

# Anurans in a Subarctic Tundra Landscape Near Cape Churchill, Manitoba

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Distribution, abundance, and habitat relationships of anurans inhabiting subarctic regions are poorly understood, and anuran monitoring protocols developed for temperate regions may not be applicable across large roadless areas of northern landscapes. In addition, arctic and subarctic regions of North America are predicted to experience changes in climate and, in some areas, are experiencing habitat alteration due to high rates of herbivory by breeding and migrating waterfowl. To better understand subarctic anuran abundance, distribution, and habitat associations, we conducted anuran calling surveys in the Cape Churchill region of Wapusk National Park, Manitoba, Canada, in 2004 and 2005. We conducted surveys along ~1-km transects distributed across three landscape types (coastal tundra, interior sedge meadow–tundra, and boreal forest–tundra interface) to estimate densities and probabilities of detection of Boreal Chorus Frogs (*Pseudacris maculata*) and Wood Frogs (*Lithobates sylvaticus*). We detected a Wood Frog or Boreal Chorus Frog on 22 (87%) of 26 transects surveyed, but probability of detection varied between years and species and among landscape types. Estimated densities of both species increased from the coastal zone inland toward the boreal forest edge. Our results suggest anurans occur across all three landscape types in our study area, but that species-specific spatial patterns exist in their abundances. Considerations for both spatial and temporal variation in abundance and detection probability need to be incorporated into surveys and monitoring programs for subarctic anurans.

Key Words: Boreal Chorus Frog, *Pseudacris maculata*, Wood Frog, *Lithobates sylvaticus*, subarctic tundra, Manitoba.