



## **NIRB Application for Screening #126184**

### **Assessment of population dynamics of waterfowl in the central Arctic**

**Application Type:** New

**Project Type:** Scientific Research

**Application Date:** Friday, May 9, 2025

**Period of operation:** from 2025-05-13 to 2029-07-13

**Project Proponent:** Mitch Weegman  
University of Saskatchewan  
112 Science Place  
Saskatoon SK S7N 5E2  
Canada  
Phone Number:: 3069664406, Fax Number::

## DETAILS

### Non-technical project proposal description

- English: This project seeks to establish a long-term camp at Anderson Bay on Victoria Island (about 40 km east of Cambridge Bay) to study the population dynamics of lesser snow geese and Ross's geese (i.e., light geese) annually from June to July. The project is led by Mitch Weegman, Ducks Unlimited Canada Endowed Chair in Wetland and Waterfowl Conservation, and an Associate Professor, at the University of Saskatchewan. While light goose demography was studied nearly continuously since 1991 at Karrak Lake (Queen Maud Gulf [Ahiak] Migratory Bird Sanctuary) by Ray Alisauskas, the colony has declined rapidly and logistics are increasingly difficult. At the same time, the colony at Anderson Bay has increased rapidly over the last 10 years. The presence and increase in the colony has been of great interest to community members in Cambridge Bay. Further, information about the population dynamics of light geese is required by the Canadian and US governments to inform management plans for these species, as well as harvest regulations. I am proposing to move the work on breeding biology of lesser snow geese and Ross's geese from Karrak Lake to Anderson Bay. We will conduct a comprehensive project, following Karrak Lake best practices, to study arrival condition of birds, nest initiation and fate, clutch size, and other Arctic ecosystem components such as vegetation monitoring through exclosures, sea duck (king eider) population ecology, and small mammal indices.
- French: The work only occurs near Cambridge Bay (so I have provided proposal descriptions in English and Innuinnaqtun).
- Inuktitut: The work only occurs near Cambridge Bay (so I have provided proposal descriptions in English and Innuinnaqtun).
- Inuinnaqtun: Hapkua havaaghakkut aullaqtittiyumayut hivituyumik aulaghaaqtughamik tupiqtuqvingmik Iqallivingmi Kiilliniqmi (ungahiaqtuq 40 km-mik kivalliqhianit Iqaluktuuttiaq) qauyihariamik pitquhiit kanguit (taapkuatut, nirlirniit) ukiuq tamaat June-mit July-mut. Hapkua havaanguyut hivuliqtuqtauyut Mitch Weegman-mit, Ducks Unlimited Canada-mit Manighaqtitaavaktut Ighivautalik Kinipaumayunit Tingmitjat Huratjallu Hapummiyiit, Ikayuqtiupluni Ilaiyiryuaq, Ilihaqpaalliqvianit Saskatchewan-mi. Qauyihagtauhimagaluaqhutik aulahimmaaqtumik 1991-mit Karrak Tahianit (Ahiaqmi Tingmitjat Nayugaanit) taaffuminnga Ray Alisauskas, huratjat ikighivaalliqhimayut kayumiktumik aullaarutillu ikayuutillu ayuqnaqhivalliyut. Atauttikkullu, huratjat Iqallivingmi amigaiqpaalliqhimayut 10-nguliqtunit ukiunit. Tikiqattaramik amigaiqpalliagamiklu tingmitjat ihumagivallialiqtait nunallaarmiut Iqaluktuuttiaqmi. Ahiagullu, naunaitkutait naatjuhiinut kanguit piyumayauvaktut Kanatamit Amialikamillu kavamainit naunaiyautighait ataniqtuqtuiyut parnaiyautainik hapkununnga huratjanut, taapkununngalu niqighaqhiurniqmut maliktaghanut. Tughirautimnit nuuttittiyumayunga havaanguyunik ivayunik kangurnik talvanngat Karrak Tahianit Iqallivingmut. Qauyihaittiarahuat havaanginnik, malighugit Karrak Tahianit havauhittianik, qauyihariamiklu tikilvianit qanurininganiit, upluliuqviat, qaffiungmangaat maniit, ahiniklu Ukiuqtaqtumi nauyunut ilauiyut taapkuatut nauttianik munaqhiyut nirriiviniit, taryumiutanik huratjanik (qingaliit) naatjuhiinik nayugainik, mikiyullu uumayut.

### Personnel

Personnel on site: 8

Days on site: 300

Total Person days: 2400

Operations Phase: from 2025-05-13 to 2029-07-13

## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Anderson Bay snow goose and Ross's goose nesting colony, where I propose to study the birds annually May-August. We will select a temporary camp site in June 2025, within the highlighted polygon. There are no known archaeological or paleontological historical sites in this area.	Researching	Inuit Owned Surface Lands	The shaded polygon (Anderson Bay) seasonally comprises a nesting colony of lesser snow geese and Ross's geese that numbers about 300,000 individuals. The colony has rapidly expanded in size, for reasons not understood. I propose to study the breeding biology of the colony annually from June to July with a camp in the polygon.	No known value.	Approximately 40 km east/southeast of Cambridge Bay.

## Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Cambridge Bay	Beverly Maksagak	Ekaluktutiak Hunters and Trappers Organization	2025-02-18
Cambridge Bay	Beverly Maksagak	Ekaluktutiak Hunters and Trappers Organization	2025-03-04
Cambridge Bay	Beverly Maksagak	Ekaluktutiak Hunters and Trappers Organization	2025-03-27
Cambridge Bay	Beverly Maksagak	Ekaluktutiak Hunters and Trappers Organization	2025-04-25
Cambridge Bay	Beverly Maksagak	Ekaluktutiak Hunters and Trappers Organization	2025-05-06

## Authorizations

Indicate the areas in which the project is located:

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Canadian Wildlife Service	Scientific permit to study breeding biology of lesser snow geese and Ross's geese by monitoring nest incubation status and nest outcome (success/failure). The permit also will cover breeding biology of king eiders (a sea duck nesting at Anderson Bay).	Applied, Decision Pending		
Nunavut Water Board	Applied for use of water or deposit of waste without a licence (we are using water for drinking and will have minimal waste).	Applied, Decision Pending		
Government of Nunavut, Department of Environment	Nunavut wildlife research permit to study breeding biology of snow geese and king eiders at Anderson Bay.	Applied, Decision Pending		
Other	University of Saskatchewan animal use protocol for research on snow goose breeding biology at Anderson Bay.	Active	2025-02-28	
Other	University of Saskatchewan animal use protocol for research on king eider breeding biology at Anderson Bay.	Active	2025-03-10	
Kitikmeot Inuit Association	Note the KIA replied to me that instead of a class 3 licence (as mentioned in my NPC application), this will be an exemption certificate because	Applied, Decision Pending		

	the camp is temporary annually.			
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#### Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	We will visit the Anderson Bay snow goose colony by helicopter from Cambridge Bay.	

#### Project accomodation types

Temporary Camp

## Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Helicopter	1	12x10x3 m	I propose to study build a temporary camp at Anderson Bay, and will sling all equipment/supplies to Anderson Bay via helicopter from Cambridge Bay. The helicopter will carry 6 people from Cambridge Bay to Anderson Bay. The camp will be temporary, built in June 2025 and taken down/completely removed by late July 2025. The demobilization will also happen via helicopter.

### Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Aviation fuel	fuel	8	55	440	Gallons	We will refuel the helicopter at Cambridge Bay airport.

### Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
5	In buckets from melt rivers.	Near our temporary camp at Anderson Bay (we will choose the exact camp location within the nesting snow goose colony in June 2025).

# Waste

## Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Researching	Combustible wastes	120 kg annually	I propose to either bury food waste in latrine pits near camp at Anderson Bay, or fly out waste via slinging from a helicopter at the end of each field season. The buried waste would be covered with native material, same as described for burying sewage.	The estimate of 120 kg annually comes from an estimate of 0.25 kg of food waste produced per person per day, a crew of 8 people and a temporary camp of 60 days annually. This estimate is from Ray Alisauskas's long-term camp at Karrak Lake.
Researching	Sewage (human waste)	480 kg annually	I propose to bury sewage in latrine pits near camp at Anderson Bay. The pits are immediately covered with native material. From work at Karrak Lake (a long-term camp studying snow geese, led by Ray Alisauskas), after a few years, revegetation was evident.	The 480 kg of sewage is estimated from an average of 1 kg of sewage produced per day person, 8 people in a camp for 60 days annually.

### Environmental Impacts:

There should be no negative effects of this work because the camp is temporary (mobilized and demobilized each summer). This work will result in several positive environmental impacts on wildlife and their habitats, particularly birds and the Arctic ecosystem they live in. This project will assess links between snow goose, Ross's goose and king eider reproductive success (clutch size, nest success/failure) and habitat and weather information (precipitation and temperature). Results from this work will inform revisions to conservation and management plans for these species to ensure sustainable populations. Lastly, the goose colony provides a source of food via eggs and geese/eiders for community members. Understanding colony dynamics could be important for forecasting food security of these birds for community members. Further, avian influenza is causing human health concerns. This project will provide an understanding of the current and potential colony size with regular monitoring for sick/dead individual geese, to link with ongoing monitoring for avian influenza in the Canadian prairies. Take together, this work provides a comprehensive package of bird and habitat benefits, community employment and infrastructure, and data to support nationwide monitoring to maximize human health.

# **Additional Information**

**SECTION A1: Project Info**

**SECTION A2: Allweather Road**

**SECTION A3: Winter Road**

**SECTION B1: Project Info**

**SECTION B2: Exploration Activity**

**SECTION B3: Geosciences**

**SECTION B4: Drilling**

**SECTION B5: Stripping**

**SECTION B6: Underground Activity**

**SECTION B7: Waste Rock**

**SECTION B8: Stockpiles**

**SECTION B9: Mine Development**

**SECTION B10: Geology**

**SECTION B11: Mine**

**SECTION B12: Mill**

**SECTION C1: Pits**

**SECTION D1: Facility**

**SECTION D2: Facility Construction**

**SECTION D3: Facility Operation**

**SECTION D4: Vessel Use**

**SECTION E1: Offshore Survey**

**SECTION E2: Nearshore Survey**

**SECTION E3: Vessel Use**



**SECTION F1: Site Cleanup**

**SECTION G1: Well Authorization**

**SECTION G2: Onland Exploration**

**SECTION G3: Offshore Exploration**

**SECTION G4: Rig**

**SECTION H1: Vessel Use**

**SECTION H2: Disposal At Sea**

**SECTION I1: Municipal Development**

**Description of Existing Environment: Physical Environment**

**Description of Existing Environment: Biological Environment**

**Description of Existing Environment: Socio-economic Environment**

**Miscellaneous Project Information**

**Identification of Impacts and Proposed Mitigation Measures**

**Cumulative Effects**

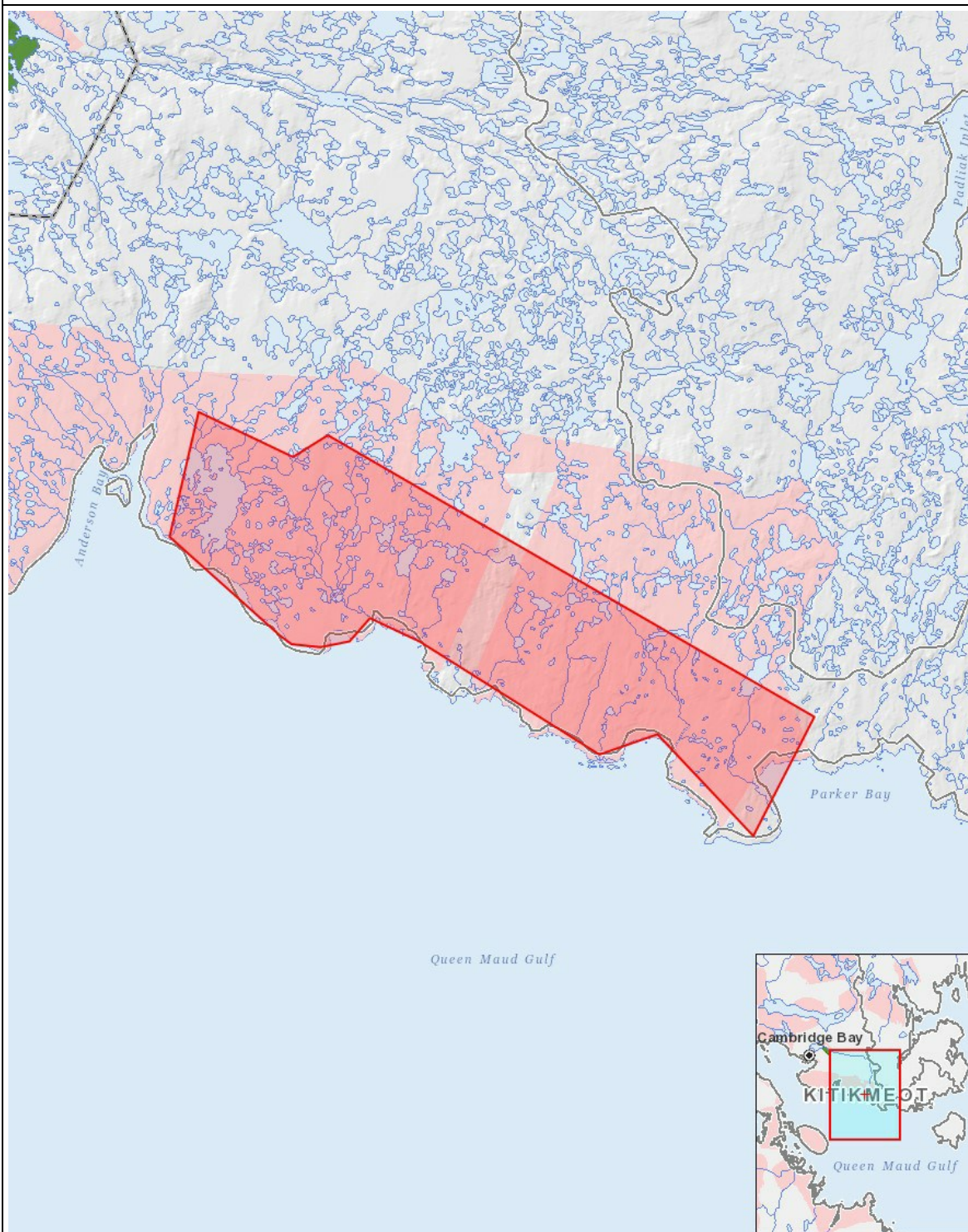
Impacts

Identification of Environmental Impacts

|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

## Project Location



## List of Project Geometries

- |           |   |
|-----------|---|
| 1 polygon | Anderson Bay snow goose and Ross's goose nesting colony, where I propose to study the birds annually May-August. We will select a temporary camp site in June 2025, within the highlighted polygon. There are no known archaeological or paleontological historical sites in this area. |
|-----------|---|