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Author: Cohn, Jeffrey P.

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A Narrow Path for Pronghorns

Wildlife biologists have long known that pronghorn often travel great distances as seasons change. Until recently, researchers didn't know precisely where particular herds ended up, what routes they took to get there, what impediments they might have encountered along the way, and how long their journeys took.

Over the last decade, technological advances have helped answer those questions. Using radio collars fitted with geographic positioning system (GPS) transmitters, scientists can track pronghorn (and other wildlife) at least every few minutes—without leaving their labs. Researchers now can plot more precisely the migratory routes pronghorn follow, identify natural or humanmade dangers the animals face during migration, and use the information for better management.

Pronghorn range from the prairies of Canada southward to the Sonoran Desert of northwestern Mexico. Neither antelope nor deer nor goat, pronghorn are the only remaining members of the family Antilocapridae, which 15 million years ago included nearly a dozen species. Once estimated to number 35 million, pronghorn were reduced by overhunting and habitat loss to a mere 13,000 individuals by 1920. Today, following conservation and strict hunting limits, pronghorn number more than one million.

Beginning in 2002, wildlife biologists from the Wildlife Conservation Society (WCS) in New York and the National Park Service began putting GPS transmitters on the 200 to 300 pronghorn that summer in Grand Teton National Park in Wyoming. Following an initial radio-collaring of just 10 animals, nearly 300 pronghorn have been outfitted with GPS transmitters over the last eight years, says Jon Beckmann, an associate WCS conservation ecologist and codirector of the study with WCS biologist Joel Berger and Kimberly Murray, of the Institute for Systems Biology in Seattle.

The GPS transmitters allowed the biologists to pinpoint the migratory route pronghorn followed to the Pinedale area of Wyoming, southeast of Grand Teton, a 120-mile trek. It is the longest migration of a North American terrestrial mammal outside the Arctic, Beckman states, and one of only two remaining long-distance migratory routes left in the greater Yellowstone area.

The information from the transmitters also revealed that the Grand Teton pronghorn follow a relatively narrow corridor, in most places no more than a mile wide. The route takes them over mountain ledges and passes, through forests, across rivers and highways, and past southwestern Wyoming's burgeoning oil and gas fields. Once they reach the Pinedale area, the Grand Teton pronghorn join about 5000 others from elsewhere in Wyoming. In all, the WCS study located 25 to 30 migratory paths, though all were shorter than the Grand Teton–Pinedale route.

Pronghorn migrate primarily to avoid the deep snows that blanket Grand Teton National Park and other areas in winter. The snow makes it difficult to find food and avoid predators, even coyotes, which they can normally easily outrun, says Steven Cain, senior wildlife biologist at Grand Teton. Nearly all pronghorn that remain in the park over winter die. This year, however, has been an exception, Cain adds; all 15 overwintering pronghorn survived so far.

Meanwhile, another team of scientists from WCS, at the Lava Lake Institute and the Idaho wildlife agency, has studied a similar long-distance pronghorn migratory route in south-central Idaho since 2008. Here, pronghorn move from the Pioneer Mountains across Craters of the Moon National Monument on their way to the Idaho National Laboratory, a 570,000-acre Department of Energy nuclear research facility west of Idaho Falls.

The Idaho study showed that pronghorn migrate east from the Pioneer Mountains, then north from Craters of the Moon. Most wildlife biologists had previously thought they moved south, says Scott Bergen, the study director and a WCS associate conservation ecologist. Their data also showed the pronghorn follow an 80-mile one-way route that narrows as it passes lava fields and crosses highways and rivers.

A few points along the two migrations are of particular concern to scientists: At Trapper's Point, where the Green and New Fork Rivers meet in Wyoming, the pronghorn corridor narrows to less than a half-mile. The area is threatened by the possibility of oil and gas development, new housing in subdivided former ranches, and highway crossings (at which wildlife biologists often direct traffic to allow the pronghorn to pass). Another is on the north side of Craters of the Moon in Idaho at another highway crossing.

To protect the migrating pronghorn, the US Forest Service has designated a stretch of the corridor between Grand Teton and Pinedale that runs through Bridger-Teton National Forest, an area of critical environmental concern. For its part, the Bureau of Land Management has withdrawn some oil and gas leases. Additionally, some ranchers have signed conservation easements to keep their land from being subdivided, and $1 million has been devoted to design and install wildlife-friendly fences.

"Pronghorn are an iconic species," says Linda Baker, director of the Upper Green River Valley Coalition, a local Pinedale environmental advocacy group. "We have a responsibility to protect their migratory corridors. It is unacceptable to let them go extinct in a national park. They are worth saving."

Jeffrey P. Cohn (jeffcohn1@verizon.net) is a freelance writer based in Takoma Park, Maryland.

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