Marsh Lake
Timber Harvest Plan
within
CARCROSS/TAGISH AND KWANLIN DUN
FIRST NATIONS' TRADITIONAL TERRITORY

FOREST MANAGEMENT BRANCH
ENERGY MINES AND RESOURCES
YUKON GOVERNMENT

PREPARED: January 2011

February 10 / 2011

Approved by
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A/Director - Forest Management Branch

Date

Feb. 10 / 2011

Submitted By
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Forester - Forest Management Branch

Date

Marsh Lake Timber Harvest Plan
Forest Management Branch
January 2011

Executive Summary

The Marsh Lake Timber Harvest Plan (THP) has been designed to meet the requirements of the Forest Resources Act (FRA) and Regulation. Timber resource licenses issued under the FRA will be consistent with this THP.

The Marsh Lake THP will create harvesting opportunities in the Marsh Lake area which is within the Carcross/Tagish and Kwanlin Dun First Nations' Traditional Territories. The two operating areas within this THP encompass 365 hectares and provide for the harvesting of approximately 2,000 m^3 of timber.

It is expected after the completion of the 2000 m^3 harvest additional harvesting opportunity may be identified in subsequent development of Timber Harvest Plans

The principle of sustainable use and integrated forest resources management will be implemented in the THP. Timber will be sustainably harvested while protecting all values, including soil, water quality, wildlife, biodiversity, fish habitat, heritage/historic resources, recreation, and aesthetic values.

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1.0 Introduction

The Marsh Lake Timber Harvest Plan (THP) area has been a traditional harvest area for the Marsh Lake and nearby communities for several decades. The creation of the Marsh Lake THP is important to maintaining an economic supply of timber for harvesting purposes. The sawlog and fuelwood stands in this THP are identified to help meet the social and economic forest product demands of local operators, while ensuring that environmental and other values are protected.

The Marsh Lake THP will be used to develop forest resources in accordance with the new Forest Resources Act and related regulation. This development will occur under the guidance of the Forest Management Branch through the issuance of authorizations allowing the cutting of timber.

All timber licenses, cutting permits and site plans will be consistent with the most current standards and guidelines. These standards have been developed to ensure the protection and conservation of known values in THP areas.

1.1 Planning Area

The Marsh Lake THP falls within the Kwanlin Dun First Nation (KDFN) and Carcross/Tagish First Nation (CTFN) Traditional Territories. The THP is located at the Northwest corner of Marsh Lake. The area begins at approximately two kilometers west of McClintock Creek and extends for approximately four kilometers southwest along the Alaska Highway.

There are two operating areas within the THP. Area 1 is the Marsh Lake Dump area which has an existing access road. Area 2 is located adjacent to an unnamed road approximately 1.5 kilometers southwest of the Marsh Lake Dump forest access road.

Appendix A displays a 1:250,000 overview map of the THP. Appendix B displays a 1:25,000 scale map showing detailed features.

1.2 Eco-region

The Marsh Lake THP is located in the Yukon Southern Lakes Eco-region within the Boreal Cordillera Eco-zone.

Characteristic terrain features include broad valleys and large lakes. Set within the rain shadow of the 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.

There are two major stand types; mature white spruce and lodgepole pine with scattered aspen and 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 in this ecoregion. In higher elevation, subalpine fir is common.

1.3 Socio-Economic Values

Forests in the Marsh Lake THP area provide many significant values namely, ecological, aesthetic, cultural, and recreational values. In addition, these forests also help sustain the current small scale forest industry that provides timber for local markets, economic opportunity, and employment for some Marsh Lake and Whitehorse residents. Historically the demand for forest products in the THP area has ranged from 50 m3 to 200 m3 per year.

2.0 Planning Area Values Identification

The main environmental and social values within the THP are outlined below. During the initial stages in developing the THP, stakeholders were consulted for input on what values were important to them. Local knowledge and scientific data was solicited regarding these values, along with proposed protection and conservation.

2.1 Wildlife

2.11 Woodland Caribou

The Southern Lakes caribou herd winter range is located north of the THP area. Areas in the northern section of the THP that contain high percentages of lichen have been removed from harvesting. Measures will be taken to ensure that this area is managed so that timber harvesting will have minimal impact on the Southern Lakes caribou herd. Operations will cease when caribou are sighted in the harvest area. The proposed blocks were field assessed with the Department of Environment (DOE) staff on July 22, 2010.

2.2 Fish Habitat, Riparian and Aquatic Resources

One creek has been identified in the THP area near the proposed block at the end of the Marsh Lake Dump Road. This creek, which is less than 1.5 meters in width, will have a reserve zone width of 30 meters. Extending from the edge of the reserve zone is a 70 meter management zone. The reserve and management zones combined are the Riparian Management Area for a total width of 100 meters .The 70 meter management zone will have the same logging prescription as the rest of the proposed block. There are no other known creeks, lakes or ponds in the two harvesting areas. Any creeks found near harvesting areas will be buffered as per the Timber Harvest Planning Operating Guidelines. There will be further assessments at the Timber License and Cutting Permit stage.

2.3 Heritage and Archeological Sites

Christian Thomas, the Development Assessment Archaeologist employed by the Heritage Resources Unit prepared a Heritage Resources Overview Assessment Report for the Marsh Lake Valley THP (see Appendix C).

The report identifies an area of approximately 15 hectares in the southwestern corner as having elevated heritage resource potential (see Appendix B). Harvesting will not commence in this area until a surface feature inventory has been completed.

2.4 Soil Conservation

There is currently no skidder or other machinery being used in the planning area. During the past two years the operator used a power winch on his pickup truck for moving harvested logs from the stump, and will continue to do so during the term of the current permit which was issued on August 9, 2010. However, the THP does allow for skidders and similar machinery to be used.

The following provisions will ensure that the integrity of soils is maintained across all areas of the THP:

- Landings will be placed in locations where the risk of compaction, rutting and erosion is minimized;
- The season of operation and soil conditions will be considered during the completion of the Site Plan;
- Operators will be required to minimize equipment traffic on soils susceptible to rutting, compaction and erosion by incorporating specific measures that will be included in the terms and conditions.
- Skidding and forwarding will be scheduled when soil conditions reduce susceptibility to rutting, compaction and erosion (i.e. conservation of soil quality may require operations to be scheduled for summer/fall (dry soils) or winter (frozen soils)

2.5 Traditional Land Users

2.5.1 Trapping

The Marsh Lake THP plan area falls within two Registered Trapping Concessions (RTC), 290 and 291.

Attempts were made to contact the trappers. There has not been any evidence of trapping in the vicinity of the THP during the past couple of years. If trapping does commence in the harvesting area, harvesting activities will be mitigated so as to minimize conflict with trapping activities. The licence holder will notify the trapper before harvesting on each approved cutting permit.

2.5.2 Hunting

The THP area is not a popular location for hunting big game as the hunting of caribou is restricted and few moose frequent the area during the hunting season. Some small game hunting, including grouse, does occur. In the past, harvesting activities have not been known to conflict with hunting activities in the THP area, and no conflicts with hunting are anticipated.

2.6 Recreation

The impact of harvesting on recreation values is not identified as a major concern. Access to the area may be restricted during particular times of the year to protect the existing access road during wet conditions.

2.7 Visual Impact

Visual resource management aims to reduce the impact of timber harvesting. Timber harvesting can impact the visual quality of landscapes by creating visual contrasts between cut areas and adjacent stands.

The silvicultural system of small patch cuts with retention and selective cutting, together with lowlying areas; will result in no significant visual impacts from the Alaska Highway or Marsh Lake.

2.8 Biodiversity

Representative timber types will be maintained in the planning and surrounding areas. In all blocks the following measures will be implemented:

- Coarse woody debris (dead and decayed blowdown) will be left on site, as well as tree tops and branches from harvested trees;
- Natural regeneration will be protected as per the FRA standards and guidelines;
- Windthrow in boundaries and retention strategies will be considered.

3.0 Past Resource Based Activities

3.1 Historical Forest Harvesting – Area 1

The following table shows the volumes harvested for permits issued in 1998 and 1999. The summary table includes the volume harvested from the one documented harvest, as well as a volume for the rest of the cut blocks in the THP based on 120m^3/ha:

Table 1. Historical Use 1985-1999

Total Volume	Species	m3
Saw logs	Sw	608
Fuel wood	Pl	126
Extrapolated Volume		4648
All Products		5382

There has been an approximate total volume of 5382 m^3 of timber cut in the Marsh Lake Dump THP from 1985 to 1999. From 2000 to 2009 there was approximately 100 m3 per year for a total of 1000 m3, for a grand total of 6,382 m3.

The 1:25,000 map in Appendix B shows the harvested polygons. The legend indicates two types of harvesting; patch cut and patch cut with retention.

3.2 Marsh Lake Dump Post Harvest Survey Summaries

In 2005 the Forest Management Branch carried out an assessment of fourteen historical harvest areas within the Whitehorse and Southern Lakes area. The purpose of this assessment was to identify past cut block and roads, determine silvicultural status, determine harvested volumes and volumes of wood remaining, and to make recommendations. The report titled *Whitehorse Planning Assessment, August 2005* is available at the Branch.

The following characteristics of the existing cut blocks in the Marsh Lake Dump THP are taken from the report:

- Generally mid slope meso-position
- Some lower slope and toe meso-position
- Fresh to moderately moist soil moisture regime
- Moderately well to well drained soils
- Moderate to poor site classes.

Of the seven cut blocks in this THP, one is a patch cut, 4 are partial cuts and two are patch cuts with retention. The size of the cut blocks ranges from 0.2 to 10 hectares.

The regeneration is mainly lodgepole pine (70% average), with white spruce as a secondary species. The height of these seedlings averages 40 cm, ranging from 5 cm to 3 m.

Eight of the harvested blocks in the Marsh Lake Dump THP have been planted. Seven blocks were planted in 2001 and one block in 1998. The harvested blocks are sufficiently regenerated with low vegetation competition.

3.3 Retention Within Harvested Blocks

Of the total volume of retention per block, 45% of the trees are greater than 19 cm at diameter breast height (dbh). The primary species of the retention is lodgepole pine and the average height of the retention is 15 metres.

The following pictures show planted cut blocks and retention stands in the THP area:

Marsh Lake Dump Planted Seedling

Marsh Lake Dump Plantation

Marsh Lake Dump Patch Cut with Retention

3.4 Past Mining Activities

The Marsh Lake Dump access road was constructed for prospecting, but no mining operations were commenced in the THP area.

4.0 Silviculture Systems

A silviculture system is defined as a planned program of silvicultural treatments designed to achieve stand structure characteristics to meet site objectives during the whole life of a stand. This program of treatments integrates specific harvesting, regeneration, and stand tending methods to achieve a predictable yield of benefits from the stand over time. The different silviculture systems reflect the type of forest structure remaining after initial harvest (e.g., clearcutting, seed tree, shelterwood, selection, and retention).

In the past, local operators have mainly used selective cutting, and patch cuts with retention. This is because both merchantable size sawlogs and standing dead trees for fuelwood are scattered throughout the THP. The harvesting methods in this THP will be a combination of selective cutting and patch cuts with retention. In blocks that are frequented by wildlife and in areas where other non-timber values are considered critical, only selection cutting will be implemented.

The following guiding principles will be followed when preparing site plans for each block:

- Each block will be assessed to determine the stand characteristics;
- The most appropriate silviculture system will be chosen based on site specifics to meet management objectives;
- Natural regeneration will be the preferred method of regeneration;
- The site plan will document the stand level objectives, silviculture system, ecological information, soils and harvest method and reforestation plan for each block;
- Debris on landings will be managed to promote natural regeneration.

5.0 Merchantable Volume

There are two operating areas within the THP. Area 1 is the Marsh Lake Dump area which has existing road access. Area 2 is an unnamed road located approximately 1.5 kilometers southwest of the Marsh Lake Dump forest access road. Both areas have a combined total merchantable volume of 24, 550 m3.

The sawlog potential throughout the planning area is moderate to high. The average tree height is 17 meters with a range upwards up to 25 meters. The tree diameters range between 16 and 40 cm.

5.1 Area 1

A high volume proposed harvest block within Area 1 has been flagged and mapped. This block contains 12 hectares and an estimated volume of 1,834 m3 (152 m3/ha, cruise plot data, April 1, 2010).

The other harvestable area is on both sides of the existing Marsh Lake Dump forest access road. This is approximately 145 hectares of forest (excluding the seven mapped blocks that were harvested in the 1990's.) for a total of 22,116 m3.

At this time a total of 1,600 m^3 will be harvested in Area 1. It is expected after the completion of the 1,600 m^3 harvest additional harvesting opportunity may be identified in subsequent development of Timber Harvest Plans

5.2 Area 2

Area 2 has one block flagged and mapped. This block contains four hectares and 800 m3. This area was consulted on and approved for harvest in 2004, however, the permittee did not harvest.

A total of 400 m3 will be harvested in Area 2.

5.3 Utilization of Trees for Sawlogs and Firewood

The following table is a guide to the utilization of green timber:

Table 2. Utilization of Green Timber

Timber Product	Diameter at 30 cm stump height
[1]Fuelwood	13 - 20
[2]Sawlogs	20 - 30
[2]Building logs	30 >

[1] All merchantable dead standing timber must be progressively utilized in each block while cutting green fuelwood. Dead standing trees showing evidence of cavity nesting should be retained

[2] Portions of timber not suitable for sawlog or building logs, such as the top portion of a tree up to 10 cm, must be utilized (either for fuelwood or other forest products).

6. 0 Access Management

With Area1 along the existing access road, spur roads may be needed to access timber. No new access is proposed to ML-1 block. Should either of these areas require access development they will be submitted for YESAB screening.

The Marsh Lake Dump existing forest access road will be graded to improve transportation conditions. A gate will be installed at the entrance to this road to control land use activity during specific times. This gate will restrict access during the wet periods to protect the road and for public safety.

7.0 Windthrow

Past inspections of cutovers have revealed that windthrow has not been a significant problem. At the end of each operating year, cutovers will be assessed for windthrow. If windthrow does pose a problem, mitigation measures will be implemented.

8.0 First Nations Knowledge

Input on the THP was solicited from the Carcross/Tagish and Kwanlin Dun First Nations commencing on April 7, 2010. A meeting was held with CTFN on April 29, 2010 and field trips were conducted with CTFN staff to the THP area. The meetings and field trips were informative and productive, with a good exchange of information. Both First Nations also expressed their THP concerns in writing. All concerns were taken into consideration and addressed throughout the THP.

9.0 Marsh Lake Local Advisory Council

The terms of reference for the development of the Marsh Lake Local Area Plan (LAP) is currently being developed for the Marsh Lake area**.** The Marsh Lake Local Advisory area encompasses the Marsh Lake THP. When the Marsh Lake LAP is approved, all direction and objectives with respect to timber harvesting in the THP must be congruent to the LAP. If necessary, the THP will be amended to follow the timber harvesting planning and directives as set down by the LAP.

Perry Savoie, a councilor with the Marsh Lake Local Advisory Council, was contacted and a scheduled Council meeting was attended by a FMB forester on August 17, 2010. The purpose of the meeting was to explain the goals and objectives of the Marsh lake THP and to answer any questions the council had with respect to the THP and the new legislation.

10.0 Land Dispositions, Notations, KDFN Settlement Land and Reserves

All land dispositions, notations, KDFN Settlement Land and reserves are outlined on the 1:25,000 map located in Appendix B.

- There is one surveyed land disposition adjacent to the south eastern corner of the THP area, 105D09-030 issued to community Services, YTG for the Marsh Lake Dump.

- There are two reserves partially in the THP area, 105D09-023 which is a reserve issued to the Northern Pipeline Agency for a gravel pit, and 105D09-044, a reserve issued to Highways and Public works for a gravel pit.

- There are two notations within the THP for Permanent Sample Plots (Growth and Yield research plots). These plots will have a 100 meter buffer zone to ensure they will not be disturbed by harvesting.

- The Northern Pipeline Agency has a right of way adjacent to the Southern edge of the THP area.

- Kwanlin Dun R-05A settlement land abuts the THP area on the western and northern edges of the THP. Harvesting will not be carried out within 100 metres of R-05A.

11.0 Scientific Studies

A scientific study, entitled the *Lewes Marsh Monitoring Program,* is being undertaken to analyze the effects of harvesting on caribou lichen. The study is currently in its first phase and a draft report has been completed. The study area is near Lewes Marsh and is in similar forest as the THP, and approximately five kilometers away.

The purpose of this study is to assess the effects of retention harvesting on lichen in the Southern Lakes ecoregion. Lichen, especially *Cladina Cetraria* and Flavocetraria spp., are important winter forage for caribou. The focus of the study is to harmonize forest management with caribou management in the Southern Lakes.

When the study is completed and the results concluded, the scientific information will be incorporated into the THP and harvesting techniques modified if necessary.

12.0 Further Assessments

As part of the cutting permit application, a site plan will be completed to specifically analyze and assess non-timber values. The site plan will include the silviculture system, soil conservation measures, reforestation plans, as well as the timing and sequence of all harvesting.

13.0 Compliance and Monitoring Plan

After the Marsh lake THP is approved, timber licenses and cutting permits will be issued. Regular cutting permit inspections will be conducted to ensure that the licensee is in compliance with all terms and conditions of the permit. These inspections will be conducted up to the time the licenses and permits expire and all terms and conditions are fulfilled.

14.0 Consultation

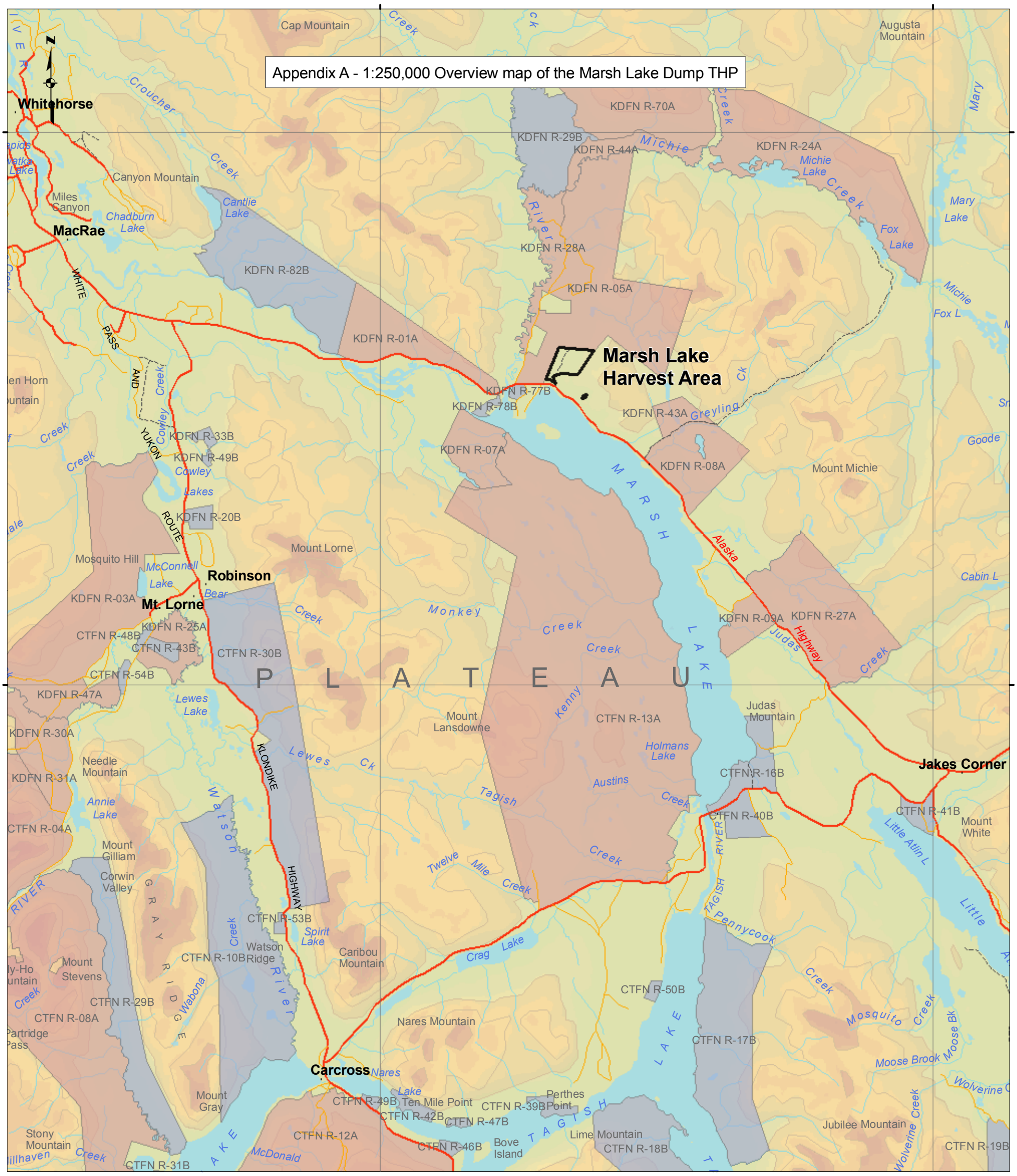
Consultation was undertaken with Carcross Tagish and Kwanlin Dun First Nations, Department of Environment, YG, Heritage Resources, YG and the Marsh Lake Local Advisory Council. No input was collected from the trappers or the outfitter. There were several meetings, joint field trips, telephone conversations and emails that commenced on April 7 to August 17, 2010. All concerns from all stakeholders were taken into consideration and the THP was developed to meet the demand of local traditional harvest, while the protecting the identified values.

15.0 References

2005 Whitehorse Planning Assessment, Forest Management Branch

Lewes Marsh Monitoring Program, Phase 1, Final report (draft), Angeline Gough, Masc. Sustainable Forest Management Research Group, University of British Columbia

Appendix A - 1:250,000 Overview map of the Marsh Lake Dump THP



Legend

- Timber Harvest Plan Areas
- Road
- Limited-use road
- Trail

FN Settlement Land

- A - Surface and Subsurface Rights
- B - Subsurface Rights
- FS - Fee Simple

Date: 08 September, 2010
Projection: NAD 1983 UTM Zone 8
Contact Information: Todd Pilgrim, Area Forester, 456-3852

Digital Data Sources

1:250,000 National Topographic Database (NTDB) features downloaded from spatial data warehouse - www.geogratis.gc.ca. Her Majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved.

Original map design by EDI Environmental Dynamics Inc. Fall 2009.

Digital Elevation Models (30 metre and 90 metre) provided by Yukon Government Geomatics spatial data warehouse - www.geomaticsyukon.ca.

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Yukon Territory

0 2.5 5 10 15 20
Kilometres

1:250,000 (When Printed at 11inx17in)

Marsh Lake Dump THP Area

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Appendix B- 1:25,000 Detail map - Marsh Lake Dump THP

532000

6716000

6712000

KDFN R-28A

KDFN R-5A

4298

Area 1
361ha. ±

ML-1
12.2ha. ±

Old Cabin

9

YG Gravel Pit
105D09-044

NPA Borrow Source
105D09-023

105D09-030
Garbage Dump
Lot 1061
CLSR 86854

105D09-024

105D09-017
YG Gravel Pit

3

2

FOOTHILLS PIPELINE EASEMENT

2249

KDFN R-77B

Camping Ground

2008-0022

Army Beach

ALASKA HIGHWAY

Area 2
4ha. ±

ML-2

2248

Marsh Lake

CTFN S-168B1

KDFN S-239B1

KDFN S-179B1

KDFN S-16B1

KDFN S-176B1

CTFN S-86B1

KDFN S-206B1/D

2251

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Project Specific Features

- Permanent Sampling Plots
- Existing Access Routes
- Proposed Harvest Blocks
- Timber Harvest Plan Area
- Heritage Resource Potential

Past Harvesting - Harvest Type

- Patch Cut
- Partial Cut
- Patch Cut with Retention
- Landing
- Island

Administravtive Features

- ....Surveyed Parcel
- Surveyed Easement
- Agriculture Tenure
- Land Disposition
- Notations

First Nation Settlement Lands

- ....Category A
- ....Category B
- ....Fee Simple

WKA - Woodland Caribou

- Winter range - survey data
- Winter range - local knowledge

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Yukon Territory

Area Forester: Todd Pilgrim
Contact: 456-3852
Date: December 21, 2010
Projection: NAD 1983 UTM Zone 8

Digital Data Sources

1:50,000 Canvec features downloaded from spatial data warehouse - www.geogratis.gc.ca. Her majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved.

Original map design by EDI Environmental Dynamics Inc. Fall 2009.

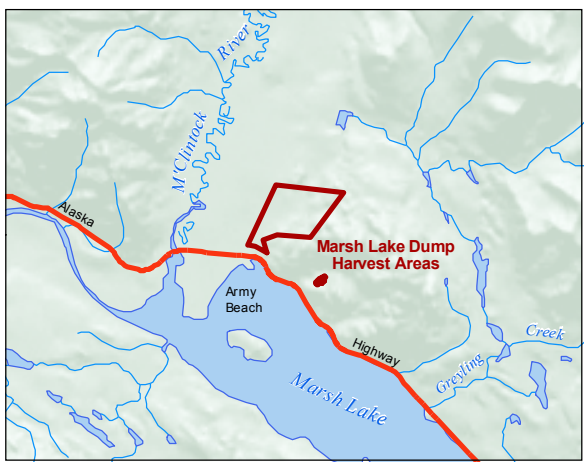
Digital Elevation Models (30 metre and 90 metre) provided by Yukon Government Geomatics spatial data warehouse - www.geomaticsyukon.ca.

0 310 620 930 1,240
Metres

1:25,000 (When Printed at 11inx17in)

Timber Harvest Plan Area
Southern Lakes

Marsh Lake Dump



Appendix C: Heritage Resources Overview Assessment Report

Management Summary

An overview assessment of proposed Harvest Areas 1 and 2 in the Marsh Lake THP has determined that parts of the project area have elevated potential for the presence of heritage resources (such as archaeological and historic sites). The area with elevated heritage resource potential is located along the road to Harvest Area 1 where cutting is proposed. It is recommended that this area be surveyed for heritage sites before harvest begins. The Heritage Resources Unit has no concerns with Harvest Areas 1 and 2.

Archaeological Potential Methodology

Heritage resource potential was determined by identifying site presence indicators using resources including the Yukon Archaeological Sites Database, the Yukon Historic Sites Database, high resolution orthographic images, paleo-lake level studies and spatial mapping of water courses and wetlands. Site databases were used to determine whether or not sites are located within the project areas or to determine if sites are present in areas similar to that of the project. Orthographic images were used to determine locations of prominent topography suitable for the presence of heritage resources. Spatial data on the location of water bodies, watercourses or wetlands is used to define geographic areas or corridors that generally have higher potential for site presence. Heritage resource potential is determined by assessing project development areas intersect with land that is within 100 m of a heritage resource indicator.

Overview Results - Summary

Known Sites: A review of the Archaeological and Historic Sites Databases indicates that no heritage sites are located in or adjacent to the project area.

Heritage Resource Potential: Elevated potential was located along the eastern edge of the M'Clintock River valley. Specifically, elevated potential is located on ridge or series of hills to the east of a wetland that, in areas, overlaps with potential harvest sites within 400 m of the access road to harvest Area 1. See map in appendix B. The map highlights the area with elevated potential (in red). Orthographic images suggest this area is a wetland interspersed with glacial kame hills and may even have been a lake shore environment in the early post glacial period. Harvest Areas 5 and 6 appear to have low potential for the presence of heritage resources because they are located in an elevated mountain slope area that is close to water.

Previous Disturbances / Exposures: Access roads, pull outs and landings.

Potential Impacts

The project proposes to cut timber within Harvest Areas 1 and 2 as well as both sides of the existing road that accesses Harvest Area 1. Impacts to heritage resources can be characterized as surficial in nature and would negatively impact any resource on or above the ground surface. Rarely would subsurface resources, such as buried archaeological sites, be impacted by wood cutting. Thus, if wood cutting occurs in areas of elevated heritage resource potential, then surface heritage resources could be impacted. If new roads or graded landings are developed in areas of elevated heritage resource potential those activities could also impact subsurface heritage resources.

Recommendations

If wood cutting is planned in areas identified as having elevated heritage resource potential then a surface feature inventory is recommended in advance of harvest. If new road construction is planned in areas with elevated potential for the presence of heritage resources then an archaeological site inventory and assessment is recommended in advance of construction.

Appendix D: Stakeholder Comments and Responses

A total of 31 comments were received during the notification period (September 10, 2010 to November 17, 2010) on the Draft Marsh Lake Timber Harvest Plan within the Carcross/Tagish and Kwanlin Dun Traditional Territories.

Comments were received from the following stakeholders:

- Carcross/Tagish First Nation
- Department of Environment - Government of Yukon
- Yukon Conservation Society
- Carcross/Tagish Rural Resource Council
- Marsh Lake Local Advisory Council

1) Comment – Department of Environment, Carcross/Tagish First Nation and Kwanlin Dunn First Nation

Section 5.3 of Marsh Lake Dump THP proposed commercial green fuelwood harvest on Southern Lakes caribou herd winter range. Section 5.3 of the Marsh Lake Dump THP recommends the commercial harvest of green trees for fuelwood, and conditions to guide the harvest. The plan states that the present commercial operator has been authorized to cut commercial green fuelwood, effective August 2010. Environment and FNs are opposed to the authorization of commercial green fuelwood harvest activities within the winter range of the southern lakes caribou herd, and are concerned with the precedent that is set by authorizing this activity.

Rationale: Through the implementation of the 1993 SL caribou recovery program with FN partners, one of our key conservation strategies (historical and current) has been to recommend no green fuelwood harvest on caribou winter range.

The cutting of green trees for fuelwood is not supported by the CTFN land use team and further discussion on the cutting of green trees in general needs to conducted. Clarity, justification, and better understanding need to be discussed. More discussion is needed to address the topic of harvesting of green trees.

Response

The Marsh Lake Dump THP area has been a traditional timber harvesting area for the past several decades. Forest Management Branch currently does not issue commercial permits in any of the areas of the Southern Lakes Caribou Kernel Range. The Marsh Lake Dump THP is outside this range, hence, the THP area was not considered to be a critical caribou area. This was also confirmed with DoE staff on field inspections. There was little significant lichen rich areas found in the THP area.

The best suited silviculture system will be chosen at the site plan stage. Each site plan will contain standards for harvesting and the proper utilization of timber, while considering the significance of all non-timber values. To ensure that sawlogs are not utilized as fuelwood, all timber with a 30 cm stump diameter of 20 cm or greater must be taken as sawlogs or buildings logs,

2) Comment – Department of Environment

Environment does support the use of sawlog tops, broken or damaged sawlog material or damaged residual as fuelwood.

Response

The Forest Management Branch sets utilization standards for harvesting timber in the Yukon and these standards are enforced by the Client Services and Inspections Branch. These standards are included in the terms and conditions of the cutting permit. Some portions of timber may not be suitable for sawlog material, and can be uses a fuelwood.

3) Comment – Department of Environment

This section of the THP draft confirms that there is not a high volume of dead trees in the THP area, which was confirmed during our joint site inspections to the area. Environment recommends re-directing the client to an alternate area outside SL region where there are more opportunities to harvest dead fuelwood.

Response

The Marsh Lake Dump area has been a traditional commercial and personal use cutting area for several decades. A balanced approach must be considered whereby traditional harvesting can continue to some degree.

4) Comment – Department of Environment and Carcross/Tagish First Nation

The proposed season(s) of harvest are not explicitly stated in the draft THP. Environment recommends the following in respect of caribou conservation:

Avoid activities when Southern Lakes Caribou are expected to occupy winter range within the harvest area (December 1st to March 31st).

Response

The THP area has avoided the critical caribou range. There are currently no restrictions on the time of harvesting. Terms and conditions will be included in the cutting permit to address and mitigate the concerns of caribou frequenting the permit area during harvesting.

5) Comment – Department of Environment

Section 13.0 Monitoring Plan - This section does not contain much detail in relation to what one might expect from a short to long term monitoring plan, (e.g. indicators and responses) to assess potential impacts and actions taken to respond to unforeseen events.

If the intent of the plan is to track permittee compliance with terms and conditions in their authorization, suggest changing the title to Compliance Monitoring Plan.

Response

Section 13.0 is changed to Compliance and Monitoring Plan.

6) Comment – Yukon Conservation Society

4.0. Silviculture Systems - YCS believes that too much detail is left to be declared in the site plans. YCS suggests providing any information available pertaining to the stand level objective, silviculture system, ecological information, soils and harvest method and reforestation plan for each block in the Marsh Lake THP.

Response

There is no requirement for public review of site plans. Opportunities for input are outlined in the Forest Act and Regulation.

7) Comment – Yukon Conservation Society

Will First Nations and stakeholder groups such as YCS have the opportunity to provide comments on the site plans or is this consultation the final opportunity to provide our recommendations?

Response

There is no requirement for public review of site plans. Opportunities for input are outlined in the Forest Act and Regulation.

8) Comment – Yukon Conservation Society

YCS asks that specific details in regards to soil conservation, and silviculture systems are added to the THP or that an additional consultation occurs for specific site plans.

Response

Specific details in regards to soil conservation, and silviculture systems will be as per the operability standards and guidelines

9) Comment – Yukon Conservation Society

1.2. Eco-region - Excellent description of the THP area however it would be useful to describe how the specific topography, permafrost and climate may affect the forest resource management of the THP area.

Response

There is no known permafrost in the area of the THP. The climate in the THP area will affect operable days. The purpose of including the ecoregion was to describe the THP area, not to describe how climate may affect the forest resource management of the THP area.

10) Comment – Yukon Conservation Society

State the Natural Disturbance Zone of the area and the percentage of each tree species.

Response

The Natural Disturbance Zone of the area is Lowland – NDZ2. Percentages for the commercial species vary for each stand in the THP area. A higher percentage of white spruce is in the first three kilometres of the THP from the beginning of the road. The patch cuts and areas further in the roads have a higher percentage of pine.

11) Comment – Yukon Conservation Society

2.1.1. Woodland Caribou - YCS supports removing areas that would make good caribou habitat from the THP area however, the blue polygon on the detailed map indicates that Area 2 is in traditional knowledge wintering habitat for woodland caribou.
Recommendation: Remove Area 2 (4ha and 400m^3) from the THP area or explain what studies have been done to indicate that there is no wintering ground for woodland caribou in this area.

Response

Area 2 was field checked with DoE staff and it was not considered a wintering ground or even caribou habitat, (i.e. mostly white spruce). The blue polygon indicating caribou habitat is based on anecdotal information.

12) Comment – Yukon Conservation Society

2.2 Fish Habitat, Riparian and Aquatic Resources
We fully support 100 m but fear that due to the use of “up to” it could be much less. We support a precautionary approach, in which wider buffers than called for in the THPOG are implemented. We fully support 100 m buffers along this ephemeral creek.

Response

Buffers along all streams will be as per the standards and guidelines.

13) Comment – Yukon Conservation Society

2.4. Soils Conservation - YCS strongly supports ensuring that any machinery proposed to be used in the project description by the licensee should be assessed to ensure its meets the standards to conserve soil quality. However, YCS urges Forest Management Branch to provide details pertaining to how they will ensure the standards will be met and how this will be enforced.

Response

Details of machinery used and necessary restrictions on use, in order to lessen soil disturbance, will be assessed at the site plan stage with terms and conditions (if necessary) attached to the cutting permit. Compliance will be ensured through regular inspections.

14) Comment – Yukon Conservation Society

Our opinion is that we are concerned that too much detail is being left for the site plan. YCS asks that if there is no First Nations or Stakeholder consultation for site plans, that the information request above be included in the Marsh Lake THP.

Response

As per the Forest Resource Act, all necessary detail is included in the THP. The license application will have a 30 day review; however, there is no requirement for consultation on the Site Plan or Cutting Permit.

15) Comment – Yukon Conservation Society

2.5.1. Trapping - It is the opinion of YCS that a consultation with the trappers in the area must be successfully conducted before this THP can be approved.
Recommendation**:** Continue to attempt to contact the trappers in the region. Contact First Nations and residents in the area who may know the trappers, as well as consult governments for any information pertaining to these two trapping concessions.

Response

No input was received during public review. Attempts were made and documented to contact the trappers in question. There has been no known trapping in THP area for past few years. If trapping is discovered during harvesting, mitigation measures will be put in place.

16) Comment – Yukon Conservation Society

3.3. Retention within Harvested Block - What is the percentage of retention in each block as well as the percentage of species composition proposed for each retention stand?
Recommendation: Keep a minimum 25% retention stand in each block that represents the various tree species in the area. The stand should also include standing deadwood to be used as animal habitat as well as provide coarse wood material and nutrients to the forest floor.

Response
The percentage of retention in each block and the percentage of species composition proposed for each retention stand will vary with the silvicultural system used. Details of the retention will be outlined in the site plan.

17) Comment – Yukon Conservation Society
4.0. Silviculture Systems - How will it be determined if blocks are frequented by wildlife and/or in areas where other non-timber values are considered critical?

Response
All areas of the Yukon are frequented by wildlife to some degree. The Marsh Lake Dump THP is not considered to be a critical wildlife area or critical to a particular non-timber value.

18) Comment – Yukon Conservation Society
YCS suggests providing any information available pertaining to the stand level objective, silviculture system, ecological information, soils and harvest method and reforestation plan for each block in the Marsh Lake THP.

Response
The information pertaining to the stand level objective, silviculture system, ecological information, soils and harvest method and reforestation plan for each block will be conducted at the Site Plan stage.

19) Comment – Yukon Conservation Society
5.3 Utilization of Trees for Sawlogs and Firewood - It is important to leave some standing dead trees. These trees are important to forest ecology as they act as habitat as well as provide coarse woody material and nutrients for the forest floor. Recommendation: Change this sentence to state that most dead trees must be progressively utilized however some should be left due to their ecological importance of providing habitat as well as nutrients and coarse woody material for forest floor.

Response:
As per suggestion, “all dead trees” has been changed to “dead standing trees showing evidence of cavity nesting should be retained” and all sub-merchantable trees will be left standing

20) Comment – Yukon Conservation Society

13.0. Monitoring Plan - YCS would like to draw attention to the following statement in the Marsh Lake Timber Harvest Plan;
"After the Marsh lake THP is approved and all environmental assessment is completed, timber licenses and cutting permits will be issued. Regular cutting permit inspections will be conducted to ensure that the licensee is in compliance with all terms and conditions of the permit."
Once a permit is issued, do the terms and conditions of the permit take precedence over any change in forest resource management that may be required?
Ex: If the *Lewes Marsh Monitoring Program* determines that a different approach must be taken in order to preserve woodland caribou habitat, will the licensee be required to accept these changes, or will they be able to continue based on the standards and conditions of the permit when it was issued?

Response

Where necessary, the terms and conditions of a cutting permit can be amended to reflect new scientific information.

21) Comment – Carcross/Tagish First Nation

Woodland Caribou - All proposed forest activities should be assessed on a case by case basis. Further restrictions, if necessary may be placed upon harvesting if it is determined that cutting may negatively affect caribou overwintering.

Response

All timber licence and cutting permit applications will be assessed on a case by case basis. Further restrictions, if necessary may be placed at the site plan stage and included in the terms and conditions of the cutting permit to mitigate the effects on caribou.

22) Comment – Carcross/Tagish First Nation

Only selective cutting is acceptable

Response

The type of harvesting method used will be decided at the site plan stage, both selective and patch cutting, has been used in the past and will be used in this THP.

23) Comment – Carcross/Tagish First Nation

No new access roads should be created

Response

With Area1 along the existing access road, spur roads may be needed to access timber. No new access is proposed to ML-1 block. Should either of these areas require access development they will be submitted for YESAB screening.

24) Comment – Carcross/Tagish First Nation
How will windthrow be managed?

Response
If windthrow does pose a problem, measures will be implemented to mitigate future problems.

25) Comment – Kwanlin Dun First Nation
While we can support these cutting permits for the coming year, we remain concerned about cumulative impacts on caribou habitat. Kwanlin Dun First Nation has participated in the recovery of Southern Lakes Caribou over the past decade and more. While voluntary hunting restrictions by First Nations and regulated restriction by Yukon have been successful in increasing numbers, the recovery has reached a plateau. This raises the possibility that habitat limitations are an issue for the herd. Without adequate habitat mapping and a spatially explicit caribou management plan in place, we remain concerned about continued habitat modification within the herd range. The proposed activity includes Pine-Lichen ecosystems. These are prime winter habitats for caribou. Lack of collar data supporting use should not be interpreted as an indication of lack of use or importance. Other factors, such as avoidance of nearby development, population size and therefore density, collaring of cows only, etc could be at play.

Response
Several traditional commercial harvesting areas that were located in the critical Southern Lakes Caribou habitat areas are now closed or deferred. By only harvesting in non critical areas such as the Marsh lake Dump THP, possible negative effects on caribou have been lowered.

26) Comment – Kwanlin Dun First Nation
The Marsh Lake THP has independence from other planning processes, and there has been a lack of progress on regional forestry planning. We are involved with your department in initiating a local area plan for Marsh Lake, and with other First Nations and Yukon on the Southern Lakes Wildlife Coordinating Committee. There needs to be integration of resource planning with land use and wildlife planning. Finally, we signed Terms of Reference for the Whitehorse and Southern Lakes Forest Resources Management Plan close to two years ago. Its purpose is to address the issues listed above as well as to provide a systematic and regional vision to forest management. We remain concerned about the lack of movement on this process.

Response
A Timber harvest Plan (THP) is to be consistent with an approved Forest Resources Management Plan for that area. And, if a Forest Resources Management Plan is approved after the THP is approved the THP can be amended

27) Comment – Kwanlin Dun First Nation

Kwanlin Dun First Nation has settlement land adjacent to the Marsh lake THP area, namely, Block R-05A. There should be some buffer along this R-Block.

Response

There will be a management zone within 100 meters of Block R-05A.

28) Comment – Kwanlin Dun First Nation

Woody debris from harvesting has a negative effect on lichen; it should be piled and burned.

Response

The woody debris and its impact on lichen is currently being studied and there is ongoing research being conducted by FMB called the Lewes Marsh Monitoring Program. The purpose of this study is to assess the effects of retention harvesting (10—40% retention) on lichen abundances in the Southern Lakes ecoregion of Yukon Territory. Lichen is important winter forage for caribou and the focus of the study is to harmonize forest management with caribou management in the Southern Lakes. The assessment used historically harvested areas to passively test the hypothesis that there is an effect on lichen abundances due to harvesting. The study found that lichen abundance did not differ significantly between the harvest and the control, suggesting that the influence of retention harvesting on lichen is predominantly indirect, e.g. through impacts on the ground cover variables that predict lichen abundance. Furthermore, the data analysis suggest that lichen abundance is negatively impacted under both treatment types; for example, through ground shrub competition by shrub species which flourish either under closed or open canopy conditions. As this study is still ongoing, harvesting techniques will not be modified until the study is completed. After completion of the study, the results will be analyzed and modifications to harvesting will be incorporated into the THP if necessary.

29) Comment – Carcross/Tagish Rural Resource Council

The draft plans are a good start on dealing with existing commercial forest cutting in the region however these areas need to be considered within the broader range of land use activities that impact forests and fish and wildlife habitat in the region.

Response

Commercial forest cutting will be considered within the broader range of land use activities in the ongoing Forest Resource Management Plan for the Southern lakes Area and the Local Area plan for Carcross/Tagish.

30) Comment – Carcross/Tagish Rural Resource Council

Commercial forestry should be limited to small scale local enterprises and harvesting methods and local value added activities such as milling. Industrial forestry including mechanized harvesting should not be entertained. The first priority for allocation should be existing local forestry operations.

Response

This THP will contribute to the Yukon Forest Industry.

31) Comment – Carcross Tagish Rural Resource Council

The construction of new access roads or corridors should not be allowed under the plans and the upgrading of existing roads should be reviewed separately for the TMP. Even winter roads and corridors often lead to increased access by off road vehicles and incremental road improvements over time.

Response

With Area1 along the existing access road, spur roads may be needed to access timber. No new access is proposed to ML-1 block. Should either of these areas require access development they will be submitted for YESAB screening.

32) Comment – Carcross/Tagish Rural Resource Council

The maintenance of riparian habitat and leave strips along streams and wetlands in drainages is important but not sufficient to protect fish habitat. Broader watershed drainage and water quality and quantity issues resulting from forestry clearing and land disturbance must also be addressed. In the context of aquatic watershed health “land use disturbances” would include any disturbance of soil or vegetation that would potentially affect hydrology (runoff) and water quality and would not be limited to soil disturbance, the same interpretation and rationale that is applied to riparian setbacks and leave strips along streams and lakes. This would include all cutting areas plus roads and landings associated with the project. It would also include all land use disturbances in the watershed not associated with project such as roads.

Response

The area included under the Marsh Lake Dump THP has harvested cutblocks, existing roads and skid trails, as it has been a traditional cutting area for a few decades.