



## **NIRB Application for Screening #125832**

### **NG Explorer - North West Passage 2023**

**Application Type:** New

**Project Type:** Tourism

**Application Date:** 6/11/2023 2:00:35 PM

**Period of operation:** from 0001-01-01 to 0001-01-01

**Proposed Authorization:** from 0001-01-01 to 0001-01-01

**Project Proponent:** F.K. Warren Ltd.  
F.K. Warren Ltd.  
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Canada  
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## DETAILS

### Non-technical project proposal description

English: Lindblad Expeditions (LEX) owned and operated Bahamas Flagged MV National Geographic Explorer, and have a tourism-based cruise planned in August 2023, which includes five days in Nunavut. The stops include a community visit and CBSA clearance at Pangnirtung, and then visits to Kekerton Island, Butterfly Bay, Monumental Island and Lower Savage Islands, before departing for Button Islands. The vessel carries 126 passengers, with a total maximum certified capacity including all staff and crew of 260 persons onboard. The vessel is Polar Code PC5, making it one of the strongest ice class passenger vessels. It will not be joined by any additional icebreaking support. The Captain has extensive experience in ice and how to Navigate in the area. The purpose of the project is to carry passengers through the Canadian Arctic for tourism purposes. The Captain and expedition leaders for these itineraries have been selected based on their polar experience and understanding of wildlife and sensitive remote regions such as the Arctic. This is a tourist expedition where the goal is to experience the Arctic and visit various sites along the way with minimal disturbance to landings and wildlife. For the visits to these areas, all passengers will be accompanied by members of Lindblad Expedition staff including the expedition leader, and several naturalists. The activities undertaken during these visits may include walking/hiking, photography, kayaking, Zodiac cruising. The cruise is educational in nature and Lindblad Expedition shore staff will provide interpretation of the sites and ensure that all passengers adhere to a strict look but do not touch and leave no trace policies. Their staff have years of experience traveling in protected areas around the world and will abide by all guidelines any governing agencies, HTO and communities have for visits to these sites if feasible. Site visits are planned to be between a half day and a full day in length and may be shortened or cancelled due to bad weather or environmental conditions. Risk assessments will be completed before every activity. The ship operations and the landings and activities of passengers at the sites listed are expected to have no more than minor or transitory impacts on the environment. We are a Member of the Association of Arctic Expedition Cruise Operators (AECO, [www.aeco.no](http://www.aeco.no)) and will follow the association's operational and wildlife guidelines. We will also follow Government of Nunavut's Code of Conduct for Operators in Nunavut and the government's recommendations for operating around polar bears as provided by Cruise Nunavut. In addition, we have our own operational procedures for Zodiac and kayak operations as well as a Polar Bear and Bear Safety Plan.

French: indblad Expeditions (LEX) possédait et exploitait le MV National Geographic Explorer sous pavillon des Bahamas, et une croisière touristique est prévue en août 2023, qui comprend cinq jours au Nunavut. Les arrêts comprennent une visite de la communauté et le dédouanement de l'ASFC à Pangnirtung, puis des visites à l'île Kekerton, à la baie Butterfly, à l'île Monumental et aux îles Lower Savage, avant de partir pour les îles Button. Le navire transporte 126 passagers, avec une capacité totale maximale certifiée, y compris tout le personnel et l'équipage de 260 personnes à bord. Le navire porte le code polaire PC5, ce qui en fait l'un des navires à passagers les plus solides de la classe glace. Il ne sera rejoint par aucun support supplémentaire de déglacage. Le capitaine possède une vaste expérience de la glace et de la navigation dans la région. Le but du projet est de transporter des passagers à travers l'Arctique canadien à des fins touristiques. Le capitaine et les chefs d'expédition pour ces itinéraires ont été sélectionnés en fonction de leur expérience polaire et de leur compréhension de la faune et des régions éloignées sensibles telles que l'Arctique. Il s'agit d'une expédition touristique dont le but est de découvrir l'Arctique et de visiter divers sites en cours de route avec un minimum de perturbations pour les débarquements et la faune. Pour les visites de ces zones, tous les passagers seront accompagnés par des membres du personnel de Lindblad Expedition, y compris le chef d'expédition, et plusieurs naturalistes. Les activités entreprises lors de ces visites peuvent inclure la marche/ronnée, la photographie, le kayak, la croisière en zodiac. La croisière est de nature éducative et le personnel à terre de Lindblad Expedition fournira une interprétation des sites et veillera à ce que tous les passagers adhèrent à un regard strict mais ne touchent pas et ne laissent aucune trace. Leur personnel a des années d'expérience dans les voyages dans les zones protégées du monde entier et respectera toutes les directives des agences gouvernementales, HTO et des communautés concernant les visites de ces sites, si possible. Les visites du site sont prévues pour durer entre une demi-journée et une journée complète et peuvent être écourtées ou annulées en raison de mauvaises conditions météorologiques ou environnementales. Des évaluations des risques seront effectuées avant chaque activité. Les opérations des navires ainsi que les débarquements et les activités des passagers sur les sites répertoriés ne devraient avoir que des impacts mineurs ou transitoires sur l'environnement. Nous sommes membre de l'Association of Arctic Expedition Cruise Operators (AECO, [www.aeco.no](http://www.aeco.no)) et suivrons les directives opérationnelles et fauniques de l'association. Nous suivrons également le code de conduite du gouvernement du Nunavut pour les opérateurs au Nunavut et les recommandations du gouvernement concernant les opérations autour des ours polaires, telles que fournies par Cruise Nunavut. De plus, nous avons nos propres procédures opérationnelles pour les opérations de zodiac et de kayak ainsi qu'un plan de sécurité pour les ours polaires et les ours.

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**Personnel**

Personnel on site: 267

Days on site: 5

Total Person days: 1335

Operations Phase: from 2023-08-19 to 2023-08-23

## Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Pangnirtung / 66.20969650201118, -63.81861577851659	Tourism Activities	Crown	Pangnirtung is a small community located on Baffin Island in the Canadian territory of Nunavut. The region surrounding Pangnirtung has a rich archaeological history that spans thousands of years	Archaeological excavations in the area have revealed evidence of ancient Inuit occupation, including the remains of tent rings, stone tool fragments, and hunting implements. These findings provide valuable insights into the indigenous cultures that inhabited the region and their subsistence strategies.	Pangnirtung
Kekerten Island / 65.70218394993098, -65.70428574709575	Tourism Activities	Crown	Kekerten Island is an uninhabited island located in the Canadian Arctic Archipelago. Archaeological research on Kekerten Island has revealed evidence of prehistoric Thule culture.	Thule people, ancestors of the modern Inuit, occupied the island around 1,000 years ago. Excavations have uncovered stone houses, tent rings, and tools such as harpoon heads, knives, and scrapers. The artifacts found on Kekerten Island contribute to our understanding of early Inuit culture and their adaptation to the Arctic environment.	Pangnirtung
Monumental Island / 62.770584670621005, -63.44842256239589	Tourism Activities	Crown	Situated in the Beaufort Sea, Monumental Island is known for its intriguing archaeological sites. The island is home to ancient Inuit hunting camps, with remnants such as tent rings, stone tools, and cache pits	These archaeological discoveries shed light on the subsistence strategies, social organization, and cultural practices of the indigenous people who relied on the marine resources of the area.	Iqaluit
Lower Savage Islands / 61.80953923772006,	Tourism Activities	Crown	: Lower Savage Island, also known	Archaeological investigations on	Iqaluit

-64.99695497441807			as Nuvuk or Akvitaq in Inuktitut, is an uninhabited island located off the northern coast of Hudson Bay. It is part of the Qikiqtaaluk Region and lies to the northwest of Marble Island. Lower Savage Island is known for its archaeological significance, particularly in relation to the Thule culture	Lower Savage Island have uncovered evidence of ancient Thule dwellings, tent rings, and hunting structures. These remnants provide valuable insights into the lifestyle, subsistence strategies, and cultural practices of the Thule people. Artifacts such as stone tools, harpoon heads, bone implements, and pottery shards have been discovered on the island	
Butterfly Bay / 62.98378°, -64.79746°	Tourism Activities	Crown	Bay located on Baffin Island. Named by mapmaker, Charles Francis Hall, the original name was Tukeliketa Bay. In Inuktitut, the name should properly be spelled Tarralikitaq. It means butterfly.	.	Iqaluit

#### Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Pangnirtung	Pang_sao@qiniq.com, Pangedo@qiniq.com	Hamlet Office	2023-05-28

## Authorizations

Indicate the areas in which the project is located:

Transboundary  
South Baffin

### Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Government of Nunavut, Department of Economic Development & Transportation	Outfitter's License	Not Yet Applied		
Government of Nunavut, Department of Environment	Wildlife Observation License	Not Yet Applied		

### Project transportation types

Transportation Type	Proposed Use	Length of Use
Water	Cruise Vessel - National Geographic Explorer	

### Project accomodation types

Other,

## Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Cruise Vessel - NG Explorer	1	112 m long; 6471 gross registered tonnes	Transportation and accommodations for passengers and crew.
Zodiacs	11	19' long	Transport passengers from vessel to provide scenic cruising along shoreline.
Sea Kayak	20	16ft long	Transport passengers from vessel to provide scenic cruising along shoreline. One safety Zodiac is assigned to be remain within close proximity to the kayaking operation at all times.

### Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Gasoline	fuel	30	25	750	Liters	Gasoline for Zodiacs.

### Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0		N/A



# Waste

## Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Tourism Activities	Combustible wastes	TBA	Normally separated and incinerated by an IMO type approved incinerator (or removed for recycling or disposal ashore in certified ports); however there is NO incineration while in the NWA. Held until suitable/certified area to offload waste	.
Tourism Activities	Greywater	TBA	The vessel is equipped with gray water holding tanks and an IMO certified sewage treatment plant and follows all MARPOL requirements.	See attached for Gray Water details. The tank has the ability to hold 120 hours of gray water. No untreated gray water will be discharged. If it must be discharged it will be in accordance with Marpol Annex 5 and an equipment certificate can be provided to IRC if requested post voyage. Solid parts are removed by the system and can be retained on board for the duration of the NWP.
Tourism Activities	Hazardous	TBA	Held onboard until suitable and certified waste disposal company can attend for offload	.
Tourism Activities	Non-Combustible wastes	TBA	No discharges while in the NWA; elsewhere food passed through a macerator (<25mm) and disposed to sea as per MARPOL V and Polar Code at min 12 nm from nearest land or from areas of ice concentrations exceeding 1/10	.
Tourism Activities	Sewage (human waste)	TBA	Each vessel is required to comply with the MARPOL requirement for sewage treatment. All sewage, gray water and kitchen sink water is stored in tanks until it can be processed.	Sludge is fully retained on board and discharged ashore.

			<p>The treatment plant chlorinates and flocculates sewage, separating solids and liquids. If possible, all waste will be held in tanks and disposed of only if necessary. If tank is full, then untreated sewage will be discharged at a moderate rate en route at a speed of no less than 4 knots when the ship is more than 12 nautical miles from land. MARPOL permits discharges of treated sewage beyond the 3-nautical mile range.</p>	
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**Environmental Impacts:**

Please see attached document.

# **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**

The Canadian Arctic Archipelago covers an area of around 1 500 000 sq km and consists of 94 major islands and more than 36 000 minor ones. The archipelago is bound by the Beaufort Sea to the west and by Hudson Bay and the Canadian mainland to the south. The various islands of the Canadian Arctic Archipelago are separated by a series of waterways collectively known as the Northwest Passage. In the past, the Northwest Passage has been impassable owing to its thick, year-round sea ice. Ice patterns are changing due to climate change. Mountain regions exist amongst Tundra landscapes.

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

Lindblad Expeditions is experienced in travelling in sensitive ecosystems and the vessel has been designed to reduce impact on flora and fauna. Operations in Antarctica and Svalbard are similar in nature, and the NGEX vessel was designed to mitigate environmental impact specifically for sensitive regions as these. The vessel has an X-Bow design as it creates less resistance in the sea and thus reduces fuel consumption and vessel noise. Two separate engine rooms and a double propulsion system is a part of the required enhanced safety. In addition, the two rotating propulsion units improve manoeuvrability, which is particularly important in ice infested waters. With state-of-the-art engines, bow thrusters and stabilizers, the vessel is quiet in operation, thus making minimal impact to wildlife affected by engines noise. Emissions to air and water are limited by the strictest marine regulations and the engines are therefore running on low sulphur Marine Gas Oil. No fuel tanks are arranged directly towards the shell, this reduces the risk of oil spill into the sea in case of an accident. The vessel has a treatment system for the ballast water to avoid the spread of biological organisms from one area to another, and she is designed to minimize the impact on marine life by causing low underwater noise levels. To minimize the power consumption, all lighting is based on LED technology and the waste heat from engine cooling water and from the exhaust gas is recovered and used for heating purposes and freshwater production. When in operation the vessel will ensure in wildlife concentrated areas ships speed will be reduced. The vessel is sailing between 8-13 knots in the IRS and the full capacity of the ship is 22 knots. Therefore, speed is of utmost consideration when sailing in wildlife rich areas. In addition, the ship design and operation, when onshore wildlife monitors will establish a perimeter at all land stops to ensure dangerous wildlife is spotted as far in advance as possible. No food will be brought ashore to avoid attracting wildlife. Scout boats will search the area before any zodiac cruise. Polar bear denning areas, caribou calving, walrus haul outs and migratory groundswell be avoided. We will follow all guidelines and regulations for wildlife, and we will also follow any recommendations set forth from the communities, and the Hunters and Trappers Organizations. The vessel will be transiting through wildlife habitats and passengers and crew will be landing ashore in areas where wildlife may be present. Passengers and crew will also be visiting areas where delicate tundra flora and vegetation are found. This activity could be indirectly disruptive to certain animal and plant species. The Species at Risk found within proposed project area; American Black Bear American Coot; Baikal Sedge; Bald Eagle; Bank Swallow; Barn Swallow; Bering Cisco; Boreal Owl; Buff-breasted Sandpiper Bull Trout; Canada Lynx; Canada Warbler; Caribou; Collared Pika; Columbia Spotted Frog Common Loon; Common Nighthawk Dolly Varden; Double-crested Cormorant Dune Tachinid Fly; Eskimo Curlew; Golden Eagle; Great Grey Owl ; Grizzly Bear; Gypsy Cuckoo Bumble Bee; Gyrfalcon; Horned Grebe; Little Brown Myotis; Merlin; Narrow-leaved Wallflower; Northern Goshawk atricapillus subspecies Northern Grey Wolf; Northern Harrier; Northern Hawk Owl; Northern Mock Goldenweed; Northern Myotis; Olive-sided; Flycatcher; Peregrine Falcon anatum/tundrius; Peregrine Falcon tundrius subspecies; Polar Bear; Red Knot roselaari type; Rednecked Grebe; Red-tailed Hawk; Rough-legged Hawk; Rust;

Blackbird; Sharp-shinned Hawk; Short-eared Owl; Snowy Owl; Spiked Saxifrage; Spoonhead; Sculpin; Squanga Whitefish; Trumpeter Swan; Western Bumble Bee mckayi subspecies; Western Toad; Wolverine; Wood Biso; Wood's Sagebrush; Woodland caribou; Yellow-billed Loon; Yukon Aster; Yukon Draba Wolverine.

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

A community visit is planned for Pangnirtung. The intention is for the vessel to clear into Canada via CBSA and also visit the community. The intention is to work with the community to develop a program that allows the passengers to learn about the culture in a respectful and engaging manner. Passenger landing fees are paid to the Hamlet to ensure there is a fiscal benefit to the community. While the federal covid regulations have been dropped, we will adhere to any/all covid protocols requested by the communities. Appropriate archaeological permits have been applied for, and the onboard archaeologist will ensure all procedures are respected.

### **Miscellaneous Project Information**

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

Please see attached document.

### **Cumulative Effects**

Cumulative impact is the impact of combined past, present and reasonably foreseeable activities and these activities occur over time and space. It is understood that cumulative impact may be the result of the repetitive occurrence of a single activity, the combined effect of multiple activities by some or several agents and that cumulative impact may be additive, interactive, synergistic, and antagonistic or a result of biomagnification. Tour operators who regularly travel to remote areas for example have refined their operating procedures to consider the assumption that cumulative impacts could occur and consequently

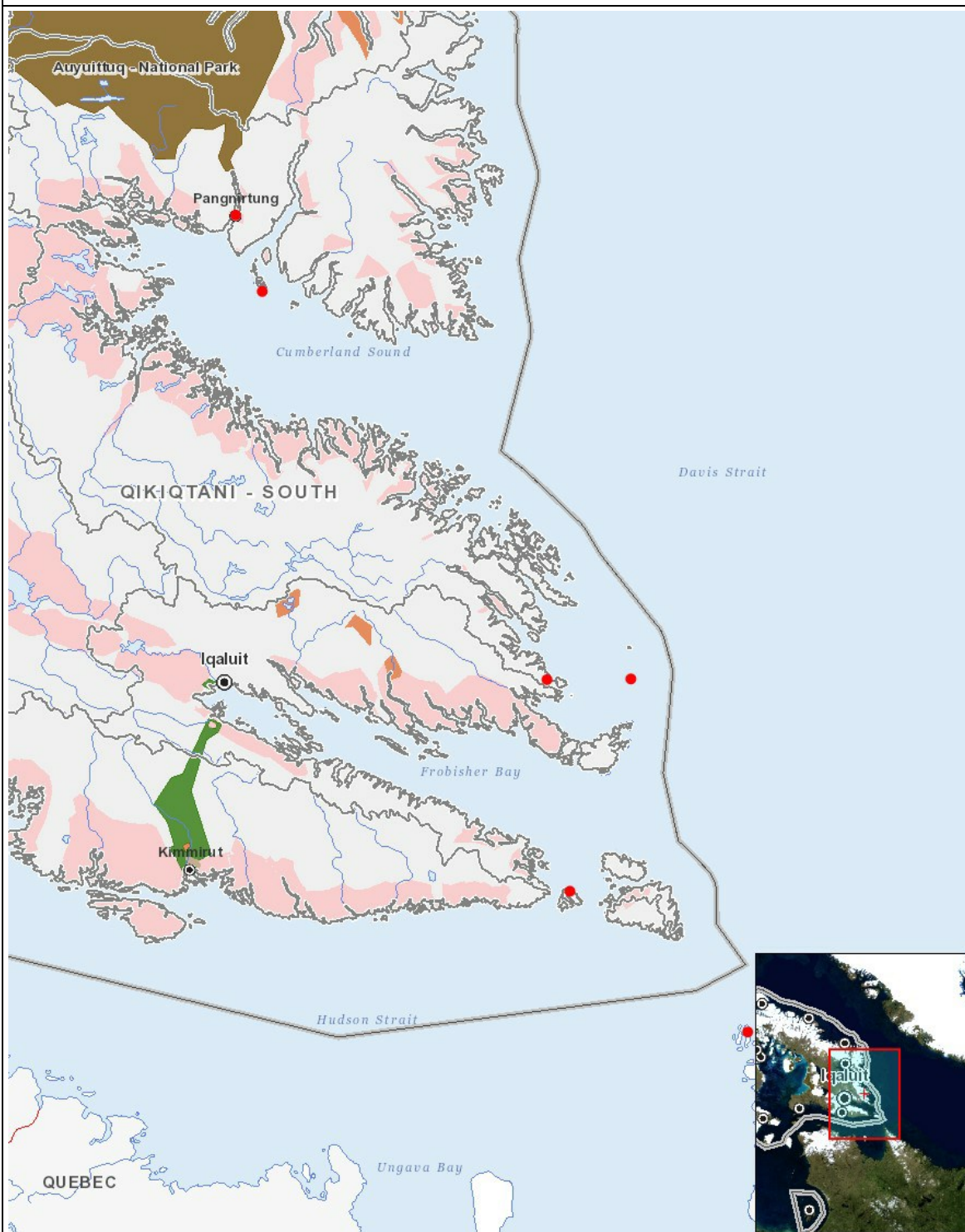
# Impacts

## 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>																										
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<b>Operation</b>																										
Tourism Activities		M	-	-	-	M	-	-	-	-	-	-	M	M		-	M	M	M	M		P	-	-	-	-
<b>Decommissioning</b>																										
-		-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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

## Project Location



## List of Project Geometries

- 1 point Pangnirtung / 66.20969650201118, -63.81861577851659
- 2 point Kekerton Island / 65.70218394993098, -65.70428574709575
- 3 point Monumental Island / 62.770584670621005, -63.44842256239589
- 4 point Lower Savage Islands / 61.80953923772006, -64.99695497441807
- 5 point Button Islands / 60.61643888115971, -64.17676646574418
- 6 point Butterfly Bay / 62.98378°, -64.79746°