Olivia Guswiler

Final Project Topic

2024-09-12

**Title:** Influence of hiking trails on temporal and spatial activity of two carnivores

**Focal Species:** Coyote (*Canis latrans*, n = 34) and Bobcat (*Lynx rufus*, n = 36)

**Datasets:** GPS data originally collected by Prugh (2023) were obtained in CSV format from Movebank. The data file includes timestamps, lat/long locations, UTM headings, collar identifiers, among other information. The associated reference file includes information on each study subject including age, morphometric data, capture lat/long, fate, and cause of death (where applicable). The study examined the movements and fates of the focal species across rural landscapes of northern Washington in the presence of substantial human influences.

Hiking trails located within the study areas will be downloaded from AllTrails in CSV format (including lat/long coordinates and elevation).

**Objectives:** Measure the spatial and temporal association of coyotes and bobcats with hiking trails in northern Washington across seasons. I will use a binomial generalized linear model to estimate presence/absence of these two species in relation to distance from hiking trails.

**Reference:** Prugh LR. 2023. Data from: Study "GPS tracking of bobcats and coyotes in northern Washington". Movebank Data Repository. https://www.doi.org/10.5441/001/1.gm93267b