Name: Calen Wong

Tentative Thesis title: Road Mortality Mitigation, Critical Habitat, and Comparative Movement for a Community of Threatened Snakes

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Abstract:

Habitat loss and its associated factors are well documented as the greatest threat to species at risk globally. One of these factors is habitat fragmentation, where once large patches of undisturbed habitat is split up at a landscape level leading to adverse demographic and genetic consequences for some wildlife populations. My research is focused on three species of snakes residing in the White Lake Basin, in the South Okanagan. The Western Rattlesnake (*Crotalus oreganus*), the Great Basin Gopher Snake (*Pituophis catenifer*) and the Western Yellow-Bellied Racer (*Coluber constrictor*) are all listed as threatened across Canada. Mortality from vehicles is the primary threat to these species as they attempt to move through these fragmented landscapes. Using roadkill location data, we were able to identify locations of high roadkill density throughout the study site and in 2018, 8 wildlife culverts were installed as an identified mitigation measure for Western Rattlesnakes. My research assesses the effectiveness of these culverts for all three species 5 years post mitigation and will make recommendations for future species specific measures. In addition to this, I am also conducting a comparative movement analysis for these three species to help better inform periods of activity and movement patterns. The analysis will cover long-term seasonal movement patterns as well as short-term focal movements in an attempt to capture movement patterns on a daily and seasonal scale. As our understanding of movement grows, we can better adapt management plans for species conservation.