

The logo consists of the letters 'R', 'E', and 'M' in a bold, sans-serif font. The top portion of each letter is dark blue, while the bottom portion is a lighter blue. The letters are positioned above the text 'road ecology meeting'.

REM

road ecology meeting



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Saving Lives and Training the Next Generation: State Route 101 Wildlife Corridor Safety Project

Modified version 2013 ICOET Conference

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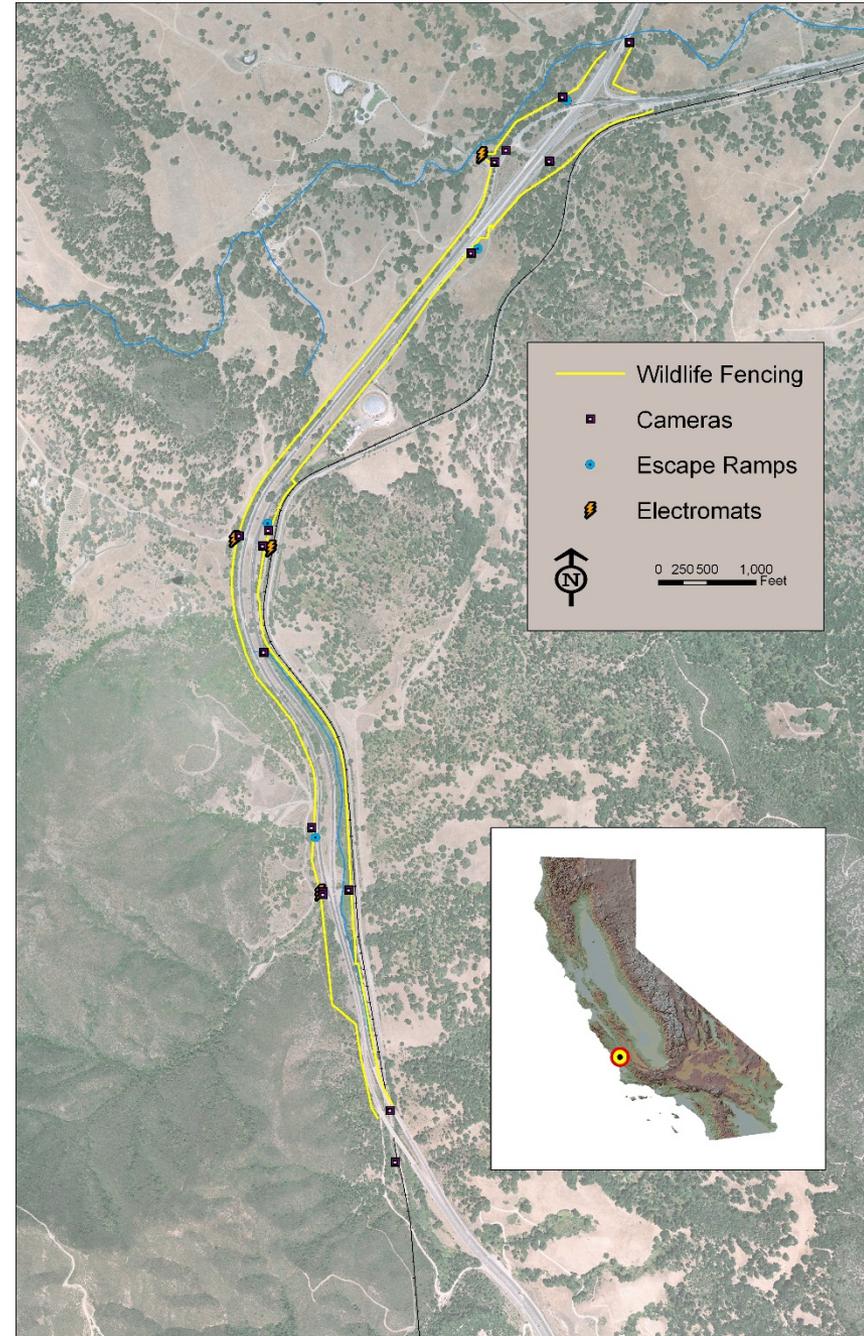
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Project Location

- State Route 101
- Central Coast of California
- San Luis Obispo County
- North of the City of San Luis Obispo



Problem

- Animal-Vehicle Collisions (AVCs) with Large Mammals including:
 - black bear
 - mule deer
 - mountain lion
 - feral pig





Solution:

Wildlife Fencing Project

- Install 2.5 miles fence on both sides 101
- Install escape ramps (jump-outs)
- Install electric mats for wildlife guards
- Monitor structures post-construction



Overview of the Project Area and End Points

- Two large undercrossings provided logical end points for fencing

Southern end point - railroad overhead



Northern end point - highway bridge



- Pre-construction camera and roadkill study provided preliminary data



Mountain lion using game trail



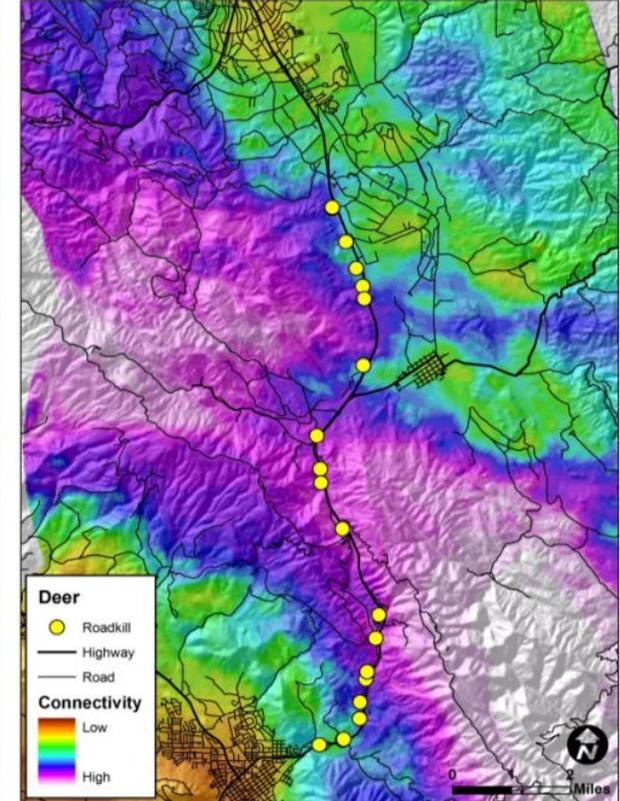
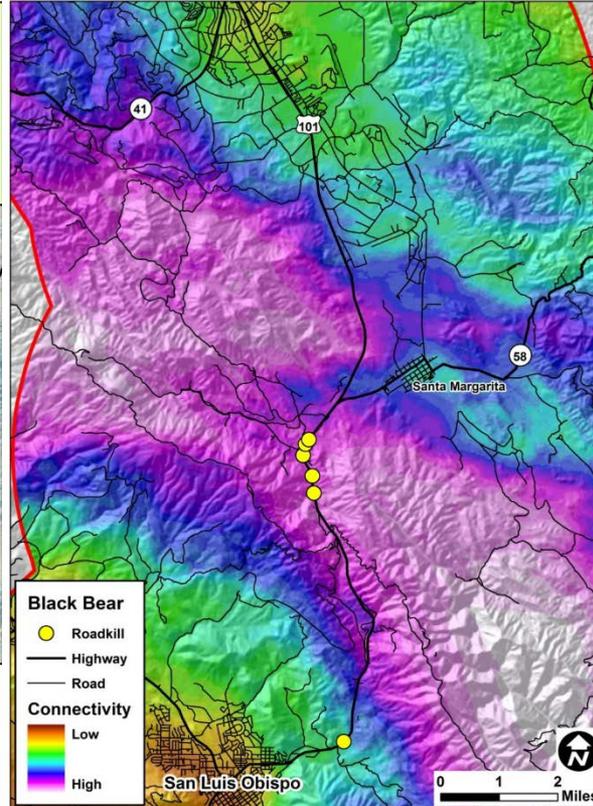
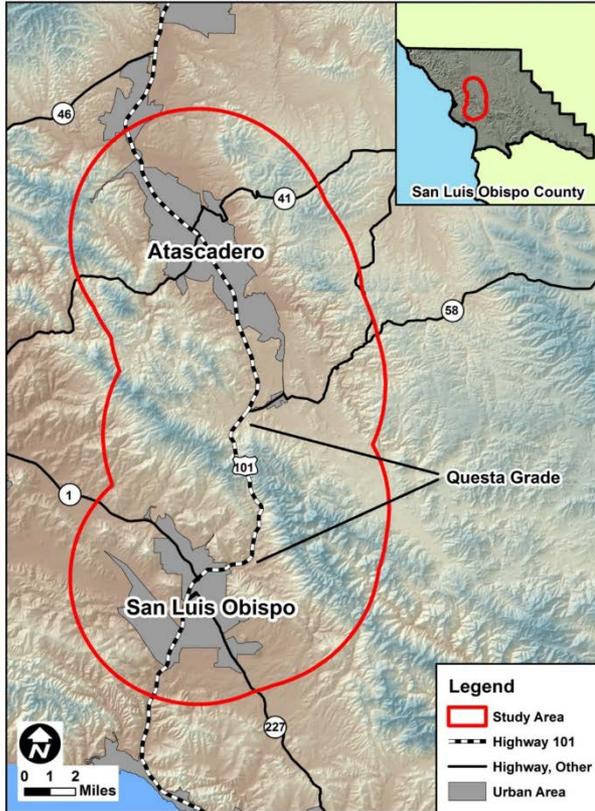
Black bear highway bridge undercrossing



Students checking wildlife cameras

Dr. John Perrine
Biological Science Department
California Polytechnic State University

- Pre-construction wildlife corridor modeling study provided additional data



- Study Area

- Landscape scale modeling for black bear and mule deer habitat connectivity with roadkill data overlay

Dr. James Thorne and Dr. Patrick Huber
 Information Center for the Environment, U.C. Davis



Installation of 2.5 Miles of Fence



- California Conservation Corps (CCC) Installed the Fence



Construction constraints:

- archeological site
- high pressure gas line



- and perennial streams with sensitive amphibians and fish



Installation of Escape Ramps



- Four earthen ramps were installed at strategic locations within the project limits
- Ramps allow wildlife that become trapped along the roadway to escape from the highway corridor



Installation of Electric Wildlife Guards



- To discourage wildlife (bears in particular) from entering the highway corridor, electric mats were installed at four unfenced roads that intersect SR 101

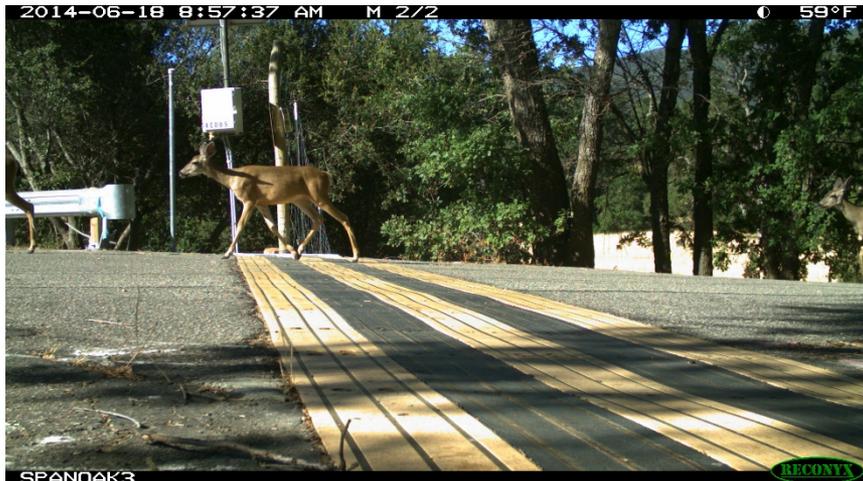
- Mule deer observed using 3 out of the 4 ramps
- Both does and bucks use the ramps
- Use appears to be inconsistent and based on individual behavior



- Electric mats are working for black bear primary target species
- Electric mats need to be modified to work better for mule deer and lions
- No feral pigs have crossed the mats



Black bear approaches mat to cross & retreats



Mule deer crossing mat



Mountain lion crossing mat



- Black bear & mountain lion using 4x8 foot box culvert within the project limits



- Mule deer, feral pigs and black bear using large undercrossings either end of project.



Summary

- Exclusion fencing is effectively guiding wildlife to existing undercrossings
- Escape ramps are allowing mule deer that enter the highway corridor to safely escape the roadway
- Electric mats are deterring black bear from entering the highway corridor
- However, preliminary results for electric mats suggest design may need to be modified to better exclude deer and mountain lion
- Overall safe passage for wildlife and drivers has improved while habitat connectivity has been maintained
- Monitoring over multiple years was critical in determining the success of the project and identifying maintenance needs.



Partners = People



Thanks to the following:

- Lisa Schicker (retired Caltrans Biologist), Paul Holmes (Caltrans Biologist)
Cecilia Boudreau (Caltrans Environmental Planner)
- Caltrans Construction and Maintenance Divisions
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- Calpoly students (29) for their enthusiasm and dedication – data collection
- Bob Stafford, California Department of Fish and Wildlife – black bear data
- Steve Kirkland, U.S. Fish and Wildlife Service, Ventura Office – support on TE grant

And Critters



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06-14 6:40:32 AM M 4/5 FM

8-07 9:40:14 PM M 5/5



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