

Carrizo Plain Conservancy

**MORE
CONSERVATION**



**MORE
COLLABORATION**

...creates new conservation initiatives and facilitates on-going conservation and restoration efforts on the Carrizo Plain through collaboration with public and private organizations.



**November 7, 2014
Carrizo Colloquium**



Carrizo Plain Conservancy Initiated

To build upon
conservation
opportunities
created by solar
plant construction



The approximate breakdown of Topaz lands is :

Mitigation land: Required by project permits (12,147 acres)

Preservation land: Required per settlement agreement with national environmental groups (5,399)

Stewardship land: Open spaces between arrays areas (1,390)

Project land: Solar arrays and supporting infrastructure (3,510)

Total 22446 acres

The breakdown of CVSR lands is:

Mitigation easement: 8031.7 recorded; 9177.2 required by ITP

On-site easements: 2555.7 with 741 left to be recorded

Off-site easements: 5476 with 404.5 left to be recorded

Project land after decommissioning: 1366.9

Does not include acreage associated with national settlement groups

Total 19721.3 after above lands are recorded

Grand Total for both projects 42,167.3 acres



Carrizo Plain Conservancy Initiated

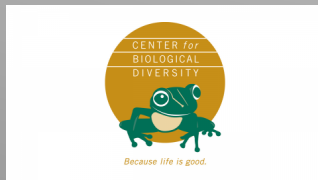
To foster collaboration
among Carrizo interested
groups and agencies



California Department of
Fish and Wildlife



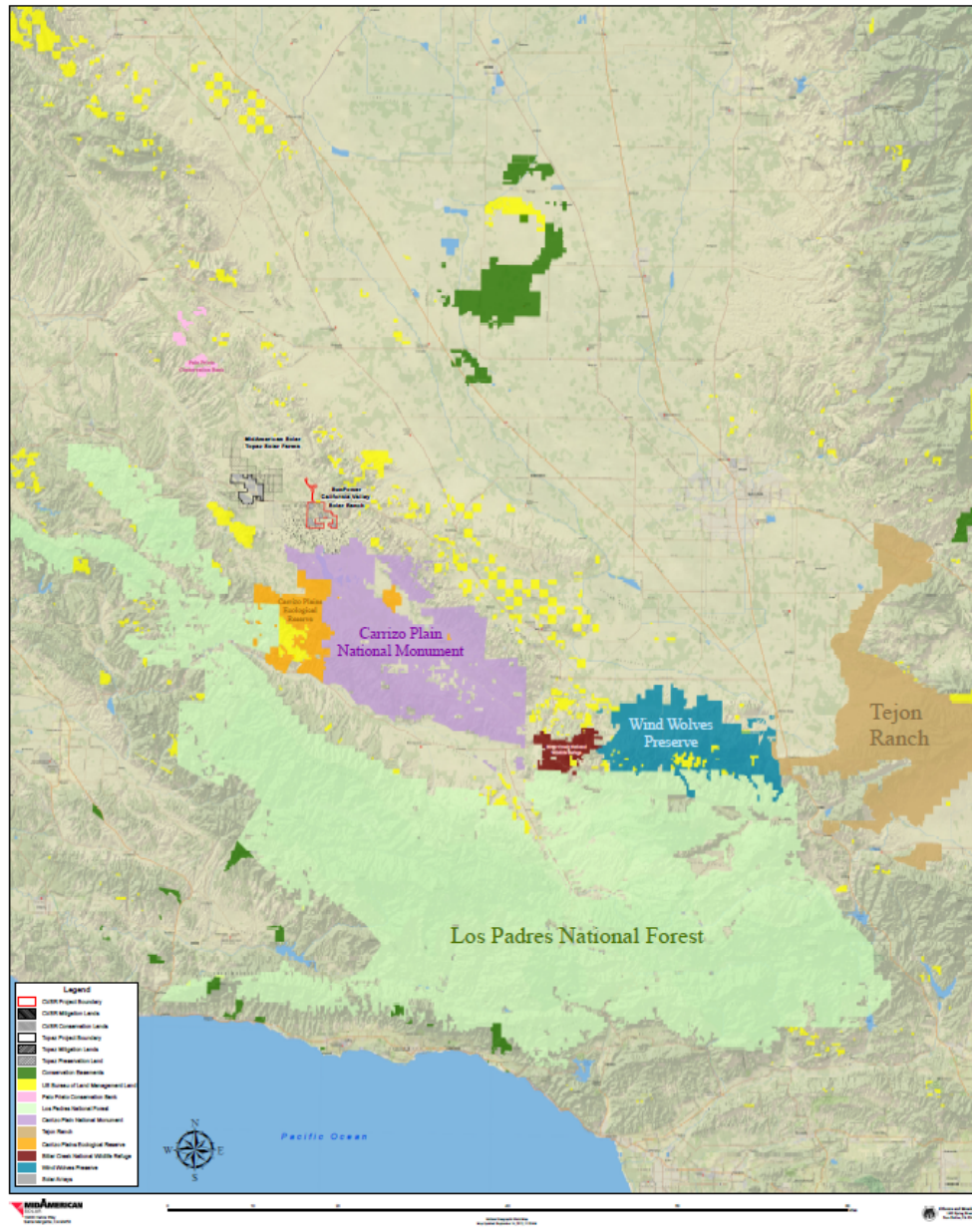
County of San Luis Obispo
Los Padres Forest Watch
Friends of Carrizo Plain NM
Chimineas Ranch Foundation



ECOLOGISTICS

And
More...

Carrizo Plain Visioning Project



Building upon conservation opportunities....

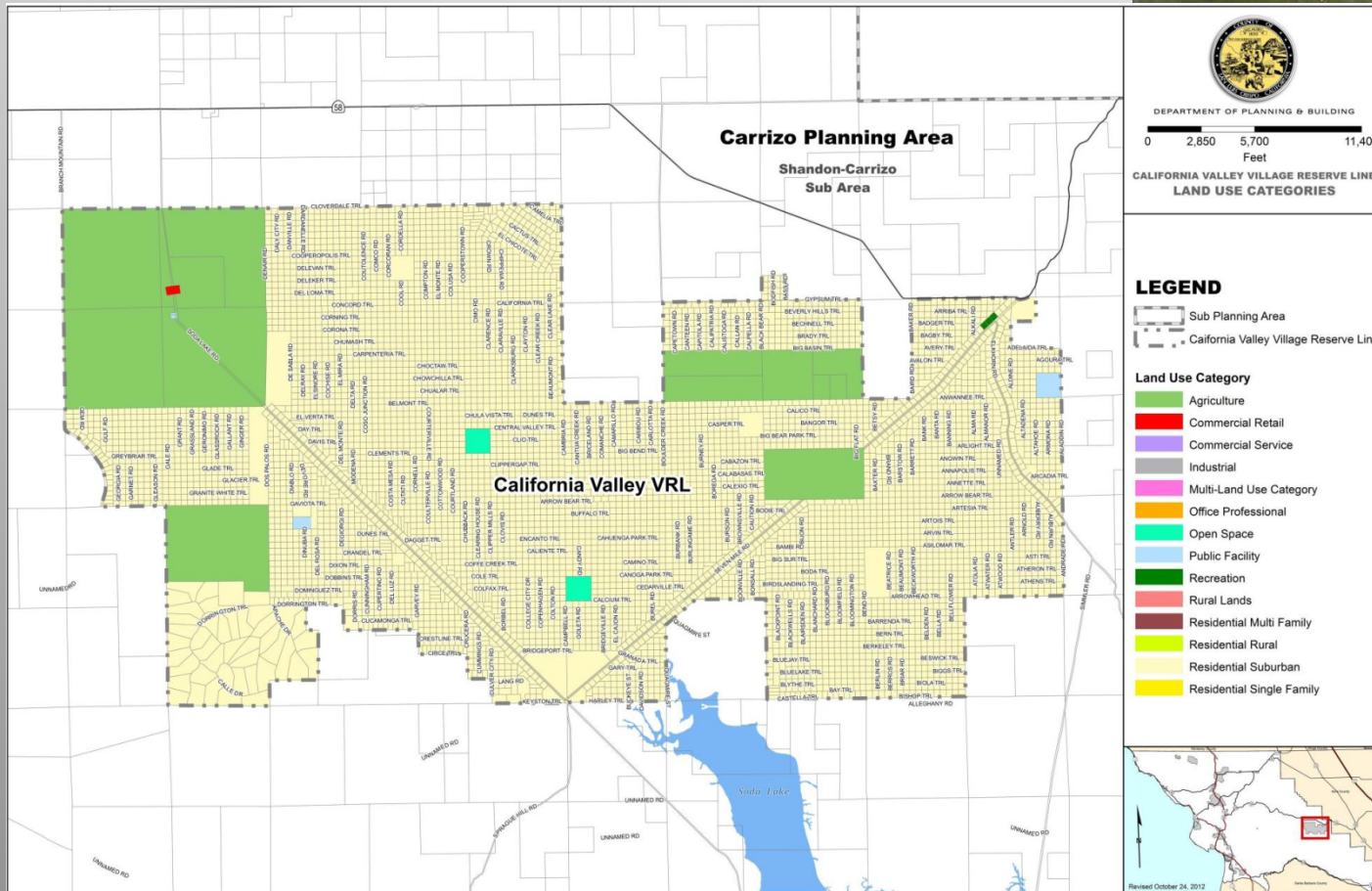
Consolidate Habitat Areas

- The “Golden Arch” — Tejon Ranch to Bitterwater and Beyond
- Cholame Hills to Caliente Range
- La Panza Range to Temblor Range



Building upon conservation opportunities....

California Valley Lot Retirement Program



Building upon conservation opportunities....

Mustang Springs Restoration with Partners
“Water for Wildlife”

*“Mustang Spring furnishes a small
watering place beside a road...”*

USGS, 1913 Water Supply Paper
Minor Perennial Springs

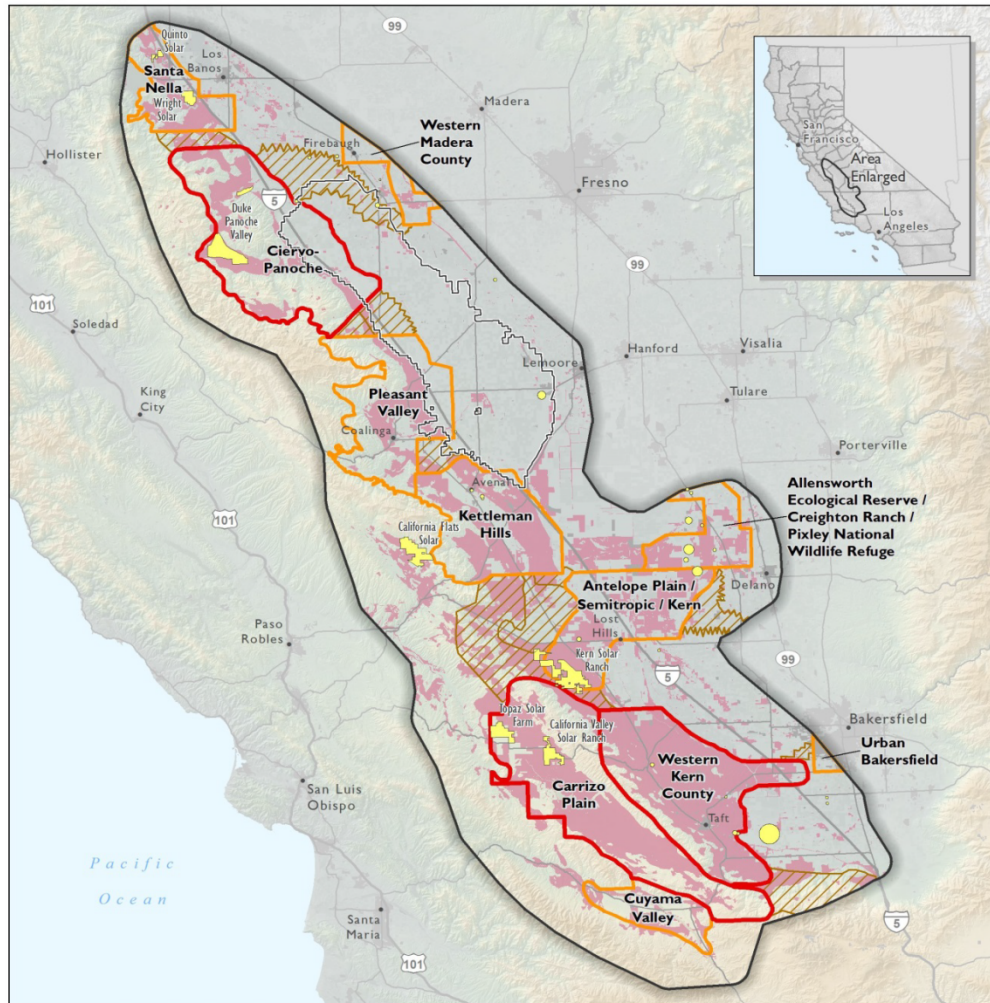


Building upon conservation opportunities....

Functional Units



WESTERN SAN JOAQUIN VALLEY SOLAR ASSESSMENT
SAN JOAQUIN KIT FOX HABITAT AND SOLAR PROJECT SITING



Western San Joaquin Valley Assessment Area
(The Nature Conservancy 2013)

San Joaquin Kit Fox Moderate-High Suitable Habitat
(Endangered Species Recovery Program 2012)

Solar Projects

Footprint Known

Footprint Unknown

Renewable Energy Action Team (REAT) Projects
(circles scaled to proposed project areas)

Westlands Water District

San Joaquin Kit Fox Recovery Areas
(U.S. Fish and Wildlife Service 2007)

Core

Satellite

Link

0 5 10 20 Miles

Map created by TNC, California Science, June 2013
N:\Central_Coast\Projects\SIJV_solar\mxd\wsjv_Solar_Projects_KitFox.mxd

Building upon
conservation
opportunities....
Functional Units

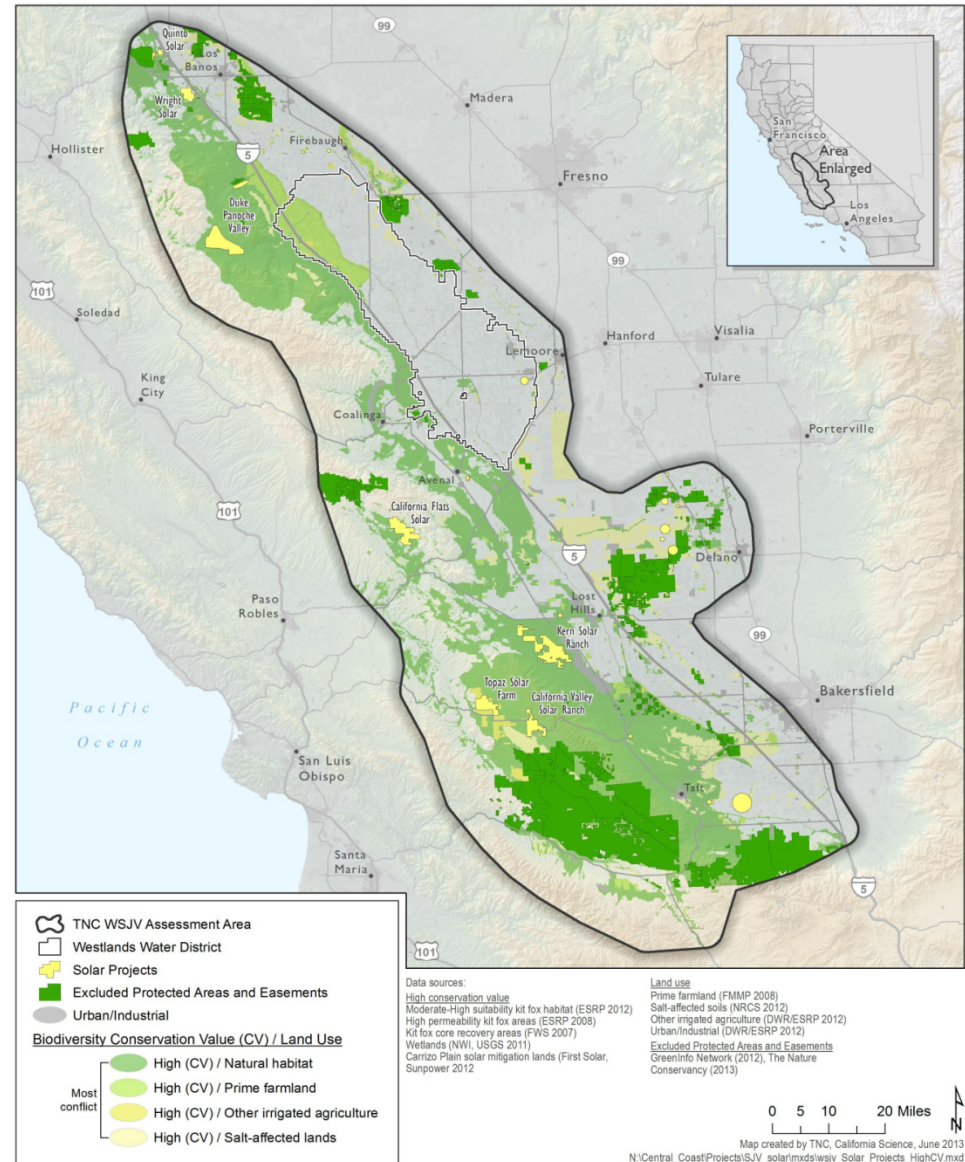


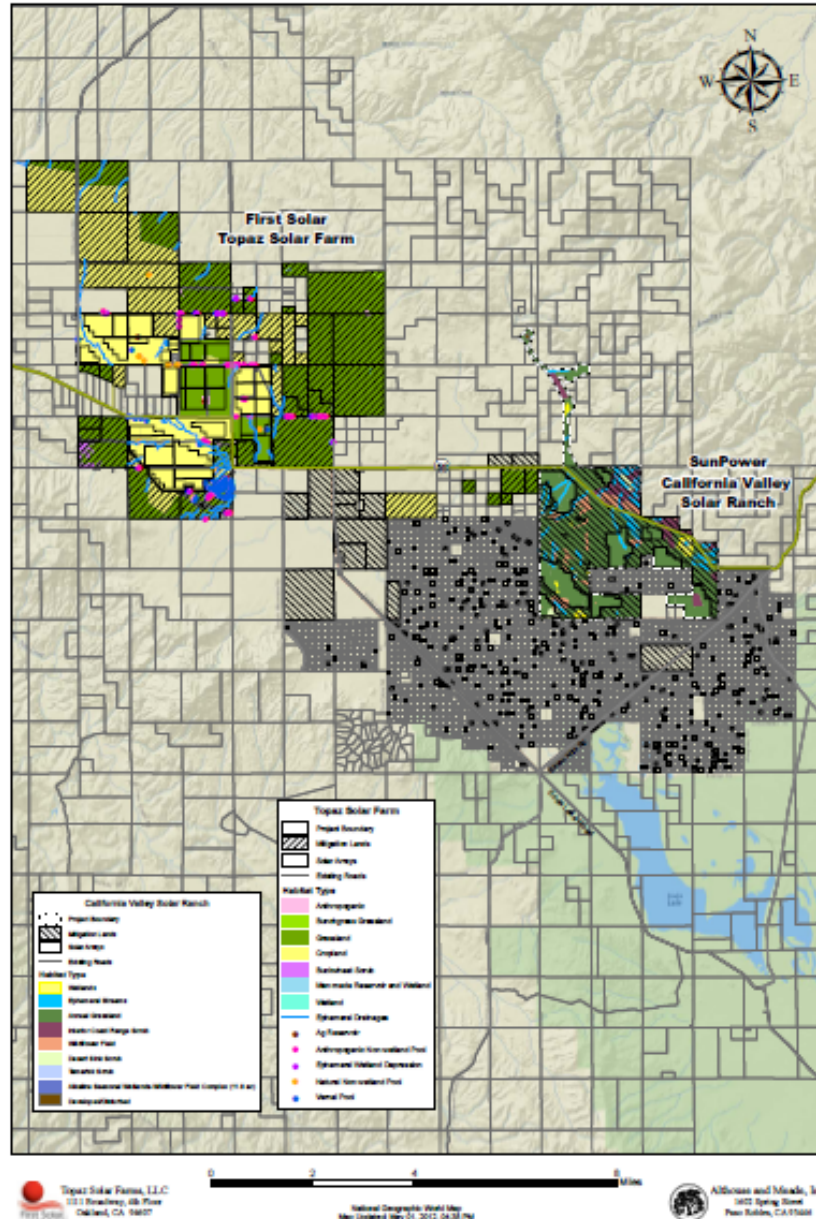
Building upon conservation opportunities....

Functional Units



WESTERN SAN JOAQUIN VALLEY SOLAR ASSESSMENT HIGH CONSERVATION VALUE / LAND USE AND SOLAR PROJECT SITING





Carrizo Plain Visioning Project

- Solar Companies
- Topaz Biological Working Group
- Carrizo Plain citizen representation

- Examined possible conservation “futures”
- Impetus for initiation of Carrizo Plain Conservancy
- Ecologistics hosting Carrizo Colloquium

Building Momentum!



Fostering Collaboration...



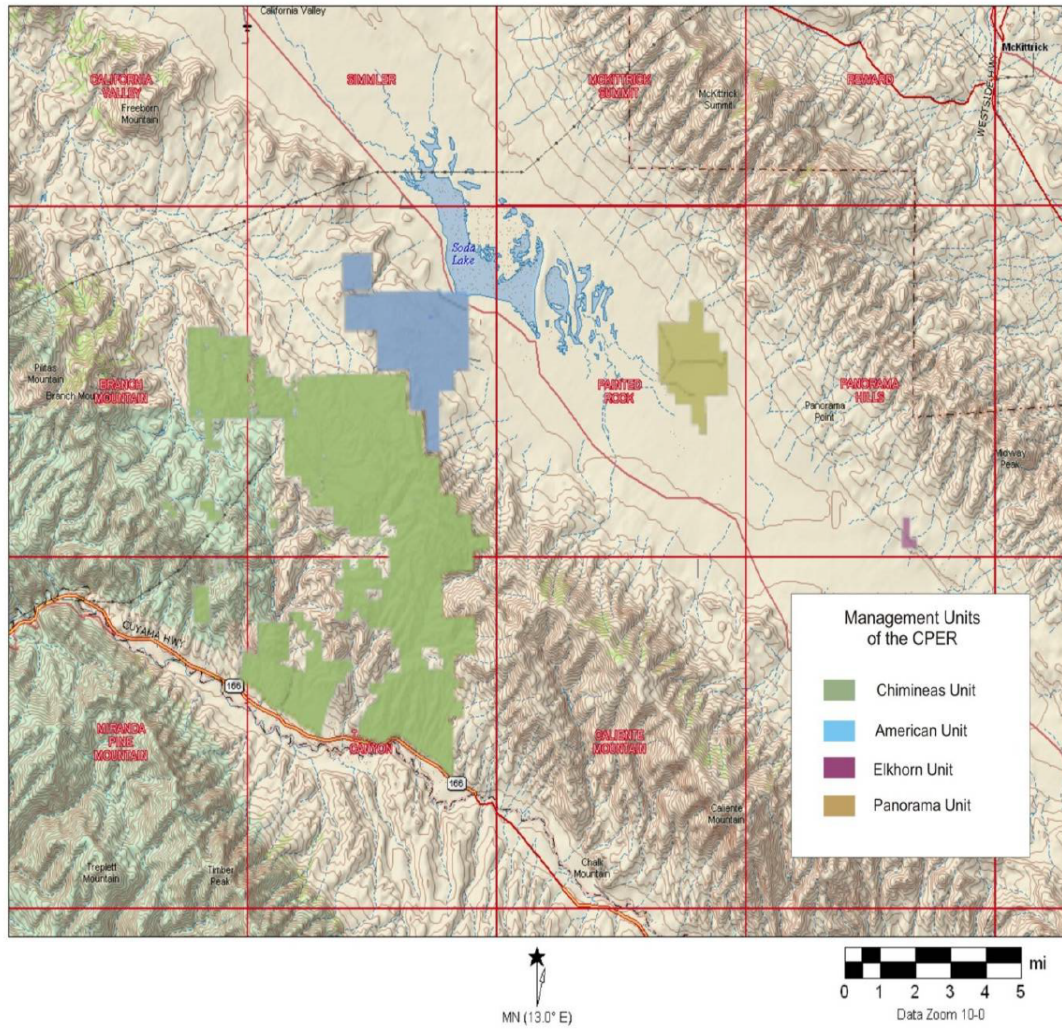
CALIFORNIA
NATIVE PLANT SOCIETY

Carrizo Plain National Monument Vegetation Classification and Mapping Project



Fostering Collaboration...

Carrizo Plain Ecological Reserve
Land Management Plan



California Department of
Fish and Wildlife



Q Veg manipulation for
Species: Public input?

How to optimize vegetation
for species to avoid
conflicts with native
plants?

Q A. Manage non-native species
of vegetation.

A. Non-natives complicate BULL
habitat. Retain natives.

A. Grazing affects native &
non-natives

A. Conservation management plan
targets relationship between
plants & animals



2013

CARRIZO
COLLOQUIUM

2013

Key Questions Posed

1. What research needs/desires have arisen from what has been done so far? Short and Long term (5-10 years or over 10 years)
2. What protocols would you recommend to ensure that research results are consistent and comparable?
3. How do you see climate change affecting the Carrizo Plain?

- Continue existing research
- Kit fox prey } Insects need study
Grazing
- Insects as food source
- UC Berkeley GKR, grazing (Tim) insect data/samples available
- Releves? Get info into data commons across disciplines.
- Friends of Carrizo-Washburn Ranch papers scanned & available
- Standardized protocols
- TNC & UC Berkeley Carrizo Wetlands ecosystem, Pt. Blue, benchmarking

Making Best Use of 2013 Colloquium General Assembly Input



CARRIZO
COLLOQUIUM

Configuring Output

- Relationship to CPC mission/goals?
- Making Use of solar post-construction monitoring?
- Organizational development
 - Working groups on topics?
 - Organic evolution of groups based on common interests?
 - Other?



Q. Research: How to keep migratory birds from landing on panels? Monitor?

Research: Long-term species monitoring
e.g. Beyond 3-yr study for kit for
Habitat selection
Proportional habitat use

(What still needs study?)

- S. end of Caliente Range
eg. "Devils Causeway" Behind
Wells Ranch. Lichens...

MicroBots: Crust communities



Fostering Collaboration...

A Model to Explore Going Forward
Backbone Organization

The Tulare Basin Wildlife Partners (TBWP) work with partner agencies and organizations to conserve and restore critical Tulare Basin upland, wetland, and riparian habitats for people and wildlife.

The TBWP facilitates the engagement of partners, funders, and stakeholders in multi-benefit projects to promote ecological and economic health, sustain our agricultural heritage, and enhance the quality of life in the Tulare Basin for current and future generations.





Developing Next
Steps?



Carrizo Plain Conservancy



Bringing Carrizo lands and people together for
conservation and collaboration



Neil Havlik, PhD
President

Herb Stroh, Esq.
Vice President

Anne Fairchild
Treasurer

Steph Wald
Secretary

www.carrizoplainconservancy.org

Lynne Dee
Althouse, PhD

Dorothy
Jennings

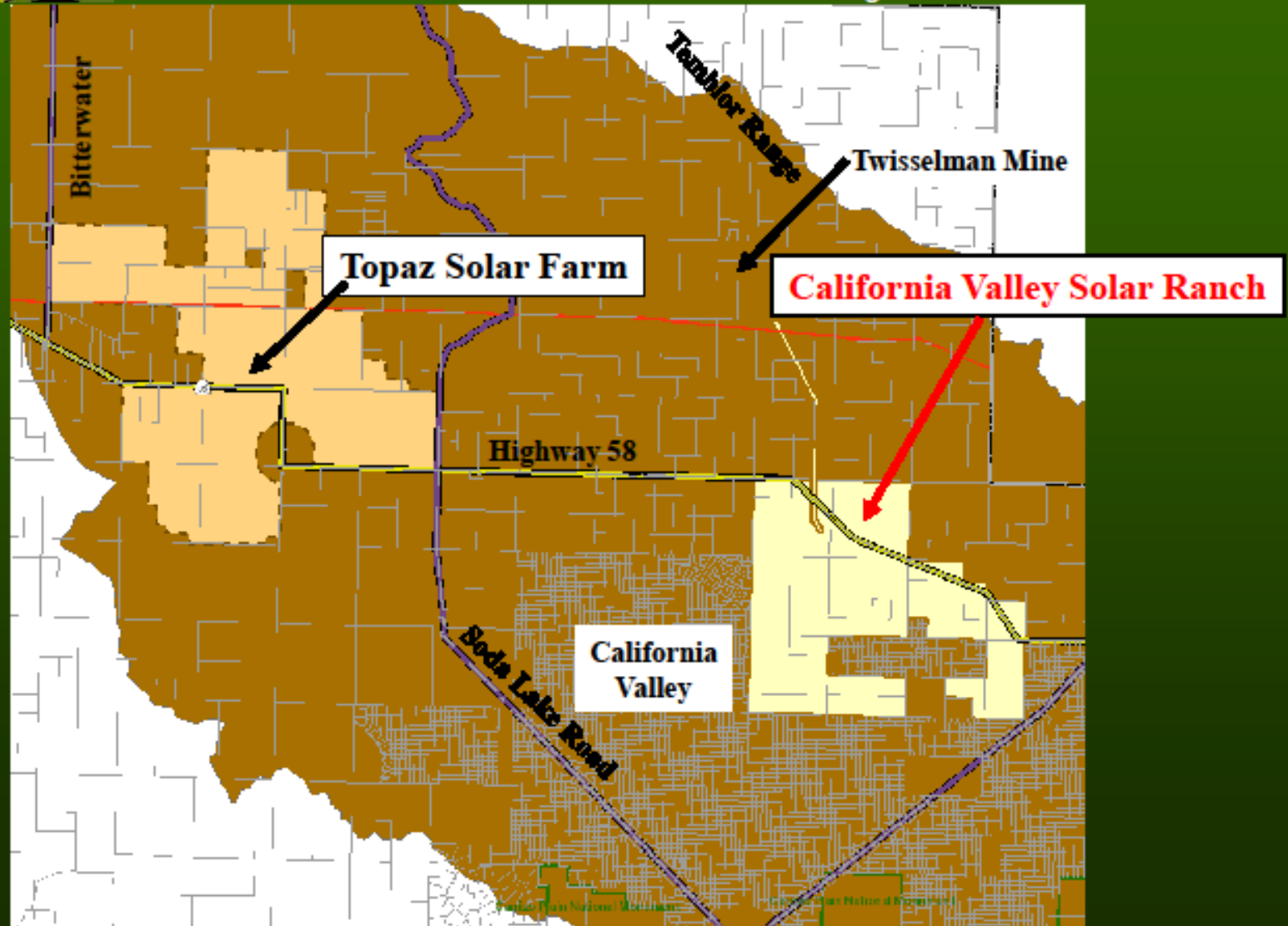
Douglas
Campbell



DEPARTMENT OF PLANNING AND BUILDING

Promoting the wise use of land Helping build great communities

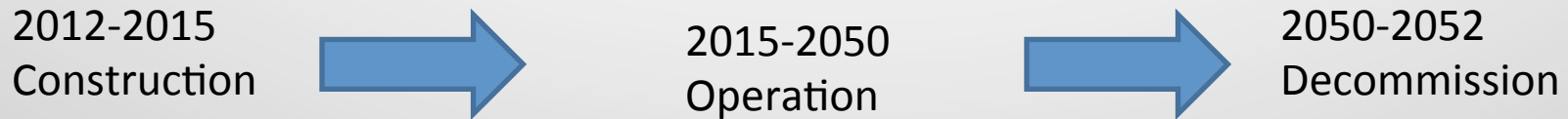
Carrizo Plain – Solar Projects





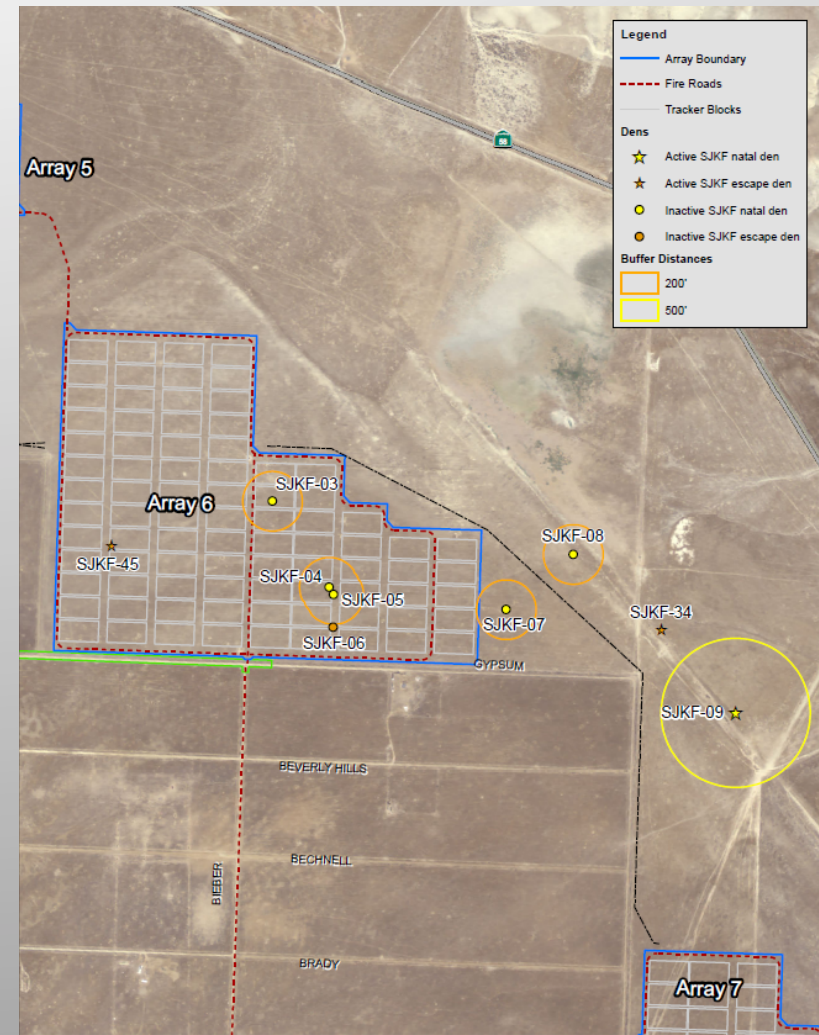
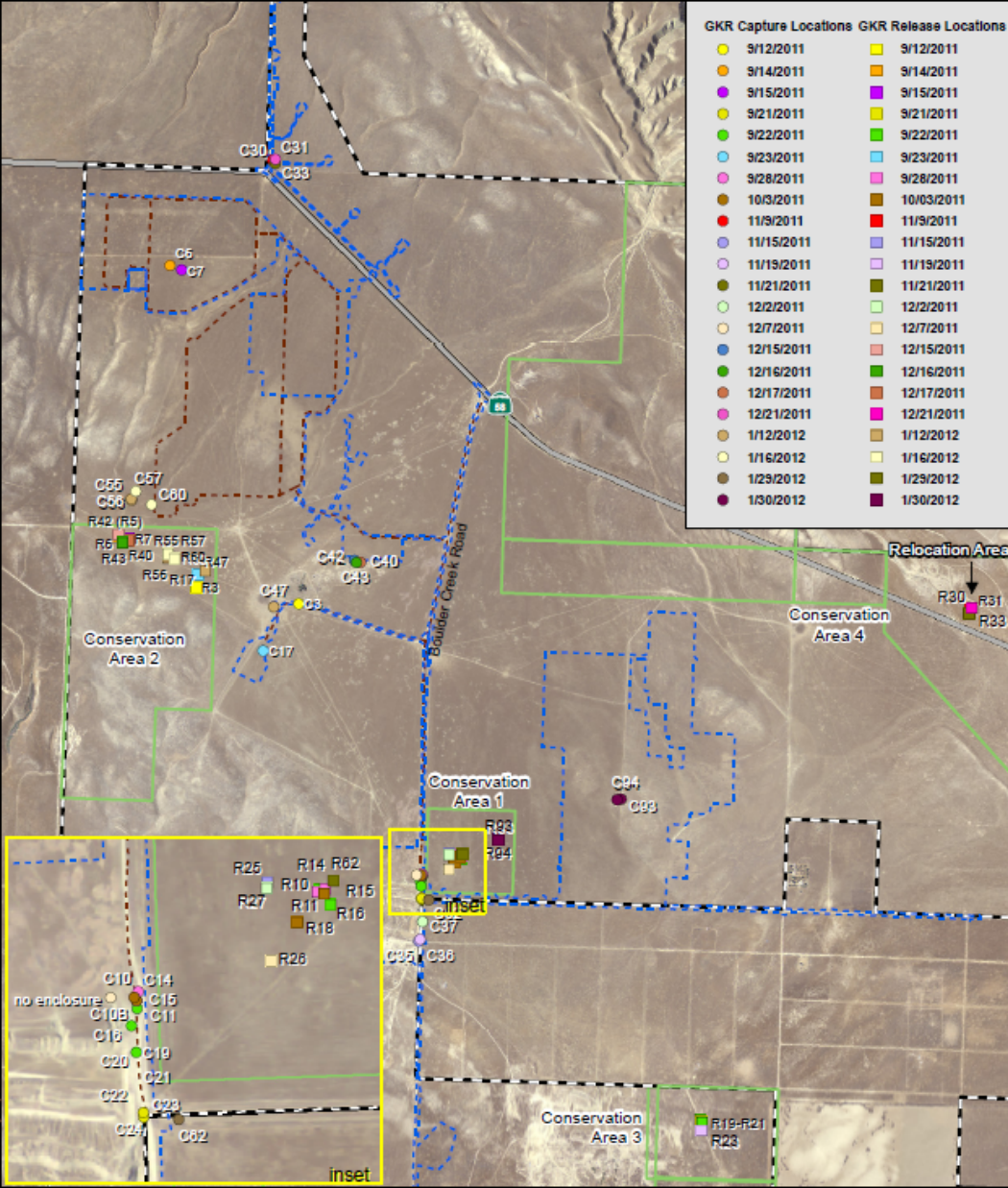
Viewpoint 6.1: (Blue Star Memorial Highway 38) - 1.0 mile north west from Bottwater Road - Showing proposed Alternative 2B.3 revised design

Devise and Implement Long-Range Visioning Process



■ All lands

- Footprint of solar plants—to be completely restored upon decommissioning
- On and off site mitigation lands—use of lands by wildlife during construction and beyond
- California Valley—retirement of antiquated subdivision and purchased lots
- Carrizo Plains National Monument and in-holdings
- Management entities for mitigation lands
- Endowment funds to manage lands based on PAR analysis



Legend

- Biological Study Area Boundary
- CVSR Phase 1 Conservation Easements
- Phase 1 Build Limit Boundary
- Phase 1 Fire Roads

Scale

1 inch = 1,800 feet

0 900 1,800 Feet

Coordinate System: North American Datum 83 Universal Transverse Mercator (UTM) Zone 11 North

California Valley Solar Ranch
Giant Kangaroo Rat Relocation Weekly Report
Figure 2: Capture and release locations
California Valley Solar Ranch February 2012

HPR II H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Scale

0 700 Feet

California Valley Solar Ranch
Array 6 - SJKF Dens



Photo 1. Adult male giant kangaroo rat captured at UTM 234942 3912664 and relocated to artificial burrow at enclosure R62 (UTM 235089 3912861) on 29 January 2012. Hind foot 49. mm, weight 150 grams, pit-tag # 074113552.

California Valley Solar Ranch GKR Data Sheet

Date: 30 January 2012

Personnel Involved and Permit Numbers: Howard Clark, Federal Recovery Permit TE-797267-14.2

Capture Location (GPS Coordinates): UTM 11S 0235783 3913111

Time of Capture and/or Observation: 2120 (30 January 2012)

Time of Release: 2306

Sex: Male ☒ Female ☐

Age: Juvenile ☐ Sub-Adult ☐ Adult ☒

Weight: 133 g

Hind Foot Measurement (mm): 50.20

Pit Tag #: 074108607

Radio Collar #: N/A

Ambient temperature when handled and released: 44 degrees F

General condition and health (note all visible conditions including gait and behavior, diarrhea, emaciation, salivation, hair loss, ectoparasites, injuries, etc.):

In good health. No injuries or other concerns.

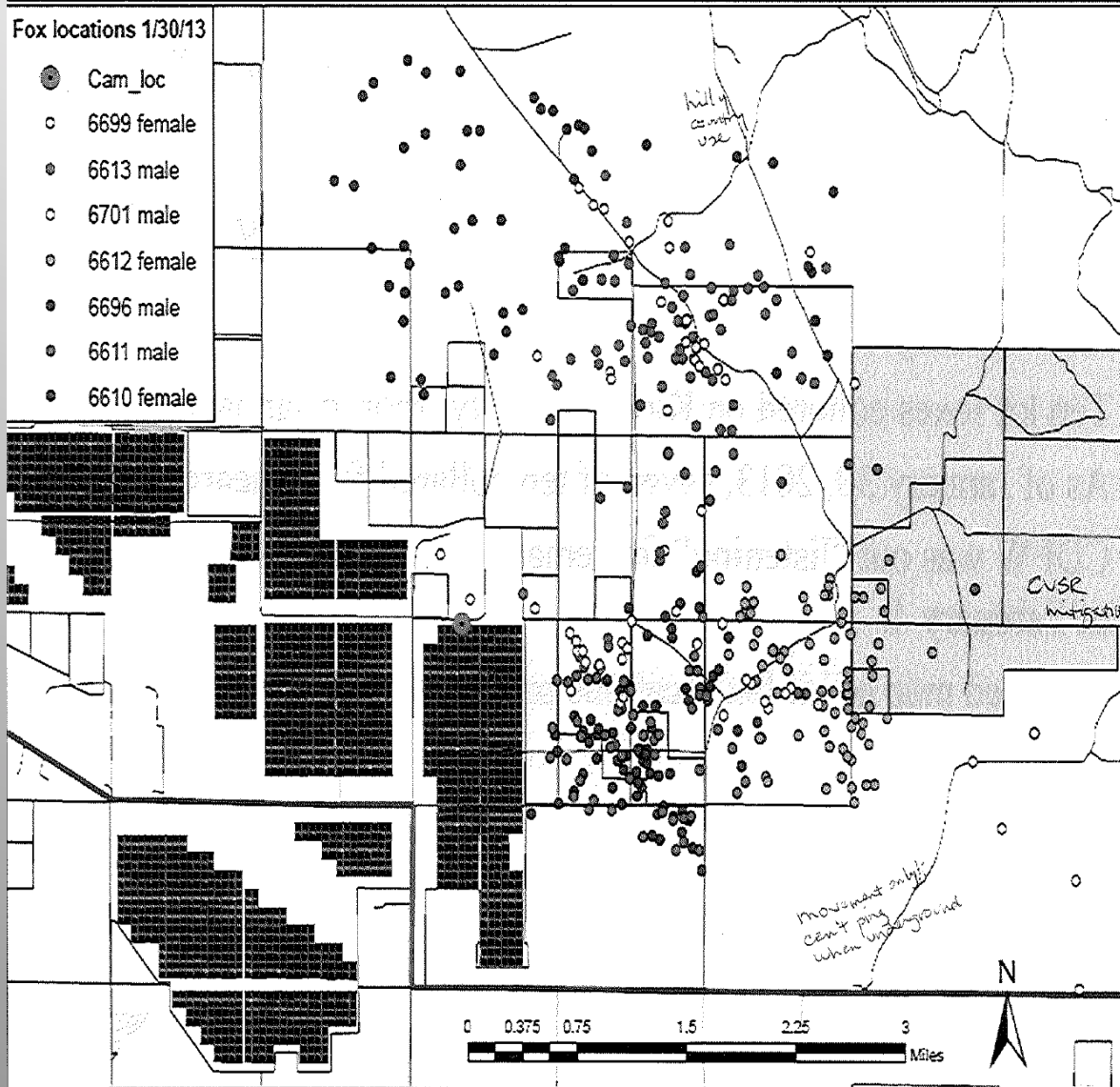
Other Notes: GKR was caught at Array 6 in trap pen C94. Release UTM 11S 0235254 3912931. Released in artificial precinct R94 east of O&M.

Initials of Staff Completing this Form HOC

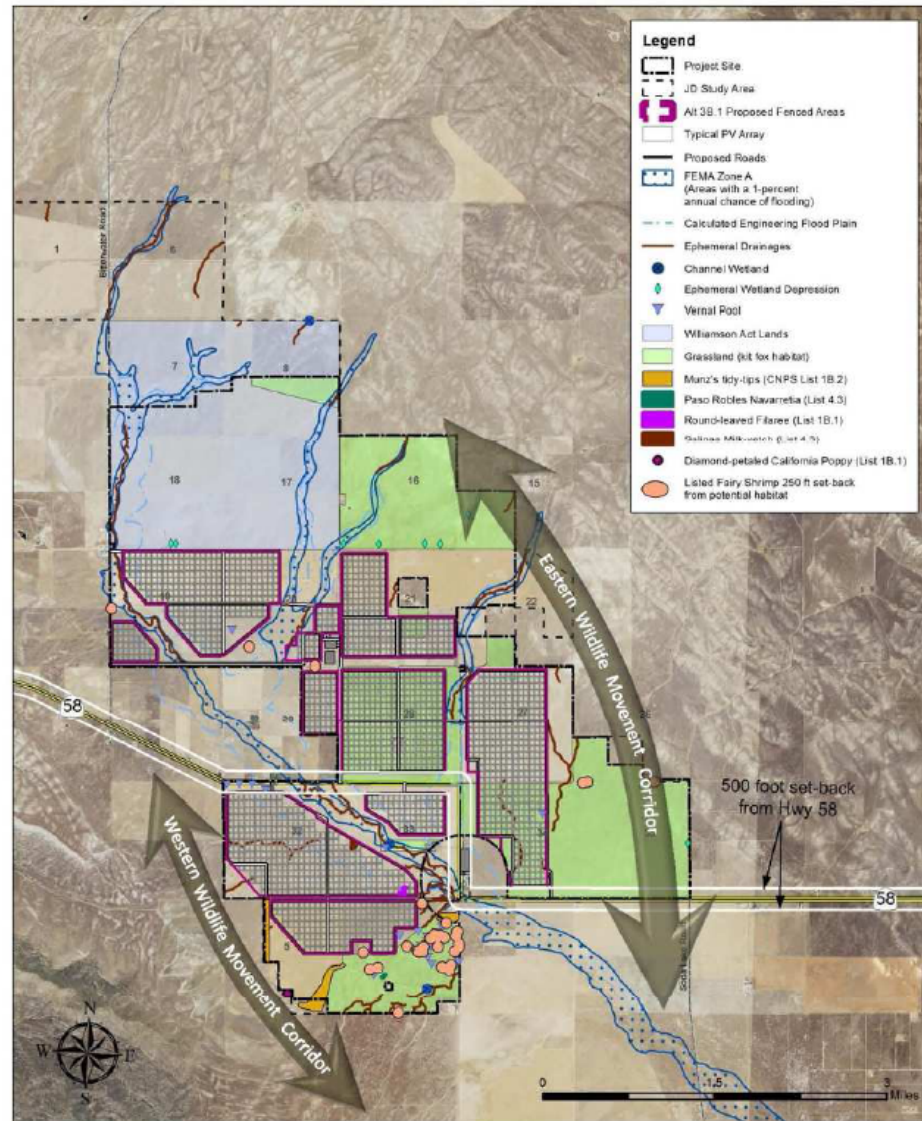
CDFW Kit Fox Location Map

Fox locations 1/30/13

- Cam_loc
- 6699 female
- 6613 male
- 6701 male
- 6612 female
- 6696 male
- 6611 male
- 6610 female



Topaz Solar Farm Constraints



Topaz Solar Farms, LLC
1111 Broadway, 4th Floor
Oakland, CA 94607

550 MW Solar Farm Project

2009 NAIP Aerial Photograph
Flood Insurance Rate Map Panels
06079C0975F and 06079C1200F
Map Updated March 24, 2011



Althouse and Meade, Inc.
1602 Spring Street
Paso Robles, CA 93446

Pronghorn Supplemental Feed Location

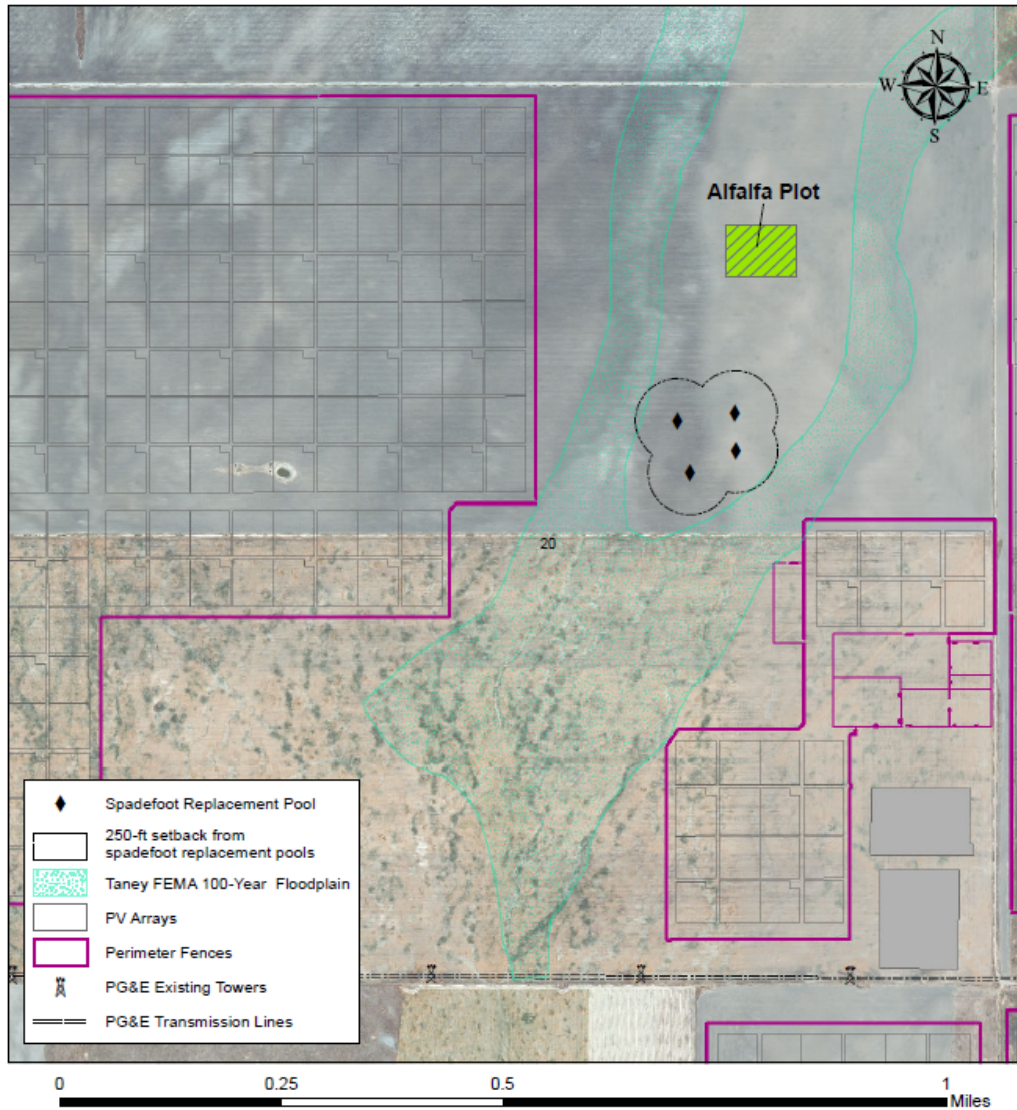


Figure 10.
Landscape Permeability
for
Pronghorn antelope

Least-Cost Corridor* (3%)

Less Cost

More Cost

Target Zone

Suitable Habitat**

Pronghorn Sightings

Pronghorn Crossing

Highways

County Boundaries

Hydrography

Outer Project Boundaries

* Cumulative cost to movement

** This analysis was run from
Medium-High to High Suitable Habitat
within each Target Zone.



Map Produced By:



SC Wildlands
Science & Collaborations
For Connected Wildlands

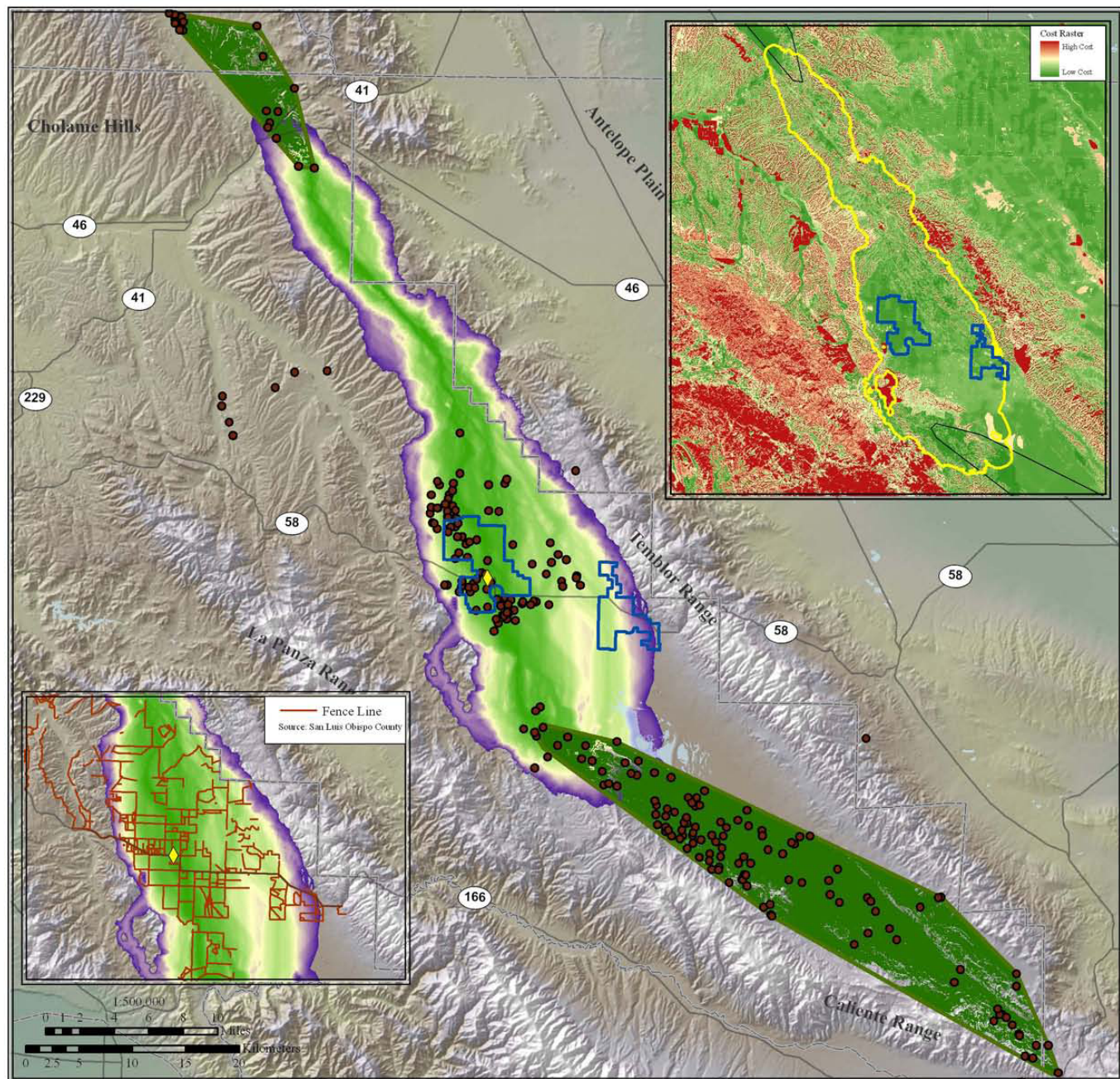


Figure 4.
Habitat Suitability
for
Pronghorn antelope

Degree of Suitability

- High
- Med-High
- Med
- Low-Med
- Low
- Pronghorn Sightings
- Highways
- ▭ County Boundaries
- ▭ Hydrography



Map Produced By:



SC Wildlands
Science in Collaboration
for Connected Wildlands

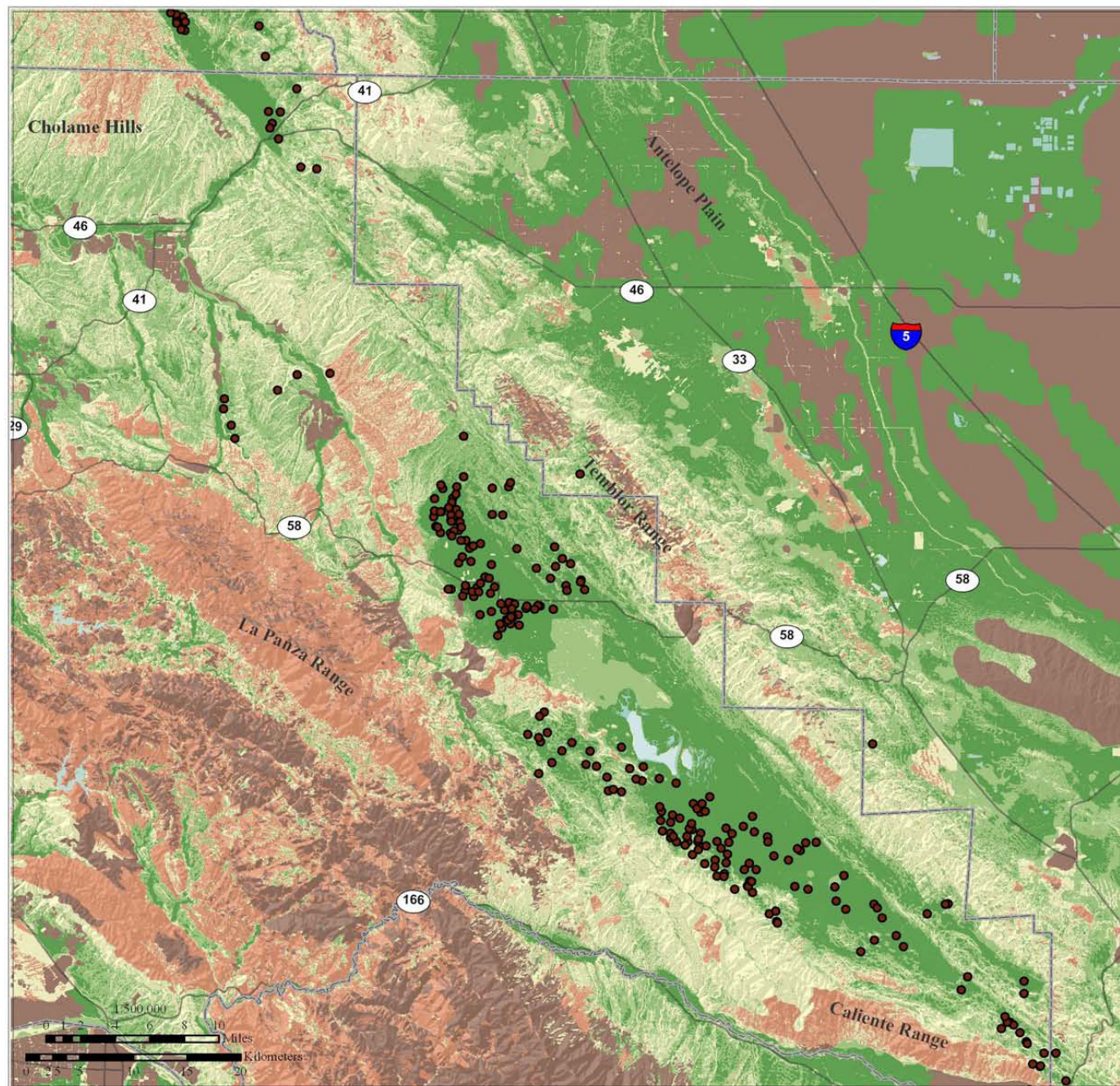


Figure 8
Habitat Suitability
for
San Joaquin kit fox

Degree of Suitability

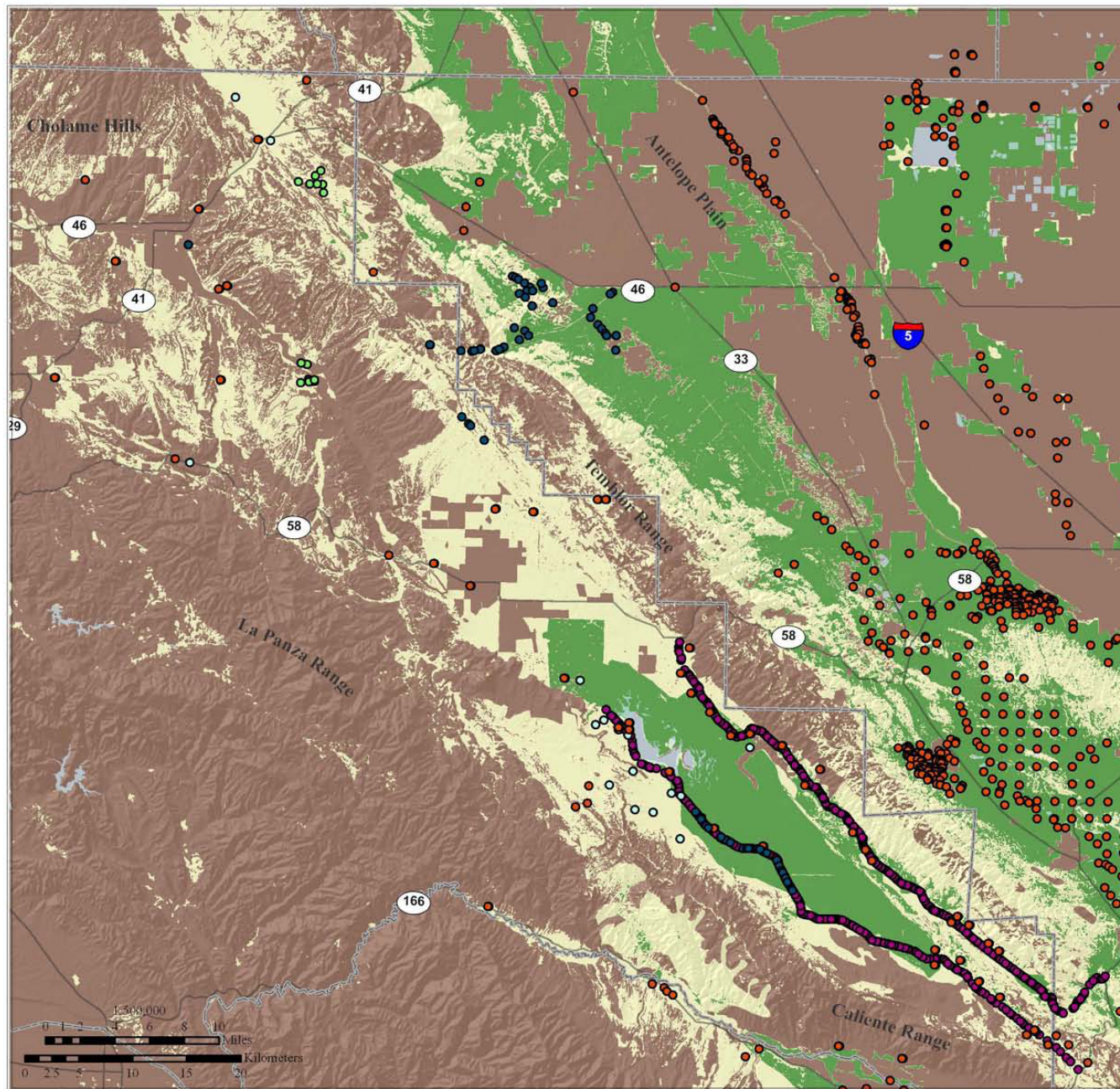
- High
- Med
- Low
- Kit Fox Sightings
- ESRP Kit Fox Sightings
- Spotlight observations
- Incidental observations
- Telemetry locations
- Car Sightings
- CNDDDB Kit Fox
- Highways
- ▭ County Boundaries
- ▭ Hydrography



Map Produced By:



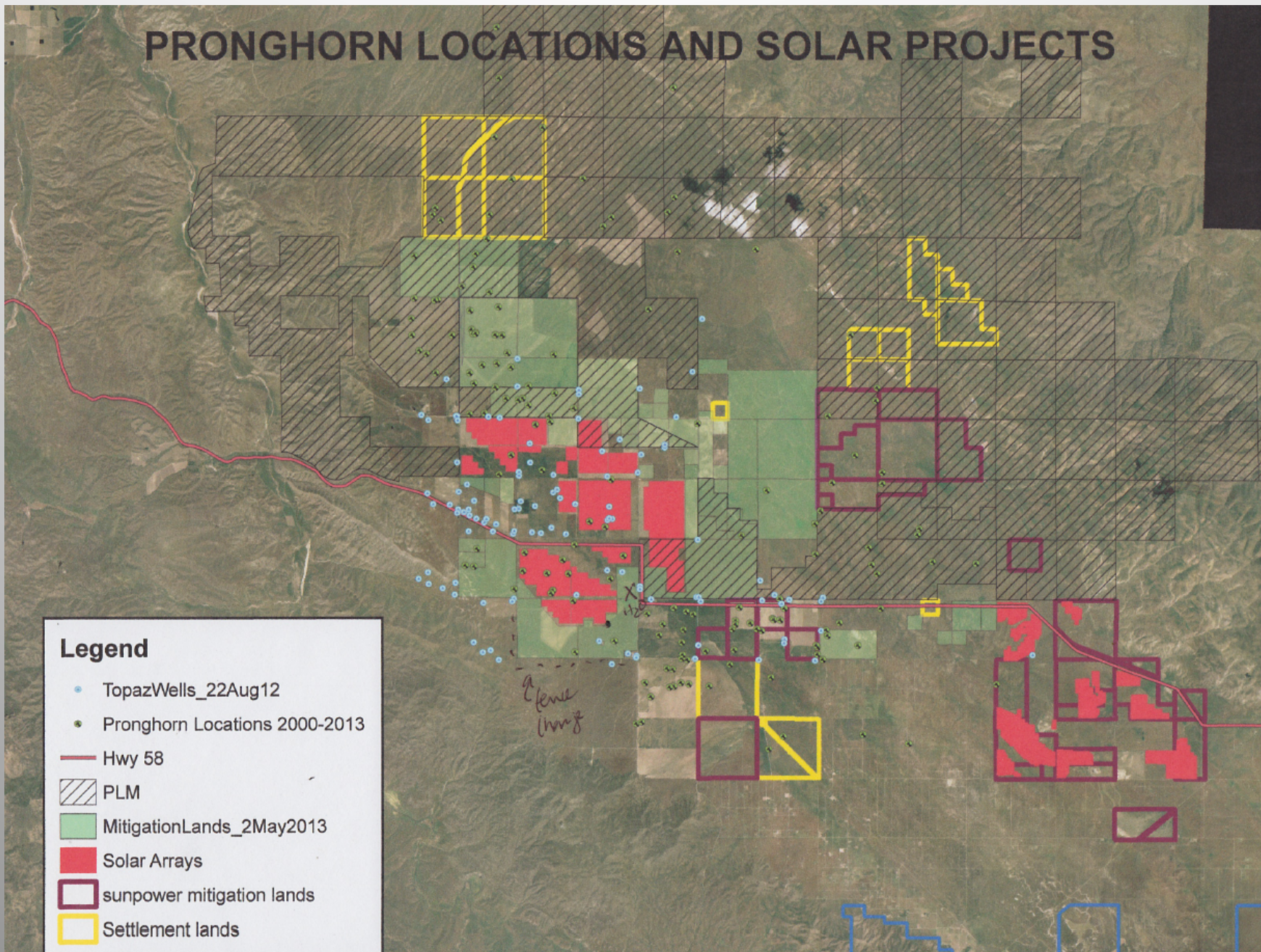
SC Wildlands
 Science in Collaboration
 for Connected Wildlands



PRONGHORN LOCATIONS AND SOLAR PROJECTS

Legend

- TopazWells_22Aug12
- Pronghorn Locations 2000-2013
- Hwy 58
- ▨ PLM
- MitigationLands_2May2013
- Solar Arrays
- sunpower mitigation lands
- Settlement lands



Lessons Being Learned

- Possible to design for reduced impacts at increased expense to solar companies
- Possible to leverage adversarial position for longer term collaborative advantage
- Possible for solar companies to export lessons learned with early and frequent contact with perceived adversaries

