2012 Lubbock Valley

Timber Harvest Plan

within the

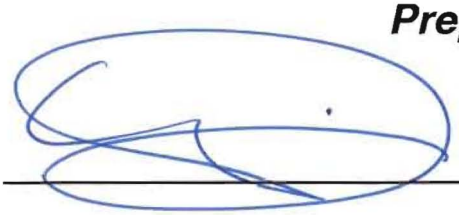
Whitehorse Planning Area

FOREST MANAGEMENT BRANCH

ENERGY MINES AND RESOURCES

YUKON GOVERNMENT

Prepared: October 2012



November 1, 2012

Approved by

Lyle Dinn

Director,

Forest Management Branch

Date

November 5, 2012

Submitted by

Robert Legare

Area Forester, Whitehorse

Date

Table of Contents

Executive Summary

The objective of the 2012 Lubbock Valley Timber Harvest Plan (THP) is to provide Whitehorse and the surrounding area with a sustainable supply of timber. This plan represents the second phase of harvesting opportunities based on the re-evaluation of this historic harvesting area. The THP was developed using an integrated and balanced approach to forest management and under the direction provided in the *Forest Resources Act* and *Regulations*. The main timber products from this THP are dead standing pine and spruce for commercial fuelwood, and green pine and spruce for dimensional sawlogs.

Under the *Forest Resources Act* all commercial harvesting must be conducted within an approved THP. This legislation also specifies the required contents of a THP and the Forest Management branch (FMB) has taken this opportunity to review and update the 2011 Lubbock Valley THP. The 2012 Lubbock Valley THP is consistent with the previous harvest planning in this area.

The total volume identified for harvest within the 2012 Lubbock Valley THP is approximately 9,865 m^3 but a total of 5,000 m^3 is being proposed as the target harvestable volume. Once the harvest volume has been reached, FMB will reassess the THP to determine if further harvesting opportunities exist while still meeting management objectives.

Current 2011 Lubbock Valley THP – Operating Unit LV-01 harvest area. Note all harvesting is selective with variable retention.

1.0 Introduction

1.1 Background

The 2012 Lubbock Valley THP is located south of Whitehorse 24 kilometers on the Atlin Road. The area is within the traditional territory for the Carcross-Tagish First Nation.

This is one of the Southern Lakes historical logging areas. Logging has been occurring since the early 1980s. Previously issued permits indicate that between 1998 and 2010 that approximately 1,311 m^3 were harvested. Of the volume harvested, approximately 80% became dimensional lumber and 20% produced fuel wood.

The 2011 Lubbock Valley THP addressed a smaller portion of the total THP area for timber harvesting opportunities. FMB's objective is to broaden the scope of opportunities within the THP boundary and include the expansion to the north. These amendments should stabilize the longer term wood supply in this area and improve overall forest management within the THP.

1.2 Eco-region and Drainages

The THP is located within the Yukon Southern Lakes Eco-region. This area is characterized with large valley basins that drain into the Yukon River watershed.

This area is found in the rain shadow of the coastal mountains. To the west there are level and gentle slopes characteristic of this eco-district. There is some influence of urbanization in this eco-district.

Lodgepole pine, white spruce and aspen are the major tree species, with minor components of subalpine fir, black spruce and white birch. A minor extent of subalpine fir occurs to the south, above Carcross.

This eco-region has continuous forested area at low to mid elevations. The climate has long cold winters with short cool summers. Forests are generally mixed conditions that are influenced by fire. Wetlands are common.

1.3 Socio-economic Values

Whitehorse is home to approximately 26,418 people (June 2010). The major economic drivers in the area are government and the service industry.

The forests in the Whitehorse region provide significant ecological, aesthetic, cultural, heritage and recreational values. Whitehorse's forests can sustain a vibrant, small-scale forest industry that provides timber for local markets, energy, economic opportunity and employment for the region's residents. There is a well-developed fuelwood and small scale lumber industry centered within the Whitehorse area.

There is a stable local market for cants which are squared timbers often 6 or 8 inches to a side. These cants are either used whole or later re-sawn into planks or dimensional lumber. Fuel wood is a very important heating source for homes and businesses in Yukon. Many of the residents of Whitehorse rely on fuel wood as an economical heating alternative or additional heating source throughout the winter.

2.0 Planning Area Description

The total area identified is 1,872 ha with approximately 7,700 m^3 of green conifer for sawlogs and 2,165 m^3 dry standing timber for fuel wood. Six operating units have been identified where harvesting may be licenced. Table 1 summarizes the description of each operating unit. Other harvesting opportunities may be identified through additional operating units as the project progresses.

Table 1: Operating Unit Description

Lubbock Stand Description and Estimated Volume Table by Operating Unit Note: The original (2011) Lubbock Valley THP OU LV- 3 was deleted and replaced with OU 9. Note: All volumes, stand composition and stand descriptions are estimated based on timber walk-throughs and forest inventory mapping						
O.U #	**Total HA**	**% of Stand Removal**	**Total Estimated Sawlog (m^3)**	**Total Estimated Fuelwood (m^3)**	**Stand Composition**	**Stand Description**
LV-4	450	30%	0	700	50% dead standing spruce, 50% spruce/aspen	Wetland with standing dead, within prospecting lease.
LV-5	372	15%	1000	500	80% spruce, 20% pine	Scattered timber within an open canopy, minimal understory.
LV-6	362	40%	400	400	50% dead spruce, 50% spruce/aspen	Wetland with high banks and standing dead, within existing prospecting lease
LV-7	371	30%	5000	250	80% spruce, 20% pine	Abundance of windfall, large leave areas and large concentrations of timber.
LV-8	220	10%	300	115	100% spruce with scattered aspen	Scattered timber. Windfall occurs in small clumps.
LV-9	74	40 %	1000	100	50% spruce, 50% pine	Open canopy, minimal understory. Previous harvesting has occurred in this area in 1980s.
Total Estimated Volume: 7700 m^3 Sawlog + 2165 m^3 Fuel wood = 9865 m^3 total.						

2.1 Wildlife

All site plans and operational developments must be consistent with current wildlife standards available from Forest Management branch. These standards were developed to ensure well thought-out and balanced planning occurs with respect to wildlife and forest resources. Throughout the preliminary reconnaissance and during the consultation phase of the 2012 Lubbock Valley THP area, no significant wildlife concerns were identified. Occasional moose, black and grizzly bears use the area and all final site plans will address site specific wildlife concerns identified during the site plan development phase.

Table 2: Summary of Key Management Objectives - Wildlife

O.U #	Management Objectives to Note *All site plans and operational development must be consistent with the Yukon Forest Resources Act, Wildlife Features Standard.*
4-9	10% snag retention within harvest blocks for wildlife and coarse woody debris.

2.2 Riparian and Water Resources

All site plans and operational developments must be consistent with current riparian management standard available from Forest Management branch. The *Forest Resources Act* standards address riparian management guidelines. The THP is west of Little Atlin Lake and the Lubbock River. Mosquito Creek forms the north boundary. The Moose and Wolverine Creeks cross the THP and three small streams were identified and flow into Little Atlin Lake (see Appendix 1 Overview Map). There are also several small ponds within two of the proposed operating units.

Table 3: Summary of Key Management Objectives – Riparian and Water Resources

O.U #	Management Objectives to Note *Required to identify all stream and lake classes and apply the Riparian Management Area zones according to the riparian management standard.* There may be other stream classes not identified in the THP. When developing the site plan, a walk thru of the proposed harvest block will identify any other streams and ephemeral draws that may require application of riparian standards.
LV-04	The following riparian areas have been identified on map (see Appendix 1): • 3 small streams • 2 small ponds
LV-05	The following riparian areas have been identified on map (see Appendix 1): • Lake adjacent to west boundary
LV-06	• Small pond • Wolverine Creek
LV-07	• Moose Brook
LV-08	• Lake adjacent to north boundary
LV-09	• Lake adjacent to north west boundary

Lubbock Valley THP pine stand. Typical of patches found in LV-05, 07, 09. Harvesting will target patches of operable timber while leaving retention for woody debris and structure.

The standing dead trees (utilized for fuelwood) in background are a good example showing the widely scattered dead standing trees. Scattered standing dead is typical of LV-01, 02 and patches within LV-05 & 07.

2.3 Visual Impacts

Visual impacts will be minimized by selective harvest and small discrete patch cuts. Reserve buffers as per the FMB riparian management standards will be applied on the east side of the lake adjacent to operating units LV-07 & 09. The undulating nature of landscape will further reduce any visual impacts along the Lubbock Valley and Atlin Roads.

Table 4: Summary of Key Management Objectives - Visual Impacts

O.U #	Management Objectives to Note *Site plans will ensure harvest design will reduce any visual impacts from Lubbock Valley and Atlin Roads.*
LV-04-09	All harvesting will be selective cuts with variable retention or small patch cuts.

2.4 Heritage and Archaeological Sites

All site plans and operational developments must be consistent with Current Historic and Archaeological Resources Management Standard available from FMB.

The Yukon government's Heritage Branch 2010 overview assessment was applied to this THP (see Appendix 4).

A review of the archaeological and historic site databases indicates that no heritage sites are located in the project area. There is elevated potential for heritage resources within operating units LV-05, 07 and 08. A surface historic features survey was recommended by Heritage Branch in these areas with elevated potential prior to harvesting. This will be initiated by FMB so any operational requirements to mitigate concerns will be available to proponents for site plan development.

Table 5: Summary of Key Management Objectives - Heritage and Archaeological Sites

O.U #	Management Objectives to Note *To manage forest resources in order to assist with the protection and management of Archaeological and Historic Resources. All site plans and operational developments must be consistent with the Yukon Forest Resources Act and current Historic and Archaeological Resources Standard.*
LV-05, 07, 08	A surface historic features survey will be completed in the areas identified by the Heritage Branch as elevated potential sites. for these operating units prior to harvesting.
LV-04,09	These operating units have no heritage resource potential.

2.5 Soils Conservation

All harvesting operations must be consistent with current FMB Soil Conservation Standards and Guidelines. These standards will ensure that the integrity of soils is maintained. Harvesting will only be permitted during summer if soil conditions are not sensitive to displacement, erosion or compaction.

Table 6: Summary of Key Management Objectives - Soil Conservation

O.U #	**Management Objectives to Note**
	To ensure that there are protective measures used in relation to timber harvesting and road construction to conserve soil productivity and the hydrological function of soils. *All site plans and operational developments must be consistent with the Yukon Forest Resources Act, current Soil Conservation Standard.*
LV-04 to 09	Soil Conservation Standard will be used to determine season of harvest during Site Plan development and approval.

2.6 Traditional Land Users

This area is used for hunting and berry picking. There is one registered trapping concession within the THP; RTC 310 which is active. These activities have been considered throughout the planning process of this THP and the requirements of the *Forest Resources Act* and associated FMB standards will mitigate any compatibility concerns raised at specific license and permit levels.

2012 Lubbock Valley THP overview. Little Atlin Lake in background.

Harvesting in OU LV-1 of the 2011 Lubbock Valley THP. The deck timber is from dead standing utilized for the Whitehorse Area commercial fuel wood industry.

3.0 Silviculture Section

3.1 Stand Description

These stands have a history of fire and wind disturbance and a general attrition of larger spruce and pine due to environmental stresses such as flooding and drought stress. In the identified operating units most stands are uneven aged. There are three major stand types; mature upland pine, white spruce/pine and lowland spruce. Most stands have a scattered aspen component. All three of these stand types contain a component of mature and over mature large diameter trees.

3.2 Harvesting

As per the original THP, an initial harvest limit of 5000 m^3 will continue to apply under this plan. Once the harvest volume has been reached, FMB will reassess the THP to determine if further harvesting opportunities exist for licensing.

Harvesting is focused on two commercial timber products:

- Dead standing conifer trees for fuelwood.
- Larger diameter green conifer trees, < 25 cm at breast height for dimensional lumber (cants).

Selective harvesting of larger diameter green trees will be either single trees or small openings of 10 to 20 trees grouped together. With selective systems, all stems are not being removed. Some of the larger green trees will be retained for seed trees and harvesting operations shall minimize unnecessary damage to any regeneration. At the completion of selective harvesting the objective is to retain the range of age classes within the stand.

3.3 Reforestation

The schedule for a post-harvest establishment survey(s) will be outlined as part of the site plan for each harvest block. The results of the survey(s) and applicable standards will guide reforestation plans. Natural regeneration using seed trees is the preferred option with artificial regeneration being used to supplement natural regeneration when necessary. White spruce and pine will be the preferred reforestation species, with aspen, sub alpine fir and black spruce also being acceptable.

3.4 Site Plans

Site plans which are part of the cutting permit will address the following operational details; soils, season of operability, slopes, special concerns, stand and site conditions, roads and landings descriptions, riparian buffers, management objectives, site prescription and the reforestation plan.

The operational details of the THP are completed in advance of the issuance of the license and permitting phase. The cutting permit will address the details of the harvest blocks including operator specific requirements, block locations, design and fuel wood volume within the designated operating units.

4.0 Access Management Considerations

New road access will be required to reach the operating units identified in this THP. The *Forest Resources Act* standards define FMB's road classification and construction standards. Any new road development will trigger an assessment by the Yukon Environmental and Socio-economic Assessment Board.

The approved site plan will dictate when harvesting may occur (i.e. dry weather and/or winter only) and any seasonal access requirements and constraints. Access corridors have been identified within the THP that depending on final design and construction plans would support either winter or dry weather roads (see Appendix 1 map).

Existing access will be utilized wherever possible. To gain access to north end of OU5 an existing trail from OU 1 will be used as opposed to building new trail from the Lubbock Valley Road.

Gates may be used to protect any new roads from damage during unfrozen weather and to allow for the management of wildlife and to ensure public safety.

Lubbock Valley THP winter road to OU1.

Lubbock Valley THP winter road in OU1.

5.0 References

Southern Lakes Pelly Mountains Eco-regions, EBA, Nov 2003 report for the department of environment, Government of Yukon.

Map - Major Drainage Areas of the Yukon Territory by Yukon Government Geomatics.

Forest Resources Act Standards and Guidelines. http://www.emr.gov.yk.ca/forestry/. Please visit the website as Standards and Guidelines may change periodically.

6.0 Appendices

Appendix 1: **2012 Lubbock Valley Timber Harvest Plan Area Map**

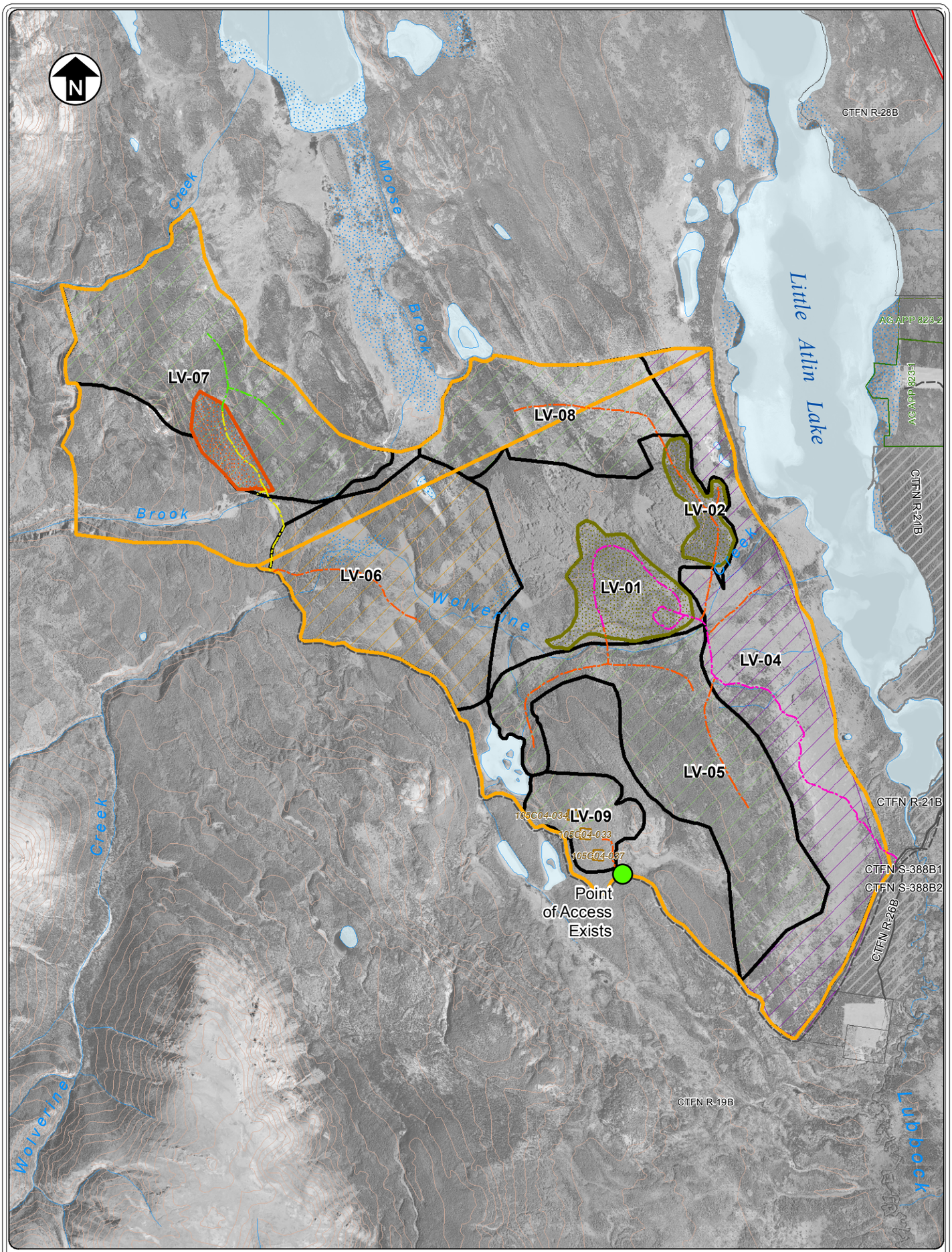
Appendix 2: **2012 Lubbock Valley Timber Harvest Plan Overview Map**

Appendix 3: **Representations**

Appendix 4: **Heritage Resources Overview 2010 Lubbock Valley**

Appendix 1:

2012 Lubbock Valley Timber Harvest Plan Area Map



Lubbock Valley Timber Harvest Plan Area

Southern Lakes

For more timber harvest information
Web: www.emr.gov.yk.ca/forestry
Phone: 1.867.456.3999

Date: September 06, 2012

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Yukon Albers
NAD 83

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

Yukon
Energy, Mines and Resources
Forest Management Branch

Project Specific Features

- Sawlog & Some Standing Dead
- Standing Dead
- Standing Dead & Some Sawlog
- Previously Logged Under FRP
- Previously Logged Under Lubbock THP
- Timber Harvest Plan
- Operating Units

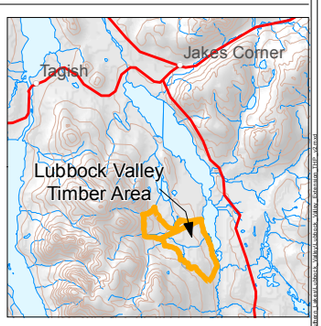
First Nation Administration

- A: Surface and Subsurface Rights
- B: Surface Rights
- FS: Fee Simple
- Unsurveyed FN Settlement Lands
- Unsurveyed Interim Protected FN Lands

- Existing Summer Roads
- Existing Winter Roads
- Proposed Summer Roads
- Proposed Winter Roads

Land Administration

- Notations
- Agricultural Land Applications
- Agricultural Land Dispositions
- Active Land Applications
- Land Dispositions
- Land Licenses
- Surveyed Easements
- Surveyed Land Parcels

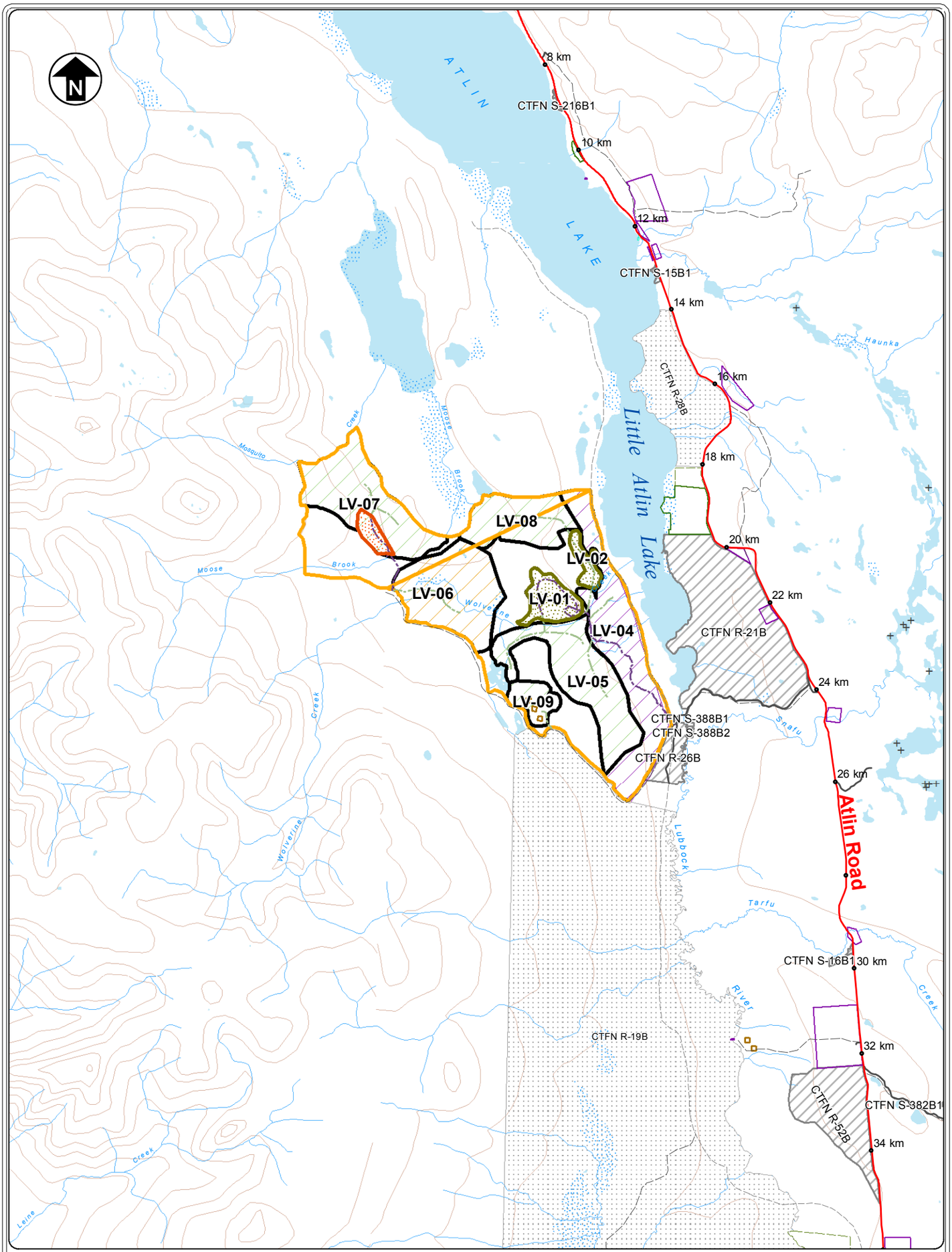


- Highway
- Primary Roads
- Local Roads
- Resource / Recreation
- Alley / Service Lane
- Winter

Appendix 2:

2012 Lubbock Valley Timber Harvest Plan

Overview Map



Lubbock Valley Overview

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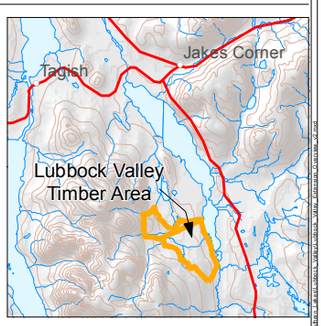
- Development Hold Areas
- Active Land Applications
- Land Dispositions
- Land Licenses



- Highway
- Primary Roads
- Local Roads
- Resource / Recreation
- Alley / Service Lane
- Winter

Appendix 3:

Representations

Appendix 3: Representations

2012 Lubbock Valley Timber Harvest Plan

Prepared: October 25, 2012
Prepared by: Whitehorse Area Forester

A total of two comments were received during the notification period on the 2012 Lubbock Valley Timber Harvest Plan held from September 14, 2012 to October 14, 2012

Comments were received from:

- Carcross Tagish Resource Council

The following table contains a summary of the comments received, with responses to the comment and how the comment has been addressed.

Topic	Name/ Organization	Comment	Consultation Comment Response	How comment/s have been addressed.
2.0 Planning Area Description Section 2.2 Riparian and Water Resources	Carcross Tagish Renewable Resource Council	We would like to recommend moving the Operating Unit boundaries to accommodate at least a one half kilometre buffer between timber harvest areas and lakes and wetlands.	FMB will ensure all operating units within this THP are adhering to the FMB planning Standards and Guidelines for riparian management. The guidelines dictate the riparian management buffer width. Determining the buffer width depends on the size, class and type (lakes, streams, wetlands) of riparian.	The riparian management standards will be used to guide the development of the harvesting and the associated site plans.
3.0 Silviculture Section 3.3 Site Plans	Carcross Tagish Renewable Resource Council	We further submit that it is important that no unauthorized stream crossings be permitted in any harvest area.	FMB will continue to ensure all projects developed within the THP have the appropriate approvals and Forest Resource licences and permits. Any stream crossing within THP will need to be authorized and identified in the approved site plans.	All FMB standards and applicable legislation will be used to guide the development of the specific projects and their associated site plans.

Appendix 4:

Heritage Resources Overview 2011 Lubbock Valley THP

Heritage Resources Overview 2011 Lubbock Valley THP

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 (Note LV 3 has changed name to LV-09) 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 (Note LV 3 has changed name to LV-09) 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 (Note LV 3 has changed name to LV-09). 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.