USGS Badger Surveys-
Connectivity Assessment
San Diego County

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Presented to SDMMP September 26, 2012

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American Badger

- Widespread in North America
- Open grasslands, prairies
- Annual home range= 2- 200 km^2
- Prey on ground squirrel, gophers, rodents, bees, some plants.
- Mainly nocturnal- less active in winter
- California Species of Special Concern (DFG)
- Mortality: Road-kill, farmers (pest), fur trapping, habitat loss/fragmentation, poisoning of prey
- Fur-bearing mammals >1957: Can be controlled by shooting, control of rodents, trapping (DFG Trapping License Exam Ref Guide)
- Very little known about distribution and ecology in southern California

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Connectivity Monitoring Strategic Plan

"Goals of connectivity amongst core conserved habitat areas are:

- ensuring the persistence of species across the preserve system
- preserving ecosystem functions across the landscape."

- Large animals considered indicators of functional connectivity.
- Mountain lions: Connectivity of riparian habitats
- Badger: Connectivity of upland habitats (grasslands, scrub, chaparral).

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Connectivity Monitoring Strategic Plan

"It is believed that for mountain lion and badger (both MSCP Covered Species), …**connectivity between core areas** … are **critical for population persistence** in the MSCP plan area. Additionally, because of the significant road mortality these species experience, information on specific areas where they cross roads is needed to **inform adaptive management** decisions including where and what types of **wildlife road crossings** are needed."

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Can Badgers be used to assess wildlife connectivity of uplands/ grasslands?

Step 1:

Objective: Determine current distribution of Badgers in western San Diego County

Methods: Canine Scent Detection of scat + DNA verification

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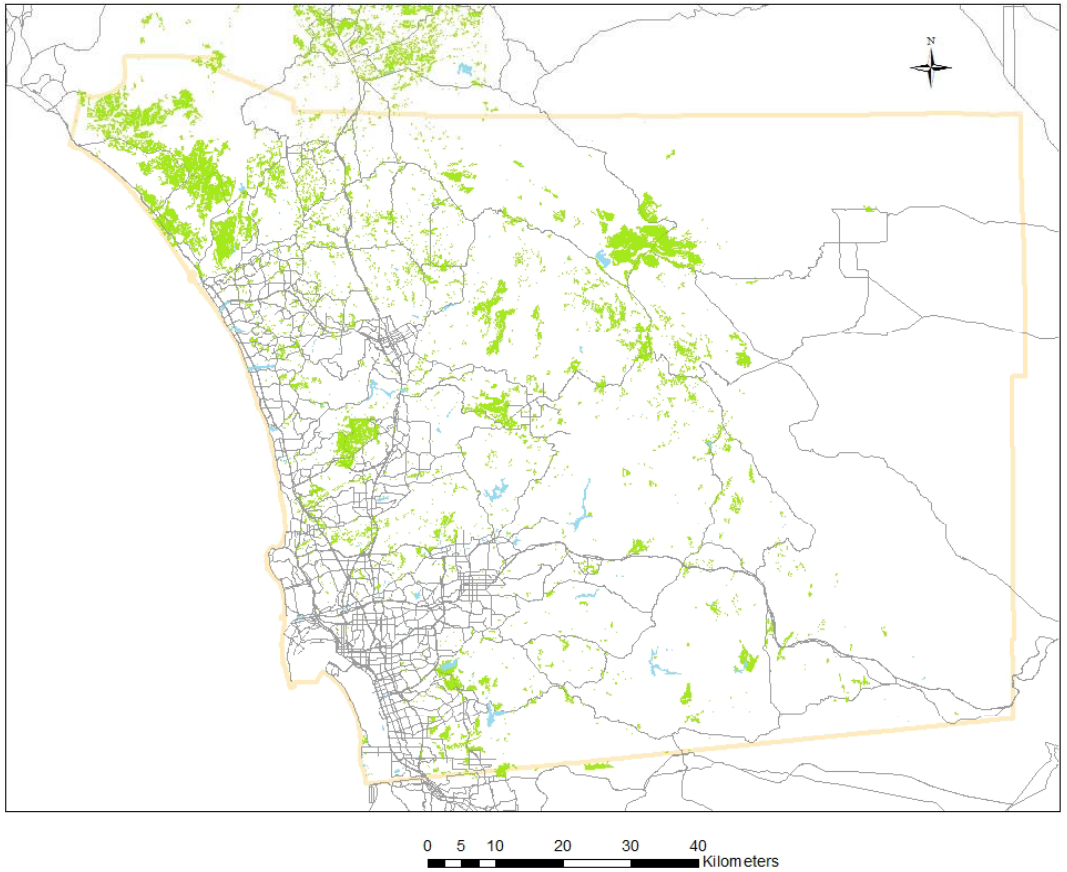
Funded by DFG Local Assistance Grant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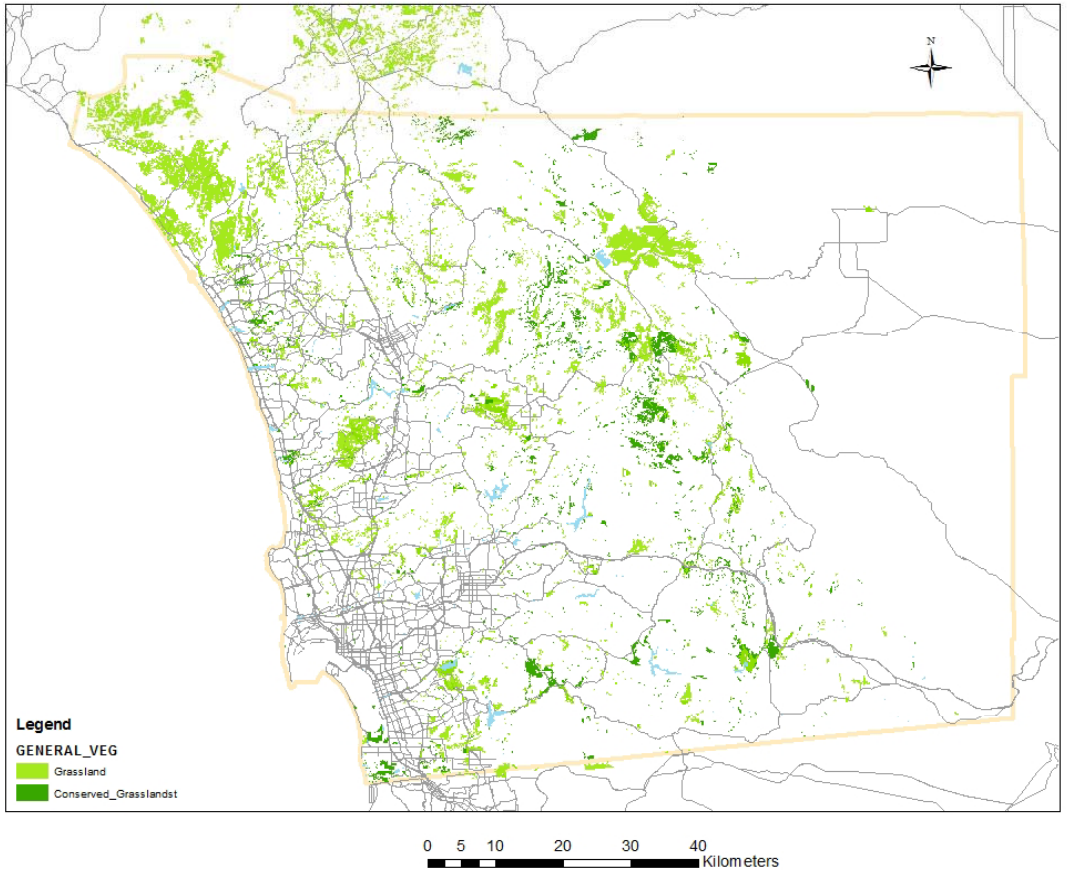
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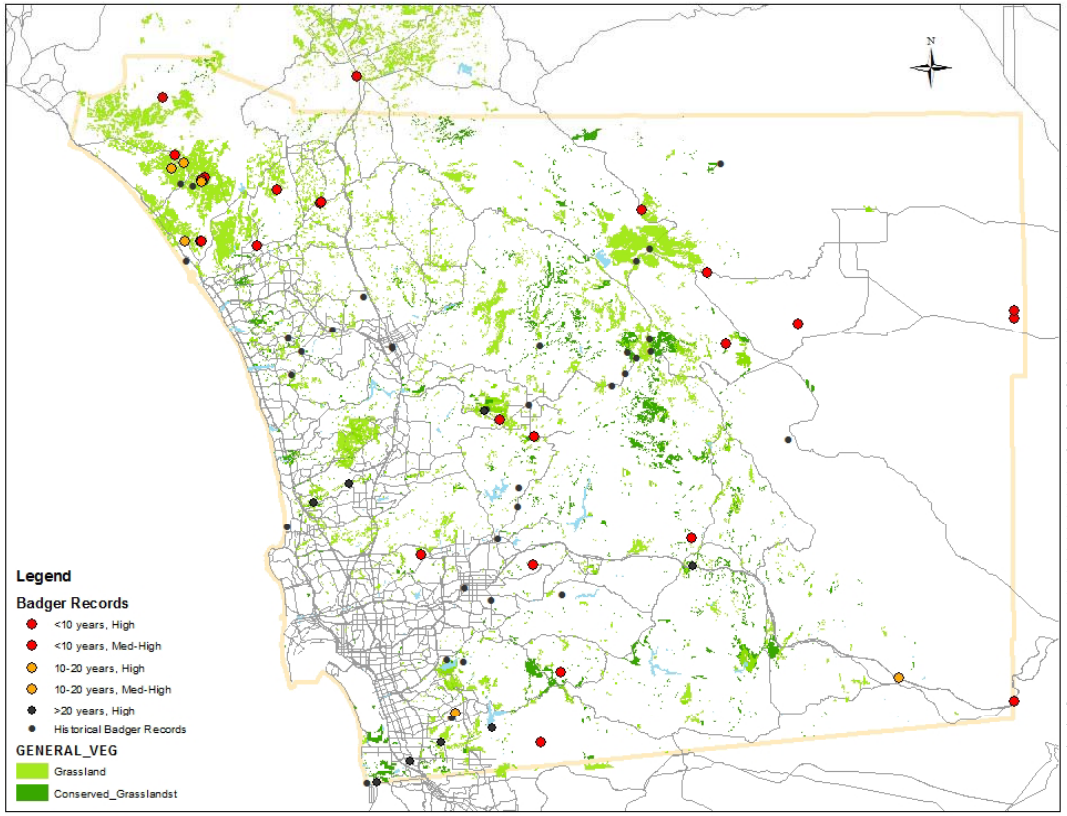

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2011 San Diego County Badger Survey

Western Tracking Institute-
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Conservation Canines

CENTER FOR CONSERVATION BIOLOGY
UNIVERSITY OF WASHINGTON

http://conservationbiology.net/

Cities of SD: Chula Vista: Escondido
County of SD
DFG
FWS
US Army Corps of Engineers
BLM
Sweetwater Authority
MCB, Camp Pendleton
Fallbrook NWS

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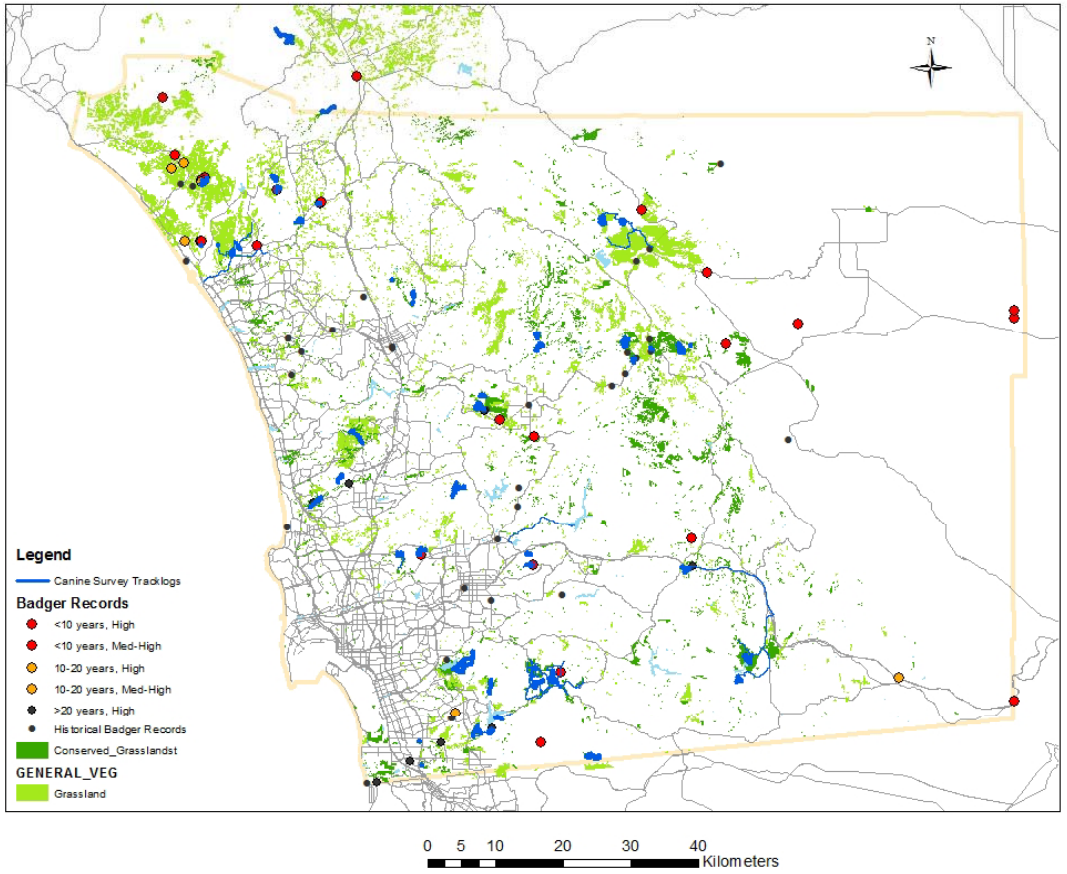
Date		Site
11/15/2011		Camp Pendleton: Juliett
11/16/2011		Pamo Valley
11/17/2011		Fallbrook NWS
11/18/2011		Santa Ysabel OSP-East
11/20/2011		Santa Ysabel OSP-West/Santa Ysabel Gorge
11/21/2011		Santa Rosa Plateau
11/22/2011		Ramona Grasslands
11/23/2011		Daley Ranch/Lake Wolford/Dixon
11/25/2011		Penasquitos Canyon
11/26/2011		Camp Pendleton: Range 116, 117
11/28/2011		Sycamore Canyon
11/29/2011		Oceanside
11/30/2011		Warner Springs
12/2/2011		Mission Trails
12/4/2011		Crestridge ER
12/5/2011		Rancho Jamul ER
12/6/2011		Hollenbeck WA
12/8/2011		Otay Valley/Furby
12/9/2011		Sweetwater/Proctor Valley
12/11/2011		Lake Morena/Robert Ranch
12/12/2011		Marron Valley

Canine Scent Detection of Scat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Legend
Canine Survey Tracklogs
Badger Records
<10 years, High
<10 years, Med-High
10-20 years, High
10-20 years, Med-High
>20 years, High
Historical Badger Records
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GENERAL_VEG
Grassland
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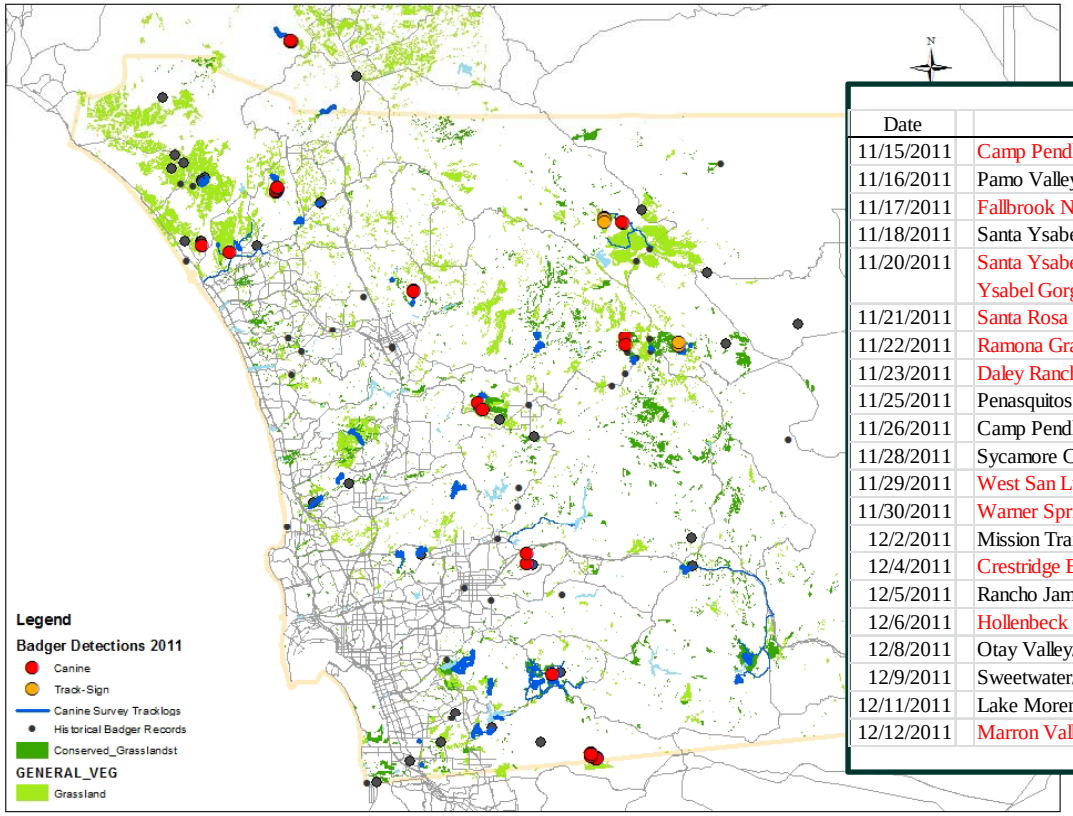
Kilometers



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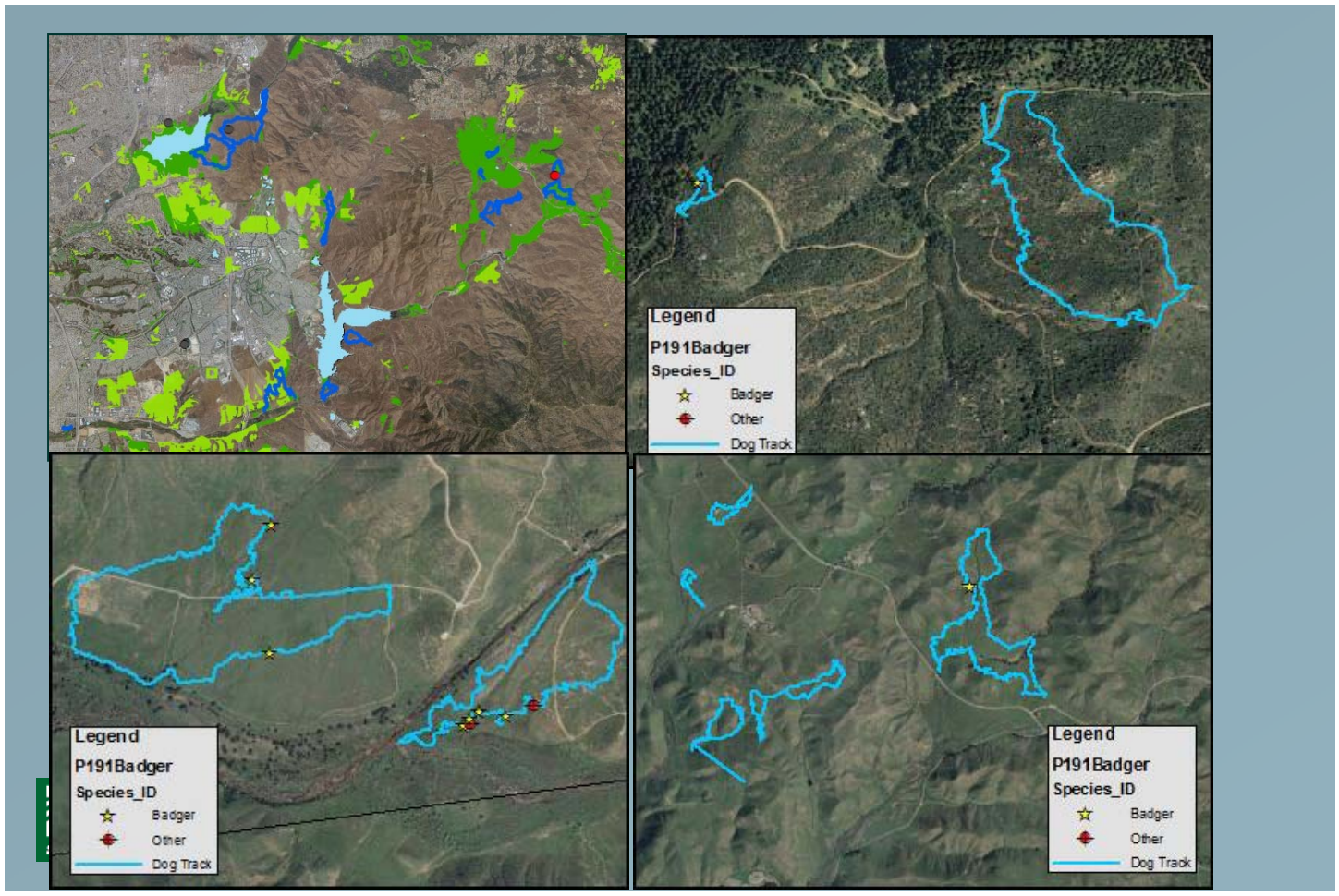
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P191Badger
Species_ID
Badger
Other
Dog Track
Legend
P191Badger
Species_ID
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Legend
P191Badger
Species_ID
Badger
Other
Dog Track

2011 San Diego County Badger Survey

Camp Pendleton

Santa Ysabel Gorge

Credstridge

Daley Ranch-Escondido

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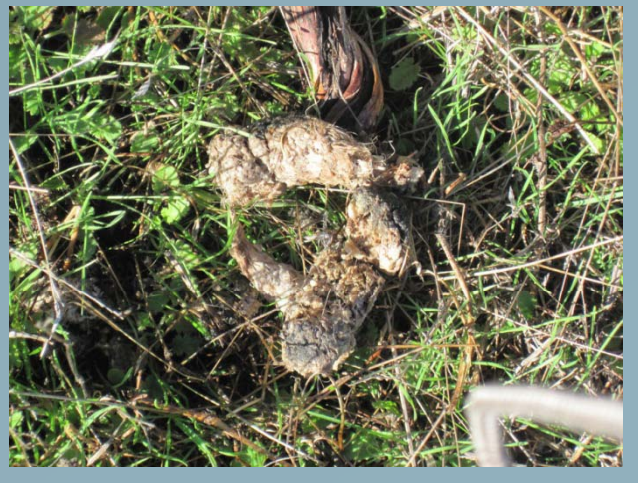
Scat extremely variable- size and shape



Scat Contents

Bone

Hair

Honeycomb

Avocado

Grasshoppers

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Some Notes:

- **Most areas: Found scat but no sign**
- **Few animals even in areas with historical or expected higher densities**

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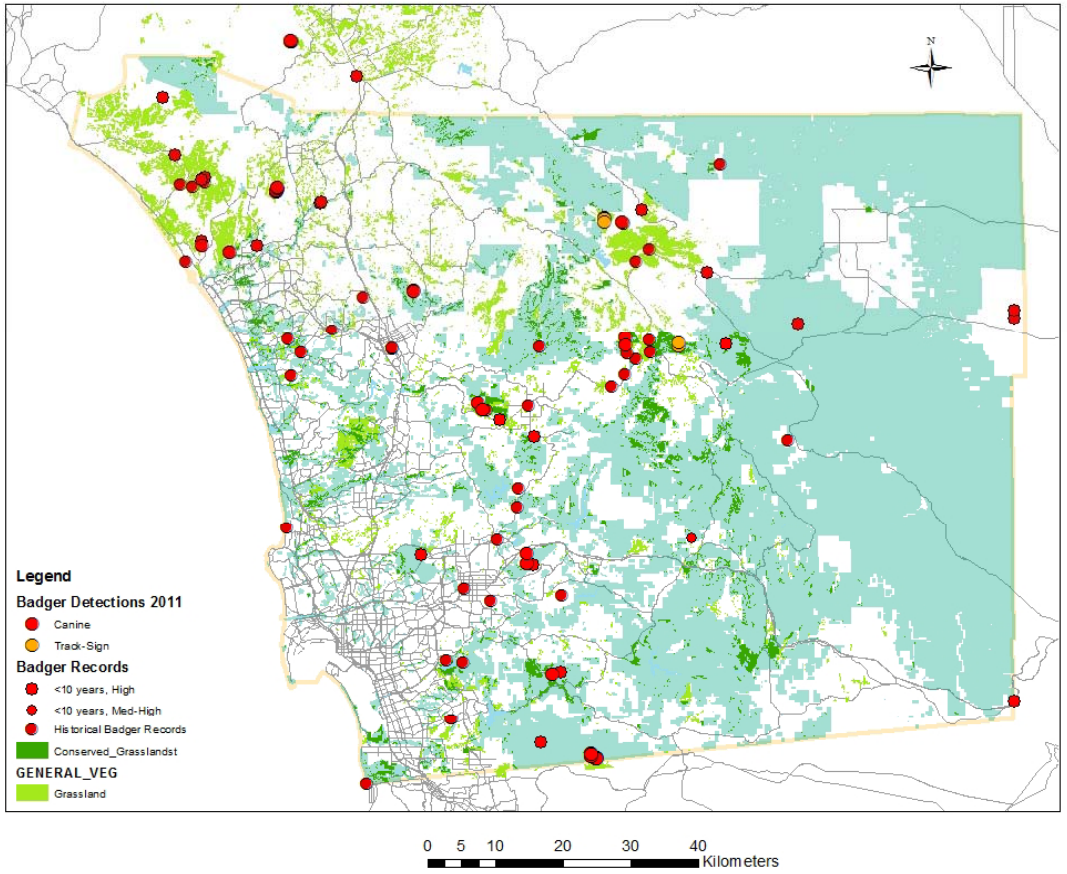
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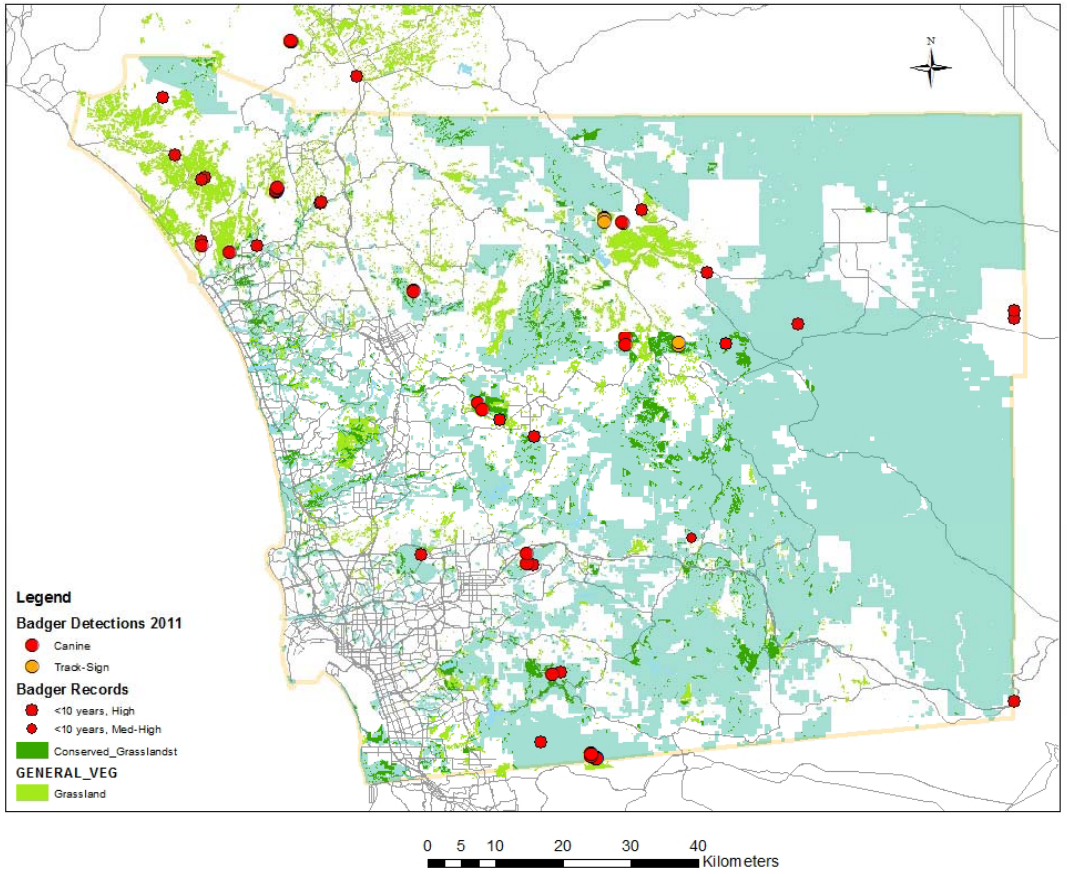
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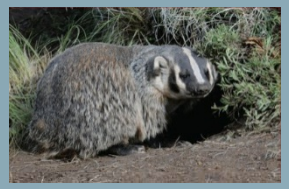
Badger Connectivity Study



Can Badgers be used to assess wildlife connectivity of uplands/ grasslands?

Yes. American badgers continue to persist in low densities in western San Diego County.

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Next Steps:

1. **How many animals does the scat represent?**
2. **Can badgers be safely fitted with radiotransmitters?**
3. **Do we need more detailed distribution and status information ? Include other habitats?**
4. **Radio telemetry study- badger movement**
5. **Can we increase the effectiveness of current HCP's for upland species?** *Road permeability, habitat management, land acquisition, etc.*

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