



Demande de la CNER faisant l'objet d'un examen préalable #125939

Estimating the abundance of the Foxe Basin polar bear subpopulation

Type de demande : New

Type de projet: Scientific Research

Date de la demande : 4/17/2024 1:29:59 PM

Period of operation: from 2024-07-28 to 2024-08-27

Promoteur du projet: Alyssa Bohart
Government of Nunavut
P.O. Box 1000, Stn 1310
Iqaluit Nunavut X0A 0H0
Canada
Téléphone :: 780-235-0992, Télécopieur ::

DÉTAILS

Description non technique de la proposition de projet

Anglais: The Foxe Basin polar bear subpopulation is one of Nunavut's largest polar bear subpopulations – it spans a geographical area of about 1.1 million km². It is a seasonally ice-free subpopulation with bears aggregating on the coast during the summer months. There is no recent data for Foxe Basin, and there is therefore a need to reassess the subpopulation. The most recent population estimate is of 2,585 polar bears, derived from surveys conducted in 2009 and 2010. Environmental changes and resulting changes in population abundance or distribution in surrounding areas (Western Hudson Bay and Southern Hudson Bay) creates further need for an updated population abundance estimate of the Foxe Basin subpopulation. To effectively understand the dynamics within the Hudson Bay complex between subpopulations, we aim to investigate movements between surrounding subpopulation boundaries. Insight into movements between subpopulations will help inform the management of bears within the Foxe Basin subpopulation, as well as in neighbouring subpopulations. We propose to start a new abundance and movement study for Foxe Basin in 2024. This will fulfill mandated wildlife monitoring objectives and provide management advice to the Nunavut Wildlife Management Board and provide much needed abundance information to a data deficit subpopulation. The proposed methods include using distance sampling via aerial survey to estimate the Foxe Basin polar bear subpopulation abundance and using biopsy darting and community-led hair snare stations to investigate movements at subpopulation boundaries. The initiation of the population abundance survey and biopsy darting are proposed for August 2024, with hair snare stations proposed to start summer 2024. In consort with the aerial survey, we propose to employ statistical mark recovery models to investigate Foxe Basin bear survival and movements among the surrounding subpopulations by comparing the genetic information from the proposed biopsy and hair snagging work to data collected from harvest sampling and previous capture-mark recapture studies.

Français: N/A

[illegible]

Inuinnaqtun: N/A

Personnel

Personnel on site: 8

Days on site: 30

Total Person days: 240

Operations Phase: from 2024-07-28 to 2024-08-27

Closure Phase: from 2025-03-28 to 2025-10-27

Activités

Emplacement	Type d'activité	Statut des terres	Historique du site	Site à valeur archéologique ou paléontologique	Proximité des collectivités les plus proches et de toute zone protégée
1. ESRI Shapefile FB polar bear subpopulation boundary	Aerial surveys	Inuit Owned Surface Lands	This region is seasonally ice-free, spanning some 1.1 million km2 across Nunavut and Nunavik. The last polar bear survey of the area was done in 2010. At that time, collaring was still being done. The 2024 survey plan is currently being developed. It is based on the survey plan flown in 2010 but will include input from affected stakeholders and feedback received during the 2024 consultations. No collaring will be done.	There has been archeological sites identified in Ukkusiksalik National Park that we will avoid disturbing.	Eight communities in Nunavut (Kinngait, Chesterfield Inlet, Coral Harbour, Sanirajak, Igloolik, Kimmirut, Nauyasat, and Baker Lake) and four communities in Quebec (Akulivik, Ivujivik, Puvirnituq, and Salluit) lie within the FB bounds. Foxe Basin is a seasonal sea ice ecoregion, meaning that ice is lost completely or almost completely in the summer and bears amalgamate on land until the ice returns.
1. ESRI Shapefile FB polar bear subpopulation boundary	Airstrip use or construction	Inuit Owned Surface Lands	Fixed wing aircraft will be landing on frozen areas during fuel caching and cleanup. Helicopters will be landing for fuel and biopsy dart pickup. No new airstrips will be constructed.	All archeological sites will be avoided for landing aircraft. There has been archeological sites identified in Ukkusiksalik National Park that we will avoid disturbing.	Will be landing in communities for fuel (Kinngait, Chesterfield Inlet, Coral Harbour, Sanirajak, Igloolik, Kimmirut, Nauyasat, and Baker Lake) and in Ukkusiksalik National Park, and Dewey Soper (Isulijarnik), East Bay (Qaqsaqtuuq), Harry Gibbons (Ikkattuuq) migratory bird sanctuaries.
1. ESRI Shapefile FB polar bear subpopulation boundary	Camp	Inuit Owned Surface Lands	We will be camping at established camps run by	N/A	Niko is 347 km from Kinngait PCI is 389 km from Sanirajak

			Environment and Climate Change Canada: Niko Camp and Prince Charles Island Camp.		
Foxe Basin Fuel Cache Locations	Fuel and chemical storage	Inuit Owned Surface Lands	Fuel will be used from remote caches (Jet B fuel stored in drums) or from in community. Fuel drums will be cached at 70 sites through Foxe Basin to enable the work.	There has been archeological sites identified in Ukkusiksalik National Park that we will avoid disturbing.	Some caches are in communities.
1. ESRI Shapefile FB polar bear subpopulation boundary	Researching	Inuit Owned Surface Lands	In addition to the aerial survey, we propose to biopsy dart via helicopter to collect genetic material from bears in key subpopulation areas and in areas discussed with affected communities. The biopsy darting involves the darting of a bear which takes a small amount of genetic material (a small sample of tissue (<5 mm diameter) of skin, hair, fat) that is recovered when it ejects from the bear immediately after impact. Biopsy darting does not involve any handling or capturing of the bears and i	We will not be biopsy darting near identified archeological sites in Ukkusiksalik National Park.	We will not be biopsy darting near communities.

Engagement de la collectivité et avantages pour la région

Collectivité	Nom	Organisme	Date de la prise de contact
Baker Lake	Angel - HTO Manager	Baker Lake HTO	2024-02-07
Cape Dorset	Annie Suvega	Aiviq HTO	2024-02-16
Chesterfield Inlet	Venissa - HTO Manager	Aqigiq HTO	2024-02-15

Coral Harbour	Noah Nakoolak	Aiviit HTO	2024-02-14
Hall Beach	Elizabeth - HTA Manager	Hall Beach HTA	2024-02-17
Igloolik	Andrew Qaunaq	Igloolik HTO	2024-02-18
Kimmirut	Neevee Akavak	Mayukalik HTA	2024-02-09
Naujaat	Dolly Mablik	Arviq HTO	2024-02-13

Autorisations

Indiquez les zones dans lesquelles le projet est situé:

Autorisations

Organisme de régulation	Description des autorisations	État actuel	Date de l'émission/de la demande	Date d'échéance
Service canadien de la faune	Canadian Wildlife Service - required for work within the Migratory Bird Sanctuaries (Dewey Soper (Isulijarnik), East Bay (Qaqsauqtuuq), Harry Gibbons (Ikkattuaq)); work can continue outside of these areas if permit not acquired	Applied, Decision Pending	2024-02-15	
Gouvernement du Nunavut, ministère de l'Environnement	Received 3 support letters: Coral Harbour, Sanirajak, and Naujaat.	Applied, Decision Pending	2024-03-05	
Hunters and Trappers Associations/Organizations	Held community consultations with 7/8 communities in Feb 2024. Received 3 support letters thus far: Coral Harbour, Sanirajak, and Naujaat. Will be meeting with Baker Lake next month.	Applied, Decision Pending	2024-02-17	
Kivalliq Inuit Association	Inuit Owned Lands Permit	Applied, Decision Pending	2024-04-16	
Qikiqtani Inuit Association	Inuit Owned Lands Permit	Applied, Decision Pending	2024-04-16	
Parcs Canada	For work in Ukkusiksalik National Park.	Applied, Decision Pending	2023-10-30	

Project transportation types

Transportation Type	Utilisation proposée	Length of Use
Air	transportation between sites and in the field will be by 2 rotary aircraft.	
Land	Transportation within communities will be by rental trucks.	

Project accomodation types

Permanent Camp

Collectivité

Utilisation de matériel

Équipement à utiliser (y compris les perceuses, les pompes, les aéronefs, les véhicules, etc.)

Type d'équipement	Quantité	Taille – Dimensions	Utilisation proposée
Helicopter	2	N/A	Aerial survey & travel between sites
Truck	2	N/A	Transport field crews to and from airport
Biopsy darts	800	17x1.5cm	collect biopsy (DNA) samples from bears
Biopsy darts	800	17x1.5cm	collect biopsy (DNA) samples (<5 mm diameter) from bears
Dart Gun	4	13Hx55Wx4D - 12lbs	Shoots the biopsy dart from 0-15 meters
Steel posts	45	6ft	Hold barbed wire and camera traps
Barbed wire	350m	10mx10mx10m	Attach to 3 poles (form a triangle) - bears hair snags on them, providing a DNA sample
Heavy duty zip ties	200	200lb strength	attach barbed wire to posts
Camera Trap with security box	11	~ 5.5 x 4.5 x 3 inches	Collect images of bears that hair is collected from
Scented bait	11L	11L	Draw in bears to trap - No meat or food reward ONLY scent
Sandbags	45	2'x1'	Hold posts down
Guy lines	45	6ft	Tie posts to sandbags

Décrivez l'utilisation du carburant et des marchandises dangereuses

Décrivez l'utilisation de carburant :	Type de carburant	Nombre de conteneurs	Capacité du conteneur	Quantité totale	Unités	Utilisation proposée
Aviation fuel	fuel	325	200	65000	Liters	Helicopter fuel
Gasoline	fuel	2	25	50	Gallons	Generator Fuel at camps

Consommation d'eau

Quantité quotidienne (m3)	Méthodes de récupération de l'eau proposées	Emplacement de récupération de l'eau proposé
0	In plastic containers.	From the nearby freshwater lakes to Niko and PCI camps.

Déchets

Gestion des déchets

Activités du projet	Type des déchets	Quantité prévue	Méthode d'élimination	Procédures de traitement supplémentaires
Camp	Eaux grises	40 Gallons	Established greywater pit at both camps.	N/A
Camp	Eaux usées (matières de vidange)	10L	Established outhouses at both camps.	N/A

Répercussions environnementales :

Disturbance caused by the project will be mitigated as much as possible. Landings will be kept to a minimum, and will only be undertaken when essential (to refuel or to retrieve a biopsy dart). Disturbance to wildlife will be minimized to the extent possible. The objective of the survey is to determine the abundance of polar bears, and in some instances to collect biopsy samples. However, disturbance will not exceed a minute, and once the work conducted the area will be cleared and will not be returned to. Other wildlife will be noted, and work will continue without lingering in the area. Disturbance to water is expected to be minimal. Some ocean surveying will be conducted, but no sampling will take place over the ocean, and we expect the surveying to be rapid.

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 de l'environnement existant : Environnement physique

The study area will include Ukkusiksalik National Park & Migratory Bird Sanctuaries (Dewey Soper (Isulijarnik), East Bay (Qaqsauqtuuq), Harry Gibbons (Ikkattuaq)).

Description de l'environnement existant : Environnement biologique

The areas will include caribou, which we have mitigation methods in place to not disturb the species. We will avoid disturbing birds protected under the Migratory Birds Convention Act.

Description de l'environnement existant : Environnement socio-économique

We will be operating out of Kimmirut, Kinngait, Igloolik, Sanirajak, Naujaat, Coral Harbour, and Chesterfield Inlet. We have consulted with all of these communities about our proposed work. Part of the Parks Canada permitting process has been planning areas that we can access for research and the protected archeological sites that we will avoid to mitigate any disturbance. We will communicate with communities when operating our research to avoid any detrimental effects to harvesting or sport hunt opportunities.

Miscellaneous Project Information

Identification des répercussions et mesures d'atténuation proposées

The main impact that our work could have is to disturb wildlife. Any disturbance will be minimized by keeping exposure short and by clearing an area once surveyed.

Répercussions cumulatives

No cumulative effects are anticipated by this work.

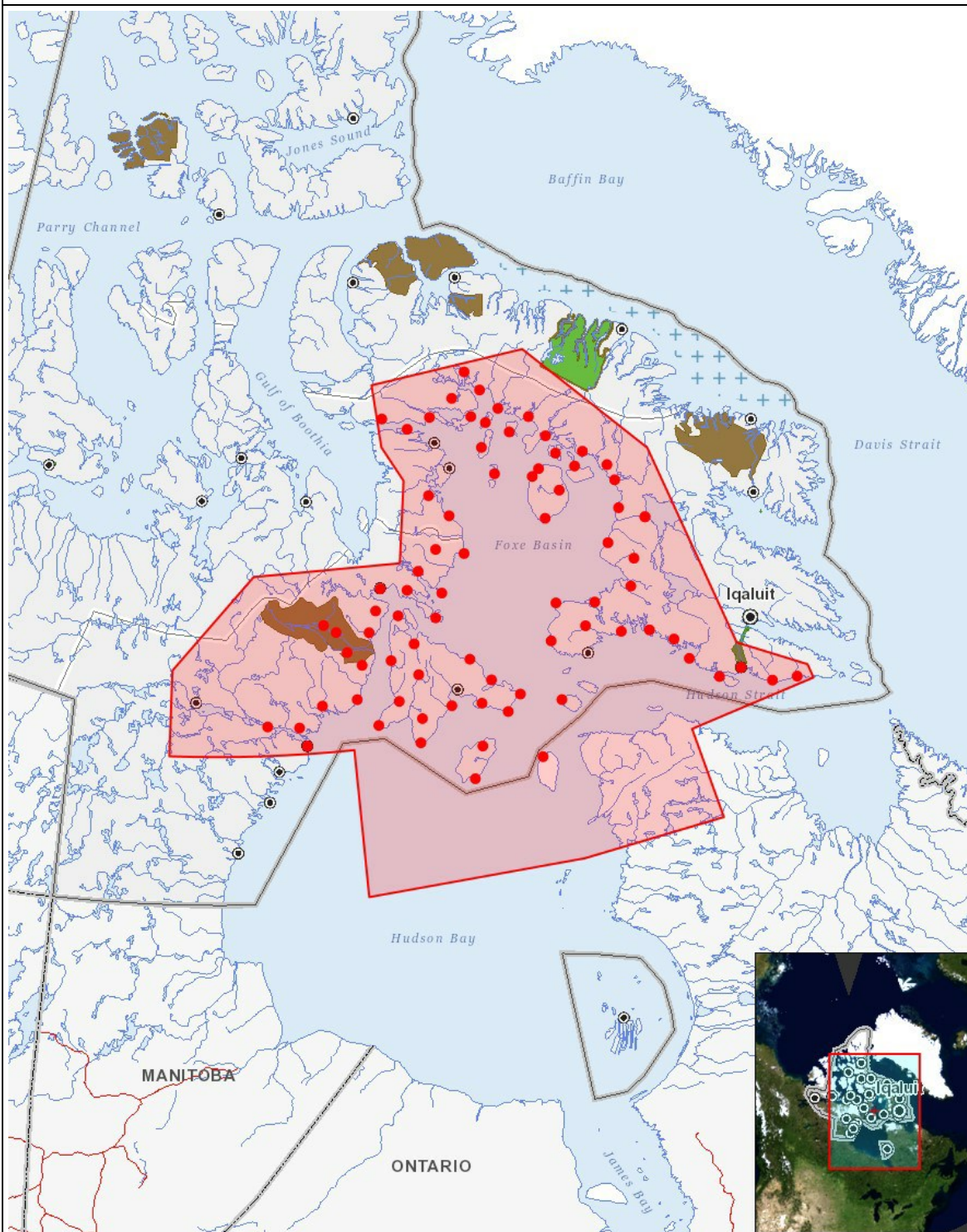
Impacts

Identification des répercussions environnementales

		PHYSICAL													BIOLOGICAL											SOCIO-ECONOMIC																				
		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		Vegetation		Wildlife, including habitat and migration patterns		Birds, including habitat and migration patterns		Aquatic species, incl. habitat and migration/spawning		Wildlife protected areas		Archaeological and cultural historic sites		Employment		Community wellness		Community infrastructure		Human health	
Construction																																														
-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Exploitation																																														
Aerial surveys		M	U	U	-	U	U	M	U	U	U	N	N		M	M	M	M	M		M	P	P	P	U																					
Désaffectation																																														
Aerial surveys		M	U	U	-	U	U	M	U	U	U	M	M		M	M	M	M	M		M	P	P	P	P																					

(P = Positive, N = Négative et non gérable, M = Négative et gérable, U = Inconnue)

Site du projet



Liste des géométries de projet

1	polygon	1. ESRI Shapefile FB polar bear subpopulation boundary
2	point	Foxe Basin Fuel Cache Locations
3	point	Foxe Basin Fuel Cache Locations
4	point	Foxe Basin Fuel Cache Locations
5	point	Foxe Basin Fuel Cache Locations
6	point	Foxe Basin Fuel Cache Locations
7	point	Foxe Basin Fuel Cache Locations
8	point	Foxe Basin Fuel Cache Locations
9	point	Foxe Basin Fuel Cache Locations
10	point	Foxe Basin Fuel Cache Locations

11	point	Foxe Basin Fuel Cache Locations
12	point	Foxe Basin Fuel Cache Locations
13	point	Foxe Basin Fuel Cache Locations
14	point	Foxe Basin Fuel Cache Locations
15	point	Foxe Basin Fuel Cache Locations
16	point	Foxe Basin Fuel Cache Locations
17	point	Foxe Basin Fuel Cache Locations
18	point	Foxe Basin Fuel Cache Locations
19	point	Foxe Basin Fuel Cache Locations
20	point	Foxe Basin Fuel Cache Locations
21	point	Foxe Basin Fuel Cache Locations
22	point	Foxe Basin Fuel Cache Locations
23	point	Foxe Basin Fuel Cache Locations
24	point	Foxe Basin Fuel Cache Locations
25	point	Foxe Basin Fuel Cache Locations
26	point	Foxe Basin Fuel Cache Locations
27	point	Foxe Basin Fuel Cache Locations
28	point	Foxe Basin Fuel Cache Locations
29	point	Foxe Basin Fuel Cache Locations
30	point	Foxe Basin Fuel Cache Locations
31	point	Foxe Basin Fuel Cache Locations
32	point	Foxe Basin Fuel Cache Locations
33	point	Foxe Basin Fuel Cache Locations
34	point	Foxe Basin Fuel Cache Locations
35	point	Foxe Basin Fuel Cache Locations
36	point	Foxe Basin Fuel Cache Locations
37	point	Foxe Basin Fuel Cache Locations
38	point	Foxe Basin Fuel Cache Locations
39	point	Foxe Basin Fuel Cache Locations
40	point	Foxe Basin Fuel Cache Locations
41	point	Foxe Basin Fuel Cache Locations
42	point	Foxe Basin Fuel Cache Locations
43	point	Foxe Basin Fuel Cache Locations
44	point	Foxe Basin Fuel Cache Locations
45	point	Foxe Basin Fuel Cache Locations
46	point	Foxe Basin Fuel Cache Locations
47	point	Foxe Basin Fuel Cache Locations
48	point	Foxe Basin Fuel Cache Locations
49	point	Foxe Basin Fuel Cache Locations
50	point	Foxe Basin Fuel Cache Locations
51	point	Foxe Basin Fuel Cache Locations
52	point	Foxe Basin Fuel Cache Locations
53	point	Foxe Basin Fuel Cache Locations
54	point	Foxe Basin Fuel Cache Locations

55	point	Foxe Basin Fuel Cache Locations
56	point	Foxe Basin Fuel Cache Locations
57	point	Foxe Basin Fuel Cache Locations
58	point	Foxe Basin Fuel Cache Locations
59	point	Foxe Basin Fuel Cache Locations
60	point	Foxe Basin Fuel Cache Locations
61	point	Foxe Basin Fuel Cache Locations
62	point	Foxe Basin Fuel Cache Locations
63	point	Foxe Basin Fuel Cache Locations
64	point	Foxe Basin Fuel Cache Locations
65	point	Foxe Basin Fuel Cache Locations
66	point	Foxe Basin Fuel Cache Locations
67	point	Foxe Basin Fuel Cache Locations
68	point	Foxe Basin Fuel Cache Locations
69	point	Foxe Basin Fuel Cache Locations
70	point	Foxe Basin Fuel Cache Locations
71	point	Foxe Basin Fuel Cache Locations
72	point	Foxe Basin Fuel Cache Locations
73	point	Foxe Basin Fuel Cache Locations
74	point	Foxe Basin Fuel Cache Locations
75	point	Foxe Basin Fuel Cache Locations
76	point	Foxe Basin Fuel Cache Locations
77	point	Foxe Basin Fuel Cache Locations
78	point	Foxe Basin Fuel Cache Locations
79	point	Foxe Basin Fuel Cache Locations
80	point	Prince Charles Island Camp