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Parks Canada
PO Box 1166
#220 5101, 50th Avenue
Yellowknife, NT
X1A 2N8

March 24, 2023

Re: Notification of Completion of Preliminary Screening of Aircraft Operations

To: Distribution List

In accordance with s. 125 of the *Mackenzie Valley Resource Management Act*, Parks Canada has conducted a preliminary screening of Aircraft Operations in Thaidene Nene National Park Reserve. Parks Canada has decided **not** to refer the development (i.e., application for air charter business licences) to environmental assessment.

If Parks Canada does not receive notice of referral to environmental assessment, it will proceed with the issuance of business licences for air charter company applicants on April 04, 2023.

Attached is the preliminary screening of proposed aircraft operations in Thaidene Nene National Park Reserve for the 2023/24 season. I will continue to be available for a 10-day pause period (**until April 03, 2023**) should you have any questions or concerns.

With kind regards,

Jared Ellenor
Ecosystem Scientist, SWNWT Field Unit
Parks Canada
Phone: (867) 445-1083
Email: jared.ellenor@pc.gc.ca



Parks Canada Preliminary Screening under the *Mackenzie Valley Resource Management Act*

TYPE OF DEVELOPMENT:

- ☐ New
- ☐ Amended
- ☒ Requires a permit, licence or authorization under the *Preliminary Screening Requirement Regulations* (issuance of a Business Licence pursuant to the *National Parks of Canada Businesses Regulations* s 4(1)).
- ☐ Does not require permit, licence or authorization and is proposed by PCA

1. DEVELOPMENT TITLE & LOCATION

Aircraft Operations in Thaidene Nene National Park Reserve

2. PROPONENT INFORMATION

See "Air charter companies" on page 2 of this screening

3. PROPOSED DEVELOPMENT DATES

Planned commencement: 2023-04-04

Planned completion: 2024-03-31

4. INTERNAL FILE

TDN2023-002

5. DEVELOPMENT DESCRIPTION

Thaidene Nene National Park Reserve extends from the East Arm of Great Slave Lake to the Barrenlands and includes nationally significant boreal forest, freshwater and tundra ecosystems. The park reserve is part of Thaidene Nënë Indigenous Protected Area (IPA), which also includes a territorial protected area and a wildlife conservation area (see Map 1). Visitors can access Thaidene Nene National Park Reserve by fixed and rotary wing aircraft operated by local air charter companies. Air charter companies that wish to do business in a national park require a business licence¹. All aircraft landing in the national park reserve require an aircraft access permit in order to conduct take-offs and landings.

Parks Canada conducts preliminary screenings before issuing these types of authorizations to determine any public concern, or adverse environmental, social, or cultural impacts as per the requirements of the *Mackenzie Valley Resource Management Act*.

¹ National Parks of Canada Businesses Regulations, s. 4(1).



Aircraft operations in Thaidene Nene National Park Reserve occur throughout the year, with most operations occurring during summer months when tourism and park operational requirements are greatest. Day flights (e.g., sightseeing excursions, resident/visitor/staff drop offs and pick-ups, fuel cache stops) comprise the majority of air charter activities. However, pilots and their aircraft may overnight in the park on occasion, depending on client needs. This preliminary screening pertains to proposed aircraft operations by companies applying for a 2023/2024 business licence for Thaidene Nene National Park Reserve.

Aircraft operations include the flight paths, take-offs and landings, and the potential impacts associated with the presence of visitors brought into the national park reserve by aircraft. The following activities and locations are being proposed by the air charter companies listed below, including up to three additional companies that may propose similar aircraft operations in Thaidene Nene National Park Reserve after this preliminary screening has been completed:

Air charter companies

- Ahmic Air Ltd.
- Air Tindi 2018 Ltd.
- Canadian Helicopters Limited (Acasta Helicopters Inc.)
- Great Slave Helicopters Ltd.
- Hoarfrost River Huskies Ltd.
- Northwestern Air Lease Ltd.

Activities

- Sightseeing tours
- Charters for traditional harvesting and on the land activities
- Charters for recreational trips, including (but not limited to) dog-sledding, fishing, hiking, canoeing, kayaking, packrafting and paddleboarding
- Charters for in-park operations, including (but not limited to) area reconnaissance, cultural resources management, wildlife research and monitoring, facility construction and maintenance, search and rescue, enforcement, park interpretation and visitor events
- Access to the fuel cache at Reliance

Locations

The majority of flights into Thaidene Nene National Park Reserve originate from Yellowknife with the exception of: Hoarfrost River Huskies Ltd., which also has an operational base near the Hoarfrost River; and Northwestern Air Lease Ltd., with operations based in Fort Smith (see Map 1).

Take-offs and landings by water-based aircraft (e.g., fixed-wing planes with floats/skis) can occur on any waterbody in Thaidene Nene National Park Reserve with an aircraft take-



off/landing permit as per the *Canada National Parks Act* and the *Land Transfer Agreement*². Rotary aircraft take-offs and landings are restricted to pre-approved locations. Additional locations may be approved, but will be subject to review prior to permit issuance.

Canadian Helicopters Limited (Acasta Helicopters Inc.) take-off and landing locations include:

- Lockhart River water survey site located at the outflow of Artillery Lake: 62°53'38.90"N, 108°27'57.70"W;
- Reliance fuel cache; and
- Other locations as required when flying with Parks Canada/Thaidene Nënë staff for operational purposes (e.g., ecosystem monitoring).

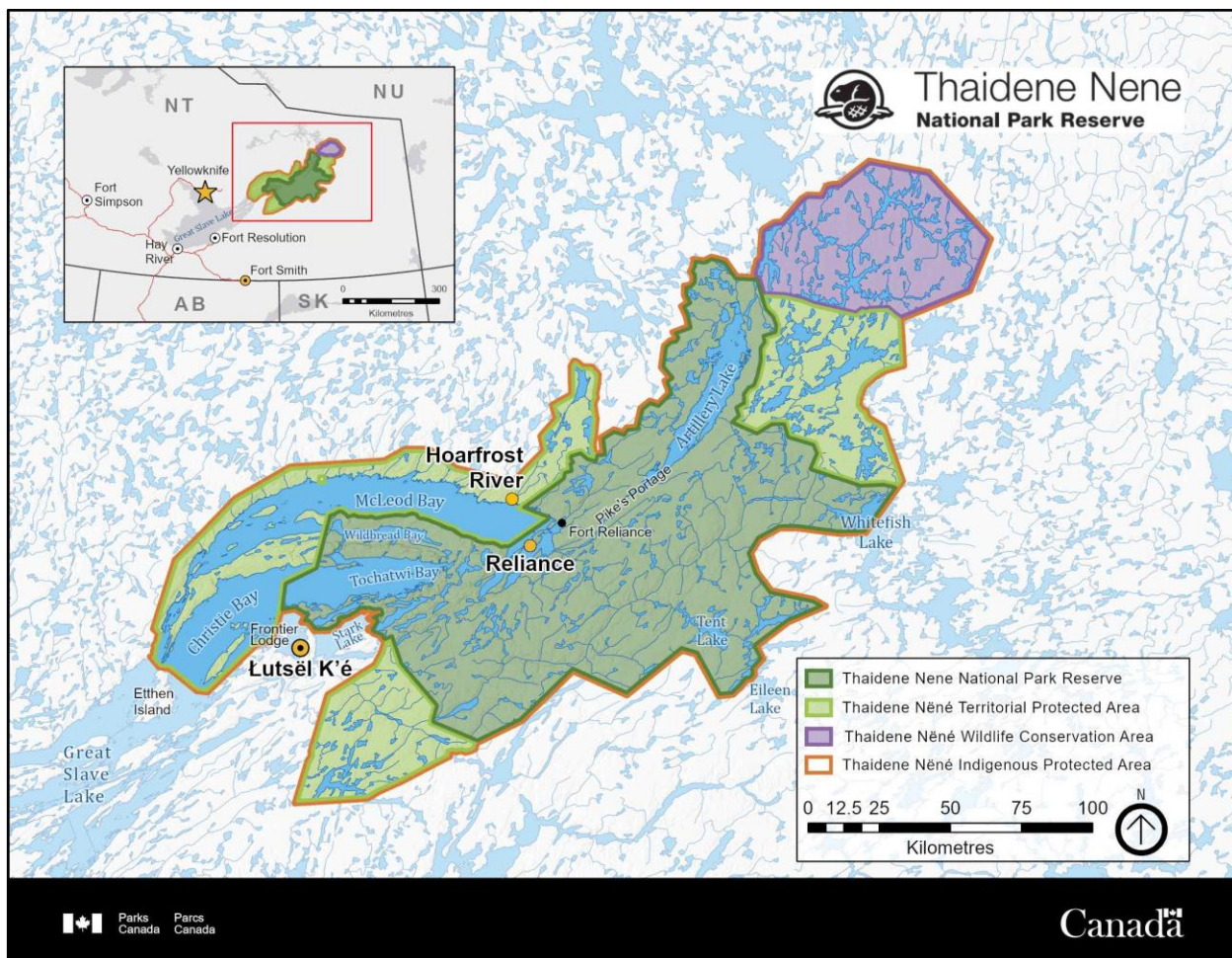
Great Slave Helicopters 2018 Ltd take-off and landing locations include:

- Reliance fuel cache; and
- Other locations as required when flying with Parks Canada/Thaidene Nënë staff for operational purposes (e.g., ecosystem monitoring).

² Parks Canada will provide for the activities and land uses as described in s. 9.1 of the *Land Transfer Agreement* between the Government of Canada and the Government of the Northwest Territories, including take-offs and landings on any waterbody in Thaidene Nene National Park Reserve. These activities are subject to subject to terms, conditions, limits, seasons, and measures as required to ensure public health and safety, sustainable use and conservation.



Map 1: Thaidene Nënë Indigenous Protected Area, including Thaidene Nene National Park Reserve



6. VALUED COMPONENTS THAT MAY BE AFFECTED

Indigenous Peoples, and the Social and Cultural Environment

The National Park Reserve is part of Thaidene Nënë Indigenous Protected Area (IPA). Management of the National Park Reserve is shared between Parks Canada and Indigenous Governments: Łutsël K'è Dene First Nation, Northwest Territory Métis Nation, Deninu Kųę First Nation, and Yellowknives Dene First Nation. Work is conducted collaboratively, and consensus-based decisions are made through two management boards.

Thaidene Nene National Park Reserve is a living legacy for all: a place where Indigenous peoples can continue to practice their ways of life, while also coming together to welcome the world. Here, Indigenous peoples continue resource harvesting, cultural, and spiritual practices in accordance with their constitutionally protected Aboriginal and treaty rights.



Thaidene Nene National Park Reserve not only protects the ecological integrity, but also the cultural continuity of its unique landscape for the benefit, education, and enjoyment of future generations and visitors from around the world.

Indigenous People

The lands now within Thaidene Nene National Park Reserve have provided sustenance and have been travelled by Indigenous peoples since time immemorial. The Park Reserve encompasses numerous sites of spiritual and cultural importance to Łutsël K'édé Dene First Nation, Deninu K'ųé First Nation, Yellowknives Dene First Nation, and the Northwest Territory Métis Nation. Mųwhi Gogha Dè Nųłłèè, the Tłıchų traditional area overlaps the northwestern park boundary. North Slave Metis Alliance asserts traditional territory in the National Park Reserve.

Use of the land continues today, as articulated above, including harvesting, travelling, spiritual gatherings, and monitoring. Thaidene Nene National Park Reserve is a living landscape where culture thrives. Thaidene Néné Indigenous Protected Area, declared by Łutsël K'édé Dene First Nation under Dene Law, encompasses the National Park Reserve.

Heritage Resources

Heritage resources are defined as a human work, an object, or a place that is determined, on the basis of its heritage value, to be directly associated with an important aspect or aspects of human history and culture of a heritage area. Examples of heritage resources include archaeological or historic sites, burial sites, artifacts, and other objects of historical, cultural, or religious significance, and historical or cultural records.

Heritage resources exist throughout Thaidene Nene National Park Reserve, including known cultural sites, cabins, and graveyards located within the Lockhart River – Artillery Lake corridor. Ts'akui Theda (Lady of the Falls – Parry Falls) is also of great cultural importance. Every August, Łutsël K'édé community members meet for their annual spiritual gathering near the mouth of the Lockhart River. Fort Reliance – now recognized as a National Historic Site – is another heritage resource. This location was built as a base of operations for expeditions in 1833 and briefly operated as a fur trade post in the 1850s. The Métis have a history of involvement in the fur trade and as expedition guides in the region.

Given the history of the area, additional heritage resources will likely be identified during future archaeological surveys. Areas with spiritual or cultural significance within the National Park Reserve may have specific management requirements and special protection status.

Visitor Experience

It is estimated that approximately 500 people visit Thaidene Nene National Park Reserve on an annual basis. A wide variety of recreational activities are currently enjoyed throughout the area, including: sailing, kayaking, canoeing, motor-boating, hiking, snowmobiling, dog-sledding, cross-country skiing, fishing, and berry picking. Visitation is expected to increase with new service offers from guide-outfitter operations, and greater promotion of the National Park Reserve.

Besides boat access, air is the only method of travel into the area. Increased tourism may increase overall air traffic, and the potential impacts associated with take-offs and landings on local waterbodies. Visitation is generally managed according to the Canada National Parks Act



(CNPA). However, if any adverse impacts are foreseen (e.g., too many aircraft landings at one location), mitigation measures will be considered by the appropriate cooperative management board(s) and implemented.

Natural Environment

Thaidene Nene National Park Reserve protects approximately 14,000 km² of nationally significant boreal forest, freshwater, and tundra ecosystems, and represents the Northwestern Boreal Uplands Natural Region in the National Parks System Plan. The area exemplifies the transition from the Taiga Shield Ecoregion to the Southern Arctic Ecoregion – the boundary of which is defined by treeline. It is characterized as having low to moderate relief with numerous lakes and large areas of exposed bedrock. Glacial erosion and deposition created these and other unique landscape features, including archipelagos, steep eskers, gorges, and waterfalls. The National Park Reserve is situated within the sub-Arctic climate zone and, to a lesser extent, the Boreal climate zone. The western half of the area is underlain by isolated permafrost patches, while the eastern half is underlain by continuous permafrost. Overall, Thaidene Nene National Park Reserve represents an outstanding example of an intact, remote wilderness area.

Soil

Soil development and nutrient availability are significant factors influencing the distribution and abundance of vascular plants (e.g., trees, shrubs, flowering herbs etc.). Soil development is dependent on regional source materials, climate, and hydrology. The source materials found in and around Thaidene Nene National Park Reserve include granite bedrock, marine clays, and glacial till. Soils within the region are predominately Cryosolic, which is a term used to describe soil development in areas with permafrost. Soil development is considered to be very slow (i.e., a few millimetres per century), with the exception of peat materials that tend to accumulate more quickly.

Air

No formal observations of air/noise quality have occurred in Thaidene Nene National Park Reserve. However, it is expected that these valued components are representative of their natural state as Łutsël K'é is the only nearby community, and industrial activity in the surrounding area is relatively low. Reduced air quality from regional/national forest fires may occur seasonally.

Water

Thaidene Nene National Park Reserve overlaps the East Arm of Great Slave Lake, which is the deepest (and fifth largest) lake in North America. The National Park Reserve encompasses Artillery Lake and several freshwater tributaries including the Lockhart and Snowdrift Rivers. Ts'akui Theda (Lady of the Falls – Parry Falls) and the Lockhart River have great cultural and spiritual importance.

Water quality within the National Park Reserve is expected to be pristine as potential sources of inputs from industrial and community-related activities are limited. The Water Survey of Canada (Environment and Climate Change Canada) operates one monitoring station in Thaidene Nene National Park Reserve. The station is located on the Lockhart River at the southern end of Artillery Lake and provides hydrometric information (i.e., water level and flow).



Data available from 2000 to 2005 indicate no abnormal flow conditions for the site. The Ni Hat'ni Dene Rangers have been monitoring water quality in and around the community of Łutsël K'é, Macleod Bay and Christie Bay since 2008, and have periodically shared this data with the Government of Northwest Territories (GNWT) and Environment and Climate Change Canada (ECCC). Data analysis can be used to detect any changes in water quality over time.

Vegetation

The shores of lakes and rivers within the forested parts of Thaidene Nene National Park Reserve are lined with dense stands of black spruce, white spruce, and white birch. Southern inland areas are occupied by stands of white spruce and jack pine, with understories consisting of blueberries, cranberries, feather moss, and lichens. Northern inland areas are occupied by open stands of black spruce covering thick understories of lichen. In areas that transition from the boreal forest to the barrenlands, stunted black spruce and tamarack sparsely cover dwarf tundra vegetation and exposed bedrock. Greater detail about the distribution and status of vascular plants in the National Park Reserve will be determined as species inventories are conducted. Historical records indicate that one 'At Risk' species may occur in the area. The Canadian Museum of Nature retains a sample of Mackenzie Hairgrass (*Deschampsia mackenzieana*), a plant listed as Special Concern on Schedule 1 of the *Species at Risk Act*, that was collected near Fort Reliance in 1927.

Wildlife

Thaidene Nene National Park Reserve is home to plethora of wildlife species. Information, particularly traditional knowledge, is most abundant for large bodied mammals and fur bearers because of their cultural and social importance. Hunting and trapping of caribou, moose, muskox, wolf, lynx, wolverine, beaver, red fox, otter, marten, muskrat, mink, snowshoe, and Arctic hare provide food and economic benefit to Indigenous peoples. In total, 42 species of mammals are known to inhabit the National Park Reserve. Of those, 4 species are listed on Schedule 1 of the *Species at Risk Act*: Little Brown Myotis (*Myotis lucifugus*), and Northern Myotis (*M. septentrionalis*) are listed as Endangered; and Grizzly Bear (*Ursus arctos*) and Wolverine (*Gulo gulo*) are listed as Special Concern. Four herds of Barren-ground Caribou (*Rangifer tarandus*) – the Bathurst, Beverly, Ahiak, and Qamanirjuaq - are of vital importance to Indigenous peoples and are known to occur in Thaidene Nene National Park Reserve. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has assessed Barren-ground Caribou as Threatened, and the species is currently under consideration for listing on Schedule 1 of the *Species at Risk Act*. Barren-ground caribou are listed as Threatened under NWT species at risk legislation, with the Bathurst herd being intensely managed after a continued and significant decline in numbers. In light of this, Łutsël K'é Dene First Nation has developed a Caribou Stewardship Plan (called *Yúnethé Xá ʔetthën Hádi*). that includes a self-imposed moratorium on hunting caribou from the Bathurst herd. Other plans (e.g., Bathurst Caribou Management Plan), co-management boards and harvest restrictions have also been established to protect and manage these herds.

Thaidene Nene National Park Reserve is also home to approximately 171 bird species; however, species inventories and monitoring are needed to confirm the numbers and status of landbirds, waterfowl, and shorebirds. Of note, ten species of hawks and falcons, two eagle species,



osprey, and six owl species occur in the area. Islands and cliffs in the area are known to be important nesting habitat for breeding birds and many rocky islands host colonies of gulls and terns. Several species thought to be present in the National Park Reserve are listed on Schedule 1 of the *Species at Risk Act*: Bank Swallow (*Riparia riparia*) and Barn Swallow (*Hirundo rustica*) are listed as Threatened; and Common Nighthawk (*Chordeiles minor*), Harris's Sparrow (*Zonotrichia querula*), Horned Grebe (*Podiceps auritus*), Olive-sided Flycatcher (*Contopus cooperi*), Short-eared Owl (*Asio flammeus*), Red-necked Phalarope (*Phalaropus lobatus*), and Rusty Blackbird (*Euphagus carolinus*) are listed as Special Concern.

Although not yet confirmed, 5 amphibian species (i.e., frogs, toads and salamanders) are expected to occur in Thaidene Nene National Park Reserve. Of these, only one species is considered to be 'At Risk'. The Northern Leopard Frog (*Lithobates pipiens*) is listed as Special Concern on Schedule 1 of the *Species at Risk Act*.

There are 28 species of freshwater and anadromous fish known to occur in Great Slave Lake and its tributaries. Sport and subsistence fishing activities occur throughout the area. Fish species of particular importance within Thaidene Nene National Park Reserve include: Lake Trout, Lake Whitefish, Burbot, Northern Pike, Walleye, and Arctic Grayling.

7. EFFECTS ANALYSIS

See "*Interim Best Management Practices (BMP) for Aircraft Operations in Thaidene Nene National Park Reserve*" (Appendix A).

8. MITIGATION MEASURES

As part of the terms and condition of a business licence, operators will adhere to the mitigations described in the *Interim Best Management Practices for Aircraft Operations in Thaidene Nene National Park Reserve* (Appendix A) and, when applicable, the *Interim Best Management Practices for Fuel Caching in Thaidene Nene National Park Reserve* (Appendix B).

9. SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS

Given the limited magnitude of effects and the application of mitigation measures, aircraft operations are not expected to cause residual adverse effects to natural, social, or cultural environments.

10. ENGAGEMENT AND CONSULTATION

This preliminary screening was reviewed by the Indigenous partners involved with managing the National Park Reserve. The issuance of business licences to aircraft operators was discussed with members of Thaidene Nënë xá dá yáti (those who speak for Thaidene Nënë) prior to the February 22, 2023 notification commencing a 21-day public review of the Development Description.

Parks Canada staff worked with designated contacts from Łutsël K'é Dene First Nation and Northwest Territory Métis Nation to develop and review the *Interim Best Management*



Practices for Aircraft Operations in Thaidene Nene National Park Reserve, and the Interim Best Management Practices for Fuel Caching in Thaidene Nene National Park Reserve.

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12. DECISION

Parks Canada has conducted this preliminary screening of "Aircraft Operations in Thaidene Nene National Park Reserve" (the proposed development) pursuant to the Mackenzie Valley Resource Management Act (ss. 124(2) and 125(1)), and has concluded that it is **not** referring the proposal to the Mackenzie Valley Review Board for environmental assessment.

Taking into account the analysis and implementation of mitigation measures outlined in the analysis, the development:

- ❑ Might have a significant adverse impact on the environment, and the proposal should be referred to the *Mackenzie Valley Environmental Impact Review Board* for environmental assessment.
- ✓ Does not have a likelihood of causing significant adverse impact on the environment.
- ❑ Might be a cause for public concern, and the proposal should be referred to the *Mackenzie Valley Environmental Impact Review Board* for environmental assessment.
- ✓ Does not have a likelihood of causing public concern.



13. APPROVAL

Approved by:

Date:

March 24, 2023

Laani Uunila

Implementation Manager, Thaidene Nene National Park
Reserve



Appendix A: Interim Best Management Practices for Aircraft Operations in Thaidene Nene National Park Reserve

v.2023-01-16



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Background

Thaidene Nene National Park Reserve extends from the East Arm of Great Slave Lake to the Barrenlands and includes nationally significant boreal forest, freshwater and tundra ecosystems. The park reserve is part of Thaidene Nënë Indigenous Protected Area (IPA), which also includes a territorial protected area and a wildlife conservation area. The area is accessible by water and air. Fixed or rotary wing aircraft operated by air charter companies are key means of transportation. Parks Canada does not maintain any runways or docks in Thaidene Nene National Park Reserve. The majority of aircraft take-offs and landings occur on waterbodies by planes equipped with floats or skis. Helicopters are used less frequently, and may be used to access inland areas of the National Park Reserve.

Scope

These Best Management Practices (BMPs) apply to aircraft operations in Thaidene Nene National Park Reserve. Aircraft operations include the flight paths, take-offs and landings, and impacts associated with the presence of visitors brought into the Park by aircraft. These BMPs are mitigations that are meant to reduce the potential impacts of aircraft operations. They are a key component of the preliminary screening process as defined in the *Mackenzie Valley Resource Management Act*. Abiding by these BMPs will be a requirement of the terms and conditions specified on air charter business licences issued by Parks Canada. Emergency landings and response operations (e.g., search and rescue, human-wildlife conflict, wildfire) that require prioritization of human life are not subject to these BMPs.

The use of drones, parachuting, sky-diving and BASE jumping (including the use of wing-suits) are prohibited activities in Thaidene Nene National Park Reserve. Special permits may be issued for use of drones in research, photography or filming activities.

Goal

The overarching goal of these BMPs is to support air charter companies operating in Thaidene Nene National Park Reserve, while minimizing potential impacts associated with aircraft operations on natural, social, and cultural environments.

Impact Assessment

The potential impacts of aircraft operations on the natural environment include damage to soil, air, water, vegetation, and wildlife (see Table 1). Several species at risk are known to inhabit Thaidene Nene National Park Reserve; however, impacts from aircraft operations should be negligible if these BMPs are applied.

The potential impacts of aircraft operations on the social and cultural environments include negative effects on Indigenous people, heritage resources¹, and visitor experience within Thaidene Nene National Park Reserve (see Table 2). Again, impacts from aircraft operations should be negligible if these BMPs are applied.

¹ Heritage resources are defined as archaeological or historic sites, burial sites, artifacts and other objects of historical, cultural, or religious significance, and historical or cultural records directly associated with an important aspect or aspects of human history.

Table 1: Assessment of potential impacts of aircraft operations on the natural environment of Thaidene Nene National Park Reserve.

	Soil	Air	Water	Vegetation	Wildlife
All aircraft	<ul style="list-style-type: none"> • Contamination from fuel spills • Rutting and compaction at landing sites 	<ul style="list-style-type: none"> • Chemical pollution from exhaust/ fuel odours • Noise disturbance 	<ul style="list-style-type: none"> • Contamination from fuel/oil leaks and spills 	<ul style="list-style-type: none"> • Contamination from fuel spills • Physical damage/destruction at landing sites • Introduction of invasive species 	<ul style="list-style-type: none"> • Habitat degradation • Altered movement patterns • Stress response • Wildlife attractants at landing sites
Fixed wing (floats/skis)	<ul style="list-style-type: none"> • Shoreline erosion from wave action or running plane up on to the beach 	See all aircraft	<ul style="list-style-type: none"> • Turbidity • Sedimentation • Introduction of invasive aquatic species 	<ul style="list-style-type: none"> • Physical damage/destruction from increased wave action 	<ul style="list-style-type: none"> • Habitat degradation (aquatic)
Helicopters	<ul style="list-style-type: none"> • Erosion from rotor wash 	See all aircraft	See all aircraft	<ul style="list-style-type: none"> • Physical damage/destruction from rotor wash • Reduced photosynthesis from dust deposition 	See all aircraft
Visitors arriving via aircraft	<ul style="list-style-type: none"> • Loss of nutrients if bones, antlers, fossils collected • Compaction along trails • Litter • Contamination from improper human waste management 	<ul style="list-style-type: none"> • Noise disturbance 	<ul style="list-style-type: none"> • Litter • Contamination from human waste • Over/illegal fishing 	<ul style="list-style-type: none"> • Physical damage/destruction from trampling • Introduction of invasive species 	<ul style="list-style-type: none"> • Habituation to people • Food-conditioning • Increased fatalities from human-wildlife conflict • Disturbances from viewing/photography activities • Nest/habitat destruction • Illegal harvesting

Table 2: Assessment of potential impacts of aircraft operations on the social and cultural environments of Thaidene Nene National Park Reserve.

	Indigenous People	Heritage Resources	Visitor Experience
All aircraft	<ul style="list-style-type: none"> • Interference with traditional harvesting rights and on-the-land activities • Noise disturbance • Reduced soil, air and water quality 	<ul style="list-style-type: none"> • Increased access to cultural and ceremonial sites • Physical damage/destruction of cultural and ceremonial sites 	<ul style="list-style-type: none"> • Degraded wilderness experience with increasing levels of overflight activity • Interference with water and land-based recreation near landing sites
Visitors arriving via aircraft	<ul style="list-style-type: none"> • Noise disturbance • Litter • Contamination from improper human waste management 	<ul style="list-style-type: none"> • Unauthorized use of cultural and ceremonial sites • Removal or destruction of historical artifacts 	<ul style="list-style-type: none"> • Overcrowding at popular recreation sites • Litter • Contamination from improper human waste management

Best Management Practices

It is anticipated that aircraft operations in Thaidene Nene National Park Reserve will grow with increasing visitor activity. The following BMPs are intended to mitigate the potential impacts associated with rotary and fixed-wing aircraft on the natural, social and cultural environment of the area.

Registration and Permits

A permit is required to cache fuel within the National Park Reserve. Please refer to the Interim *Best Management Practices for Fuel Caching in Thaidene Nene National Park Reserve*.

A permit is required to fish in the National Park Reserve. Fishing permits can be obtained from www.pc.gc.ca/thaidene-nene.

Visitors are required to register for travel within Thaidene Nene Indigenous Protected Area. Parks Canada is facilitating the registration process. Guide outfitters (e.g., flightseeing tours, sea kayak tours) are expected to register their clients. Self-guided groups, such as those using a boat or air charter to access the park, must register themselves.

Protect Ecological Integrity

As part of the pre-trip briefing all clients must be:

1. Informed that natural and cultural resources cannot be removed, defaced, damaged or destroyed. Picking of berries and medicinal plants, as well as the collection of wood for campfires are allowed for personal use in Thaidene Nene.
2. Asked to remove mud and/or seeds from their footwear, clothing, and pets prior to departure to prevent the introduction of non-native/invasive species into the National Park Reserve.
3. Encouraged to use washroom facilities before departing for the National Park Reserve for a day trip.
4. Reminded to pack out all items brought into the park, including personal belongings and garbage.
5. Informed that they are in bear country. Visitors should always be aware of their surroundings (i.e., be on the lookout for fresh tracks, scat, digs). Bear spray is recommended for effective self defense. People should be familiar with its use before travelling into the park, and have quick (and unimpeded) access to it at all times.
6. Informed that firearms are permitted in Thaidene Nene National Park Reserve for wildlife defense only – visitors are not permitted to hunt. All firearms must be properly locked and stored when travelling. Note: traditional harvest by Indigenous peoples continues in Thaidene Nene National Park Reserve.

To minimize compaction and damage to soils and vegetation:

7. Choose landing sites with durable surfaces (e.g., rock, talus, gravel or sand), when possible.
8. Select natural clearings for helicopter landing sites; avoid clearing trees and shrubs.
9. Bring the plane to shore at the same general location to minimize the overall footprint of the landing site.
10. Encourage clients to stand on durable surfaces while at landing sites, and to avoid trampling on flowers and vegetation during stopovers (e.g., lunchbreaks) or while recreating

To prevent shoreline erosion and disturbance to shallow water habitats:

11. Reduce aircraft speeds when taxiing toward shore to prevent large wakes.
12. Deplane clients and cargo along a single path from plane to shore.
13. Remove debris and vegetation from pontoons and skis before all take-offs and landings to prevent translocating non-native/invasive species in the National Park Reserve.

To minimize contamination from improper human waste management:

14. Use outhouse facilities where available.
15. Move at least 60 m away from the aircraft landing site, heritage resources, hiking trails, camping areas, and water bodies before urinating/defecating.
16. Bury solids in a shallow hole (e.g., 15 to 20 cm) in soil-covered areas and a deep hole (30 to 60 cm) in snow-covered areas. Avoid disturbing plant communities as much as possible.
17. Pack out or bury (in the hole) all used toilet paper. Pack out all garbage.

Protect Wildlife

To minimize disturbance to wildlife:

18. With the exception of landings and take-offs, or when required for safety, maintain an altitude of at least 2000ft (610 m) above ground level (AGL) while flying over the park reserve.
19. Never circle, chase, hover over, dive bomb, pursue, or in any other way harass wildlife from the air.
20. Avoid wildlife travel corridors, feeding areas, calving grounds, and nesting sites.
21. Alter the flight path or ascend in elevation when wildlife are observed.
22. Avoid landing within:
 - 2 km of caribou herds;
 - 500 m of large carnivores, large herds (e.g., muskox), and large

congregations of birds; and

- 150 m of all other wildlife.
23. Ensure clients maintain a distance of at least 100 m from known den or nest sites.
 24. Remind clients never approach wildlife or encourage wildlife to approach them. This can cause wildlife to lose their natural wariness of people. Habituated animals are at greater risk of human-wildlife conflict.
 25. Calmly leave the area following an encounter with a large carnivore (e.g., bear, wolf). Never run – it may trigger an instinctual chase response.
 26. Be respectful when photographing wildlife – animal behaviour is unpredictable. Keep a safe viewing distance at all time (100 m).
 27. Keep dogs on a leash and under physical control at all times. Off-leash dogs can cause wildlife to feel threatened and become aggressive. Aggressive animals pose a significant risk to human safety.

Please note: Flying activities that intentionally disturb wildlife for viewing or photographic opportunities can result in a business licence being revoked or charges being laid under the *Canada National Parks Act*. Feeding wildlife is also illegal and can result in charges. This includes feeding wildlife directly by offering them food, or indirectly by leaving food/garbage behind for them to find.

Protect and support Indigenous rights, and the Cultural and Social Environment

To minimize potential impacts to Indigenous people, clients must be informed during the pre-trip briefing that:

28. Indigenous people can and may be exercising their traditional rights (e.g., harvesting wildlife and other on the land activities) within the National Park Reserve and that these rights must be respected.
29. Certain areas of the park may be closed due to cultural significance or activities. Please check for area closures prior to travel.

To minimize potential impacts to heritage resources and visitor experience, clients must be informed during the pre-trip briefing that:

30. Heritage resources cannot be removed or otherwise disturbed. This includes rocks from any features that look, even remotely, like they were human-made, such as cairns (rock piles), tent rings, and food caches.
31. Inuksit are not culturally appropriate and should not be built.
32. Parks Canada and Łutsël K'é Dene First Nation equipment and boats are not for public use.
33. Plan trip routes to avoid flying over trails, campsites and people.
34. Avoid lengthy circling or hovering over landing sites.
35. Turn off the engine while at landing sites to reduce exhaust fumes and noise.

Emergency Response

Aircraft Incidents

- Contact the Joint Rescue Coordination Centre (JRCC) if you require immediate medical or evacuation assistance;
- Report all aircraft incidents to Transport Canada, and Parks Canada, Southwest NWT Field Unit if the incident occurred within Thaidene Nene National Park Reserve.

Wildlife-related Incidents

- Contact Parks Canada, Southwest NWT Field Unit if you are involved in or observe negative encounters with wildlife (e.g., aggressive behaviours, damage to property, accessing human foods); illegal harvest; sick or injured animals, or a wildlife carcass.

Wildland Fire

- Contact Parks Canada, Southwest NWT Field Unit if you are involved in or observe smoke, positive lightning strikes (e.g., causes fire or physical damage), unattended/abandoned campfires, or forest fires.

Contaminant Spills and/or Fuel Drums

- Contact the Northwest Territories Spill Line if you are involved in or observe any fuel or contaminant spills greater than 100 liters.
- Contact Parks Canada, Southwest NWT Field Unit if you are involved in or observe any fuel or contaminant spills within the National Park Reserve. Similarly, report all observations of fuel barrels, abandoned or otherwise, at any location with the exception of the fuel cache at Reliance.

Emergency Contacts

Parks Canada Dispatch (24hr emergency line) at 1-877-852-3100 (toll free), or email jasperdispatch@canada.ca

Northwest Territories Spill Line (24hr Report Line) at 1-867-920-8130, or email spills@gov.nt.ca

Joint Rescue Coordination Centre – Central and Arctic (24hr Line) at 1-800-267-7270 (toll free), or 1-613-965-3870, or email jrcctrenton@sarnet.dnd.ca

Non-Emergency Contact

Thaidene Nene National Park Reserve (non-emergency line)
Parks Canada Yellowknife Office (M-F; 9-5)
867-766-8460 (landline), or e-mail pc.thaidene.nene.pc@canada.ca



Appendix B: Interim Best Management Practices for Fuel Caching in Thaidene Nene National Park Reserve

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Canada

Canada

Background

Parks Canada is committed to the continuance of the fuel cache site at Reliance, located in Police Bay at the east end of McLeod Bay. The Reliance fuel cache is popular with aircraft operators and some boaters. The site provides an ideal stopover for long-distance trips, adequate shelter from adverse weather and is accessible by barge. In any given year over one hundred fuel drums are stored at the site. To manage barrel volume, placement and spills, Parks Canada is implementing the *Interim Best Management Practices for Fuel Caching in Thaidene Nene National Park Reserve*. These Best Management Practices (BMPs) are intended to be a working document that evolves as park operations grow. Its purpose is to provide best management practices for caching fuel within Thaidene Nene National Park Reserve to safeguard the natural, social and cultural environment for generations to come.

Scope

The *Interim Best Management Practices for Fuel Caching in Thaidene Nene National Park Reserve* applies to the storage of fuel on lands administered by Parks Canada within Thaidene Nene National Park Reserve (excluding leased properties). It identifies the minimum standards that are required to cache fuel at Reliance (Figure 1) and other approved sites.

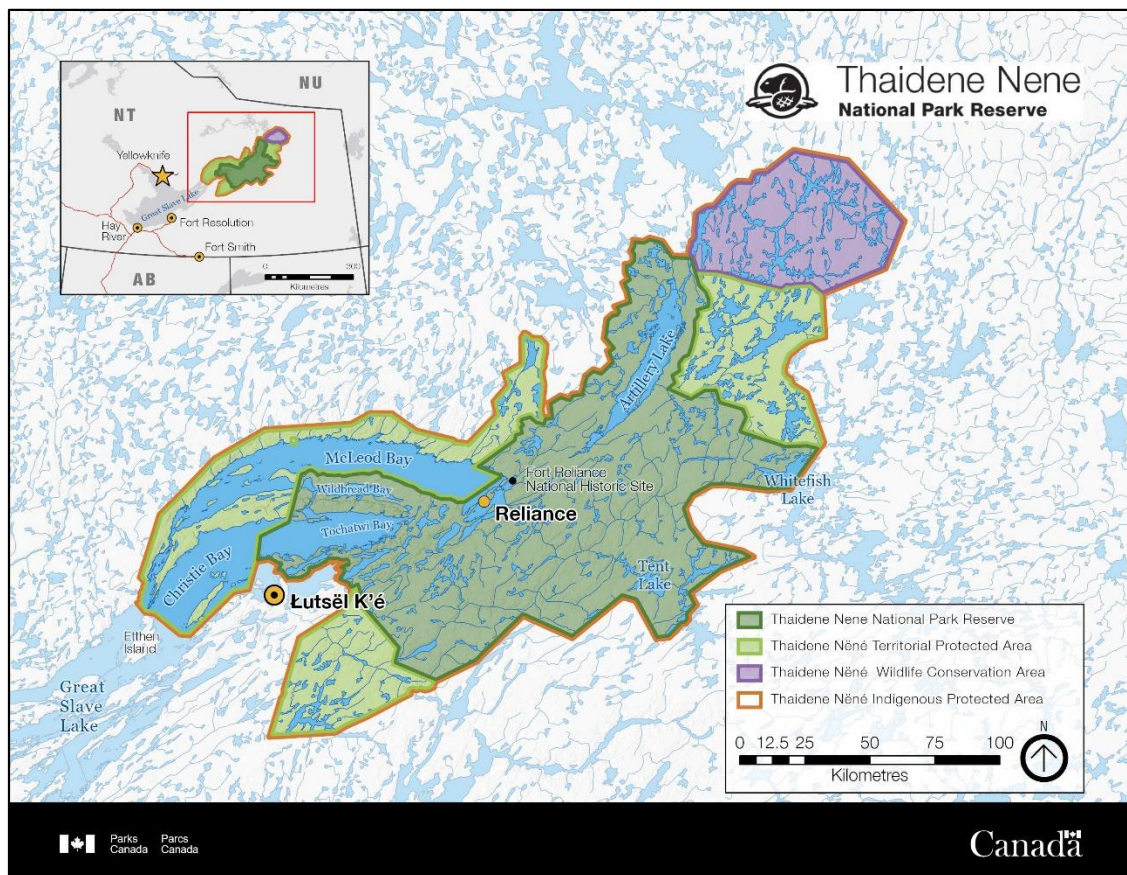


Figure 1. Map showing the location of Reliance, where the fuel cache is located in Police Bay at the east end of McLeod Bay in Thaidene Nene National Park Reserve.

Goal and Objectives

The overarching goal of this fuel caching protocol is to support the operations relating to Indigenous partners, business licence holders and park management, while protecting the ecological and cultural integrity of Thaidene Nene National Park Reserve. Within this goal, there are three objectives:

- 1) Develop fuel drum inventory and storage systems to prevent spills and leaks as a result of mishandling, age and corrosion.
- 2) Standardize emergency response procedures for damaged drums and spill containment.
- 3) Maintain a clean and orderly fuel cache at Reliance in support of traditional use and visitor experience.

Authorization Process for Caching Fuel

If you want to cache fuel at Reliance, please plan for a minimum of 30 days from the date that your application is submitted to receipt of authorization. If you want to cache fuel at another site, please allow for a minimum of 90 days for your request to be considered.

Your application form (sample in Appendix 1) will be reviewed and, if approved, a permit will be issued, which will allow you to cache fuel subject to the protocols outlined in this document. Additional terms and conditions may be applied.

To request a Fuel Cache Application form, or for questions about these protocols or the authorization process for caching fuel in Thaidene Nene National Park Reserve, please contact:

Laani Uunila
Thaidene Nene Implementation Manager,
Southwest NWT Field Unit
Parks Canada
P.O. Box 1166 Yellowknife Main Post Office Yellowknife, NT, X1A 1C0
Office: (867) 766-8460
Email: pc.thaidene.nene.pc@canada.ca

Forms are available on-line at <https://www.pc.gc.ca/en/pn-np/nt/thaidene-nene/gestion-management/permits/carburant-fuel-cache>

Interim Best Management Practices for Caching Fuel

- All persons, with the exception of Indigenous partners, who wish to cache fuel at Reliance or other approved sites within Thaidene Nene National Park Reserve must apply for a permit (see Authorization Process for Caching Fuel above).
- Fuel can only be cached at authorized sites as stated on the permit.
- Cached fuel must be in drums.

- The maximum time period for cached fuel drums may not exceed two years from the date of permit issuance.
- Fuel drums must be new or in pristine condition – free of visible damage or corrosion.
- Visually inspect all fuel drums for punctures, seam and bung leaks during delivery or refueling activities and before leaving the cache site.
- Fuel drums stored at Reliance must be placed in the designated area.
- At sites other than Reliance, fuel drums must be placed at least 100 meters above the high water mark of any water body, including seasonal drainages.
- Place all fuel drums in neat rows, on their sides, with bungs positioned at 3 and 9 o'clock.
- All fuel drums must be clearly marked with the following information:
 - Type of fuel
 - Name of company/individual
 - Year
 - Fuel Cache Permit #

For 2020 only, please notify Parks Canada if your bulk fuel order will be delivered in advance of your permit being authorized. For future years, permit applications should be received and processed before fuel deliveries are completed.

- Parks Canada will provide a back-up spill kit at the Reliance fuel cache (Appendix 2); however, permit holders are required to carry and/or store their own spill kit at their fuel caches. Spill kits must be adequate to contain and clean up potential spills that occur on land and/or water, depending on the size and nature of operations. Should a spill occur, permit holders are responsible for the cost of the cleanup. The following three websites provide information about the types and size of spill kits that are available for purchase:

Acklands Grainger Inc.: www.acklandsgrainger.com

Arcus Absorbents Inc.: www.arcusabsorbents.com

Can-Ross Environmental Services Ltd.: www.canross.com

- Secondary containment (Appendix 3) is required at any fuel cache site not at the current cache at Reliance. Secondary containment will be phased in at Reliance over the next few years.
- Provide Parks Canada with an updated fuel drum inventory at the end of each operational season (e.g., mid-September). Complete the Fuel Cache Inventory Form (Appendix 4) and send it to: pc.thaidene.nene.pc@canada.ca

Failure to comply with the *Interim Best Management Practices for Fuel Caching in Thaidene Nene National Park Reserve* may result in fuel drum and container removal and disposal by Parks Canada at the permit holder's expense. Non-compliance may also affect the issuance of future fuel cache permits and business licences. Moreover, depending on the non-compliance, charges may result under the *Canada National Parks Act*.

Emergency Response

Damaged Drum

1. Maneuver drum so damage is on top to reduce leaking.
2. If possible, patch the leak. There are several kinds of drum repair kits available for purchase.
3. If the drum cannot be patched, mark it and remove it from the fuel cache site as soon as possible.

Spill Containment

1. Use absorbents from the spill kit to soak up as much free product as possible. Use a shovel, if available, to dig up product-soaked soil. Use booms to soak up contaminants if fuel spilled into a body of water.
2. Place all contaminated materials (e.g., absorbents, booms, soil) in the spill kit drum or tarp, if available.
3. Remove all contaminated material from the fuel cache site as soon as possible.

Report all spills to Parks Canada (Thaidene Nene National Park Reserve) and the Northwest Territories Spill Line using the GNWT Spill Report Form (Appendix 5). You are legally required to immediately report any spills anywhere in the Northwest Territories greater than 100 liters.

Emergency Contacts

Parks Canada Dispatch: 1-877-852-3100 (toll free)
 1-780-852-3100 (landline)
 jasperdispatch@canada.ca

Northwest Territories Spill Line
24hr Report line: 867-920-8130
 spills@gov.nt.ca



Non-Emergency Contacts

Parks Canada
Thaidene Nene National Park Reserve 867-766-8460
 pc.thaidene.nene.pc@canada.ca

Appendix 1: Sample Fuel Caching Application Form

Downloadable form is available on-line: <https://www.pc.gc.ca/en/pn-np/nt/thaidene-nene/gestion-management/permits/carburant-fuel-cache>

Via e-mail pc.thaidene.nene.pc@canada.ca or phone 867-766-8460

 Parks Canada Parcs Canada		
Fuel Cache Application Form		
<p>Permission to cache fuel in national parks is generally not granted. In Thaidene Nene, there is a commitment to maintain a public fuel cache at Reliance. If you require a fuel cache, please complete this application form. Fuel cached in the park must be done in a manner consistent with the <i>Interim Thaidene Nene National Park Reserve Fuel Caching Protocol</i>. Fuel stored in Thaidene Nene National Park Reserve will require secondary containment appropriate to the fuel cache site. There will be a transition period for fuel cached at Reliance, as it will take time to assess the site and needs. Any new fuel cache sites, if approved, will require secondary containment.</p>		
Company Name (if applicable):		
Applicant Name:		
Phone:	Email:	
Caching Fuel at Reliance (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No		
Type of Fuel:	Amount of Fuel (litres and number of drums):	
Proposed date for caching:	Proposed date for fuel/drum removal:	
Why is caching fuel at Reliance necessary?		
Proposed measures to reduce environmental impact:		
Request for a Fuel Cache in a Location Other than Reliance (complete only if needed)		
Type of Fuel:	Amount of Fuel (liters and number of drums):	
Name of Proposed Cache Location:	Latitude/Longitude of Proposed Cache Location:	
Proposed date for caching:	Proposed date for fuel/drum removal:	
Why is the fuel cache necessary?		
Proposed measures to reduce environmental impact:		
Provide details on proposed secondary containment system:		

Appendix 2: Contents of the Back-up Spill Kit at the Reliance Fuel Cache

Permit holders are required to carry and/or store their own spill kit at their permitted fuel caches.

Parks Canada (Thaidene Nene National Park Reserve) will provide a back-up spill kit (for oil and fuel only) at the Reliance fuel cache site in Thaidene Nene National Park Reserve. The kit will be contained within a 55-gallon plastic drum. Please contact Parks Canada so you are aware of the spill kit location at Reliance. If you use the kit, please let us know ASAP.

Each kit includes:

- 1 X 55-gallon yellow or blue poly drum with lid and band
- 100 X sorbent pads
- 12 X sorbent booms
- 5 X sorbent pillows
- 1 X pair of gloves
- 1X disposal bag
- 1 X pair of goggles
- 1 X disposable coveralls
- 1 X Plug-n-Dyke drum calking
- 1 X shovel
- 2 X Tarps



Appendix 3: Examples of Secondary Containment Units

Secondary containment units are designed to minimize environmental damage from a fuel spill resulting from a failure in the drum, a loose bung or damaged bung seal. We are open to suggestions on the best system or types of system(s) to install at Reliance. Your feedback is important to us. Please let us know the following:

- What containment systems do you like?
- Pros and cons of the systems you have used or are familiar with?
- What type(s) of secondary containment do you think are feasible at Reliance?

Below are images of secondary containment units that Parks Canada is using elsewhere in northern Canada.

1) Outdoor Barrel Containment Unit

Available at:

- Pye Brothers Fuels Ltd. www.pyebrothers.ca/Accessories/index.htm



2) Covered Snap-Up Stinger Berms

Available at:

- Acklands-Grainger Inc.: www.acklandsgrainger.com
- Clean Spill: (905) 293-9995
- ENPAC Corporation: www.enpac.com



3) Drum Hardcover and Spillpallet

Available at:

- ENPAC Corporation: www.enpac.com



4) Fuel shed

Available at:

- Pro-tec: www.laden.ca



Appendix 5: GNWT Spill Report Form

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND
OTHER HAZARDOUS MATERIALS



NT-NU 24-HOUR SPILL REPORT LINE

Tel: (867) 920-8130 • Fax: (867) 873-6824 • Email: spills@gov.nt.ca

REPORT LINE USE ONLY

A	Report Date:	MM DD YY	Report Time:	<input type="checkbox"/> Original Spill Report OR <input type="checkbox"/> Update # _____ to the Original Spill Report	Report Number:
	B	Occurrence Date:	MM DD YY		
C	Land Use Permit Number (if applicable):			Water Licence Number (if applicable):	
D	Geographic Place Name or Distance and Direction from the Named Location:			Region: <input type="checkbox"/> NT <input type="checkbox"/> Nunavut <input type="checkbox"/> Adjacent Jurisdiction or Ocean	
E	Latitude: _____ Degrees _____ Minutes _____ Seconds			Longitude: _____ Degrees _____ Minutes _____ Seconds	
F	Responsible Party or Vessel Name:			Responsible Party Address or Office Location:	
G	Any Contractor Involved:			Contractor Address or Office Location:	
H	Product Spilled: <input type="checkbox"/> Potential Spill		Quantity in Litres, Kilograms or Cubic Metres:	U.N. Number:	
I	Spill Source:		Spill Cause:	Area of Contamination in Square Metres:	
J	Factors Affecting Spill or Recovery:		Describe Any Assistance Required:	Hazards to Persons, Property or Environment:	
K	Additional Information, Comments, Actions Proposed or Taken to Contain, Recover or Dispose of Spilled Product and Contaminated Materials:				
L	Reported to Spill Line by:	Position:	Employer:	Location Calling From:	Telephone:
M	Any Alternate Contact:	Position:	Employer:	Alternate Contact Location:	Alternate Telephone:

REPORT LINE USE ONLY

N	Received at Spill Line by:	Position:	Employer:	Location Called:	Report Line Number:
Lead Agency: <input type="checkbox"/> EC <input type="checkbox"/> CCGTCMSS <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> AANDC <input type="checkbox"/> NEB <input type="checkbox"/> Other: _____			Significance: <input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> Unknown		File Status: <input type="checkbox"/> Open <input type="checkbox"/> Closed
Agency:		Contact Name:	Contact Time:	Remarks:	
Lead Agency:					
First Support Agency:					
Second Support Agency:					
Third Support Agency:					