PRESERVING OUR LAND:
PREPARING FOR THE FUTURE:

TŁĮCHǪ GOVERNMENT REFORESTATION

Community Presentation – Supporting Report

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Let's Plant Trees

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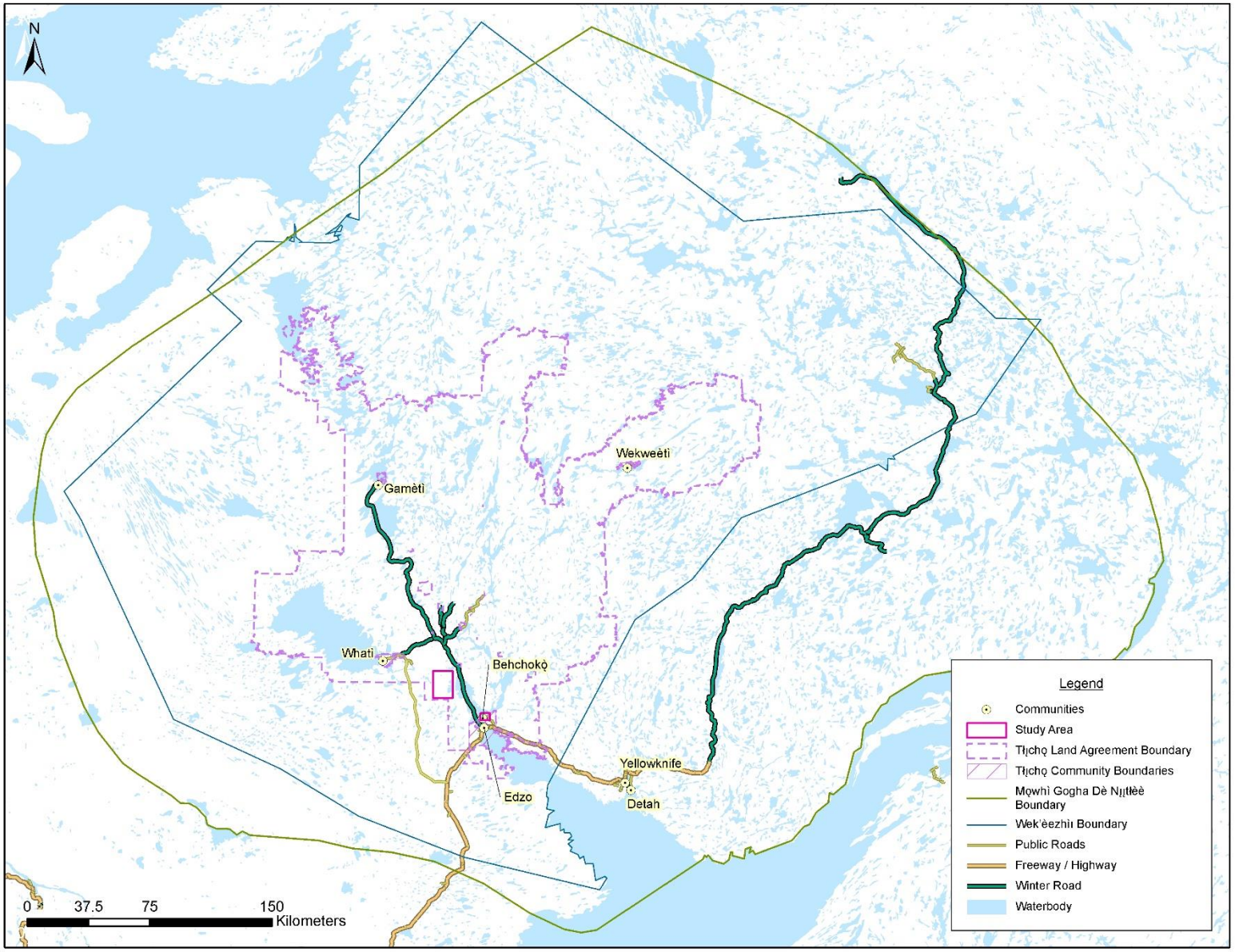
PROJECT INTRODUCTION

In October of 2023, Tłı̨chǫ Grand Chief Jackson Lafferty signed a Memorandum of Understanding with Tree Canada and Let's Plant Trees Ltd., officially launching a three-year agreement to plant one million trees on Tłı̨chǫ land. Recently the Tłı̨chǫ Government came to an agreement with Natural Resources Canada's (NRCan) 2 Billion Tree (2BT) Program, which will sponsor the planting of an additional 12 million trees. This report describes the elements related to the first 2 million trees to be planted. Altogether, the project aims to align western science with Tłı̨chǫ traditional knowledge, and work within the Tłı̨chǫ Land Use Plan. Let's Plant Trees has contracted several forestry professionals and industry representatives to support the different phases of this project.

The overall goal of the project is to reforest areas that were recently burned by wildfire and are not naturally regenerating. Information shared by Tłı̨chǫ elders helped identify important areas to the community to focus reforestation efforts, and also helped identify white spruce and paper birch as important species to replant. Reforestation plans will be designed to:

- Maintain the historic structure and composition of ecosystems
- Accelerate the development of winter foraging habitat for the Bathurst herd of barren-ground caribou (*Rangifer tarandus groenlandicus)*
- Promote the growth of low-flammability vegetation and culturally important tree species closest to the community of Behchokǫ̀

This report will describe the rationale for the reforestation plan, work completed to date, and future project phases. It will introduce the proposed planting units for 2025 and summarize the treatment details. It will also outline a proposed monitoring plan to understand the results of this project over time.



Map 1. Overview map of Tłı̨chǫ Lands and study area locations.

CHANGING WILDFIRE IN THE NORTH

Changing wildfire frequency and intensity, and changes to ecosystem recovery from wildfire in the north is one of the primary reasons this project was initiated. A significant proportion of Tłįchǫ territory has burned in the last ten years, and community members have expressed concerns about the areas of winter forage habitat for caribou recently burned in large fires. A review of the available scientific literature supported these observations. It also found evidence that forests are not regenerating in the same way after wildfires as in decades past. These factors are further discussed in this section.

Historic Regeneration After Wildfire

Historically, wildfires regularly burned large areas in the boreal forest – referred to in the literature as a *severe or stand-replacing wildfire regime.* The characteristics of trees and vegetation which dominate boreal forests are key contributors to this. For example, black spruce, white spruce, and jack pine contain resins and sap which accelerate the spread of flames, and have a lower moisture content in their needles compared with deciduous trees. It is more likely that they will ignite and burn. Black spruce naturally grows in dense patches, with low-hanging branches that create a continuous pathway for flames to spread from the forest floor into the crowns of trees. Deep moss layers and peat soils which commonly make up the surface vegetation can become dry and flammable later in the wildfire season, and readily ignite.[1] In combination with a dry climate with relatively little precipitation, and high lightning activity, the Canadian

Figure 1. Jack pine seedlings growing post-wildfire.

[1] Bonan, G., Shugart, H. (1989). *Environmental factors and ecological processes in boreal forests.* https://slunik.slu.se/kursfiler/BI1164/30077.1314/Bonan_and_Shugart_-_1989_-_Environmental_Factors_and_Ecological_Processes_in_.pdf

boreal regions have historically experienced an average of 5000 reported ignitions per year.[2] Historically in the NWT, wildfire has impacted about 570,000 ha of forest per year, on average.[3]

Despite this high frequency and severity of disturbance, wildfire has an important role to play within the boreal ecosystem. Wildfires help cycle nutrients that support plant growth, regulate insect populations that affect trees, and open up the tree canopy, creating shifting mosaics of different forest structures across the landscape.[4] Trees and shrubs have adapted to the historic severity and frequency of wildfires. Conifer species like jack pine and black spruce have *serotinous* cones, which are sealed by sap that melts in the heat of a wildfire, releasing seeds to sprout and grow. Aspen and willow trees have underground

Figure 2. Trembling aspen shoots growing below burned trees.

[2] Burton PJ, Parisien M-A, Hicke JA, Hall RJ, Freeburn JT. 2008. *Large fires as agents of ecological diversity in the North American boreal forest*. International Journal of Wildland Fire 17: 754–767

[3] Government of Northwest Territories. (2014). *2014 NWT Fire Season Review Report* SECTION B (gov.nt.ca)

[4] White, Alison. (2018). Drivers of post-fire vascular plant regeneration in the conifer-dominated boreal forest of *southern Northwest Territories* https://scholars.wlu.ca/etd/2026

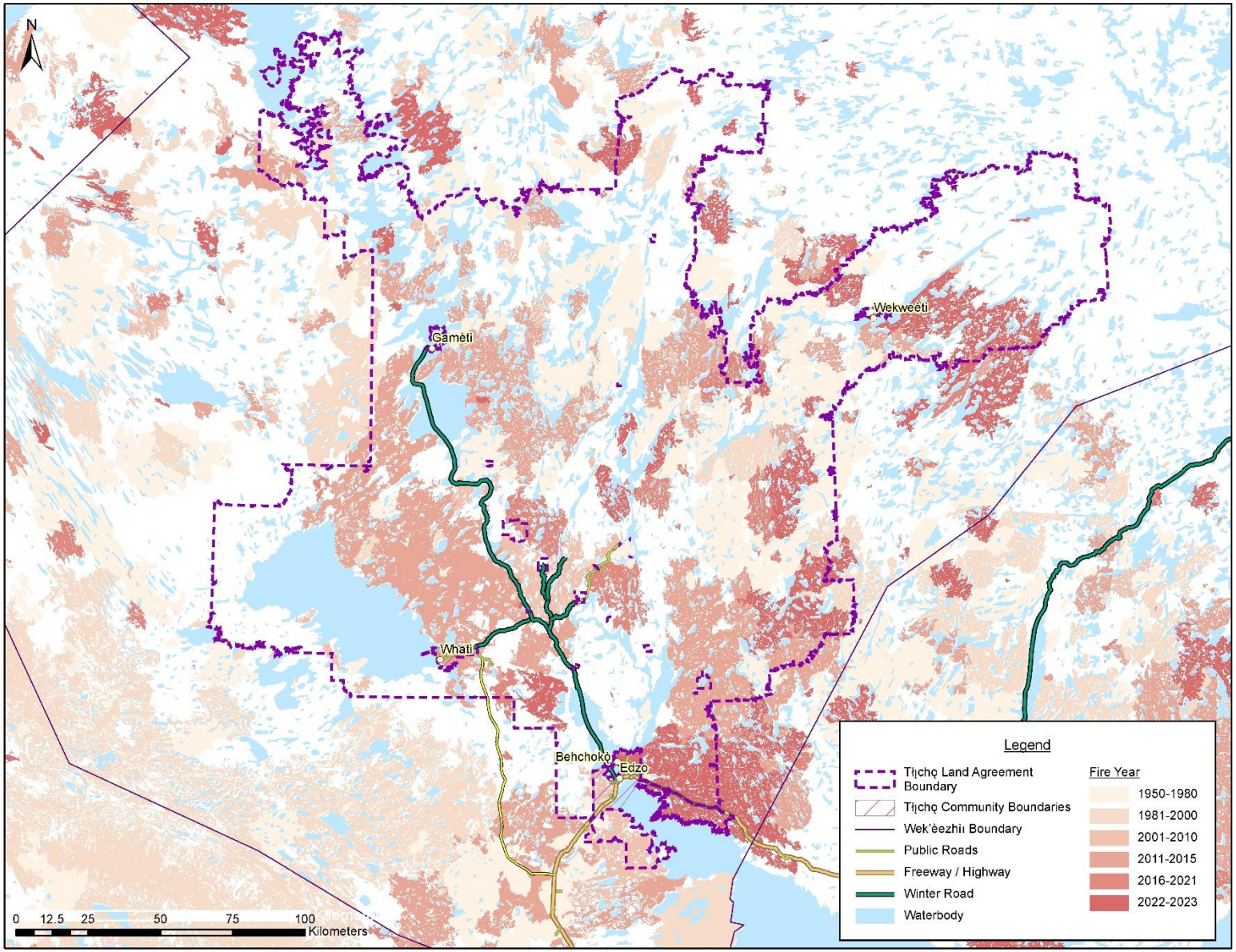
root systems (*rhizomatic structures)* that respond to disturbance by growing new shoots and leaves. Paper birch trees rely on their many small, light seeds that are blown by the wind to sprout in newly burned areas.[1]

However, ecosystem resilience in the boreal forest has been challenged in recent years. As climate change promotes more extreme fire weather, the number of large and severe wildfires that exceed historic norms are projected to increase.[5] These changes have been observed already across Canada, and locally. Two record-breaking wildfire years have occurred in the Northwest Territories (NWT) in the last decade. In 2014, wildfires burned 3.4 million hectares of forest, an all-time record. That record was again broken in 2023 when 304 fires burned a total of 4.16 million hectares.[6] Tłı̨chǫ communities were directly impacted as homes and structures were damaged and residents were forced to evacuate. The extent of these extreme wildfire years is shown on Map 2. In all, 752 fires have burned approximately 45% of Tłı̨chǫ territory from 1965 to 2019.

Figure 3. Wildfire burning in 2023 outside Behchokǫ̀. Photo source: https://cabinradio.ca/143502/news/yellowknife/possibility-fire-reaches-yellowknife-outskirts-by-weekend/

[5] Walker, X., Rogers, B. et. al. (2020). *Fuel availability not fire weather controls boreal wildfire severity and carbon emissions.* https://ntrs.nasa.gov/api/citations/20205009254/downloads/s41558-020-00920-8.pdf?attachment=true

[6] Canadian Interagency Forest Fire Centre. (2023). *Canada Report – 2023 Fire Season.* CIFFC_2023CanadaReport_.pdf



Map 2. Wildfire history in Tłı̨chǫ territory from 1950 to the present day.

Changing Vegetation

Changes in how boreal forest ecosystems regenerate from wildfires have been observed as larger and more severe burns have begun to occur with increasing frequency in the north. This new wildfire regime has the potential to change several different characteristics of boreal forest ecosystems, including:

- The *tree species* which make up the forest stand.
- The *forest structure* of the regenerating stand, or pattern of vegetation growth that contributes to the ecosystem's function.
- The *succession* of moss, shrub, and tree species that regenerate after a fire.[7]

Causes of these changes are due to several, interrelated factors. However, two that are important to highlight are the decreased availability of tree seed sources, and differences to the growing environment for seedlings.

Figure 4. Forest floor consumed by wildfire in forests near James Lake, northwest of Behchokǫ̀.

[7] Dorian M. Gaboriau, Hugo Asselin, Adam A. Ali, Christelle Hély & Martin P. Girardin. (2022). *Drivers of extreme wildfire years in the 1965–2019 fire regime of the Tłı̨chǫ First Nation territory, Canada*. Écoscience, 29:3, 249-265.

When seed sources for certain tree species decrease, the species that regenerate in a forest stand after a wildfire may be different than the species that existed at the location previously. Seed sources may be scarce after a wildfire because, with increasingly large areas burned, the distance from healthy stands producing cones and seeds to the area regenerating after fire is greater. Additionally, increasingly severe wildfires may completely consume cones and seeds that would otherwise be adapted to persist through a lower intensity burn. Fewer live trees may be left unburned within a fire perimeter to provide seeds. Finally, as large and severe wildfires burn more frequently, even *re-burning* recently disturbed areas, some stands of trees may not reach maturity and produce seed before they are impacted again by wildfire.[8]

Both the impacts of climate change, and the impacts of more severe wildfires, affect the environment that new seedlings begin to grow in. In combination with decreased seed sources, this can change which species will regenerate at the site. Repeated severe wildfires reduce the thickness of organic layers on the forest floor, which can promote the regeneration of deciduous species like aspen and paper birch.

Figure 5. High severity wildfire where no remaining live trees or unburned cones with healthy seeds are visible.

[8] Coop, J. D., Parks, S. A., Stevens-Rumann, C. S., Crausbay, S. D., Higuera, P. E., Hurteau, M. D., Tepley, A., Whitman, E., Assal, T., Collins, B. M., Davis, K. T., Dobrowski, S., Falk, D. A., Fornwalt, P. J., Fulé, P. Z., Harvey, B. J., Kane, V. R., Littlefield, C. E., Margolis, E. Q., North, M., … Rodman, K. C. (2020). Wildfire-Driven Forest Conversion in Western North American Landscapes. *Bioscience*, *70*(8), 659–673. https://doi.org/10.1093/biosci/biaa061

Furthermore, the effects of climate change which are promoting more hot, dry summers and more extreme fire weather can also challenge seedling growth.[8]

Vegetation changes look different across the boreal forest. Within and near Tłı̨chǫ territory, the most likely changes to occur are for stands which, pre-burn, were mostly made up of black spruce and white spruce, to shift to jack pine and trembling aspen after repeated large and severe wildfires.[9] This has implications for the quality and quantity of caribou winter forage, which is an important value identified by elders and community members.

Barren-ground Caribou / *Ekwǫ̀* Habitat in Tłı̨chǫ Territory

Barren-ground caribou (*ekwǫ̀*, *Rangifer tarandus)* are a subspecies of caribou, with a range that extends from the boreal forest to the Arctic tundra, and across North America from Alaska to western Greenland. They travel in large herds on an annual, characteristic migrations through different seasonal ranges. Tłı̨chǫ territory is located in the heart of the annual range for the Bathurst herd (*Kokètì ekwǫ̀)*.[10]

In the summer, caribou feed on lichens, sedges, shrubs and forbs, while during the winter they forage primarily for lichens that grow on tree branches or the forest floor. The location where herds overwinter varies, but typically caribou select areas where lichen is plentiful, often in older forests (150-250 years). In these stands, larger trees can provide shelter, and snowpacks are shallower and softer, with fewer crusted and icy layers to walk through.[11] Map 3 shows the core winter forage range for the Bathurst herd, within its larger annual range. It should be noted that these seasonal boundaries are sourced from information gathered for the 2018 Bathurst Caribou Range Management Plan. Boundaries for the plan were drawn by observing the frequency of caribou occurrences based on radio collar data. The larger 'annual range' boundary was drawn to show the range management area for the Bathurst herd based on the locations they were observed to occupy or travel through from 1996-2014, when data was collected. Traditional knowledge identifies the historic range of the herd as expanding beyond these boundaries, when the herd was much larger than it currently is.[10]

[9] Baltzer, J. L., Day, N. J., Walker, X. J., Greene, D., Mack, M. C., Alexander, H. D., Arseneault, D., Barnes, J., Bergeron, Y., Boucher, Y., Bourgeau-Chavez, L., Brown, C. D., Carrière, S., Howard, B. K., Gauthier, S., Parisien, M., Reid, K. A., Rogers, B. M., Roland, C., . . . Johnstone, J. F. (2021). Increasing fire and the decline of fire adapted black spruce in the boreal forest. Proceedings of the National Academy of Sciences, 118(45). https://doi.org/10.1073/pnas.2024872118

[10] Bathurst caribou range plan project team. (2018). *Bathurst Caribou Range Plan, Supporting Report: Caribou Range Assessment and Technical Information.* https://www.gov.nt.ca/ecc/sites/ecc/files/resources/draft_-_caribou_range_assessment_and_technical_information.pdf

[11] Thomas, D. (1998). *Fire-caribou relationships: (VII) fire management on winter range of the Beverly herd: final conclusions and recommendations*. https://publications.gc.ca/collections/collection_2018/eccc/cw69-5/CW69-5-315-eng.pdf

Particularly after the 2014 fire season, community members have become very concerned about the impacts of wildfire on Bathurst caribou winter range. Western science has identified changing wildfire regimes as one of several compounding threats to the population's health and long-term recovery.[10,12, 13]

While there is evidence that other herds forage in burned areas, younger forests, and deciduous dominated ecosystems, it is generally understood that these areas are less preferable habitat.[14] However, as discussed in the previous section, increasing areas of the boreal forest are now characterized by these ecosystems as a result of changing wildfire regimes. This is of particular concern for Tłı̨chǫ as the Bathurst herd population has declined continuously over the past four decades, from a peak of more than 400,000 animals in the 1980s, to the current low of approximately 6,200. While it is known that historically caribou herds have experienced cyclical population changes, fluctuating from hundreds of thousands of animals

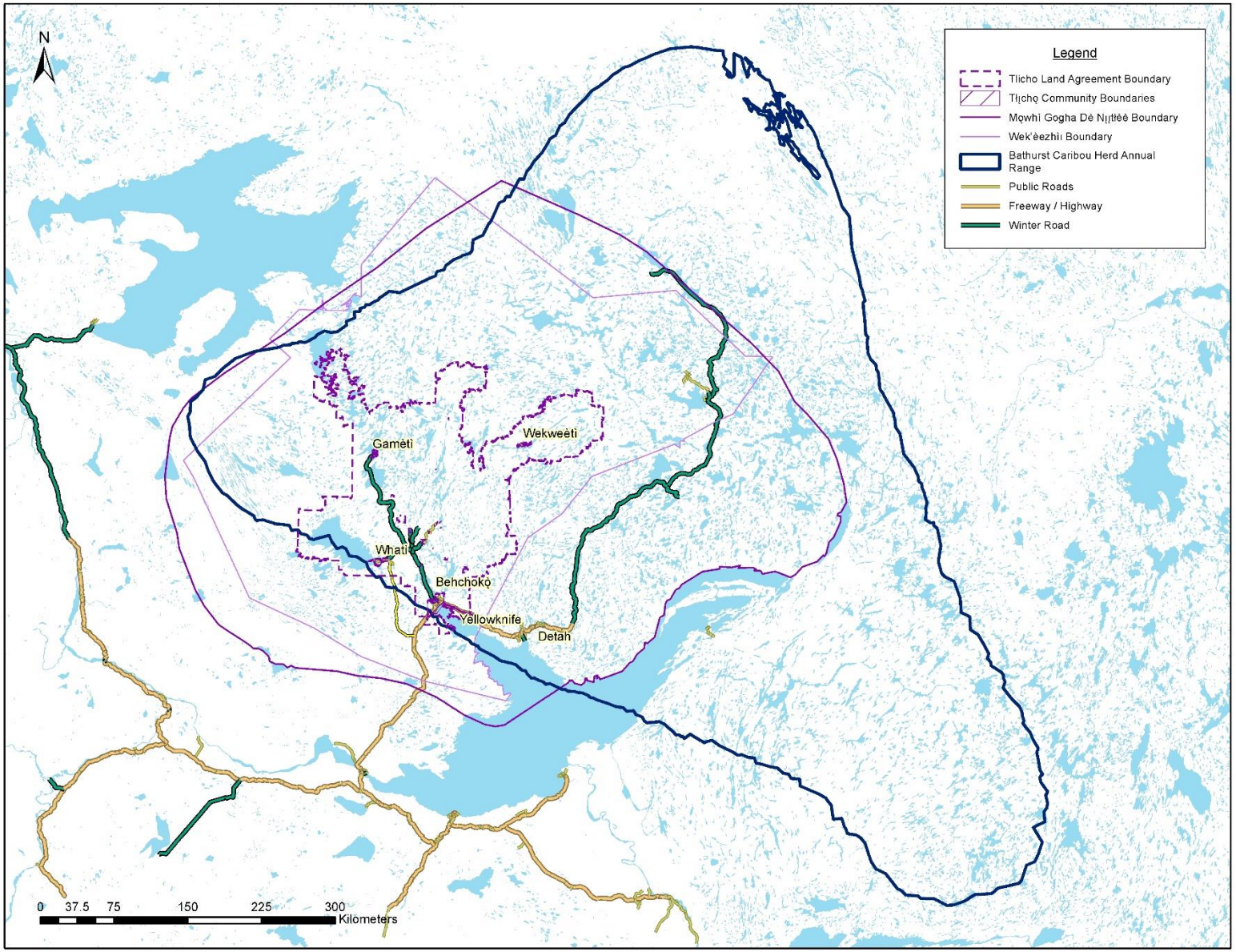
Figure 6. Example of reindeer lichen, a key component of winter forage for barren-ground caribou.

[12] Bathurst Caribou Advisory Committee. (2022). *Annual Review on Bathurst Caribou – 2022 Action Plan.* https://wrrb.ca/sites/default/files/FINAL%20BCH%20Action%20Plan%202022.pdf

[13] Committee on the Status of Endangered Wildlife in Canada. (2016). *COSEWIC assessment and status report on the Caribou – Rangifer tarandus, Barren-ground population, in Canada.* http://www.registrelep-sararegistry.gc.ca/default.asp?lang=en&n=24F7211B-1

[14] Golder Associates for Cumulative Impact Monitoring Program. (2016). *Bathurst caribou winter range resource selection.* https://nwtdiscoveryportal.enr.gov.nt.ca/geoportaldocuments/CIMP_Bathurst_Winter_RSF_April2016.pdf

down to only thousands, Bathurst herd numbers to date have not naturally recovered as they have in the past.[10] Currently all barren-ground caribou herds are designated as 'Threatened' by the Committee on the Status of Endangered Wildlife in Canada. [13]



Map 3. Bathurst caribou annual and core seasonal ranges.

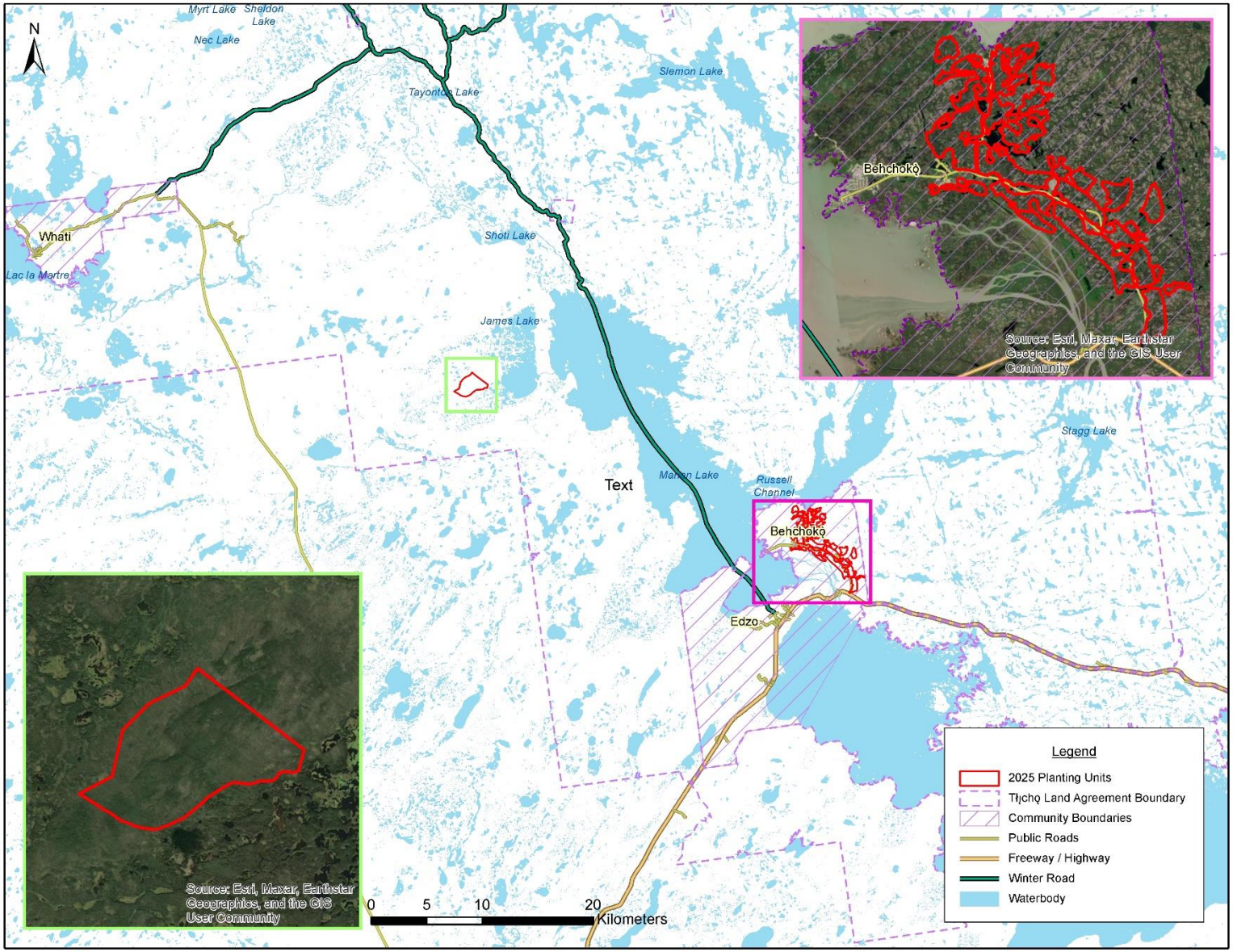
REFORESTATION PLANNING

The overall goal of this project is to regenerate forest stands that, when mature, will be favourable for caribou use as winter forage habitat. This is a multi-phase project, and planning and preliminary assessment work has already been completed. More activities will occur between the winter and summer of 2025 before the tree-planting work itself takes place, as shown in the diagram below. The following sections of this report further describe each project phase.

2022	•Assessing sites - initial helicopter reconnaissance of burned area west of James Lake.
2023	•Assessing sites - additional helicopter reconnaissance of burned area west of James Lake that would be suitable for planting.
Summer 2024	•Assessing sites - identifying planting unit boundaries. •Collecting cones and seeds.
Fall 2024 & Winter 2025	•Consulting community. •Sowing and growing seedlings. •Preparing planting prescriptions.
Summer 2025	•Planning operations. •Planting trees - focussing west of Behchokǫ̀ and/or James Lake. •Monitoring sites
2026	•Planting trees - focussing close to Behchokǫ̀, using low-flammability species. •Monitoring sites.

Together Let's Plant Trees, with financial support from Tree Canada and NRCan's 2BT Program, retained several forestry consultants as well as a commercial nursery partner to complete different project activities:

- B.A. Blackwell & Associates Ltd.
- Chickadee Reclamation Services
- PRT Growing Services Ltd.
- Silvarado Silviculture Ltd.
- Spectrum Resource Group Inc.



Map 4. Map of study area

Assessing Sites

Site assessment was completed in collaboration between B.A. Blackwell & Associates, Silvarado Silviculture, Spectrum Resource Group staff, as well as Tłı̨chǫ Environmental Monitors and Bear Guards, in the summer of 2024. The purpose of the site assessments was to identify areas that could be planted, and to gather information about forest stands to develop the *planting prescription documents*. This work took place in two study areas: near James Lake (northwest of Behchokǫ̀), and around the community of Behchokǫ̀ itself (shown on Map 4). At these two study areas, locations previously identified as potential planting sites were more closely evaluated and information to prepare the *planting prescription documents* was gathered.

Site assessment activities included accessing and observing the study areas on foot, by vehicle, and by helicopter. Helicopter flights facilitated access to the remote James Lake study area and provided overview information of the landscape. The Behchokǫ̀ study area was accessed by vehicle. On foot, consultants traversed these areas with Tłı̨chǫ elders, Environmental Monitors, and a local naturalist. Qualitative notes and observations were made of burned and unburned plants, vegetation, and soils. Unburned forests were closely assessed so that directions could be shared with tree planters about how to imitate the natural distribution of trees. Conversations with Tłı̨chǫ community members provided insights about wildlife habitat and the history of the area. These observations were then used to define the locations of treatment units for two project scenarios, described in the following sections.

Figure 7. Tłı̨chǫ Environmental Monitors, Bear Guards, B.A. Blackwell & Associates staff at James Lake site.

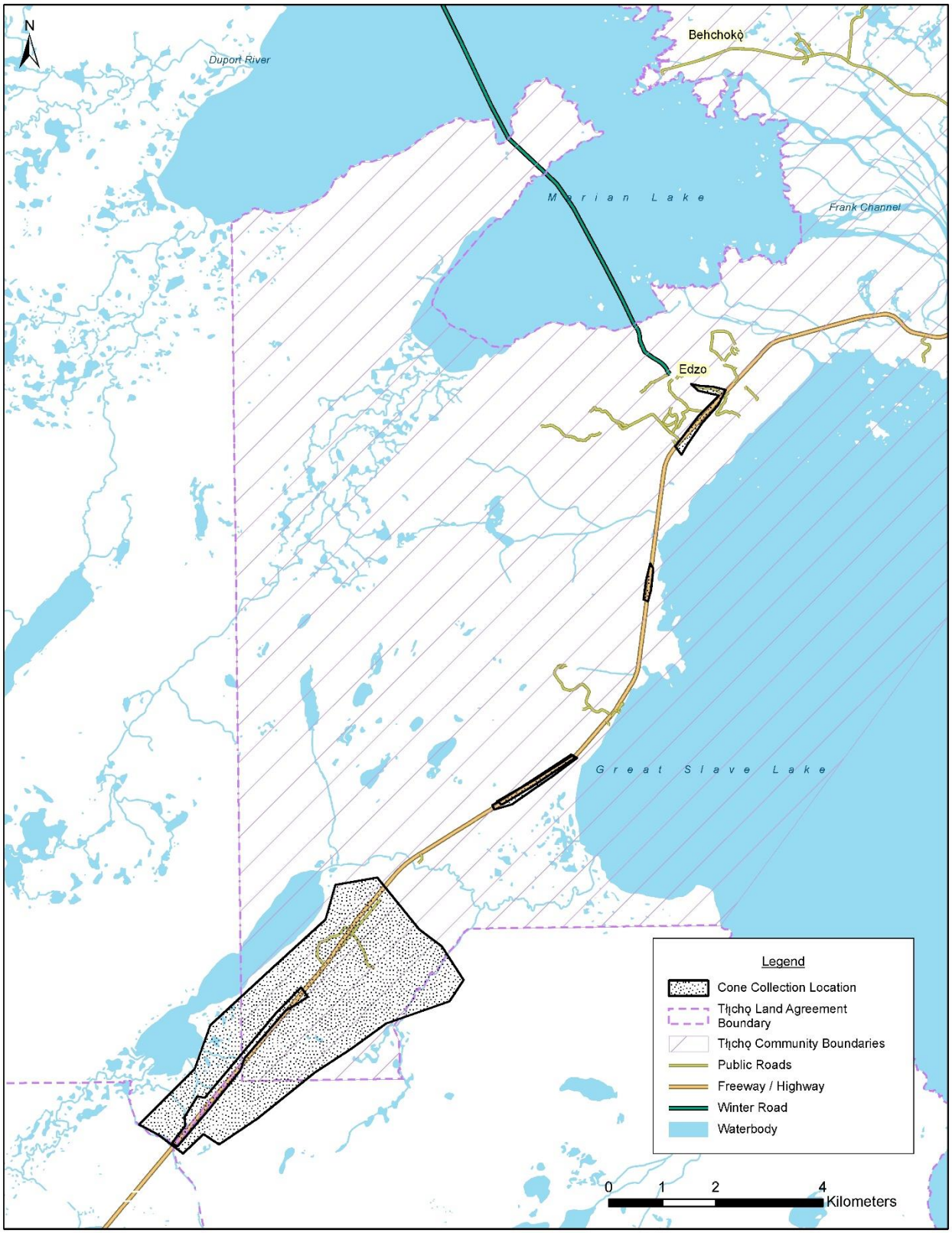
Collecting Cones & Seeds

Cone collection occurred in the summer of 2023 and 2024. This project phase was led by Chickadee Reclamation in collaboration with Tłı̨chǫ staff. Cones were harvested from healthy, mature trees in Tłı̨chǫ territory southwest of Edzo (shown on Map 5). Cones from white spruce, black spruce, tamarack, aspen and paper birch trees were all obtained. Once collected, cones were processed to separate out the tree seeds inside. The seeds were then dried and sorted, in preparation to be sown in a nursery.

The purpose of this project phase was to obtain a native seed source to supply a commercial nursery, who could sow and grow the tree seedlings. This is a specialty component of the project that was undertaken to grow trees from seeds local to Tłı̨chǫ territory. A local seed source will also ensure that trees are suited to the site. The 2023 and 2024 cone collecting work obtained sufficient seeds for the 2025 planting program. For future project phases, additional seed collection will be required.

Figure 8. Photos of Tłı̨chǫ crew picking and processing cones in summer/ fall of 2024. Left: Picking white spruce cones. Right: Quality control of black spruce cones.

Figure 9. Photos of Tłı̨chǫ crew picking and processing cones in summer / fall of 2024. Top: Pallets of black spruce cones ready for shipment. Bottom: Load of black spruce tops.



Map 5. Cone collection locations 2023-2024. All cone collection occurred on lands within the Tłı̨chǫ Boundary.

Sowing and Growing Seedlings

Growing seedlings for the 2025 tree planting work began in the fall of 2024 and has continued through the winter. This project phase is facilitated by PRT Growing Services. The seeds obtained through the cone collection and seed sorting process were sent to the PRT tree nursery in Beaverlodge, Alberta. Here, the seeds were sown and will grow through the late winter and spring of 2025. By the summer, when planting occurs, the seedlings will be mature. PRT's commercial nursery facility have the capability of producing the required number of seedlings, in high quality health and condition to provide the best chance of survival at the site.

Writing Planting Prescriptions

Planting prescriptions will be prepared by B.A. Blackwell & Associates in the winter of 2024. Planting prescriptions are technical documents that provide guidance to direct the actual tree planting. The documents specify the tree species that will be planted, as well as the densities, microsites, and spatial arrangements for the seedlings, and they are designed to reflect natural, pre-burn stand conditions. The documents will map the specific locations where planting should take place and describe any special measures or considerations to take at the site.

Planning Operations & Planting Trees

Operational planning has been an ongoing phase that began in summer 2024 and will carry on until tree planting begins. The tree planting work phase will commence in late June and continue into late July 2025. Planning and supervising tree planting operations will be led by Spectrum Resources Group and Silverado Consulting, with a variety of employment opportunities for Tłı̨chǫ community members. This includes camp staff, tree planters, Bear Guards, quality control technicians, as well as other subcontracting opportunities.

Operational planning must carefully consider several logistical factors, as this is a large and remote operation. This includes:

- Mobilizing crews and setting up camp
- Constructing trails or helicopter landing pads
- Establishing a safe work site
- Planting trees
- Completing quality control and sample plots

The final operational plans will address all these factors, and planting work will be carried out according to the planting prescription guidance. Tree planting will be completed by the end of July 2025, and the quality control protocols will ensure that specifications are met.

Figure 10. Example of tree planting operation.

Monitoring

Monitoring of the planted trees will occur once planting has been completed. This phase will involve B.A. Blackwell & Associates, Spectrum Resource Group, and Silverado Consulting. There is the opportunity for collaboration with Tłı̨chǫ to train and employ community members as monitors to complete this work locally in the coming seasons.

Monitoring activities involve returning to the site periodically and assessing the survival and health of planted seedlings. Monitoring surveys are also an opportunity to observe other environmental changes to the site that may be important to consider for future planting operations. The purpose of these activities is to continuously learn and improve from work that has already been completed. The result of this project phase will be to produce an ongoing record of project successes and opportunities to change and adapt decision-making.

TŁĮCHǪ EMPLOYMENT

Approximately 95 person days of employment have been generated for Tłı̨chǫ community members to date as part of this project. Tłı̨chǫ crews completed approximately 30 person days of work during the site assessments in June 2024, primarily clearing helicopter landing pads, as well as completing Environmental Monitor and Bear Guard duties. In addition, Tłı̨chǫ Environmental Monitors and Bear Guards were employed for 8 person days in August 2024 for a ground-based assessment in the Behchokǫ̀ area. Chickadee Reclamation hired a Tłı̨chǫ crew in 2023 and 2024 to collect cones. In 2023 this provided 29 person days of employment, and in 2024 this provided 28 person days of employment.

PLANTING OPERATIONS (2025 & 2026)

During the site assessment phase, a large area was assessed around James Lake and around Behchokǫ̀. Different treatment units were identified within this larger area. Boundaries for these treatment units were drawn based on how accessible the units were to either helicopter landing pads (in James Lake), or roads (in Behchokǫ̀). As well, treatment unit boundaries were drawn so that the largest areas of *plantable ground* were included, and the largest areas of rock, wetlands, and waterbodies were excluded. Many of these treatment units were recommended for planting in the 2025 season. Others are not, and instead may be considered for planting in 2026 and beyond.

The summary tables in the following sections show the *gross area* to be planted; however, it should be noted that the *net area* will be substantially smaller, as the treatment units overlap many irregularly shaped wetlands, shallow or wet soils, and rock features that are too small to delineate on maps but will not be planted. The gross area, net area, and trees to be planted in each individual treatment unit are fully described in the appendix at the end of this document.

At both the James Lake and Behchokǫ̀ locations, tree planting will follow guidance from the planting prescription documents for the density, microsites, species, and spatial arrangement of trees. The overall density prescribed is 2000 *stems per hectare* (i.e., planting 2000 seedlings per hectare of plantable land). The planting prescriptions will recommend patchy and clumpy planting arrangements to match the natural structure of unburned forests in the surrounding area. In both scenarios, several different species will be planted, and tree planters will be instructed about the appropriate sites to place different seedlings – for example, black spruce and tamarack in wet and boggy locations, and white spruce on well drained ridges.

Because this is a pilot tree planting project, some trial initiatives are recommended. For example, the prescriptions will recommend that in a small proportion of the treatment unit, fertilizer sachets be planted alongside seedlings, to provide nutrients to the roots of young seedlings, promoting growth and vigour. Additionally, a small proportion of birch will be planted – but due to sowing, growing and transportation logistics, *summer stock* will be used which is atypical, and could be considered a bit experimental. The summer planting of birch introduces some risk of lower survivability or growth.

Prescriptions will also provide instruction about monitoring the health of planted trees. This may include scheduled visits each growing season for the first several years when seedlings are most vulnerable to damage or grazing from wildlife. In later years, as trees establish, monitoring surveys may not be required as frequently. During monitoring visits, activities such as traversing specific areas to complete sample plots and gather information about the growing stand are recommended.

It should also be noted that since tree planting at this scale has not been attempted to date in Tłı̨chǫ lands, there are many unknowns and risk factors that may require changes and adaptations in the future. The potential for animal damage (browsing, grazing, etc.) to seedlings is unknown, but there are snowshoe hares present in the burned areas so there is some likelihood of browse damage to young seedlings. While the timing and density of planting will be determined based on the best available information, factors like drought and early frosts are also unpredictable. Results from the monitoring program will provide valuable insights about where changes and improvements may be required in the future.

Tłı̨chǫ Planting 2025/2026 Summary

Summer 2025				
Project Phase	Funding Source	Trees for James Lake	Trees for Behchokǫ̀	Trees for Behchokǫ̀ FireSmart
Pilot Project	Tree Canada	230,000	500,000	-
	2BT	-	-	-
Phase 1	Tree Canada	-	-	-
	2BT	270,000	730,000	-
Summer 2025 Subtotals:		**500,000**	**1,230,000**	**-**

Spring 2026				
Project Phase	Funding Source	Trees for James Lake	Trees for Behchokǫ̀	Trees for Behchokǫ̀ FireSmart
Pilot Project	Tree Canada	-	-	270,000
	2BT	-	-	-
Phase 1	Tree Canada	-	-	-
	2BT	-	730,000	-
Spring 2026 Subtotals:		**-**	**730,000**	**270,000**

Combined Totals (Summer 2025 + Spring 2026)		
Trees for James Lake	Trees for Behchokǫ̀	Trees for Behchokǫ̀ FireSmart
500,000	**1,960,000**	**270,000**

Funding Source	Trees for James Lake	Trees for Behchokǫ̀	Trees for Behchokǫ̀ FireSmart	Total Trees
Tree Canada	230,000	500,000	270,000	**1,000,000**
2BT	270,000	1,460,000	-	**1,730,000**
				2,730,000

Grand Total Trees	2,730,000

SUMMER 2025 – BEHCHOKǪ̀ & JAMES LAKE

In 2025, 1,230,000 trees will be planted in treatment units located around Behchokǫ̀ and 500,000 trees will be planted in the James Lake study area for a total of 1,730,000 trees. The gross area of the treatment units is approximately 1400 hectares altogether.

Table 1. Locations, gross area, and total trees to be planted in 2025.

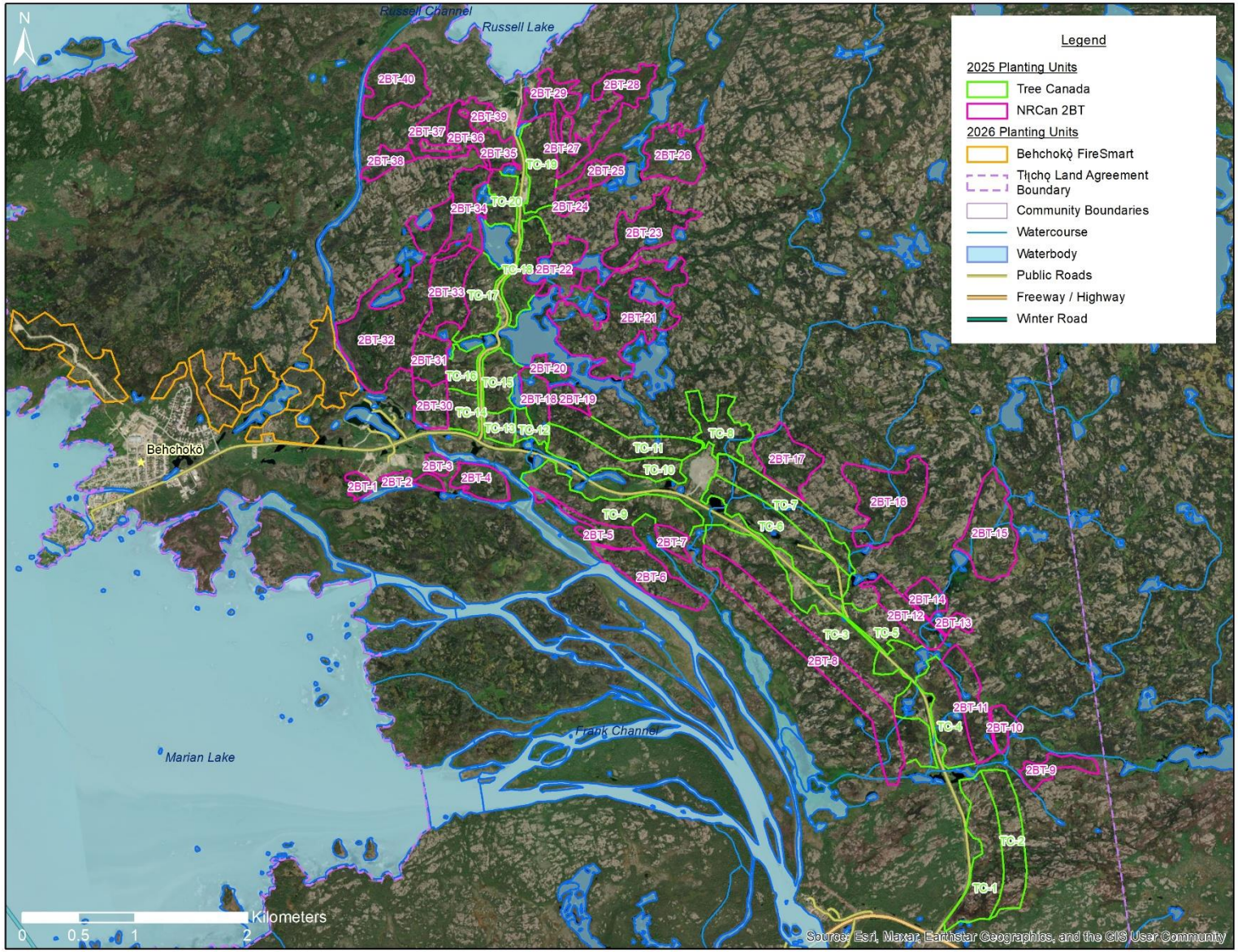
Location	Gross Area (Hectares)	Trees To be Planted
Behchokǫ̀	1100	1,230,000
James Lake	340	500,000
Total	**1440**	**1,730,000**

Species proportions will be as follows:

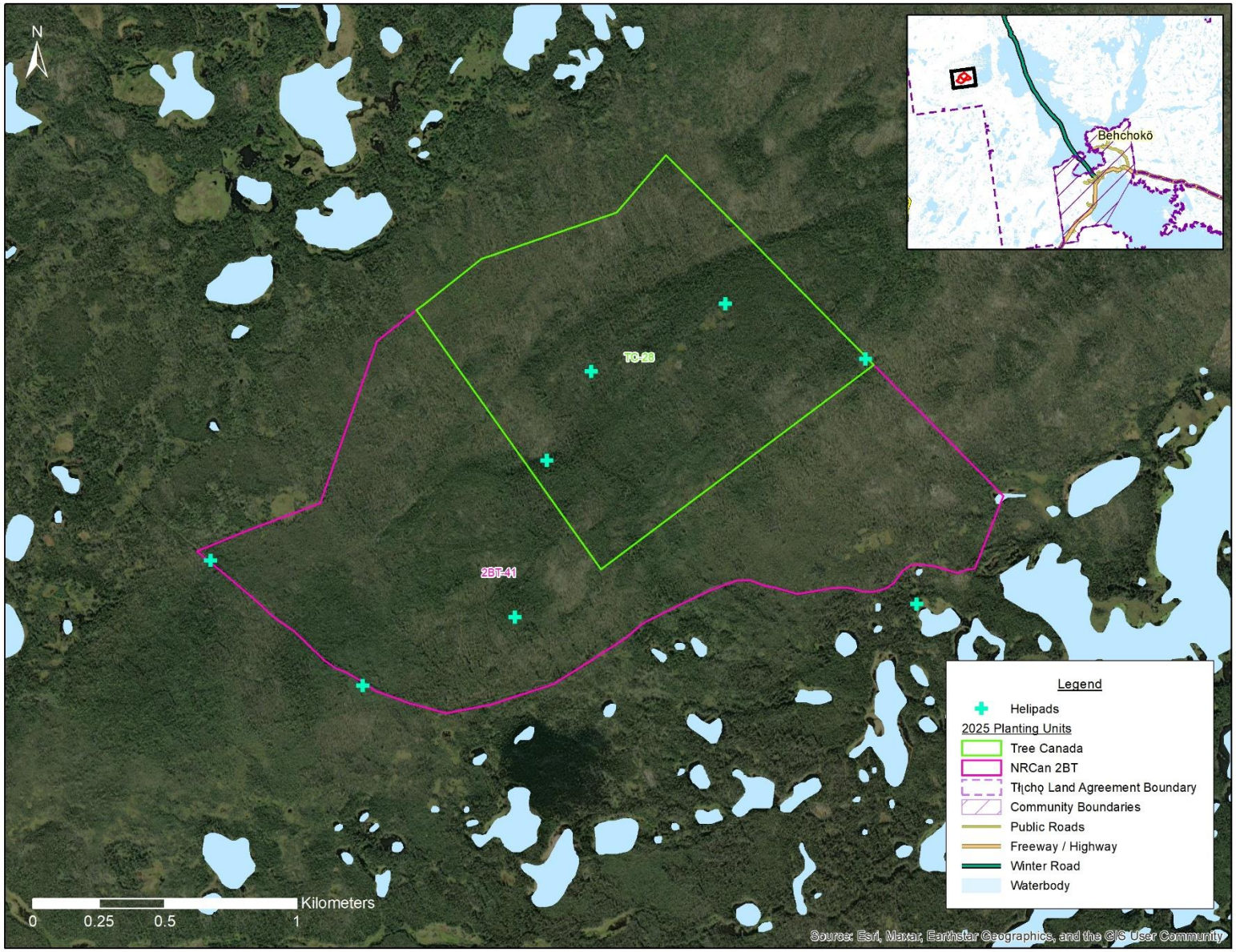
- Black spruce: 92% (1,597,000 seedlings)
- White spruce: 3% (50,000 seedlings)
- Tamarack: 4% (61,100 seedlings)
- Birch: 1% (21,900 seedlings)

Planting in these locations will provide immediate reforestation and green-up to the areas along Behchokǫ̀ Road and Russell Lake Road, which burned in 2023. It should be noted that the areas directly adjacent to Behchokǫ̀ will be planted in 2026 with low-flammability species (birch, aspen). These areas were not targeted for planting in 2025 only because cones could not be collected in time.

The 2025 tree planting work will be split between the two geographically distinct areas of Behchokǫ and west James Lake. This will start the forest regenerating in areas close to Behchokǫ̀ but also allow for an initial planting trial of up to 500,000 trees in the remote helicopter access location in the 2023 fire west of James Lake.



Map 6. Summer 2025 planting sites, near Behchokǫ̀ – for 1,230,000 trees.



Map 7. Scenario 1 proposed planting sites, near James Lake – for 500,000 trees.

APPENDIX: AREA TABLE

The tables in this appendix list the units where planting will occur in the summer of 2025. The unit names, which are shown below, are associated with the sponsor for the area. For example, where tree planting is funded by the NRCan 2BT Program, units are labelled "2BT-1", "2BT-2", etc. Where tree planting is funded by Tree Canada, units are labelled "TC-1","TC-2", etc.

Gross area is also shown. However, within this boundary, a significant portion of each unit is not suitable ground for planting trees due to wetlands, waterbodies, and rock. The *Percent Plantable Estimate* refers to the estimated proportion of the treatment unit where trees can be planted after excluding all these features. The *Estimated Trees Plantable* (*2000 SPH)* field is determined by multiplying the gross area, by the percent plantable estimate, by a density of 2000 stems per hectare. This field is summed up to determine the 'Subtotal – Estimated Trees Plantable' line.

The 'Total – Estimated Trees Plantable to the Nearest 1000' and 'Subtotal – Estimated Trees Plantable to the Nearest 1000' lines are also included to give a more realistic portrayal of the level of accuracy with which to consider the figures. It should also be noted that the 'Total – Estimated Trees Plantable to the Nearest 1000' figure *exceeds the total number of trees funded by NRCan 2BT and Tree Canada.* This was deliberately calculated to provide extra ground suitable for tree planting – in case the mapped units had much more rock, wetlands, waterbodies, or other features that reduced the number of trees that could be planted. These numbers show the estimated total 'plantable spots' within the units. However, per the sponsorship agreements, and per the figures in Table 1, no more than 1,730,000 trees will be planted in the summer of 2025, with 1,230,000 trees to be planted near Behchokǫ̀ and 500,000 trees to be planted near James Lake.

Table 2. Area tables for units in the** Behchokǫ̀ **location, to be planted in summer 2025.

Unit Name	Area (Ha)	Percent Plantable Estimate (%)	Estimated Trees Plantable (2000 SPH)
2BT-1	3	65	4,407
2BT-2	5	60	6,155
2BT-3	3	60	3,689
2BT-4	12	55	13,463
2BT-5	12	50	11,608
2BT-6	22	50	22,332
2BT-7	5	50	5,471

2BT-8	53	50	52,733
2BT-9	10	60	11,758
2BT-10	6	60	7,245
2BT-11	20	60	24,324
2BT-12	15	45	13,312
2BT-13	3	65	3,830
2BT-14	8	60	9,289
2BT-15	32	50	32,040
2BT-16	38	55	41,800
2BT-17	22	55	23,846
2BT-18	10	50	9,980
2BT-19	5	50	4,828
2BT-20	3	45	2,546
2BT-21	62	50	62,000
2BT-22	16	65	20,510
2BT-23	25	60	29,516
2BT-24	8	55	8,811
2BT-25	5	60	6,597
2BT-26	22	60	25,850
2BT-27	9	55	10,241
2BT-28	17	70	23,553
2BT-29	13	55	14,526
2BT-30	11	60	13,756
2BT-31	12	60	14,531
2BT-32	65	50	65,000
2BT-33	22	65	28,798
2BT-34	18	70	25,240
2BT-35	7	60	8,791
2BT-36	13	60	15,177
2BT-37	11	60	12,751
2BT-38	7	65	8,830

2BT-39	1	60	1,376
2BT-40	25	60	30,215
Subtotal - Estimated Trees Plantable			*730,724*
Subtotal - Estimated Trees Plantable to the Nearest 1000			*730,000*
TC-1	35	45	31,623
TC-2	26	45	23,194
TC-3	65	50	65,452
TC-4	25	70	35,462
TC-5	14	55	15,742
TC-6	37	55	40,700
TC-7	28	50	28,279
TC-8	18	50	17,593
TC-9	36	55	39,290
TC-10	24	55	26,400
TC-11	27	50	27,312
TC-12	6	50	5,593
TC-13	8	60	9,004
TC-14	10	55	10,570
TC-15	14	60	17,122
TC-16	10	55	11,550
TC-17	20	65	25,919
TC-18	20	70	27,874
TC-19	21	60	25,182
TC-20	11	75	16,815
Subtotal - Estimated Trees Plantable			500,676
Subtotal - Estimated Trees Plantable to the Nearest 1000			501,000
Total - Estimated Trees Plantable to the Nearest 1000			**1,231,000**

Table 3. Area tables for units in the James Lake location, to be planted in summer 2025.

Unit Name	Area (Ha)	Percent Plantable Estimate (%)	Estimated Trees Plantable (2000 SPH)
TC-28	137	75	205,500
2BT-41	200	75	300,000
Subtotal - Estimated Trees Plantable to the Nearest 1000			505,500
Total - Estimated Trees Plantable to the Nearest 1000			**506,000**