Government of Yukon – Energy, Mines and Resources
Forest Management branch

Draft Dodo Lakes Area Fuel Wood Timber Harvest Plan

Watson Lake Annual Limit Region

Date Prepared:

6/3/2015

Table of Contents

1 Executive Summary

This Timber Harvest Plan (THP) has been prepared to meet the requirements of the Forest Resources Act (FRA) and associated Forest Resources Regulation (FRR). At this point it is being released to the public and First Nations for review. Any comments received during the review of this draft plan will be addressed in the final version of the THP.

Under the legislation, a THP is required prior to the issuance of any timber harvesting licence or forest resources permit that authorizes harvesting in an amount greater than 25m^3 (FRA, Section 29(4)(d)(ii).).

The Dodo Lakes Area Fuel Wood THP is being prepared in response to a fuel wood licence application submitted to the Forest Management branch (FMB). The activities proposed in this application include the harvest of approximately 600m^3 of standing dead and downed fuel wood in a 160 hectare area southwest of the Dodo Lakes, at kilometre 110 of the Alaska Highway.

The objectives of this Timber Harvest Plan are to set the framework for commercial fuel wood harvesting activities within the designated area, provide economic opportunities for the applicant, and support the supply of fuel wood to the community of Watson Lake.

2 Background and Purpose

In 2011 both the Watson Lake Fuelwood Timber Harvest Plan and the Highway 37 Junction Timber Harvest Plan were approved. These plans identified areas where clients could submit applications for commercial fuel wood harvesting licences.

Since the approval of these two timber harvest plans the operating areas within close proximity to Watson Lake have seen a significant amount of activity. The majority of merchantable fuel wood in these existing THPs has now been harvested, making it difficult to support economically viable commercial fuel wood harvesting operations in these areas.

Glen Ellis Ventures, a commercial fuel wood harvesting business previously operating in the Highway 37 Junction THP recognized the need to find a new harvesting area to support his commercial operation. An application was submitted to the Forest Management branch by Glen Ellis Ventures proposing a new commercial fuel wood harvesting area to meet this need.

The purpose of this THP is to support Glen Ellis Ventures by designating an area where commercial fuel wood harvesting operations can occur, provide economic opportunities, and support the supply of fuel wood to the Town of Watson Lake.

2.1 Introduction

This THP lies within the Liard Basin Ecoregion within the Boreal Cordillera Ecozone. This area is dominated by extensive boreal forest and characterized by moderate precipitation and relatively long, warm summers which have resulted in good forest growth (Yukon Ecoregions Working Group, 2004).

The climate in this region is generally cool with moderate amounts of precipitation. Mean annual temperatures are close to -4^0C. There is a large variation between winter and summer temperatures with cold winter temperatures averaging -25^0C and summer highs getting close to 30^0C (Yukon Ecoregions Working Group, 2004).

The location of this THP is approximately 30km west of the Town of Watson Lake. It is located on the south side of the Alaska Highway between kilometre markers 1010 and 1008. It covers a 160 hectare area and the southern boundary of the THP is approximately 1km south of the Alaska Highway.

2.1.1 Forest Stand Composition

Lodgepole pine almost exclusively dominates the forest cover within this THP; it comprises more than 95% of the stand. Scattered white and black spruce can also be found within this area but are a very minor component of the stand.

This is a mature even-aged stand which is approximately 160 years old. The stand is starting to decline naturally and standing dead trees are scattered throughout the area. There has been some wind disturbance within the stand which has broken the tops of some trees and blown others over. The majority of the area is covered to some degree with downed timber and there are some areas of extensive blowdown.

The declining nature of this stand coupled with the extensive blowdown will provide good opportunities for fuel wood harvesting.

2.1.2 Forest Health

There are no significant threats to forest health in the Watson Lake area at this time and no forest health concerns were identified during the evaluation of this timber harvest plan.

The Forest Management branch has initiated a mountain pine beetle (Dendroctonus ponderosae) monitoring program in the Watson Lake area to address the threat of mountain pine beetle (MPB) moving north into Yukon from British Columbia.

Currently MPB is not present in Yukon and as of 2013 cold winter temperatures had slowed the northern movement of MPB populations. The closest significant populations of MPB to the Yukon border were found in the Horneline Creek area more than 120km south of Yukon (Forest Management branch, 2014).

FMB will continue to monitor the movement of mountain pine beetle in this area. Copies of the Forest Management branch's most recent Forest Health Report with more information on MPB and other forest health related issues can be found on FMB's web site at: http://www.emr.gov.yk.ca/forestry/foresthealth.html.

2.1.3 Objectives and Location of Timber Harvesting

Timber harvesting under this plan will be limited to the harvest of dead and downed trees only. Targeted green tree harvesting will not be authorized under this timber harvest plan. The objective will be for the operator to utilize the majority of merchantable, standing dead, and downed stems. Utilization standards will be outlined in the terms and conditions of any cutting permits issued under this THP. It is expected that some of the downed material will have deteriorated to the point where it will no longer be suitable as fuel wood.

This is a small scale THP with the specific objective of harvesting fuel wood in a relatively small area. The THP boundary will form the boundary for harvesting operations and the entire – approximately 160 hectares – area covered by this THP will be available for fuel wood harvesting.

2.1.4 Personal Use Harvesting

The area between the northern boundary of this THP and the Alaska Highway has been utilized as a personal use fuel wood (PUFW) harvesting area in the past and there has been extensive fuel wood harvesting throughout. Harvesting activities in this THP will be very similar in nature to those carried out previously in the PUFW area. The only significant difference is that products derived from harvesting under this timber harvest plan may be used for commercial purposes.

3 Forest Resource Management Planning Considerations

At the time of writing this THP a Forest Resource Management Plan (FRMP) has not been established in the Watson Lake Annual Limit Area to direct forest resource management strategies. In the absence of an FRMP, a timber harvest plan must take into account various sustainable forest management principles as required by the Forest Resources Act and associated Forest Resources Regulation (FRR, Section 5).

3.1.1 Sustainability and Integrated Resource Management

Sustainable forest management has been defined by the Canadian Forest Service as, "Management that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things while providing environmental, economic, social and cultural opportunities for present and future generations.", (Canadian Forest Service, 2001).

This timber harvest plan provides economic opportunities for fuel wood harvesting while affecting a relatively small area within the extensive boreal forest of the Southeast Yukon. The harvesting activities permitted within this THP are small in scale and limited to the removal of dead and downed timber. These activities will be regulated in such a way as to ensure there will be no long-term impact on the quality and function of the ecosystems in this area.

It is often not possible to identify all of the values within a given area during the THP planning process. Many values such as wildlife features are dynamic in nature or difficult to identify during the planning stages of a timber harvest plan. The Forest Management branch has an extensive suite of standards and guidelines to direct the actions of operators when additional values are identified during harvesting operations. All of the standards and guidelines that apply to forest operations in the Yukon and within this THP can be found on the Forest Management branch website at: http://www.emr.gov.yk.ca/forestry/operational_standards.html.

3.1.2 Traditional Knowledge

This timber harvest plan is situated within the traditional territories of the Liard First Nation, the Ross River Dena Council and the Kaska Dena Council. Letters were sent notifying the affected First Nations of the intent to develop this timber harvest plan. Affected First Nations will be notified of any harvesting licence applications within this THP and provided no less than 30 days

to make representations to the Director of the Forest Management branch on each application (FRA, Section 18).

No traditional knowledge concerns were brought forward to the Forest Management branch during the planning and consultation process of drafting this THP. Any representations received by FMB relating to traditional knowledge will be considered during the decision making process when evaluating applications for harvesting within this THP.

3.1.3 Economics of Timber Supply

Commercial fuel wood harvesting is an important source of income for some people in the Town of Watson Lake and there is a consistent need for fuel wood within the community.

As established THP areas such as the Highway 37 Junction Timber Harvest Plan and the Watson Lake Fuel Wood Timber Harvest Plan become depleted of their fuel wood, commercial operators in Watson Lake have begun to look for alternative areas for harvesting. Some operators have moved their operations into British Columbia where there is a larger and more readily available source of fuel wood in a burned area approximately 18 kilometres south of the Alaska Highway on Highway 37.

This THP was proposed by a client looking for an alternative harvest area within Yukon. The plan has been written to support fuel wood harvesting and economic activity within Yukon. Due to the small scale of this THP the overall economics and timber supply of southeast Yukon will not be affected by the activities carried out under this plan.

3.1.4 Soil Conservation and Hydrology

Soils in this ecoregion have developed on top of morainal, glaciofluvial and lacustrine parent material. This is often overlain with a layer of silty material which has been primarily wind deposited (Yukon Ecoregions Working Group, 2004).

Protecting the integrity of soils and their hydrological function is essential to maintaining a healthy and productive forest ecosystem. The Forest Mangement branch's Soil Conservation Standards and Guidelines have been established to conserve soil productivity and hydrological function during harvesting operations. All activities carried out under this THP must adhere to these standards. These standards can be found on the Forest Management branch web site at: http://www.emr.gov.yk.ca/forestry/operational_standards.html.

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

3.1.5 Wildlife and Biodiversity

The primary wildlife species found in the vicinity of this THP include woodland caribou, moose, wolves, marten, beaver, muskrat, and bald eagles.

This THP lies within the Little Rancheria Caribou herd's winter range and is in the southeast corner of the of the core winter range. The area covered by this THP was assessed by the Department of Environment to determine the potential effects the proposed activities might have on caribou. It was determined during the assessment that this area is not effective caribou habitat due to a lack of terrestrial forage lichens and the presence of high quantities of downed trees throughout the area.

There will be a minimum of 10% overall retention of standing dead trees and course woody debris throughout this timber harvest plan. This retention is designed to maintain wildlife habitat features for cavity nesters and other species.

All activities within this timber harvest plan will follow the Forest Management branch's established Wildlife Features Standards and Guidelines. These standards provide direction in the event of a significant wildlife feature being encountered during harvest operations. These standards can be found on the Forest Management branch website at: http://www.emr.gov.yk.ca/forestry/operational_standards.html.

3.1.6 Riparian Management and Fish Habitat

There are no riparian features within the THP area. The THP boundary has been designed to exclude riparian features from the operating area and provide external buffers that meet or exceed the Forest Management branch's operational standards and guidelines.

The Dodo Lakes are a chain of lakes to the northwest of this THP. There are a few rural residential lots on one of the lakes. The area is also used recreationally and for traditional purposes such as fishing, hunting, and trapping. This significant area will not be affected by activities authorized under this plan. The closest lake in proximity to this timber harvest plan is over 200m from the boundary of the THP and on the opposite side of the Alaska Highway.

A small bog is located just outside the southeast corner of the THP. This area has been excluded from the operating area in order to maintain the integrity of this feature.

Copies of the Riparian and Wetland Standards and Guidelines that have directed the planning process for this timber harvest plan can be found on the Forest Management branch website at: http://www.emr.gov.yk.ca/forestry/operational_standards.html.

3.1.7 Heritage Resources

A heritage resource overview assessment has been conducted for this area by the Heritage Resources Unit of the Department of Tourism and Culture. There were two areas that were

identified as having high heritage potential in the general area of this timber harvest plan. Both of these areas have been excluded from the THP area in order to try and eliminate the possibility of negatively impacting any heritage resources or cultural features.

The remaining area covered by this THP has low potential to contain heritage resources. If any heritage resources are encountered during harvesting operations the Forest Management branch's Historic and Archaeological Resources Standards and Guidelines will provide direction to protect these resources. A copy of these standards and guidelines which will apply to this THP area can be found on the Forest Management branch's website at: http://www.emr.gov.yk.ca/forestry/operational_standards.html.

4 Timber Harvesting Considerations

4.1 Fuel Wood Harvesting Overview and Methodology

4.1.1 Licencing Process for Fuel Wood Harvesting

Prior to commencing commercial fuel wood harvesting activities operators must obtain a fuel wood licence (FWL) and cutting permit from the Forest Management branch (FRA, Section 24(e)) that meets the requirements of the *Forest Resources Act* and the objectives of this timber harvest plan. The cutting permit will have terms and conditions, and a site plan which must be followed during harvesting operations.

The site plan will outline the specific management plan to be followed for harvesting and will contain detailed information on the timber resources in the area and the harvesting methods to be applied. Site plan requirements are defined in the *Forest Resources Act* (FRR, Section 22).

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

4.1.2 Estimated Fuel Wood Volume Available for Harvest

During the planning process of developing this timber harvest plan the Forest Management branch conducted a low intensity timber cruise to determine the approximate amount of dead and downed fuel wood available for harvest within this area. Volumes provided here may vary significantly actual volumes found within this THP. Table 1 provides volume estimates for this THP area.

Operating Unit #	Total Area (ha)	Gross Fuel Wood Volume per Hectare (m^3/ha)	Total Gross Fuel Wood(m^3)	Percent of Volume Available For Harvest	Harvest Method
1	160	55m^3/Ha	8800m^3	90% of merchantable material	Salvage

Table 1: Approximate fuel wood volumes found within the Dodo Lakes Timber Harvest Plan.

Total gross fuel wood volumes provided are a rough approximation and operators are encouraged to conduct their own volume assessments prior to submitting an application for harvesting. Merchantable volumes harvested from the operating area will be significantly lower than the gross volume provided here. Per hectare merchantable volume varies widely throughout this THP and a significant amount of the gross volume will not be merchantable. A high percentage of downed wood will be unsuitable for harvesting as it has declined past the point of being suitable for use as fuel wood. As time progresses the dead material in this area will continue to decline and rot. This will further reduce merchantable volumes.

This THP is being designed for small volume operators servicing the Watson Lake community. Cutting permits issued will be restricted to harvest volumes of less than 1000m^3.

4.1.3 Timber Harvesting Methods

Salvage harvesting of dead and downed material is the harvest prescription for the area within this THP. Operations will focus on selectively harvesting merchantable standing dead and downed stems to be utilized as fuel wood.

Typically harvesting will be accomplished by hand-falling and bucking trees with a chainsaw and then skidding log lengths to the edge of the block with an ATV or snow machine for processing and removal from site. Other harvesting methods may be proposed in the site plan provided by the applicant and will be considered on an individual basis.

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

- The requirements and intent of this timber harvest plan.
- The requirements of the *Forest Resources Act* and *Forest Resources Regulation.*
- The requirements of the Forest Management branch's operational standards and guidelines.

4.1.4 Schedule for Undertaking Timber Harvesting

Detailed schedules for timber harvesting will be provided in the site plan of each cutting permit issued within this timber harvest plan.

The timing of harvesting operations may be restricted by factors related to soil conservation, wildlife values, heritage values, and traditional activities. All harvesting schedules will be in compliance with the Forest Management branch's operational standards and guidelines.

4.2 Access Management

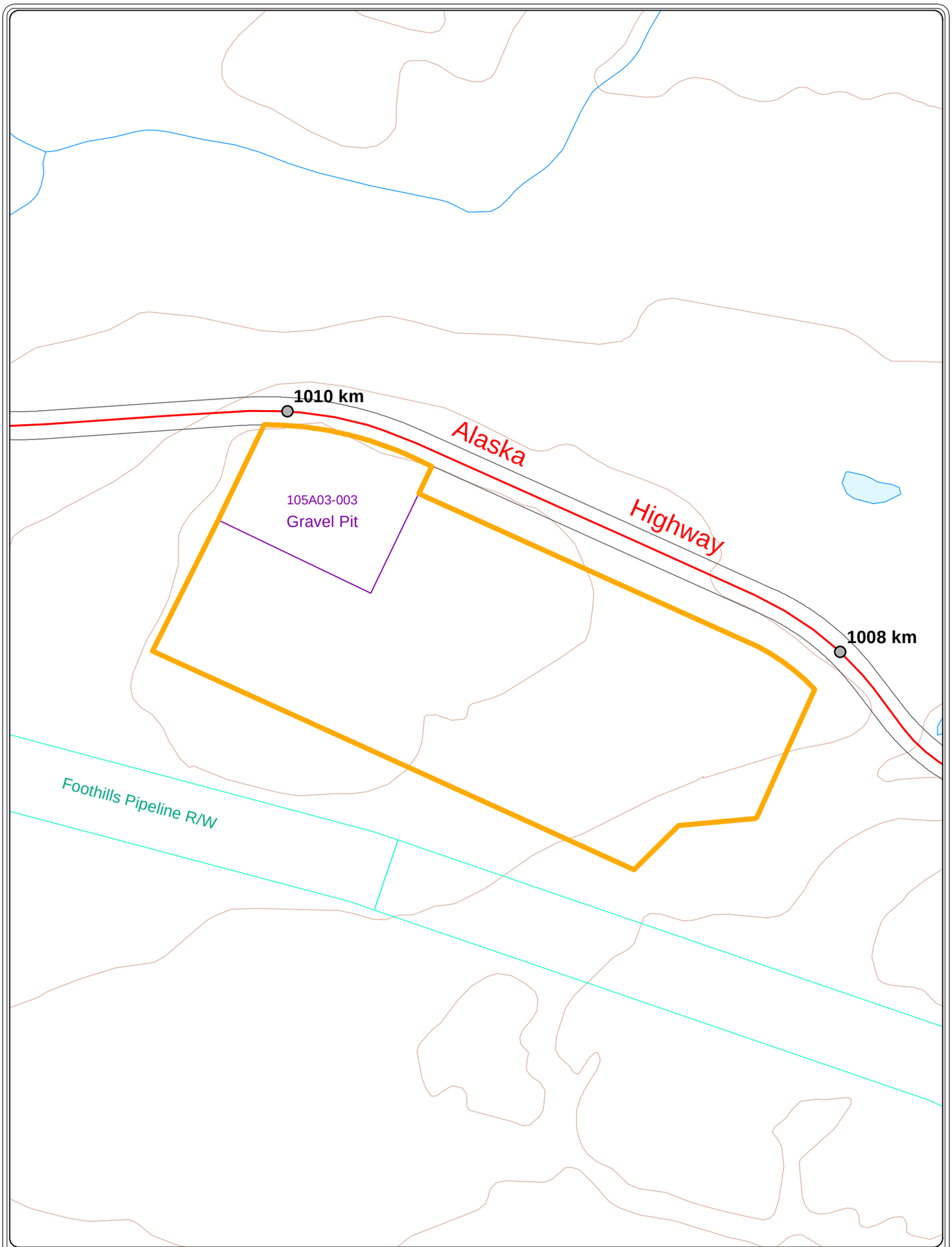
4.2.1 Access Considerations

Access to this harvest area is through an existing Department of Highways and Public Works gravel pit. Operators will not be permitted to use the gravel pit as a staging area. Processing of harvested trees will occur on a landing to be developed by the operator outside of the gravel pit area. Operators must not leave any debris within the gravel pit or obstruct the use of the gravel pit in any way. Terms and conditions related to the use of this access will be included in any issued cutting permits and must be followed.

There will be no new access points developed for this timber harvest plan area. The operator shall skid timber to existing access points for removal from the harvest area.

5 THP Maps

5.1 Overview Map



Dodo Lakes Area Fuelwood Timber Harvest Plan Area

Tintina District
Watson Lake Annual Limit Region

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

Date: March 09, 2015

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Metres

1:15,000

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.

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Project Specific Features

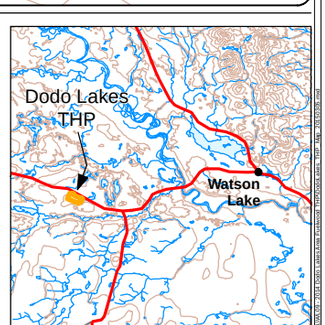
- Timber Harvest Plan Area

First Nation Administration

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

Land Administration

- Land Dispositions
- Surveyed Easements
- Surveyed Land Parcels



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

6 References

Canadian Forest Service, *The State of Canada's Forests: 2000-2001,* Ottawa, 2001, p. 38.

Government of Yukon, Energy Mines and Resources, Forest Management Branch, *Forest Health Report 2013*, April 2014.

Yukon Ecoregions Working Group, 2004. Liard Basin. *In:* Ecoregions of the Yukon Territory: Biophysical Properties of Yukon Landscapes, C.A.S. Smith, J.C. Meikle and C.F. Roots (eds.), Agriculture and Agri-Food Canada, PARC Technical Bulletin No. 04-01, Summerland, British Columbia, p. 241-249.