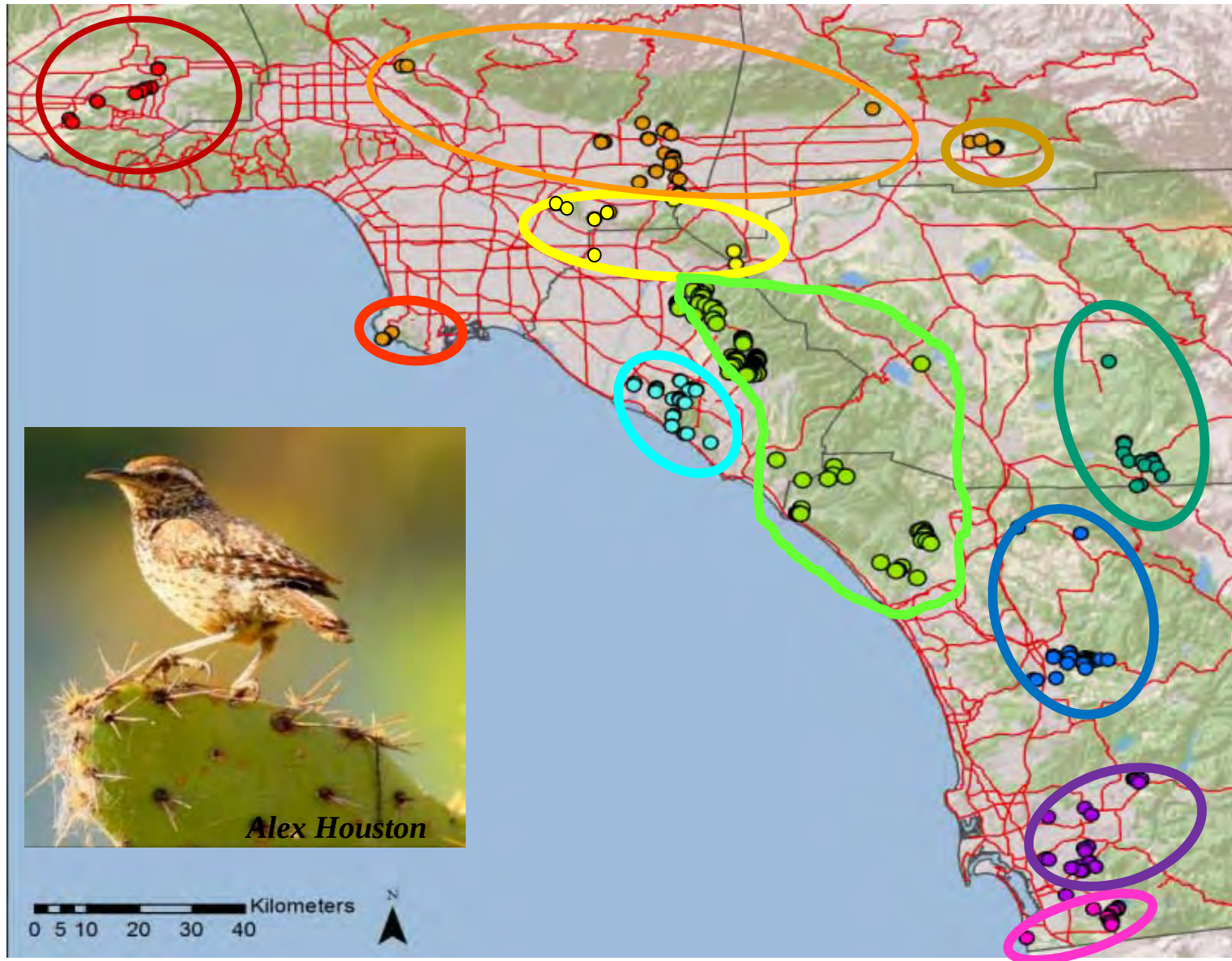
● **Coastal
Cactus Wren**

● **California
Gnatcatcher**

Genetic Sampling of Cactus Wrens and Gnatcatchers



Cactus Wren: 11 Genetic Clusters



Ventura
PalosVerdes

Los Angeles

Puente/Chino

San Bernardino

Central OC

Coastal OC

Riverside

San Pasqual

San Diego

Otay



Gnatcatcher: 1 Genetic Cluster



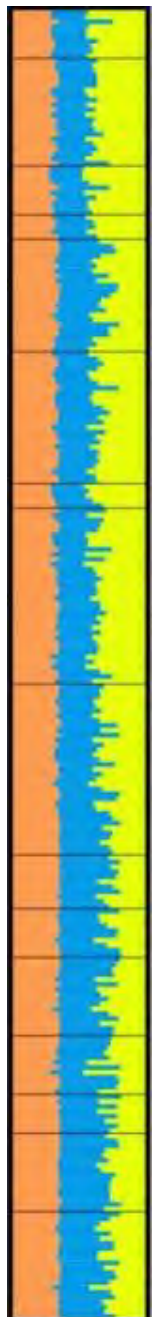
Alex Houston



K=2



K=3



Summary and Implications for Recovery

Cactus Wrens

- Highly structured across southern California
- Gene flow and dispersal appear limited in urban areas
- Lower intrinsic ability to recolonize recovered habitat
- Restore connectivity- Cactus restoration and translocation



Gnatcatchers

- Single genetic population across range
- No detectable limitations
- Higher intrinsic ability to recolonize recovered habitat
- Coordination of range-wide monitoring for occupancy and detection of responses to threats



American Badger Project:

Purpose/ Goals:

- Determine if and where Badgers occur in western portion of the County (particularly MSCP/HCP Lands)
- Can they be indicator for upland connectivity?
- Assess distribution & identify key population areas
- Identify/Map Movement Corridors
- Threat assessment (road crossing areas, rodenticide exposure, depredation)



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 raccoons).
- 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







Because badgers are constantly on the move, we depend on citizen sightings to identify usage areas where the species still occur. Also, road-killed badgers provide vital genetic and movement information. Please provide date seen, detailed location, and photo(s), if possible.

If you have recently seen a badger, fresh burrows, or a dead badger,
Please Call USGS scientists at: 619-225-6458

You can also e-mail us your sightings to SDBadgers@usgs.gov



For more information on badgers and our wildlife study
go to www.werc.usgs.gov/sdbadgers



***TransNet* ENVIRONMENTAL MITIGATION PROGRAM: STATUS REPORT**

*MSCP Annual Workshop
July 22, 2014*



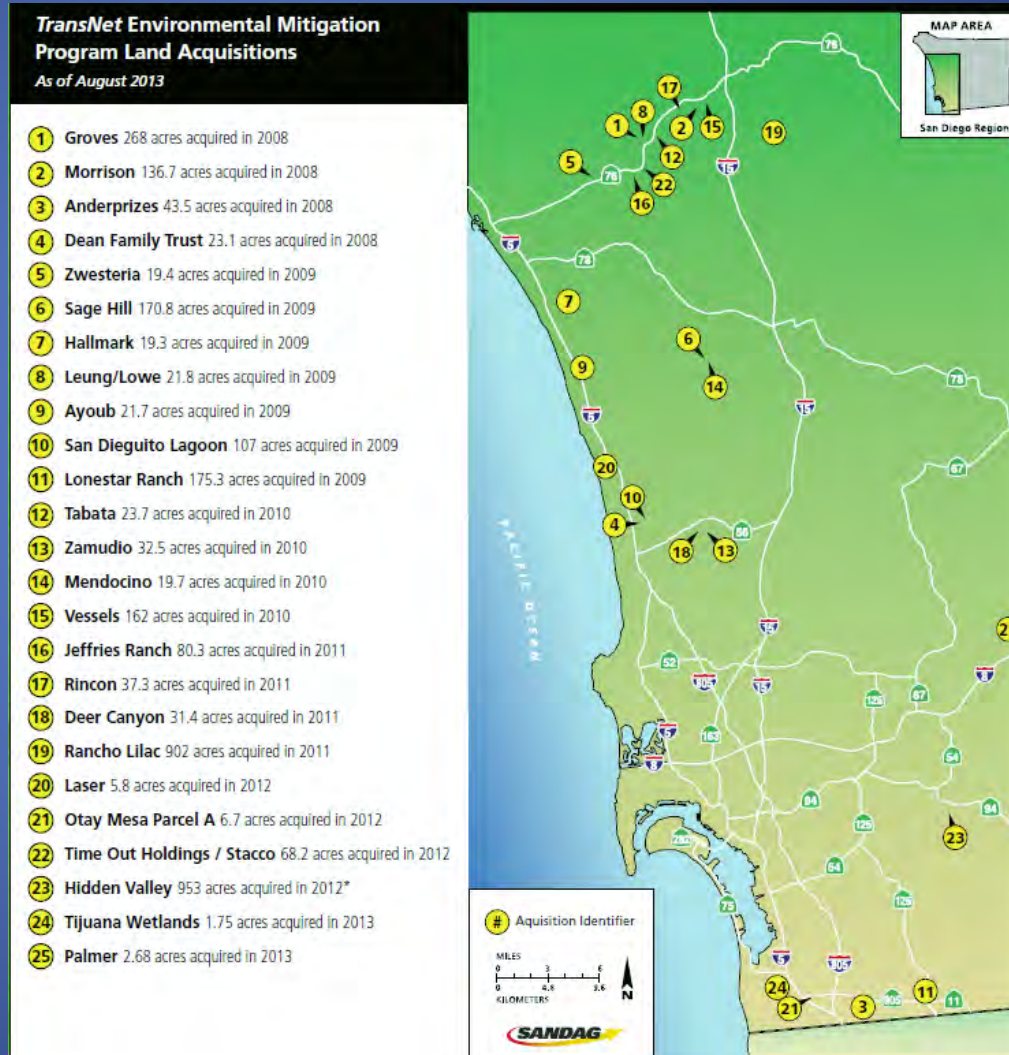
Large scale acquisition
and management



Reduced cost
Accelerated delivery
Implement habitat plans
↓ Listing of species

BIOLOGICAL MITIGATION FUND

- 25 properties
- 3,334 acres
- Restoration
157 acres
- \$100 million
TransNet funds
- \$17.4 million
matching funds



BIOLOGICAL MITIGATION FUND

- 25 properties
- 3,334 acres
- Restoration
157 acres
- \$100 million
TransNet funds
- \$17.4 million
matching funds



Sage Hill, Elfin Forest

BIOLOGICAL MITIGATION FUND

- 25 properties
- 3,334 acres
- Restoration
157 acres
- \$100 million
TransNet funds
- \$17.4 million
matching funds

AFTER



BIOLOGICAL MITIGATION FUND

- 25 properties
- 3,334 acres
- Restoration
157 acres
- \$100 million
TransNet funds
- \$17.4 million
matching funds



Agua Hedionda Lagoon

REGIONAL HABITAT CONSERVATION FUND

- 70 grants
- \$11.5 million
- \$7.2 million matching funds
- Wildlife movement studies
- Endangered species recovery



Calavera, Carlsbad

REGIONAL HABITAT CONSERVATION FUND

- 70 grants
- \$11.5 million
- \$7.2 million matching funds
- Wildlife movement studies
- Endangered species recovery



Crest Canyon, City of San Diego

REGIONAL HABITAT CONSERVATION FUND

- 70 grants
- \$11.5 million
- \$7.2 million matching funds
- Wildlife movement studies
- Endangered species recovery



REGIONAL HABITAT CONSERVATION FUND

- 70 grants
- \$11.5 million
- \$7.2 million matching funds
- Wildlife movement studies
- Endangered species recovery



2014 NOTABLE MILESTONES

Economic Benefit



\$20 million land acquisition grant



Development of strategic plan
for regional land management

Tools You Can Use

- KeepSanDiegoMoving.com
- SDMMP.com