

Caltrans Wildlife Connectivity Studies in El Dorado County

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Roads as barriers to wildlife movement

- Wildlife-vehicle collisions
- Habitat fragmentation
- Avoidance (complete barrier)
- Impact on migratory corridors



How do we prioritize crossing locations?

Traffic Accident Surveillance and Analysis System (TASAS) data

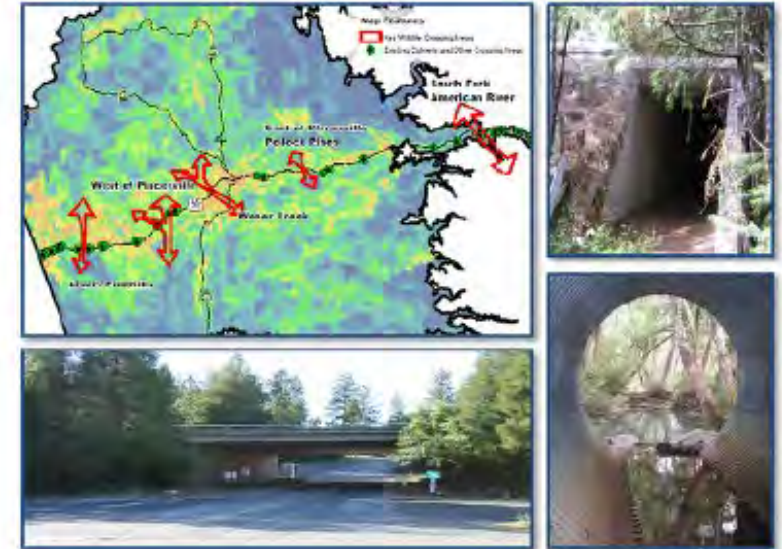
Caltrans maintenance data

Caltrans GIS Wildlife Connectivity Analysis Tool (WildCAT)

CDFW priority areas

County plans/priority areas

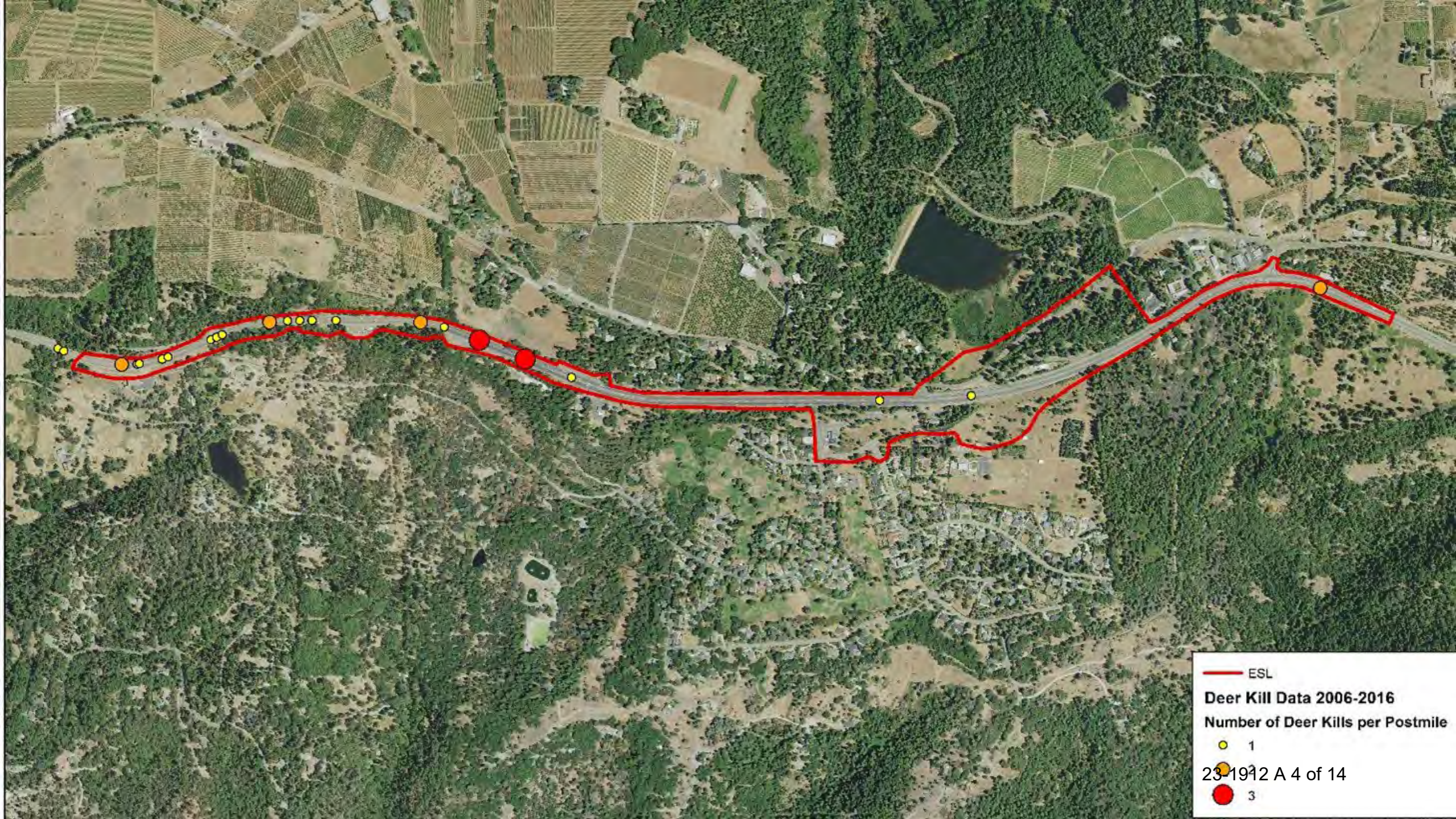
Communication with CDFW wildlife biologists



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Wildlife camera studies

- Study several potential wildlife crossing locations over several years during the project planning stage
- Install permanent cameras after wildlife crossing is constructed to monitor success



How do we design crossings?

- Design elements:
 - 12'x12' box culverts are most common (we also use bridges, overcrossings, and other culvert sizes)
 - Wildlife fencing
 - Wildlife escape ramps
 - Wildlife passageways in median barrier
 - Wildlife cameras (monitoring)
- Design/location considerations:
 - Topography
 - Surrounding land use
 - Habitat type
 - Project limits



Design Elements



Wildlife undercrossing (12'x12')



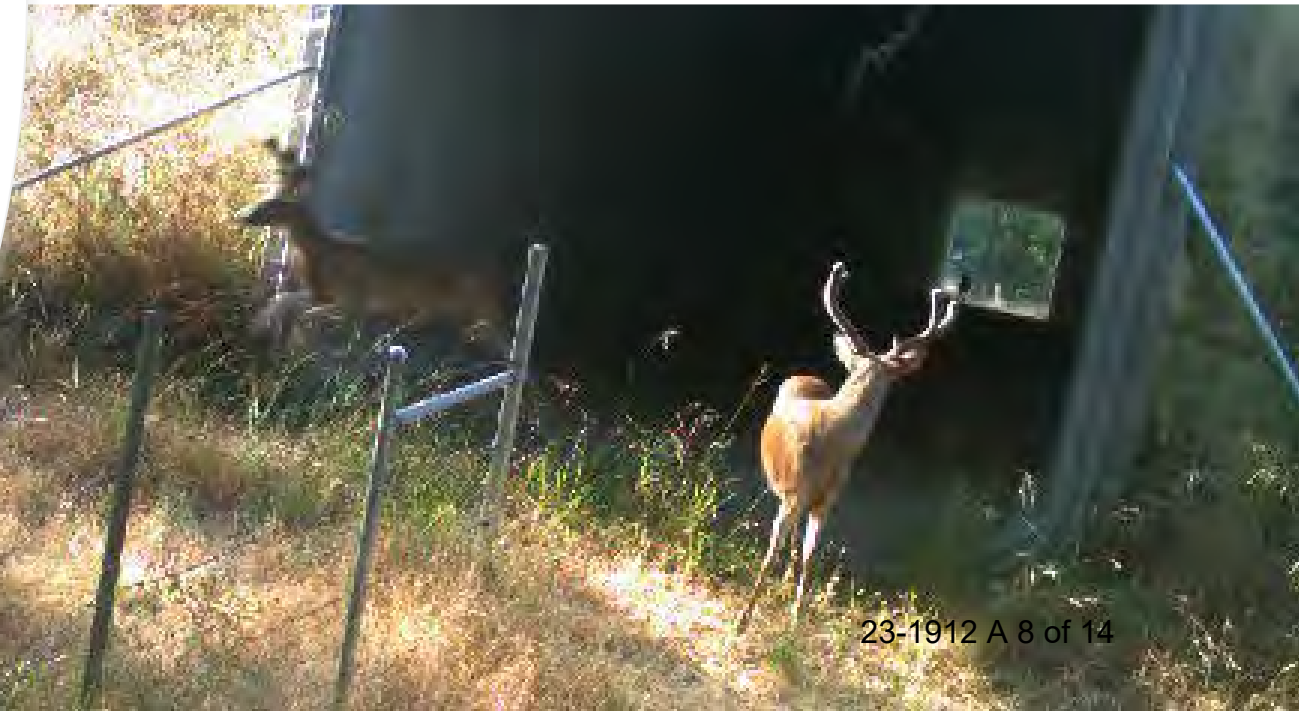
8' tall wildlife fence



Escape ramps or "jump outs"

Greenstone Crossing

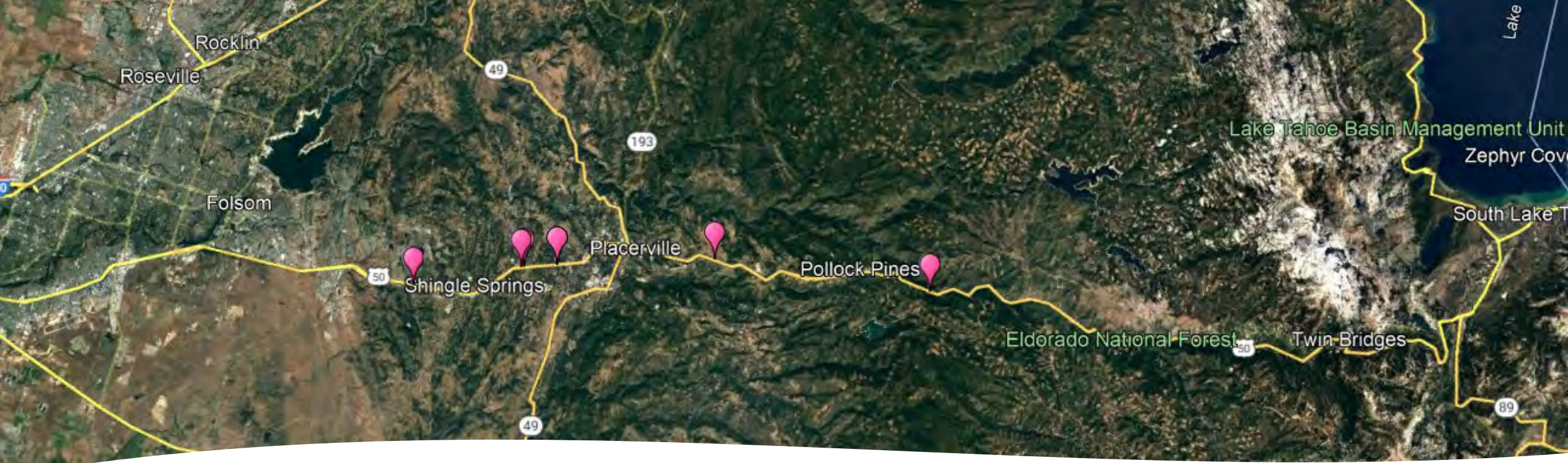
- Construction was completed September 2012
 - 12'x12'x200' box culvert
 - 8' tall wildlife fencing
- UC Davis monitored crossing 2012-2018
- Species:
 - Deer (over 2,000 observations)
 - Raccoon
 - Skunk
 - Turkey
 - Fox
 - Bobcats
- New: bats!
- Caltrans began monitoring again in 2023



Camino Crossing

- Construction completed 2023
- Camera monitoring began August 2023
- Successful: daily use from deer
- Design elements:
 - 12'x12'x110' box culvert
 - 2 escape ramps
 - 6 permanent wildlife camera posts
 - 8' tall wildlife fencing
 - Wildlife passages in concrete median barrier





Current El Dorado County studies

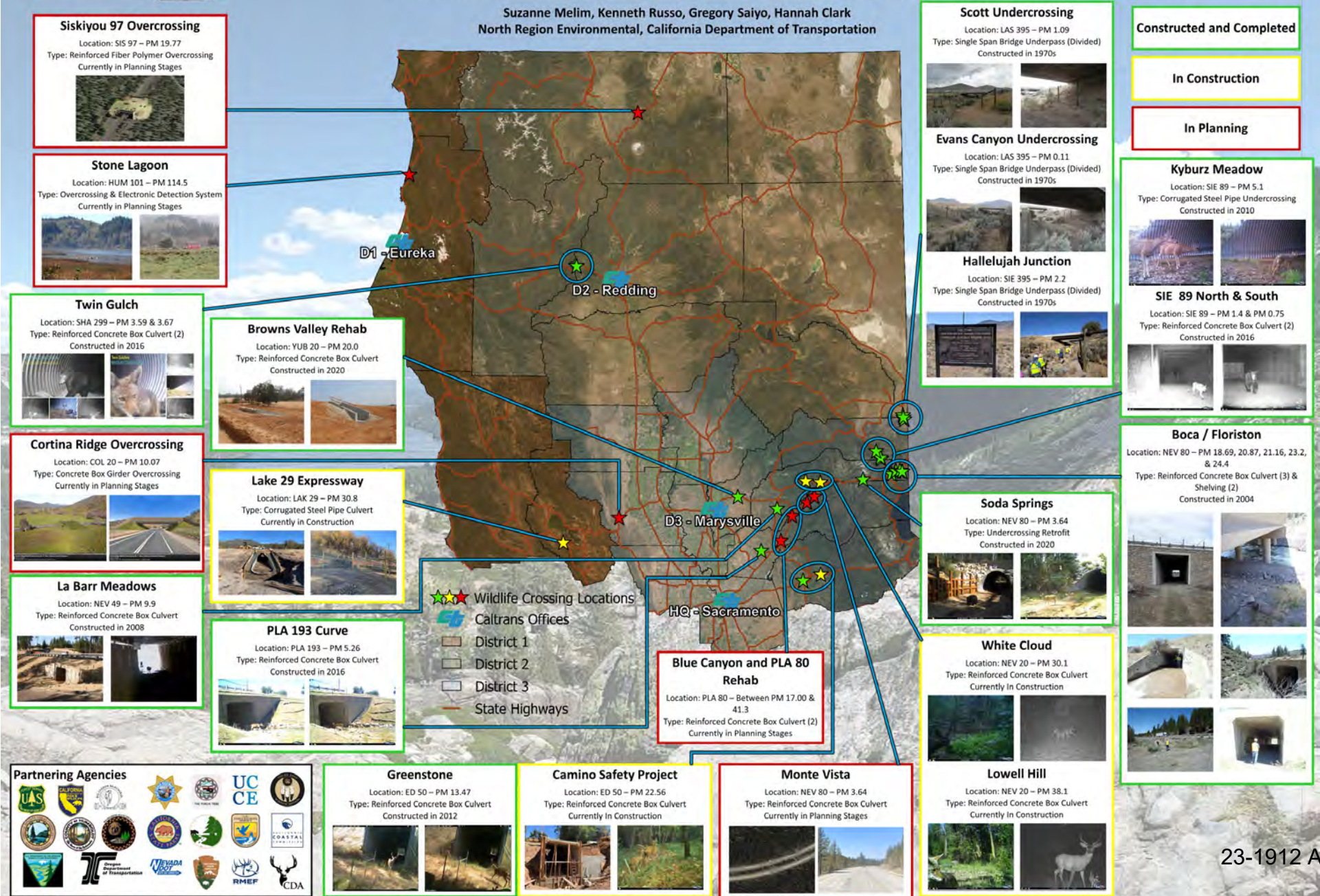
- Monitoring 2 wildlife crossings (Greenstone & Camino)
- Planning Environmental Linkages (PEL):
 - Studying 2 locations in Cameron Park
 - Studying 2 locations in Shingle Springs
 - Studying 1 location in White Hall



Reconnecting Northern California Terrestrial Habitats: Caltrans North Region Wildlife Connectivity Projects



Suzanne Melim, Kenneth Russo, Gregory Saiyo, Hannah Clark
North Region Environmental, California Department of Transportation



Siskiyou 97 Overcrossing
Location: SIS 97 – PM 19.77
Type: Reinforced Fiber Polymer Overcrossing
Currently in Planning Stages

Stone Lagoon
Location: HUM 101 – PM 114.5
Type: Overcrossing & Electronic Detection System
Currently in Planning Stages

Twin Gulch
Location: SHA 299 – PM 3.59 & 3.67
Type: Reinforced Concrete Box Culvert (2)
Constructed in 2016

Cortina Ridge Overcrossing
Location: COL 20 – PM 10.07
Type: Concrete Box Girder Overcrossing
Currently in Planning Stages

La Barr Meadows
Location: NEV 49 – PM 9.9
Type: Reinforced Concrete Box Culvert
Constructed in 2008

Browns Valley Rehab
Location: YUB 20 – PM 20.0
Type: Reinforced Concrete Box Culvert
Constructed in 2020

Lake 29 Expressway
Location: LAK 29 – PM 30.8
Type: Corrugated Steel Pipe Culvert
Currently in Construction

PLA 193 Curve
Location: PLA 193 – PM 5.26
Type: Reinforced Concrete Box Culvert
Constructed in 2016

- ★ Wildlife Crossing Locations
- Caltrans Offices
- District 1
- District 2
- District 3
- State Highways

Scott Undercrossing
Location: LAS 395 – PM 1.09
Type: Single Span Bridge Underpass (Divided)
Constructed in 1970s

Evans Canyon Undercrossing
Location: LAS 395 – PM 0.11
Type: Single Span Bridge Underpass (Divided)
Constructed in 1970s

Hallelujah Junction
Location: SIE 395 – PM 2.2
Type: Single Span Bridge Underpass (Divided)
Constructed in 1970s

Constructed and Completed

In Construction

In Planning

Kyburz Meadow
Location: SIE 89 – PM 5.1
Type: Corrugated Steel Pipe Undercrossing
Constructed in 2010

SIE 89 North & South
Location: SIE 89 – PM 1.4 & PM 0.75
Type: Reinforced Concrete Box Culvert (2)
Constructed in 2016

Boca / Floriston
Location: NEV 80 – PM 18.69, 20.87, 21.16, 23.2, & 24.4
Type: Reinforced Concrete Box Culvert (3) & Shelving (2)
Constructed in 2004

Soda Springs
Location: NEV 80 – PM 3.64
Type: Undercrossing Retrofit
Constructed in 2020

White Cloud
Location: NEV 20 – PM 30.1
Type: Reinforced Concrete Box Culvert
Currently In Construction

Lowell Hill
Location: NEV 20 – PM 38.1
Type: Reinforced Concrete Box Culvert
Currently In Construction

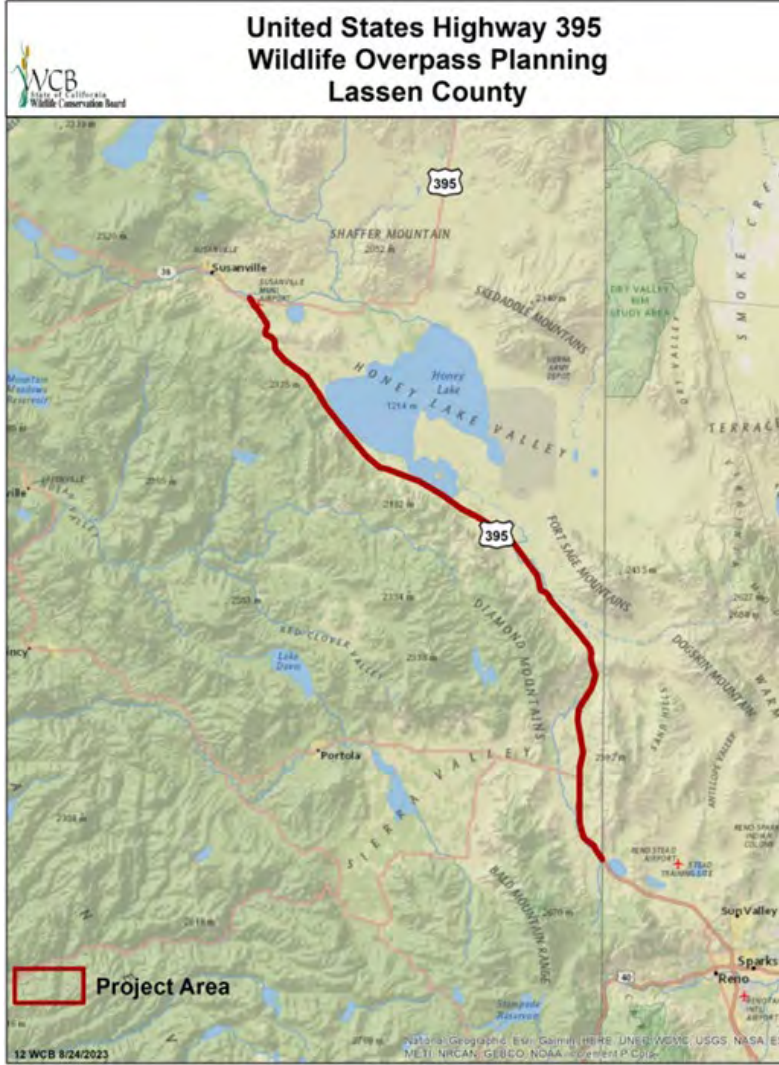


Greenstone
Location: ED 50 – PM 13.47
Type: Reinforced Concrete Box Culvert
Constructed in 2012

Camino Safety Project
Location: ED 50 – PM 22.56
Type: Reinforced Concrete Box Culvert
Currently in Construction

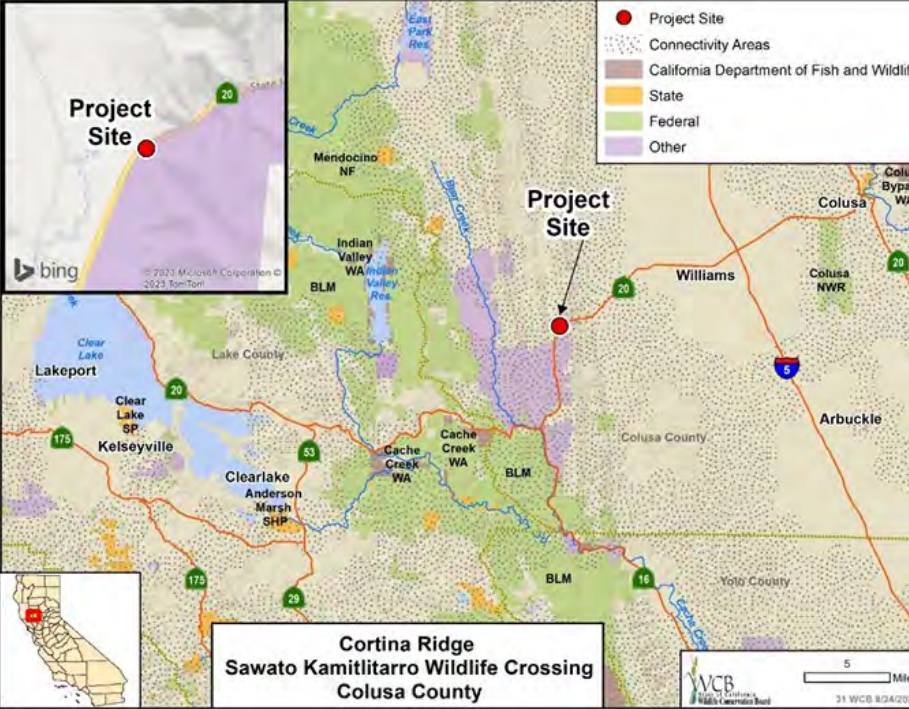
Monte Vista
Location: NEV 80 – PM 3.64
Type: Reinforced Concrete Box Culvert
Currently in Planning Stages

Lowell Hill
Location: NEV 20 – PM 38.1
Type: Reinforced Concrete Box Culvert
Currently In Construction



Planned Wildlife Overcrossings

- Funded through Wildlife Conservation Board (WCB)
- Highway 395 (Lassen County)
 - Elk, deer, black bear, mountain lions, badgers, gray fox, pronghorn antelope
- Highway 20 (Colusa County)
 - Elk, deer, mountain lion, coyote, bear, badger



HUM 101 Electronic Elk Detection System



- Collaboration between Caltrans, CDFW, & Cal Poly Humboldt
- Install an elk detection system (EDS) along a 1-mile segment
- First EDS project in California

Thank you!

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