

Transportation and Wildlife Officials Remove Barriers, Build Bridges

Instead of wondering why the pronghorn crossed the road, Babbitt Ranches and researchers are wondering why more of them didn't, and how they can get more of them to cross Highway 89 at the CO Bar Ranch.

Arizona Game and Fish Department researcher Jeff Gagnon and a team of other wildlife biologists have used helicopters and large nets to capture and fit 37 pronghorn on both sides of Highway 89 with Global Positioning System collars.

The three-year project was designed to track pronghorn movements and identify potential locations and conceptual designs of crossing structures such as bridges or underpasses. Of the 121,000 GPS locations tracked, only one pronghorn crossed the highway.

As the Arizona Department of Transportation considers plans to widen U.S. Highway 89 from Flagstaff to the junction of U.S. Highway 160 to accommodate increasing volumes of traffic, researchers are challenged with determining whether measures can be taken to keep the roadway from becoming a larger barrier to roaming pronghorn antelope.

"Our number one concern is public safety," said ADOT Flagstaff District Environmental Coordinator Chuck Howe, "but also within the department we monitor wildlife crossings. It's important to know where animals are crossing and if bridges or a series of culverts could be built that would facilitate safe crossings."

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Ranches Serve as Laboratory to Save Pronghorn

Pronghorn are a highly popular species for wildlife viewing and hunting. They also are important to wildlife and land managers because they only live in the grasslands of western North America, areas that have been disappearing or deteriorating. As the grasslands have become fragmented by roads and development, or taken over by juniper, pinyon and ponderosa pine forests, pronghorn populations have suffered.

Researchers say pronghorn are a barometer of grassland health; where pronghorn populations have thrived, grasslands are healthy. However, in deteriorated habitat, pronghorn generally have declined.

Pronghorn are found throughout Babbitt Ranches. In fact, a 1995 Arizona Game and Fish Department study found that Babbitt Ranches contains some 6 percent of the total pronghorn habitat in Arizona.

For more than two decades, Babbitt Ranches has been working with wildlife managers such as now retired Arizona Game and Fish Department Research Chief Jim deVos to help ensure the long-term survival of the species.

"Babbitt Ranches has been a leader in developing creative approaches to improving habitat conditions in areas used by pronghorn," said deVos. "Much of the work that has been applied across the Southwest was developed and tested on Babbitt Ranches."

In February, deVos and Babbitt Ranches released a science-based Long-term Pronghorn Succession Plan to identify important components of pronghorn management and put a road map in place for



future managers to continue the existence of this unique species.

Babbitt Ranches President Bill Cordasco and deVos both say the pronghorn were a species that were once widespread but have declined in much of their range and will require careful management to help the populations rebound.

"Much of my career has been spent trying to discover the recipe to grow more pronghorn," said deVos. "There are few animals that represent the wildness of the West as does this

species and one of my professional goals is to make sure that generations to come have the ability to watch these beautiful blond and white speed goats fly across the open spaces on Babbitt Ranches."

The Succession Plan notes that prior to Anglo-European settlement there were essentially no barriers to movement between adjacent pronghorn herds, thus the isolation of small populations was rare.

This is not the case today. Human-caused impacts such as major highways through pronghorn habitat have resulted in the isolation of three pronghorn populations on Babbitt Ranches. One subpopulation lives on the CO Bar Ranch east of U.S. Highway 89. Another is found on the CO Bar west of U.S. Highway 89. The third is on the Cataract and Espee ranches,

west of Arizona Highway 64.

In a study conducted in part by deVos in 2000, findings reveal that pronghorn avoid areas close to busy roadways. Considerable research using radio telemetry and collared pronghorn has shown that the animals rarely cross major highways.

"As pronghorn are less able to move long distances, the population may experience increased mortality, decreased reproduction, an increased magnitude of population fluctuation and an increased risk of extirpation for the local population."

Thus conversations have begun with the Arizona Game and Fish Department, Arizona Department of Transportation, Federal Highway Administration and Babbitt Ranches to discuss the creation of bridges and other methods to facilitate pronghorn crossings.

One impact to pronghorn habitat is the presence of fences. Babbitt Ranches developed and implemented goat bars using PVC pipes to raise the lower strands of fences and improve the ability for pronghorn to move under these barriers.

The development of the hydro-ax has opened opportunities to land managers as it has opened grasslands. This tool has been successful in removing and grinding encroaching pinyon and juniper trees on Babbitt Ranches. It grinds up the trees leaving small wood chips on the ground that act as mulch and enhance the growth of native grasses, forbs and shrubs.

Babbitt Ranches, in cooperation with the Arizona Game and Fish Department, has reduced the adverse impacts of tree encroachment on thousands of acres of ranchland that will help build the quality habitat needed for pronghorn populations to rebound.

"Pronghorn need a diverse mix of plants for a healthy diet and successful reproduction," said deVos. "They also need tall grasses to hide fawns and open spaces to help them see predators."

Off-highway vehicle use has been shown to have an impact on pronghorn and wildlife habitat, particularly during fawning periods. The Succession Plan calls for encouraging OHV users to stay on roadways, trails or designated OHV areas.

The plan also identifies the need and location for additional water sources.

"The ability to use the Babbitt Ranch properties as a natural laboratory has been so helpful in developing habitat restoration strategies that will improve pronghorn habitat conditions and, we hope, improve pronghorn populations in response," said deVos. "I've never worked with anyone as far forward thinking as the people of Babbitt Ranches. They have such an amazing land ethic. They think of the health of the land first to ensure healthy lands and a solid bottom line."

Article VII Human Dimension and Science

Section 1.

Ensure that Babbitt Ranch Land and Natural Resources are managed in accordance with Babbitt Ranch Values.