

Pronghorn Movement and Population Ecology

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The Montana Pronghorn Movement and Population Ecology Project was initiated in 2019 to collect information on pronghorn movements, seasonal habitat use, and demographics in 8 study areas that included the Big Hole, Paradise, Madison, Musselshell, Fergus-Petroleum, South Philips, Garfield-Rosebud, and Powder River-Carter areas. The primary objectives of the project were to: 1) create and distribute maps of pronghorn seasonal range and movement areas; 2) use fence mapping and pronghorn movement data to identify potential barriers to movements, inform management decisions, and prioritize locations for habitat improvement projects; and 3) develop population models to identify important vital rates affecting population growth rates. During winters 2019 - 2022, we captured and collared 702 adult female pronghorn. A total of 373 pronghorn died during the monitoring period, and the leading cause of mortality was predation. Movement patterns of individuals were diverse, with the majority of animals demonstrating non-migratory behaviors. To facilitate the identification of potential barriers to pronghorn movements, we developed 2 tools including an ArcGIS Online project and interactive maps displaying fence permeabilities. Conservation organizations have used these tools to inform efforts to remediate movement barriers. In total, 30 projects have been completed totaling 70 miles of fence remediation, 5 projects totaling 22 miles are ongoing, and 12 projects totaling 33 miles are in development. We developed integrated population models for each of the 8 populations in this study, which will provide information towards developing more focused investigations into ecological and/or anthropogenic factors influencing pronghorn populations in Montana.