

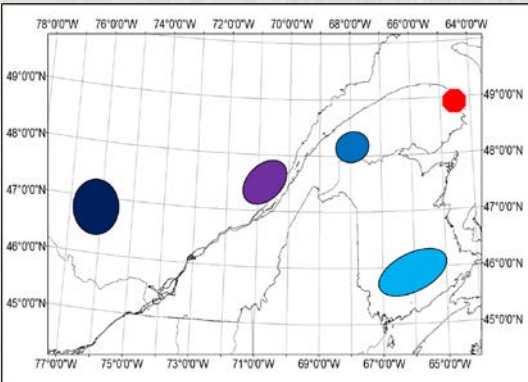


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Movement Ecology of Juvenile Eastern Moose

Late winter mortality of juvenile eastern moose (*Alces acles americana*) has increased throughout their geographic range in recent decades and is thought to be directly attributed to increased parasitization by winter tick (*Dermacentor albipictus*).

- My main objective is to determine the effects of tick load, landscape characteristics, and climate on juvenile moose movement.
- My data chapters will focus on 1) spatial perception of habitat, 2) dangers of gap crossing, 3) dispersal, 4) interspecific host-parasite interactions, and 5) management.
- Our study area consists of 5 sampling areas in QC and NB:
 - Upper Laurentians
 - National Capital
 - Bas-St-Laurent
 - Fredericton/Chipman
 - Forillon National Park
- ~340 moose will be captured and fit with GPS collars to during 3 winters from 2020-2023 to monitor movement, activity levels, and survival from Jan. to Oct.
- 50% of our sample in each site will be treated with acaracide



Treatment of acaracide will effectively create a tick-free control group by which we may compare the movement, behavior, and activity of parasitized individuals. During captures, we collect morphometric data, record relative tick abundance, alopecia, and weight.

Preliminary results: In 2020 we had 26 confirmed juvenile mortalities (4 in Bas-St-Laurent, 10 in National Capital, 2 in Forillon National Park, 5 in Fredericton/Chipman, and 5 in Upper Laurentians). Two of these individuals died from drowning or presumptive vehicle collision. Of the remaining 24 that died, 20 had not received acaracide treatment. Necropsies were completed on most mortalities. During necropsies we collected tissue samples from major organs, assessed tick load and alopecia, and attempted to determine a cause of death.

Our study began in January 2020 and sampling was postponed in 2021, because of the Covid-19 pandemic, but will resume in 2022 and continue in 2023. I will begin pre- and post-processing of movement data in 2022, and I expect analysis results to be available in the beginning of 2023.

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