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 permit 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

Eradication of invasive plant species at the former weather station in Fort Reliance, Thaidene Nene National Park Reserve

2. PROPONENT INFORMATION

Environment and Climate Change Canada

3. PROPOSED DEVELOPMENT DATES

Planned commencement: 2021-07-15
Planned completion: 2021-09-30

4. INTERNAL FILE

TDN2021-005

5. DEVELOPMENT DESCRIPTION (as posted on the preliminary screening section of the Mackenzie Valley Review Board's public registry)

Thaidene Nene National Park Reserve is located on the East Arm of Great Slave Lake, in the Northwest Territories. The park reserve is part of Thaidene Nëné Indigenous Protected Area (IPA), which also includes a Territorial Protected Area and a proposed Wildlife Conservation Area (see Map). In 2019, Environment and Climate Change Canada (ECCC) remediated the former weather station at Fort Reliance that is now part of the National Park Reserve. The results of the 2020 site monitoring program documented six invasive plant species that had taken hold in disturbed areas, including: Lamb`s Quarters (*Chenopodium album*), White Sweetclover (*Melilotus albus*), Common Plantain (*Plantago major*), Common Dandelion (*Taraxacum officinale*), Horseweed (*Conyza canadensis*), and Worm-seed Wallflower (*Erysimum*

[1]**National Parks Bussinesses Regulations, s. 4(1).**

cheiranthoides). According to ECCC, the site was free of invasive species prior to remediation work.

Invasive plant species, as defined by NWT Biodiversity Team (2020), are species that occur in areas beyond their natural range as a result of disturbance, development, or climate change. It is likely that seeds and roots of these invasive species were introduced to the former weather station area via large machinery and/or staff during remediation activities. Recently disturbed soil and full sun exposure provides optimal conditions for newly dispersed seeds and vegetative growth. It is important to control the spread of invasive plant species to limit potential economic, cultural, and environmental damage. Invasive species can potentially displace native species, which in turn can alter wildlife habitats, increase the risk of wildland fire, and reduce the availability of berries and medicinal plants, among other impacts.

ECCC is proposing to hire an environmental consultant, Tetra Tech, to eradicate the six invasive plant species at the Fort Reliance former weather station during summer, 2021. Tetra Tech may recruit a subcontractor to assist with the fieldwork. Any company that conducts a business in a national park requires a business licence[1]. As per the requirements of the *Mackenzie Valley Resource Management Act*, Parks Canada conducts preliminary screening before issuing business licences to determine any public concern, or adverse environmental, social or cultural impact.

The proposed methods for eradicating the invasive plant species are described in the draft *Weed Control Plan for Fort Reliance Former Weather Station* (Tetra Tech, 2021). Methods include a combination of mechanical (e.g., hand pulling and digging) and chemical treatment (e.g., spot application of herbicide), depending on species and extent of occurrence. As part of the eradication plan, Tetra Tech has proposed the following activities:

Activities

- Resurvey documented sites to assess the density and extent of invasive plant species, as well as, the presence of other native plant species
- Determination of treatment option
- Treatment application
- Disposal of invasive species (i.e., bagged and burned on site)

6. VALUED COMPONENTS THAT MAY BE AFFECTED

Indigenous Peoples, and the Social and Cultural Environment

The National Park Reserve is part of Thaidene Nëné Indigenous Protected Area (IPA). Management of the National Park Reserve is shared between Parks Canada and Indigenous Governments: Łutsël K'é 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 Peoples

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'é Dene First Nation, Deninu Kųę First Nation, Yellowknives Dene First Nation, the Northwest Territory Métis Nation, and the North Slave Metis Alliance who also assert traditional territory within the area.

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 Nëné Indigenous Protected Area, declared by Łutsël K'é 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. There are no known heritage resources at the former weather station at Fort Reliance.

- Visitor Experience

It is currently 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 and 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.

Visitor use of Trophy Lodge, located next to the former weather station at Fort Reliance, primarily occurs during summer months. Eradication work is not expected to disrupt visitor activities at the lodge.

Natural Environment

Thaidene Nene National Park Reserve protects approximately 14,000 km^2 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 tree line. It is characterized as having low to moderate relief with innumerable interlocking 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 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.

Soils at the former weather station at Fort Reliance were previously disturbed. Eradication of the six invasive plant species is part of an ongoing effort by Environment and Climate Change Canada to remediate the site.

- 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 seasonally occur.

- 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 relatively low inputs of industrial and community-related pollutants potentially come from the surrounding area. 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 is dedicated to providing only hydrometric information (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 and 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 barrens, 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 with species inventories. 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 within Indigenous cultures. 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 (*Myotis 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. Although not yet listed on Schedule 1, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has assessed Barren-ground Caribou as Threatened. All three herds 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 recently approved a Caribou Stewardship Plan (called *Yúnethé Xá ʔetthën Hádı*) that includes a self-imposed 2-year moratorium on hunting caribou

from the Bathurst herd. Other plans (e.g., Bathurst Caribou 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 consistent 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 also 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)*, Barn Swallow (*Hirundo rustica)*, Common Nighthawk (*Chordeiles minor*), and Olive-sided Flycatcher (*Contopus cooperi*) are listed as Threatened; and Horned Grebe (*Podiceps auritus)*, Short-eared Owl (*Asio flammeus*), Red-necked Phalarope (*Phalaropus lobatus*), and Rusty Blackbird (*Euphagus carolinus*) are listed as Special Concern. Harris's Sparrow (*Zonotrichia querula*) is not listed on Schedule 1, but it has been assessed by COSEWIC as a species of 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 Endangered 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. ASSESSMENT OF POTENTIAL IMPACTS

Indigenous Peoples, and the Social and Cultural Environment

- Indigenous People, Heritage Resources, and Visitor Experience

The potential impacts resulting from the eradication of six invasive plant species at the former weather station at Fort Reliance should be negligible given that the purpose of the work is to remediate the site to ensure the ecological and cultural integrity of the Thaidene Nëné for the benefit, education and enjoyment of future generations and visitors from around the world.

Natural Environment

- Soil

Impacts from hand-pulling plants and the use of hand-tools on soil is expected to be localized and minimal during the eradication of invasive species. The soils at the former weather station site have endured years of previous disturbance.

- Air

Impacts to air quality are not expected.

- Water

Impacts to water quality are not expected.

- Vegetation

Impacts to natural vegetation at the former weather station are expected to be relatively minimal, with the exception of the eradication of the six invasive species.

- Wildlife

Impacts to wildlife are not expected. A bear monitor will be employed during eradication work to ensure the safety of contractors.

8. MITIGATION MEASURES

Tetra Tech will adhere to the mitigations described in the draft *Weed Control Plan for Fort Reliance Former Weather Station* (see attached).

9. SIGNIFICANCE OF RESIDUAL ADVERSE EFFECTS

Given the limited magnitude of effects and the application of mitigation measures, the eradication of invasive plant species is not expected to cause residual adverse effects to natural, social or cultural environments.

10. ENGAGEMENT AND CONSULTATION

Parks Canada staff worked with designated contacts from Łutsël K'é Dene First Nation and Northwest Territory Métis Nation to develop and review the draft Development Description for the proposed eradication of invasive species. This document was also shared with the other Indigenous partners involved with cooperative management prior to the May 28th, 2021 announcement commencing a 30-day public review of the Development Description.

This preliminary screening document has been reviewed by the Thaídëne Nene Xá Dá Yáłti (Management Board). Members of the Management Board include appointees from the two Indigenous partners who, through their establishment agreements, help guide park operations: Łutsël K'é Dene First Nation and Northwest Territory Métis Nation.

11.1 Bibliography

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12. DECISION

Parks Canada has conducted this preliminary screening of " Eradication of invasive plant species at the former weather station in Fort Reliance, 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

Prepared by: *Danielle Thompson* Ecosystem Scientist, SWNWT Field Unit	Date: June 22, 2021
Recommended by: Thaídëne Nene Xá Dá Yáłti (Management Board) • **Addie Jonasson** • **Arthur Beck** • **Earl Evans** • **James Marlowe** • **JC Catholique** • **Paul Herrington** • **Steven Nitah**	Date: June 24, 2021
Approved by:  _____ *Laani Uunila* Implementation Manager, Thaidene Nene National Park Reserve	Date: June 25, 2021

Map: Thaidene Nëné Indigenous Protected Area, including Thaidene Nene National Park Reserve and the former weather station at Fort Reliance where eradication activities will occur.