



## CASE STUDY

APRIL 2014

### *State, Federal, Local and Private Entities Collaborate to Build Wildlife Crossings along a 12-Mile Stretch of Highway 89 in Southern Utah*

A significant number of wildlife-vehicle collisions led Utah officials to design highway crossings using a combination of sound state wildlife data, entrenched community knowledge, and productive relationships with federal and local partners.

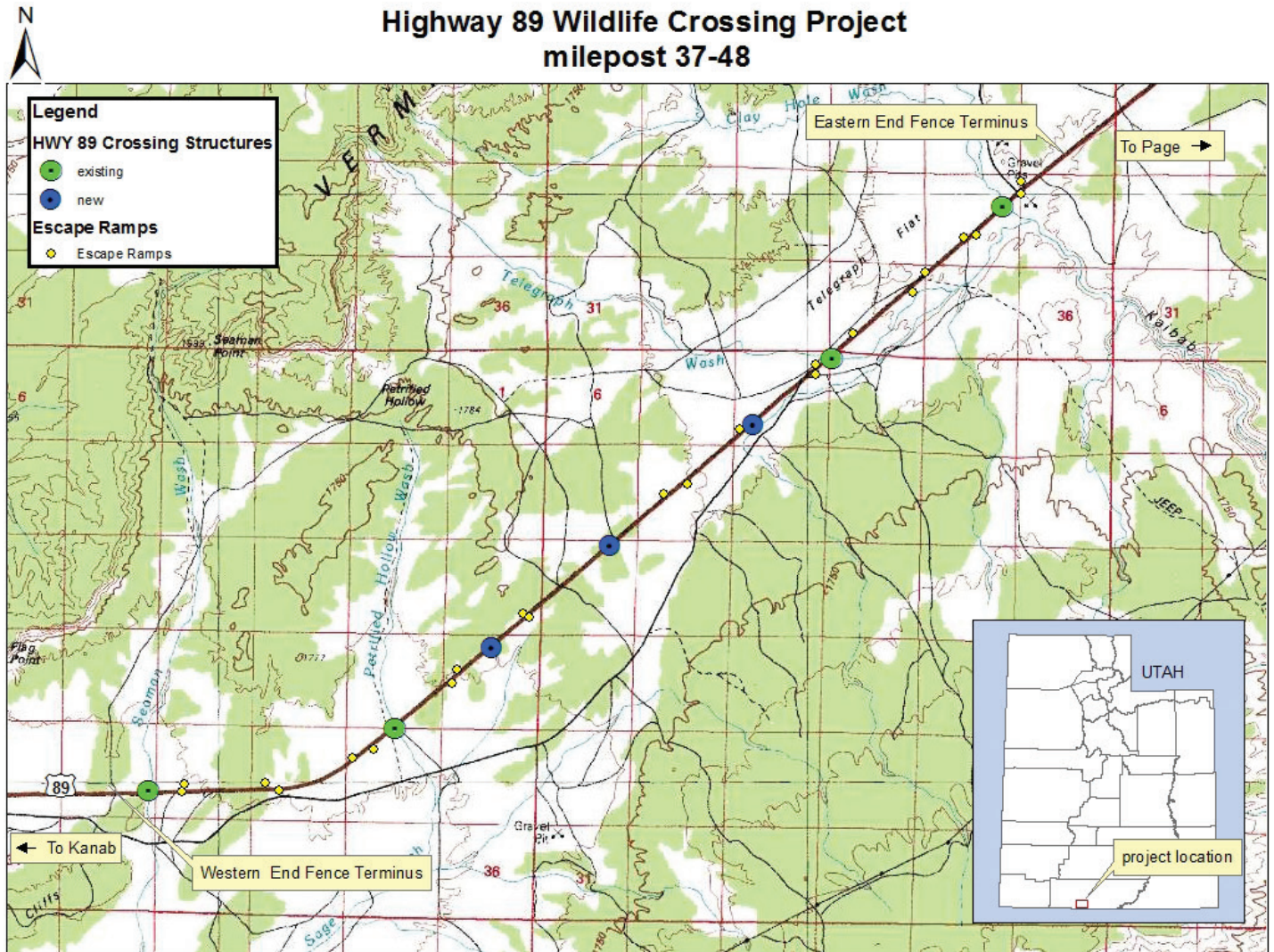


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## Highway 89 Wildlife Crossing Project milepost 37-48



Rhett Boswell, Utah Division of Wildlife Resources

Along a stretch of highway in southern Utah, more than 100 mule deer were being lost every year to wildlife-vehicle collisions.

“We pick up wildlife carcasses twice a week and we log every one of the carcasses we collect into an online mapping database,” said Ashley Green, Habitat Section Chief for the Utah Division of Wildlife Resources (UDWR). “We knew this was a high-collision area and we knew where the wildlife wanted to cross.”

The Paunsaugunt mule deer herd, one of the premier deer herds in the Southwest, summers at high elevations on Utah’s Paunsaugunt Plateau and winters in northern Arizona. Each year the herd must cross U.S. Highway 89 east of Kanab in Kane County, Utah, during spring and fall migrations.

Vehicle-deer collisions cause an average of more than \$8,000 property damage for each occurrence, according

to estimates from the Western Transportation Institute at Montana State University. Costs to property, impact to wildlife and threats to human safety led UDWR and Utah Department of Transportation (UDOT) to work with state, local and federal officials to find solutions that benefit all parties.

The UDWR maintains digital Geographic Information System (GIS) maps depicting crucial habitat for mule deer. These GIS habitat maps are regularly updated and refined to identify mule deer habitat by season of use as well as value to the species. The Paunsaugunt Plateau north of U.S. 89 is identified as “crucial summer range” and the Buckskin Mountain area and points south of the highway are identified as “crucial winter range.”

“The ‘crucial range’ designation essentially means that this herd is highly motivated to move between these two areas every year and Highway 89 is a dangerous obstacle,” said Rhett Boswell, Habitat Biologist for the UDWR in

Cedar City, Utah. Division officials believe that 75% of the Paunsaugunt mule deer herd crosses the highway twice a year and that the majority of those crossings occur between two distinct areas, Seaman Wash and Buckskin Wash.

UDWR and UDOT had long considered how to mitigate collisions in this area. In May of 2009 they convened at the Grand Staircase-Escalante National Monument office in Kanab, Utah, with the Bureau of Land Management (BLM), Arizona Game and Fish Department, Kane County officials, sportsmen and conservationists to develop a plan to address the highest-risk area along the highway as well as strategize on the means to obtain funding. As part of their role in the project, UDWR shared its wildlife data and maps with project partners to inform and improve decision-making.

The coalition of state, federal and local partners developed a plan for both sides of U.S. 89 along a 12.25 mile stretch in Kane County. The plan called for an upgrade of the right of way fence, as well as the addition of wildlife escape ramps, wildlife crossings and cattle guards. The goals of the project were twofold:

- Reduce wildlife-vehicle collisions by preventing wildlife from entering the highway right of way, and
- Maintain migration routes historically used by mule deer when traveling from summer to winter ranges.

Project managers installed escape ramps every 1.5 to 2.5 miles and constructed three new wildlife underpasses, in addition to the four existing structures at locations where culverts for drainage cross the highway. The existing fence was upgraded to wildlife exclusionary fencing along both sides of the problematic 12.25-mile length of the project area.

The GIS mule deer habitat maps maintained by UDWR were essential in helping the partners determine where to site the highway improvements.

“In the past when we’ve located and put wildlife crossings on the ground, the datasets on critical wintering habitat, vehicle collision locations, and GPS collar data weren’t available to us – much of that was sitting in people’s filing cabinets,” said Ashley Green of the UDWR. “These are expensive projects, and having good datasets is really important to be sure that the projects you get on the ground are in the right place.”

The new fencing and wildlife crossings begin where the



P. Cramer, USU, UDWR, and UDOT

# More than \$8,000

*Estimated average amount of property damage per vehicle-deer collision, according to the Western Transportation Institute at Montana State University*

highway enters the Grand Staircase-Escalante National Monument. The fencing is designed to funnel mule deer and other wildlife – such as coyote, bobcats and foxes – to and through the seven underpasses crossing U.S. 89.

“This project has been a great example of what our agencies can do when we collaborate to find solutions,” said Monte Aldridge of UDOT. “In 2009, when we first met in Kanab, we did not have a project scope defined or a funding source identified. This project is the epitome of collaboration and building partnerships. It would have been impossible for any of the agencies to have independently completed a meaningful project.”

Richard Madril, Assistant Monument Manager at the Escalante-Grand Staircase National Monument, agreed.

“Without collaboration at multiple levels of government and without sportsmen’s groups and private entities, this project never would have come to fruition,” Madril said. “This is a classic case of everyone reaching across lines and coming together to contribute what they could to the project to see it through.”

UDOT procured initial funding when the Utah Transportation Commission approved \$625,000 of Transportation Enhancement Funds, contingent on additional funding being obtained from other partners. Utah and Arizona wildlife agencies and sportsmen’s groups came forward with contributions, and Kane County committed to in-kind contributions through



such work as furnishing and installing cattle guards. The final piece of the funding puzzle was put in place when BLM obtained a Federal Highway Administration Public Lands grant for approximately \$1.5 million. Project construction was essentially completed in August 2013.

It is estimated that a minimum of 102 accidents will be prevented each year through this collaborative effort. Utah State University will study this project over the next five years to provide feedback to the partners on the effectiveness of their efforts and to provide information on how best to design solutions to similar problem areas for wildlife and motorists.

UDWR continues to update and refine its GIS habitat maps for mule deer and other species in an effort to better understand how to maintain connectivity between crucial habitats and make sound wildlife management decisions on the ground.

“Right now we’re trying to identify hot spots on a state-wide scale using our collision data, habitat data maps, corridor analyses, and any data from research projects showing movements and migration,” said Green of

UDWR. “Instead of piecemealing these projects, we’re trying to be more proactive and using data to justify recommendations for mitigation, mostly on 30-50 mile stretches of highway.”

Utah’s next wildlife crossing project will take the principles employed in Kane County to an area in the southeastern region of the state.

“Right now, we’re doing a new project on Highway 191 in the Monticello area of southern Utah,” said Aldridge of UDOT. “We’ve met with BLM, US Forest Service and UDWR to determine the answers to some core questions: ‘What do we need to do here?’ ‘What needs to cross?’ The important thing is to have partnerships with land management agencies so that we can work together towards a common goal. We cannot come up with a great solution unless we have all parties involved.”

“We don’t have funding yet – just like we didn’t have funding on Highway 89 project, initially,” Aldridge said. “But just like then, we understand that if we don’t quantify and analyze needs, we won’t have the information to develop a solution.”



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*The Western Governors' Association represents the Governors of 19 Western states and 3 U.S.-flag islands. The association is an instrument of the Governors for bipartisan policy development, information exchange and collective action on issues of critical importance to the Western United States.*

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## About This Study

This is the second of three case studies by the Western Governors' Association highlighting the ways the Bureau of Land Management utilizes state wildlife data maps such as Crucial Habitat Assessment Tools (CHATs). The Western Governors' CHAT and state-specific CHATs map priority wildlife areas according to consistent definitions agreed upon by the Western Governors' Wildlife Council. This case study series is produced with support from the Hewlett Foundation. For more information, visit [westgov.org/wildlife](http://westgov.org/wildlife) or contact Carlee Brown at [CBrown@westgov.org](mailto:CBrown@westgov.org).

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