Lubbock Valley Timber Harvest Plan
within
Carcross/Tagish First Nation Traditional Territory

FOREST MANAGEMENT BRANCH
ENERGY, MINES AND RESOURCES
YUKON GOVERNMENT

Prepared: January 2011

Approved by
Patrick MacDonell, Acting Director
Forest Management Branch

January 6, 2011
Date

Executive Summary

The Lubbock Valley Timber Harvest Plan (THP) has been designed to meet the requirements of the Forest Resources Act (FRA). Under the FRA, all harvesting over 25 m3 must be conducted under an approved THP. Timber resource licenses issued under the FRA will be issued consistent with this THP.

The Lubbock Valley THP will create timber harvesting opportunities in the Lubbock Valley area which is within the Carcross/Tagish First Nation Traditional Territory. The three operating areas cover 154 hectares and provide for the harvesting of approximately 5,050 m^3 of timber.

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 Lubbock Valley Timber Harvest Plan (THP) area has been a traditional harvest area for the Lubbock Valley residents and nearby communities for several decades. The creation of the Lubbock Valley THP is important to maintain an economic supply of timber for harvesting purposes. 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 Lubbock Valley 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 Lubbock Valley THP falls within the Carcross/Tagish First Nation (CTFN) Traditional Territory. The THP is located on the southwest corner of Little Atlin Lake and is north of CTFN land selection R19B.

There are three operating areas within the THP, Areas 1, 2 and 3. All three areas are designated for winter harvest only; operations are to be conducted under frozen conditions only.

Appendix A displays a 1:100,000 overview map of the THP. Appendix B displays a more detailed 1:30,000 scale map.

1.2 Eco-Region

The Lubbock Valley THP is located in the Yukon Southern Lakes Eco-region which is 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. 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 Lubbock Valley area provide many significant values including ecological, aesthetic, cultural, recreational and other non-timber 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 residents of Tagish and Carcross. Historically the demand for forest products has ranged from 89 m3 per year from 1985 to 1998 to approximately 221 m3 this past year (135 m3 sawlogs and 86 m3 fuel wood). The industry currently consists primarily of one commercial sawlog operator and two to three fuel wood operators.

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 were solicited regarding these values, along with proposed protection and conservation.

2.1 Wildlife

2.1.1 Woodland Caribou

A key caribou wintering area was identified by the Department of Environment. This area covers the northwestern part of Area 3 and is outlined on the detailed map (Appendix B). Areas 1 and 2 are outside the wintering area.

A joint field inspection with John Ryder, Department of Environment and Todd Pilgrim, Forest Management Branch found that there were no significant caribou lichen habitat or sign of caribou in Area 3. However, operations will not be undertaken if caribou are sighted in harvest areas. Areas with high percentages of lichen will not be harvested.

2.1.2 Moose

Moose will be managed in this THP as per the guidelines outlined in the Timber Harvest Planning and Operating Guidebook (THPOG). However, harvesting will be allowed during the period from January 1 to April 30 (frozen conditions are required for harvesting).

Selective cutting will be carried out in all three operating areas, and sufficient thermal cover will be maintained (30 to 70%) in the remaining forested areas of the THP. Lines of sight within cut-blocks will be less than 350 metres as all cutting is selective, and all patches of deciduous trees will be retained within the cut-blocks. The maximum edge distance will be less than 400 meters. These measures will limit the impact of timber harvesting on moose in the area.

2.1.3 Raptors

Raptor nests were not found during the winter harvest of 2010, nor during field work while developing the THP. However, if nests are found during development of the three operating areas, a 50 meter no disturbance buffer or the latest standard will be applied.

2.2 Riparian, Fish Habitat and Aquatic Resources

Reserve zones and management zones mentioned in this section are defined as follows:

Reserve Zone –This is a no logging zone, access through the zone may be permitted. Forest practices shall ensure minimum loss of habitat and measures to reduce the risk of wind throw.

Management Zone – harvesting will ensure the following:

- The integrity of the reserve zone is protected;
- Windthrow in reserve zone or management zone is addressed;
- Wildlife attributes are identified and protected. Retain important wildlife attributes including wildlife trees, larger trees, hiding and resting cover, nest sites, structural diversity, course woody debris, and food source requirements of the natural riparian ecosystem;
- Visual screening for wildlife is maintained.

Wolverine Creek
Wolverine Creek runs through the plan area, between the northern edge of Area 3 and the southern edges of Areas 1 and 2 (see map in Appendix B). No official stream assessments were completed on Wolverine Creek; however, the creek will be managed as if there are fish.

Protection for Wolverine Creek will be as follows:

- The buffer for Wolverine Creek will be a 100 meter reserve. The reason for a 100 meter no harvesting buffer is because there are steep embankments that are approx 100 meters wide. A buffer will avoid impacts to the terrace edge.
- For access to Areas 1 and 2, a log bridge will be constructed at Wolverine Creek as per Department of Fisheries and Oceans' operational guidelines.

- Fuel and other contaminants will not be stored within 30 meters of any watercourse.

- A fuel catchment drop sheet will be mandatory underneath the parked skidder(s) to ensure fuel is not leaked into the soil.

- Operator(s) will utilize existing access routes and trails where possible;

- Skidding will only occur during frozen ground conditions in order to protect soils.

Unnamed Lake near Area 3
An unnamed lake, west of Area 3, flows into Wolverine Creek. The lake is greater than five hectares in size. The lake will have a reserve (no harvest) zone of 100 metres and a management zone of 140 metres. The reserve zone is 40 meters over and above the minimum THPOG guide. This is because there is already a reserve of 100 metres between Area 3 and the Lubbock River Road for visual purposes.

2.3 Heritage and Archeological Sites

The Development Assessment Archaeologist, Heritage Resources Unit, Yukon Government prepared a Heritage Resources Overview Assessment Report for the Lubbock Valley THP (see Appendix C). Areas with potential for the presence of surficial heritage resources are outlined as polygons on the map in Appendix B. The initial location of Area 2 included polygons identifies as having potential surficial heritage resources. The boundary of Area 2 was revised to exclude these polygons.

In addition, a portion of Area 1 was assessed by James Mooney, Registered Professional Archaeologist, of Ecofor Consulting Ltd. As per James Mooney's email of October 18, 2010, *"No culturally modified trees, trap trees, or other cultural resources were identified within the survey area."*

An old mining shaft and log cabin were found near Wolverine Creek. According to local knowledge, the shaft and cabin were constructed in the 1920's. The location of the shaft and cabin are not within the harvesting areas, however, these artifacts will be managed according to territorial standards.

1920's Mining Shaft Near Wolverine Creek and Lubbock Valley Road

Remnants of 1920's Mining Cabin Near Wolverine Creek and Lubbock Valley Road

2.4 Soil Conservation

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

- A soil analysis will be completed on all blocks as part of the Site Plan.
- Landings will be placed in locations where the risk of compaction, rutting and erosion is minimized.
- No new forest access roads will be built in the THP.
- Skid trails will be located on frozen ground during winter.
- Harvesting will be carried out when the ground is frozen.

2.5 Traditional Land Users

2.5.1 Trapping

The Lubbock Valley THP falls within Registered Trapping Concession (RTC) # 310.

The RTC holder was contacted on March 30, 2010 regarding trapping activity. The RTC holder was also contacted previously with respect to the last timber application in the plan area. The RTC holder informed the Forest Management Branch that trapping occurred from January to March 10, 2010, mostly in the Moose Creek area, near the existing Lubbock Valley Road. The proposed harvesting is not near the RTC's trapping area, and there are no anticipated conflicts. If trapping does occur near harvesting operations, harvesting will be conducted to minimize the impact on the trapping activities. The trapper will be notified of planned harvesting activities at the beginning of each logging season by the licensee.

2.5.2 Hunting

The area has been used by First Nation and resident hunters, mainly during the fall. The Department of Environment issues limited permits for moose in the THP area. The area is not open to the general public for big game hunting. First Nations may exercise their right to hunt during any time of the year.

Hunting concerns have not been identified during past harvesting operations, and no adverse impacts on hunting opportunities are anticipated. During active harvesting operations, hunting may be restricted in the immediate area for safety reasons.

2.6 Recreation

The planning area is not identified as a major concern for recreation. All existing trails and roads will be managed to facilitate on-going public access during timber operations.

2.7 Visual Impacts

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

Because the silvicultural systems will mostly be selective cutting with some small patch cuts with retention, accompanied by low-lying areas and west-facing hillsides, timber harvesting will not have a significant visual impact from the Altin Highway, nor from Little Atlin Lake.

There will be one buffer for visual effects extending 100 meters from the Lubbock River Road on the northeastern side, near the Southern edge of Area 3.

The following photos show examples of stands selectively harvested, with standing trees and regeneration left undisturbed.

Harvesting Area in Lubbock Valley (April 2010)

Skid Trail in Lubbock Valley (April 2010)

Harvesting Area in Lubbock Valley (April 2010)

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

The Lubbock Valley is a traditional fuel wood and round wood harvest area. Local residents have cut green trees for sawlogs and salvaged dead trees for fuel wood over the past few decades. Historical permits coupled with extrapolated volume (based on 85 m^3 per hectare) show that three blocks were cut between the mid 1980's and1998, for a total volume of approximately 1,250 m^3 *(within an area totaling 10.4 hectares).

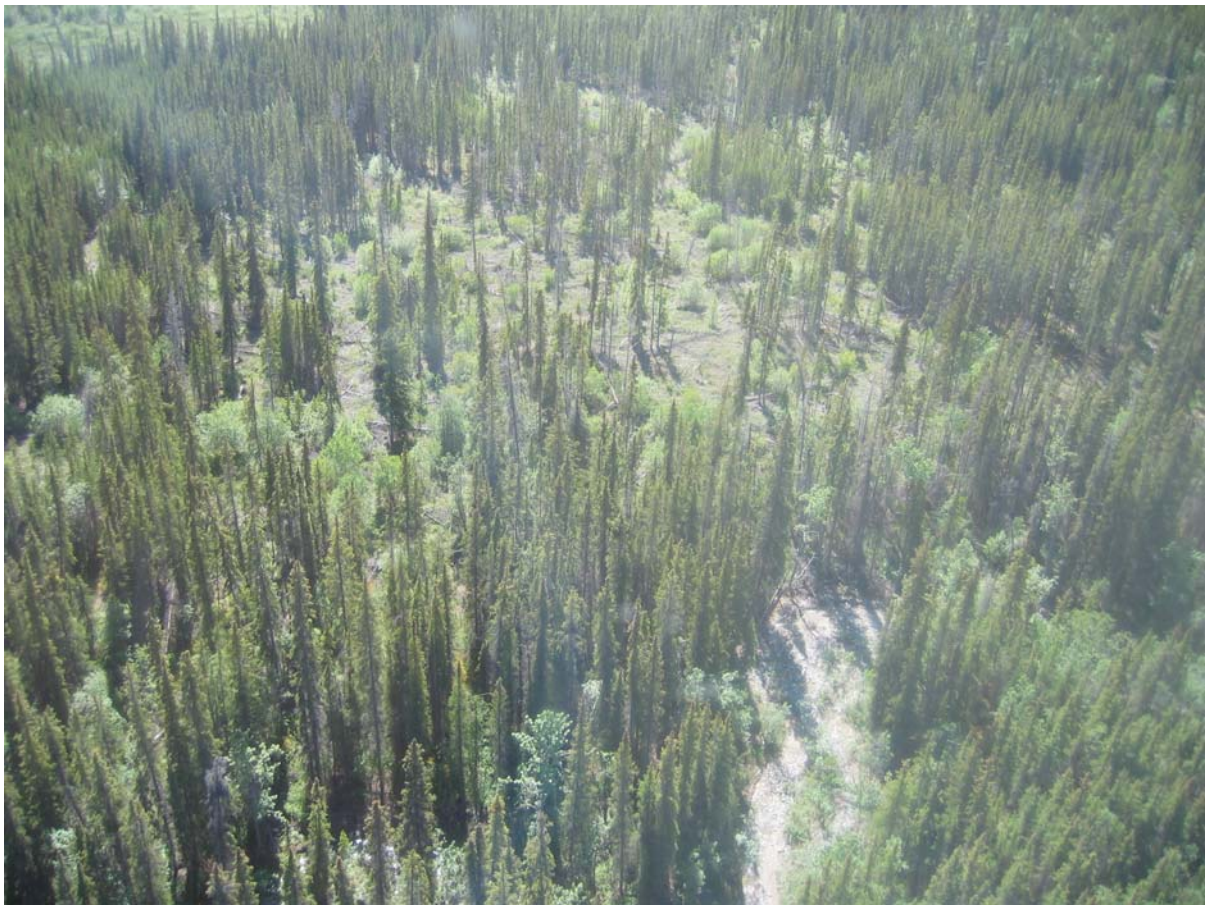
Table 1. Harvesting Activity 1985 to1998

Product	Species	Volume (m^3)
Sawlogs	Sw	207.2
Extrapolated Volume		1,040.8
All Products		1,248.0

The map in Appendix B shows the location of the three harvested blocks. One block is a patch cut, and the other two are patch cuts with retention.

The following photo shows one of the blocks harvested in the mid 1980's (4.1 hectare patch cut with retention):

Mid 1980's Patch Cut with Retention



3.2 Past Mining Activities

There have been two placer mining operations within the planning area. Approximately one km of Moose Creek has been placer mined. Neither operation is currently active.

4.0 Silvicultural 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 silvicultural 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 (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, harvest method, and reforestation plan for each block.
- Debris on landings will be managed to promote natural regeneration.

5.0 Harvesting Section

Three areas, Areas 1, 2, and 3 are available for harvest. All areas were field checked to gather information on soils, topography, and timber profiles. A portion of one day was spent in flight, analyzing the areas via helicopter. The areas were also photo-interpreted using 2007, 1:40,000 black and white aerial photos.

5.1 Block Area and Volume Summary

The proposed harvesting blocks in the three areas are shown in Appendix B. Forest stands in Area 3 were cruised to obtain the total volume. Volumes in Areas 1 and 2 were estimated from previous logging and photo interpretation.

Area 1.

This area is subdivided into four stands (A, B, C, & D) for a total of 90 hectares. A volume of 3,800 m^3 of timber is proposed for harvesting. Only the merchantable timber will be removed from the area. Merchantable timber is defined as having a diameter of at least 15 cm breast height. All smaller timber will be left standing and will not be harvested (green and dead).

A description of each stand is as follows:

<u>Stand A – 12 Hectare Block with 700 m3 Proposed for Harvesting</u>

This 12 hectare block was partially harvested from January to the end of March, 2010. A total of 221 m^3 of sawlogs and fuel wood were harvested. This is a mature stand with a species composition of 90% white spruce and 10% pine. Approximately 10% of the timber is standing dead. This stand contains approximately 1,350 m^3,

but because of selective harvesting and partial cuts with retention, only half of this volume will be will be removed (approximately 700 m^3).

Stand B – 21 Hectare Block with 1,000 m3 Proposed for Harvesting

This 21 hectare block is a mature stand with a species composition of 60% white spruce and 40% pine. Tree heights range from 14 to 25 m, with an average height of 17 m. Approximately 20% of the stand is standing dead. The stand has good sawlog and fuel wood potential. Approximately 1,000 m^3 of sawlogs and fuel wood are available.

Stand C – 16 Hectare Block with 500m3 Proposed for Harvesting

This is a 16 hectare sparsely treed mature spruce stand that has low timber merchantability. Approximately 20% of the stand is standing dead. Approximately 500 m^3 of sawlogs and fuel wood are available.

Stand D – 42 Hectare Block with 2,100 m3 Proposed for Harvesting

This 42 hectare block is a mature stand with a species composition of 60% white spruce and 40% pine. Approximately 20% of the stand is standing dead. Heights range from 14 to 25 m, with an average height of 17 m. The stand has good sawlog and firewood potential. Approximately 2,100 m^3 of sawlogs and fuel wood are available for harvest.

Area 2

Stand A – 34 Hectare Block with 500 m3 Proposed for Harvesting

This 34 hectare block (the only stand in Area 2) contains mature white spruce mixed with some lodgepole pine. Heights range from 14 to 25 m with an average height of 17 m. Approximately 10% of the stand is standing dead. The stand has scattered pockets of good sawlog and fuel wood potential. Approximately 500 m^3 of sawlogs and fuel wood will be available for harvest.

Area 3

Stand A – 25 Hectare Block with 750 m3 Proposed for Harvesting

This 25 hectare block (the only stand in Area 3), contains lodgepole pine mixed with some white spruce. Heights range from 14 to 20 m, with an average height of 14 m. Approximately 5% of the stand is standing dead. The stand has scattered pockets of excellent sawlogs and some fuel wood potential. Approximately 750 m^3 of sawlogs and fuel wood are available for harvest.

Table 2. Area and Volume Summary

Area	Harvest Volume (m3) Proposed	Total Area (ha)
Area 1	3,800	90
Area 2	500	34
Area 3	750	29
Total	**5,050**	**154**

5.2 Photos of Harvesting Areas

Overview Photo of the THP Area

Area 1. Stand A, Existing Skid Road and Landing

Area 1. Selective Harvested Block, Winter 2010 (Partially Harvested)

Area 2

Area 3

6.0 Access Management

Existing forest roads will be utilized, no new access roads will be constructed. The roads are outlined on the map in Appendix B.

Some maintenance (grading) may be conducted on the Lubbock Valley Road to improve transportation conditions. Existing skid trails in previously harvested areas will also be utilized and used where possible, rather than creating new skid trails.

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 poses a problem, mitigation measures will be implemented.

8.0 First Nations Knowledge

The Carcross/Tagish First Nation was asked for input during the development of the Lubbock Valley THP. The FMB met with the CTFN on April 29, 2010 and field trips were conducted with CTFN staff to the THP area. Both meetings and field trips were informative and productive, with a good exchange of information. The CTFN also expressed their concerns in writing. All concerns were taken into consideration.

9.0 Land Dispositions, Notations, CTFN Settlement Land and Reserves

All land dispositions, notations, CTFN Settlement Land and reserves are outlined on the 1:30,000 map located in Appendix B.

- There are two surveyed land dispositions adjacent to the south eastern corner of the THP, 84219CLSR-YT and 75386CLSR-YT.

- There is one agriculture application in the THP area, AG-APP-703.

- There are two notations within Area 3 of the THP. These notations are for Permanent Sample Plots (Growth and Yield research). These plots will have a 100 meter buffer zone to ensure they will not be disturbed by harvesting.

- CTFN has two parcels of settlement land near the southern and south eastern corner of the THP, R-19B and R-26B. As outlined on the map in Appendix B, the Lubbock Valley Road separates the THP area and the settlement land. A

100 meter no harvesting buffer will be implemented where Area 3 is adjacent to R-19B.

- There is one Agriculture Application within the THP, # 703. There will be no harvesting within the application area.

10.0 Compliance Monitoring Plan

After the Lubbock Valley 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.

11.0 References

Whitehorse Planning Assessment, Forest Management Branch, August 2005.

Mooney, J. Surface Historic Resource Inventory for a Portion of BlocksLV-1A and LV-1B within the Draft Lubbock Valley Timber Harvest Plan, December 2010.

Appendix A - 1:100,000 Overview map of the boundaries of the Lubbock Valley THP

555000

6660000

ATLIN LAKE

ATLIN ROAD

CTFN R-28B

CTFN R-21B

CTFN R-26B

CTFN R-19B

CTFN R-52B

Lubbock Valley THP

Little Atlin Lake
Haunka Creek
Mosquito Creek
Moose Brook
Wolverine Creek
Snafu Creek
Lubbock Creek
Tarfu River
Tarfu Lake
Leine Creek

Legend

- Timber Harvest Plan Areas
- **FN Settlement Land**
  - A - Surface and Subsurface Rights
  - B - Subsurface Rights
  - FS - Fee Simple
- Atlin Road
- Primary Roads
- Local Roads
- Resource / Recreation
- Alley / Service Lane
- Winter

Date: 07 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.

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

Yukon Energy, Mines and Resources

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Kilometres

1:100,000 (When Printed at 11inx17in)

Lubbock Valley THP Area

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Appendix B - 1:30,000 Map - Lubbock Valley THP

556000 560000 6672000 6668000

Little Atlin Lake
Trail
Brook
CTFN R-28B
AG APP 823-2
91861 CLSR YT
2213
AREA 2
AREA 1
LV2-A
4208 spSs
Creek
LV1-D
LV1-A
LV1-C
LV1-B
100m Reserve
Mine Shaft & Cabin Abandoned
Wolverine
CTFN R-21B
Trail
2198
LUBBOCK VALLEY ACCESS ROAD
AG APP 703
Winter Road
AREA 3
112
110
108
LV3-A
Lot 1025 CTFN S-388B1
CTFN S-388B1
CTFN S-388B2
LUBBOCK VALLEY ACCESS ROAD
CTFN R-26B
84219 CLSR YT
75386 CLSR YT
CTFN R-19B
4277
2190
Lubb

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Project Specific Features

- D Permanent Sampling Plots
- ....Existing Access Routes
- ....Proposed Access Route
- .... Lubbock Valley Access Road
- ....2009 Harvest Areas
- ....Active Harvesting
- ....Proposed Operating Areas
- ....Timber Harvest Plan Area
- ....Heritage Resource Potential

Administravtive Features

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

First Nation Settlement Lands

- ....Category A
- ....Category B
- ....Fee Simple
- ....Unsurveyed Settlement Lands

Forest Cover

- Non Forested Polygons
- Alpine Fir
- Trembling Aspen
- White Spruce
- Black Spruce
- White Birch
- Lodgepole Pine
- Balsam Poplar
- Larch

Riparian Management

- Reserve Zone - no harvesting zone
- Management Zone - contraints to harvesting

Special Features - Woodland Caribou Key Areas

- Fall rut - survey data
- Winter range - survey data
- Winter range - local knowledge
- Migration corridor

Waterfoul Key Areas

Area Forester: Todd Pilgrim
Contact: 456-3852
Date: December 16, 2010
Projection: NAD 1983 UTM Zone 8

Digital Data Sources

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

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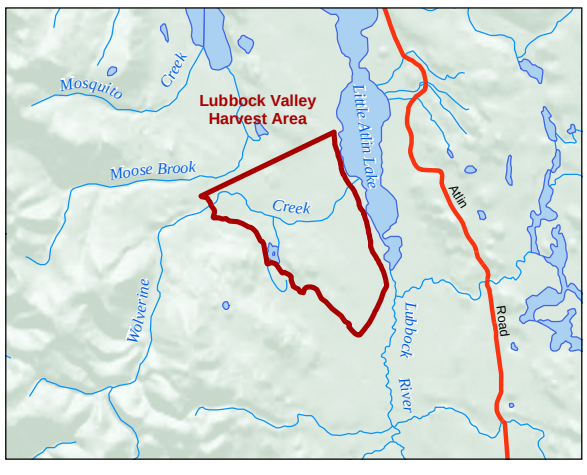
Metres

1:30,000 (When Printed at 11inx17in)

Timber Harvest Plan Area
Southern Lakes

Lubbock Valley



Appendix C: Heritage Resources Overview

Management Summary

An overview assessment of the project area has resulted in the determination of moderate heritage resource potential in portions of the project area. Harvest areas LV1-B, LV2-A, LV3-B, LV3-C and LV3-D have potential for the presence of archaeological and historic sites. The remainder of the project area may have potential for the presence of culturally modified trees (CMT). It is recommended that a surface heritage resource inventory be completed in areas considered to have elevated potential for the presence of historic sites. If subsurface ground disturbances are planned in areas with elevated heritage resource potential, then an archaeological site inventory is recommended. Otherwise, Forest Management Branch should arrange to locate CMTs in the harvest areas and manage them appropriately.

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, low resolution orthographic images, aerial photographs (A23437: 65-66), and spatial mapping of water courses, water bodies 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 that intersect with land that is within 100 meters of a heritage resource indicator.

Overview Results

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

Heritage Resource Potential: Elevated potential for the presence of buried archaeological remains and historic structures is located in the southern portions of Harvest Areas LV1-B, LV2-A and northern portion of LV3-C that are within 100 meters of Wolverine Creek or the terraces that overlook the drainage (see Appendix B). Elevated potential is also located in portions of Harvest Areas LV3-B, LV3-C and LV3-D that are adjacent to two small ponds as well as an unnamed creek flowing north into Wolverine Creek. A fifth high potential site is located just outside the southern boundary of LV3-C. Elevated potential has been determined by the

presence of water features and prominent topography overlooking those features. The study area is located where culturally modified trees are common. At present it is difficult to predict the location of CMTs but it is expected that the majority will be located in areas with elevated potential for the presence of other heritage resources such as archaeological and historic sites. However, inventories in other areas of the Yukon (such as Teslin) have resulted in CMT finds in locations with lower potential for the presence of heritage resources.

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

Potential Impacts

The project proposes to cut timber within the three operating areas. Impacts to heritage resources can be characterized as surficial in nature and may negatively impact any resource on or above the ground surface such as historic structures, features or CMTs. Rarely would subsurface resources, such as buried archaeological sites, be impacted by harvesting. All cut blocks have potential for the presence of culturally modified trees while there is elevated potential for the presence of historic structures or features in areas highlighted in Appendix B. If new roads or graded landings are developed in areas of elevated archaeological site potential, those activities could impact subsurface heritage resources.

Recommendations

It is recommended that surface historic feature surveys be completed in areas with elevated potential in advance of harvesting. Any features that are located should be subject to appropriate management actions such as avoidance, buffering or salvage. If road or landing construction is planned in areas identified as having elevated archaeological resource potential, then an archaeological site inventory is recommended.

Appendix D: Stakeholder Comments and Responses

A total of 30 comments were received during the notification period (September 10 to November 17, 2010) on the *Draft Lubbock Valley Timber Harvest Plan Within the Carcross/Tagish Traditional Territory.*

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

1) Comment – Department of Environment (DOE)

Stream crossing structures should be designed to prevent erosion/sedimentation of streams, and should not be established where open water is present.

Response
Only one stream crossing is necessary in the THP. For access to Area 1 and Area 2, a log bridge will be constructed at Wolverine Creek as per Department of Fisheries and Oceans' operational guidelines.

2) Comment - DOE
Maintain the existing trail access width to minimize the development footprint.

Response
Existing trail access width within the THP will be maintained

3) Comment - DOE

Trees with obvious evidence of large stick nests shall not be harvested. A no activity buffer of 50 meters shall be implemented around these features.

Response
A no activity buffer of 50 meters shall be implemented around large stick nests.

4) Comment - DOE

Include relevant FMB soil conservation standards in permit authorization, to mitigate potential impacts to soils and vegetation.

Response
All machinery will only operate during frozen conditions, hence the impact on soils and vegetation will be minimal. Specific terms and conditions will be included in the cutting permit where necessary with respect the use of machinery.

5) Comment- DOE

Area 1, Area 3: The different stands are not labeled on the map, perhaps it would be more informative if a 1:10,000 map was provided for each of the three areas, allowing for the stands to be labeled.

Response

The stands in Area 1 are labeled LV1-A, LV1-B, LV1-C, LV1-D, there is only one stand in Area 2 labeled LV2-A. A 1:10,000 scale map or similar scale will be included in the site plan and cutting permit.

6) Comment - DOE

Section 10.0 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 10.0 is changed to Compliance Monitoring Plan. The details on the specifics of the compliance monitoring plan will be included in the cutting permit .

7) Comment - Yukon Conservation Society (YCS)

Eco-region - it would be useful to describe in the Eco-region section on how the specific topography, permafrost and climate may affect the forest resource management of the THP area.

Response

Since all operations are done during frozen conditions, permafrost will not be an issue. The climate in the THP area will affect operability days. The purpose of the ecoregion was to describe the THP area, not to describe how climate may affect the forest resource management of the THP area.

8) Comment - YCS

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 are shown for each stand in the harvesting section.

9) Comment - YCS

It is the opinion of YCS that the key caribou wintering area that was identified by the Department of Environment should be removed from the proposed THP area. The benefits of not disturbing key wintering habitat of the Carcross caribou greatly outweigh the timber volume that would be harvested from this small section of Area 3. Area 3 has been downsized 75% already.

Recommendation: Remove the area identified as key wintering habitat for the Carcross caribou herd from the proposed THP area.

The remaining area near the wintering habitat of the Carcross caribou heard should be harvested under dry conditions and not from November 1st to Marsh 31st as outlined in the THPOG under 3.3.6.6. Caribou Management Zones.

Response
Area 3, within the proposed THP area, was downsized by approximately 75% as it was identified as key wintering habitat for the Carcross caribou herd. The existing portion of Area 3 does not contain any significant caribou habitat as verified by DoE and FMB staff.

10) Comment- YCS
2.1.2. Moose - It is not sufficient to mention that the observed moose in question were not displaced by adjacent timber harvesting.

It is the opinion of YCS that moose are not adequately addressed in this THP. There is no reference to the guidelines described in section 3.3.6.5. Moose management Zones in the THPOG and no mention of any management or mitigating procedures to limit the impact of the proposed timber harvesting on moose in the area. Recommendation**:** Consider the following standards as outlined in the THPOG under Moose Management Zones and integrate them into the Lubbock Valley THP.

Response
Standards as outlined in the THPOG under Moose Management Zones are now included in the Lubbock Valley THP under the Section 2.1.2. Moose.

11) Comment - YCS
2.5.1. Trapping **-** It is good that this THP does not propose logging in areas where trapping is currently active. However this logging may happen in future years when the trapper may be operating in different locations. Therefore the wording needs to be more specific for cases where trapping and logging overlaps. The trapper needs to be consulted at the beginning of every logging season to see where she is operating and what she requires to prevent impacts from logging.

Response
At the beginning of every logging season, the licensee trapper will consult the trapper to see where she is operating to mitigate impacts from logging.

12) Comment - YCS
3.2. Placer Miner Activities - There are two placer claims mentioned however only ones is elaborated upon. Is the other still active?

Response
Neither mine is active

13) Comment - YCS
How will the two non-active placer mining claims affect the THP? How will they affect the THP is they are re-activated?

Response
The two non-active placer mining claims are not included in the THP; hence there is no direct correlation. The cumulative effect of the mines on the landscape in combination with other developed will be addressed in higher level plans.

14) Comment- YCS
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 Lubbock Valley THP.

Response
The policy of FMB is to provide details of each cut block at the Site Plan and cutting permit stage. This is outlined in the new Forest Resources Act and regulation.

15) Comment- YCS
Area 1- What is the species composition of timber that will be removed in stands B, and D?

Response
60% WS and 40% Pine.

16) Comment - YCS
Will all the standing dead be removed? It is the opinion of YCS that some standing dead trees should remain to contribute coarse woody material and nutrients to the forest floor and to provide habitat for wildlife.

Response
Only the merchantable dead trees will be taken, all sub-merchantable timber (both dead and live) will be left standing. The harvested trees will be limbed and toped at the stump, thereby leaving the limbs, branches and tops for coarse woody debris.

17) Comment - YCS
YCS strongly supports the usage of existing roads however; we are concerned that the access may result in over hunting of moose.

Response
If there was no future harvesting in this area (i.e. no THP), the same roads would exist, hence, hunters would have the same access to the area whether there is harvesting or not.

18) Comment CT- RRC

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 Whitehorse and Southern Lakes Forest Resource Management Plan and the Local Area Plan.

19) Comment CT- RRC

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

The limits of the THP are for the harvest of 5,050 m3 of fuelwood and sawlogs. The policy of the Department is not to limit the harvesting to local use only.

20) Comment CT- RRC

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

No new access roads are being constructed and existing skid trails will be used, other than when accessing new blocks. The grading of the Lubbock Valley Access Road will be considered as it is enclosed partially within the planning area.

21) Comment CT- RRC

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, housing development, agricultural clearing etc. Technically it would also include such natural phenomena as forest fire burn areas that have a significant impact on hydrology and water quality in the watershed. The concern about the

buffers around the lake in the block relates to wildlife and not fisheries or aquatic concerns. It should be sufficient to provide an undisturbed escapement corridor around the lake and believe that the concern was that 100 meters was not sufficient.

Response
The buffered has been revised on the lake to 240 meters (100 meters reserve zone and 140 metres management zone).

The proposed area for harvesting is 154 hectares; the total THP area is 1920 hectares, which equates to approx 8% of the area. There are twenty km of existing road and skid trails - 20,000m (long) X 6 m (wide) =12 hectares = 0.06% for a total of 8.06 % of disturbed vegetation.

Woodland Caribou: A key caribou wintering area was identified by the Department of Environment which is partly included in the THP area (the information was collected from local knowledge). A joint inspection with John Ryder, Department of Environment and Todd Pilgrim, Forest Management Branch found that there was not any significant caribou lichen habitat or sign of caribou in Area 3. This area is outlined on the detailed map (see Appendix B). Areas 1 and 2 are outside the caribou wintering area, however, Area 3 has a northwestern portion of the area overlapping the caribou wintering area. No operations will be undertaken while caribou are sighted in the harvest area.

Moose will be managed in this THP as per the guidelines of moose management outlined in the Timber Harvest Planning and Operating Guidebook, with the exception of avoiding havesting during the period from January 1 to April 30. This is not possible as operations can only be permitted during frozen conditions (i.e. frozen conditions for the THP area are usually from mid November to the end of March). Selective cutting will be done in the three areas identified and sufficient thermal cover remains (30 to 70 %) in the remaining forested areas of the THP. Lines of sight within cut-blocks will be less than 350 metres as all cutting is selective, all patches of deciduous trees will be retained within the cut-blocks. The maximum edge distance shall be less than 400 meters. These measures will limit the impact of timber harvesting on moose in the area.

22) Comment - CTFN

Any kind of development or extraction near settlement land restricts what CTFN can do on settlement land.

Response
Only Area 3 is adjacent to CTFN settlement land, namely CTFN R-19B. There will be no development within 100 meters of the R Block, as there is a visual buffer of 100 meters from Lubbock Valley road to the beginning of Area 3.

23) Comment - CTFN
The plan must be conscientious to the wintering grounds of the caribou herd. Area 3 encompasses caribou wintering grounds in the Northwestern corner (blue polygon). It is recommended that no harvesting take place in this area.

Response
Area 3 was significantly reduced to less than one quarter of its original size to address the caribou winter range. This area was field checked for caribou habitat with CTFN monitors and DoE staff. It was verified that the area does not contain a significant amount of caribou habitat.

24) Comment - CTFN
Will individual assessments be conducted on a case by case basis?

Response
All detailed information pertaining to each cutting permit area to be harvested, including potential impacts to wildlife, ecological, local and cultural values will be included in an approved site plan as per the Regulation prior to the approval of a cutting permit.

25) Comment - CTFN
A migratory bird assessment is recommended in the area of Atlin Lake where it is adjacent to Area 2.

Response
Since the closest portion of the THP to Atlin Lake (Area 2) is over 250 meters away from the lake, it is unlikely that migratory birds would be using this inland wooded area. However, any potential impacts on migratory birds will be assessed at the site plan and cutting permit stage.

26) Comment - CTFN
Define selective cutting and small patch cuts with retention.

Response
Selective cutting for the Lubbock THP will be the cutting down of larger diameter green trees in a forest so that growth of other trees is not affected or minimized. Selective cutting is an uneven-aged method either 'single tree or group selection', whereby scattered individual trees or groups of trees are harvested. Patch cutting will be the removal of all merchantable trees, leaving the sub merchantable trees and other non-commercial trees (Aspen) for regeneration.

27) Comment - CTFN
The biodiversity of the stand must remain to prevent abnormal (epidemic) outbreaks of insects and disease.

Response
The biodiversity of the stand will be a priority when considering harvesting strategies. Harvesting techniques to control insects and disease will be considered if applicable.

28) Comment - CTFN
Will the THP be amended, if necessary, to be congruent to the Agay Mene Natural Environment Park?

Response
The Agay Mene Natural Environment Park boundaries are outside the Lubbock Valley THP area, hence, the establishment of the park will have no effect on the THP.

29) Comment - CFTN
If the Agay Mene Natural Environment Park plan develops a buffer around the park boundaries and the buffer overlaps with the Lubbock Valley Timber Harvest plan, will the Lubbock Valley Timber Harvest Plan be amended, if necessary to be congruent to the Agay Mene Natural Environment Park Plan's buffer?

Response
The Department of Environment, Park - Planning Section noted that a buffer for the park would not extend West across the Atlin Highway onto the THP area.

30) Comment - CTFN
How is the THP addressing windthrow?

Windthrow is addressed in the Forest Health Section as follows:

Past inspections of cutovers have revealed that windthrow has not been a significant problem. A portion of area one, approximately 221 metres, was harvested during the winter of 2010. To date there has not been any significant blowdown. At the end of each operating year, cutovers will be assessed for windthrow. If windthrow does pose a problem, measures will be implemented to mitigate future problems.