

# **NUNAVUT WILDLIFE RESEARCH PERMIT** **APPLICATION**



**APPLICANT:** Dr. Ray Alisauskas

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**SPONSOR(S):** Environment Canada

**FUNDING SOURCES:** Polar Continental Shelf Project, Environment Canada, Central  
& Mississippi Flyway Councils

**ADDITIONAL LICENCES REQUIRED:** Aboriginal Affairs and Northern Development  
Canada Land Use Permit (N2008N0028), Nunavut Water Board (3BC-KAR0812),  
Environment Canada Permit to Conduct Activities in a Migratory Bird Sanctuary and to  
Conduct Scientific Research on Migratory Birds (permit numbers to be determined),  
Environment Canada Bird Banding Permit (10569), Canadian Council on Animal Care.  
Some permit numbers may change as licenses are issued prior to 2014 field work.

**PROJECT TITLE AND RATIONALE:** Waterfowl Ecosystem Research in Queen Maud  
Gulf Bird Sanctuary (please see attached Progress Report)

**TIME PERIOD:** 10 May to 20 August 2014

**LOCATION:** Karrak Lake, Nunavut (67°14'N, 100°15'W)  
Perry River, Nunavut (67°42'N, 102°11'W)

**SPECIES:** Ross's Geese, Lesser Snow Geese, White-fronted Geese, Cackling Geese,  
King Eiders, Long-tailed Ducks

**PROJECT LEADERS:** Dr. Ray Alisauskas, Dr. Jim Leafloor

**PROJECT PERSONNEL:** Dana Kellett

**OBJECTIVES: (Key expected results & Management implications)**

Determine ecological factors responsible for arctic waterfowl population dynamics and nutritional ecology (please see attached Progress Report).

**METHODS: (i.e. Details of capture, handling, and disposition – be SPECIFIC)**

Field personnel are housed at Karrak Lake Research Station (est. 1991) from mid May to mid August, and will travel to and from Cambridge Bay by twin otter and/or helicopter, depending on the time of season. Personnel will mainly travel by foot but also use boats (canoes, small outboard motors) and occasionally helicopter to travel within the study area. Water use and wastes are managed and disposed of according to permits issued by Aboriginal Affairs and Northern Development Canada Land Use Permit (N2008N0028) and Nunavut Water Board (3BC-KAR0812). At Perry River, field personnel are present for approximately 10 days in mid July, for the purpose of banding of geese (see below). Local travel on foot is limited; most travel is by helicopter.

Most of the following activities are limited to Karrak Lake, except where noted. Collection of geese (up to 100 Ross's Geese and 100 Snow Geese) is required to measure body condition during spring arrival and evaluate its role in affecting clutch size, nest success and productivity of waterfowl populations using the Sanctuary. Geese are collected with shotguns, dissected, and disposed of by incineration. Blood (collected on filter strips) and small amounts of tissues (brain, liver, kidney, heart, lung, spleen, skeletal muscle; stored in whirlpak (plastic) bags or vials) from collected birds will be frozen and exported to Saskatchewan to examine for prevalence of parasites. Nesting studies involve finding nests, counting and measuring eggs, and determining nest success by examining nest contents after hatch. Disturbance to active nests is minimal, as each nest is visited for only a few minutes. Also, any marked waterfowl (neck collars, tarsal bands) that are observed during nesting studies are recorded. Banding studies at Karrak Lake and Perry River involve capture of flightless geese (up to 15,000 in total) with the use of a helicopter and marking with standard-issue CWS/USFWS legbands to determine annual survival of 4 goose species. Ten Ross's Geese and 10 Snow geese will be fitted with solar-powered GPS PTTs (satellite transmitters) to monitor movement and habitat use. King Eiders and Long-tailed Ducks (up to 200 King Eiders and 50 Long-tailed Ducks) are captured on nests with a mist net during late incubation and marked with standard-issue CWS/USFWS legbands. A few head feathers are extracted from each captured bird and exported to Saskatchewan for stable isotope analyses to determine wintering area (east or west) of individuals. Ducklings (up to 500) receive a legband at hatch. Duckling bands are adult sized and filled with plasticine; as the bird grows, the plasticine is pushed out. All marked animals are released unharmed. Up to 20 birds each of King Eider and Long-tailed Ducks may be collected to assess body condition, nutrition and nutrient allocation during spring arrival, and exported to Saskatchewan for analysis. Bird or mammal carcasses found opportunistically during field work may be exported to Saskatchewan to examine for prevalence of parasites.

Ectoparasites (mainly fleas/lice, maybe ticks) will be recovered from goose nests and dead birds. The five nests closest to each fox den will be sampled using the double-bag nest method (see Harriman VB (2006), MSc Thesis): a small amount of nesting material will be removed, searched, and then discarded. The whole nest will be processed. Ectoparasites from geese will be recovered by placing birds in a double-bag within 30 seconds of time of collection (see Harriman VB (2006), MSc Thesis). Ectoparasites will be killed using the freeze/thaw method, preserved in ethanol, and exported to Saskatchewan for further analyses.

Field personnel use crack cartridges and pepper spray to deter bears. In addition, shotguns are present at the Research Station, and are occasionally used as a noise deterrent.

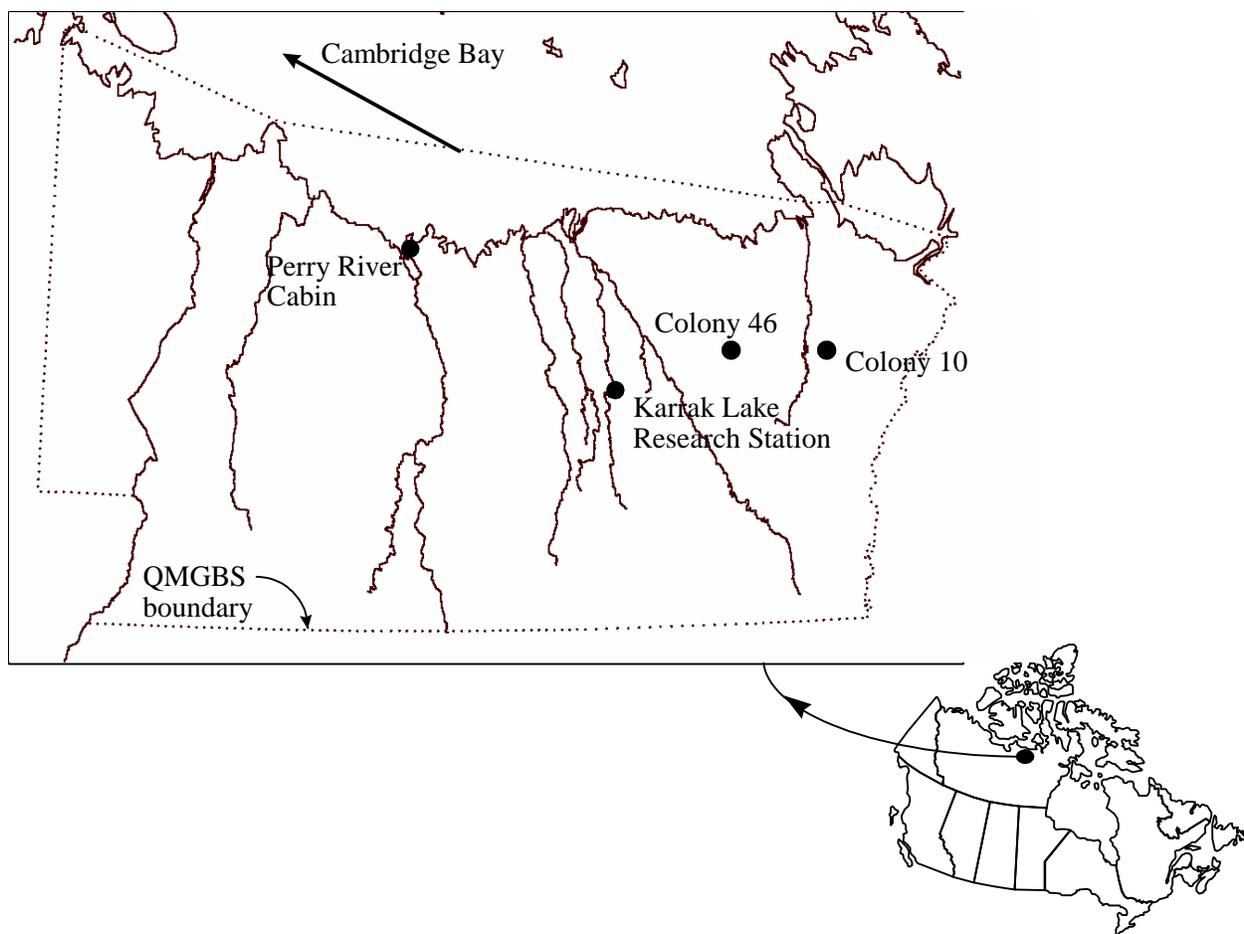


Figure 1. Queen Maud Gulf Bird Sanctuary (QMGBS). Cambridge Bay (Victoria Island) is about 300 km north-west of Karrak Lake.

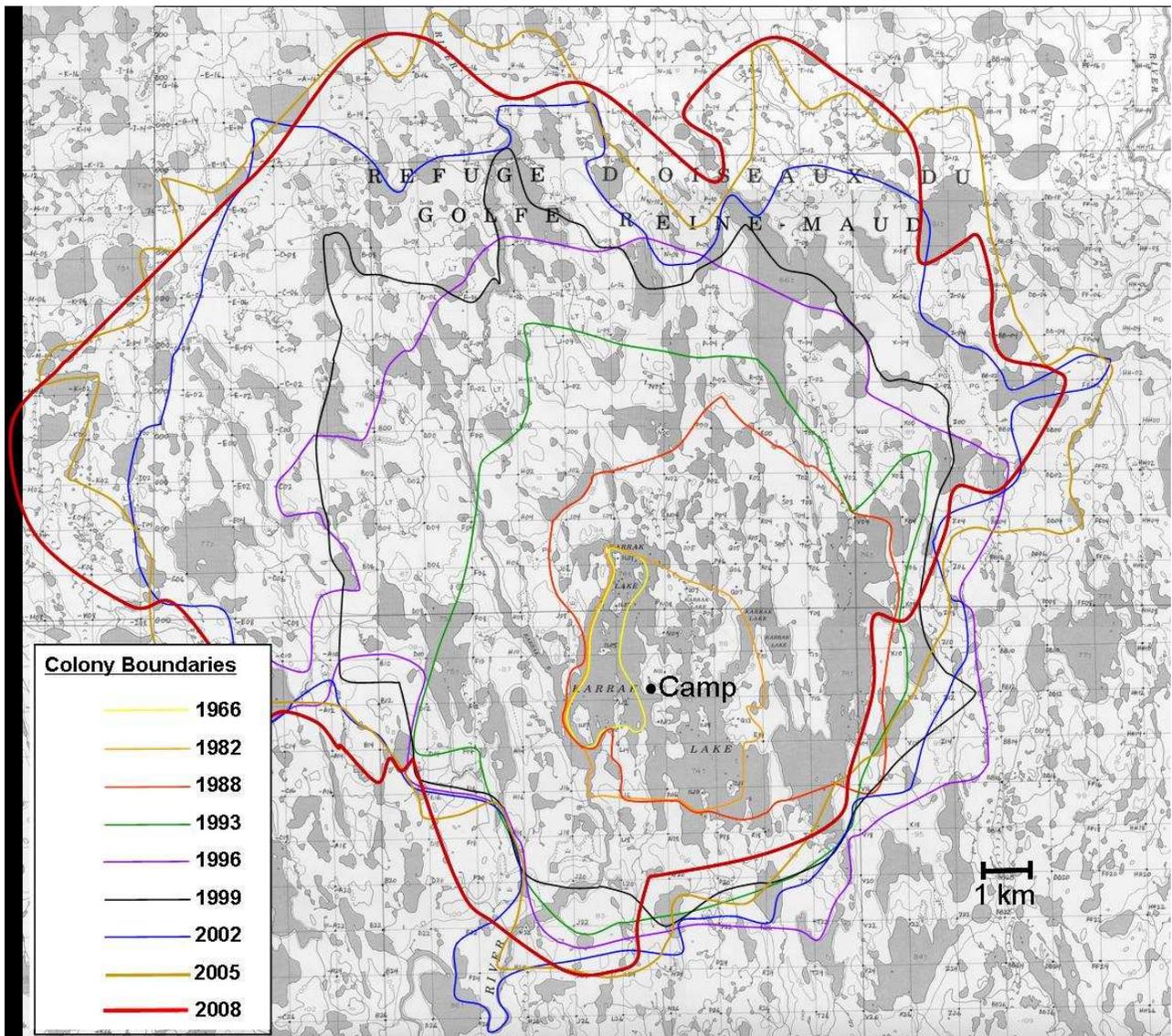


Figure 2. Karrak Lake lesser snow and Ross's goose colony, showing colony boundaries.

**COMMUNITY CONSULTATION PLAN:** Nunavut Impact Review Board Screening, slide presentation in Ikaluktutiak, reports, 3 posters disseminated. Residents are encouraged to visit <http://www.usask.ca/biology/fox> for more information.

**PROPOSED USE OF LOCAL KNOWLEDGE:** Frequent interaction and communication with residents of Cambridge Bay (see also next item).

**OPPORTUNITIES FOR LOCAL PARTICIPATION:** One person (likely from Cambridge Bay or Taloyoak) will be hired as an assistant during 2014

**TERMS & CONDITIONS:**

This application is submitted and will be evaluated prior to issuance of a Research Permit or Collection Licence, as issued by the Department of Environment – Wildlife Management Division, Nunavut Territory. All submitted applications become the property of the Department of Environment– Wildlife Division and may not be returned to the applicant.

The application review process requires that copies be distributed to a number of reviewers. The contents of this application form may be subject to access under the Freedom of Information and Protection of Privacy Act.

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Principal Researcher's signature

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Date

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Additional Investigator's signature

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Date

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Additional Investigator's signature

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Date

### **RABIES ADVISORY:**

Rabies is naturally occurring disease that is endemic to wildlife, particularly canids, in Nunavut. Rabies can infect human beings, and if left untreated can cause death. All persons who may be exposed to rabies are strongly encouraged to obtain and keep updated a pre-exposure vaccination.

All applications for Wildlife Research Permits should be submitted to:

Wildlife Research Section  
Department of Environment  
Box 209, Igloolik, NU, X0A 0L0

Tel: (867) 934-2178  
Fax: (867) 934-2190  
Email: [wildlife\\_research@gov.nu.ca](mailto:wildlife_research@gov.nu.ca)