

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

**Forest Management branch**

# **Draft McQuesten Timber Harvest Plan**

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**Mayo Annual Limit Region**

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## 1 Executive Summary

With the implementation of the *Forest Resources Act* (FRA) in 2011 came the requirement to develop a Timber Harvest Plan (THP) for permitting timber harvest in excess of 25m<sup>3</sup> per year. The McQuesten THP provides a planning framework that fulfills the Forest Resources Regulations and timber harvest planning requirements (Section 6, FRR). It will allow for a more integrated approach to forest management, taking into account a wide spectrum of interests and values.

The McQuesten THP has been prepared to meet the needs of the local woodcutters supplying a local economy. The local demand is comprised mostly of fuelwood for the purpose of residential heating but also includes building logs for cabins, fence posts, and small amounts of sawlogs. This THP will give commercial and non-commercial operators the ability to apply for harvest licenses and permits in areas that meet the objectives of this plan. It is estimated that the current local demand for timber is approximately 2000m<sup>3</sup>/year, and while this plan is designed to fulfill that demand, it also has opportunity to expand the current use of forest resources if the need arises. Fuelwood has the potential to increase in demand as a viable heating source for commercial and non-commercial buildings. This THP also can provide opportunity for the use of non-timber forest products (NTFP's).

The majority of the merchantable timber within this THP exists in small patches scattered across the landscape. Timber harvesting generally occurs in these small patches that may result in small openings. The timber location supports small scale timber harvesting opportunities. Permits for harvesting will be limited to 500m<sup>3</sup>/year. Larger licence and permits will be considered if the applications are consistent with the McQuesten THP.

This THP is the start of the planning process. All licence applications will be assessed individually to ensure compatibility with this THP, and will be subject to a public and First Nation notification period. The first nation and public may make representations to the Forest Management branch (FMB) Director on the application for a period of no less than 30 days (FRA, Section 18) for all commercial licences. In addition, applications that trigger an assessment under the *Yukon Environmental and Socio-economic Assessment Act* (YESAA) require submission to the local development office in Mayo for public review prior to issuance.

**Contents**

1 Executive Summary ..... 1

2 Purpose..... 4

2.1 Identification ..... 5

    2.1.1 Forest resources..... 5

    2.1.2 Objectives of this Timber Harvest Plan..... 5

    2.1.3 Locations that are suitable for timber harvesting..... 5

    2.1.4 Road management..... 6

2.2 Considerations in absence of FRMP ..... 7

    2.2.1 Sustainability ..... 7

    2.2.2 Integrated Forest Resource Management..... 7

    2.2.3 Traditional Knowledge ..... 7

    2.2.4 Fish and Wildlife – rights of FN, management plans ..... 8

    2.2.5 Economics of timber supply ..... 9

    2.2.6 Climate Soil conservation and hydrology ..... 9

    2.2.7 Fish, water, wildlife, biodiversity ..... 10

    2.2.8 Heritage resources ..... 11

    2.2.9 Ecosystems, Forest Resources and Forest Health..... 12

    2.2.10 The locations for timber harvesting ..... 13

    2.2.11 An Estimate of the Type and Volume of Timber..... 15

    2.2.12 Harvesting Method ..... 15

    2.2.13 Silvicultural Systems..... 16

    2.2.14 The existing and proposed roads ..... 16

    2.2.15 Non-timber Forest Products..... 17

    2.2.16 Overview Map ..... 19



3 List of Appendices ..... 20

3.1 Representations ..... 20

## 2 Purpose

The community of Mayo has a long history of using wood products for building material and as a heating source. Since the 1930s the community has had timber harvesting that facilitated a local economy. Based on historical numbers it is estimated that the current demand for timber is approximately 2000m<sup>3</sup>/year (Therriault, 2012). Timber products that contribute to the annual cut in the Mayo area consist of building logs for cabins, sawlogs, and fence-posts. The McQuesten THP is intended to address small scale (<500m<sup>3</sup>) harvesting to meet local demands.

It is estimated that the demand could be increased to satisfy a higher component of wood heating within the community of Mayo (see section 2.2.5). Although there are currently no plans for wood heating expansion projects such as chip or other bio-energy, this has shown to be viable in other Yukon communities such as Dawson City and it is anticipated that these types of projects may become a reality within the lifespan of this plan. It is also possible that with increased access from mining projects, opportunities could arise for sawmills or other forest resource opportunities. This THP supports the use of local timber for heat, energy and building products. At the time of THP development the limit on harvesting as set out in the annual allowable cut is 5000m<sup>3</sup> for coniferous trees and 2000m<sup>3</sup> for deciduous trees. In the event that the demand for timber increases the annual limit will regulate the maximum volume of timber cut each year.

This THP is located between the Stewart and McQuesten Rivers, extending to the Klondike highway to the west and the outskirts of Mayo Lake to the east (see 2.1.8 – Over view map). This large geographic area across the landscape contains many values. The objective is to manage forest values across the landscape in the context of small scale harvesting opportunities. Areas within the THP boundary that are excluded from the management of this plan include First Nations category A and B settlement land, private land and other forms of land tenure (see table 2) . This plan applies to vegetated and forested public lands within the THP area.

Due to economic factors areas suitable for harvest are currently limited to areas with existing access that meet the objectives of this plan as well as the *Forest Resources Regulations* and Standards. This includes areas adjacent to the Silver Trail road, Mount Haldane road, South McQuesten Creek road and the Duncan Creek road. Future road development by other industries may open up new opportunities for timber harvesting that are currently inaccessible. This plan supports utilizing timber harvesting opportunities that will benefit the Yukon.

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## 2.1 Identification

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### 2.1.1 Forest resources

The planning area is within the North Yukon Plateau ecoregion as part of the Boreal Cordillera ecozone. Suitable timber within the planning area generally exists in isolated pockets on lower elevations of south or west aspects where favorable light, moisture and temperature exist. Disturbance regimes are dominated by fire, creating a mosaic of forest types and age classes across the landscape. Species currently targeted for harvest include White spruce, Lodgepole pine, White birch, small amounts of Black spruce, and occasionally Trembling aspen. Although fire-killed spruce stands are preferred, this can be a limited resource depending on existing access. White birch can present a good harvest option due to its high amount of British thermal units (Btu) value for heating, and capacity to regenerate and grow quickly. Green spruce and pine stands may also be appropriate as a timber source.

### 2.1.2 Objectives

The objective is to manage forest values across the landscape in the context of small scale harvesting opportunities. Permits will be limited to 500m<sup>3</sup>/year. Larger applications may be considered if the application is consistent with this THP.

If a licence application is for >500m<sup>3</sup>/year, the applicant should consider the following:

- Consistency with this plan
- Consistency with the NND Traditional Knowledge Policy
- Consultation with Na-Cho Nyak Dun
- Contribution to the local economy
- Results of a YESAB assessment if triggered

### 2.1.3 Locations that are suitable for timber harvesting

Locations that are suitable for timber harvest will be on public land. Dead and green wood for many uses are included in this plan.

#### 2.1.3.1 Dead and green wood harvest opportunities

The suitable area will be first selected by the licensee who must ensure that the area meets their product profile needs. Under the current demand profile, suitable timber is greater than 80 years old,

and greater than 15cm diameter at breast height. There are utilization standards in the permit terms and conditions that will dictate what size of trees must be taken, and which trees must be left. Preference shall be given to dead or dying stands where feasible. It may not always be possible to utilize dead stands therefore green stands will be considered for harvesting as a second option. Harvesting of birch will be considered as a viable opportunity, and will be supported provided it meets the criteria of this plan. Any commercial green wood opportunities (>25m<sup>3</sup>) that exist will be notified to NND and the public prior to cutting permit issuance. Permits that are less than 25m<sup>3</sup> will be assessed and issued by the Forest Management branch provided they meet the objectives of this plan. Green timber will be harvested in a manner that is consistent with sustainable forestry and assessed on its own merit to ensure good stewardship. This may include a size restriction or a retention requirement as laid out in the more detailed site plan. Some of the factors that will be assessed will include potential impacts to wildlife, heritage resources, water resources, other forest users such as guiding/outfitting, trapping and recreationalists, as well as impacts to traditional values.

Areas that are excluded from timber harvest in this plan include alpine areas, private land, Na-Cho Nyak Dun (NND) settlement land, and any other land tenures where harvesting may not be suitable (see Table 2).

#### **2.1.4 Road management**

There are presently no Forest Resource Roads or proposed Forest Resource Roads within the McQuesten THP. Road access to timber resources is presently on existing infrastructure owned and managed by Highways and Public Works (see table 4 – existing access). It is likely that new access will be required for future harvesting activities. If new access is required under the Forest Management branch planning process for the purpose of timber harvesting, it will be designated a Forest Resource Road, and will comply with the FRA and part 7 of the FRR. This means that the primary use for the road will be Forestry activities and use must be restricted to permit holders under the FRA. The road construction, maintenance and deactivation, will be controlled through the Forest Management branch. New proposed roads will require a YESAB screening and will comply with YESAA legislation. Road standards that exist at the time of road construction will apply to all Forest Resource roads.

## **2.2 Considerations in absence of FRMP**

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### **2.2.1 Sustainability**

This THP provides forest practices that will manage forest resources and forest interactions with identified resources to help meet sustainability. The THP area is at a landscape level, which is meant to consider many values including low volumes (<5000m<sup>3</sup>/year) of total timber harvest. Forest harvesting activities has the potential to effect values such as cultural, heritage, fish and wildlife, water, and biodiversity. The *Forest Resource Act* Standards that can be found on the Forest Management branch website ensure adequate consideration is given to these values. Forest management considers these values in an integrated approach to conduct activities in a sustainable manner, providing timber for future generations.

### **2.2.2 Integrated Forest Resource Management**

This THP has considered the multiple forest values listed above and applies an integrated approach to manage them. To achieve this there has been consultation work with the Mayo Renewable Resource Council, the Na-Cho Nyäk Dun First Nation, trappers, and Yukon Government. The objective is to provide the community with a sustainable source of timber while maintaining other resource objectives. Features, such as riparian features and wildlife features, will be protected through buffering, avoidance and other operational mitigations. These procedures are outlined in *Forest Resources Act* Standards which can be found on the Forest Management branch website.

### **2.2.3 Traditional Knowledge**

This plan was written following consultation with the Na-Cho Nyäk Dun (NND) and incorporates traditional knowledge and areas of cultural concern. NND were involved in the planning process to develop the draft THP. NND provided input that the THP should be “providing more certainty for its citizens and the community of Mayo” (Hutton, 2013) for wood supply. This plan is intended to be respectful of Northern Tutchone culture and values and will be consistent with the NND Traditional Knowledge Policy. The Traditional Knowledge Policy addresses the protection and preservation of Traditional Knowledge and defines how it may be accessed for applications such as environmental assessment. The NND Heritage Department and Lands and Resources Department will be notified during forest management decisions (permit applications >500m<sup>3</sup>/year) within the Traditional Territory as the Traditional Knowledge Information may need to be reviewed.

Through consultation several areas of cultural significance were identified, but due to their confidential nature exact locations are not provided in this THP. Applications will be checked prior to permit issuance to ensure there is no overlap with known cultural features, or areas of cultural significance. Harvest restrictions may be imposed based on the nature of overlap following consultation with NND.

#### **2.2.4 Fish and Wildlife – rights of FN, management plans**

Traditional economic activities have been and remain an important use of forest resources. Fishing, hunting, berry gathering and small game trapping are important activities that require consideration in forest resource planning. This includes meeting objectives of existing plans in the area. Below is a list of existing land planning documents within the THP area:

Existing wildlife habitat protection areas that are in or adjacent to this THP include:

1. Devil's Elbow Habitat Protection Area
2. Big Island Habitat Protection Area
3. Horseshoe Slough Habitat Protection Area.

Existing wildlife management plans within the THP include:

1. Devil's Elbow and Big Island habitat protection areas management plan.
2. Community Based Fish and Wildlife Management Plan 2008-2013

Management of the first two plans is established through the Devil's Elbow and Big Island habitat protection areas management plan. Harvesting of dry fuelwood up to 58m<sup>3</sup> (25 cords) or green sawlogs, up to 25m<sup>3</sup> per year under a Forest Resources Permit, can continue provided no new access is established, and it does not compromise habitat or the objectives of the plan. Such harvesting must use existing access, and can only occur at seasonal times when moose occupancy is low. Harvesting may not be acceptable in late winter. If harvesting applications are within these plan areas, harvesting will be restricted according to those plan directions.

The Community Based Fish and Wildlife Management Plan 2008-2013 is updated every 5 years and is being updated at the time this plan is being developed. It outlines concerns with new access, and asks

that all new access be consulted through the RRC. The most current version of this community based plan should be used to ensure consistency as forest management decisions arise.

### **2.2.5 Economics of timber supply**

The village of Mayo has a population of about 400 people, and has 142 houses that consume an estimated 1250m<sup>3</sup> of wood per year. The average calculated heat requirement for a home is 18,300 kWh/year. (McKinnon, personal communication, Nov 2013). Assuming that 40% of current heat requirements are met by heating oil, a savings of 97,000 liters of oil could be saved by replacing this with local biomass. Under current market conditions this could save \$138,000 and reduce emissions 200,000kg of carbon dioxide. This calculation does not include conversion of commercial buildings to biomass heat source, nor does it take into account possible employment opportunity of commercial wood harvesting. Currently, the existing fuel wood market wood provides economic opportunities for local wood cutters and allows home owners to see their investments circulate through the local economy.

Maintaining and enhancing local timber as a heating and building source would have a positive impact on the village of Mayo. This plan supports the use of Forest Resources as a sustainable renewable green energy source.

### **2.2.6 Climate Soil conservation and hydrology**

This THP is primarily within the Yukon Plateau – North Eco region which has a strong seasonal variability in temperature ranging from a mean low of -30°C to a mean high of 15 °C, and extremes of -62°C to 36 °C (C.A.S. Smith et al). This area is prone to strong temperature inversions in the winter, resulting in cooler temperatures in the valley bottoms and warmer temperatures in mid to upper elevations. The annual precipitation is moderate at between 300 and 600mm, with July and August being the wettest periods

Drainage from this plateau is primarily from the Selwyn Mountains to the east and is characterized by high runoffs and peak flows (C.A.S. Smith et al). Some of the major River Valleys in the THP area include the Stewart, South and North McQuesten, and Ladue Rivers. These are characterized by a rapid increase in snowmelt peaking in mid-June with a secondary peak generated by rainfall throughout the summer.

Soils are the living substrate that supports forest growth and the foundation of a healthy, productive and resilient ecosystem (C.A.S. Smith et al). *“Soil development in this area reflects the strongly continental climate, the presence of extensive discontinuous permafrost and the rugged topographic relief in the ecoregion.” (C.A.S. Smith Et Al).* Much of the valley bottom soils are underlain with a mixture

of glacial parent material that produces Eutric Brunisols in coarse textured material. Finer textured glaciolacustrine and the most imperfectly drained soils typically have permafrost near the surface and are classified as Turbic Cryosols. Regasols, Bruisols or Gleysols can all be found here. As mentioned above, strong winter inversions occur and promote the development of permafrost. Soil moisture, canopy cover, forest floor thickness, and forest fire history all contribute to development of permafrost and soil development.

Preserving these processes is an important part of forest management. Mimicking a natural disturbance regime can be an effective way to manage these processes. Wildfires reduce forest floor thickness, thus having a warming effect on soils in the summer months. This promotes natural regeneration of most conifer species. Deep forest floor layers will promote cooler soils, slower decomposition rates, and slower growth rates. It may be necessary to break up or reduce the depth of the forest floor. Retention of coarse woody debris can also be important for wildlife and supporting long term soil productivity. Soil disturbance will be managed to meet the FRA Soil Conservation operational standard.

Conserving water is important for all aspects of a healthy ecosystem. Rivers, lakes and wetlands play an important role in storing, transporting and filtering our water. When forest development activities occur adjacent to riparian systems, the operational standards that deal with streams lakes and wetlands will be used to determine appropriate buffers and management for these areas.

### **2.2.7 Fish, water, wildlife, biodiversity**

**Wildlife-** The planning area contains at least 28 species of small mammals and 19 species of large mammals (C.A.S. Smith et al). Small mammals include such species as lynx, beaver, marten, otter, wolverine, ermine, fox, muskrat, coyote, snowshoe hare, and porcupine. Large mammals include moose, caribou, sheep, grizzly bear, black bear, wolves and mule deer. Most wildlife values can be maintained and protected due to the small percentage of area that is being disturbed by activities described in this plan. Ecosystems will be maintained that will support the present wildlife species in their habitats. This is commonly known as the coarse filter approach. There are also critical habitats that have been identified for more specific management to retain specific values. The main wildlife value that has been identified in this planning area is moose calving (spring) and late winter habitat (see Appendix 3 – Moose habitat)

**Moose-** The key seasons are calving (May-June) and late winter (Jan.-April) when moose concentrate in areas along rivers for the combination of cover and food values provided by riparian habitats ( *M. ODonoghue, personal communication, May, 2013*). Moose are also in these areas during the summer

and fall, but are not as sensitive to disturbance during this period. The map (see Appendix 3 – Moose Habitat map 1:1 000 000) outlines the main critical habitat areas on a broad scale. This map is not meant to be an exact boundary of critical moose calving and late winter habitat. It outlines areas where habitat features should exist based on forest cover information and local knowledge. This includes good combination of cover and forage species, which provides excellent habitat for a wide variety of wildlife species. This plan aims to protect these values that may exist beyond the moose calving and late winter habitat boundary shown in Appendix 3. This habitat type is typically within a riparian management zone defined by the FRA Riparian Management on Streams and Lakes Standards and Guidelines. Special management shall be used to maintain these values where it exists outside of the Riparian management area zone.

**Raptor nests** – Environment Yukon has mapped several broad locations for potential nesting sites for various raptor species (see appendix 4 – raptor nesting sites). These nesting sites are important for breeding opportunities of raptors and other birds on the landscape. The Wildlife Features standard gives specific direction on what to do to protect a raptor nest if one is found.

The Wildlife Features Standard gives direction on specific wildlife features such as nests, beaver dams, mineral licks, game trails, cliff faces, wildlife trees, bear and wolverine dens and fish habitat. The objective of this standard is to ensure that important wildlife and ecological features are given adequate protection during forestry planning operations.

Species of conservation concern in the planning region are assessed by the committee on the status of endangered wildlife in Canada (COSEWIC), *Species at Risk Act*, and the *Yukon Wildlife Act*. Any species that are of special concern might have special management considerations. Specific conflicts with species of conservation concern can be managed at a site level through the site plan which will be consistent with the Wildlife Features Standard.

### **2.2.8 Heritage Resources**

Planned timber harvest projects within Yukon manage areas with archeological significance as per the FRA Historic and Archaeological Resources Standards and Guidelines. Prior to any commercial harvesting a Heritage Resource Overview Assessment (HROA) is required to determine if the proposed activities in the designated areas will have potential to impact any heritage resources. This assessment shall use a variety of resources including spatial mapping of water bodies, wetlands, and watercourses, as well as topographic features, Yukon Archaeological Sites Database, Yukon Historic Sites Database, aerial

photographs and orthographic images where possible. Using these and any other applicable indicators, the assessment shall outline the potential impacts from proposed activities and recommend a specified inventory of heritage values in areas of elevated potential.

A more detailed Heritage Resource Impact Assessment (HRIA) will be required where determined by the HROA. In areas where elevated heritage potential is identified in the HROA and a proposed forestry activity has likelihood of impact, a Heritage Resources Impact Assessment (HRIA) will be undertaken as outlined in the associated HROA to determine if disturbance related to timber harvesting and road and landing construction will impact archaeological/heritage resources. Further information should be gathered from First Nation Heritage offices to gather local knowledge and other site specific information. Heritage Resources Impact Assessment Reports are to be completed documenting the results of the assessment and provide recommendations to mitigate impacts to archaeological/heritage resources.

### **2.2.9 Ecosystems, Forest Resources and Forest Health**

The McQuesten THP is within the Yukon Plateau– North ecoregion within the Boreal Cordillera Subzone. The ecosystems in this THP area will be described in accordance with the new Ecological Land Classification (ELC) system. There are five bioclimatic zones (see table 1) within the THP, however, Boreal low and Boreal high is where most, if not all, of the forest operations will occur. As permits are applied for site plans will be prepared that will describe these bioclimatic zones in more site level detail. These are currently being developed and fine-tuned by YG to have an ELC that is adopted Yukon wide for the purpose of having a common language to describe Yukon ecosystems. Site level descriptions will use this ELC system. The following table (N. Flynn, personal communication, Nov 2013) shows the five Bioclimatic zones that exist within the THP area:

Table 1 – Bioclimatic descriptions

Bioclimate Zone	Code	Description	Elevation Range (m)	Area (ha)	Area (%)
Boreal Low	BOL	Continuously forested areas at low to middle elevations, below the BOH in mountain valleys and plateau regions. Winters are long and cold, with short, cool and dry summers. Forests are commonly mixedwood (lodgepole pine, white spruce, and aspen) with moderately developed understories. Wetlands are common.	<650m South <450m North	70106	8%
Boreal High	BOH	Middle to upper elevations of forested areas in mountain valley and plateau regions of southern and central Yukon. Found above the BOL in large valleys. Characterized by steep slopes in southern mountainous regions and gentle rolling plateaus in the central regions. Summers are brief, cool and moist, with long cold winters. Forests are dominated by white spruce, lodgepole pine, and subalpine fir.	650 - 1150m South 450 - 1150m North	591629	64%
Subalpine	SUB	Sparsely forested areas at moderate to higher elevations on steep slopes above the BOH (or BOL). Subalpine areas form a transitional zone between forested Boreal and the higher elevation non-forested, Alpine bioclimate zones. Open canopy conifer forests (tree cover < 20%) and tall shrub communities are characteristic vegetation conditions. Depending on the geographic area, either subalpine fir or white spruce is the predominant tree species. Winters are long and cold, while summers are short, cool and moist.	1150 - 1500m	208076	22%
Taiga Shrub	TAS	High elevation Taiga Shrub replaces the term 'Subalpine' in northern Yukon. These areas are tall or low shrub-dominated, with sparse or sporadic tree cover. Taiga Shrub generally occurs at high elevations in northern mountain systems. However, the distribution of Taiga Shrub in some areas of northern Yukon appears to be influenced by arctic weather systems this situation may require a different bioclimate zone designation similar to BOH and BOL.	1100 - 1500m North	5012	1%
Alpine	ALP	High elevations associated with mountainous conditions throughout Yukon. Dwarf shrubs, herb/cryptograms and low-growing and scattered krummholtz trees are the predominant vegetation condition. In very high elevation areas, bare rock, colluvium or ice/snow may be the dominant conditions.	>1500m	55773	6%

### 2.2.10 The locations for timber harvesting

Timber harvesting locations are restricted to areas that have suitable timber and access to make economically feasible opportunities. These areas are to be identified by the applicant. Suitable timber generally exists in small isolated pockets across the landscape. This THP is intended to meet demands

for all forest products including building logs, saw logs, fence posts, as well as many other timber and non-timber products. These opportunities will exist across the landscape where the need arises.

Table 2 shows a breakdown of areas available and not available for harvest. It should be noted that NND settlement land and non-crown land tenures are not available for timber harvest under this plan, and are removed from the plan area. The total plan area available to apply for cutting permits is 712 357ha as shown at the bottom of table 2. Although this large area is available to the public to apply for cutting permits, the area cut is restricted by the annual allowable cut (AAC). The amount harvested annually based on the previous 10 years is less than 60 ha/yr, or 0.0001% of the area under plan.

Table 2 gives an overview of the THP composition and parcel delineations:

**Table 2 – Gross Area Breakdown**

<b>Feature Name</b>	<b>Subcategory</b>	<b>Area (ha)</b>	<b>Delineated Area (ha)</b>
<i>Landscape unit Gross</i>		930 596	
<i>Delineated from Gross Area</i>	<i>NND Settlement Land</i>		210 117
	<i>Other non-crown land (Dispositions, parks etc.)</i>		8122
<b>Total Area Under Plan</b>		<b>712 357</b>	

**Table 3 – Area under plan breakdown**

<b>Feature Name</b>	<b>Subcategory</b>	<b>Area (ha)</b>
<i>Total Area Under Plan</i>	<i>Non-Forested - vegetated</i>	184 343
	<i>Forested</i>	528 014
<i>Total</i>		712 357

### 2.2.11 An Estimate of the Type and Volume of Timber

Table 4 shows estimated timber volumes throughout the area under plan of the THP, along with anticipated harvest levels:

Table 4 – Timber Volumes

Class	Feature Name	Subcategory	Area (ha)	Volume (m <sup>3</sup> )	Anticipated Harvesting M <sup>3</sup> /YR
Forested	*Coniferous	White spruce	145,026.9	8,701,611.1	2000
		Black spruce	168,611.4	5,058,342.9	200
		Sub-alpine fir	31,224.0	624,479.8	100
		Lodgepole pine	6,808.8	680,883.8	500
	*Deciduous	Trembling aspen	115,947.3	9,275,787.1	200
		Birch	57,966.6	4,637,330.5	1000
		Balsam poplar	2,428.4	97,135.0	100
	Total		528,014	29,075,570	4,100

\* The Forest inventory has limited coverage within this THP area. The area that does not have coverage (the Northern half) has been extrapolated from the area that has forest inventory information to provide an estimate of areas and volumes. Although the forest inventory is accurate for the southern part of this THP where most of the wood cutting will occur, it is not accurate for the northern region. These numbers can be used to make broad level management decisions, but are not mean to be an accurate account of forest resources.

### 2.2.12 Harvesting Method

Timber harvesting can take place across the landscape in all seasons and the majority of timber will be cut along existing access infrastructures. Each permit area will have its own harvesting requirements, which may include a seasonal restriction and will be carried out in a manner that achieves the Forest Resource Regulations (FRR) and approved operating standards set out by the Forest Management branch. These standards can be viewed at <http://www.emr.gov.yk.ca/forestry/442.html>. In this area typical harvest method includes but is not limited to small machines such as quads, snowmobiles and

pick-up trucks. It is possible that a crawler tractor or skidder can be used in some circumstances. All harvesting will be done in a fashion that achieves low ground disturbance as set out in the Soil Conservation Standards and Guidelines found and in the site plan for each commercial permit.

### 2.2.13 Silvicultural Systems

The silviculture system will be outlined in the site plan for each commercial cutting permit. It will be specific to the permit area, and address harvesting constraints and regeneration requirements for that area. It should also take into account factors outlined in section 2.2.6 (Climate, soil conservation and hydrology) of this THP. The requirements of a site plan are outlined in the Forest Resources Regulations section 22. Any harvest restrictions will be implemented in the site plan at the time of permit issuance.

### 2.2.14 The existing and proposed roads

#### Existing Roads

Table 5 – Existing access

Road Name	Type	Management
Silver Trail	Highway	Highways and Public Works
Heldane Road	Secondary road	Unmaintained
Duncan Creek Road	Secondary road	Highways and Public Works
Ethel Lake road	Secondary road	Highways and Public Works
McQuesten Lake road	Secondary road	Highways and Public Works
South McQuesten road	Secondary road	This road is maintained to km 24.
Conservative ridge trail	Unmaintained Highway	Unmaintained

There are currently no proposed roads in this THP. Although it is not likely that large long term roads will be constructed for forest resources, it is likely that new access will be required for future harvesting activities. If new access is required for timber harvesting, it should be a Forest Resource Road, and will comply with the FRA and part 7 of the FRR. This means that the primary use for the road will be Forestry activities and use is restricted to permit holders under the FRA. The cutting permit terms and conditions and site plan for the FRR will address road construction, maintenance and deactivation as per Forest Resource Road Standards and Guidelines. These standards are designed to maintain water quality, soil stability and safety while minimizing soil disturbance. New roads may require an assessment under the *Yukon Environmental and Socio-Economic Assessment Act*.

The exact location of these roads is not yet known and will be dependent on environmental social and economic factors such as value of timber and cost of building road access to the timber resource. New access from other sectors such as mining can create opportunities for timber extraction that would otherwise be uneconomical. Proposed road locations will, therefore, largely depend on new roads from other sectors that might exist in the future. Collaborating on opportunities for multi-user roads is strongly encouraged, as wood supply will depend on roads from various sources.

### **2.2.15 Non-timber Forest Products**

Non-Timber forest products (NTFP's) are plants and fungus within the forest other than timber. These can include things such as berries, birch bark, birch syrup, seedlings, mushrooms and other fungus. This plan supports the harvest of NTFP's, however, certain activities related to the harvest of them might require a permit to remain consistent with the management of heritage resource, wildlife and other value. All users are encouraged to inquire at the local Client Monitoring and Inspections office in Mayo in relation to the NTFP harvest.

References:

Yukon Ecoregions Working Group, 2004. Yukon Coastal Plain. *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 Agrifood Canada, PARC Technical Bulletin No. 04-01, Summerland, British Columbia, p 63-72.

Government of Yukon, Department of Energy Mines and Resources Forestry website. March 2014. <http://www.emr.gov.yk.ca/forestry/442.html>

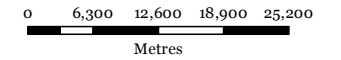
## 2.2.16 Overview Map

# McQuesten River Timber Harvest Plan Area

## Mayo Annual Limit Region

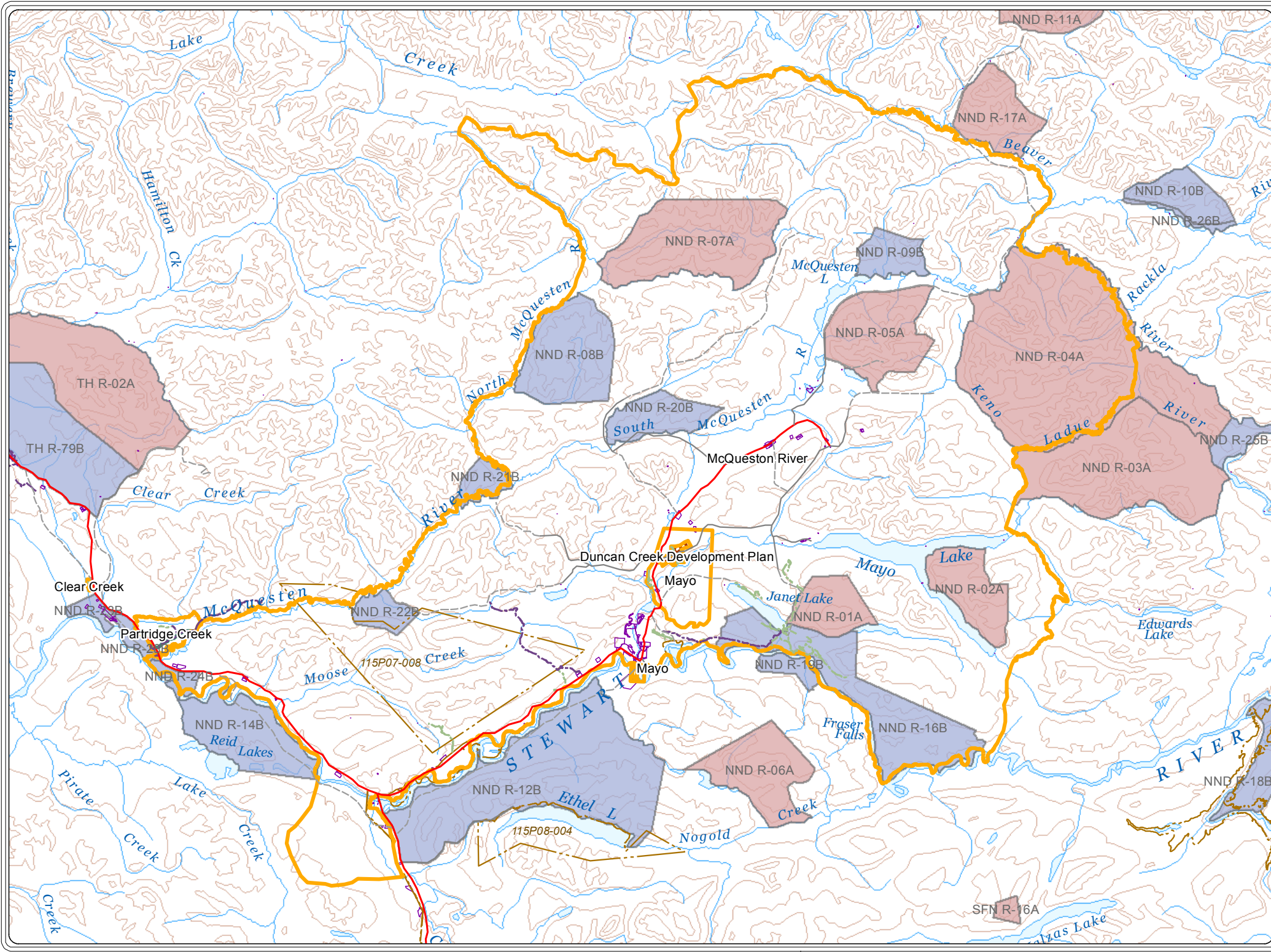
For more timber harvest information  
 Web: [www.emr.gov.yk.ca/forestry](http://www.emr.gov.yk.ca/forestry)  
 Phone: 1.867.456.3999

Date: August 06, 2013

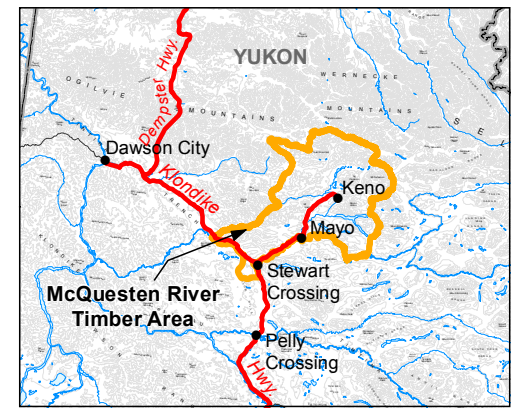


1:730,000 Yukon Albers  
 NAD 83

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



- Active Access
  - Inactive Access
  - Timber Harvest Plan
  - Harvest Blocks
  - Operating Units
  - Notations
  - Land Dispositions
  - Surveyed Land Parcels
- First Nations Settlement Lands
- A - Surface and Subsurface Rights
  - B - Subsurface Rights
  - FS - Fee Simple



### **3 List of Appendices**

Appendix 1 - Cultural Areas (Internal Use only)

Appendix 2 – Protected Areas

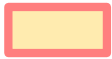
Appendix 3 – Moose Habitat

Appendix 4 – Raptor Habitat

#### **3.1 Representations**

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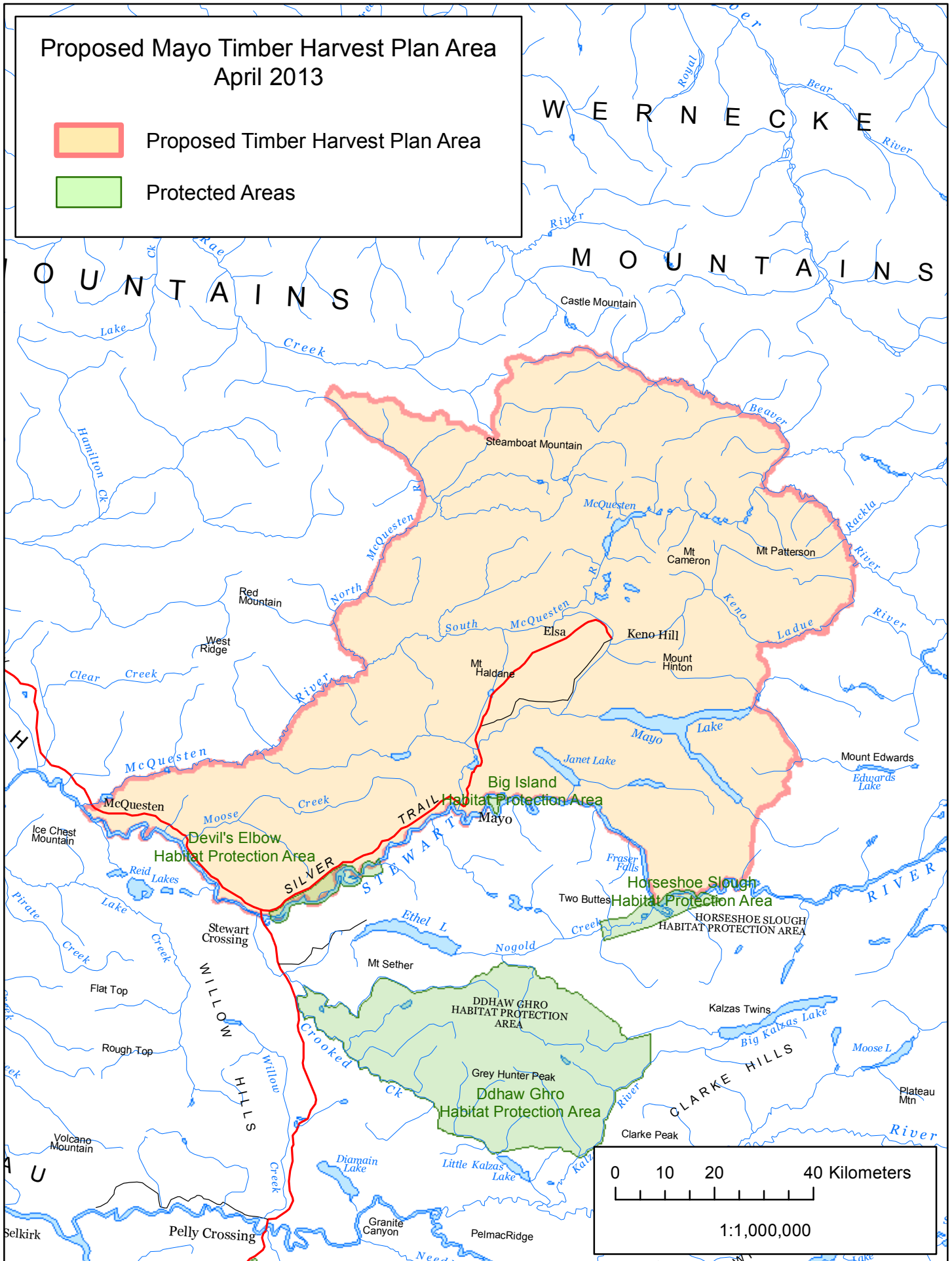
Proposed Mayo Timber Harvest Plan Area  
April 2013



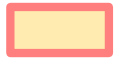
Proposed Timber Harvest Plan Area



Protected Areas



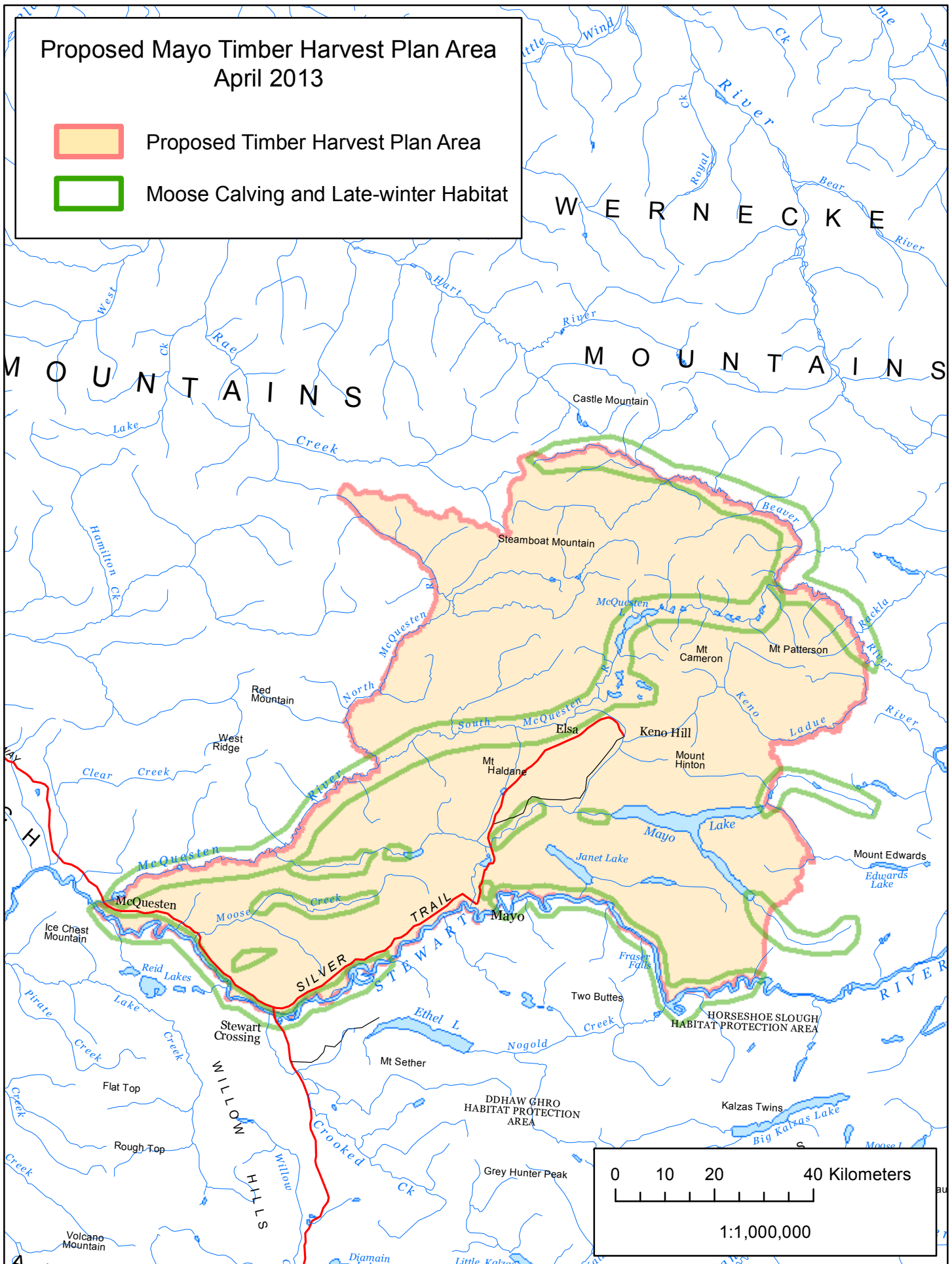
Proposed Mayo Timber Harvest Plan Area  
April 2013



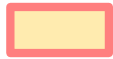




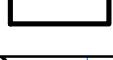
Proposed Timber Harvest Plan Area



Moose Calving and Late-winter Habitat



# Proposed Mayo Timber Harvest Plan Area April 2013

-  Proposed Timber Harvest Plan Area
-  Golden Eagle Nesting
-  Bald Eagle Nesting
-  Osprey Nesting
-  Peregrine Falcon Nesting
-  Unidentified Raptor Nesting

