



Draft Timber Harvest Plan for the Teslin North, Morley Bay and Strawberry Creek Management Areas

Teslin Tlingit Traditional Territory



Draft Timber Harvest Plan for the Teslin North, Morley Bay and Strawberry Creek Management Areas

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1 Acknowledgements

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2 Executive Summary

This Timber Harvest Plan (THP) has been prepared to meet the requirements of the Forest Resources Act (FRA), associated *Forest Resources Regulation* (FRR), and the Forest Management Plan for the Teslin Tlingit Traditional Territory. Under the legislation, a THP is required prior to the issuance of any timber harvesting licence or forest resources permit that authorizes harvesting in an amount greater than 25m³ (FRA, Section 29(4)(d)(ii)).

This THP identifies three management areas where forest resource harvesting activities can occur; the Teslin North, Morley Bay, and Strawberry Creek Management Areas each have their own management objectives which are specified in separate sections of this plan. The majority of area to which this plan applies is on Crown Land. A smaller yet still significant proportion of the overall area covered by the THP is Teslin Tlingit Council First Nation Settlement Land.

Proponents may submit applications to harvest in each one of these management areas provided their proposals are consistent with the objectives of this THP. Applications within this THP will be directed to the Yukon Government, Forest Management Branch for proposals located on Crown Land, and applications for proposals located on First Nation Settlement Land will be directed to the Teslin Tlingit Council.

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3 Background and Purpose

The Teslin Forest Management Plan (FMP) was jointly approved by Teslin Tlingit Council (TTC) and the Government of Yukon in 2007. The FMP provides strategic direction for the sustainable development of forest resources in the Teslin Tlingit Council Traditional Territory. This THP and all activities permitted within its scope will be consistent with direction provided in the FMP.

The implementation of the FMP is ongoing. Implementation work completed or in progress includes: the establishment of an annual allowable cut (AAC) determination of 25,000m³ per year; the drafting of a framework for monitoring ecological, economic, and social indicators; the approval of the Sawmill Road and Demonstration Forest Timber harvest Plan; and the preparation of a reconnaissance report identifying timber harvesting values near Johnson's Crossing. A resource report was also drafted for areas identified near Strawberry Creek. This draft resource report was the basis for including the Strawberry Creek blocks in this THP. The Government of Yukon and TTC are committed to continued implementation of the FMP.

In 2016, TTC began the process of establishing a wood boiler system in Teslin to heat buildings in the community. In 2018 the infrastructure for the first phase of the boiler system was completed and heat generating operations began.

Anticipating an increased demand for forest resource harvesting in the Teslin Tlingit Traditional Territory – hereafter referred to as the *Traditional Territory* – and recognizing that the existing Sawmill Road and Demonstration Forest Timber Harvest Plan is not suited to larger scale forest resource harvesting, FMB, TTC, and the Teslin Tlingit Renewable Resources Council (TRRC) established a working group to develop this THP.

The primary purpose of this THP is to establish areas where proponents can apply to harvest forest resources to supply biomass material to the community heating system in Teslin. Although creating opportunities for biomass harvesting was the impetus for developing this THP, this is not the sole objective of this plan.

Further objectives of this plan include: reducing wildfire risk through fuel reduction and stand conversion where appropriate; providing areas suitable for saw log and fuel wood harvesting; and maintaining or enhancing the integrity of the multiple social, ecological, and economic values found throughout the planning area.

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3.1 Introduction

This THP is situated in the Teslin Tlingit Traditional Territory within the Teslin Landscape Unit of the FMP. The overview map provided in Section 5 shows the THP area.

This THP lies within the Yukon Southern Lakes ecoregion within the Boreal Cordillera Ecozone. This area is predominantly covered in open coniferous and mixed woodland forests typically dominated by either lodgepole pine or white spruce. Black spruce has a somewhat limited distribution and is most commonly found in low lying areas with high soil moisture content. Trembling aspen can be found on sites with finer textured soils, mixed with white spruce, or on steep south facing slopes. This region also supports the most diverse animal populations within Yukon (Yukon Ecoregions Working Group, 2004).

The climate in this region is generally cool with moderate amounts of precipitation. Mean annual temperatures are close to -2°C . Temperature and weather patterns can be significantly influenced by the large lakes in this region including Teslin Lake (Yukon Ecoregions Working Group, 2004).

3.1.1 Strategic Forest Planning

The Forest Management Plan for the Teslin Tlingit Traditional Territory provided the strategic direction for the development of this THP. The objectives and directions included in this plan are consistent with the strategic directions stated in Section 7.0 of the FMP.

3.1.2 Forest Health

The Forest Management Branch releases an annual forest health report which summarizes the current state of forest health in Yukon. For the purposes of forest health monitoring, Yukon has been divided into 5 zones and each year one zone is assessed. Teslin is included in Zone 1 and this region was last assessed in 2014. There were no significant forest health threats to the forests around Teslin found during these assessments.

3.1.3 Objectives and Location of Timber Harvesting

Three management areas are included in this THP: Teslin North, Morley Bay, and Strawberry Creek. The location and extent of these areas is shown on the maps found in Section 5.

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The primary objectives for all three management areas are consistent with the strategic directions in Section 7.0 of the FMP. The primary objective of this THP, common to all management areas, is to provide long-term access to forest resource harvesting opportunities as directed in Section 7.1.1 of the FMP. A second essential objective of the Teslin North and Morley Bay management areas is the reduction of wildfire risk. This is directed in Section 7.7 of the FMP.

Teslin North

This management area was designed with two main objectives. The first objective is to create an area that is close to the Village of Teslin that can support commercial forest resource harvesting.

Costs associated with the transport of forest resources to processing facilities after harvest is one of the biggest economic factors influencing the potential success or failure of a commercial harvesting business. Surveys of local forest industry workers and business owners conducted by TTC showed that one of their primary concerns for supplying forest products to market in Teslin is the distance from harvesting areas to town. This is an especially serious concern for proponents who don't own large logging trucks or have the capacity to transport large volumes of timber. For small volume harvesters and small business owners long haul distances can be economically prohibitive. The close proximity of this management area to the Village of Teslin is intended to address these concerns.

The second objective of this management area is to reduce the potential wildfire risk to Teslin by reducing the concentration of forest fuels north of town and by promoting the establishment of deciduous tree species. During the period of 2012-2016 a community directed research project on wildfire risk in the Traditional Territory was undertaken by the Forest Management Branch and the University of Northern British Columbia. This report identified areas with the potential for high-risk wildfire activity by modelling high-risk fire weather scenarios with existing vegetation types. Several areas around the Village of Teslin, including the area north of Teslin, were shown to have the potential for high-risk wildfire activity (Green, 2016).

The Teslin North management area has been designed to focus forest resource harvesting in an area where the removal of timber and biomass will have the potential to create a fuel break around the northern perimeter of Teslin. Silvicultural strategies, harvest block design, and

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operational techniques implemented in this management area will focus on reducing wildfire risk while providing economical commercial harvesting opportunities.

Morley Bay

The Morley Bay management area was established with the same objectives of providing economical forest resource harvesting opportunities and reducing potential wildfire risk as the Teslin North management area. The land tenure of this area is split between public land and Teslin Tlingit Council First Nation Settlement Land.

Situated approximately 10km east of the Village of Teslin, in close proximity to the Demonstration Forest, the Morley Bay management area is accessible via the Alaska Highway and includes a number of forest stands with high timber values. This combination of accessibility and high timber values indicates good potential for economically viable forest resource harvesting.

This management area is situated in between Morley Bay and Eagle Bay and is flanked by an extensive wetland system to the east. The community directed research on wildfire risk identified the land to the east of the Morley Bay management area as having the potential for high-risk wildfire activity (Green, 2016).

The location of this management area was chosen so that forest resource harvesting strategies and harvest block layout could have the potential to reduce fuel loading in this area. In conjunction with the wetland system to the east a fuel break could be created reducing the potential for a forest fire to spread towards Teslin, establishing an area where forest fire suppression efforts could be staged in the event of a wildfire occurring in the higher risk locations identified in Scott Green's 2016 report.

Strawberry Creek

The primary objective for the Strawberry Creek management area is to sustainably provide economical forest resource harvesting opportunities. The Teslin FMP identifies Strawberry Creek as an area to be considered for timber harvesting (Section 7.7 Strategic Direction 48).

Initial planning for forest resource harvesting in this area was conducted in the early 2000's. In 2001 a draft resource report was prepared by the Department of Indian and Northern Affairs:

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Yukon Forest Resources. The report identified multiple values in the planning area including merchantable forest stands suitable for timber harvesting. This report evaluated an area north of the Alaska Highway near Strawberry Creek which is included in this THP as the Strawberry Creek Management Area. The report also identified a larger area in the same vicinity but south of the Alaska Highway and Morley River, which extended west to Morley Bay.

Both of the areas identified in 2001 showed a high potential for economical timber harvesting opportunities. However, the area south of the Morley River was determined to have multiple socio-economic and ecological values that could potentially be negatively impacted by forest harvesting activities. For this reason the area to the north of the Alaska Highway is the only portion incorporated in this THP.

Forest resource harvesting strategies in this management area will focus on providing economical harvesting opportunities while maintaining the integrity of the multiple socio-economic and ecological values present in the area.

3.1.4 Personal Use Harvesting

There is high demand for personal use harvesting opportunities in the community of Teslin. Community members are primarily seeking standing dead timber to use as firewood. However, there is also interest in harvesting standing green timber for personal use saw logs and building materials.

Standing dead timber is found sporadically in the immediate vicinity of Teslin. The closest large concentration of standing dead timber is approximately 70km to the east, in British Columbia, near Swan Lake. Therefore, it can be challenging for local residents to find concentrations of standing dead timber that have the potential to meet their needs without travelling relatively long distances. To address this issue, personal use fuel wood (PUFW) harvesters should be given priority when applications to harvest standing dead fuel wood within the Teslin North management area are reviewed. If concentrations of standing dead timber are identified within this THP during implementation, consideration must be given to creating personal use fuel wood harvesting areas in these locations.

People interested in harvesting forest resources for personal use may either obtain a permit to harvest within a designated personal use fuel wood harvesting area or apply to harvest outside a designated area, on public land, under a forest resources permit. The permits for harvesting in

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designated PUFW areas may be obtained at a Government of Yukon office or online. On public land, to harvest personal use fuel wood outside a designated area, or to harvest personal use saw logs, an application for a forest resources permit must be submitted to the Forest Management Branch. A person may apply for a forest resources permit on public land throughout this THP. However, forest resources permits issued within this THP must be consistent with the THP's objectives and requirements.

Under the *Forest Resources Act*, personal use harvesting permits authorizing the harvest of less than 25m³ per year may be issued on public land outside of an approved THP (*FRA*, Section 49(4)). As the development and implementation of personal use fuel wood harvesting areas is an on-going process in the Teslin area, there have not been any new designated PUFW areas created during the planning process for this THP. However, new PUFW areas may be identified and established as necessary to meet public demand both within the area covered by this THP, and within the Teslin Tlingit Traditional Territory as a whole.

3.1.5 Non-timber Forest Products

Although the primary products to be derived from operations within this THP are timber products including saw logs, biomass, and fuel wood, there is interest in harvesting other non-timber forest products for both personal and commercial use. Examples of non-timber forest products that are commonly harvested in Yukon include but are not limited to berries, mushrooms, medicinal plants, and birch syrup.

The harvest and use of non-timber forest products is widespread throughout the Traditional Territory and is very important to the Teslin community. This THP does not prevent or prohibit the legal harvest of non-timber forest products within its boundaries.

Individuals interested in the legal gathering of non-timber forest products for personal use within this THP do not require a permit from the Forest Management Branch. However, proponents who wish to harvest non-timber forest products such as birch syrup or morel mushrooms for commercial sale on public land must obtain a permit from the Forest Management Branch.

Traditional non-timber forest harvesting opportunities highly valued by the Teslin community include: berry picking, snowshoe birch harvesting, medicinal plants, and tree sap obtained from the inner bark of culturally modified trees. Timber harvesting activities should be conducted in a

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manner that maintains or enhances the availability of these opportunities wherever possible. It is expected that timber harvesting activities within this THP will help to create a mosaic of different stand types and conditions across the landscape. The creation of diverse forest stand conditions may help to increase the availability and diversity of non-timber forest product harvesting opportunities.

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4 Forest Resource Management Planning Considerations

4.1.1 Traditional Knowledge and Activities

This THP is situated within the traditional territory of the Teslin Tlingit Council. The Teslin Tlingit Council First Nation will be notified of harvesting licence applications and provided no less than a 30 day period to make representations to the Director of the Forest Management Branch (FRA, Section 18).

Where timber harvesting activities are proposed in close proximity to active trapline concessions measures will be taken to mitigate any potential impacts timber harvesting activities could have on trapping activities. Affected trappers will be provided a minimum of 30 days to review and make representations on harvesting licence applications within their registered trapping concession. Where necessary, terms and conditions meant to protect the integrity of trappers' trails and equipment will be included in cutting permits authorized in close proximity to active trapping operations.

4.1.2 Forest Resource Harvesting near Residences

The Forest Management Branch has standards and guidelines in place to mitigate potential effects of forest harvesting occurring in proximity to residences. The Land User Interests Standards and Guidelines provide guidance on the implementation of buffers and strategies to reduce the potential impacts of forest resource harvesting on local residences.

When developing site plans during the operational phase of this THP the user interests of local residents must be considered. The sequential planning of harvest blocks will be done in a manner that attempts to minimize the extent and duration of harvesting impacts on people living within the immediate vicinity of harvesting areas. No-harvest and management buffers will be placed around residences where appropriate. In areas where fuel abatement is a priority, the strategies and buffers implemented may deviate from what is proscribed in the standards and guidelines in order to try and reduce fuel loading and potential risks posed by wildfires.

4.1.3 Soil Conservation and Hydrology

Protecting the integrity of soils and their hydrological function is essential to maintaining a healthy and productive forest ecosystem. The Forest Management branch's Soil Conservation Standards and Guidelines have been established to conserve soil productivity and hydrological

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function during harvesting operations. All activities carried out under this THP must adhere to these standards.

Site specific soils information and protection measures will be outlined in the site plan of any commercial cutting permits issued within this THP. The Soil Conservation Standards and Guidelines will determine the season of harvest based on the hazard ratings of the soil type within the harvest area and clearly state mitigation strategies for the protection of soil properties.

4.1.4 Wildlife and Biodiversity

No key wildlife habitat areas have been identified within the THP. However, as noted previously, this THP sits within an ecoregion that has one of the highest diversities of wildlife in Yukon (Yukon Ecoregions Working Group, 2004).

The community of Teslin highly values wildlife for hunting, trapping, observation, and intrinsic value. During the development of this THP many members of community mentioned the special importance moose have to the community. Moose have traditionally been and continue to be an important resource for TTC members and the community of Teslin in general.

The Teslin FMP provides strategic direction for managing timber harvesting with respect to moose habitat. These directions will be followed during the implementation of the THP and include:

- Manage timber harvesting in critical moose winter and calving areas to provide important attributes of moose key winter and calving habitat (forage, snow interception, visual screening).
- Aggregate timber harvesting in time and space.
- Harvest of critical key winter habitat of cover and forage should be avoided in winter. Development planning should be used to identify these important areas.

Timber harvesting activities may also increase moose habitat by diversifying forest structure and increasing the prevalence of deciduous trees species on the landscape providing increased foraging opportunities.

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Section 7.3 of the FMP provides strategic directions for many other wildlife species of concern. These strategic directions will be incorporated into the implementation of this THP and the development of site plans for timber harvesting operations.

All activities within the THP will follow the Forest Management Branch's established Wildlife Features Standards and Guidelines. These standards provide direction in the event that a significant wildlife feature is encountered during harvest operations.

4.1.5 Riparian Management and Fish Habitat

This THP encompasses numerous wetland and riparian features. Protecting the integrity of these features during timber harvesting operations is of great importance.

Whenever possible harvest blocks will be developed in a manner that excludes riparian features from the general harvest area. A preferred method for protecting riparian features will be to incorporate the use of external buffers between riparian features and harvesting areas.

Timber harvesting activities that are in close proximity to riparian features will follow the Forest Management Branch's operational standards and guidelines designed to protect riparian features.

4.1.6 Heritage Resources

Heritage features and historic resources are culturally important to all Yukon people. The preservation of these features is an important consideration when planning any type of development or resource management activity.

Legislation and policy applying to the management and protection of heritage resources includes but is not limited to Chapter 13 of the Teslin Tlingit Council Final Agreement and the Yukon Historic Resources Act and Archaeological Sites Regulation. The Historic Resources Act may by regulation designate and protect any object more than 45 years old as an historic object (Part 6, 61(2), Historic Resources Act). Under this legislation it is prohibited to survey, document, disturb, alter, excavate, or remove objects from historic sites without a permit. Activities conducted within the scope of this THP will adhere to this legislation. The management of heritage resources within this THP will also consider any policy direction provided by TTC.

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The existing data on heritage features and archaeological sites is somewhat limited in the area covered by this THP. However, there are some known heritage sites and features within the THP area and these must be protected as per the *Yukon Historic Resources Act*.

A heritage resources overview assessment has been conducted for parts of this THP. This assessment provides guidance on where there is elevated potential to encounter heritage resources, and recommendations on assessing areas for heritage resources prior to forest resource harvesting activities. Heritage assessments or inventories may be required prior to the permitting of forest resource harvesting activities, particularly in areas where there is elevated heritage potential and the activities have the potential to cause significant adverse impacts to heritage resources.

The most common and abundant heritage feature in the Traditional Territory is the culturally modified tree (CMT). This is defined as a tree that has been altered by aboriginal people as part of their traditional use of the forest. The most common CMT types observed in the Traditional Territory include bark-stripped, blazed, carved, and logged trees. TTC is in the process of developing a policy on the management of CMTs.

Operators proposing harvesting activities on public land in areas where there is the potential to impact CMTs or other heritage resources must consider policy direction developed by TTC. CMTs will be afforded the same protection as other historic resources. Standard protocols will be followed regarding the inventory, assessment, accidental discovery, and mitigation of impacts to these historic resources. When developing site plans and conducting field assessments for timber harvest areas, assessors should note the presence or absence of CMTs and include this information in any site plans developed for the area. The site plan will include mitigation strategies to reduce impacts to CMTs where necessary. Mitigation may include avoidance, buffers, and systematic data recovery prior to site alteration. Historic resources inventory and impact assessment methodology, management recommendations and mitigation strategies will be determined in consultation with the TTC Heritage Department. Heritage site location and other sensitive heritage site information including traditional knowledge are not to be included in publically accessible documents.

Other heritage site types and features that may be encountered include camps, cabins, caches, rock features, trails, resource gathering sites, burial sites, ceremonial and sacred sites, and other sites representing evidence of past human activity. Historic objects may be encountered on the ground surface due to erosion or encountered as a result of land-altering activities. Common

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material types of objects include stone, bone, antler, wood, metal, and glass. Evidence of more recent and ongoing traditional use such as food, material, and medicine harvesting sites, and hunting and trapping sites may also be found.

All operations must be in compliance with the Forest Management branch's Historic and Archaeological Resources Standards and Guidelines. These standards require that if historic sites or resources are discovered during operations, the timber operator must immediately suspend operations, and inform a Forest Officer and Yukon Heritage Resources of the location of the site and the nature of any found or unearthed resources. Operators must also notify the Teslin Tlingit Council's Heritage Department upon the discovery of any historic sites or resources within this THP.

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5 Timber Harvesting Considerations

5.1 Commercial Harvesting Overview and Methodology

5.1.1 Licencing Process for Commercial Forest Resources Harvesting on Public Land

This section of the THP focuses on the process for obtaining an authority to harvest forest resources commercially on public land within this THP. The legislative requirements under the *Forest Resources Act* for obtaining a harvesting licence and cutting permit discussed here apply only to the portions of this THP that cover public land.

The licencing and permitting of forest resources harvesting on Teslin Tlingit Council Settlement Land is regulated by TTC. Any person wishing to harvest forest resources on TTC Settlement Land that is covered by this THP must first contact TTC and obtain any necessary permissions or authorizations.

A person wishing to harvest timber in this THP must submit an application to the Forest Management Branch stating the type of harvesting authority they require, the quantity of timber they propose to harvest, the period of time in which they intend to harvest that timber, and any other information required on the application form which has been approved by the Director (FRA, Section 17(1)).

Prior to commencing commercial harvesting activities, operators must obtain a licence and cutting permit from the Forest Management Branch that meets the requirements of the *Forest Resources Act*, its associated *Regulations and Policies*, and the objectives of this THP.

The allocation of forest resource harvesting opportunities will be done in accordance with the most currently approved Commercial Timber Harvest Allocation Procedure for Yukon. Cutting permits will have terms and conditions, and a site plan which must be followed during harvesting operations. The site plan will outline the specific management plan to be followed in the permit area and will contain detailed information on the timber resources in the area and the harvesting methods to be applied. Site plan requirements are defined in the *Forest Resources Act* (FRR, Section 22).

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Affected First Nations and the public will be notified of licence applications and provided no less than a 30 day period to make representations to the Director of the Forest Management Branch (FRA, Section 18).

Applicants submitting proposals to harvest large volumes of timber for commercial purposes may be required to have their proposal undergo an assessment under the *Yukon Environmental and Socio-economic Assessment Act*. More information on the *Yukon Environmental and Socio-economic Assessment Act* and the assessment process can be found on the Yukon Environmental and Socio-economic Assessment Board's website at: www.yesab.ca.

5.1.2 Licencing Process for Commercial Forest Resources Harvesting on First Nation Settlement Land

The Teslin Tlingit Lands and Resources Act (TTLRA) was approved in 2016 and enacted on June 14, 2018. This act is a general act which enables TTC regulation of the harvest of trees on Settlement Land for any purpose under the Natural Resources regulation. As of July 2018, there is an application fee of \$40.00 for non-TTC Citizens. When an application to harvest timber is received, TTC reviews the application (determining if the proposed cutting is compliant with land use or zoning), and forwards the application to the Land Management Committee. If the application is approved, the Director of Lands issues a Natural Resource Licence.

In June 2018, TTC began work on a specific Timber Harvest Regulation under the TTLRA. This specific regulation may include topics such as harvest volume limits, stumpage fees, transport permits etc. When complete, this new regulation will replace the general Natural Resource Licence described above.

5.1.3 Management Area Descriptions and Timber Types

As previously stated, this THP has been divided into three management areas. The following section will provide more detailed stand-level information for each management area.

A forest vegetation inventory of the Teslin area was completed in 2015. This inventory detailed information on species composition, average stand height, crown closure, and other forest stand attributes. The information provided below is based on a combination of this inventory data and timber cruise data collected for stands within the management areas.

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Although best efforts have been made to collect and provide accurate data for these management areas actual forest stand conditions and timber values may vary considerably from the estimates and information provided in this THP. Applicants interested in applying for cutting permits within these management areas are encouraged to collect their own site specific stand and volume information to ensure the harvesting areas applied for have the potential to meet their harvesting objectives.

Due to the large areas covered in this plan and the diversity of stand and site conditions within these areas it is not practical to provide extremely detailed stand information in this document. Detailed stand information will be provided in the site plan developed for each commercial cutting permit issued within this THP.

Teslin North:

The Teslin North Management Area is divided into two distinct polygons that are separated by a wetland complex to the north of Hermit Lake.

The western polygon occupies a lower slope position and generally has wetter ground conditions than the eastern polygon. The western polygon contains numerous riparian features and small wetlands. Fox creek flows through this area and is the most significant riparian feature found in this polygon.

Forest stands in this area are most commonly dominated by white and black spruce. Trembling aspen and lodgepole pine are also common in this polygon and are generally found on drier microsites in more elevated positions. Partially due to a high water table, stands in this polygon generally have lower merchantable timber volumes and smaller trees than stands found in the eastern polygon. There are still some stands that have volumes as high as 270m³/ha but these stands are infrequent and cover relatively small areas. Volume estimates in this area range from 18m³/ha in open areas adjacent to treed wetlands to 270m³/ha on highly productive microsites.

The majority of the area within the eastern polygon occupies an upper slope position. Soil conditions in this area are commonly much drier than the western polygon, riparian features are less frequent and there are fewer wetland areas.

Lodgepole pine and white spruce stands are the most common forest types and there is a significant amount of trembling aspen found in this polygon. Black spruce stands are found in

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the low lying portions of this area in between upland sites. The majority of the forest stands in this polygon are highly productive and timber values in this area are very favourable for supporting forest resource harvesting operations. Identified merchantable stands range from 115m³/ha up to 265m³/ha and are found throughout this polygon.

Figure 1 shows the forest vegetation inventory for this management area with the leading species for each stand represented as a percentage of the total composition.

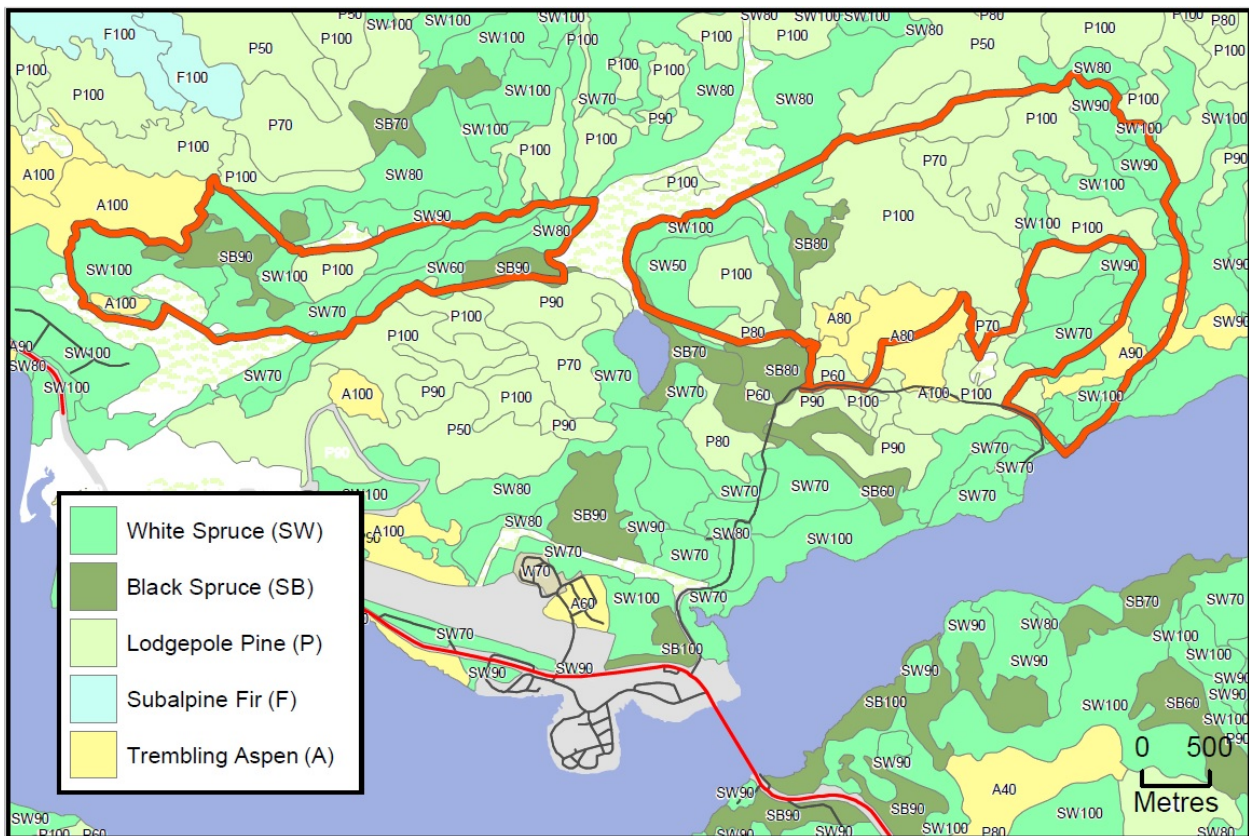


Figure 1. Leading Species by Percent of Stand Composition for Teslin North

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Morley Bay

The tenure of the Morley Bay Management Area is divided between public land on the eastern half and TTC Settlement Land on the western portion. It is located to the east of the Demonstration Forest area and is characterized by rolling hills with a predominantly upland landscape position in the western portion of the area. There is a slight southeasterly aspect to this management area as the topography slopes down towards the wetlands near its eastern border and towards Morley Bay to the south.

Access to this area is from the Alaska Highway to the south and from historical logging roads and trails on the western periphery of the management area. Logging has occurred in this area in the past and forest openings from historical harvest blocks can be found within and adjacent to the western portion of the area.

White spruce is the most dominant forest cover type within this polygon, with a smaller proportion of stands dominated by lodgepole pine and trembling aspen. Forest productivity is quite high in much of this area with merchantable volumes in some of the assessed stands ranging from 128m³/ha to 234m³/ha.

Figure 2 shows the forest vegetation inventory for this management area with the leading species for each stand represented.

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Figure 2. Leading Species by Percent of Stand Composition for Morley Bay

Strawberry Creek

The Strawberry Creek Management Area is the largest management area in this THP and it also has the greatest diversity of stand conditions. The topography is low and depressed along the Alaska Highway and gradually rises and gains elevation moving away from the highway to the east. The terrain is somewhat broken and undulating with a large number of significant wetlands and riparian features separating forested hills and knobs.

Proportionately, there is a relatively even distribution of stands dominated by white spruce, black spruce, and lodgepole pine. Trembling aspen and sub-alpine fir can be found scattered throughout the area. Stands dominated by trembling aspen are generally associated with drier south facing slopes, while sub-alpine fir is found mixed with white spruce at higher elevations.

Assessments conducted in the early 2000's identified numerous stands with merchantable timber volumes roughly ranging from 100m³/ha to 200m³/ha throughout the Strawberry Creek area. Due to the diverse nature of this management area and the lack of detailed data from

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previous assessments, future timber cruising assessments will be needed during site planning to accurately evaluate the timber volume present in any areas proposed for harvesting.

Figure 3 shows the forest vegetation inventory for this management area with the leading species for each stand represented.

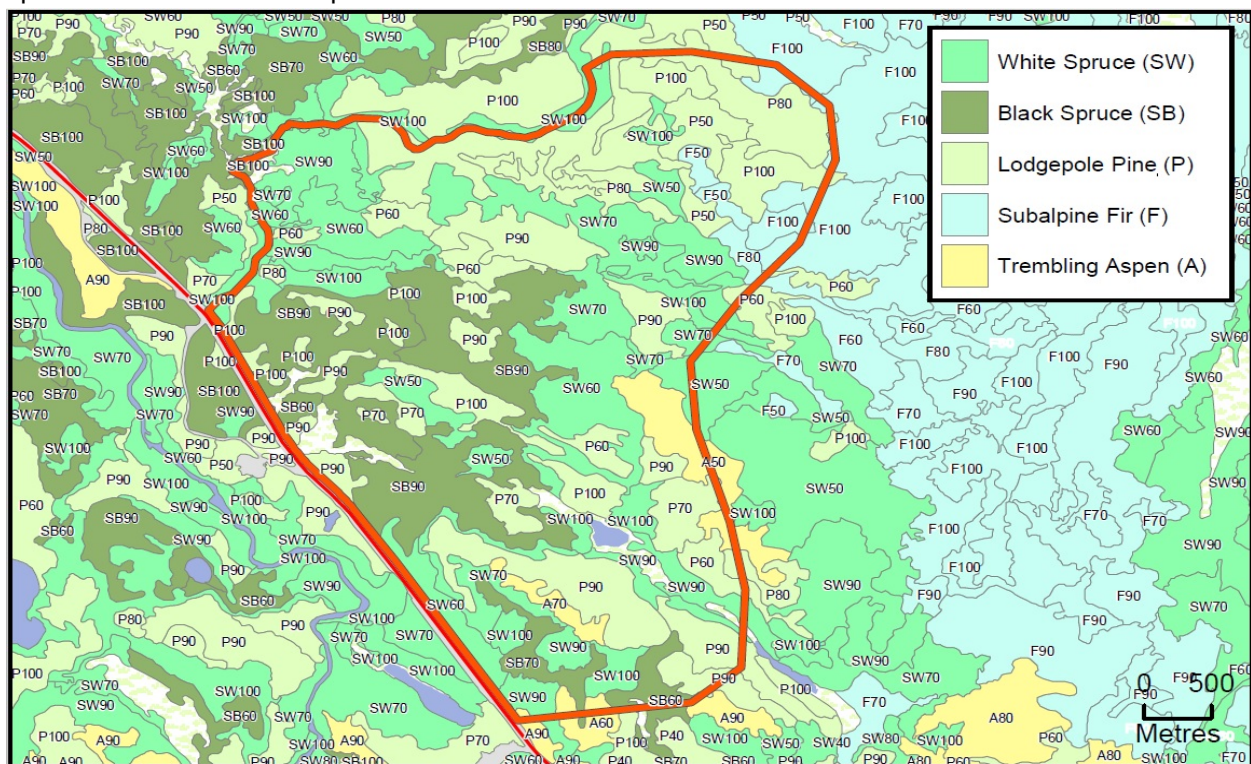


Figure 3. Leading Species by Percent of Stand Composition for Strawberry Creek

5.1.4 Timber Harvesting Methods, Silviculture, and Reforestation

It is expected that a wide range of timber harvesting methods will be used within this THP. Applicants that wish to harvest forest resources within this THP must propose to the Forest Management Branch the methodology they intend to use for harvesting. The site plan submitted by each applicant under a commercial cutting permit will include proposed harvesting methodologies and must be approved prior to permit issuance.

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Considerations of acceptable harvesting methodologies will be based on how the proposed activities meet the following:

- The requirements and intent of this Timber Harvest Plan.
- The objectives of the Forest Management Plan for the Teslin Tlingit Traditional Territory.
- The requirements of the *Forest Resources Act* and *Forest Resources Regulation*.
- The requirements of the Forest Management Branch's operational standards and guidelines.
- On First Nation settlement land the requirements of any legislation or policies enacted by the Teslin Tlingit Council.

Acceptable harvesting methodologies across the planning area will likely include the use of a variety of different silvicultural systems. Selection, shelterwood, clearcut, and all other primary silvicultural systems and their variants will be considered when choosing the most appropriate harvesting methodology for a particular site. For more information on silviculture and silvicultural systems, a good resource is the *Silvicultural Systems Handbook* by the British Columbia Ministry of Forests (British Columbia, 2003).

The implementation of a particular silvicultural system will be partially based on how likely that system is to succeed in achieving the primary and secondary objectives of the management area within which it is being implemented. All silvicultural treatments carried out on public land must be consistent with the requirements of Part 6 of the *Forest Resources Regulations (FRR, Section 55)*.

The successful reforestation of a site, post-harvest, is an essential objective of a well-designed silvicultural system. Reforestation objectives may differ depending on the overarching objectives of the management area within which they are being implemented. Silvicultural treatment plans and reforestation objectives on public land will be consistent with any related operational standards and guidelines that may be enacted through regulation.

Teslin North

As previously stated, the primary objectives for this management area are providing economic forest resource harvesting opportunities and reducing wildfire risk for the community of Teslin.

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Silvicultural systems implemented in this management area are more likely to include the use of group selection, patch cut, and clearcut systems. These systems generally create larger and/or more frequent forest openings than single-tree selection or shelterwood systems.

The creation of more frequent and larger forest openings in this management area serves multiple purposes, including but not limited to:

- A reduction in the continuity and abundance of forest stand types and fuels that are conducive to wildfire.
- The creation of a diversity of forest age classes on the landscape. Openings where forests are regenerating stands comprised primarily of young trees – including conifer dominated stands – can be less susceptible to wildfire, and may act as a fire break.
- The creation of stand conditions that are more conducive to the regeneration of deciduous species including trembling aspen and white birch. Stands dominated by deciduous species are much less likely to support wildfire than stands dominated by coniferous species.
- The strategic placement of cut blocks and openings can create a fire break for the community.

Forest harvesting should occur progressively and strategically throughout this management area. There is a significant benefit to wildfire reduction when harvesting is focused on stands containing fuel types associated with higher wildfire risk. Whenever possible, forest harvesting should prioritize targeting higher risk fuel types.

Forest harvesting should also target areas where it may be possible to increase the frequency and abundance of deciduous species. In these target areas, silvicultural strategies should be focused on the reforestation of deciduous species and the conversion of coniferous stands to deciduous ones.

Forest harvesting operations in this management area must also take care to appropriately manage the slash and debris that is created during harvesting. Improper management of slash and debris and their accumulation during forest harvesting may increase wildfire risk post-harvest if these materials are not properly dealt with. Operators must not leave significant accumulations of slash and debris throughout their block post-harvest. The piling and burning of slash will be the preferred method of slash disposal.

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Strawberry Creek

The objectives for the Strawberry Creek Management Area vary from those of the Teslin North Management Area. There is currently no objective to reduce wildfire risk in this area and the primary objective is to provide for economic timber harvesting opportunities.

The silvicultural systems implemented in this Management Area will vary depending on the site being harvested and the preferred methodologies and capacity of the proponent. Post-harvest stand conditions where silvicultural systems have been implemented may result in a variety of even-aged and uneven-aged stands, increasing the structural diversity of the forests in this area.

Reforestation strategies will focus on maintaining or enhancing the amount of productive forest within this area. Depending on the characteristics of the site being harvested and the silvicultural strategies being implemented it may be important to begin silvicultural treatments quickly after harvesting activities are completed. The rich soils and productive sites in this region allow for the quick regeneration of shrub species such as alder after a disturbance. If silvicultural treatments are delayed on such sites, the ability to successfully regenerate commercial timber species may be impeded by the competition from shrub species that naturally regenerate post-harvest. This concern also applies to productive sites in the other management areas.

Morley Bay

The objectives of the Morley Bay Management Area are a combination of the objectives from both the Teslin North and Strawberry Creek Management Areas. The reduction of wildfire risk is an objective of this management area but it is not as pronounced as it is for Teslin North. Similarly, providing economic timber harvesting opportunities and maintaining or enhancing the amount of productive forest in the area is an important objective – as it is in Strawberry Creek – but this objective may be subjugated on some sites by the wildfire risk reduction objective or other secondary objectives.

As the objectives of this Management Area are a combination of those determined for the other Management Areas, it is expected that the harvesting methodologies, silvicultural strategies, and reforestation practices will be a combination of the methods described in those sections.

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5.1.5 Schedule for Undertaking Timber Harvesting

Detailed schedules for timber harvesting must be outlined in each site plan submitted for approval. Only schedules that are consistent with the intent of this THP and the Forest Management Branch's operational standards and guidelines will be approved.

Seasonal restrictions of forest resource harvesting may be applied in areas where the timing of forest resource harvesting could have the potential to negatively impact significant social or ecological values. For example, the Forest Management Branch's Soil Conservation Standards and Guidelines stipulate a prohibition on harvesting during summer months on sites where soil conditions create a high hazard potential for significant soil disturbance.

5.1.6 Research

The development of biomass facilities will likely result in an increase in timber harvesting in the community of Teslin. This THP has been developed to accommodate the anticipated increase of timber harvesting and marks a period of change and transition for the forest industry in this region. Previously, very little commercial timber harvesting occurred around the community of Teslin. Now there is new potential for significant commercial timber harvesting to occur within the Traditional Territory on an annual basis. This has created an opportunity to research and learn as the forest industry develops in the Traditional Territory. The FMP for the Teslin Tlingit Traditional Territory sets out a framework for monitoring forest management related indicators across the landscape. On February 22, 2018 a Terms of Reference was signed by the Teslin Tlingit Council, the Teslin Renewable Resources Council, and the Forest Management Branch; one of the objectives agreed upon is to create a monitoring program that will report on forest management related indicators in the Traditional Territory. It is expected that the information gathered from the monitoring program will help guide future management decisions and facilitate an adaptive management approach within this THP.

There is a very strong interest in conducting research on the operations within this THP from TTC, the TRRC, and FMB. Additional research opportunities outside the monitoring program developed as per the FMP may present themselves as the THP is implemented. Any forest management related research that can be conducted under the scope of this THP in the future is strongly encouraged.

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5.2 Access Management

5.2.1 Access Considerations

There is a small amount of existing access within the THP. The majority of existing access consists of trail networks that have not been extensively developed. The majority of existing trails are located in the Teslin North management area. There are some existing trails located in or adjacent to the other two management areas particularly near the Morley Bay management area, in close proximity to the Demonstration Forest.

The development of access routes into this THP will be done on an as needed basis. Any new roads established on public land for the purposes of harvesting timber will be constructed as forest resource roads under the *Forest Resources Act* and will be regulated under this legislation and associated policies. The development of Forest Resources Roads must also be consistent with the direction provided in the FMP for the Teslin Tlingit Traditional Territory and this THP (FRR, Section 59).

All forest resource roads developed within this THP will follow the applicable operational standards and guidelines of the Forest Management Branch. The Forest Management Branch may restrict access to any forest resources road constructed on public land within this THP and only authorized persons will be allowed to use forest resource roads (FRR, Section 60(2)). Once management activities in an area accessed by a forest resources road have been deemed completed by the Forest Management Branch the associated forest resources road may be decommissioned.

Forest Resources Roads may be constructed either by a proponent or by the Forest Management Branch. Proponents permitted to undertake road construction in accordance with the *Forest Resources Act* and its associated regulations will be responsible for all phases of road construction, maintenance, and decommissioning unless otherwise stipulated in an approved authorization or agreement. Where the Government of Yukon does not incur expenses during the development of forest resources roads because a proponent has taken on the responsibility for construction, maintenance, and decommissioning of a forest resources road, the proponent may be exempt from paying road use fees as part of their stumpage. Road use fees will be applied on cutting permits in areas where forest resource roads have been constructed by the Forest Management Branch. The road use fee charged will be based on the approved construction, and expected maintenance and decommissioning costs of the

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forest resources road developed. Fees will be applied on a pro-rated basis per m³ of timber made available by the forest resources road.

Proposals for the development of forest resource roads within this THP will be evaluated by the Forest Management Branch. Proposals will be evaluated to assess potential environmental impacts, economic costs and benefits, the impacts on potential heritage values and traditional land uses, and other factors. Cumulative disturbance from road development must not impact more than 5% of the total area of this THP as per the Forest Management Branch's Soil Conservation Standards and Guidelines. Road development proposals may also require an assessment under the Yukon Environmental Socio-economic Assessment Act.

The construction of a forest resources road that connects to a public highway will require a temporary access permit from the Department of Highways and Public Works. Any work that is to be done within a Department of Highways and Public Works highway right of way will require a work within the right of way permit. Proponents wishing to develop a forest resources road in the Teslin North Management Area must consult the Village of Teslin.

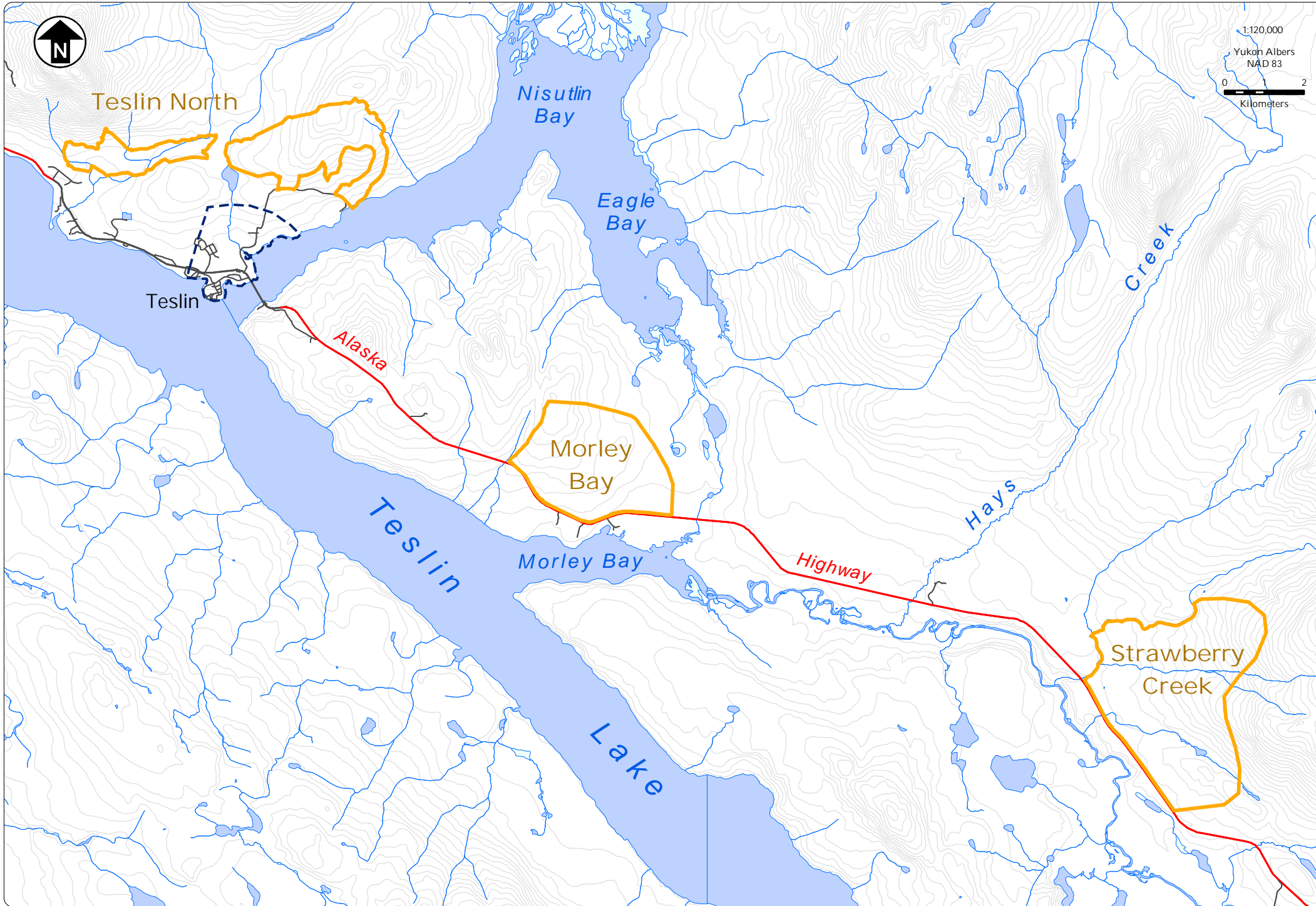
The Village of Teslin has a community development plan that speaks to the development of new roads in the community. It is possible that the development of public roads may provide additional access to areas for forest resource harvesting.

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6 THP Maps

6.1 Overview Map

Timber Harvest Plan for the Teslin North, Eagle Bay and Strawberry Creek Management Areas





NRO District: Southern Lakes

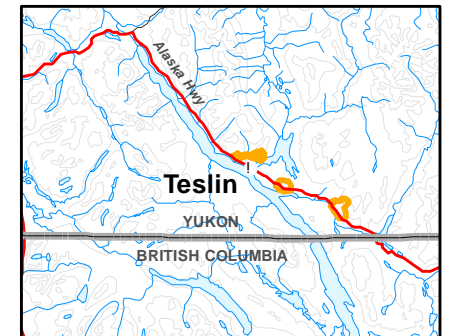
FRMP: Teslin FMP

Date: June 25, 2018

Legend

- Timber Harvest Plan Area 
- Municipal Boundary 

THP Location



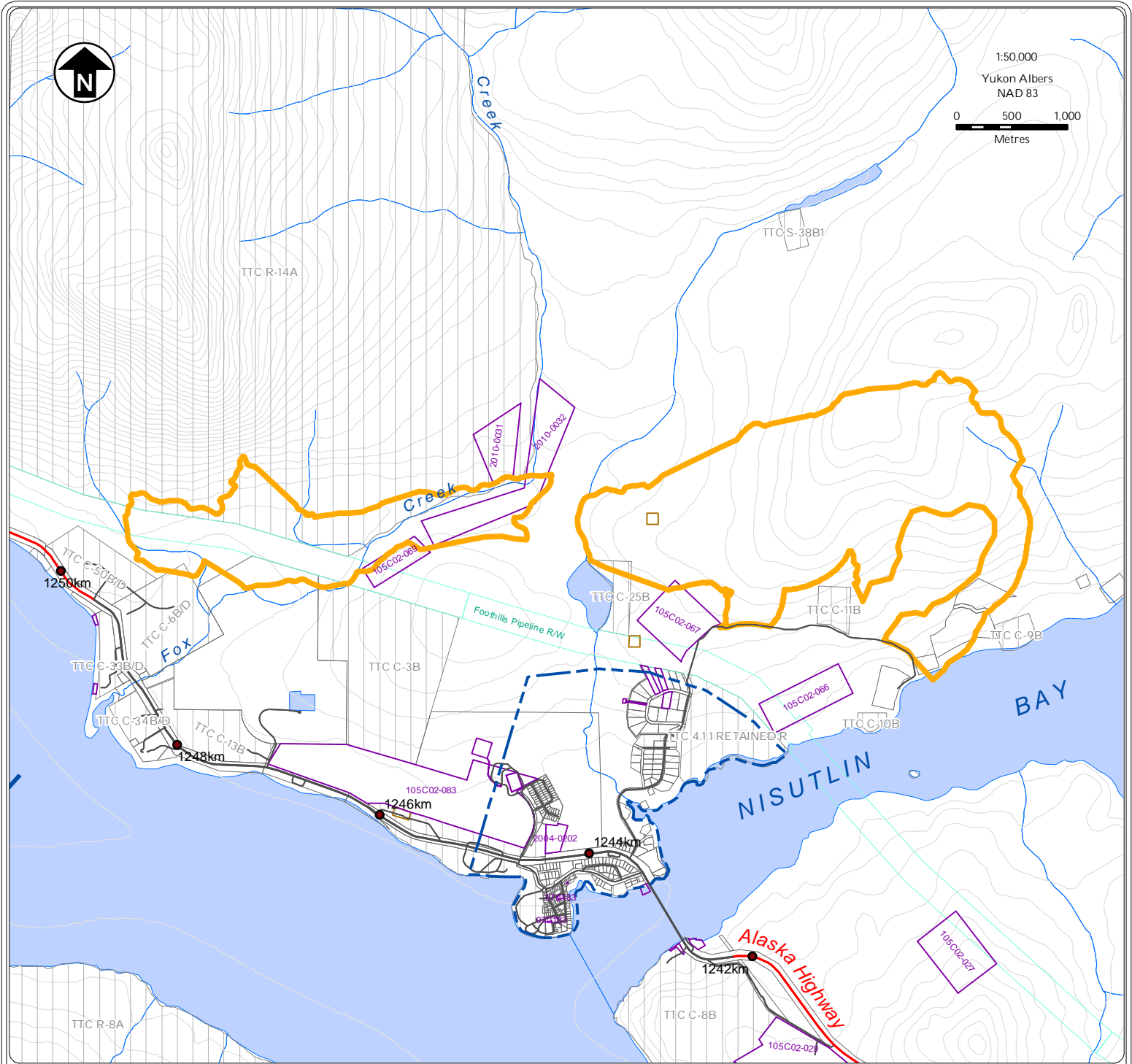
For more timber harvest information, visit our website:
www.emrgov.yk.ca/forestry/

Forestry spatial data managed and maintained by the
Forest Management Branch, Yukon Government.
All other spatial data provided by Geomatics Yukon.



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6.2 Management Area Maps



Teslin North

NRO District: Southern Lakes
FRMP: Teslin FMP

THP STATS
 Unit Area: 790 ha ±

Date: June 25, 2018

For more timber harvest information, visit our website:
www.yukon.ca or www.emr.gov.yk.ca/forestry/

Forestry spatial data managed and maintained by the
 Forest Management Branch, Yukon Government. All
 other spatial data provided by Geomatics Yukon.

THP Location



Project Specific Features

- Timber Harvest Plan Area

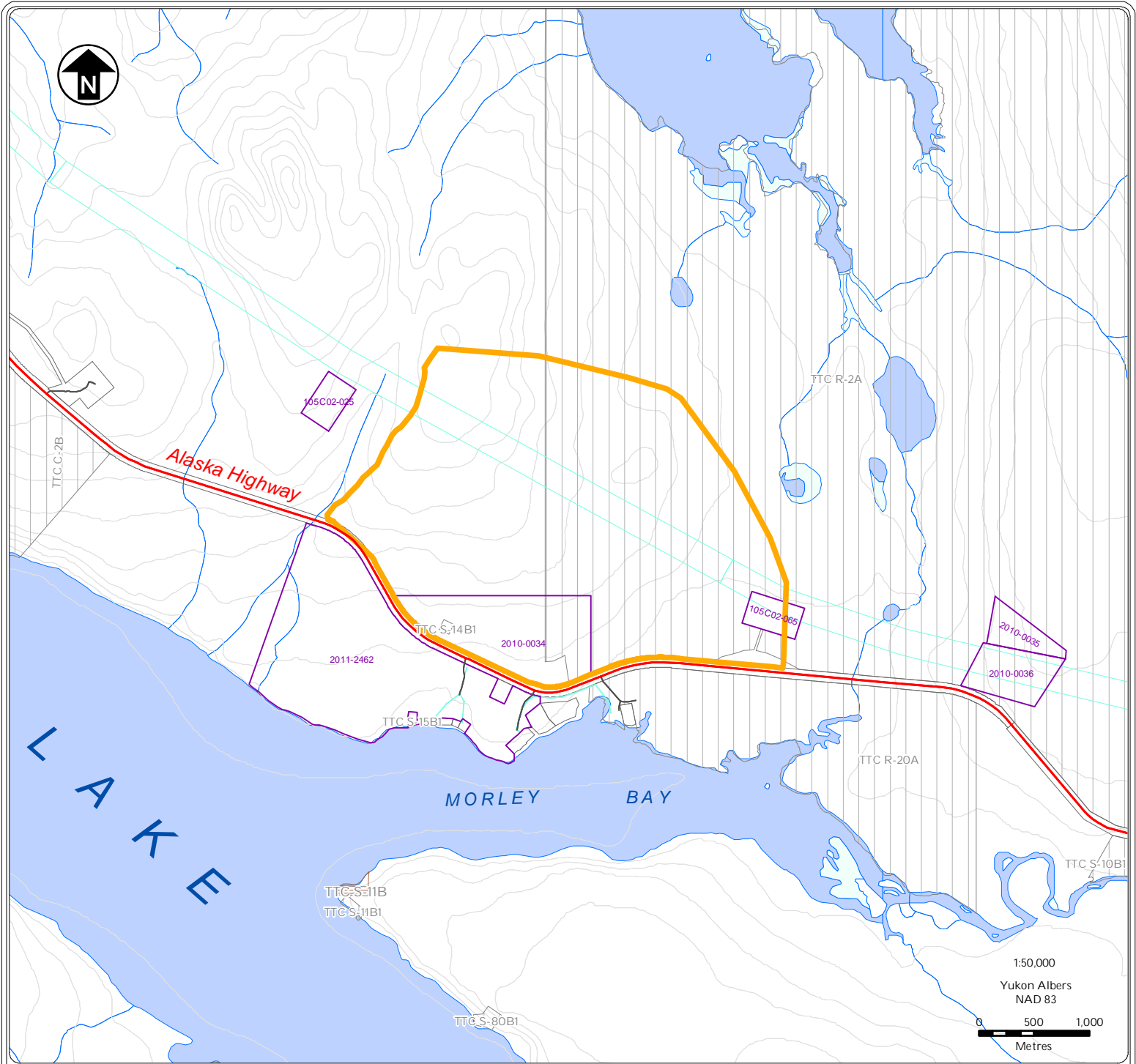
Land Administration

- Land Dispositions
- Land Notations
- Easements
- Surveyed Land Parcels
- Municipal Boundaries

First Nation Administration

- Surveyed Settlement Lands





Morley Bay

NRO District: Southern Lakes
FRMP: Teslin FMP

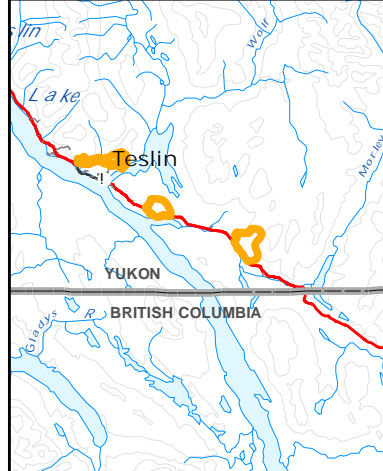
THP STATS
Unit Area: 875 ha

Date: June 25, 2018

For more timber harvest information, visit our website:
www.yukon.ca or www.emr.gov.yk.ca/forestry/

Forestry spatial data managed and maintained by the
Forest Management Branch, Yukon Government. All
other spatial data provided by Geomatics Yukon.

THP Location



Project Specific Features

Timber Harvest Plan Area

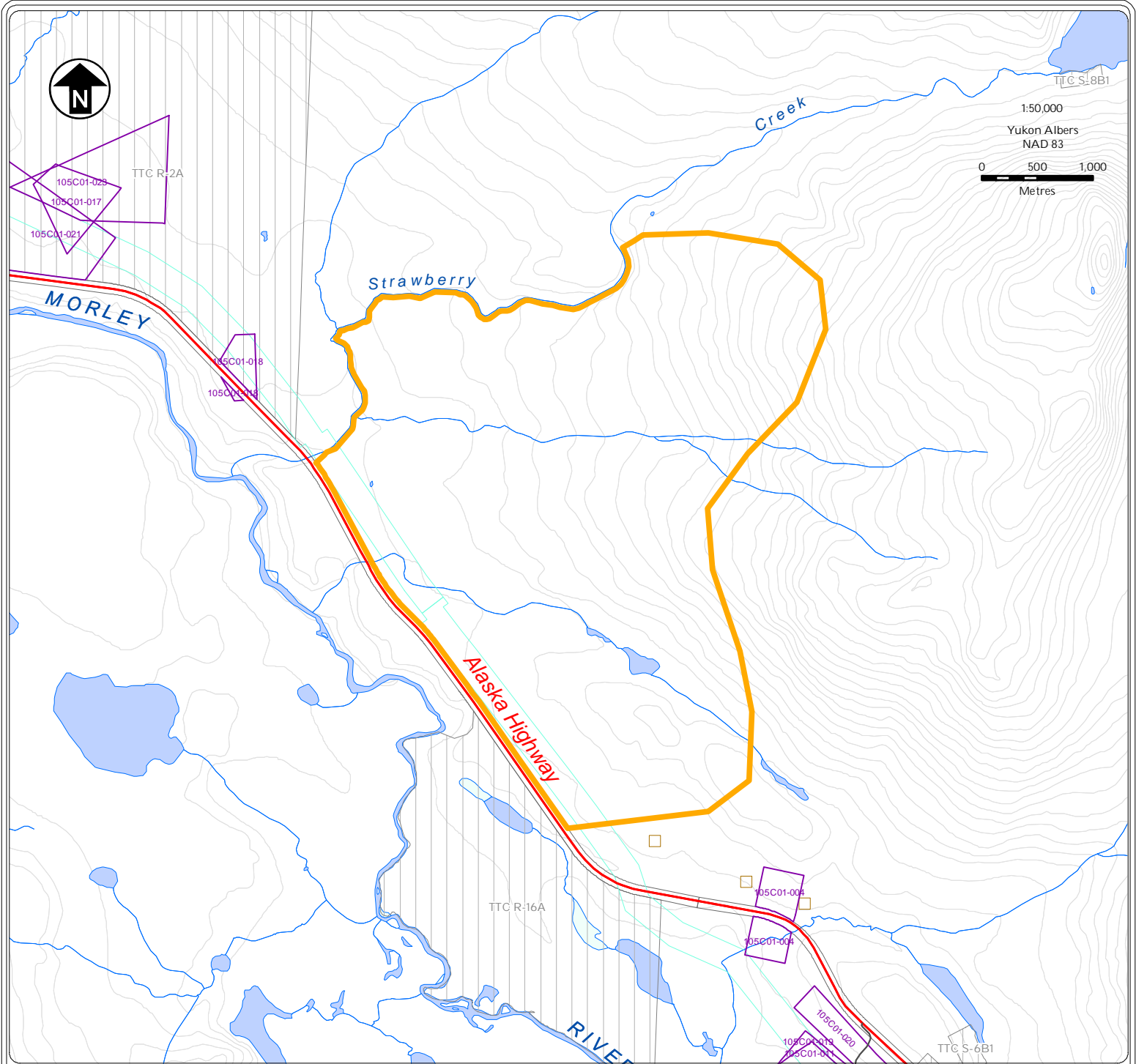
Land Administration

Land Dispositions
 Land Notations
 Easements
 Surveyed Land Parcels

First Nation Administration

Surveyed Settlement Lands
 Unsurveyed Settlement Lands
 Interim Protected Lands





Strawberry Creek

NRO District: Southern Lakes
FRMP: Teslin FMP

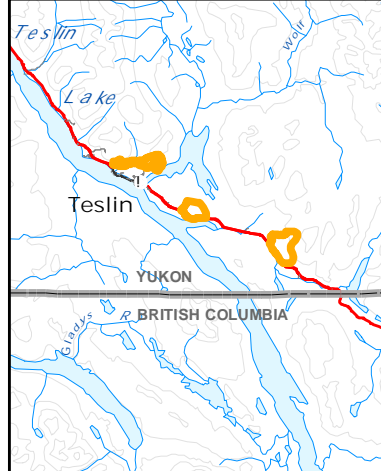
THP STATS
 Unit Area: 1550 ha ±

Date: June 25, 2018

For more timber harvest information, visit our website:
www.yukon.ca or www.emr.gov.yk.ca/forestry/

Forestry spatial data managed and maintained by the
 Forest Management Branch, Yukon Government. All
 other spatial data provided by Geomatics Yukon.

THP Location



Project Specific Features

- Timber Harvest Plan Area

Land Administration

- Land Dispositions
- Land Notations
- Easements
- Surveyed Land Parcels

First Nation Administration

- Surveyed Settlement Lands
- Unsurveyed Settlement Lands
- Interim Protected Lands



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7 References

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