



P.O. Box 119
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NUNAVUT IMALIRIYIN KATIMAYINGI
NUNAVUT WATER BOARD
OFFICE DES EAUX DU NUNAVUT

WATER LICENCE APPLICATION FORM

Application for: (check one)

☒ **New**
☐ **Renewal**
☐ **Amendment**
☐ **Assignment**
☐ **Cancellation**

LICENCE NO:

(for NWB use only)

1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE <u>Jennie Rausch, Canadian Wildlife Service, PO Box 2310,</u> <u>5019 - 52nd Street, Yellowknife, NWT, X1A 2P7</u> Phone: <u>(867) 669-4709</u> Fax: <u>(867) 873-6776</u> e-mail: <u>jennie.rausch@ec.gc.ca</u>	2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable) _____ Phone: _____ Fax: _____ e-mail: _____		
3. LOCATION OF UNDERTAKING (describe and attach a topographical map, indicating the main components of the Undertaking) Prince of Wales Island Camp (and fuel cache): Latitude: (99°9'00" N) Longitude: (73°5'00" W) NTS Map Sheet No. <u>068D04</u> Scale: <u>1:50,000</u>			
4. DESCRIPTION OF UNDERTAKING (attach plans and drawings) <i>*See attached description.</i>			
5. TYPE OF PRIMARY UNDERTAKING (A supplementary questionnaire <u>must</u> be submitted with the application for undertakings listed in " bold ") <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Industrial <input type="checkbox"/> Mining and Milling (includes exploration/drilling) <input type="checkbox"/> Municipal (includes camps/lodges) <input type="checkbox"/> Power </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Conservation <input type="checkbox"/> Recreational <input type="checkbox"/> Miscellaneous (describe below): </td> </tr> </table> <p>See Schedule II of <i>Northwest Territories Waters Regulations</i> for Description of Undertakings</p>		<input type="checkbox"/> Industrial <input type="checkbox"/> Mining and Milling (includes exploration/drilling) <input type="checkbox"/> Municipal (includes camps/lodges) <input type="checkbox"/> Power	<input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Conservation <input type="checkbox"/> Recreational <input type="checkbox"/> Miscellaneous (describe below):
<input type="checkbox"/> Industrial <input type="checkbox"/> Mining and Milling (includes exploration/drilling) <input type="checkbox"/> Municipal (includes camps/lodges) <input type="checkbox"/> Power	<input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Conservation <input type="checkbox"/> Recreational <input type="checkbox"/> Miscellaneous (describe below):		

6. WATER USE <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> To obtain water <input type="checkbox"/> To cross a watercourse <input type="checkbox"/> To modify the bed or bank of a watercourse <input checked="" type="checkbox"/> Other (describe): drinking, bathing, cooking and cleaning </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Flood control <input type="checkbox"/> To divert a watercourse <input type="checkbox"/> To alter the flow of, or store, water </td> </tr> </table>	<input type="checkbox"/> To obtain water <input type="checkbox"/> To cross a watercourse <input type="checkbox"/> To modify the bed or bank of a watercourse <input checked="" type="checkbox"/> Other (describe): drinking, bathing, cooking and cleaning	<input type="checkbox"/> Flood control <input type="checkbox"/> To divert a watercourse <input type="checkbox"/> To alter the flow of, or store, water
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- 7. QUANTITY OF WATER INVOLVED** (cubic metres per day including both quantity to be used and quality to be returned to source)

Water use ☒ 100m³/day or less (~0.176 m³/day)
☐ Greater than 100m³/day; if greater, indicate quantities to be used for each purpose (camp, drilling, etc.)

Water returned to source
0 m³/day

- 8. WASTE** (for each type of waste describe: composition, quantity (cubic metres per day), methods of treatment and disposal, etc.)

**See Questionnaire for details regarding disposal of waste.*

<input checked="" type="checkbox"/> Sewage	<input type="checkbox"/> Waste oil
<input checked="" type="checkbox"/> Solid Waste	<input checked="" type="checkbox"/> Greywater
<input type="checkbox"/> Hazardous	<input type="checkbox"/> Sludges
<input type="checkbox"/> Bulky Items/Scrap Metal	<input type="checkbox"/> Other describe):

- 9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING** (give name, mailing address and location; attach if necessary)

Qikiqtani Inuit Association, PO Box 1340, Iqaluit, NU X0A 0H0

Land Use Permit

DIAND ☐ Yes ☐ No If no, date expected _____

Regional Inuit Association ☐ Yes ☒ No If no, date expected May 2011

Commissioner ☐ Yes ☐ No If no, date expected _____

- 10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES** (direct, indirect, cumulative impacts, etc.)

We have a leave no trace camp policy and don't intend there to be any impacts

NIRB Screening ☒ Yes ☐ No If no, date expected – last year NIRB responded that our original screenings (05AN070, 08YN017) still cover the scope of the project and that we were exempt from screening. As this year is just another continuation of our project, we hope to again be exempt, but that is for NIRB to decide.

- 11. INUIT WATER RIGHTS**

Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement?

No

If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration. If no compensation agreement has been made, how will compensation be determined?

- 12. CONTRACTORS AND SUB-CONTRACTORS** (name, address and functions)

Not applicable

13. STUDIES UNDERTAKEN TO DATE (list and attach copies of studies, reports, research, etc.)

Ground surveys of breeding shorebirds in the Queen Maud Gulf Bird Sanctuary, ground surveys and aerial surveys of breeding shorebirds at King William Island, Victoria Island, Arviat and Baker Lake.

14. THE FOLLOWING DOCUMENTS MUST BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN

Supplementary Questionnaire (where applicable: see section 5) ☒ Yes ☐ No If no, date expected _____

Inuktitut and/or Inuinnaqtun/English Summary of Project ☒ Yes ☐ No If no, date expected _____

Application fee of \$30.00 (Payee Receiver General for Canada) ☐ Yes ☒ No If no, date expected NA

Water Use fee of \$30.00 (unless otherwise indicated in Section 9 of the *NWT Waters Regulations*; Payee Receiver General for Canada)

☐ Yes ☒ No If no, date expected NA

15. PROPOSED TIME SCHEDULE (unless otherwise indicated, the NWB will consider the application for a five (5) year term)

☒ one year or less (or) ☐ Multi Year

Start Date: 10 June 2011 Completion Date: 15 August 2011

Jennie RauschShorebird BiologistJ. Rausch2 May 2011

Name (Print)

Title (Print)

Signature

Date

For Nunavut Water Board office use only

APPLICATION FEE Amount: \$ _____ Pay ID No.: _____

WATER USE DEPOSIT Amount: \$ _____ Pay ID No.: _____



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EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: Jennie Rausch, Canadian Wildlife Service **Licence No:** _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: Jennie Rausch Tel: 867-669-4709 Fax: 867-873-6776 E-mail: jennie.rausch@ec.gc.ca
2. Project Manager: Jennie Rausch Tel: 867-669-4709 Fax: 867-873-6776 E-mail: jennie.rausch@ec.gc.ca
3. Does the applicant hold the necessary property rights? No
4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization. No
5. Duration of the Project
☒ One year or less Start and completion dates: 15 JUNE - 1 JULY 2011
☐ Multi Year:

If Multi-Year indicate proposed schedule of on site activities
Start: _____ Completion: _____

CAMP CLASSIFICATION

6. Type of Camp
☐ Mobile (self-propelled)
☒ Temporary
☐ Seasonally Occupied: _____
☐ Permanent
☐ Other: _____
7. What is the design, maximum and expected average population of the camp?
There will be a field crew of four people, a helicopter pilot and a helicopter engineer.
8. Provide history of the site if it has been used in the past.
Not Applicable

CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.

Camp is approximately 9.5 km northeast of Forsyth Lake on Prince of Wales Island.

10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.

Camp location was selected based on its proximity to potable water, accessibility by helicopter/twin otter, their proximity to wetlands (wetland habitat is typical shorebird breeding habitat in the Arctic), availability of dry ground to camp on.

11. Is the camp or any aspect of the project located on:

<input checked="" type="checkbox"/>	Crown Lands	Permit Number (s)/Expiry Date:	<u>Not applicable</u>
<input type="checkbox"/>	Commissioners Lands	Permit Number (s)/Expiry Date:	<u></u>
<input type="checkbox"/>	Inuit Owned Lands	Permit Number (s)/Expiry Date:	<u></u>

12. Closest Communities (direction and distance in km):

Resolute Bay 230 km NE

13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?

A letter and a summary of our proposed work have been mailed to the Resolute Bay and Taloyoak Hunters and Trappers Organization.

14. Will the project have impacts on traditional water use areas used by the nearby communities? Will the project have impacts on local fish and wildlife habitats?

This project will have no impact on traditional water use areas used by nearby communities and will have no impact on local fish and wildlife habitats.

PURPOSE OF THE CAMP

15. ☐ Mining (includes exploration drilling)
☒ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)
(Omit questions # 16 to 21) Shorebird population monitoring
☐ Other

16. Activities (check all applicable)

<input type="checkbox"/>	Preliminary site visit
<input type="checkbox"/>	Prospecting
<input type="checkbox"/>	Geological mapping
<input type="checkbox"/>	Geophysical survey
<input type="checkbox"/>	Diamond drilling

- ☐ Reverse circulation drilling
- ☐ Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)
- ☐ Other: _____

17. Type of deposit (exploration focus):

- ☐ Lead Zinc
- ☐ Diamond
- ☐ Gold
- ☐ Uranium
- ☐ Other: _____

DRILLING INFORMATION

18. Drilling Activities

- ☐ Land Based drilling
- ☐ Drilling on ice

19. Describe what will be done with drill cuttings?

20. Describe what will be done with drill water?

21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.

22. Will any core testing be done on site? Describe.

No

SPILL CONTINGENCY PLANNING

23. The proponent is required to have a site specific Spill Contingency Plan prepared and submitted with the application This Plan should be prepared in accordance with the *NWT Environmental Protection Act, Spill Contingency Planning and Reporting Regulations, July 22, 1998* and *A Guide to the Spill Contingency Planning and Reporting Regulations, June 2002*. Please include for review.

There will be a helicopter at our camp location. Helicopters will fall under the Polar Continental Shelf Spill Contingency Plan. Our camp is a tent camp and will only have 6 - 20 lb propane cylinders on site. Jet fuel for the helicopter will be stored in a portable berm. No other fuel will be used with the exception of 1 litre of white gas which will be supplied in each emergency kit (a total of two kits).

24. How many spill kits will be on site and where will they be located?

The helicopter is equipped with its own spill kit.

25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

18 - 205L drums of aviation fuel (stored in a fuel berm)
6 - 20lb propane tanks (stored upright outside of the cook tents)

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Water will be collected from freshwater lakes and streams near camp.

27. Estimated water use (in cubic metres/day):

☒ Domestic Use: 0.176 Water Source: lakes and streams
☐ Drilling: _____ Water Source: _____
☐ Other: _____ Water Source: _____

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? (see *DFO 1995, Freshwater Intake End-of-Pipe Fish Screen Guideline*) Describe:

Water will be collected by hand using 5-gallon water buckets.
Visual examination by individuals collecting water will ensure no entrapment of fish.

29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency?

Water will be visually examined to assess suitability for drinking.

30. Will drinking water be treated? How?

Drinking water will be prefiltered through cheesecloth and then filtered using a hand-operated pump filter. If necessary the water may be treated with iodine drops.

31. Will water be stored on site?

Up to four or five 5-gallon water buckets will be stored at the camp at any given time.

WASTE TREATMENT AND DISPOSAL

32. Describe the characteristics, quantities, treatment and disposal methods for:



Camp Sewage (blackwater)

A portable dry toilet system will be used. Waste will be stored in bear proof containers, flown out of camp and disposed of at waste facilities in Resolute Bay. In some cases where the toilet is not available for use, waste will be buried and away from water sources.



Camp Greywater

Camp greywater will be disposed of by dumping it into a shallow pit away from water sources. Pit will be treated with environmentally friendly lime substitute regularly and buried at camp close.



Solid Waste

Solid waste will be kept in special bags used for the portable toilet system and stored in bear proof containers. Waste will be flown to Resolute Bay at camp close and disposed of at waste facilities.



Bulky Items/Scrap Metal



Waste Oil/Hazardous Waste



Empty Barrels/Fuel Drums

Empty fuel drums will be flown to Resolute Bay and properly disposed of there. While on the land, drums will be stored in portable berms.



Other:

33. Please describe incineration system if used on site. What types of wastes will be incinerated?

We will not be incinerating any waste.

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

We will have garbage bags that we will disposed of at the Resolute Bay town waste facilities. We will pay any required tipping fees.

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for all sumps (if applicable).

Not applicable.

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency? Not applicable.

OPERATION AND MAINTENANCE

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

We have successfully used the portable dry toilet systems in our Arctic Shorebird Monitoring camps for several years now. Should problems arise with our system, people will dig small holes away from all water sources and bury their excrement/personal waste.

ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

Our small tent camps will leave no trace behind after our departure from this location. No restoration activities will be necessary.

BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.

- ☐ Physical Environment (Landscape and Terrain, Air, Water, etc.)
- ☒ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)
- ☐ Socio-Economic Environment (Archaeology, Land and Resources Use, Demographics, Social and Culture Patterns, etc.)
- ☐ Other: _____

Bart, J. and V. Johnston (eds.). In prep. Arctic PRISM monograph (working title). Available from Canadian Wildlife Service, Yellowknife, e-mail: jennie.rausch@ec.gc.ca

REGULATORY INFORMATION

40. At a minimum, you should ensure you have a copy of and consult the documents below for compliance with existing regulatory requirements:

- ✓ ARTICLE 13 – *NCLA -Nunavut Land Claims Agreement*
- ✓ NWNSRTA – *The Nunavut Waters and Nunavut Surface Rights Tribunal Act, 2002*
- ✓ *Northwest Territories Waters Regulations, 1993*
- ✓ NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- ✓ NWB - Interim Rules of Practice and Procedure for Public Hearings
- ✓ RWED – *Environmental Protection Act, R-068-93- Spill Contingency Planning and Reporting Regulations, 1993*
- ✓ RWED A Guide to the Spill Contingency Planning and Reporting Regulations, 2002
- ✓ NWTWB - Guidelines for Contingency Planning
- ✓ *Canadian Environmental Protection Act, 1999 (CEPA)*
- ✓ *Fisheries Act, RS 1985 - s.34, 35, 36 and 37*
- ✓ DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- ✓ NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT

- ✓ Canadian Council for Ministers of the Environment (CCME); Canadian Drinking Water Quality Guidelines, 1987
- ✓ Public Health Act - Camp Sanitation Regulations
- ✓ Public Health Act - Water Supply Regulations
- ✓ *Territorial Lands Act* and *Territorial Land Use Regulations*; Updated 2000

Detailed Project Description

We are concerned about the populations of shorebirds that breed in the Arctic. Recently, studies that count these birds on their migration routes have found that numbers of most species are declining. No one is sure why this is happening, though some possible causes are: loss of habitat in countries where the birds spend the winter, human developments at their migration stopping points, climate change, and toxic substances on their wintering grounds.

Our knowledge of the size of shorebird populations is not very good, and some of the species that breed in the Arctic are difficult to monitor on their migration routes. We want to monitor the birds on their breeding grounds because we will get better estimates of their true population sizes. Canadian and American biologists have developed a method to monitor the population size of shorebird species that breed in the Arctic. We want to use this method to keep track of shorebird populations over the years, so we will know if they are increasing or decreasing. We can use this information to detect problems with the shorebird populations and then try to figure out what is causing the problem.

In June, there will be one field crew traveling to Prince of Wales Island to survey for shorebirds. They will set up camp on an abandoned airstrip approximately 9.5 km northeast of Forsyth Lake. The camp will be there from 15 June to 30 June. Our camp will be a temporary tent camp and everything will be removed when we leave.

The crew will have a helicopter and will do aerial surveys and ground surveys of plots in various locations on Prince of Wales Island. We may do additional surveys on the islands between Prince of Wales, Cornwallis and Bathurst Islands as well as surveys in the Polar Bear Pass National Wildlife Area. Surveyors will only be in the same area for 2-3 hours at a time and will not harass wildlife or leave garbage. To do ground surveys, 2 people walk 25 m apart back and forth over a 12 hectare area. They record the type and number of all birds seen. Aerial surveys for shorebirds will be done while flying from one plot to the next. Surveys will be flown at a speed of 80 - 90 kph at a height of about 30 m. If large mammals are spotted, we will fly higher to avoid disturbing them.

Red Knots are a species of shorebirds that we are particularly concerned about in the Arctic. If we find a Red Knot nest we will attempt to trap both adults and place plastic bands on their legs to identify them. These bands allow us to identify the bird using binoculars so that we do not have to recapture it to know which individual bird it is. One feather may be collected from each bird to find more information about the bird such as whether it is male or female and it is related to. Taking one feather will not affect how the bird flies, and the bird will grow a new one in the fall. This is very important information that will help to determine the status of Red Knots in the Arctic and help us to monitor their populations. None of this work harms the bird and the people handling the birds have a lot of experience and have been trained to do this work.

We may also “float” eggs. When we find a shorebird nest we will place each egg in a jar of water. It tells us how when the nest was laid and when the eggs will hatch. Floating the eggs only takes a few seconds and it does not hurt them.

Our camp is not located on any Inuit Owned Land Parcels. Some of our survey plots may be on Inuit Owned Lands (parcels RB-9 to 15, 22, 25 to 30, 32 and SB-55 to 58). We have requested appropriate permissions from the Kitikmeot and Qikiqtaaluk Inuit Association's for access to these lands. We plan to hire a Inuit Field Research Assistant to assist with our surveys.

Travel to and from the camp sites will be by Twin Otter and then by helicopter. Research will be done on foot with helicopter support (helicopter support will only be for the rapid camps to transport people between plots). Our temporary tent camp will have two 9' x 12' kitchen or storage tents and a personal sleeping tent for each person. All garbage will be flown out of the camps. Human waste at the camps will be collected and removed with the camp. If people have to go to the bathroom while away from camp, they will bury their waste. Grey water will be strained and disposed of in a small pit which will be filled in when we leave. Camp personnel are skilled in the use of bear deterrents. The camp leader and other staff members are licensed to handle firearms and are given a detailed bear deterrent plan prior to the field season. Details of equipment, fuel and waste are presented below.

Equipment

Equipment type and number	Proposed use
Helicopter, 206 Long Ranger (1)	Slingshot in/out camp equipment, aerial transects between plots, travel to study plots too far to walk to
Twin Otter (1)	Camp set up and take down (gear and people to/from tent camp site)

Fuel

Fuels	Number of Containers	Capacity of containers (gal & litre)
• Diesel	None.	
• Gasoline	None.	
• Aviation fuel	18	45 gal 205L
• Propane	6	20lb.
• Other	None.	
Hazardous material (please specify)		
• batteries	100 AAs 50 AAAs	

Our fuel cache will be located at our camp location on the abandoned airstrip 9.5 km northeast of Forsyth Lake. Drums will be stored in portable berms. Transfer will be by hand pump or helicopter pump. Empties will be removed. Helicopters will be equipped with emergency spill kits.

Waste

Type of waste	Projected amount generated	Method of Disposal	Additional treatment procedures

Sewage	6 persons worth	Removed with camp or dug latrine	If latrine dug, covered so not visible
Greywater	6 persons worth	Small Pit	Environmentally friendly waste degrader added regularly.
Garbage	10 bags	Removed with camp	None.
Hazardous waste	150 AA and AAA batteries	Removed with camp	None.

The survey plots will have no record of our presence after we leave and all efforts will be taken to ensure the camp sites are left the same way.

This year we plan to employ 1 student from Nunavut to assist in the surveys. All food and supplies will be purchased in Resolute Bay.