



California Ground Squirrels - a Keystone Species in our Wildlands

Natural and Cultural Resources Committee
October 29, 2024

East Bay 
Regional Park District

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Acknowledgements

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Regional Parks Foundation



Shawn Smallwood



Goals of Today's Presentation

- Understand definition of “**keystone**” species
- Provide **natural history** of CA Ground Squirrels
- How we assess and protect **biodiversity**
- Discuss variety of **attitudes and options** for control

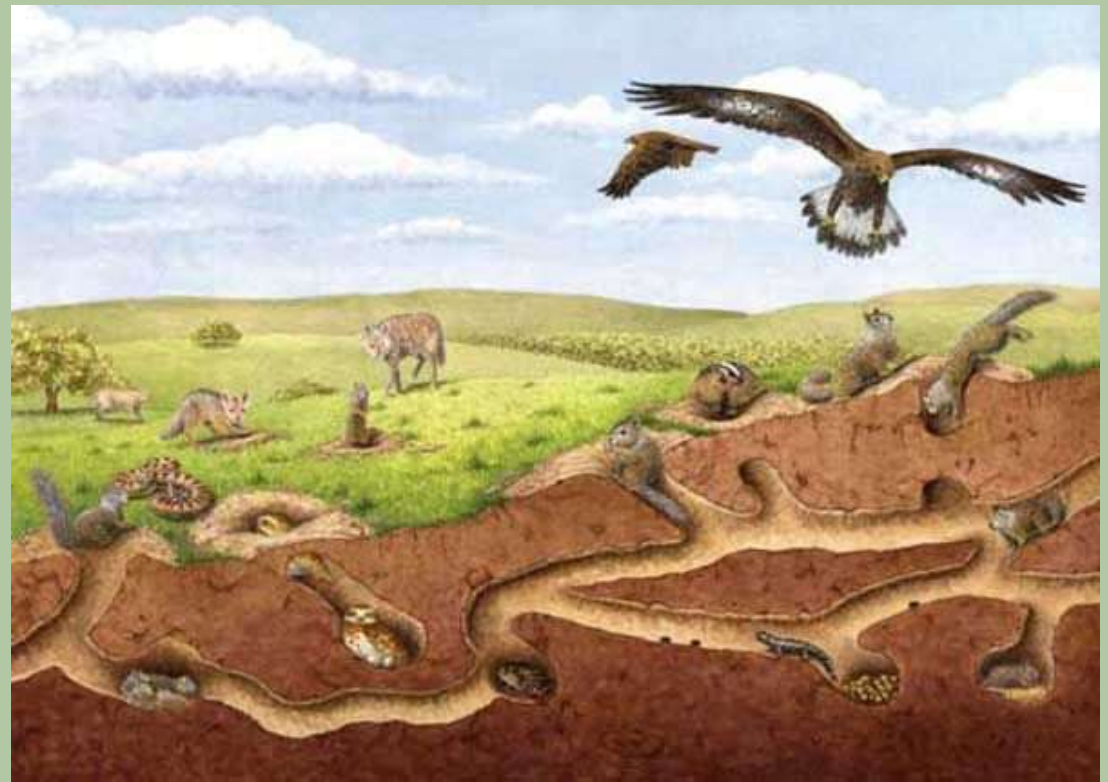


“preserve a rich heritage of
natural
and cultural resources”

-EBRPD Mission Statement, Master Plan 2013

What is a KEYSTONE SPECIES and why a GROUND SQUIRREL?

- Disproportionately large effect on natural environment relative to abundance
- Maintains structure of an ecological community



Tim Gunther

Species that Rely on Ground Squirrels for Food



Red-tailed Hawk



Badger



Coyote

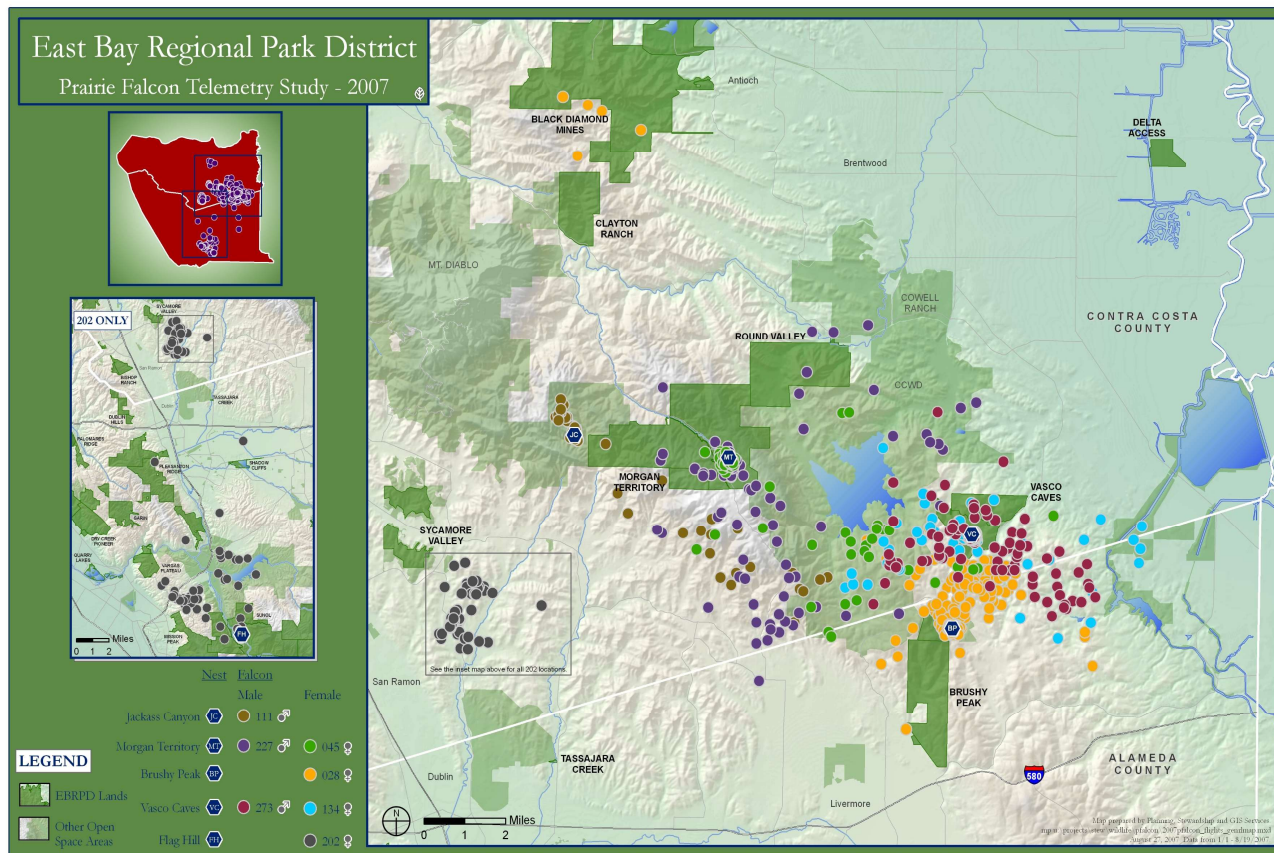


Bobcat



Golden Eagle

Species that Rely on Ground Squirrels for Food



Andre Gregoire

Prairie Falcon

Species that Rely on Ground Squirrels for Habitat



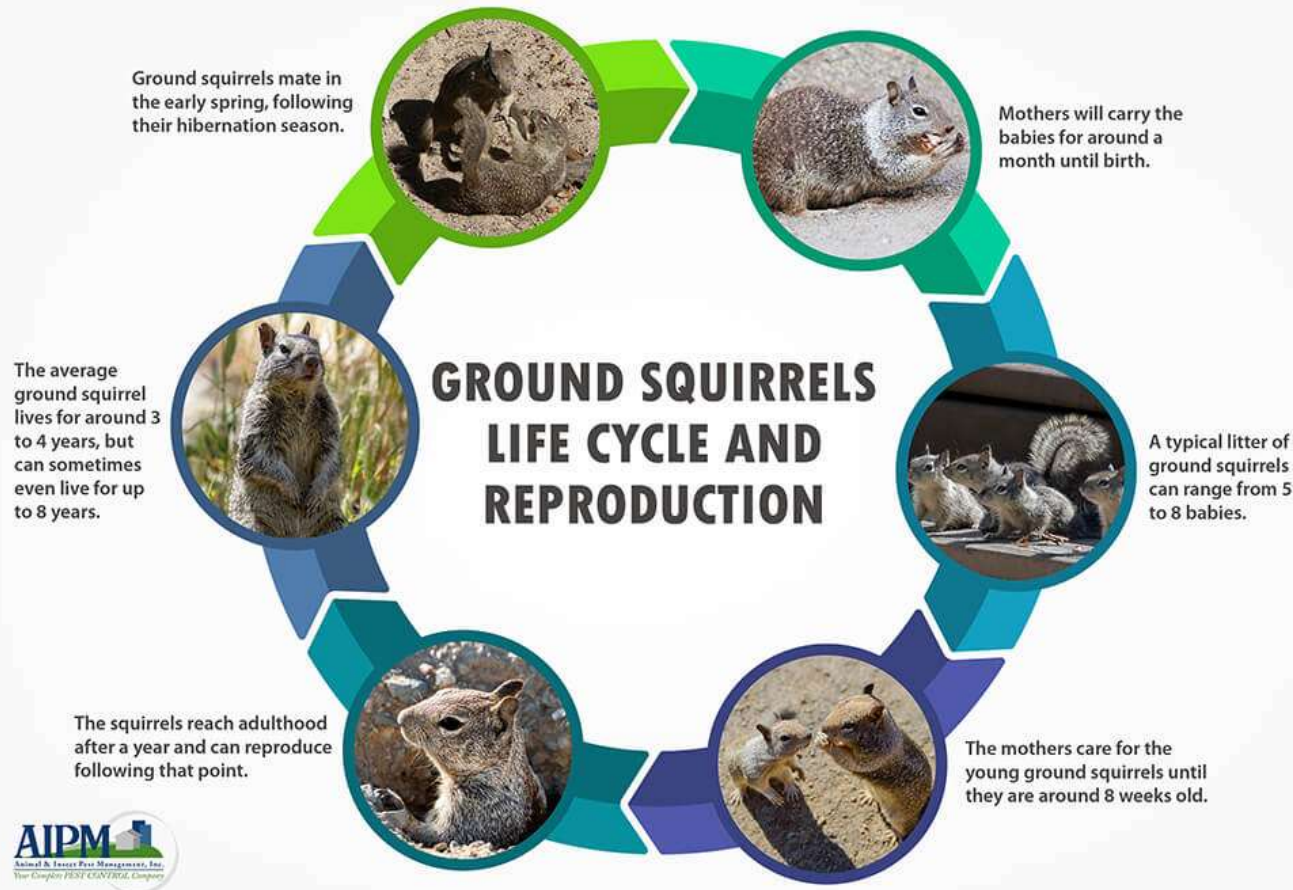
BURROWS

- Multiple entrances
- Chambers
- 6 feet deep, 35 feet long
- Satellite burrows



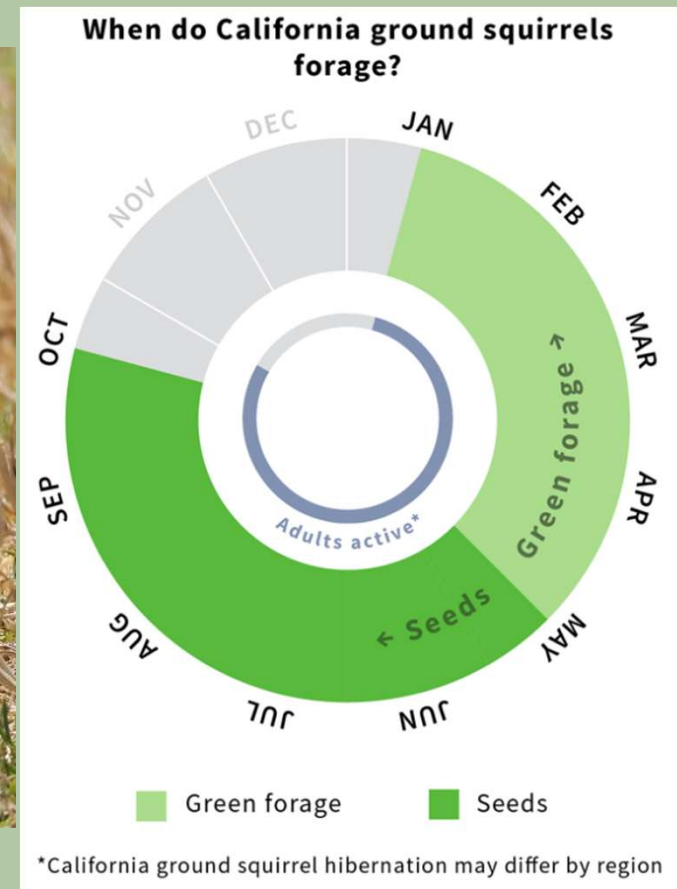
California Ground Squirrel

Otospermophilus beecheyi



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California Ground Squirrel

Otospermophilus beecheyi

Visual Scan



Predator Defenses Whistle



Snake Chatter – Tail Wag/Heat

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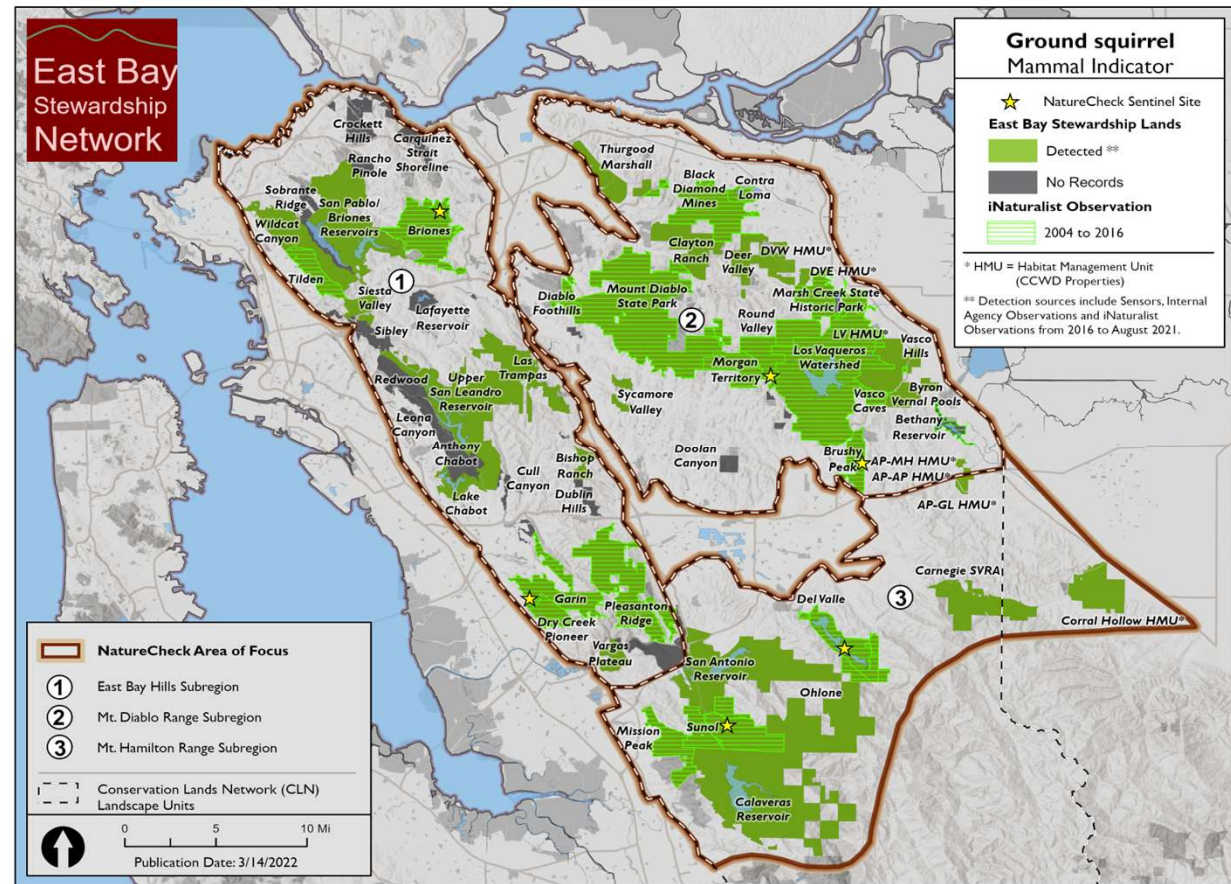


Chatter

Where are they Found- GRASSLANDS



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Understanding & Protecting Biodiversity

Vasco Caves

2000

Changed grazing -
Cattle (year-round)
Sheep (seasonal)

2000 - 2022

UC Grasslands Study*
Other Studies



*<https://www.ebparks.org/natural-resources/grazing/benefits>



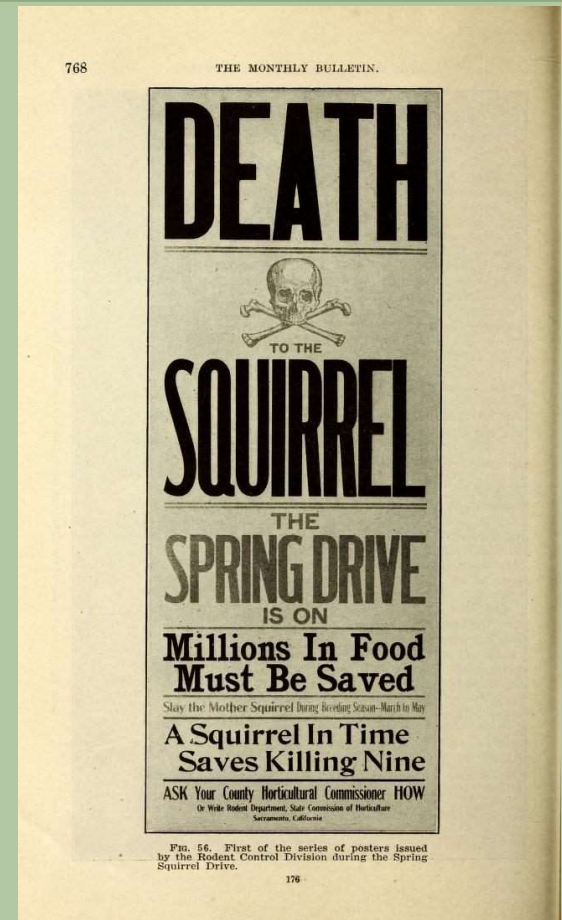
Understanding & Protecting Biodiversity



1918 California War on Ground Squirrels

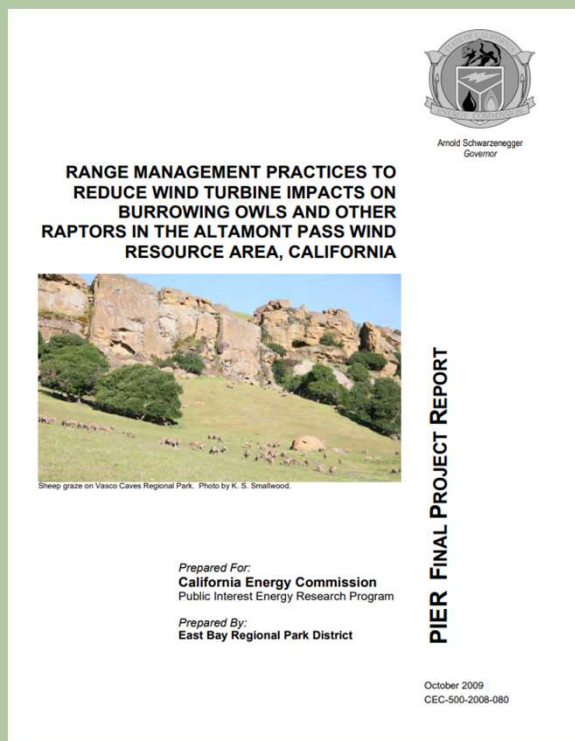


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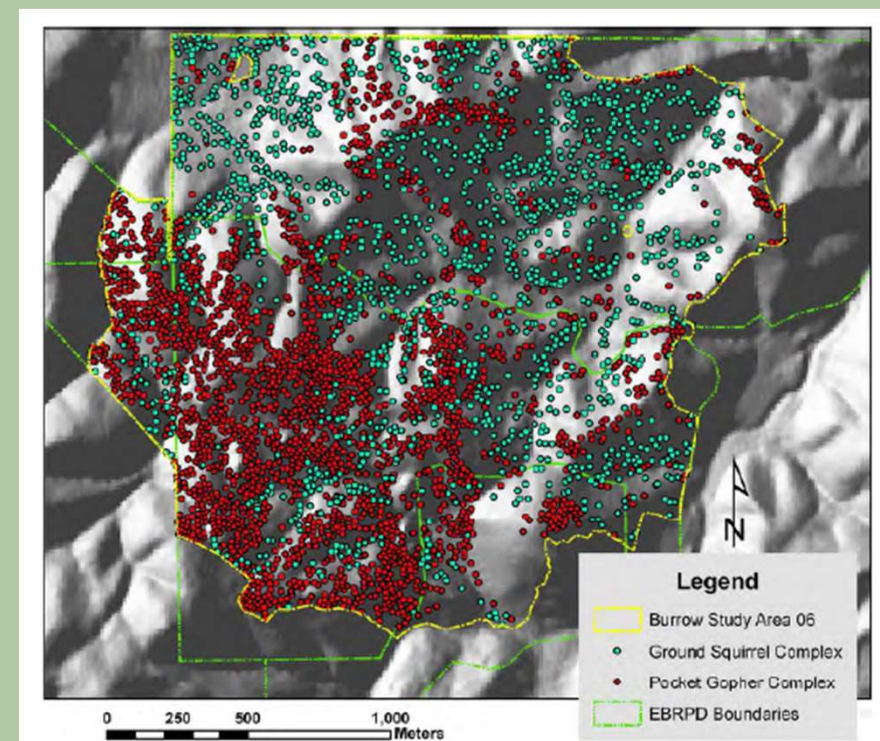


Understanding & Protecting Biodiversity

Vasco Caves – 2006 - 2007

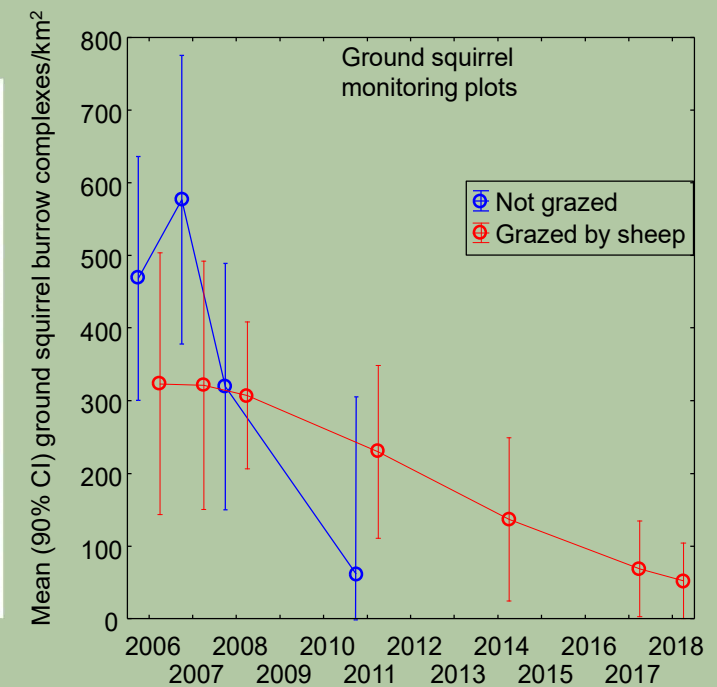
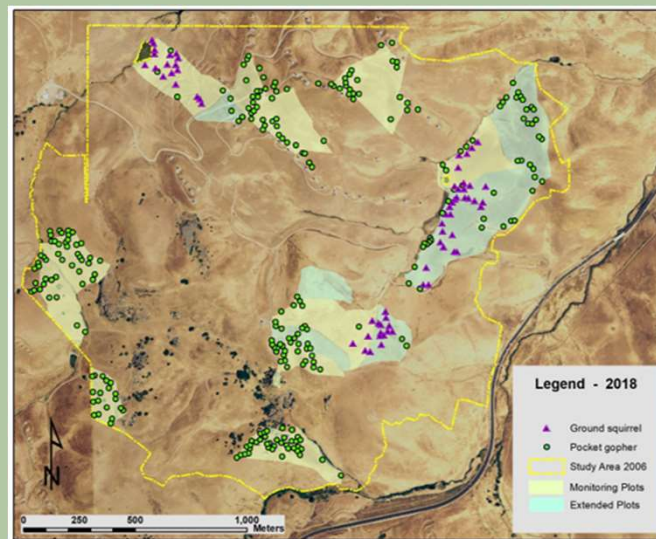
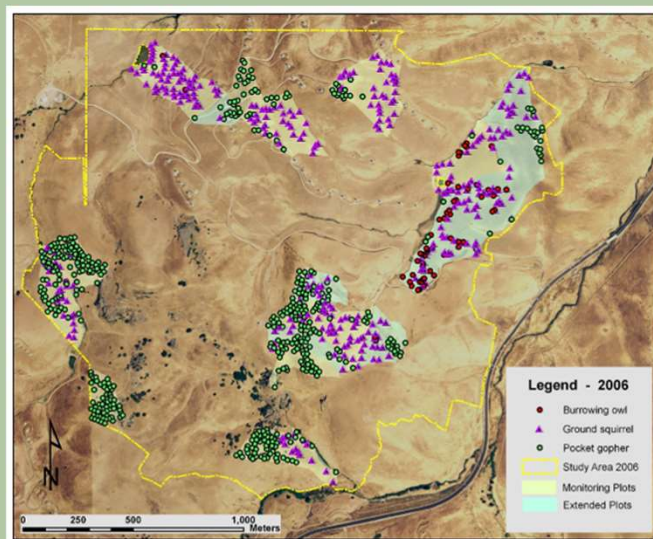


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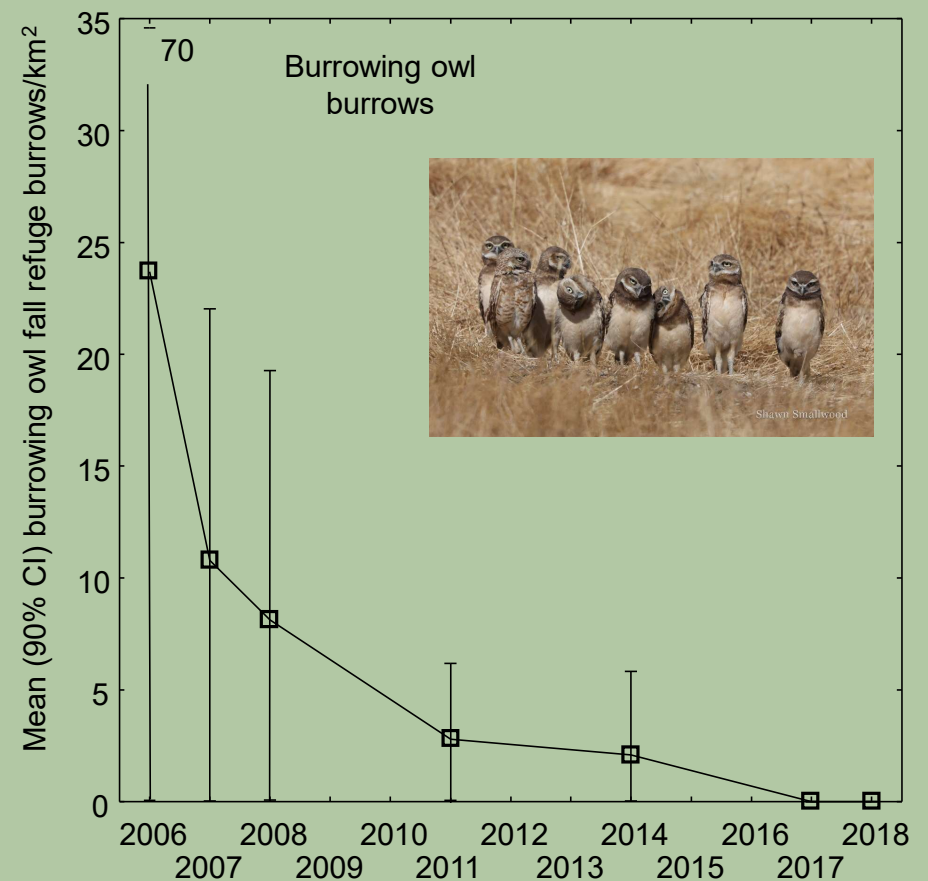
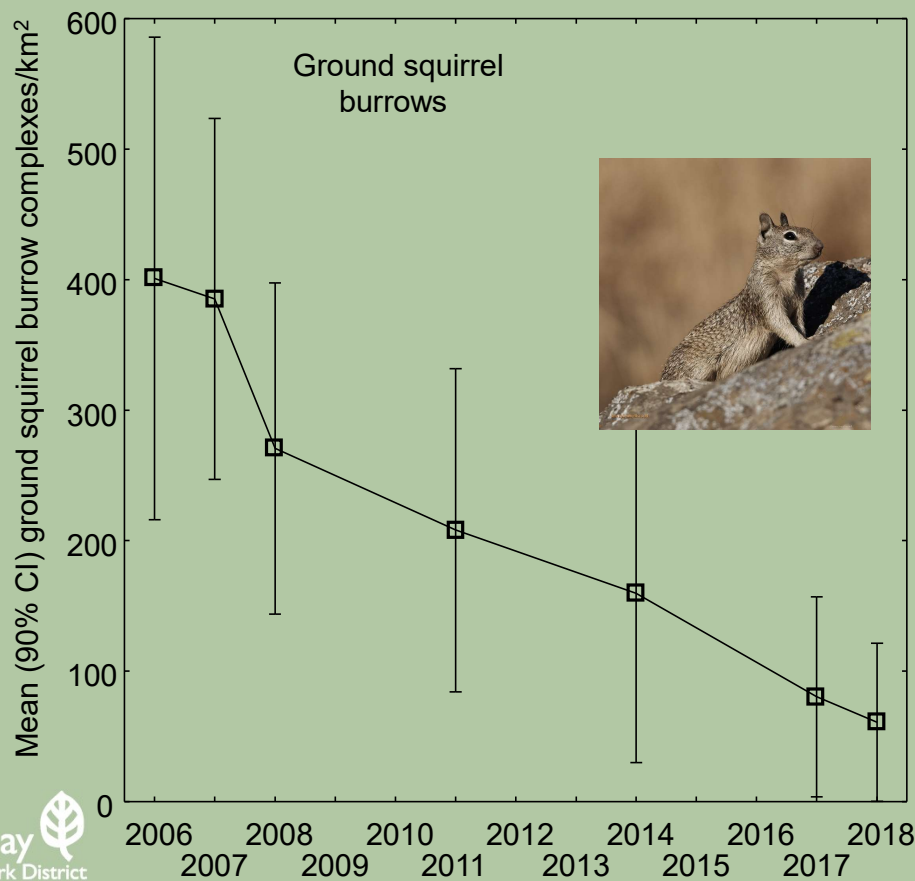


Understanding & Protecting Biodiversity

Vasco Caves – 2006 - 2018



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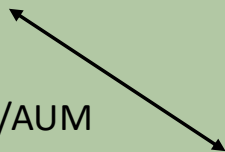
Eagle Take Permits & Mitigation



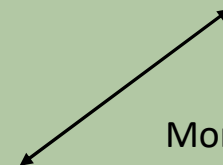
Squirrels/Eagle pair



Squirrels/AUM



Money/AUM



Measuring Health of Environment - Ground Squirrels as Indicator

2022 – Ground Squirrels as Indicator

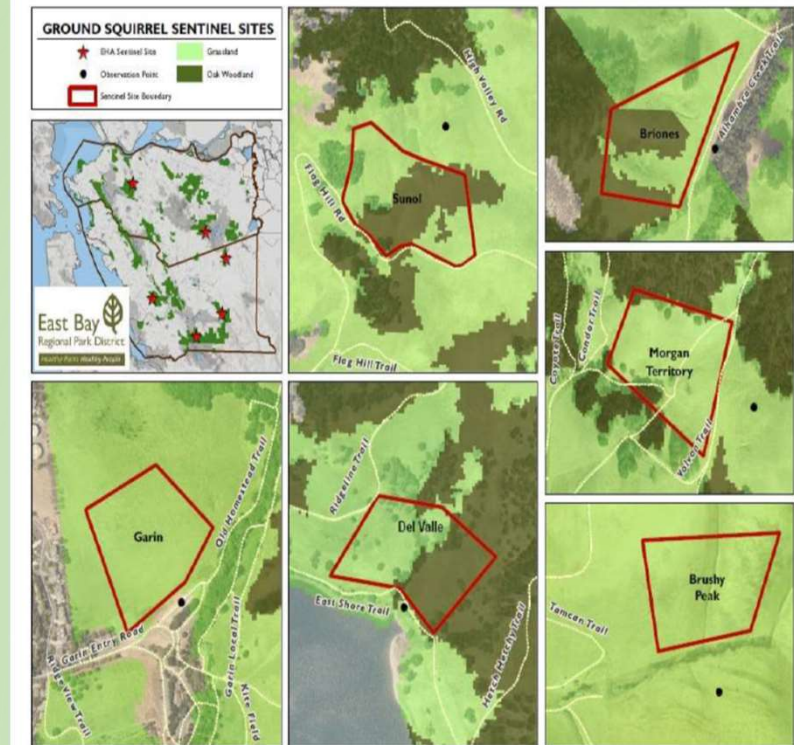
2021 - 2024

Assessed Sentinel Sites



NatureCheck:

Understanding Wildlife Health
on East Bay Lands in
Alameda and Contra Costa Counties
APRIL 2022



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Table 3: Assessment of habitat quality for ground squirrels (see Photographs and notes on habitat condition)

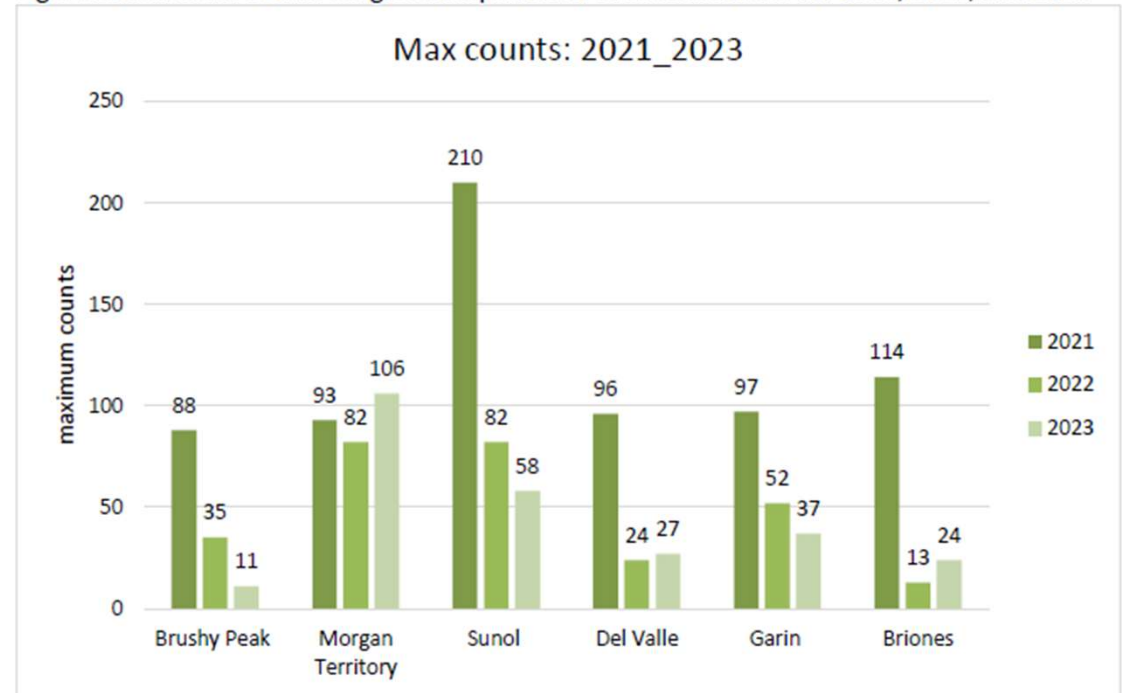
SENTINEL SITE	2021	2022	2023
BRUSHY PEAK	Good	Moderate	Low
MORGAN TERRITORY	Good	Good	Good
SUNOL	Good	Good	Good
DEL VALLE	Good	Moderate	Low
GARIN	Good	Moderate	Low
BRIONES	Good	Low	Low



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Figure 2: Maximum counts for ground squirrels at each sentinel site for 2021, 2022, and 2023



Where we WANT Ground Squirrels



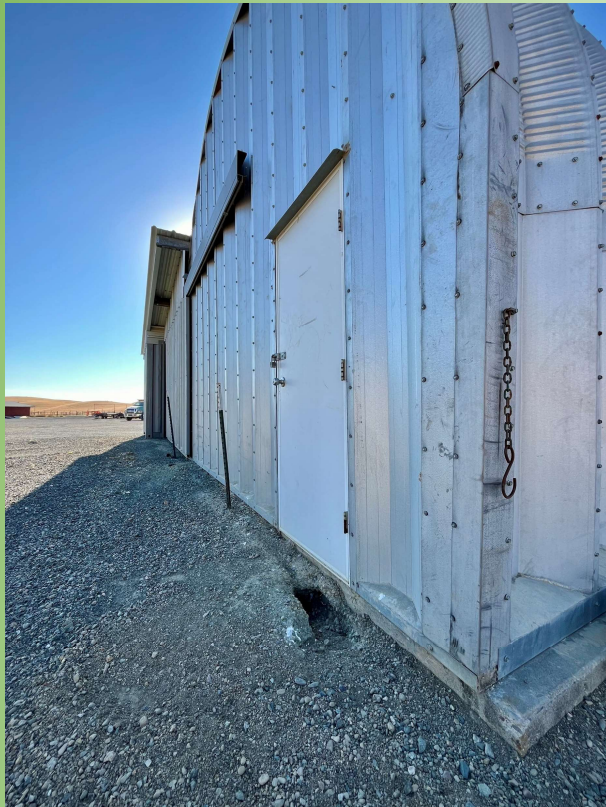
Western Burrowing Owl (*Athene cunicularia hypugea*)
Albany Bulb

Controlling Squirrels where they are NOT wanted

- Squirrels create infrastructure damage on levees, shorelines and irrigated turf areas
- Staff time spent on addressing damage and control



Controlling Ground Squirrels where they are NOT wanted



Examples of Damage



Capture and Relocation?



Translocation Model for the California Ground Squirrel
(*Otospermophilus beecheyi*) to Facilitate California Grassland
Ecosystem Recovery



Prepared by:

Debra M. Shier, J.P. Montagne, Sarah M. Hennessy, Colleen Wisinski, Lisa A. Nordstrom
and Ronald R. Swaisgood

March 2016

Capture and Relocation is PROHIBITED*

*(for the most part)

Illegal to relocate ground squirrels in
California without a permit from the
California Department of Fish and Wildlife

Other control methods are needed

Limited Control Options



- NEVER control squirrels in Wildlands
- State restrictions on rodenticides
- Avoid impacts to other species
- Emphasis on Exclusion
- Understand Irrigated turf will attract squirrels

Education – External



NOTICE

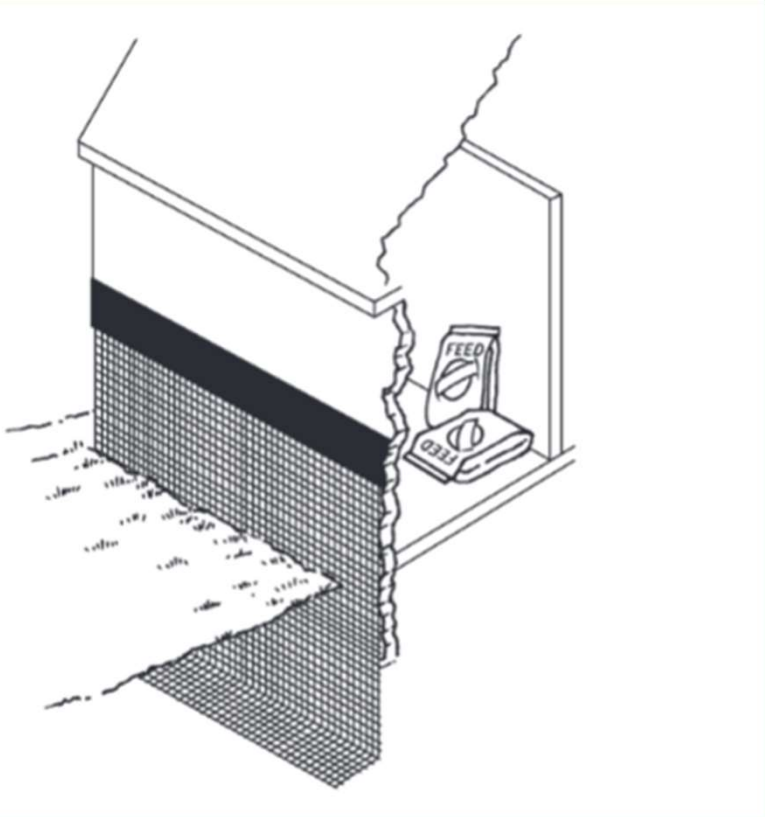
Feeding of wild or domestic animals is a violation of EBRPD Ordinance 38 and subject to fine

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Do not feed wildlife

Prevention – Internal



Preventative Building Design

Modify our land management practices
Minimize Human-Wildlife Conflict

- Replace turf with native landscape
- Preventative building design
- Trash management
- Avoid “outposts”

What YOU can do



California Ground Squirrel Census · iNaturalist

Use iNat to document
Burrows and Squirrels in
Parks

Adopt a New Attitude?





Thank You!

California Ground Squirrels - a Keystone Species in our Wildlands

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