

Agenda

- **1:30-2:15**
 - Slides: Coyote Valley Landscape Connectivity
- **2:15-2:45**
 - Video: Highway Wilding
- **2:45-3:20**
 - Final presentation meeting



Solutions to Biodiversity Crisis

- Ecosystem protection and restoration
- Climate Policy
 - Inter-governmental Panel on Climate Change
 - Shift to Low to ZERO Carbon economy
 - Transition to alternate, renewable, zero carbon sources of energy!
 - The Green New Deal

Ecosystem Protection



Henry W. Coe State Park

Our Mission

The mission of the California Department of Parks and Recreation is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

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SANTA CLARA COUNTY PARKS

Map showing various parks and trails in Santa Clara County, including San Jose, San Francisco, and surrounding areas. A grid overlay is present on the right side of the map.

Pick up a P250K. Put your 250K. Show Santa Clara County Parks to go.

Connect with us!

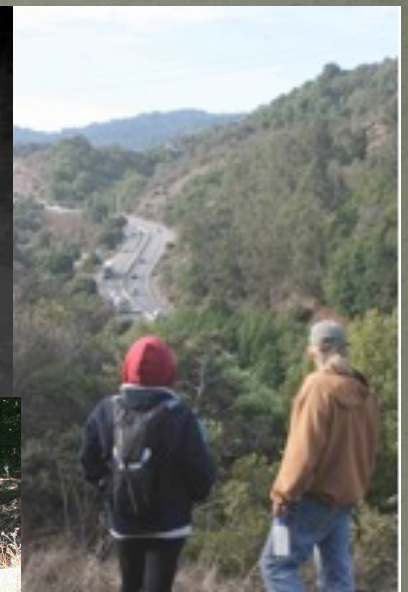
For individual park maps, directions, and fees, visit our website: www.parks.ca.gov

Santa Clara County Parks visit parks.org

Habitat Loss and Fragmentation Santa Clara County



Landscape Connectivity in Santa Clara County



De Anza College
Wildlife Science Technician Team

The Coyote Valley Landscape



Coyote Valley



SANTACRUZ MOUNTAINS

DIABLO MOUNTAINS

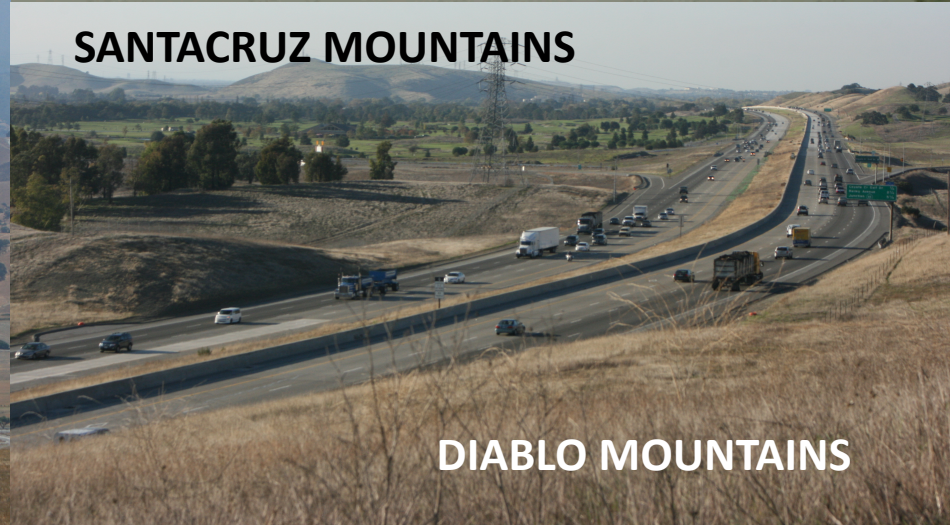
Coyote Valley: Highway 101

SANTACRUZ MOUNTAINS



DIABLO MOUNTAINS

SANTACRUZ MOUNTAINS



DIABLO MOUNTAINS



De Anza WST Program



Benjamin C. Hammett



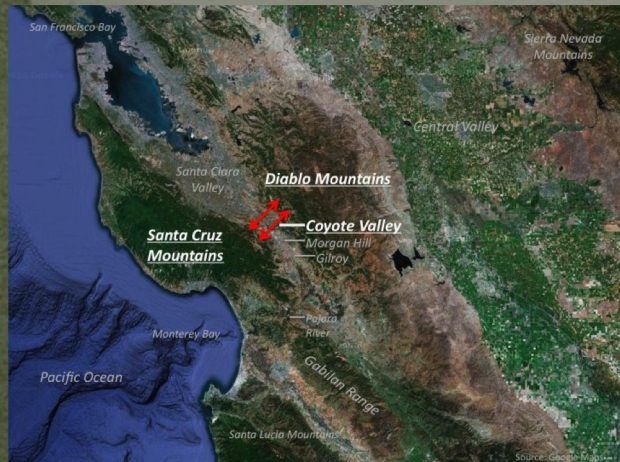
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Landscape Connectivity

- Determines the ability of a species to move across the landscape, between suitable habitats
 - *Important to the long term survival of species*
 - *Increases genetic diversity & eliminates inbreeding*
 - *Increasingly fragmented habitats threaten the health of wildlife populations*
- Many vital habitat linkages are in danger of being destroyed, leading to
 - *Creation of habitat islands in a sea of human development*

Landscape Connectivity

- For species, connectivity between suitable habitat areas
 - Connects wildlife populations / alleviates fragmentation
 - Allows re-establishment from severe natural disasters
- Connectivity between 2 or more natural areas allows ecological processes to continue unhampered
 - Provides movement pathways for migratory species and animals with large home ranges
 - Allows seed dispersal
 - Allows nutrient flow



**De Anza WST Program utilized
Coyote Valley Landscape
as a local linkage case study
2007-2015
Focus on Mammals and Birds**

Unifying themes

Sound Science

Team work

Stewardship

Leadership

Advocacy

Student Engagement

What we learn by studying wildlife linkages



- Where viable linkages exist
- How linkages are utilized by wildlife
- What factors are limiting movement
- How can we enhance linkages (with culverts, underpasses, land bridges, fencing, vegetation)
- How to reduce negative wildlife/human interactions

How WST studied wildlife linkages

- Camera trapping
- Track and sign surveys
- Analysis of crossing structures
- Analysis of habitat quality
- Consideration of human usage
- Road kill data
- Other scientists also use
 - **Radio telemetry**
 - **Genetic analysis**



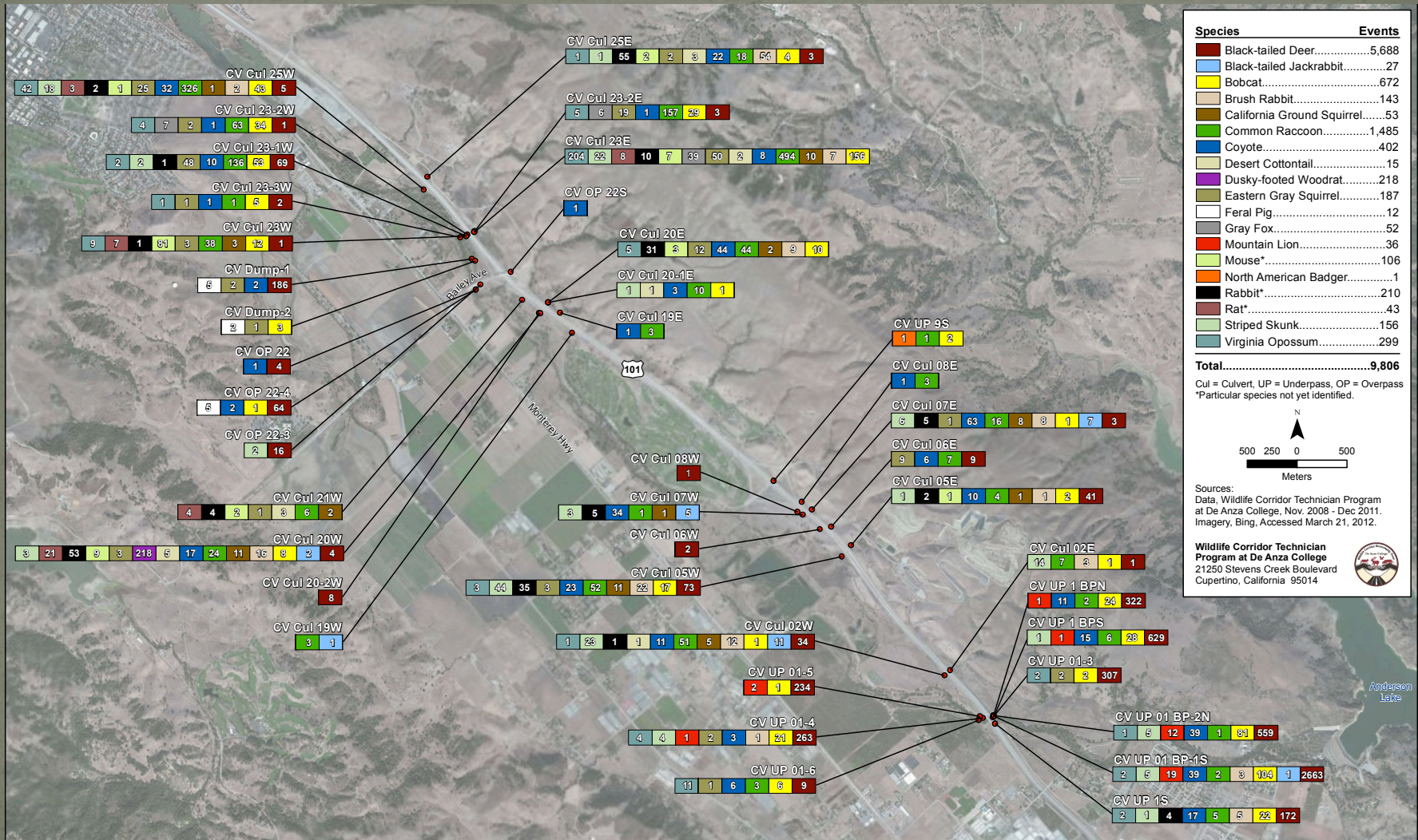
Research & Education in our Field Classes



Images from Remote Camera Surveillance



Coyote Valley Mammal Survey - 2011



Avian Surveys

- Recorded over 215 bird species
- 14 special status species in California, like Golden Eagle, Bald Eagle, White-tailed Kite and Burrowing Owl



Raptor Nest Monitoring



- 40+ active nests
- 7 species
- Breeding density = one nest every 1.2km²
- *Comparable to the highest breeding density in the world in the Snake River Bird of Prey National Conservation Area (800 nests per 1964 km² = one nest per 0.41km²), but on a smaller scale*



Photos: R. Phillips

Conclusions

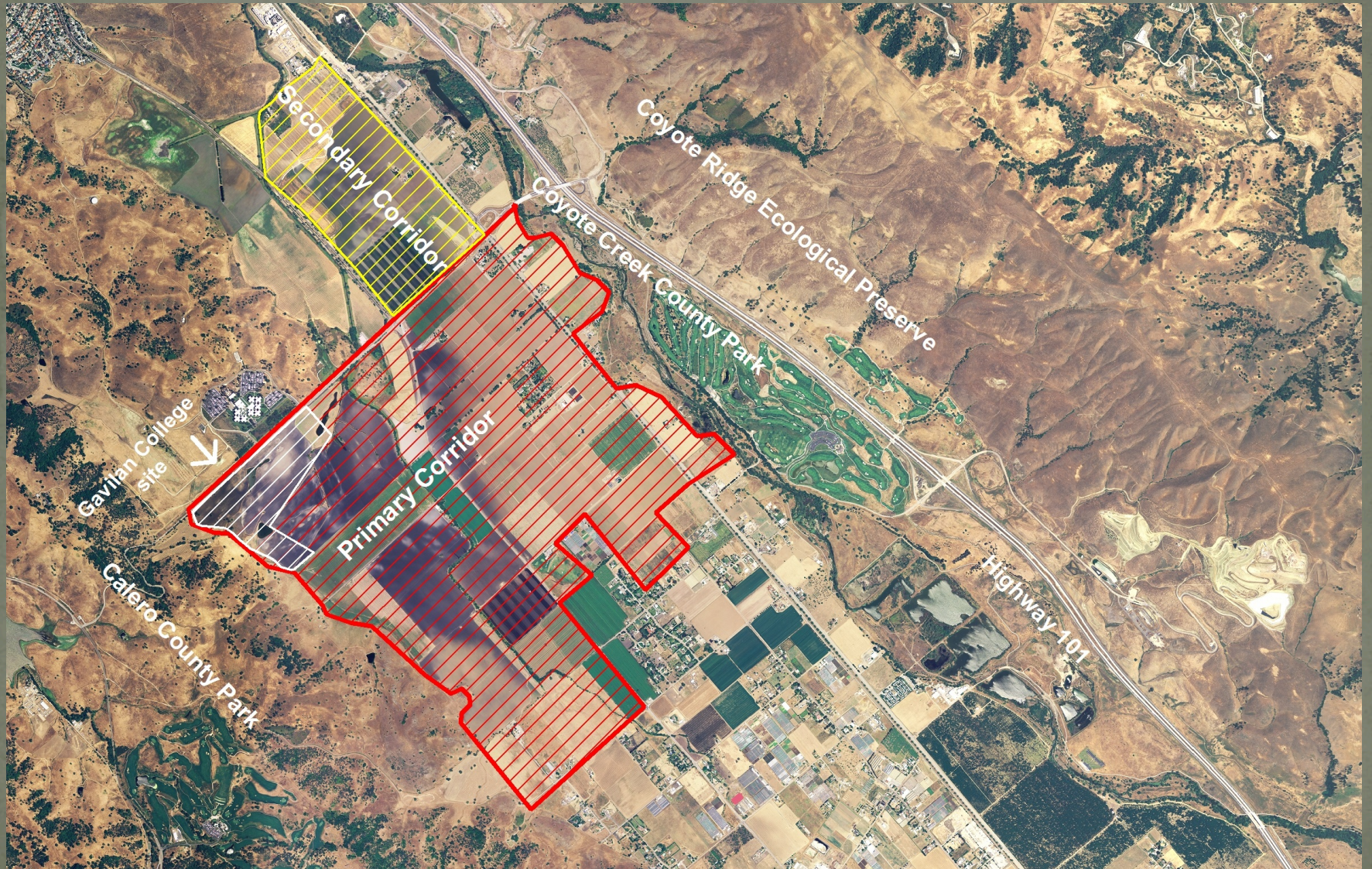
Coyote Valley is a biodiversity hotspot



Mid Coyote Valley provides Critical Landscape Connectivity between Santa Cruz Mountains & Diablo Range



Coyote Valley Critical Linkage



Coyote Valley provides vital Ecosystem Services

- **Biodiversity – Habitat Diversity and Home to Endemic Species**
- **Natural Landscape Connectivity**
- **Overwintering for Migratory Birds**
- **Sustainable Agriculture**
- **Largest Freshwater Wetland in Santa Clara County**
- **Water Recharge and Flood Protection**
- **Carbon Sink**
- **Last Open Space Valley in Santa Clara County**

Photo: R. Phillips

Acknowledgments

Julie Phillips – Principal Steward Extraordinaire

Team:

Ryan Phillips, Neela Srinivasan, Marina Chiarappa-Zucca, Pat Cornely,
Deborah Aso, Wendy Lao, Dave Deppen, Krikor Andonian

AND

STUDENTS *in the*

WILDLIFE SCIENCE TECHNICIAN PROGRAM

(including all its previous avatars)

Connectivity in North America



The Spine of the Continent introduces readers to the most ambitious conservation effort ever undertaken: to create linked protected areas extending from the Yukon to Mexico, the entire length of North America.

Connectivity Around the World

Yukon to
Yellow Stone
Conservation
Initiative



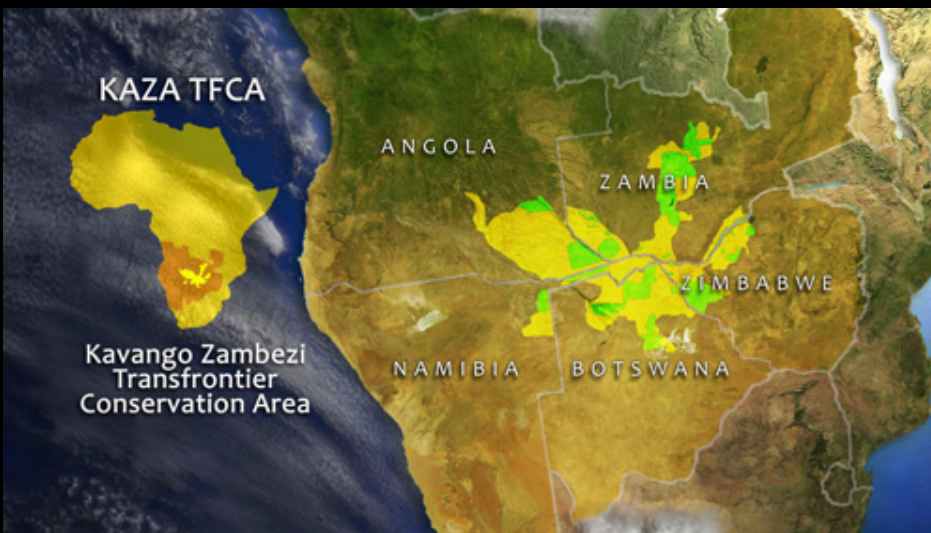
MESO
AMERICAN
BIOLOGICAL
CORRIDOR

Protected cores
Corridors



KAZA TFCA

Kavango Zambezi
Transfrontier
Conservation Area



Australian
National
Wildlife
Corridors
Plan





Timeline: Habitat Loss & Fragmentation In Costa Rica

Connectivity

Highway Wilding (22min)

How Highways impact Wildlife

https://www.youtube.com/watch?v=mx4eJH-II_w

See Also, for Coyote Valley:

[Coyote Valley: Connecting People, Connecting Wildlife](#)

Class 14 Activity: Landscape Linkages

- Explain the meaning of “Connectivity”.

Highway Wilding

- Where did “Highway Wilding” take place?
- What was the “barrier” and what was its effect?
- How did conservationists overcome the barriers for wildlife? Give two examples.
- What one fact impressed you most?

Coyote Valley

- Where is Coyote Valley located? Describe.
- List 3 ecosystem services that Coyote Valley provides.
- What is a wildlife corridor? Explain.
- What one fact impressed you most?

Connectivity Definition



- The degree to which the landscape facilitates or impedes movement among habitat patches
- The ability of wildlife to move across the landscape