

Cooperative Effort: The Highway 50 Wildlife Connectivity Project

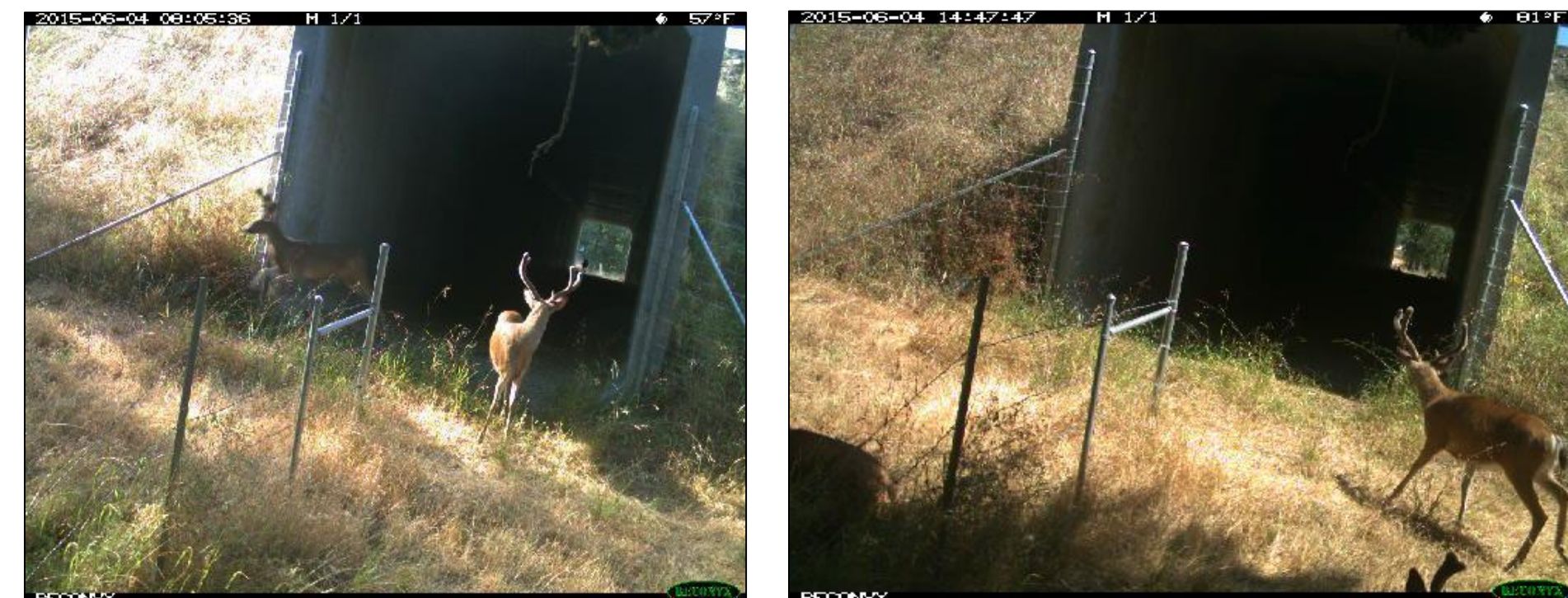
Shelly Blair¹, Hannah Clark², Kathleen Jermstad³, Suzanne Melim², Shanna Zahner², Hanna Harrell²

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Wildlife Undercrossing Near Placerville

The Highway 50 corridor bisects habitat through the Central Valley, foothills, and the Sierra Nevada Mountains, and has a history of wildlife-vehicle collisions. In 2005 public comment on the high number of roadkill incidences on Highway 50 led Caltrans District 3 Director Jody Jones to have her staff find funding for a wildlife-vehicle collision reduction project. In 2006, Caltrans obtained \$1.6 million from the State Transportation Improvement Program – Interregional Transportation Improvement Program, Transportation Enhancement Funds (STIP-ITIP-TE) to fund a wildlife crossing project on Highway 50.

Caltrans biologist Suzy Melim and the project team researched suitable locations along Highway 50 in El Dorado County (ED-50) to build a project, and decided on a location near Placerville, CA (postmile 13.5). In 2012, a 12'x12'x203' wildlife undercrossing with 8' wildlife fencing was completed. Caltrans partnered with the Road Ecology Center at UC Davis to monitor the use of the wildlife crossing. The crossing project was deemed successful: over a span of 64 days, there were 138 deer crossings (which averages out to 2.16 crossings/day).



Wildlife undercrossing at ED-50 PM 13.5 (photos courtesy of UC Davis)



UC Davis Road Ecology Center

Formation of a Highway 50 Working Group

The need for researching more sites along Highway 50 was recognized for continued future planning. In the fall of 2016, Shanna Zahner, Shelly Blair and Kathie Jermstad met on Highway 50 to begin the work of surveilling wildlife movement along the Highway 50 corridor. Camera placement was determined by studying game trails, prints and scat. Camera images were collected over the next two years.

In 2017, the Camino Safety Project research team merged with the Highway 50 Wildlife Corridor Project, due to need for a wildlife crossing within the Camino Safety Project. Camino Safety Project biologists Hanna Harrell and Hannah Clark worked with the project team to accommodate wildlife movement within the project scope.

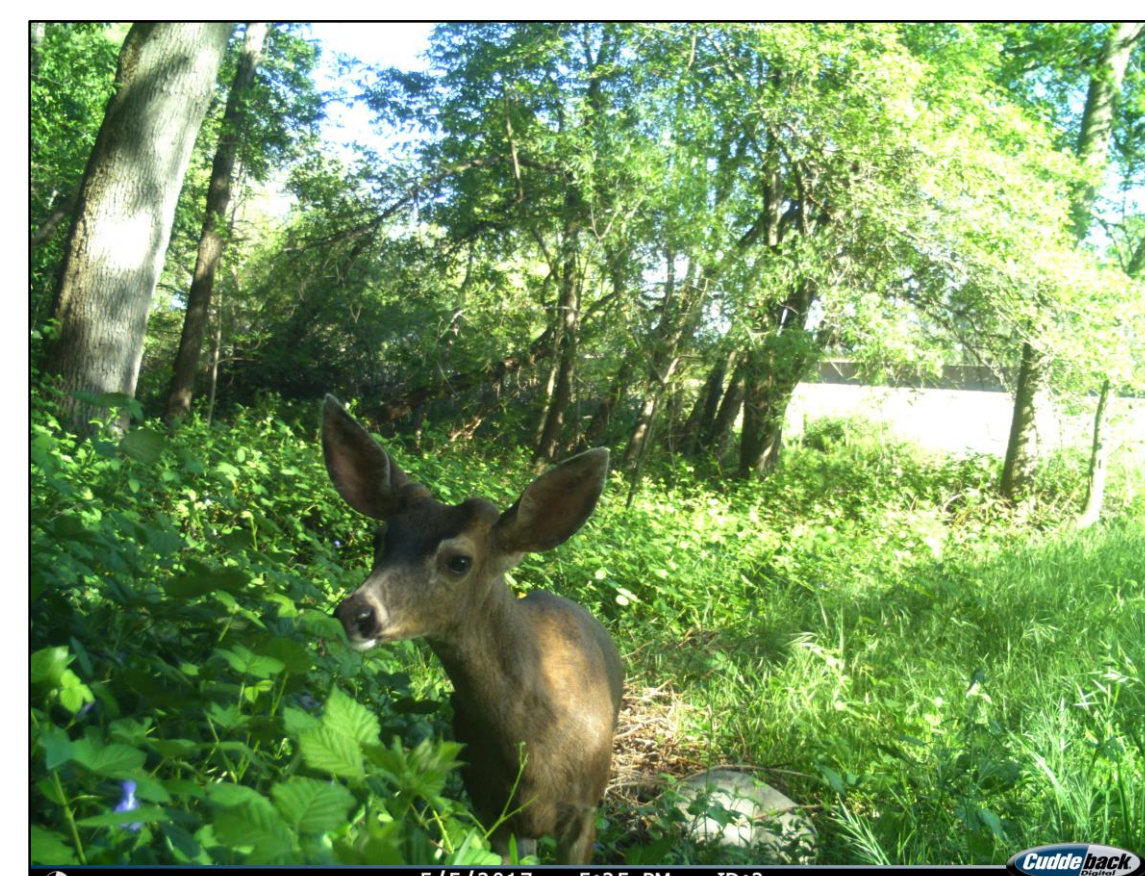
Work also continues outside the scope of the Camino Safety Project by the working group.



Shelly Blair, Kathie Jermstad, and Shanna Zahner studying wildlife activity along Highway 50



Deer skull found on Highway 50



Deer activity captured in study site for the Camino Safety Project



Planning for the Future

Install wildlife undercrossings: We've identified locations along Highway 50 where it's feasible to install undercrossing. These locations are below-grade, have adjacent open habitat and display evidence of wildlife movement. New urban development alters movement patterns, nullifying the potential of identified locations. *The General Plan* of El Dorado County makes provision for habitat management and land acquisition for the purpose of maintaining terrestrial wildlife movement (*Policy 7.4.2.8 sections B and D*). Discussions with County Supervisors, County Fish and Wildlife Commissioners are ongoing. Acquisition of available parcels is recommended.

Preserve existing passages: Although there is plenty of interest in installing wildlife undercrossings, local municipalities often lack funds to do so. In 2017-2018, the underpasses along Highway 50 were temporally examined for signs of deer movement. A report was presented to the Placerville City Council on January 23, 2018 (<https://www.cityofplacerville.org/meetings/137>), showing evidence that deer utilize the existing underpasses, commonly at night. Anecdotal data from multiple proprietors confirmed deer using the underpasses during early morning hours. The Placerville City Council was encouraged to not make bridge improvements that would inhibit wildlife movement. A similar approach was also taken for examining Highway 50 underpasses west of Placerville. This data was shared with the County Supervisor responsible for the corresponding district.

Reducing the frequency of deer-vehicle collisions on Highway 50 needs to be a strong consideration when making capital improvements. It is critical to not obstruct wildlife passages that may be reducing the number of deer on the highway.

New signage: The majority of wildlife-vehicle collisions occur in autumn during rut. Flashing deer caution signs, powered by solar are being installed as the result of a collaboration between El Dorado County and the Sacramento Area Council of Governments.

Monitoring Deer Movements: Continued monitoring of deer movements will be important to better understand how these animals react to the construction of the new undercrossing in the Camino safety project, and how they utilize the structure once in place. We hope to partner with the California Deer Association to get funding and place Iridium GPS collars on deer in that area to better understand highway use and resource selection by these large mammals. This data could help inform future undercrossing project designs and implementation.



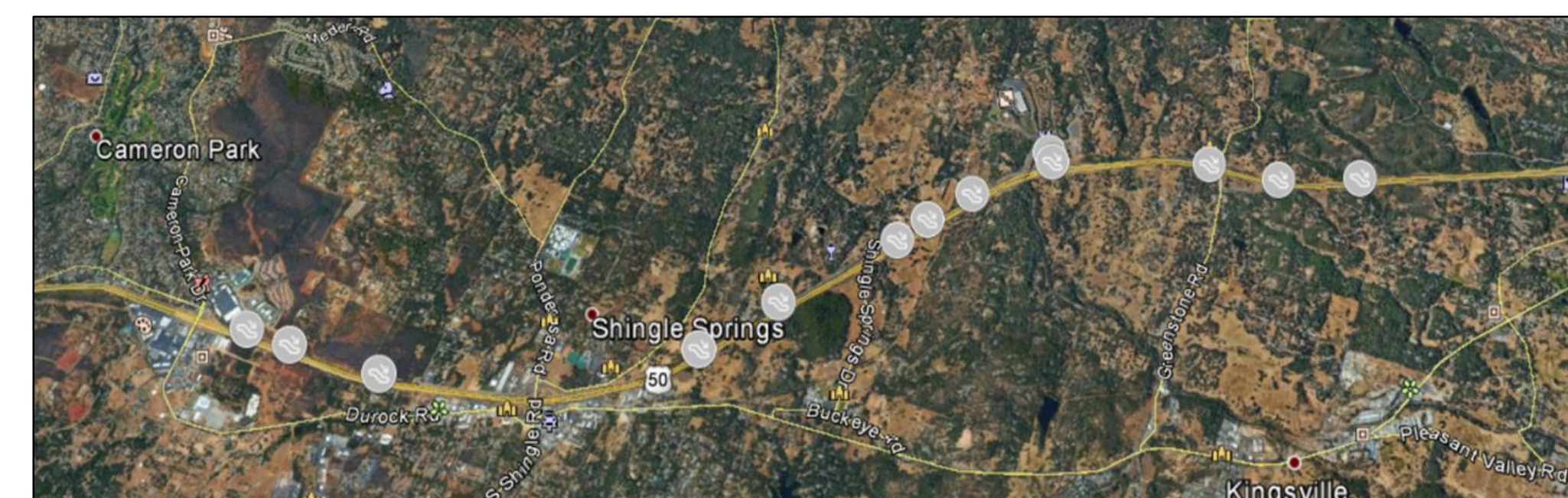
Deer with GPS collar



Existing overpasses on Highway 50 that are currently being used by wildlife



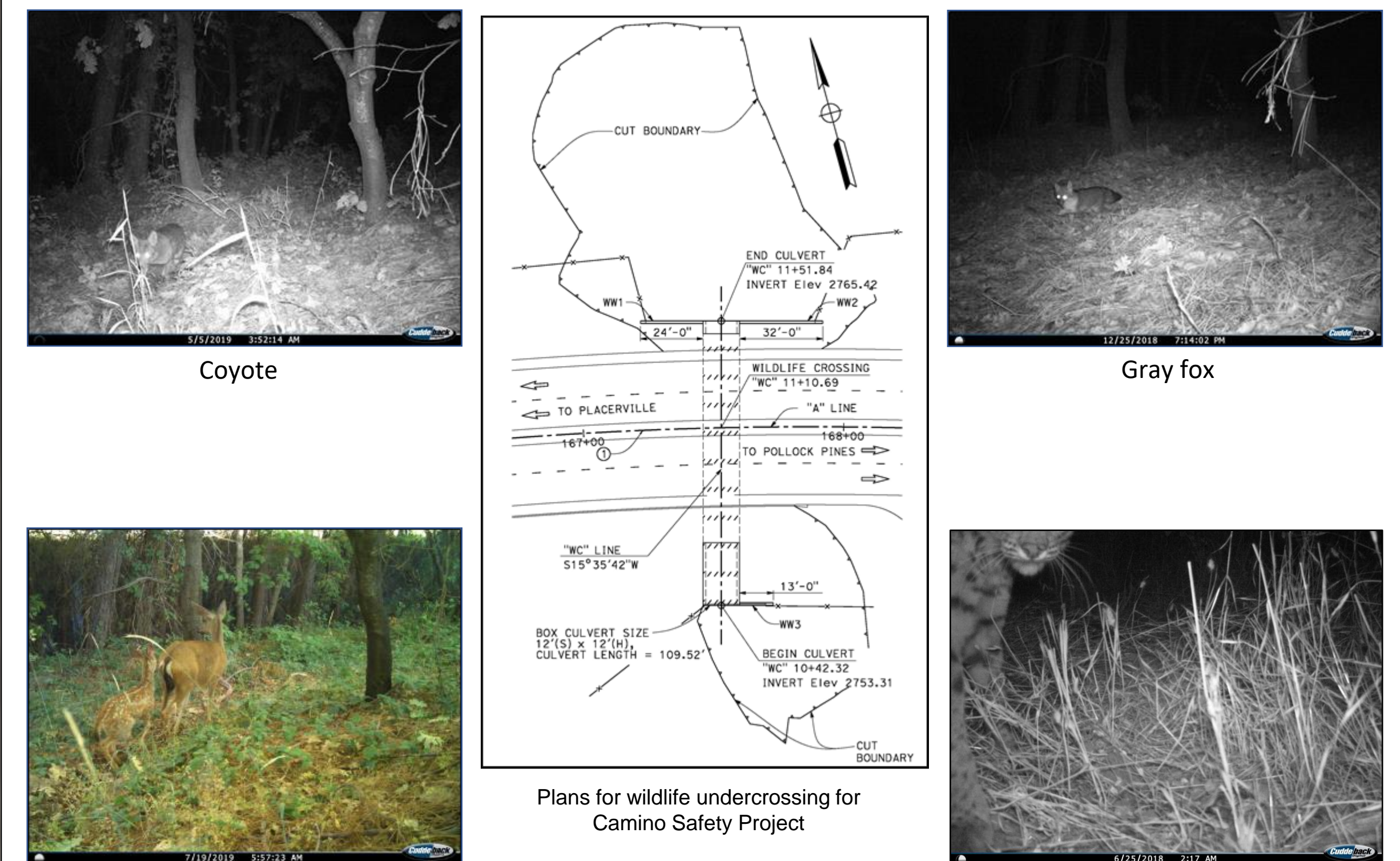
Trail camera used to study wildlife movement



Feasible locations west of Placerville for undercrossings

Wildlife Undercrossing Planning in Camino

The Camino Safety Project is including a concrete median barrier through an area of ED-50 (postmile 21.9-24.5) to prevent vehicle collisions. However, this area also has a high number of deer roadkill incidents, and the addition of a median barrier may impact wildlife movement further. Seven different study sites throughout the project limits were chosen for camera monitoring in order to find a suitable location for a wildlife undercrossing. To serve as mitigation for impacts to wildlife movement under CEQA, the project will include a 12'x12'x109' wildlife undercrossing, along with 8' wildlife fencing, wildlife passageways in the concrete median barrier, and wildlife escape ramps. The wildlife crossing will be monitored with trail cameras after construction is completed. Construction is scheduled to begin in 2020.



Plans for wildlife undercrossing for Camino Safety Project

Education and Outreach

During this cooperative effort we have partnered with the local El Dorado High School Natural Resources program. The school owns an east campus parcel in the middle of the planned Caltrans Camino Safety project. CDFW and Caltrans biologists partnered with the lead teacher, Krista Potter, to educate students about the road project and engage them in thinking about how this project might affect wildlife in and around their campus. Both agencies give presentations about the wildlife undercrossings and wildlife movements, assists students with trail camera set ups and monitoring on their campus and hope to have a deer collaring project there as well. Students were encouraged to participate in public meetings about the project that would affect their program campus. This proved to be a unique opportunity to teach students about State agency cooperation, environmental considerations of a road project, and the importance of community involvement.



Students from El Dorado High School Natural Resources Program

