

Engaging communities in monitoring zoonotic diseases for food safety concern



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Project Goals:

1. To study the distribution and abundance of *Trichinella nativa*, *Toxoplasma gondii*, Anisakidae, Escherichia coli O157:H7 and *Salmonella* in Arctic wildlife of Canada.
1. To provide equipment to regional laboratories in NWT, Nunatsiavut, and Nunavik.
2. To coordinate and provide training for wildlife sampling and diagnostic methods for diseases of food safety importance.
3. To develop/refine/validate simplified (field) diagnostic tests for *Toxoplasma*, E. coli O157:H7 and *Salmonella*.
4. To create a Canadian web-based database of Arctic zoonoses.

NWT Relevant Project Objectives & Update on Progress:

1. Enhance existing information on trichinella & toxoplasma in northern wildlife:
 - determine range of host wildlife species affected (*in progress*)
 - determine prevalence of infection by species/region (*in progress*)
 - determine species/genotypes of parasites present in the Arctic (*in progress*)
2. Improve detection of Trichinella and Toxoplasma under field conditions
 - develop/evaluate a field serological test kit for toxoplasma (*done*)
 - develop a standardized muscle digestion assay for trichinella (*done*)
 - develop a simplified protocol for blood collection (paper strip) (*in progress*)
 - work with hunters & researchers on field sampling techniques (*ongoing*)
3. Provide regional capacity for testing:
 - technical training and equipment for northern labs (*done*)
 - expert support from national partners (*ongoing*)



NWT species being tested	Trichinella	Toxoplasma
Bears - black bear	5.8% (7/120)*	x
- grizzly bear	72.7% (8/11)*	
Bison		x
Caribou		x
Foxes	x	x
Hare (arctic and Snowshoe)		x
Lynx	x	x
Moose		x
Muskoxen		x
Wolverine	x	x
Wolves	52% (14/27)*	x

* Preliminary data from the Deh Cho region of the NWT