

High-tech project near Payson is reducing auto-animal collisions

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SPECIAL FOR THE REPUBLIC

Elk, much like the proverbial chicken, cross the road to get to the other side. But when the road is Arizona 260 east of Payson, there can be grave and expensive consequences to the jaywalking wildlife as well as to the motorists who hit them.

However, a unique project to use regular and electrified fencing to "funnel" migrating elk through planned underpasses along the 3-mile stretch from east of Star Valley to where the highway begins to climb up the Mogollon Rim seems to be doing its job, according to Norris Dodd, a researcher for the Arizona Game and Fish Department.

A part of the \$700,000 project is the installation of what is being called an elk crosswalk in a favored migration area where a tunnel or bridge is not feasible. Basically, the animals milling about adjacent to the highway are detected electronically and warnings are flashed on signs along the highway.

"A sign tells motorists they are entering the elk crosswalk area, and when the system detects the animals in the vicinity the signs flash telling them animals are crossing ahead," Dodd said.

"Basically, what we are saying is if the signs are flashing there are definitely elk in the area. If they were flashing all the time nobody would pay attention."

Motorists, as a rule, never have been too keen on heeding static signs proclaiming there may be crossing animals. Research has shown that



Norris Dodd, a researcher for the Arizona Game and Fish Department, says wildlife crossings are working.

westbound drivers usually are going 80 mph where the speed limit is 55 at the crosswalk site.

"This project is as much about modifying driver behavior as it is modifying elk behavior," Dodd said. "At the crosswalk site, vehicles traveling west where the road changes from four-lane divided to two are the faster ones, with some clocked at over 100."

The crosswalk has been fully operational all of March, and Dodd has gone into the area 120 times to check the effectiveness of the signs.

"It has been working 100 percent of the time," he said. "We are not seeing any false positives."

"We were all concerned that since everything is so highly technical there would be a lot that would go wrong."

Elk and or deer activate the crosswalk when they cross the end of the fence and are picked up by high-resolution thermal infrared cameras mounted on 30-foot towers. The images are then fed to computers that determine if the image is a risk to motorists. Small animals such as rabbits, squirrels or foxes are ignored. If a risk is determined, the signs are activated.

Dodd noted that 110 elk have been fitted with GPS style collars (25 specifically for evaluation of the new fencing associated with the crosswalk project) so their movements can be tracked, telling Dodd how the elk have changed their patterns since the fencing system has been installed. In addition, sensors embedded in the highway at the crosswalk will tell whether motorists are slowing down, how fast they are traveling and how quickly they slow down.

The unique project involves the Game and Fish Department, Arizona Department of Transportation, Federal Highway Administration and the U.S. Forest Service. ElectroBraid Fence of Yarmouth, Nova Scotia, has been involved throughout and developed the electronic crosswalk.

Bridges and tunnels have been built into ADOT's renovation of Arizona 260 with migrating wildlife — primarily elk — in mind, and they are working.

"Since the barbed-wire fence went up in November, we haven't had a collision; and since the electrified fence went up in December, we have not had a collision," Dodd said. "There were 14 collisions each year in 2005 and 2006."

Key numbers

1 million Deer killed each year by vehicles in the United States.

81 Known elk kills in 2004 by vehicle collisions on a 17-mile stretch of Arizona 260 between Payson and the Mogollon Rim (Not counting those that are hit and die later).

10 Additional collisions involving whitetail and mule deer, one bear and one mountain lion.

1 to 2 Human deaths each year in Arizona from wildlife collisions, plus numerous serious injuries and millions of dollars in property damage.

60 Percentage of single-vehicle accidents on several rural highways in Arizona involve wildlife.

\$4 million Cost of a wildlife underpass.

600 to 1,000 pounds Weight of a full-grown elk.

110 Elk fitted with GPS technology collars to track movements on certain portions of Arizona 260.

6,037 Elk highway crossings during a portion of the study, averaging 94 crossings per animal.

692 Times one elk was recorded crossing the highway.

21 Percentage of collared elk that crossed the highway frequently.

83 Percentage of frequent crossers that were killed in vehicle collisions.

Source: Arizona Game and Fish Department