



## **NIRB Application for Screening #126449**

### **Leaf photosynthesis of shrub species - Response to air temperature and climatic feedback**

**Application Type:** New

**Project Type:** Scientific Research

**Application Date:** Thursday, May 7, 2026

**Period of operation:** from 2026-07-13 to 2026-07-24

**Project Proponent:** Maire Vincent  
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## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Area where three plant sampling sites will be chosen	Sampling sites	Inuit Owned Surface Lands	Sylvia Grinnell National Park	The park also has archaeological sites but we will not visit them. Our plan is to sample 48 shrub individuals (four species) and to measure leaf photosynthesis back to the laboratory in Iqaluit. See attached document for details.	The nearest communities are the ones in Iqaluit.

## Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Iqaluit	Jamal Shirley	Arctic College	2026-01-10

# Authorizations

Indicate the areas in which the project is located:

South Baffin

## Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Government of Nunavut, Department of Environment	Department of Environment – Wildlife Management Division, Nunavut Territory. NUNAVUT WILDLIFE RESEARCH PERMIT - Expected decision date : June 5th	Applied, Decision Pending		
Government of Nunavut, Department of Environment	NUNAVUT TERRITORIAL PARKS USE PERMIT - Application date : March 25th	Applied, Decision Pending		

## Project transportation types

Transportation Type	Proposed Use	Length of Use
Land	Car or ATV + walk	

## Project accommodation types

Community

# Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
VTT	1	86*48 in	The vehicle may be use to go on-site

## Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Information is not available						

## Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0		

# Waste

## Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Sampling sites	Other, plants	100 grams	Compost if available, otherwise regular trash	Not required

### Environmental Impacts:

The project is designed to have minimal environmental impact. Vegetation sampling is non-destructive and limited in scope. Soil sampling is small in scale and all sites are restored immediately after sampling. Temporary sensors will be removed after use, and no permanent infrastructure will be installed.

# **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**

Three study sites will be selected within Sylvia Grinnell Territorial Park to represent environmental variability across the landscape. At three sites, two contrasting soil fertility conditions will be identified: •Mineral soils associated with silty deposits, generally well-drained and relatively low in organic matter; •Organic soils characterized by high water saturation and accumulation of organic matter. Soil sampling will be conducted to characterize edaphic conditions. Three soil cores per fertility condition will be collected (10 cm depth, 6 cm diameter). This represents a small and localized disturbance. All sampling locations will be restored immediately after collection by refilling holes with surrounding substrate, thereby maintaining surface integrity.

### **Description of Existing Environment: Biological Environment**

Four shrub species will be targeted: *Salix arctica* (prostrated shrub), *Salix reticulata* (prostrated shrub), *Salix richardsonii* (erect shrub), *Betula glandulosa* (erect shrub). These species does not belong to endangered species list.

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

We will propose to arctic college to hire one person of the community to show us the sampling sites and explain the environment.

### **Miscellaneous Project Information**

### **Identification of Impacts and Proposed Mitigation Measures**

The project is designed to have minimal environmental impact. Vegetation sampling is non-destructive and limited in scope. Soil sampling is small in scale and all sites are restored immediately after sampling. Temporary sensors will be removed after use, and no permanent infrastructure will be installed. Access to the park will be conducted by ATV, while all activities within study sites will be performed on foot to minimize disturbance. No hazardous substances will be introduced into the environment.

### **Cumulative Effects**

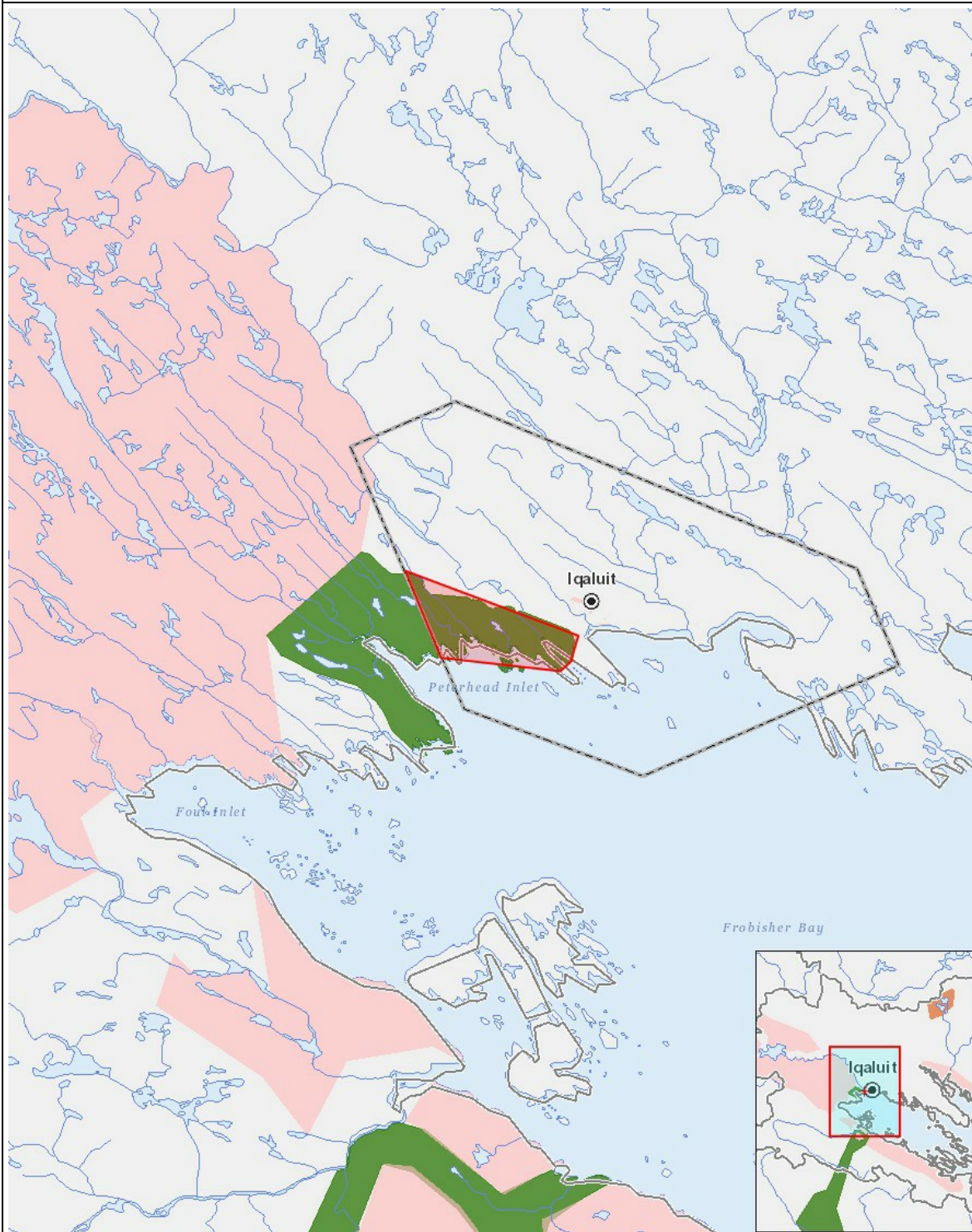
# Impacts

## Identification of Environmental Impacts

	PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
<b>Construction</b>																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Operation</b>																									
Sampling sites	-	-	-	-	-	-	-	-	M	-	-	-	-	M	-	-	-	-	-	-	-	-	-	-	-
<b>Decommissioning</b>																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

## Project Location



## List of Project Geometries

- 1 polygon Area where three plant sampling sites will be chosen