## Data at a Glance

**Region:** Southern Lakes, Yukon

**Days wolves were monitored:**

Total 399 wolf days, $\bar{x}$ = 80 days /pack

**Monitoring timing:**
December 2020 to March 2021 and November 2021 to March 2022

**Composition of prey killed:** Moose (59%), caribou (35%), and Dall sheep (6%).

**Composition of prey consumed:**
Moose (77%), caribou (20%), and Dall sheep (3%).

**Winter kill rates:**
0.018 ungulates/wolf/day (SD=0.006)

**Winter prey consumption rates:**
3.49 kg ungulate/wolf/day (SD=0.30)

# Southern Lakes Wolf Diet Composition and Kill Rate 2021-22

## Project objectives

Determine to what extent wolves prey on caribou in the study area; specifically, 1) determine the diet composition of wolves, and 2) determine the rate at which wolves kill and consume prey in the Southern Lakes in winter.

## Project background

Wolf predation studies in the Southern Lakes, Yukon, were last conducted in the late 1980s. Moose were found to be the primary prey. Since then, caribou populations have increased significantly. However, communities in the area are concerned that the wolf population may be growing and increasingly preying on caribou, which could delay recovery of the Southern Lakes caribou populations. The Southern Lakes Wolf Program was conducted between 2019 – 2022 to update wolf population estimates and assess diet composition of wolves. This report focuses on the latter.

## Project overview

In winter 2021 and 2022, we captured and collared eight wolves from five packs. We identified locations where wolves were suspected to have killed prey by using GPS location cluster models. We monitored daily movements ($\bar{x}$ = 80days) for each pack. We

visited 124 potential kill sites and confirmed 49 ungulate kills made by wolves.

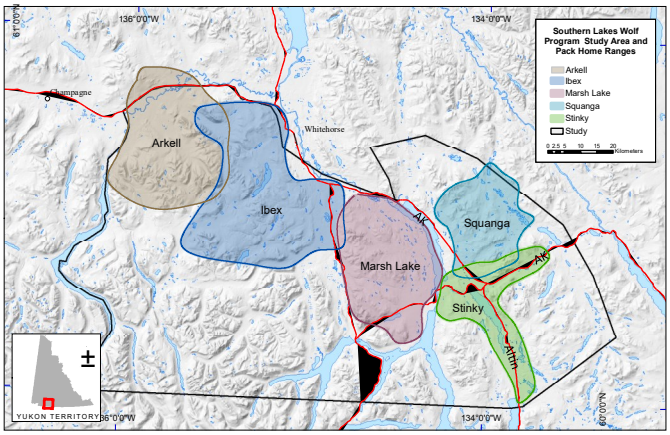
We calculated species composition as the proportion (%) of each prey species killed averaged across packs and the proportion of prey species consumed (kg/species). We also calculated kill rates as the number of ungulates killed per wolf per day and consumption rates as the weight of ungulate (kg) consumed per wolf in a day.

## Key findings

Kill composition and kill rates varied considerably across packs making it difficult to generalize. For prey killed, moose ranged from 18 – 87% and caribou 12.5 - 57%. When averaging across packs, moose represented 59% (SD=29.8) of prey killed and was the predominant prey in three out of the four packs. Caribou represented 35% (SD = 18.8) of prey killed and was the predominant prey in one out of four packs. In terms of biomass composition this equates to 77% moose, 20% caribou and Dall sheep 3% of wolves diet. One pack (Ibex) was found to frequent the Whitehorse landfill, and only made one kill during the 45 days of monitoring.

Winter kill rates ($\bar{x}$ = 0.018 ungulates/wolf/day, SD = 0.006, range = 0.013 – 0.027) and biomass consumption rates ($\bar{x}$ = 3.49 kg ungulate/wolf/day, SD = 0.30, range = 3.30 – 3.93) of wolves studied, are at the lower end of the typical range of rates across other Yukon and Alaskan studies (range: 3.20 – 7.89 kg ungulate/ wolf/day).

Wolves are killing more caribou compared to the previous study done in the late 1980's, when caribou herds were much smaller. However, the Southern Lakes caribou populations are continuing to grow. For example, the Ibex herd has expanded its range and increased in number and the Carcross herd appears stable or slightly increasing.





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