Arctic Ground Squirrel Surveys: 2021

Project objectives

We surveyed the density of Arctic ground squirrel (*Urocitellus parryii*) burrows at two locations in the southwest Yukon, where they were historically abundant but are now sparse. These sites were chosen because they will undergo habitat modifications (prescribed burn and woodland cattle grazing) soon and the effects to ground squirrels are unknown.

Project background

Arctic ground squirrels are a culturally important species for Yukon First Nations. Ground squirrel populations in lowland areas of Yukon's boreal forests collapsed in 2000 and have not recovered. We conducted ground squirrel surveys at Duke Meadows, a site that will undergo a prescribed burn, and Takhini Valley, a site that will be subject to woodland cattle grazing, to understand how these landscape changes affect ground squirrel populations.

Photo credit J.R. Werner.

Study specifics

Region: Southwest Yukon (Duke Meadows and Takhini Valley)

Survey dates: July 7, August 19, September 16, 2021

Study Area: 8.8 hectares

Number of transects walked: 116

Number of burrows counted: 742

Project overview

We used a simple burrow count method by walking along strip transects in the proposed pre-treatment and nearby control areas at Duke Meadows and a site in the Takhini Valley. We propose to repeat our surveys as needed to capture the before-and-after effects on ground squirrels.

Key findings

We found an average density of 119 burrows per hectare at Duke Meadows and 69 burrows per hectare at Takhini Valley. Many burrows at both sites were inactive (97% and 96%, respectively), suggesting that ground squirrel occupancy was very low.

We used a simple and repeatable method to provide baseline data for future counts aimed at evaluating how changes to ground squirrel habitat may affect the density of active burrows. At both sites, the pre-treatment and control areas had similar habitats and they both had numerous inactive burrows. Periodic burrow surveys, after potential habitat modifications, will be needed to understand how prescribed fire or cattle grazing may affect ground squirrel populations.

These results will inform how management strategies, such as fire management and habitat modifications, affect ground squirrel populations and habitat.

Figure 1 Examples of an active (left) and inactive (right) ground squirrel burrow. Photo credits H. Milligan.

FOR MORE INFORMATION, PLEASE CONTACT:
Heather Milligan, Project Biologist, (867) 667-8793
Thomas Jung, Senior Biodiversity Biologist, (867) 667-5766