Marsh Lake Transfer Station
Timber Harvest Plan

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Approved by:

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Contents

Introduction

This timber harvest plan was developed to provide wood supply in the Southern Lakes[1].

The Marsh Lake area has a long history of timber harvesting, primarily focused on saw log harvesting, dating back to the 1980s. The area is characterized by a network of existing roads and trails due to its logging history.

Between 1985 and 2009, approximately 6,382 cubic metres of timber was harvested. Most of this harvesting, approximately 5,382 cubic metres, took place from 1985 to 1999. From 2000 to 2009 an average of 100 cubic metres were harvested annually, totalling 1,000 cubic metres.

In 2011, the Marsh Lake Timber Harvest Plan was approved, encompassing two operating units spanning 265 hectares and containing 2,000 cubic metres of timber.

Between 2010 and 2023 approximately 3,545 cubic metres of timber was harvested in this area. Larger timber was selectively harvested for saw logs, and there was minimal harvesting of smaller diameter timber for green fuel wood.

In response to interest from local operators seeking larger diameter logs for milling and manufacturing, and recognizing the potential for green fuel wood harvest, the Forest Management Branch conducted a timber cruise in the Marsh Lake Timber Harvest Plan in 2021. This timber cruise identified approximately 26,600 cubic metres of merchantable timber, with an estimated 18,942 cubic metres available for harvest in the area.

[1] The *Forest Resources Act* requires a timber harvest plan before issuing cutting permits or forest resources permits for commercial harvesting exceeding 25 cubic metres.

To make continued harvesting opportunities available, the Forest Management Branch has developed the 2024 Marsh Lake Transfer Station Timber Harvest Plan to replace the Marsh Lake Timber Harvest Plan. This timber harvest plan is intended to provide wood supply in the Southern Lakes for approximately 15 years while fuel abatement timber harvest planning is underway.

The plan falls within the Kwanlin Dün First Nation (KDFN), Carcross/Tagish First Nation (C/TFN) and Ta'an Kwäch'än Council (TKC) Traditional Territories. These First Nations have occupied and made use of the land for millennia. Members of the First Nations continue to use the region area for traditional pursuits. The area is adjacent to KDFN R-5A settlement land parcel.

This timber harvest plan complies with the *Forest Resources Act* and the *Forest Resources Regulation* and is guided by the Whitehorse and Southern Lakes Forest Resources Management Plan (2020).

The timber harvest plan aligns with the Forest Management Branch's Operational Standards:

- Forest resources roads
- Riparian management on streams and lakes
- Soil conservation
- Wetlands riparian management
- Wildlife features standard

The timber harvest plan falls within Zone 1 of the forest resources management plan. Timber harvest plans may be developed in this zone and the priority is to protect existing values through timber harvesting. The operating units fall within the Marsh Lake Landscape Unit, which is a high priority for planning and wildland fire management. Key values and interests through out this landscape unit include salmon habitats, caribou winter range, moose habitat, freshwater fish and aquatic habitat, and furbearer habitat.

Part 1- Forest Resources and Timber Harvesting

The following section describes the forest resources, objectives for timber harvesting, locations that are suitable for harvesting, and the location and management of existing and proposed roads.

Ecosystem description

The timber harvest plan is located at the northwest corner of Marsh Lake. The area begins approximately two kilometres west of McClintock Creek and extends for approximately four kilometres southwest along the Alaska Highway. Overview maps are available in Part 3.

The area is in the Yukon Southern Lakes eco-region within the Boreal Cordillera eco-zone. Characteristic terrain features of this eco-region include broad valleys and large lakes. Set within the rain shadow of the St. Elias Mountains, the climate is dry and cool, with a sporadic discontinuous permafrost zone, where permafrost underlies less than one quarter of the landscape. Soils tend to be alkaline, and wetlands are typically dominated by marl formation. The ecoregion supports the highest mammalian diversity in the Yukon, with 50 to 60 known species.

Forest resources

There are two major stand types in the area. The first is mature white spruce and lodgepole pine with scattered aspen. The second is mature white spruce and lodgepole pine without aspen. Pine is the dominant species after fire as it quickly regenerates in burned areas. White spruce-feathermoss forests are common on active floodplains and in small parcels that have not burned in the last 100 years. These stand types are on a variety of sites, from lowland transitional sites, upland flat to

complex upland made up of eskers and moraine features. Black spruce has a limited distribution. There is no subalpine fir present within the area.

Forest health

There are no known forest health issues within the timber harvest plan area. There are several forest health observations found within 30 kilometres of the timber harvest plan. These include flooding, aspen decline, western balsam bark beetle, large aspen tortrix, porcupine feeding, and pine needle cast.

A risk-based approach is followed to manage any forest health concerns that might arise in the area. The Forest Management Branch monitors forest health in the Yukon annually and releases a report summarizing the current state of forest health. This report provides additional information on the regional context of these biotic and abiotic stresses. The most recent forest health report can be found on the Government of Yukon Forest Health webpage.

Locations for timber harvesting

The timber harvest plan falls within the Marsh Lake Local Area Plan and most of the timber harvest plan area is in the open space designation. This designation allows commercial timber harvesting subject to the Act and Regulation, and mitigation of any impacts on wildlife, caribou habitat, wildlife corridors, habitat connectivity and recreation values. In this designation, merchantable timber should be salvaged to the extent possible and existing access should be used where possible and the use of established trails should be avoided. Trails must be rehabilitated if used.

Under the local area plan, there is a portion of environmental open space designated to the far southwest of the timber harvest plan area. Personal use and fuel abatement activities are allowed. If harvesting occurs in this area there will be additional requirements for logging debris and waste disposal.

There are three operating units identified in the timber harvest plan. See Part 3 for a map of the operating units.

Operating Unit 1 (MLT1)

MLT1 is 125.2 hectares and represents the westernmost operating unit in the timber harvest plan. There are four proposed harvest blocks within this operating unit. The operating unit contains a total volume of 9,022.1 cubic metres, with an estimated harvestable volume of 6315.5 cubic metres of conifers. The block design will include a 30 per cent volume retention which will help support biodiversity and protect of wildlife values.

Harvest blocks (MLT1-05, MLT1-06, MLT1-07, MLT1-08 and MLT1-09) are located within a 100-metre buffer from KDFN Settlement Land and are subject to agreement between the Government of Yukon and KDFN prior to issuance of permits.

Table 1. Operating Unit 1 (MLT1)

Harvest block	**Timber type**[1]	**Area (ha)**	**Coniferous volume (m^3/ha)**	**Estimated total volume (m^3)**	**Harvest volume with 30% retention (m^3)**
MLT1-01	22SW900	9.1	90	819	573.3
MLT1-02	18SW800	11.1	100	1110	777
MLT1-03	15SW300	3.9	100	390	273
MLT1-04	18SW400	43.9	129	5663.1	3964.2
MLT1-05[2]	18SW400	1.6	100	160	112
MLT1-06[2]	18SW400	3.2	100	320	224
MLT1-07[2]	18SW400	5.1	100	510	357
MLT1-08[2]	18SW200	0.2	100	20	14
MLT1-09[2]	18SW200	0.3	100	30	21
Total		**78.4**		**9,022.1**	**6315.5**

[1] Average height (metres), species, number of stems per hectare
[2] Harvest blocks are located within 100 m buffer and are subject to agreement with KDFN prior to issuance of permits.

Operating Unit 2 (MLT2)

MLT2 is 125.1 hectares and represents the northeastern operating unit in the timber harvest plan. There are three proposed harvest blocks within this operating unit. The operating unit contains a total volume of 11131.9 cubic metres, with an estimated harvestable volume of 7792.4 cubic metres. The difference between the total volume and the estimated harvestable volume allows for a minimum 30 per cent block volume retention.

Table 2. Operating Unit 2 (MLT2)

Harvest block	**Timber type[1]**	**Area (ha)**	**Coniferous volume(m^3/ha)**	**Estimated total volume (m^3)**	**Harvest volume with 30% retention (m^3)**
MLT2-01	18SW400	9.1	118	1073.8	751.7
MLT2-02	14P2000	36.3	191	6933.3	4853.3
MLT3-03	17SW700	24.8	126	3124.8	2187.4
Total		**70.2**		**11131.9**	**7792.4**

[1] Average height (metres), species, number of stems per hectare

Operating Unit 3 (MLT3)

MLT3 is 107 hectares and is the southeastern operating unit in the timber harvest plan. There are five proposed harvest blocks within this operating unit. The operating unit contains a total volume of 7037.6 cubic metres, with an estimated harvestable volume of 4955.1 cubic metres of merchantable coniferous trees. The difference between the total volume and the estimated harvestable volume allows for a minimum 30 per cent block volume retention.

Table 3. Operating Unit 3 (MLT3)

Harvest Block	**Timber type[1]**	**Area (ha)**	**Coniferous volume (m^3/ha)**	**Estimated total volume (m^3)**	**Harvest volume with 30% retention (m^3)**
MLT3-01	17SW700	14.7	104	1528.8	1070.2
MLT3-02	17SW700	7.4	50	370	259
MLT3-03	15P800	14.2	118	1675.6	1172.9
MLT3-04	17SW700	13.6	203	2,760.8	1,932.6
MLT3-05	15P800	6.3	118	743.4	520.4
Total		**56.2**		**7037.6**	**4955.1**

[1] Average height (metres), species, number of stems per hectare

Timber harvesting methods

The proposed harvesting activities in the timber harvest plan will remain similar to historic operations and will include selective green fuel wood harvest and selective saw log harvest. Timber harvesting operations will target merchantable green coniferous trees to be used as saw logs or cured for fuel wood.

Applicants intending to harvest within this area must propose their harvesting method to the Forest Management Branch. Applicants must submit a site plan which includes the proposed harvesting methods, which must be approved by the Director.

Harvesting activities will consist of patch cuts with retention and selective logging methods. A minimum of 30 per cent of the trees within the area will be retained, either in groups of mature trees or single trees. Group retention may be prescribed in areas with high windthrow risk. Retention will be calculated as a percentage of merchantable volume from the timber cruise.

A variety of timber harvesting methods may be used within this plan. Harvesting equipment may include chainsaws, small scale harvesting equipment or feller bunchers to cut, delimb, and buck trees, and skidders to move harvested trees. Logs will be loaded onto trucks or trailers for transportation to processing facilities.

Proposed harvesting methods will be assessed based on their alignment with:

- The requirements and objectives of this timber harvest plan;
- The Whitehorse and Southern Lakes Forest Resources Management Plan;
- The *Forest Resources Act* and *Forest Resources Regulation;* and
- The Forest Management Branch operational standards and guidelines.

Schedule for undertaking timber harvesting

This timber harvest plan will remain active until the completion of harvesting operations. Estimating the timing for timber harvesting can be challenging, as it depends on commercial interest in the area. Detailed schedules for timber harvesting will be outlined in the site plan of each cutting permit. The timing of harvest for each harvest block will be determined by access constraints, soil characteristics, and other considerations such as wildlife or other land use activities (for example, cultural use). Harvest seasons will be determined based on site-disturbance guidelines provided in the Soil Conservation Standards and Guidelines. Mitigation strategies will be incorporated into the development of site plans.

Applications for harvesting licences require notification to the affected First Nation(s) and the public for a minimum period of 30 days.

Silviculture and reforestation

Silviculture is the science of controlling the establishment, growth, compositions, health and quality of forests after timber harvesting has been completed or other forest disturbances (such as insect or fire).

Silviculture activities will be guided by the Silviculture Strategic Plan (2018). The 2019 silviculture stocking standards will be used to determine if natural regeneration is sufficient or if additional silviculture treatments like tree planting are required.

Natural regeneration is the preferred method of reforestation because there is no reason to plant trees if there are already trees growing naturally in areas that have been harvested. However, it may be desirable to supplement natural reforestation processes in some of the harvested areas to encourage forest stand development and meet Yukon silviculture stocking standards. The purpose of the stocking standard is to establish standards for the reforestation of harvested sites with a disturbance of three hectares or larger. A reforestation plan may be developed which proposes activities such as tree planting or scarification to achieve reforestation goals. Where planting or fill planting is required, all seedlings are to be grown from locally collected seed stock. If an area is found to be underperforming and is not likely to reach the identified reforestation goals, a silviculture treatment plan may be developed. This type of plan requires a public engagement and First Nations consultation prior to approval.

Existing and proposed roads

The area is accessible via the existing 5.72-kilometre road. There are approximately 4.98 kilometres of existing roads in the area that were previously constructed for timber harvesting. Up to five kilometres of new forest resources roads may be required for timber harvesting. Proposed access routes were primarily selected using imagery and elevation data. Existing and proposed roads are outlined in Table 4 and shown on the map in Part 3.

Existing access roads include public roads that are classified as unmaintained highways and forest resources roads. Forest resources roads are not public roads and are managed by the Forest Management Branch. Public roads in the area are managed by the Department of Highways and Public Works.

Proposed road locations within the operating units may be adjusted based on the licencee's timber harvesting equipment and the proposed harvesting system (landings or roadside timber decks). Applicants must provide a map indicating the location of forest resources roads, landings, and other development specific to their proposed operation.

Objectives for the control and management of existing and proposed roads:

- The public road used to access this timber harvest plan has historically been gated and will continue to be gated.
- The Forest Management Branch can take several actions to maintain the integrity of public roads. Before any upgrade or maintenance work, a 'performance of work within highway right-of-way' permit is required. This work could include brushwork, installation of infrastructure, road surface work, earthwork beside the roadway, road maintenance, or other work on the road or beside the road.
- Signs will be installed during any road maintenance or forestry operations to ensure all users are aware of activities and can use the roads safely.
- All upgrades and new roads will be temporary.
- Temporary site disturbance for forest resources roads and landings will be minimized to less than five per cent of the harvest block area, adhering to operational standards and guidelines.
- The Forest Management Branch can control access to forest resources roads, reducing environmental impacts and vehicle related damage, thereby enhancing safety for road users.
- Gates will be installed at access points for all new roads. Gates will be locked and accessible only to licence holders and permitted personnel until impassable to vehicles, including off-road vehicles.
- Routine maintenance and snowplowing will ensure access and road integrity, with possible periodic gaps in snow berms to aid wildlife movement, particularly in high snow areas.
- Access for commercial harvesting will be restricted during specific times of the year to protect the existing access roads during wet or thawing conditions.
- Entrance points to the planning area may feature signs indicating:
    - Locations of potential wildlife crossings or seasonal wildlife use;

- Designation as multi-use roads with potential for multiple vehicles/users;
- Fire safety information, including fire danger rating class, and wildfire reporting contact details;
- Access restrictions;
- Contact information for raising concerns; and
- Periods of active timber harvest and trucks turning.

Forest resource road decommissioning

Decommissioning of forest resources roads may involve deactivation or rehabilitation. Decommissioning typically occurs within two years of harvesting, although in some cases, it may be delayed to facilitate reforestation activities.

When decommissioning a forest resource road, the main goals are to:

- Stabilize the road prism (area previously disturbed during road construction) and clearing width;
- Restore or maintain surface drainage patterns, and control subsurface drainage, consistent with natural drainage patterns;
- Minimize the impact of silt or sediment transport on other resources, reduce water quality degradation and minimize access to resources; and
- Decommissioning will not always need to occur along the entire length of a forest resources road, but will focus on three key areas: water crossings, sensitive sites, and access points.

The following is a list of methods that can be used to decommission roads that do not allow future use:

- Remove all stream culverts and restore channel and bank stability. Use cross ditches where necessary.
- Install cross-ditches or water bars where there are steep grades, heavy ground water seepages, switchbacks, ditches prone to plugging, or other potential drainage problem areas.

- Pull back potentially unstable side-cast fill.
- Spread windrow material over the first 50 metres to 200 metres of road to eliminate existing accessibility.
- Grass-seed ditch lines, crossings, or steep cut slopes to enhance stability.
- De-compaction of well graded road surface.
- Rollback organic windrow to establish suitable seed bed.
- Tree planting.

Table 4: Summary of the existing and proposed roads in the Marsh Lake Transfer Station Timber Harvest Plan.

Name	Status	Seasonal restrictions[3]	Estimated road class	Clearing width (m)	Running surface (m)	Total road length (km)
AH1378 Marsh Lake Main	Existing – unmaintained public road[1]	All Season	2	20	8	3.08
AH1378-19	Existing – unmaintained public road[1]	All Season	2			0.95
AH1378-19 Marsh Lake A	Existing – unmaintained public road[2]	All Season	4	12	4	1.34
AH1378-19B Marsh Lake B	Existing – FRR	All Season	4	12	4	0.73
MLR-01	New FRR	All Season	4	12	4	0.17
MLR-02	New FRR	All Season	4	12	4	0.65
MLR-02B	New FRR	All Season	4	12	4	0.32
MLR-03	New FRR	All Season	4	12	4	0.40
MLR-04	New FRR	All Season	4	12	4	0.82
MLR-05	New FRR	All Season	4	12	4	0.63
MLR-06	New FRR	All Season	4	12	4	0.24

[1] Maintenance is required from km 1.9 to road termination. Maintenance will include road widening and grading.

[2] Forest resources road (FRR).

[3]All season subject to soil and weather conditions.

Enforcement

Compliance and enforcement play an important role in the management of this timber harvest plan. Natural resource officers, designated as forest officers under the *Forest Resources Act*, oversee compliance and enforcement of forestry activities. Based in Whitehorse, these officers will inspect and enforce commercial harvesting operations. All forest users must ensure they adhere to relevant laws, regulations, and permit conditions.

Violations of the Act or the *Forest Resources Regulation* may lead to enforcement. Some examples include harvesting without proper authorization, non-compliance with permit terms, or unauthorized use of forest resource roads. Natural resource officers conduct inspections to verify permit compliance, assist operators in adhering to regulations, and prevent environmental damage. Inspection frequency varies based on operation scale and operator history.

Officers employ various measures to ensure compliance, such as resolving issues with clients, issuing notices of non-compliance, imposing fines, or suspending permits/licenses.

Compliance, Monitoring and Inspections, and the Forest Management Branch, will work closely with the First Nations to conduct joint site visits and inspections.

More information can be found in the compliance and enforcement in Yukon forests fact sheet.

Part 2 – Values and Impacts

The following outlines our understanding of the value of forest resources in the area to affected First Nations and other Yukon residents. This section also identifies strategies to reduce adverse impacts on the values identified due to timber harvesting.

The timber harvest plan area overlaps with late winter moose wildlife key area, and with a generalized winter range polygon (which that covers the Southern Lakes area) for the Carcross caribou herd. In addition, the proposed project area is within a few kilometers of other wildlife key areas, including:

- winter range – caribou (one kilometre to the west, east and southeast)
- year-round - beaver and muskrat (McClintock River two kilometres to the east)
- migration/staging - ducks/waterfowl (one kilometre to the south)

Wildlife

Caribou

The Marsh Lake area is within the range of the Carcross caribou herd. This woodland caribou herd spends the winter in low elevation, coniferous forest habitats where they feed on terrestrial lichen and where snow cover is relatively light. Woodland caribou are listed as a species of special concern in Canada by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Caribou are very important to the First Nations in the region and rebuilding the caribou population has been the focus of wildlife conservation efforts for the past 30 years. Careful management of caribou habitat is a key consideration in the planning and design of timber harvest operations in this area.

The proposed timber harvest plan does not occur within the 2016 caribou core winter range, however it does slightly overlap with high value winter habitat in the western portion. Core winter range and high value winter habitat information is being updated for the Carcross herd and this new information may indicate an overlap with important caribou habitat. More recent collar data shows caribou do travel and move within the area.

The Department of Environment data shows moderate lichen suitability in the area. Field visits by Forest Management Branch and Department of Environment staff suggest there is limited lichen availability within the area.

The Forest Management Branch completed a study to identify forest harvesting practices that would minimize impacts on terrestrial forage lichens in the winter range of the Carcross caribou herd. The results from this study show that stand thinning may provide a bridging strategy to extend forage lichen availability in late seral lichen forested areas. The results of this study indicate that selective timber harvesting in the area may encourage the development of forage lichens after timber harvest operations are completed, potentially increasing caribou habitat. A 30 per cent retention has been applied to all harvest blocks to encourage the development of forage lichens.

Strategies to reduce adverse impacts on caribou due to timber harvesting:

- Operations will cease when caribou are sighted in the area. Any caribou sightings will be reported to the Department of Environment.
- Thirty per cent in block retention will be included in all site plans.
- Access into the area will be restricted to licensees and permitted personnel during operations.
- All new access will be decommissioned once timber harvest is completed.

Moose

Moose are another important species in the Southern Lakes. Moose are a valued meat source for Yukoners and they play an important role in the ecosystem, especially as prey for other animals. The timber harvest plan area overlaps with a late winter moose wildlife key area (WKA 4663). This wildlife key area is 47,000 hectares and overlaps with the northwestern portion of the timber harvest plan.

Strategies to reduce adverse impacts on moose due to timber harvesting:

- All new road infrastructure will be restricted during operations and decommissioned once timber harvest is completed.
- Operations will cease when moose are sighted in the area.

Water quality and fish habitat

One creek has been identified in the area near the proposed block at the end of the Marsh Lake Dump Road in operating unit MLT2. This creek is ephemeral and less than 1.5 metres wide. There are no other known creeks, lakes or ponds in the three operating units. As such there are there are no known salmon or freshwater fish habitats within the area.

Strategies to reduce adverse impacts on water quality and fish habitat due to timber harvesting:

- The creek identified within the area will have a reserve zone width of 30 metres on each side of the creek.
- There will be further assessments for riparian and water resources at the timber licence and cutting permit stage.
- Any creeks found near harvesting areas will be buffered based on the Riparian Management on Streams and Lakes Standards and Guidelines. The buffer width varies based on the width of the stream.

- All operational development will be consistent with the current riparian and wetland management standards. This includes the *Forest Resources Act* and its Regulations, Riparian Management on Streams and Lakes Standards and Guidelines and the Wetlands Riparian Management Standards and Guidelines.

Soil conservation

Protecting the integrity of soils and their hydrological function is essential to maintaining a healthy and productive forest ecosystem. The Soil Conservation Standards and Guidelines have been established to conserve soil productivity and hydrological function during harvesting operations. These standards can be found at Yukon.ca/forestry-policies-standards.

Strategies to reduce adverse impacts on soil due to timber harvesting are as follows:

- All harvesting activities carried will adhere to Soil Conservation Standards and Guidelines.
- Site specific soils information and protection measures will be outlined in the site plan of any commercial cutting permits.
- The Forest Management Branch will determine the season of harvest based on the Soil Conservation Standards and Guidelines hazard ratings for the soil type within the area. The site plan will identify mitigation strategies for the protection of soil properties.

Biodiversity

Other than caribou, there are no identified species at risk or critical habitat overlap in the area. There are no records of raptor nests within the timber harvest plan.

There is an occurrence of barn swallow south of the timber harvest plan in the vicinity of the Marsh Lake campground. Barn swallows are listed as threatened in Canada. They were recently reassessed and are under consideration for a status changed to special concern. This species is not expected to use the timber harvest plan area.

Below are the strategies to reduce adverse impacts on biodiversity due to timber harvesting:

- If a raptor nest is encountered a 50-metre buffer will be maintained around the nest.
- If a stick nest is discovered between February 1 and April 30 and occupied by nesting birds a 50-metre buffer will be maintained around the nest until the nestlings have fledged.
- If a ground or shrub nest is found between May 1 and July 30 and if found to be occupied by nesting birds, tree-cutting will be postponed until such time as the young has fledged.
- If indications of the presence of bat hibernacula are found a 50-metre buffer will be maintained around hibernacula. If a maternal roost is found, tree-cutting will be postponed until such time as the young have fledged.

Heritage resources

Heritage resources and historic features are important to all Yukon people. The preservation of these values is an important consideration planning this project.

Legislation and policy applying to the management and protection of heritage resources includes Chapter 13 of the Ta'an Kwächän Council, Carcross/Tagish First Nation, and Kwanlin Dün First Nation Final Agreements, as well as the *Yukon Historic Resources Act* and the *Archaeological Sites Regulation*.

The *Historic Resources Act* protects archaeological and palaeontological objects and the sites where they are found. Under this legislation it is prohibited to survey, document, disturb, alter, excavate or remove objects from historic sites without a permit.

A heritage resources overview assessment was conducted in March 2024 and several areas with elevated heritage potential were identified within the area.

Strategies to reduce adverse impacts on heritage resources due to timber harvesting:

- Activities conducted within the scope of this plan will adhere to the *Historic Resources Act*.
- Harvest activities that could impact the ground surface in areas with elevated potential for heritage resources will require a heritage resources impact assessment. Types of harvest activities that could impact ground surface include road building, trail building, heavy equipment use, skidding, stream crossings, scarification, and landings.
- All operations must follow the Forest Management Branch's Historic and Archaeological Resources Standards and Guidelines. If historic features or heritage resources are discovered during operations, the timber operator must immediately suspend operations, and inform a forest officer and the Yukon Heritage Resources Unit of the location of the site and the nature of any found or unearthed resources.
- Operators must notify the Ta'an Kwächän Council, Carcross/Tagish First Nation, and Kwanlin Dün First Nation heritage departments upon the discovery of any historic sites or heritage resources within the area.
- All permittees will be required to familiarize themselves with the Heritage Handbook for Identification of Heritage Sites and Features and Best Management Practices.

Recreation and visual impact

This area is used by local residents and others: for harvesting (hunting, trapping, and gathering); recreation and camping; as an access point to the backcountry, and; other wilderness activities such as bird watching. The timber harvest plan area is near Army Beach residents, and the area is accessed throughout the year.

The impact of harvesting on recreation values in the Marsh Lake Landscape Unit is not identified as a major concern in the forest resources management plan.

Timber harvesting can impact the visual quality of landscapes by creating visual contrasts between cut areas and adjacent stands. It is important to reduce the visual impact of timber harvesting where possible.

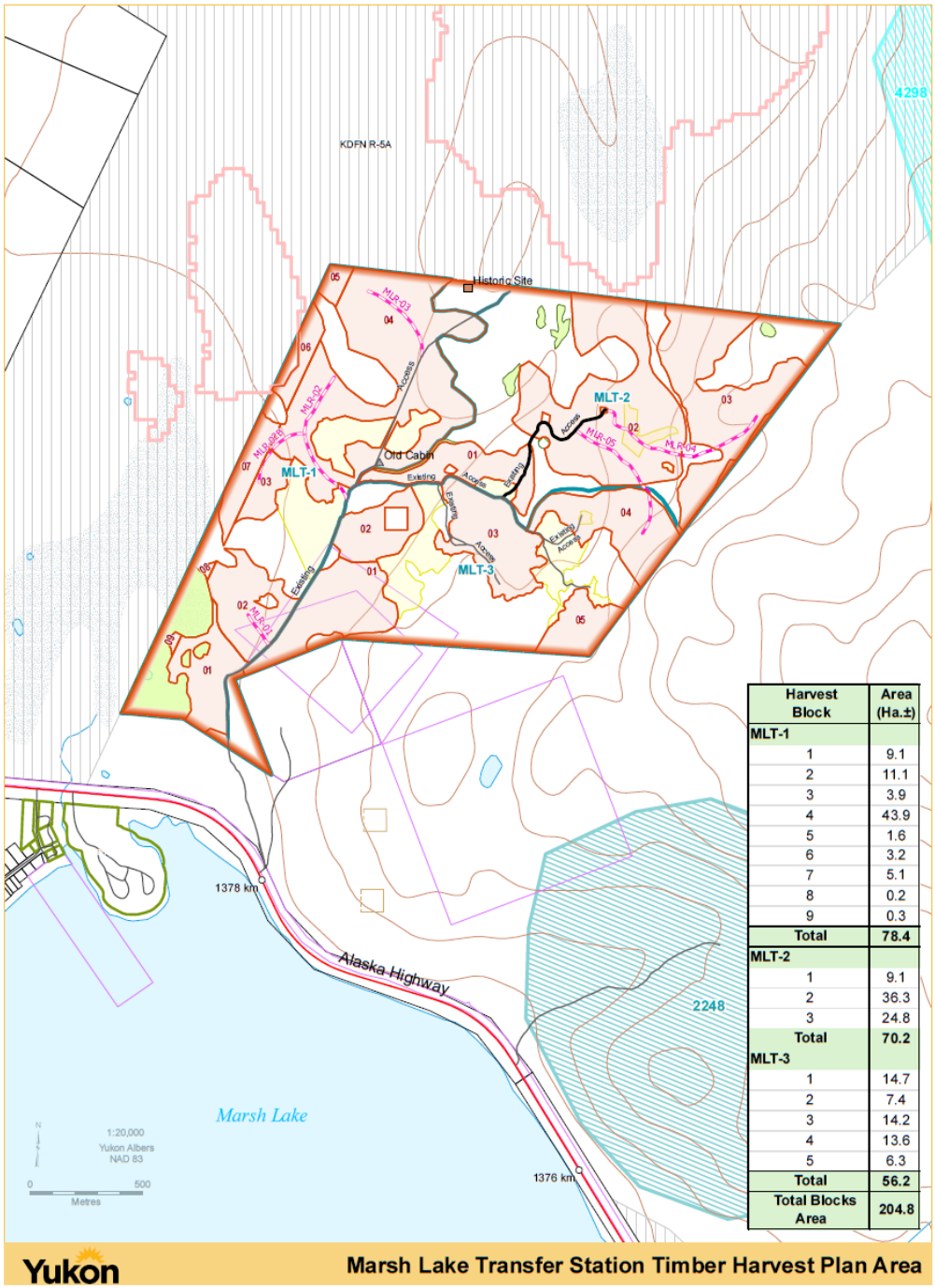
Strategies to reduce adverse impacts on recreation and visual impact due to timber harvesting:

- The access road to the area is gated and controlled and there is no public access for recreation.
- A minimum of 30 per cent live tree retention will minimize visual impacts. Retention will be calculated as a percentage of block volume.
- The local area council will be notified prior to the burning of timber debris

Trapping and Outfitting

The timber harvest plan area overlaps within registered traplines #290 and #291, and with Outfitting Concession #17. There is expected to be no impact to outfitting activities due to the timing of timber harvest activities and their location. There may be some overlap with trapping activities. To avoid any land use conflicts the permit holder must contract registered the trapping concession holders 14 days prior to commencing harvest. The permit holder must not damage any signs of trapping equipment, trapping sets, and trails.

Part 3 -THP Map



Harvest Block	Area (Ha.±)
MLT-1	
1	9.1
2	11.1
3	3.9
4	43.9
5	1.6
6	3.2
7	5.1
8	0.2
9	0.3
Total	78.4
MLT-2	
1	9.1
2	36.3
3	24.8
Total	70.2
MLT-3	
1	14.7
2	7.4
3	14.2
4	13.6
5	6.3
Total	56.2
Total Blocks Area	204.8