



Voyageur Exploration Ltd.

## **The Tharsis Rare Earth Element Project**

2022 Land Use Permit Application

*Wildlife and Wildlife Habitat Protection Plan*

*v. 1.1*



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## Introduction

This *Wildlife Protection Plan* is effective from the date of issuance of the Land Use Permit currently being applied for by Voyageur Exploration Ltd. (Voyageur) on its Tharsis property located approximately 170 km northeast of Yellowknife, NWT, until the expiry of said permit. The Tharsis campsite is tentatively located at the following coordinates: 63° 54' 34.8" North and 113° 09' 19.7" West. The Wildlife Protection Plan has been prepared for internal company use and distributed to the Wek'eezhii Land and Water Board for approval, as part of Voyageur's Land Use Permit application. Copies and updates of this Plan may be obtained by contacting:

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The purpose of Voyageur's Wildlife and Wildlife Habitat Protection Plan (WWHPP) is to outline procedures which will mitigate and monitor any potential negative effects to wildlife at the exploration camp in the Squalus Lake area of the Northwest Territories.

## Scope of Wildlife Protection Plan

Voyageur's waste management plan is an integral part in upholding the company's environmental policy and goal to minimize health and safety hazards, environmental damage, wildlife attractants, and reclamation costs. Disposal of waste from the Tharsis camp will comply with all relevant acts, regulations and permit requirements and incorporate the principles of source reduction, reuse, and recycling. This plan will cover the waste management operations at the Tharsis camp for the period of the Land Use Permit for which Voyageur is currently applying.



## Company Environmental Policy

Table 1 presents regulations that will be strictly enforced. The sensitivity of the northern environment and its importance to First Nations people in terms of livelihood and cultural significance are very important to the employees of Voyageur. It is paramount that we set and maintain high environmental standards. Our performance is monitored by government agencies, representatives of Aboriginal organizations, nearby communities, and by our peers.

**Table 1** Environmental regulations.

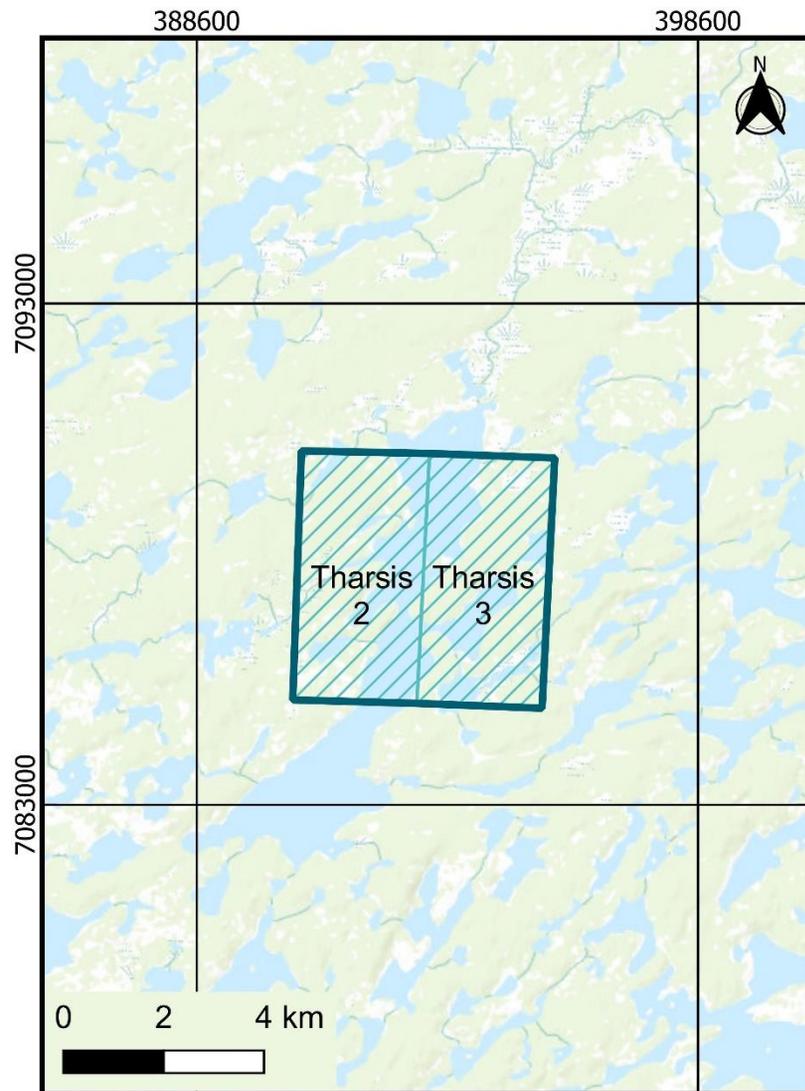
Item	Description
1	No unnecessary destruction of vegetation.
2	No harassment or feeding of wildlife. All food and garbage will be stored in a manner that will not attract wildlife. Animals conditioned to obtaining food from humans can become dangerous and may have to be destroyed.
3	No pollution of the campsites or work area – all garbage from the field will be returned to camp daily for disposal in the appropriate manner. All campsites will be kept clean. Land use inspectors can inspect the campsite at any time. They have the power to suspend operations if standards are not met. Be cautious when transferring fuel from drums to fuel tanks to minimize fuel spillage. Any leaking drums or cylinders around the camp are to be reported immediately to the project manager or the camp manager. Drip trays and double-walled containment will be used wherever possible.
4	Be careful with fire – all fires (for the incineration of waste) will be extinguished completely. Various containers will be provided around camp for the disposal of cigarette butts.
5	Fishing licenses are required in most areas of Canada. Purchase one before you arrive in camp. Responsible fishing is encouraged – keep what you catch and eat what you catch. The local fish can be returned to the water if simple lures (e.g., flies, barbless) are used and minimal damage is done on catching.
6	No unauthorized firearms are allowed in a Voyageur camp. Hunting is not allowed by either personnel or contractors, while working out of the camp. It is not a part of the Voyageur activities, and most land use licenses do not permit it.



## Project Description

Figure 1 presents the location of the Tharsis Property. During the operation of the exploration program, progressive restoration of field sample and drill sites will occur on an ongoing basis. Diamond-drilling may consist of up to 100 drill holes per year, with plans for the first year consisting of up to 15 drill holes. Small-diameter reverse-circulation (RC) drilling is proposed as an alternative to infill between diamond holes to reduce costs and use of water. While these lightweight rigs have many positive aspects to them, they provide minimal geological and geotechnical information and are best used in conjunction with diamond-drilling. Water for the drilling will be the nearest source (i.e., waterbody or watercourse) to the drill targets. Water sources that are within 1 km will be considered for pumping directly to the drill. The diamond-drilling is expected to use 35 m<sup>3</sup>/day to 45 m<sup>3</sup>/day per drill. The RC drilling will use virtually no water; however, 0.5 m<sup>3</sup>/day is allocated for each drill hole.

The temporary tent camp is planned for a central location on the property as a base of operations for exploration activities. Capacity for the camp will be to a maximum of 30 people with the average being around 15 for the majority of the exploration program. A small sump is to be dug for wastewater and will be filled in upon completion of the program. The location of this sump will be at a minimum of 100 m from the highest water point of any local water sources to ensure no risk of contamination. Garbage will be sorted into combustible and non-combustible, and the non-combustible garbage and human waste will be flown to Yellowknife for proper disposal. A temporary landing strip to accommodate aircraft as large as an ATR 42-320 may be prepared on the lake-ice adjacent to the camp, to minimize frequency of flights required and reduce environmental impacts. There is potential ground-access to the property via Wekweèti or the Tibbit-Contwoyto Winter Road. If access to the property via either point becomes needed, Voyageur will conduct an Archaeological Impact Assessment to guide the routes of these access trails/roads. At the end of the program, if a renewal of the permit is not sought, all unnecessary equipment will be removed for handling elsewhere. Any potential spill sites will be inspected and cleaned up. All camp infrastructure (tents/shacks) will be completely removed and the land returned to a stable condition. All fuel storage sites and caches will be removed at the end of the project. Any contamination will be cleaned up as per the Spill Contingency Plan.



## Tharsis Property Claim Map

Base Data: ESRI World Topo Map  
Projection: NAD 83 UTM Zone 12N  
Map Date: 2022/03/10  
Prepared By: Voyageur Exploration Ltd.

### Legend

- Voyageur Claim Outline
- Mineral Claims



Figure 1 Location of the Tharsis Property.



## Site Information

The Tharsis campsite is tentatively located at the following coordinates: 63° 54' 34.8" North and 113° 09' 19.7" West. Capacity for the camp will be to a maximum of 30 people with the average being around 15 for the majority of the exploration program. Table 2 presents a tentative list of structures to be erected at the campsite. Up to 30 bottles (100 lbs) of propane are to be stored in camp. At the fuel cache, up to 500 drums (205 L) of aviation fuel, diesel, and gasoline are to be stored. All fuel is to be stored within a secondary containment. The cache will be located a minimum of 100 m from the normal high-water mark, and in such a manner that no fuel can enter any such waterbody. Daily inspections of fuel will be conducted to ensure there are no leakage or spills. Spill kits will be provided at the camp and will be restocked after each use.

**Table 2** Campsite structures.

Item, Purpose	Quantity	Dimensions (m)	Area (m <sup>2</sup> )
Tent, Sleeper	3	4.3 x 4.8	20.6
Tent, Kitchen	1	4.3 x 9.8	42.1
Tent, Dry	1	4.3 x 12.2	52.5
Tent, Office	1	4.3 x 4.8	20.6
Tent, Core Logging	1	4.3 x 4.8	20.6
Tent, Washroom	1	4.3 x 4.8	20.6
Shack, Generators	1	2.4 x 2.4	5.8

The camp will be constructed on level, dry, durable ground. The ground is to be gravelly, which will allow surface water to drain, preventing erosion and destruction of any sensitive areas. No clearing of trees will be necessary during camp construction. The camp would be accessible year-round by float/ski-equipped aircraft, and transportation to and from the project area will be by boat or helicopter. All sumps and pits will be constructed in locations at least 100 m from the high-water mark of any waterbody, and fuel is to be stored in a natural depression at least 100 m from the high-water mark of any waterbody.

## Reporting Protocols

Table 3 presents the reporting protocols. The protocols are based upon the *Wildlife Management and Monitoring Plan (WMMP) Process and Content Guidelines*. Voyageur will immediately report wildlife incidents (e.g., wildlife injury/mortality, use of deterrents, threats from wildlife to human safety or property) to ENR and other appropriate wildlife authorities (i.e., Environment and Climate Change



Canada for migratory birds and federally managed species at risk). Wildlife sighting data will be submitted to ENR’s Wildlife Management Information System (WMIS) on an annual basis. Furthermore, Voyageur will submit geospatial data files of their project footprint and report on annual changes and final footprint size to contribute to the understanding of disturbance on the land.

**Table 3** Wildlife reporting protocols.

Information Type	Where to Submit	Timing/Frequency
Wildlife Incident	Regional ENR Office	Immediately
Wildlife Sightings	ENR Wildlife Management Information System (WMIS) ( <a href="mailto:WMISTeam@gov.nt.ca">WMISTeam@gov.nt.ca</a> )	Annually, at minimum
Monitoring Data	ENR Wildlife Management Information System (WMIS) ( <a href="mailto:WMISTeam@gov.nt.ca">WMISTeam@gov.nt.ca</a> )	Annually, at minimum
Summary Report	<ul style="list-style-type: none"> <li>• ENR Regional office</li> <li>• ENR Wildlife Division (<a href="mailto:WMMP@gov.nt.ca">WMMP@gov.nt.ca</a>)</li> <li>• Land and Water Board Registry</li> <li>• Renewable Resources Boards</li> <li>• CIMP Discovery Portal</li> </ul>	5 Years

## Proposed Mitigation

The following sections will identify potential negative effects to wildlife, and mitigation measures that will be followed to ensure that there is minimal impact to wildlife and their habitat. All Voyageur staff and contractors will be briefed on these procedures and given a copy of the WWHPP before field operations begin. Field crews and pilots will carry copies of Wildlife Sightings forms to record any wildlife observed in the camp and project area.



## Potential Adverse Effects

Table 4 presents the possible negative effects to wildlife due to Voyageur’s presence in the area.

**Table 4** Possible negative wildlife effects.

Item	Description
1	Physical disturbance of wildlife habitat, nests or dens by field crews. Disturbance during nesting can result in the nest being deserted.
2	Attraction of wildlife to camp due to improper waste management.
3	Disturbance to wildlife by low-flying aircraft/helicopter.
4	Detrimental effects to wildlife due to waste/fuel spills near water sources.
5	Defense of life kill of wildlife due to human/predator conflict.



## Mitigation and Monitoring

Table 5 presents the mitigation and monitoring techniques that will be used to avoid the negative effects to wildlife. Monitoring will be undertaken to determine the effectiveness of mitigation and will include recording the dates and locations of wildlife sightings, the behavior of the animals, and any actions taken by the company to avoid disturbance or contact. This information will be submitted to ENR at the end of the field season.

**Table 5** Mitigation and monitoring procedures.

Item	Description
1	No feeding of wildlife. All food and garbage must be stored in a manner that will not attract wildlife. Animals conditioned to obtaining food from humans can become dangerous and may have to be destroyed.
2	Chasing, harassing or approaching wildlife is strictly prohibited.
3	If a den, nest or eggs are encountered, the area must not be disturbed and subsequently be avoided. See Table 5 for minimum setback distances.
4	Disturbance of wildlife or their habitat by either ground work or low flying aircraft is to be avoided. Helicopters are to be flown at a minimum of 1000 feet above ground level, except where safety is a concern (low level ceiling conditions, slinging equipment, etc.). Helicopters must avoid landing in the presence of wildlife, except in emergency situations.
5	Any incidents between wildlife and humans must be reported immediately to Environment and Natural Resources (ENR) - Government of the Northwest Territories, including wildlife caused damage, continued presence of a carnivore within camp, or any defense of life kill.
6	All wildlife sightings should be recorded on the Wildlife Sighting Log or the NWT Bird Survey Form (see Appendix I) and submitted to ENR at the end of each field season



## Setback Distances

Table 6 presents the minimum setback distances from wildlife habitat and wildlife use areas. The primary mitigation measure to prevent disturbance to wildlife and their environment should be avoidance. If total avoidance is not possible, the minimum setback distances for each species must be adhered to during sensitive time periods.

There is a high possibility that the Bathurst caribou herd will be in the camp or project area during the fall and winter months. A migratory report is included in Appendix II. In the event that any number of caribou are seen within 500 m of activities, operations will be temporarily ceased until caribou have left the area.

Because breeding periods for migratory birds may vary from year to year due to climatic conditions, the time periods listed above are guidelines only and applicable legislation must be complied with at all times. If nests containing eggs or young are found, all disruptive activities should stop and a buffer zone established until nesting is completed and the young have naturally left the nest.

**Table 6** Minimum setback distances.

<b>Wildlife or Wildlife Habitat</b>	<b>Period</b>	<b>Minimum Setback Distance (km)</b>
Bears (grizzly and black bears)	July 15 – Sept 15	0.3 kilometres
Bear Dens	May 16 – July 15	0.3 kilometres
Caribou	May 15 – Oct 15	1.0 kilometre
Wolf Dens	May 1 – Sept 15	0.8 kilometres
Wolverine Dens	Oct 15 – July 15	2.0 kilometres
Peregrine Falcon	Mar 1 – Sept 1	1.5 kilometres
Eskimo Curlew	When nests are found	1.5 kilometres
Rusty Blackbird	When nests are found	0.3 kilometres
Short-eared Owl	Mar 1 – Sept 1	1.5 kilometres
Bird Staging and Nesting areas	When birds present	1.5 kilometres
Wildlife and Birds (general)	Breeding and birthing season	0.25 kilometres



## Species at Risk

Table 7 presents terrestrial species potentially at risk in the project area. There are nine wildlife species which may be found near the Squalus Lake Camp that are considered species at risk under the Species at Risk Act (SARA) and by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). A species at risk report is included in Appendix III. Species at risk include any wildlife considered in danger of disappearing. The level of risk can vary from special concern, threatened, endangered, extirpated and extinct (NWT SAR, 2015). The killing, harming or harassing of listed species, the damage and destruction of their residences, and the destruction of critical habitat is prohibited under SARA.

**Table 7** Summary of species at risk.

Species	SARA Schedule 1	COSEWIC	SARC
Grizzly Bear	Special Concern	Special Concern	Special Concern
Wolverine	Special Concern	Special Concern	Not Assessed
Rusty Blackbird	Special Concern	Special Concern	Not Assessed
Barren Ground Caribou	Threatened	Under Consideration	Threatened
Short-eared Owl	Threatened	Special Concern	Not Assessed
Harris’s Sparrow	Special Concern	Under Consideration	Not Assessed
Lesser Yellowlegs	Threatened	Under Consideration	Not Assessed
Red-necked Phalarope	Special Concern	Special Concern	Not Assessed
Transverse Lady Beetle	Special Concern	Special Concern	Not Assessed



## Waste Management

Table 8 presents principles from Voyageur’s Waste Management Plan that are specific to mitigating the negative effects on wildlife. Following proper waste management procedures are critical to avoid the attraction of wildlife and to prevent human/wildlife interaction. Animals conditioned to obtaining food from humans can become dangerous and may have to be relocated or destroyed. Predators attracted to food sources may also eat eggs and young birds in the area, having negative impacts on the local bird populations. All staff will be informed of the proper waste management procedures. For further information, please refer to Voyageur’s Waste Management Plan.

**Table 8** Possible negative wildlife effects.

Item	Description
1	No feeding of wildlife.
2	No littering.
3	All garbage from the field must be returned to camp daily for appropriate disposal.
4	Food waste must be separated from non-food waste and be placed in the appropriate sealed animal proof metal containers. Food waste must be double bagged in industrial grade garbage bags to prevent leakage and odor.
5	All recyclables will be thoroughly cleaned before disposal into metal containers
6	All metal containers will be regularly cleaned to prevent odor
7	All non-combustible waste will be separated into metal bins and stored in an enclosed structure before being back-hauled and disposed of or recycled at an approved facility in Yellowknife



## **Appendix I – Wildlife Sighting Forms**



## **Appendix II – Migratory Caribou Report**



## **Appendix III – Species at Risk Report: Barren-Ground Caribou**