

LONG DISTANCE PRONGHORN MIGRATION IN THE NORTHERN ROCKIES: A COLLABORATIVE APPROACH TO CONSERVATION

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The Problem

Long distance wildlife migration is at risk worldwide. In the Greater Yellowstone Ecosystem, 75% of pronghorn migration routes and 100% of bison migration routes have been altered or lost over the past 100 years (Berger 2004). These routes persisted for thousands of years, but have been cut off by human development.

Threats to migration corridors are increasing across the Intermountain West, and the few remaining corridors are at risk. Maintaining these routes is an essential, but difficult, conservation challenge. Pronghorn make use of protected lands, like the Craters of the Moon National Monument and Preserve, managed by the National Park Service and Bureau of Land Management, but they move across a variety of landownerships and rely heavily on private land.

Methods

How do we sustain long distance migration in the face of land use change and development? We can only conserve these long distance routes if we know exactly where they are. The Lava Lake Institute initiated a study of pronghorn migration in 2008 with partners at the Wildlife Conservation Society, Idaho Department of Fish and Game and the Pioneers Alliance.

Ten pronghorn does were captured and collared with Global Positioning System (GPS) collars designed to document their movements for one year, with an emphasis on movements during the migration period. The collars were programmed to release in late summer 2009 after the animals had traveled to their winter range and back. The collars were recovered using radio telemetry equipment and the data were downloaded.

These methods had been effectively employed in the Greater Yellowstone Ecosystem where the results from similar studies have been used as a catalyst for conservation of a critical pronghorn migration corridor (Berger et al. 2006; Cohn 2010).

Results

To the surprise of all involved, the collared pronghorn traveled from the Pioneer Mountains to the Little Lost River and Birch Creek watersheds in eastern Idaho. Prior to this study, this migration route was unknown. The animals from the Pioneers join with others to form Idaho's largest pronghorn herd on the winter range.

The study was continued in 2009, with 14 does collared. Scientists documented high fidelity to the migration corridor, but variation in the use of the winter range, which is primarily dictated by snow depth. Now that we know where the pronghorn migrate, our job is to protect that corridor. The Lava

Lake Institute is working with conservation organizations, landowners and land management agencies to conserve this migration route and Idaho's largest pronghorn herd in perpetuity.

In winter 2010, the study was continued and expanded under the leadership of the Wildlife Conservation Society by collaring pronghorn on the winter range near the Idaho National Laboratory. Data from twelve GPS collars were recovered; multiple migration trajectories were identified, including migration routes into Montana via three passes across the Continental Divide.

This study has helped catalyze on-the-ground conservation measures in the Pioneers-Craters landscape. The National Park Service at Craters of the Moon has been modifying and removing fencing that might pose an obstacle to migrating pronghorn. In addition, a significant number of conservation easements that forever prevent subdivision have been secured within the region since the study was initiated.

History of the Pioneer Mountains - Craters of the Moon Region

The Pioneers-Craters region has a rich human history and culture. Originally inhabited by the Shoshone and Bannock people, the region is traversed by Goodale's Cutoff, a part of the Oregon Trail system, now being evaluated for designation as a National Historic Trail. Goodale's Cutoff was used as an alternative to the main Oregon Trail beginning in 1862. Tens of thousands of immigrants used Goodale's Cutoff with the highest use occurring in the mid to late 1860s.

The pronghorn migration route and Goodale's Cutoff run roughly parallel for about 65 miles, including the narrowest portion of the pronghorn route from Lava Lake Ranch to Arco, where the path of the pronghorn (and the historic trail) are wedged between the Craters of the Moon lava flows and the Pioneer Mountains at the northern edge of the Snake River Plain.

Collaborative Conservation

The pronghorn migration routes and seasonal habitats cut across a wide range of landownerships including private, state and federal lands (including land managed by the National Park Service, the Bureau of Land Management and the Department of Energy). Conservation of these routes and seasonal habitats depends on a collaborative approach to conservation. Our work has been in partnership with the Pioneers Alliance, a cooperative effort by ranchers, local residents, conservationists and public lands managers to conserve and enhance the natural and cultural values of the Pioneer Mountains and Craters of the Moon landscape of south-central Idaho (www.pioneersalliance.org).

Partners

We are grateful to the many partners who have contributed to this project, including:

- Wildlife Conservation Society
- Idaho Department of Fish and Game
- National Park Service - Craters of the Moon National Monument and Preserve
- Bureau of Land Management
- National Park Foundation
- Carey area landowners and ranchers
- Craters of the Moon Natural History Association
- The Pioneers Alliance

- The William and Flora Hewlett Foundation
- Hornocker Wildlife Institute
- Idaho Conservation League
- Light Hawk
- The Conservation Fund
- The Nature Conservancy
- Wood River Land Trust

The Lava Lake Institute

The Lava Lake Institute works to accomplish conservation and increase understanding of the wildlife and ecosystems of the Pioneer Mountains – Craters of the Moon region. Please visit our website to learn more and to “fly” the migration route: www.lavalakeinstitute.org.

Literature Cited

Berger, J. 2004. The Last Mile. How to sustain long distance wildlife migration. *Conservation Biology*: 18:320-321.

Berger, J and K.M. Berger. 2006. Connecting the dots; an invariant migration corridor links the Holocene to the present. *Biology Letters* 2: 528-531.

Cohn, J.P. 2010. A Narrow Path for Pronghorns. *BioScience*. June 2010. Vol. 60 (6): 480.