

**Alberta Conservation Association
2023/24 Project Summary Report**

Project Name: Pronghorn Road Crossing Enhancement (Pronghorn Xing)

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Partnerships

Alberta Transportation

Government of Alberta

Miistakis Institute

National Fish and Wildlife Foundation

National Wildlife Federation

Nature Conservancy of Canada

Saskatchewan Government Insurance

Saskatchewan Ministry of Environment

Saskatchewan Ministry of Highways

Key Findings

- We visited three potential road mitigation sites in Alberta and three more in Saskatchewan with stakeholders and assessed the feasibility of constructing wildlife crossing mitigation structures at each site. Following lengthy discussions with our stakeholders, we narrowed the potential mitigation structures to an overpass in Alberta and a wide-span bridge in Saskatchewan.
- We assessed the permeability of fences across Alberta, Saskatchewan, and Montana using pronghorn GPS collar data from 2003–2011 and a spatial fence layer. We identified five key areas across the Northern Sagebrush Steppe where fence mitigation work is a

priority: 1) CFB Suffield, 2) Manyberries Creek, 3) Grasslands National Park, 4) Malta, and 5) Glasgow.

Details

Among the diversity of prairie wildlife, the pronghorn is the most specialized and representative large mammal. Within the Northern Sagebrush Steppe of Alberta, Saskatchewan, and Montana, 55% of collared pronghorn made seasonal migrations between summer and winter ranges. Along the migration pathway, pronghorn navigate their way across primary and secondary highways that are often fenced on both sides, resulting in pinch points where animals bunch up. These pinch points along the migration pathway are a formidable challenge for migrating pronghorn.

To address this migration challenge, a citizen science project called Pronghorn Xing was initiated in the spring of 2017. Pronghorn Xing was developed to ground truth seasonal movement pinch points identified by connectivity modelling across highways in the Northern Sagebrush Steppe and increase public engagement in pronghorn science and conservation. Analysis of the pronghorn data collected between November 2017 and June 2020 via the app was completed and potential mitigation sites were presented to stakeholders in a workshop setting. Initially, 16 potential sites were identified along Highway 1 in Alberta and Saskatchewan where road mitigation could improve pronghorn movement. Following a ranking exercise by workshop participants, the number of potential mitigation sites was narrowed down to four in Alberta and three in Saskatchewan. The prioritized mitigation sites in Alberta and Saskatchewan provide a starting point for assessing the feasibility of implementing a wildlife mitigation structure (overpass).

In 2023, we held a field trip with stakeholders to visit three proposed mitigation sites in Alberta and three in Saskatchewan. Stakeholders present on site included Miistakis Institute, Alberta Conservation Association Land Management, Alberta Environment and Protected Areas, Alberta Transportation, National Wildlife Federation, Nature Conservancy of Canada, and Saskatchewan Ministry of Highways. We discussed the feasibility of constructing an overpass at each site and as a team prioritized which of the three proposed sites per province would be the priority for implementing a mitigation structure. We also noted that an overpass was likely not possible in

Saskatchewan, and therefore the mitigation structure would likely need to be a wide-span bridge. We also completed an assessment of the fences across the entire Northern Sagebrush Steppe study area using the R package BaBA. We identified key movement barriers from fencelines in the CFB Suffield, Manyberries Creek, Grasslands National Park, Malta, and Glasgow areas that appear to be barriers to pronghorn movement and would benefit from mitigation work.

Photos



Photo 1. Pronghorn doe nervously crossing gravel road. Photo: Paul Jones



Photo 2. Pronghorn stuck at the fence on the south side of the Trans-Canada Highway near one of the proposed road crossing structure sites. Photo: Paul Jones



Photo 3. Pronghorn mortality along the Trans-Canada Highway. Photo: Paul Jones