
Annual Progress Report:

Pronghorn-US20 Interaction Study

Submitted by: Idaho Department of Fish and Game

Submitted To: Blaine County Land, Water, and Wildlife Program

31 December 2019

Reporting Period: 01 January 2019 through 31 December 2019

Project Overview:

Purpose – The Pronghorn-US20 Interaction Study’s overarching purpose is to inform the management of movement and migration routes for big game populations (specifically pronghorn) that seasonally occur in Blaine and Camas counties. The study’s purpose is consistent with the Department of Interior’s 2018 Secretarial Order 3362 – Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors – and the Western Governor’s Association’s 2019 Policy Resolution 2019-08 – Wildlife Migration Corridors and Habitat.

The study’s primary goal is therefore to describe pronghorn movements and seasonal migrations between winter and summer ranges, with emphasis on US Highway 20 (US20) crossings, per the following objectives:

- Capture and then monitor 40 pronghorn fitted with Global Positioning System (GPS) radio-collars over 4 years in western Blaine and eastern Camas counties.
- Map locations of radio-collared pronghorn to describe seasonal migration patterns and interactions with US20.
- Identify pronghorn migration crossings along US20.
- Record radio-collared pronghorn mortalities.
- Provide technical assistance data to address wildlife-vehicle conflicts (WVC) and inform land management planning.

Background – Blaine and Camas counties support a diversity and abundance of big game including pronghorn. Big game populations that summer in these two counties migrate south to lower elevation winter ranges, encountering potential movement barriers including US20. US20 is the primary route connecting growing Blaine and Camas county communities with Boise, and therefore receives high traffic volumes, which are projected to increase as Idaho’s communities continue to grow. Between Timmerman Junction and Mountain Home, US20 bisects big game summer range, requiring twice annual crossings during seasonal migrations and escalating the potential for WVC.

Idaho Department of Fish and Game (IDFG) has identified mule deer and elk migration crossings and high-probability WVC areas along US20 with multiyear radiotelemetry studies. However, complementary data for pronghorn migrating across US20 are absent despite road-killed pronghorn being documented. To address this data gap, IDFG initiated the Pronghorn-US20 Interaction Study with funding assistance from Blaine County’s Land, Water, and Wildlife Program. Subsequently,

IDFG's pronghorn study efforts were also supplemented with Bureau of Land Management (BLM) funding through Secretarial Order 3362.

Study Area – Western Blaine and Eastern Camas counties provide pronghorn summer range and comprise the study's focal area. However, the study documented in 2019 that pronghorn seasonally occurring in Blaine and Camas counties migrate to winter ranges in Elmore, Gooding, Jerome, and Lincoln counties (see Reporting Period Progress section below and attached map). Therefore, the Study Area has correspondingly been expanded to include documented winter ranges. The Study Area will be reviewed and updated annually as new information about pronghorn movements becomes available.

Materials and Methods – The study is employing the following standard big game research methods and materials:

- Capture and handling – Helicopter net-gunning and tranquilizer darting.
- Telemetry equipment – GPS radio-collars for routine movement tracking with VHF transmitters for collar recovery.
- Data acquisition and management – Six radio-collar positions (x-y coordinates) recorded daily and transmitted remotely to web-based data uploads.
- Data analysis – Geographical Information System (GIS) mapping and spatial statistical analysis, including descriptions of the timing, frequency, and locations of US20 crossings. Radio-collared pronghorn killed by vehicles on US20 may also provide an estimate of annual vehicle-caused mortalities as an indication of population effects.
- Reporting – Three annual progress reports and a final project completion report.

Management Implications – Relative to other big game species, pronghorn has been understudied across the western U.S. including Idaho. The study will therefore significantly expand IDFG's understanding of pronghorn movements and migration. The study's data will also be available for technical assistance including addressing WVC along US20 and informing land management planning. This study will provide much-needed baseline data about pronghorn habitat use and behavior, while having long-term implications for migration conservation in Idaho.

Schedule – The following are key study milestones and estimated completion dates:

- Year 1 – 2019.
 - Planning and material procurement = January through May 2019.
 - Capture and radio-collaring (40 collars) = June and July 2019.
 - Monitoring = July through December 2019.
 - Annual progress report = 31 December 2019.
- Year 2 – 2020.
 - Monitoring January through December 2020.
 - Capture and radio-collar redeployment (10 collars) = June and July 2020.
 - Annual progress report = 31 December 2020.
- Year 3 – 2021.
 - Monitoring January through December 2021.
 - Capture and radio-collar redeployment (10 collars) = June and July 2021.
 - Annual progress report = 31 December 2021.

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- Year 4 – 2022.
 - Monitoring January through December 2022.
 - Capture and radio-collar redeployment (10 collars) = June and July 2022.
 - Annual progress report = 31 December 2022.
 - Year 5 – 2023.
 - Monitoring = January 2023 through June 2023.
 - Final Report = 31 December 2023.

Partners – The following entities are study supporters:

- Blaine County Land, Water, and Wildlife Program.
- Bureau of Land Management.
- Blaine County Board of County Commissioners.
- Camas County Board of County Commissioners
- Idaho Transportation Department.
- Idaho Soil & Water Conservation Commission.
- The Nature Conservancy.
- Wood River Land Trust.
- Trout Unlimited.
- University of Idaho – Rock Creek Ranch.
- Local Landowners.

Budget – IDFG has estimated the following budget for the 5-year project duration:

- Capture (helicopter contracts for 4 events) = \$42,000.
- Materials (70 radio-collars, capture materials, telemetry equipment, etc.) = \$114,500.
- Relocation data (\$18,000/year; July through June) = \$72,000.
- Labor (capture, monitoring, data management and analysis, and reporting) = \$120,600.
- Vehicle mileage = \$11,200.
- Total = \$360,300.

Reporting Period Progress:

Milestones – The following key milestones were completed during the 2019 reporting period (Year 1):

- Planning and material procurement.
- Capture and radio-collaring (31 collars).
- Monitoring through December 2019.
- Annual progress report though December 2019.

Radio-collaring – During 2019, IDFG collaborated with Blaine and Camas counties, BLM, and private landowners to deploy GPS radio-collars and monitor pronghorn movements within the Study Area (see attached map). During 7-8 August 2019, IDFG successfully radio-collared 22 pronghorn, of which 10 were captured in Blaine County. Nine pronghorn were also captured in March 2019 on winter range for a total of 31 pronghorn radio-collared in the Study Area during 2019.

Movements and Mortality – Each of the 31 GPS radio-collars provided six daily relocations for a total of 27,509 during 2019. The attached map displays 2019 GPS relocation and movement data for the 9 pronghorn radio-collared in March on winter range and the 22 radio-collared in August on summer range. As of December 2019, 12 pronghorn crossed US20 at least once in their fall migration to southern winter ranges. Two pronghorn crossed up to 5 highways each (US20, ID75, US93, ID25, and ID24) between summer and winter ranges. Since March 2019, 6 pronghorn have died of the following causes:

- 1 = capture related.
- 3 = hunter harvest.
- 1 = unknown causes.

Upcoming Reporting Period:

Milestones – The following key milestones are planned for the 2020 reporting period (Year 2):

- Monitoring.
 - Monitor pronghorn movements January through December 2020.
 - Recover mortalities as they occur and conduct necropsies to identify cause-of-death.
- Capture and radio-collar deployment.
 - Deploy 10 radio-collars in March 2020 on winter range.
 - Deploy 10-15 radio-collars in August 2020 on summer range in Blaine and Camas counties.
- Annual progress report.
 - Summarize and map 2019 and 2020 movements.
 - Submit progress report for the 01 January through 31 December 2020 reporting period by 31 January 2021.

Stakeholders – IDFG will continued to coordinate study activities and updates with key stakeholders including counties, non-governmental organizations, agencies, and landowners. In particular, fostering private landowner relationships will be a priority. Landowner support and access were critical for capturing pronghorn and ultimately study success.

