

**Title:**

Mapping the functional connectivity of predation by large carnivores in the Canadian Rocky Mountains.

**Presenter:**

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**Abstract:**

After decades of persecution, large carnivores are returning to human-occupied landscapes in many areas of North America and Europe. To ensure the safety of both people and wildlife, we need to understand how these animals perceive and select habitat as they navigate through developed area. Here, I investigate habitat selection by wolves and cougars in a 20,000 km<sup>2</sup> landscape characterized by a marked gradient of urban and industrial development. I used data from over 15,000 km of wolf and cougar movement pathways, and from over 750 kill sites made by these two predators. These data were collected during the past 22 winters in Banff National Park (Alberta, Canada) and environs. Using GIS software, I created habitat selection models by comparing 'used' resources (e.g., topography, habitat type) found along movement pathways and at kill sites, with random points located <500 m from used sites. I then incorporated the results of these habitat selection models into a connectivity analysis to quantify the predicted flow of both movement and predation across the landscape. These results illustrate the extent to which 'connectivity' depends on species (e.g., cougars vs. wolves), behavior (movement vs. foraging), and proximity to people. These results are being used to inform policy on land-use planning in areas where large carnivores and people co-exist.