

NWSF #21-004-04  
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## **Final Project Report: Comparative beluga health study: Western Hudson Bay and Eastern Beaufort Sea (NWSF Project #NWSF-2020-001)**

### **Summary**

Arviat harvests many beluga whales every year as part of their traditional subsistence hunts. Although Nunavut has some basic monitoring programs for beluga, the programs are limited and data does not always return to the community. This project will aim to identify methods of determining beluga whale health in Arviat, and on a larger scale compare this Western Hudson Bay (WHB) population to the Eastern Beaufort Sea (EBS) population in Northwest Territories.

The general objective of this project is to enhance knowledge of the current health status of the beluga whale population in the EBS and WHB, through close collaboration between project investigators and members of Arviat, NU, specifically between Aqqiumavik Society and University of Manitoba. The project will also engage with the community to gather perceptions about beluga consumption and to share data around beluga health and the implications of making beluga a central part of community diet. This stage of the project aimed to connect with the community, Arviat HTO, and Aqqiumavvik Society in person to gauge interest, identify concerns on potential research methods and identify local concerns on beluga health.

### **Project Objectives**

This project has three objectives:

- 1) **Identify local concerns about beluga health.** This includes examining previous beluga work, identifying existing gaps, and developing a project to answer these questions. Local interviews will be explored to complement the western methods in hopes of providing guidance on practical methodologies and tools to monitor beluga health.
- 2) **Determine likelihood of exposure to disease in beluga.** While disease is part of the natural environment, there is little baseline data, which will make future monitoring projects difficult.
- 3) **Determine levels of some heavy metals in beluga whale tissue (skin, blubber, muscle) and their toxicity.** Recent literature determined mercury threshold levels that when reached, reduce the immune system of marine mammals. These levels could be compared to beluga immune indicators to explore these defined thresholds, ultimately being used to measure beluga health. This information will be shared with the community and the implications of the resulting data will be discussed in terms of dietary practices.

This preliminary stage of the project aimed to partially complete the first objective; to gauge local interest on prospective beluga health work in Arviat and identify if the locals or Arviat HTO had any specific concerns on beluga health.

Two consultation sessions were held in February 2020, one with the local HTO, and one community-wide session. The Arviat HTO had expressed interest in mercury levels in beluga in relation to local river flooding events months prior to the meeting in person. At this in-person meeting the HTO expressed concerns on past beluga work conducted by government organizations and laid out conditions that must be met for this work to be approved. All concerns were noted and addressed over the following weeks, with continued conversation. An approval letter was granted for this project from the HTO. The community consultation was met enthusiastically and moderately attended (over 15 participants, hunters included). The community members present indicated interest in the project and encouraged wider communication with the rest of the community.

The two other objectives are anticipated to start this summer with sample collections.

### **Materials and Methods**

As this was the preliminary stage of the project, two consultation sessions were held. One with the HTO, and one open to the public in the local community hall. Both consultations were hosted by Enooyaq and conducted in Inuktitut. No interviews or samples collection were conducted.

### **Results**

There are no results to discuss. An approval letter from the HTO was granted, and a partnership was formed with the Aqqiumavvik Society.

### **Discussion / Management Implications**

There are no management implications associated with the community consultations stage of this project.

### **Reporting to communities / resource user**

Upon approval from the NWMB about the later stages of this project, we will proceed with the next stages of the project. With the preliminary consultations completed, we will proceed with the project. The Arviat HTO approved the rest of the project.