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National Wildlife Research Centre
Carleton University
1125 Colonel By Drive
Ottawa, ON K1S 5B6

July 13, 2023

NWB Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Manager:

Please find attached an application for water use without a license, as well as project descriptions in both English and Inuktitut for research conducted at Cape Graham Moore, Nunavut. This work was previously covered under Nunavut Water Board License 8WLC-TBM2223.

Please note the approval can be made out to Dr. Grant Gilchrist, however, any questions you have regarding this application can be directed to myself, Maisy Roach-Krajewski (Maisy.roach-krajewski@ec.gc.ca).

Thank you very much for your consideration of this application, and please do not hesitate to contact us with any questions or concerns you may have.

Sincerely,

Maisy Roach-Krajewski
Wildlife Technician
Environment and Climate Change Canada

Canada

Project Description

The purpose of our work with thick-billed murres is to estimate their distribution and abundance throughout the year, and to assess the potential for interactions of bird populations with proposed development activities; particularly year-round shipping.

In 2016, we worked with the murre colony at Cape Graham Moore murre colony on Bylot Island. The objective of this was to investigate the foraging range of thick-billed murres to assess whether murres forage within the proposed shipping lanes during the breeding season and to develop a monitoring protocol that can be used for other murre colonies in Nunavut, such as Akpatok Island. To do this we used small GPS devices to track individual murres on foraging trips during the breeding season and determine the important marine habitat areas for the colony as a whole. We also assessed the energetic expenditure of different foraging behaviours and related this to breeding success of individuals. The Mary River Mine on the North side of Baffin Island is now operational and we hope to return to Cape Graham Moore to repeat this study to determine if the increased shipping activity has affected the foraging, energetics and reproduction of the birds nesting at this colony. This is an important step to ensure that the effects of shipping activities are minimized on wild-living marine birds.

We will also use small GPS devices (18 grams; less than 2% of body weight) to track movements and diving behaviour of individuals during the breeding season. At capture, birds will be blood sampled for physiology analyses, then GPS units will be affixed to the back of the bird using TESA tape and deployed for 1-3 days. Fecal samples will be collected opportunistically. Individuals will be re-captured after this period to retrieve the units and blood sampled once more.

At Cape Graham Moore the field camp will consist of a few temporary canvas wall tents. Our field activities there will last from July 18 - Aug 19. We will use a helicopter to shuttle food and equipment to the field camp location. We will not use any vehicles on the island. There will be four researchers in camp during this period.

