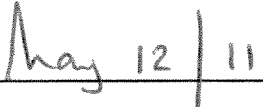


***TIMBER HARVEST PLAN FOR  
SAWMILL ROAD AND  
DEMONSTRATION FOREST  
within  
Teslin Tlingit Traditional Territory***

**FOREST MANAGEMENT BRANCH  
ENERGY MINES AND RESOURCES  
YUKON GOVERNMENT**

***PREPARED: March 2011***

  
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Approved by  
Director Forest Management Branch

  
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Date

  
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Submitted by  
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## Executive Summary

The *Teslin Forest Management Plan* was approved in 2007. It provides a sustainable development strategy for forests of the Teslin Tlingit Traditional Territory. It provides the first step in defining a forest land base on which to plan wood supply in the Teslin region.

The Sawmill Road and Demonstration Forest Timber Harvest Plan (THP) was completed under the direction from the *Teslin Forest Management Plan* (FMP). The purpose of the THP is to provide areas for timber harvesting for domestic and small-scale commercial timber operations close to the Town of Teslin. It follows the strategic directions stated in the FMP, which are:

- *It is recommended that a Local Planning Area be developed under the guidance of TTC and Yukon Government, with input from TRRC, for use by Teslin community residents (page 48).*
- *That a quantity of timber (10,000 m<sup>3</sup> to 15,000 m<sup>3</sup>) for community use be made available for permits up to 200 m<sup>3</sup> per year near the community of Teslin. Areas to consider are Strawberry Creek, Demonstration Forest or stands surrounding the community where forest fire hazard reduction and timber values are overlapping (page 48).*

The THP provides a variety of opportunities to potential harvesters for various timber profiles and areas to access timber. A THP for three operating units along the Sawmill Road area, which are located behind the Village of Teslin and three operating units in the Demonstration Forest, which are located within 2 km east of the Village of Teslin was developed to meet the above strategic directions. Generally, timber will be harvested in licences and permits for 200 m<sup>3</sup> per year or less. Access to these six areas will target existing roads. No new permanent roads are anticipated at this time; however, existing roads may require an upgrade or extension to facilitate logging.

A target volume will be permitted and harvested in each operating unit. Once the target is reached in an operating unit, the operating unit will be reassessed for further harvesting opportunities. Table 1 summarizes the target volume for each operating unit.

Table 1. Summary Table and Target Volume for Each Operating Unit.

<b>Operating Unit</b>	<b>Area (ha)</b>	<b>Net Merchantable Volume* per ha (m3 / ha)</b>	<b>Total Net Merchantable Volume (m3)</b>	<b>Target Volume (m3)</b>
S-1	172	147.9	25,438.8	2,000
S-2	49	111.1	5,443.9	500
S-3	77	194.6	14,984.2	500
D-1	12	148.7	1,784.4	300
D-2	36	117.7	4,237.2	500
D-3	15	219.2	3,288.0	500
<b>Total</b>	<b>361</b>	<i>Not applicable</i>	<b>55,176.5</b>	<b>4,300</b>

\*Net Merchantable volume includes the following parameters:

- Minimum DBH (cm): 15
- Top Diameter (cm): 10
- Stump Height (cm): 30
- Tree Class: 1 and 2
- Cull: 10%

A selection harvest system will occur for each operating unit where single trees, are removed, or trees are removed in small groups. Harvesting operations will be conducted in a manner that will minimize damage to advanced regeneration during felling and skidding.

## **1. Introduction**

### **1.1 Background**

The *Teslin Forest Management Plan* (FMP) was approved in 2007. It provides a sustainable development strategy for forests of the Teslin Tlingit Traditional Territory. It provides the first step in defining a forest land base on which to plan wood supply in the Teslin region. The FMP is intended to contribute to sustainable forest-based economy, a key component of regional economic stability, while protecting and integrating ecological, traditional, resource, heritage and other community values. The FMP establishes what issues and concerns, values and interests must be addressed as forest resource development moves forward in the region.

### **1.2 Purpose of Timber Harvest Plan**

The purpose of the timber harvest plan is to provide areas for timber harvesting for domestic and small-scale commercial timber operations close to the Town of Teslin. It follows the strategic directions stated in the FMP, which are:

- *It is recommended that a Local Planning Area be developed under the guidance of TTC and Yukon Government, with input from TRRC, for use by Teslin community residents (page 48).*
- *That a quantity of timber (10,000 m<sup>3</sup> to 15,000 m<sup>3</sup>) for community use be made available for permits up to 200 m<sup>3</sup> per year near the community of Teslin. Areas to consider are Strawberry Creek, Demonstration Forest or stands surrounding the community where forest fire hazard reduction and timber values are overlapping (page 48).*

A THP for three operating units along the Sawmill Road area, which are located behind the Village of Teslin and three operating units in the Demonstration Forest, which are located with 2 km east of the Village of Teslin, was developed to meet the above strategic direction.

A site plan is required for a cutting permit to be issued. Site factors will be considered at the time of issuance based on the THP requirements and operator equipment constraints.

Historically, there are between one to five timber permits issued per year near Teslin to individuals requiring wood products for personal use or small commercial pursuits.

### **1.3 Eco-region and Drainages**

The timber harvest plan areas are located in the Yukon Southern Lakes Ecoregion near Teslin Lake within the Boreal Cordillera Ecozone. The Yukon Southern Lakes Ecoregion is characterized by broad valleys and large lakes. The climate is dry and cool. There is a sporadic discontinuous permafrost area, where permafrost underlies less than one quarter of the landscape. Soils tend to be alkaline and wetlands are typically dominated by marl formation.

## **2.0 Planning Area Identification**

### **2.1 Overview and Background of General Areas**

The THP areas are located along the Sawmill Road, outside the Village of Teslin boundary, and 2 km east of Teslin in the Demonstration Forest. Each of these areas has a history of logging (Map 1).

The Sawmill Road timber harvest area has been used in the past by individuals requiring building logs to construct homes and to harvest firewood. This small scale logging activity (permits less than 200 m<sup>3</sup>) has historically occurred sporadically in the area for the past 50 years or more. The activity has been managed through “spot” applications.

The Demonstration Forest had harvesting in 1998. The timber harvest project was designed to be a cooperative project between Teslin Tlingit Council and Forest Resources (DIAND) with an objective to demonstrate a variety of silviculture prescriptions and harvest methods to address sustainable forest management issues over time. Since 1998, there have been small permits in the area for individuals requiring low volumes of wood (permits less than 50 m<sup>3</sup>).

### **2.2 Landscape Description and Considerations**

The Teslin FMP provides strategic direction on various landscape considerations for developing a THP. Each strategic direction is listed below with reference to the strategic plan and how it relates to the information known at the time of developing the THP.

#### **2.2.1 Wildlife**

The Teslin FMP provides a number of strategic directions on addressing timber harvest activities with wildlife. Each is discussed below as it related to Teslin FMP.

##### Woodland Caribou (FMP page 44)

The timber harvest plan areas are not within core caribou winter range.



The field work performed by Forest Management Branch did not find or identify lichen concentrations within the operating units that are often associated with caribou use. Environment Yukon did not identify any concerns with caribou.

#### Moose (FMP page 44)

The FMP provides three strategic directions for moose management to deal with moose winter and calving areas, timber harvesting aggregation, and winter habitat.

There were signs of moose present in the operating units. Moose browse, moose tracks and moose feces were observed. Yukon Environment did not identify any areas as moose winter and calving areas.

#### Grizzly Bear (FMP page 45)

There is one strategic direction for grizzly bears. Access management is a major consideration along with aggregated timber harvesting (FMP page 45, strategic direction 36)

A bear den was found in operating unit S-1. There will be no new road construction to access operating units within this THP. Timber harvesting operations will require narrow trails to skid logs to existing roads. Selective harvesting and low volume removal will leave a similar stand structure as prior to harvesting. The density of permanent roads will not increase from future timber harvesting in the area.

If the bear den is occupied during fall, winter, or spring (i.e. active) then a 300 m no harvest buffer will apply during those seasons.

#### Marten (FMP page 45)

The FMP provides direction to manage forest structural attributes for mature and older timber stands for marten (FMP page 45, strategic direction 37).

Selective harvesting should maintain the current forest structure in the operating units. Branches and tops will be spread out after harvest; that will add to the structural complexity.

#### Beaver (FMP page 45)

The timber harvest plan area is located near Hermit Lake where beaver may be present. The FMP provides direction to apply the appropriate buffers on wetlands will help protect beaver habitat (FMP page 45, strategic direction 38).

A riparian buffer of 100 m with no harvesting has been placed around Hermit Lake.

#### Forest Birds (FMP page 46)

Forest birds are in the THP area. Bird surveys were not completed for this THP. The FMP states that a variety of cut block sizes and retention should be used to provide habitat for interior forest, early seral and edge specialists (FMP page 46, strategic direction 41 and 42):

Selective harvesting will create small canopy openings. Opening sizes will be minimized with little to no edges created through harvesting. The low stem removal and selective harvesting will result in similar stand structure post harvest.

### **2.2.2 Biodiversity**

The FMP provides the following strategic direction for biodiversity (page 42, strategic direction 23):

- *Management should try to reflect natural disturbance regimes or, understand the consequences of deviating from the patterns created by natural disturbances.*

Selective harvesting with low volume removal will leave stand structure similar to pre-harvest condition. The scale of operations does not lend the operations to emulate natural disturbance at a forest level, i.e. large forest fires. However, selection harvesting of small groups does reflect small scale disturbance such as windthrow.

### **2.2.3 Riparian and Water Resources**

Riparian management is important for movement of nutrients, water, plants and animals. The FMP provides the following directions for riparian management:

- *Access management strategies should minimize environmental impacts to riparian habitats, wetlands and wetland complexes, lakes, rivers and river floodplains (page 43, strategic direction 29)*
- *Currently the Timber Harvest Planning and Operations Guidebook (DIAND 1999) riparian buffers are suggested, however deviation can and should occur when stand and site characteristics prescribe alternative management (page 43, strategic direction 30).*

Hermit Lake and the stream that flows out of Hermit Lake will have a 100 m no harvest buffer as suggested in the *Timber Harvesting Planning and Operations Guidebook* (1999).

#### **2.2.4 Recreation**

There are walking trails and cross-country ski trails around Hermit Lake. The logging roads within the Demonstration Forest have had ski trails set in past years. Operating requirements near these trails are discussed in Section 3.

#### **2.2.5 Visual Resources**

The FMP states that visual resource management should occur along major rivers and lakes, highway corridors, community and areas that are undisturbed (page 47, strategic direction 43).

Visual concerns from harvesting exist along the Sawmill Road, Alaska Highway and Teslin Lake. Selective harvesting will create single tree openings and small group openings. Single tree openings and small group openings are unlikely to be seen from these vantage points. The negative impact on visual quality is considered low.

#### **2.2.6 Heritage and Cultural Resources**

THPs will adhere to regulations in the *Yukon Historic Act*. Archeological potential mapping was completed to meet strategic direction 44 and 45 (page 47). Archeological potential mapping noted culturally modified trees (CMTs) along in S-1 and high archeological potential along Hermit Lake.

Culturally modified trees (CMTs) are known to be in the area. CMTs were found in S-1 (Picture 1).

For this THP, CMT's will not be harvested and will be protected. The root collars and crown will not be damaged during falling and skidding activities.

Teslin Tlingit Council identified various traditional activities. These include: subsistence harvesting for grayling at Hermit Lake; gathering medicinal plants throughout the area and harvesting of birch trees for traditional snow shoes in the Demonstration Forest. These traditional activities are addressed in Section 3 as it pertains to the operating units.

All operators will be provided with *Handbook for Identification of Heritage Site and Features* (Yukon Tourism and Culture 2009) to assist in identifying possible heritage resources not found during field work. When

heritage or cultural resources are identified, the operator is required to contact Yukon Government and cease harvesting within the vicinity of the heritage or cultural resources.



Picture 1. Culturally Modified Tree in Operating Unit S-1.

### **2.2.7 Uncommon Vegetation Types**

The FMP identified that pure deciduous and deciduous dominated stands are not represented across the landscape, i.e. deciduous stands greater than 25 ha are not common (page 48 strategic direction 46):

There are small patches of aspen and white birch stands in the operating units (range from 0.2 ha to 1 ha). Typically, spruce and pine will be targeted for harvesting for sawlogs and building logs. There have been no aspen harvest permits granted in the Teslin region in recent history. Single tree harvest and harvesting small groups of trees for specialty product may be required by a client in the future. Single tree harvesting and harvesting in small groups often encourage regeneration of aspen and white birch.

### **2.2.8 Forest Health**

There were no significant signs of insect damage to trees within the THP areas beyond normal levels.

Spruce broom rust (*Chrysomyxa arctostaphyli* Diet.) is present and prevalent in certain areas S-1, S-2, and S-3. There are patches of blowdown and broken tops as a result of spruce broom rust.

Blowdown is common in operating unit S-1, S-2, and S-3 in small patches.

### **2.2.9 Trapping**

All operating units are located in trapping concession 333, which is an elder's trapline. Timber harvesting will not damage traps or limit access to the trapline.

#### **2.2.10 Potential for Conflict and Integration Between Forest Management and other Land Uses**

Forest management activities have a potential for land use conflict. Tourism, recreation, trapping, outfitting, rural residential development, agriculture and other land uses are a few examples where conflict may arise. The Teslin FMP states that river valleys with high recreation resources and traditional use values have a no harvest buffer; various silviculture practices be considered to emulate natural disturbance; and consider other land use interests (page 49, strategic direction 49, 50, and 51).

The operating units along the Sawmill Road (S-1, S-2 and S-3) are near residential areas. These areas were chosen for the THP for small use due to their closeness to residential areas. These areas provide a local wood supply for individuals requiring less than 200 m<sup>3</sup> of wood.

There is greater probability for land use conflict due to the close proximity to the Village of Teslin. Land uses and planned land uses close to the Sawmill Road areas include:

- Recreation trails (walking and skiing)
- Trapline
- Teslin Tlingit Settlement Land on east side of Hermit Lake
- Culturally modified trees
- Fire Smart project
- Future pipeline project
- Materials site (gravel) for future pipeline project
- Future residential development along Sawmill Road
- Forestry study plots
- Village of Teslin
- Timber harvesting for building logs and firewood
- Residential properties

There is potential for land use conflict along the Sawmill Road. However, all these activities have been occurring together for along time. The THP helps secure a wood supply for small volume permits along with integrating timber harvesting with other land uses.

Land uses in the Demonstration Forest include:

- Trapline

- Future pipeline project

Each of these land use conflicts will be discussed as they pertain to the operating unit.

### 3.0 Stand Level

There are three operating units along the Sawmill Road (S-1, S-2 and S-3) and three operating units in the Demonstration Forest (D-1, D-2, D-3). See maps of the areas in Appendix 1.

### 3.1 Operating Unit S-1 Description

#### 3.1.1 Ecosystem

##### White Spruce / Alder / Feathermoss

Dry to moist site at low to mid elevation. The tree canopy closure is between 30 and 40%. A well developed shrub layer is dominated by alder ranging from 2 to 4-m tall. Feathermoss is common through the area with other vegetation such as willow and currant species where the canopy closure is more open.

Characteristic species include white spruce, alder and feathermoss. Other species found within this area include willow, rose, Labrador tea. Black spruce and lodgepole pine are also found in S-1.



Picture 2. White Spruce / Alder / Feathermoss Site in Operating Unit S-1.

##### White spruce / Labrador tea/ Feathermoss

Dry to moist sites at mid to low elevations. White spruce is the dominant tree species with lodgepole pine, aspen, balsam poplar and black spruce. The canopy cover varies between 30 and 40%. The shrub layer is



moderately well, to well developed, with Labrador tea being most abundant. Feathermoss frequently provides considerable ground cover with lichens present.

Characteristic species found in this ecosystem include white spruce, Labrador tea, feathermoss, and currant bushes. Other species found in the site include lodgepole pine, aspen, willow, bunch berry, bearberry and lichens.

The soils are moderately to well drained, level to moderately sloping with medium to fine textured glaciofluvial materials.



Picture 3. White Spruce / Labrador Tea / Feathermoss Site in Operating Unit S-1.

### **3.1.2 Timber**

S-1 is dominated by white spruce and lodgepole with scattered pockets of trembling aspen and birch. The mean height of the stand is 20 m with heights varying in the co-dominant trees from 15 m to 25 m. Dominant trees often exceed 25 m in height. The average diameter at breast height (DBH) is 24 cm. Table 2 summarizes the key statistics for S-1.



Table 2. Key Statistics for Timber in Operating Unit S-1.

	<b>White Spruce</b>	<b>Black Spruce</b>	<b>Pine</b>	<b>Total</b>
Mean DBH (all classes)	24.9	17.4	24.1	23.8
Mean Height (all classes)	20.0	12.9	19.9	19.3
Mean DBH (Dominant / Codominant)	21.0	19.2	24.5	24.7
Mean Height (Dominant / Codominant)	20.0	13.4	20.0	20.0
Stems per Hectare	402	136	287	825
Basal Area (m <sup>2</sup> /ha)	13.7	2.7	10.7	27
Gross Volume per Hectare (m <sup>3</sup> /ha)	102.7	14.2	97.0	213.9
Net Merchantable Volume per Hectare (m <sup>3</sup> /ha)	74.2	5.7	68	147.9

### 3.1.3 Silviculture System

Selective harvesting will occur in the area. As a general rule, large diameter trees greater than 30 cm DBH will be harvested for building logs. This represents approximately 62 m<sup>3</sup>/ha. Operating Unit S-1 is approximately 172 ha. There is approximately 11,000 m<sup>3</sup> of volume greater than 30 cm DBH.

S-1 has an open canopy and a thin duff layer. Selective harvesting of single trees or small groups of trees will create small openings. This is suitable for natural regeneration for white spruce and black spruce. Natural regeneration is preferred for S-1.

Pole sized stems and regeneration should be conserved from falling damage and skidding. This will help ensure the site remains stocked over time.



Picture 4. Regeneration that will be Conserved During Felling and Skidding Operations.

The preferred harvest season for S-1 is winter to conserve soil resources. Summer logging can occur on coarse textured soils where compaction risk is low. Harvesting on fine textured soils will be limited to winter.

Summer harvesting operations will minimize the number of skid trails in order to minimize the risk of soil compaction and damage to the vegetation mat. At the block level, a maximum of 5% of the block can exist in a disturbed condition.

For the duration of this THP, S-1 will have a target volume of 2,000 m<sup>3</sup>. After 2,000 m<sup>3</sup> is harvested, S-1, it will be assessed to determine whether more harvesting will be permitted in the area.

#### **3.1.4 Heritage and Cultural Values**

Clusters of CMTs were found within the S-1. The CMT's in the area are pine trees that show scars from harvesting the inner bark or cambium of the tree.

CMT's will not be harvested or damaged. The root collars will be protected from skidding and trail development. Trees will be felled away from identified CMT's to ensure the crowns remain intact. CMT's have an increased risk to blowdown when the tree canopy becomes more open. The risk is minimized through selective harvesting.

The Yukon Government Heritage Branch indicated that there is high heritage potential along Hermit Lake. This area was excluded from the THP.

### **3.1.5 Wildlife**

A bear den was found in S-1 (Map 2). At the time of discovery the den was not in use. If the bear den is occupied during the fall, winter or spring (i.e. active) then a 300 m no harvest buffer will apply during those seasons.



Picture 5. Bear Dens in S-1.

### **3.1.6 Visual**

There are visual quality values as seen from the Village of Teslin, Alaska Highway and Teslin Lake. Selective harvesting of single trees for building logs will create small openings in the canopy, which will have a low negative impact on visual quality.

### **3.1.7 Traditional Users**

TTC identified subsistence harvesting for grayling at Hermit Lake and gathering of medical plants as traditional uses. To address the subsistence harvesting for grayling at Hermit Lake, a 100 m no harvest buffer will be applied. The 100 m no harvest buffer also overlaps with the high heritage potential area and riparian values.

There is potential to disturb medical plants during summer harvesting. Skid trails and landings will be minimized at the site plan level. A maximum of 5% of the block area can be in a disturbed state.

### **3.1.8 Recreation**

A recreation trail exists in S-1. It is used for walking and skiing. Harvesting activity will avoid and minimize the use of the trail for skidding timber to road side. The trail can be used and crossed when skidding to road side so long as the trail is passable for walking and skiing.

### **3.1.9 Other Land Uses**

There is a proposed Fire Smart project located along the Pipeline Right-of-Way. The Fire Smart project is being designed to reduce forest fire fuels. Selection harvest through out the area over time will reduce forest fire fuels in S-1.

## **3.2 Operating Unit S-2 Description**

### **3.2.1 Ecosystem Description**

#### Black spruce / Labrador tea / Feathermoss

Dry to moist sites at mid to low elevations. Black spruce is the dominant tree species with white spruce, lodgepole pine, aspen, and balsam poplar. The canopy cover varies between 30 and 40%. The shrub layer is moderately well to well developed with Labrador tea being most abundant. Feathermoss frequently provides considerable ground cover with lichens present.

Characteristic species found in this ecosystem include white spruce, Labrador tea, feathermoss, and currant bushes. Other species found in the site include lodgepole pine, aspen, willow, bunch berry, bearberry and lichens.

The soils are moderately to well drained, level to moderately sloping with medium to fine textured glaciofluvial materials.





Picture 6. Black Spruce / Labrador Tea / Feathermoss Site in S-2.

### 3.2.2 Timber

S-2 is dominated by black spruce and white spruce with scattered pockets of lodgepole pine. The mean height of the stand is 16 m with heights varying in the co-dominant trees from 14 m to 18 m. The average diameter at breast height (DBH) is 20 cm. Table 3 summarizes the key statistics for S-2.

Table 3. Key Statistics for Timber is Operating Unit S-2.

	<b>White Spruce</b>	<b>Black Spruce</b>	<b>Pine</b>	<b>Total</b>
Mean DBH (all classes)	21.1	17.0	25.0	18.7
Mean Height (all classes)	17.1	14.7	18.4	15.7
Mean DBH (Dominant / Codominant)	17.8	17.1	25.0	19.1
Mean Height (Dominant / Codominant)	17.1	14.9	18.4	16.0
Stems per Hectare	450	1226	46	1,723
Basal Area (m <sup>2</sup> /ha)	10.5	21.8	2.3	34.5
Gross Volume per Hectare (m <sup>3</sup> /ha)	68.1	132.7	18.8	219.6
Net Merchantable Volume per Hectare (m <sup>3</sup> /ha)	41.6	54.0	15.5	111.1

### 3.2.3 Silviculture System

Selective harvesting will occur in the area. As a general rule, trees greater than 20 cm DBH will be harvested for small building logs or sawlogs. This

represents approximately 76 m<sup>3</sup>/ha. Operating Unit S-2 is approximately 49 ha. There is approximately 3,800 m<sup>3</sup> of volume greater than 20 cm DBH. There are a variety of pole sized stems that are suitable for posts. Selective harvesting of pole sized stems can occur within the operating unit.

Regeneration should be conserved from falling damage and skidding. This will help ensure the site remains stocked over time.

Harvesting season for S-2 will be winter only. Generally, the soils have moderate drainage with small areas of poor drainage. To ensure soils are protected from compaction, harvesting will be restricted to winter.

The target volume is 500 m<sup>3</sup> in S-2. Once 500 m<sup>3</sup> is permitted, the area will be assessed to determine whether further harvesting will proceed.

#### **3.2.4 Heritage and Cultural Values**

There were no known heritage or cultural values identified.

#### **3.2.5 Wildlife**

There were no known wildlife features or values identified.

#### **3.2.6 Visual**

There may be visual quality values along the Sawmill Road and Alaska Highway when entering Teslin from the east. Selective harvesting of single trees for small building logs and sawlogs will create small openings in the canopy, which will have a low negative impact on visual quality.

#### **3.2.7 Traditional Users**

The TTC identified subsistence harvesting for grayling at Hermit Lake and gathering of medical plants as traditional uses. To address the subsistence harvesting for grayling at Hermit Lake, a 100 m no harvest buffer will be applied. Also, the 100 m no harvest buffer overlaps with high heritage potential area and riparian values.

There is potential to disturb medical plants during summer harvesting. Skid trails and landings will be minimized at the site plan level. A maximum of 5% of the block area can be in a disturbed state.

#### **3.2.8 Recreation**

There are walking and skiing trails near Hermit Lake and along the Pipeline Right-of-Way. Harvesting activities shall not impede the use of these trails. The trails will be kept clear of brush and debris.

### **3.2.9 Other Land Uses**

There is a Fire Smart Project planned for the Pipeline Right-of-Way.

## **3.3 Operating Unit 3 Description (S-3)**

### **3.3.1 Ecosystem Description**

#### Lodgepole Pine White Spruce / Alder / Feathermoss

Mesic sites at low to mid elevation. The tree canopy closure is between 30 and 40%. A well developed shrub layer is dominated by alder ranging from 2 to 4-m tall. Feathermoss is common through the area with other vegetation like willow and currant species found where the canopy closure is more open.

Characteristic species include white spruce, alder and feathermoss. Other species found within this area include willow, rose and Labrador tea.

The soils have moderate drainage with slopes between 5 and 10%. The soils are medium to fine textured glaciofluvial materials.



Picture 7. Lodgepole Pine White Spruce / Alder / Feathermoss Site in S-3.

### 3.3.2 Timber

S-3 is 60% lodgepole pine and 40% white spruce. The mean height of the stand is 21 m with heights with little variation through out the stand. The average diameter at breast height (DBH) is 23 cm. Table 4 summarizes the key statistics for S-3.

Table 4. Key Statistics for Timber in Operating Unit S-3.

	<b>White Spruce</b>	<b>Black Spruce</b>	<b>Pine</b>	<b>Total</b>
Mean DBH (all classes)	26.3	0	20.6	22.9
Mean Height (all classes)	21.4	0	20.2	20.7
Mean DBH (Dominant / Codominant)	21.4	0	20.8	20.7
Mean Height (Dominant / Codominant)	21.4	0	20.3	20.8
Stems per Hectare	367	0	661	1,028
Basal Area (m <sup>2</sup> /ha)	12.9	0	18.9	31.7
Gross Volume per Hectare (m <sup>3</sup> /ha)	103.1	0	178.0	281.2
Net Merchantable Volume per Hectare (m <sup>3</sup> /ha)	76.1	0	118.5	194.6

### 3.3.3 Silviculture System

Selective harvesting will occur in the area. As a general rule, trees greater than 30 cm DBH will be harvested for building logs or sawlogs. This represents approximately 48.7 m<sup>3</sup>/ha. Operating Unit S-3 is approximately 77 ha. There is approximately 3,750 m<sup>3</sup> of volume greater than 30 cm DBH.

All pole sized stems and regeneration should be protected from falling damage and skidding. This will help ensure the site remains stocked over time.

Harvesting season for S-3 will be winter. Generally, the soils have moderate drainage with small areas of poor drainage. To ensure soils are protected from compaction, harvesting will be restricted to winter.

The target volume is 500 m<sup>3</sup> for S-3. Once 500 m<sup>3</sup> have been permitted, S-3 will be assessed for further harvesting opportunities.

### 3.3.4 Heritage and Cultural Values

There were no known heritage and cultural values identified.

### 3.3.5 Wildlife

There were no known wildlife features or values identified.



### **3.3.6 Visual**

There are visual quality values along the Sawmill Road and Alaska Highway when entering Teslin from the east. Selective harvesting single trees for small building logs and sawlogs will create small openings in the canopy, which will have a low negative impact on visual quality.

### **3.3.7 Traditional Users**

TTC identified that there is potential to disturb medical plants. Winter harvesting helps minimize the risk of disturbing medical plants and soils. Winter operations occur on frozen ground and a snow pack thus minimizing ground disturbance.

### **3.3.8 Recreation**

There were no known recreation features or values identified.

### **3.3.9 Other Land Uses**

There are residential properties along Sawmill Road.

## **3.4 Operating Unit D-1 Description**

### **3.4.1 Ecosystem Description**

#### Lodgepole Pine White Spruce / Alder / Feathermoss

Dry to moist sites at low to mid elevation. The tree canopy closure is between 30 and 40%. A well developed shrub layer is dominated by alder ranging from 2 to 4 m tall. Feathermoss is common through the area with other vegetation such as willow and currant species where the canopy closure is more open.

Characteristic species include lodgepole pine, white spruce, alder and feathermoss. Other species found within this area include willow, rose and Labrador tea.

The terrain is rolling with steeper slopes of 10 to 15%. The soils are moderately drained.



Picture 8. Lodgepole Pine White Spruce / Alder / Feathermoss in D-1.

### 3.4.2 Timber

D-1 is 66% lodgepole pine and 33% white spruce. The mean height of the stand is 17 m with heights ranging from 15 m to 18 m. The average diameter at breast height (DBH) is 24 cm. Table 5 summarizes the key statistics for S-1.

Table 5. Key Statistics for Timber is Operating Unit D-1.

	<b>White Spruce</b>	<b>Black Spruce</b>	<b>Pine</b>	<b>Total</b>
Mean DBH (all classes)	21.9	0	25.5	24.3
Mean Height (all classes)	15.9	0	17.6	17.0
Mean DBH (Dominant / Codominant)	17.3	0	25.5	25.1
Mean Height (Dominant / Codominant)	15.9	0	17.6	17.5
Stems per Hectare	416	0	397	813
Basal Area (m <sup>2</sup> /ha)	9	0	18	27
Gross Volume per Hectare (m <sup>3</sup> /ha)	54.2	0	142.8	197.1
Net Merchantable Volume per Hectare (m <sup>3</sup> /ha)	32.5	0	116.3	148.7

### 3.4.3 Silviculture System

Selective harvesting will occur in the area. As a general rule, trees greater than 30 cm DBH will be harvested for building logs or sawlogs. This represents approximately 50.5 m<sup>3</sup>/ha. Operating Unit D-1 is approximately

12 ha. There is approximately 604 m<sup>3</sup> of volume greater than 30 cm DBH. Pole sized stems for posts can be harvested in D-1.

Regeneration and pole sized stems should be conserved from falling damage and skidding. This will help ensure the site remains stocked over time.

Generally, the soils have moderate drainage with small areas of poor drainage. These soil conditions can be harvested during winter and summer. Access to D-1 along the existing road is accessible during dry periods in the summer. The preferred season for harvest is winter. Summer harvest will be appropriate given soil moisture conditions are dry along the access road.

Summer harvesting operations will minimize the number of skid trails in order to minimize the risk of soil compaction and damage to the vegetation mat. At the block level, a maximum of 5% of the block can exist in a disturbed condition.

D-1 will have a target volume of 300 m<sup>3</sup>. After 300 m<sup>3</sup> has been permitted, D-1 will be assessed for further harvesting opportunities.

#### **3.4.4 Heritage and Cultural Values**

No identified heritage and cultural values were identified.

#### **3.4.5 Wildlife**

No identified wildlife values were identified.

#### **3.4.6 Visual**

There are visual quality values along Alaska Highway. The Alaska Highway will be buffered 60 m. A 60 m buffer together with selective harvesting of single trees for small building logs and sawlogs, will create small openings in the canopy, which will have a low negative impact on visual quality.

#### **3.4.7 Traditional Users**

TTC identified that there is potential to disturb medical plants during harvesting. Skid trails and landings will be minimized at the site plan level. A maximum of 5% of the block area can be in a disturbed state.

TTC also identified the harvesting of birch trees for traditional snow shoes as a traditional use. Birch trees used to make snow shoes range in

diameter from 5 to 8 inches up to 15 to 20 inches. Portions of the birch tree are used up to 6 feet long (Tracy Boyes, TTC Renewable Resources Manager, personal communication March 18, 2011). Birch trees are found through out the Demonstration Forest in small clumps or individual stems. Birch trees will not be targeted for commercial harvesting in operating units D-1, D-2 and D-3. Birch trees may be required to be used during harvesting to facilitate logging. For example, a birch tree may be required to be used for rub tree to skid timber to a landing so as not to damage other forest resources.

### **3.4.8 Recreation**

TTC identified that the existing logging roads are used for skiing in the Demonstration Forest. When a licence or cutting permit application occurs within the Demonstration Forest; the Forest Management Branch will determine if ski trails will be set or have been set in the area. The Director will consider the following prior to awarding the cutting permit to mitigate possible conflict with ski trail use:

- The access management objective is to minimize environmental issues while providing access to forest resources.
- Are there ski trails set in the application area or along existing access to the application area?
- If ski trails are set; are there scheduling options to minimize disruption to the ski trail?
- Are there suggested mitigations by the ski trail maintainer and licence applicant?

Communication between the ski trail maintainer, Forest Management Branch and licence holder will be necessary to facilitate both activities. Best efforts will be made to minimize damage and continued use of the ski trail.

### **3.4.9 Other Land Uses**

No other land uses in D-1 were identified.

## **3.5 Operating Unit D-2 Description**

### **3.5.1 Ecosystem Description**

#### Lodgepole Pine White Spruce / Alder / Feathermoss

Mesic sites at low to mid elevation. The tree canopy closure is between 30 and 40%. A well developed shrub layer is dominated by alder ranging from 2 to 4-m tall. Feathermoss is common through the area with other

vegetation like willow and currant species are found where the canopy closure is more open.

Characteristic species include lodgepole pine, white spruce, alder and feathermoss. Other species found within this area include willow, rose and Labrador tea.

The soils in D-2 are poorly drained with slopes consistently less than 5%. The soils are fine to medium textured glaciofluvial materials.



Picture 9. Well Developed Shrub Layer in D-2 Consisting of Willow and Alder.





Picture 10. Lodgepole Pine White Spruce / Alder / Feathermoss in D-2.

### 3.5.2 Timber

D-2 is 66% lodgepole pine and 33% white spruce. The mean height of the stand is 19 m with heights varying from 15 m to 22 m. The average diameter at breast height (DBH) is 19.5 cm. Table 6 summarizes the key statistics for S-1.

Table 6. Key Statistics for Timber in Operating Unit D-2.

	<b>White Spruce</b>	<b>Black Spruce</b>	<b>Pine</b>	<b>Total</b>
Mean DBH (all classes)	19.7	0	19.4	19.5
Mean Height (all classes)	15.7	0	17.4	16.8
Mean DBH (Dominant / Codominant)	17.7	0	20.5	20.9
Mean Height (Dominant / Codominant)	15.7	0	18.8	18.4
Stems per Hectare	410	0	745	1,115
Basal Area (m <sup>2</sup> /ha)	9	0	18	27
Gross Volume per Hectare (m <sup>3</sup> /ha)	53.6	0	145.5	199.1
Net Merchantable Volume per Hectare (m <sup>3</sup> /ha)	33.4	0	84.3	117.7

### 3.5.3 Silviculture System

Selective harvesting will occur in the area. As a general rule, trees greater than 20 cm DBH will be harvested for small building logs or sawlogs. This represents approximately 100 m<sup>3</sup>/ha. Operating Unit D-2 is approximately

36 ha. There is approximately 3,600 m<sup>3</sup> of volume greater than 20 cm DBH. There are pole size stems that can be harvested for posts in D-2.

Pole sized stems and regeneration should be conserved from falling damage and skidding. This will help ensure the site remains stocked over time.

Harvesting season for D-2 will be winter only. The soils are poorly drained. To ensure soils are protected from compaction, harvesting will be restricted to winter.

D-2 will have a target volume of 500 m<sup>3</sup>. After 500 m<sup>3</sup> has been permitted, D-2 will be assessed for future harvesting opportunities.

### **3.5.4 Heritage and Cultural Values**

There were no known heritage and cultural values for D-2.

### **3.5.5 Wildlife**

There were no known wildlife values for D-2.

### **3.5.6 Visual**

There are visual quality values along the Alaska Highway. A buffer of 60 m from the highway will be applied for the area. A buffer of 60 m and selective harvesting of single trees for small building logs and sawlogs will create small openings in the canopy and will have a low negative impact on visual quality.

### **3.5.7 Traditional Users**

TTC identified that there is potential to disturb medical plants during harvesting. Skid trails and landings will be minimized at the site plan level. A maximum of 5% of the block area can be in a disturbed state.

TTC also identified the harvesting of birch trees for traditional snow shoes as a traditional use. Birch trees used to make snow shoes range in diameter from 5 to 8 inches up to 15 to 20 inches. Portions of the birch tree are used up to 6 feet long (Tracy Boyes, TTC Renewable Resources Manager, personal communication March 18, 2011).

Birch trees are found through out the Demonstration Forest in small clumps or individual stems. Birch trees will not be targeted for commercial harvesting in operating units D-1, D-2 and D-3. Birch trees may be required to be used during harvesting to facilitate logging. For example, a

birch tree may be required to be used for rub tree to skid timber to a landing so as not to damage other forest resources.

### **3.5.8 Recreation**

TTC identified that the existing logging roads are used for skiing in the Demonstration Forest. When a licence or cutting permit application occurs within the Demonstration Forest; the Forest Management Branch will determine if ski trails will be set or have been set in the area. The Director will consider the following prior to awarding the cutting permit to mitigate possible conflict with ski trail use:

- The Teslin FMP provides direction on access management (FMP, page 49). The access management objective is to minimize environmental issues while providing access to forest resources.
- Are there ski trails set in the application area or along existing access to the application area?
- If ski trails are set; are there scheduling options to minimize disruption to the ski trail?
- Are there suggested mitigations by the ski trail maintainer and licence applicant?

Communication between the ski trail maintainer, Forest Management Branch and licence holder will be necessary to facilitate both activities. Best efforts will be made to minimize damage and continued use of the ski trail.

### **3.5.9 Other Land Uses**

There were no other land uses identified.

## **3.6 Operating Unit D-3 Description**

### **3.6.1 Ecosystem Description**

#### White Spruce / Labrador Tea / Feathermoss

Dry to moist sites at mid to low elevations. White spruce is the dominant tree species with lodgepole pine, aspen, balsam poplar and black spruce. The canopy cover varies in this type between 30 and 40%. The shrub layer is moderately well to well developed with Labrador tea being most abundant. Feathermoss frequently provides considerable ground cover with lichens present.

Characteristic species found in this ecosystem include white spruce, Labrador tea, feathermoss, and currant bushes. Other species found in



the site include lodgepole pine, aspen, willow, bunch berry, bearberry and lichens.

The soil drainage in D-3 is moderate. The terrain is flat with medium to fine textured glaciofluvial materials.



Picture 11. White Spruce / Labrador Tea / Feathermoss in D-3.

### **3.6.2 Timber**

D-3 is 100% white spruce. The mean height of the stand is 23.6 m with heights varying from 18 m to 25 m. The average diameter at breast height (DBH) is 23 cm. Table 7 summarizes the key statistics for S-1.

Table 7. Key Statistics for Timber is Operating Unit D-3.

	<b>White Spruce</b>	<b>Black Spruce</b>	<b>Pine</b>	<b>Total</b>
Mean DBH (all classes)	23.6	0	0	23.6
Mean Height (all classes)	19.6	0	0	19.6
Mean DBH (Dominant / Codominant)	20.5	0	0	20.5
Mean Height (Dominant / Codominant)	19.6	0	0	19.6
Stems per Hectare	1,625	0	0	1,625
Basal Area (m <sup>2</sup> /ha)	45	0	0	45
Gross Volume per Hectare (m <sup>3</sup> /ha)	332.2	0	0	332.2
Net Merchantable Volume per Hectare (m <sup>3</sup> /ha)	219.2	0	0	219.2

### **3.6.3 Silviculture System**

Selective harvesting will occur in the area. As a general rule, trees greater than 30 cm DBH will be harvested for building logs or sawlogs. This represents approximately 74 m<sup>3</sup>/ha. Operating Unit S-3 is approximately 15 ha. There is approximately 1,110 m<sup>3</sup> of volume greater than 30 cm DBH.

All pole sized stems and regeneration should be protected from falling damage and skidding. This will help ensure the site remains stocked over time.

Harvesting season for D-3 will be winter only. Generally, the soils have moderate drainage with small areas of poor drainage. To ensure soils are protected from compaction, harvesting will be restricted to winter.

D-3 will have a target volume of 500 m<sup>3</sup>. After 500 m<sup>3</sup> has been permitted, D-3 will be assessed for future harvest opportunity.

### **3.6.4 Heritage and Cultural Values**

No known heritage and cultural values were identified.

### **3.6.5 Wildlife**

No known wildlife values were identified.

### **3.6.6 Visual**

There are visual quality values along the Alaska Highway. A 60 m buffer was placed along the Alaska Highway. A 60 m buffer and selective harvesting single trees for building logs and sawlogs will create small openings in the canopy, which will have a low negative impact on visual quality.

### **3.6.7 Traditional Users**

TTC identified that there is potential to disturb medical plants during harvesting. Skid trails and landings will be minimized at the site plan level. A maximum of 5% of the block area can be in a disturbed state.

TTC also identified the harvesting of birch trees for traditional snow shoes as a traditional use. Birch trees used to make snow shoes range in diameter from 5 to 8 inches up to 15 to 20 inches. Portions of the birch tree are used up to 6 feet long (Tracy Boyes, TTC Renewable Resources Manager, personal communication March 18, 2011).

Birch trees are found through out the Demonstration Forest in small clumps or individual stems. Birch trees will not be targeted for commercial harvesting in operating units D-1, D-2 and D-3. Birch trees may be required to be used during harvesting to facilitate logging. For example, a birch tree may be required to be used for rub tree to skid timber to a landing so as not to damage other forest resources.

### **3.6.8 Recreation**

TTC identified that the existing logging roads are used for skiing in the Demonstration Forest. When a licence or cutting permit application occurs within the Demonstration Forest; the Forest Management Branch will determine if ski trails will be set or have been set in the area. The Director will consider the following prior to awarding the cutting permit to mitigate possible conflict with ski trail use:

- The Teslin FMP provides direction on access management (FMP, page 49). The access management objective is to minimize environmental issues while providing access to forest resources.
- Are there ski trails set in the application area or along existing access to the application area?
- If ski trails are set; are there scheduling options to minimize disruption to the ski trail?
- Are there suggested mitigations by the ski trail maintainer and licence applicant?

Communication between the ski trail maintainer, Forest Management Branch and licence holder will be necessary to facilitate both activities. Best efforts will be made to minimize damage and continued use of the ski trail.

### **3.6.9 Other Land Uses**

No other land uses were known at the time of the report.

#### **4.0 Harvesting**

Selective harvesting will occur in all operating units, as described above. Trees will be removed individually or in small groups for building logs or sawlogs. Felling and skidding will occur in a manner that will not damage the crowns or root collars to ensure remaining trees remain healthy.

The low volume removal over the area should not make the stands susceptible to windthrow. Windthrow is possible and will need to be monitored. However, if windthrow becomes significant within an operating unit, the silviculture system for the operating unit will be considered to be amended.

Single tree removal and removal of small groups of trees will provide enough light for spruce regeneration. Natural regeneration is preferred for all operating units. Regeneration success will be monitored over time and planting may be considered in the future if natural regeneration is unsuccessful.

#### **5.0 Access Management**

The primary objective of access management is to minimize environmental issues while providing access to forest resources (FMP, page 49). The main issue identified in the Teslin FMP is that roads built to access forest resources often persist long past their intended purpose causing other land use issues to arise. The Teslin FMP provides the following directions for access management:

- Access management to be incorporated into development planning.
- Where feasible, consider integrating access with other forest land users.
- Consider available methods of access control and management to minimize indirect negative impacts.

One consideration for access management when developing the THP was to find forest stands with existing access. By using existing roads to forest stands helps provide access to timber resources for domestic and small-scale commercial timber operations. Therefore, access to forest resources will use existing roads; thereby integrating access with other users. The roads are currently open to the public. No access controls (i.e. gates) will be considered at this time. However, in the Demonstration Forest, access control maybe considered if road use becomes a problem.

There is no new road construction anticipated to access the operating units. All areas are accessible from existing roads. There will be new trails to skid timber to roadside. The skid trails are used to haul timber to a landing or roadside. Skid trails are not designed for continued use. Tree tops and brush will be spread across after skidding to help minimize possible future traffic.

It may be necessary to upgrade existing roads or extend existing access based on unforeseen circumstances. These activities may trigger the *Yukon Environmental and Socio-Economic Assessment Act* (YESAA). If upgrades or new extension are required then a YESAA assessment will occur.

## **6.0 Monitoring Plan**

There are three subject areas that will be monitored periodically. These include: windthrow; regeneration after selection harvesting; and target volume to be harvested in each operating unit. Each is described below.

- Windthrow will be monitored periodically, every 2 years after a harvesting operation.
- Regeneration after selective harvesting.

The stands being harvested are even-age stands resulting from fire. A selection harvesting system changes the even-age stand structure to an uneven age stand structure. To ensure continued forest cover of the area for spruce and pine forests, it is essential that small canopy opening from single tree and group trees removal allow light to penetrate the canopy to the forest floor to promote natural regeneration.

As harvesting occurs, natural regeneration is essential to maintain tree cover and productivity of site. Monitoring by the Forest Management Branch will be completed according to silviculture standards. Typically this will occur 3 to 5 years after a harvest permit has been completed, to assess regeneration success.

- Target Volume to be Harvested in Each Operating Unit

When each operating unit approaches or reaches the target volume to be permitted, the operating unit will be assessed for further harvesting opportunities. The following will be included at the time of assessment:

1. Silviculture prescription and harvest methods – Are the silviculture prescriptions and harvest methods used, achieving achieve expected results?
2. Forest condition – Does the stand profile lend itself to further harvesting opportunities?
3. New information – Is there new information that requires attention?

## **APPENDIX 1**

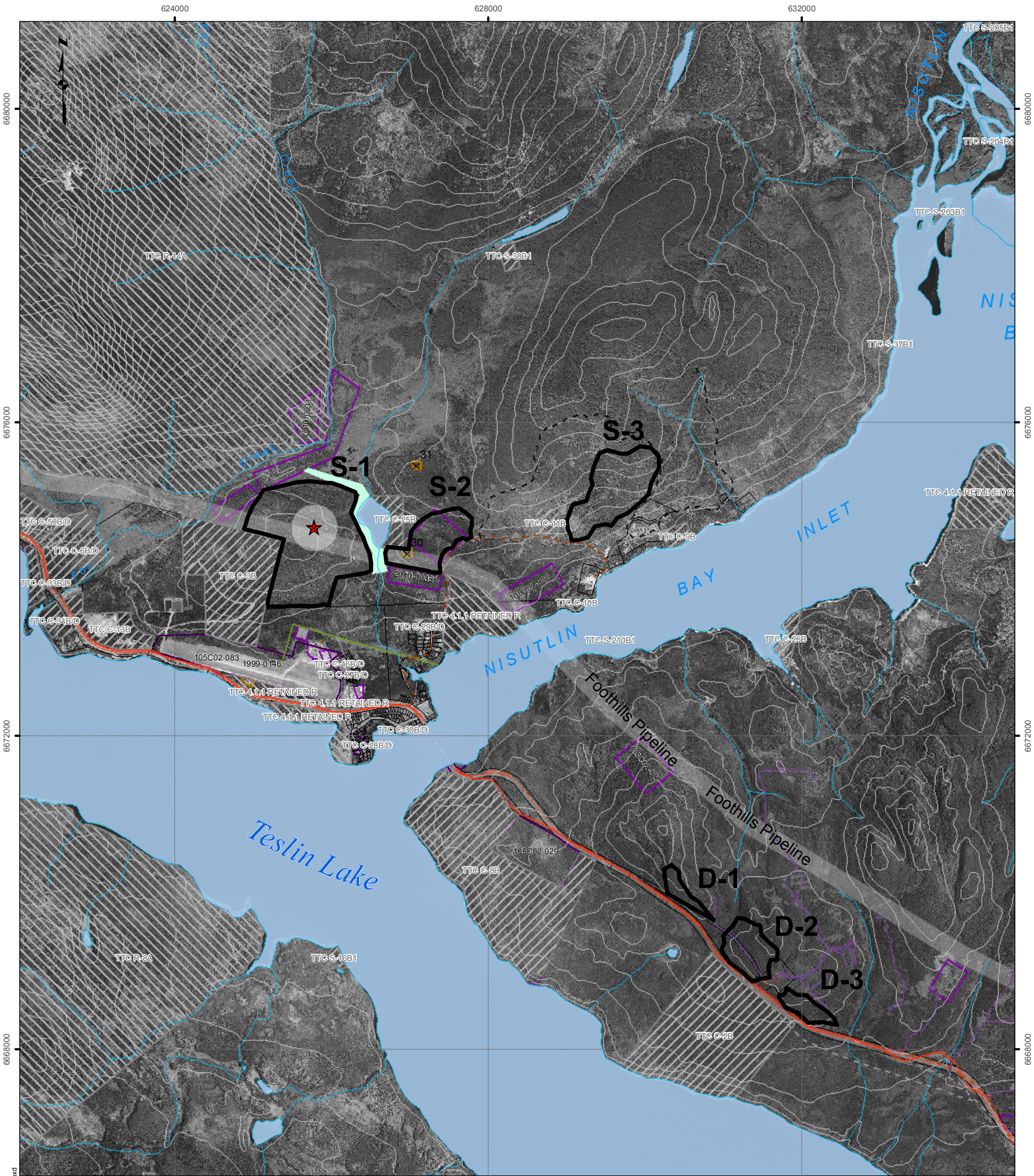
### **Map 1. Overview Map (1:50,000)**

**Timber Harvest Plan Maps (1:25,000) for:**

**Map 2. Sawmill Road**

**Map 3. Demonstration Forest**





**Project Specific Features**

- Operating Units

Bear Den Buffer

Bear Den

Teslin High Heritage Potential
- .....Surveyed Parcel
- .....Agriculture Tenure
- .....Land Disposition
- .....Category A
- .....Category B
- .....Fee Simple

.....Notations

Permanent Sampling Plots

**Administravtive Features**

- .....Surveyed Parcel
- .....Agriculture Tenure
- .....Land Disposition
- .....Category A
- .....Category B
- .....Fee Simple

.....Notations

Permanent Sampling Plots

**First Nation Settlement Lands**

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

Area Forester: Kirk Price  
Contact: 867.633.7914  
Date: 2011  
Projection: NAD 1983 UTM Zone 8

**Digital Data Sources**

1:50,000 Canvec features downloaded from spatial data warehouse - [www.geogratis.gc.ca](http://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](http://www.geomaticsyukon.ca).

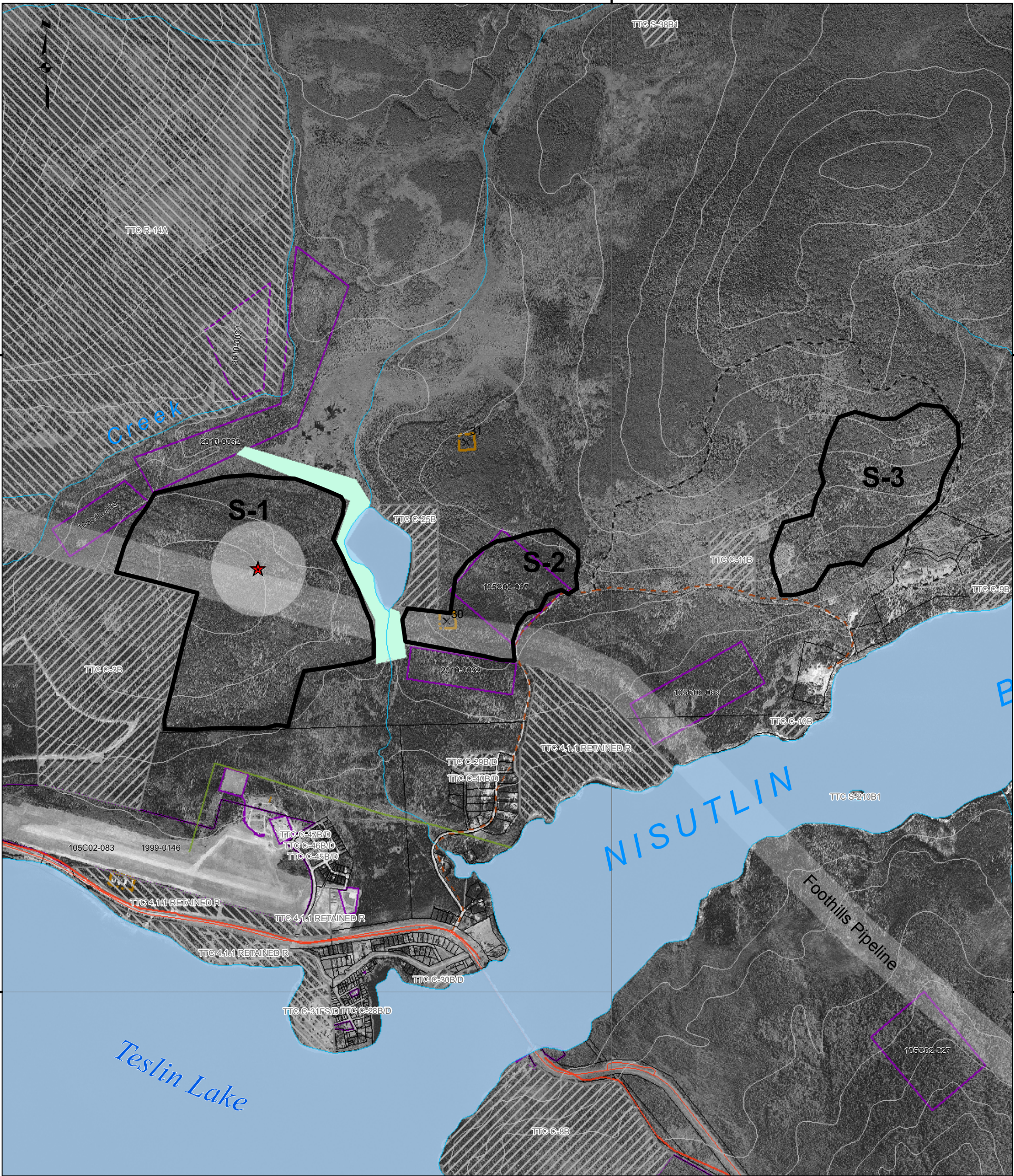
Map scale 1:50,000 when printing on 11"x17" paper.

**--- Map 1. Overview Map ---**

**Sawmill Road and Demonstration Forest Timber Harvest Plan**







**Project Specific Features**

- Operating Units

Bear Den
- Bear Den Buffer

Teslin High Heritage Potential

**Administravtive Features**

- .....Surveyed Parcel

.....Agriculture Tenure

.....Land Disposition
- .....Notations

Permanent Sampling Plots

**First Nation Settlement Lands**

- .....Category A

.....Category B

.....Fee Simple

Area Forester: Kirk Price  
Contact: 867.633.7914  
Date: 2011  
Projection: NAD 1983 UTM Zone 8

**Digital Data Sources**

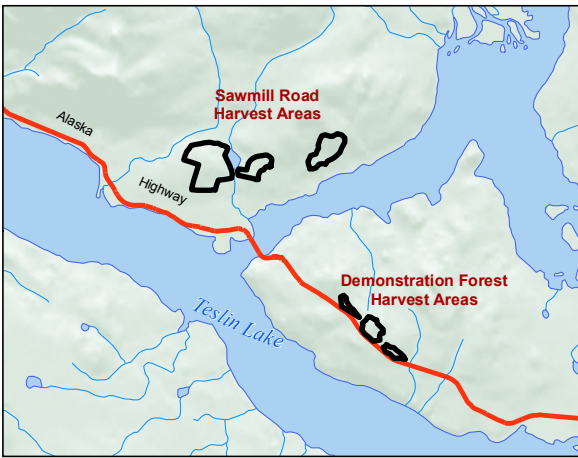
1:50,000 Canvec features downloaded from spatial data warehouse - [www.geogratis.gc.ca](http://www.geogratis.gc.ca). Her majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved.

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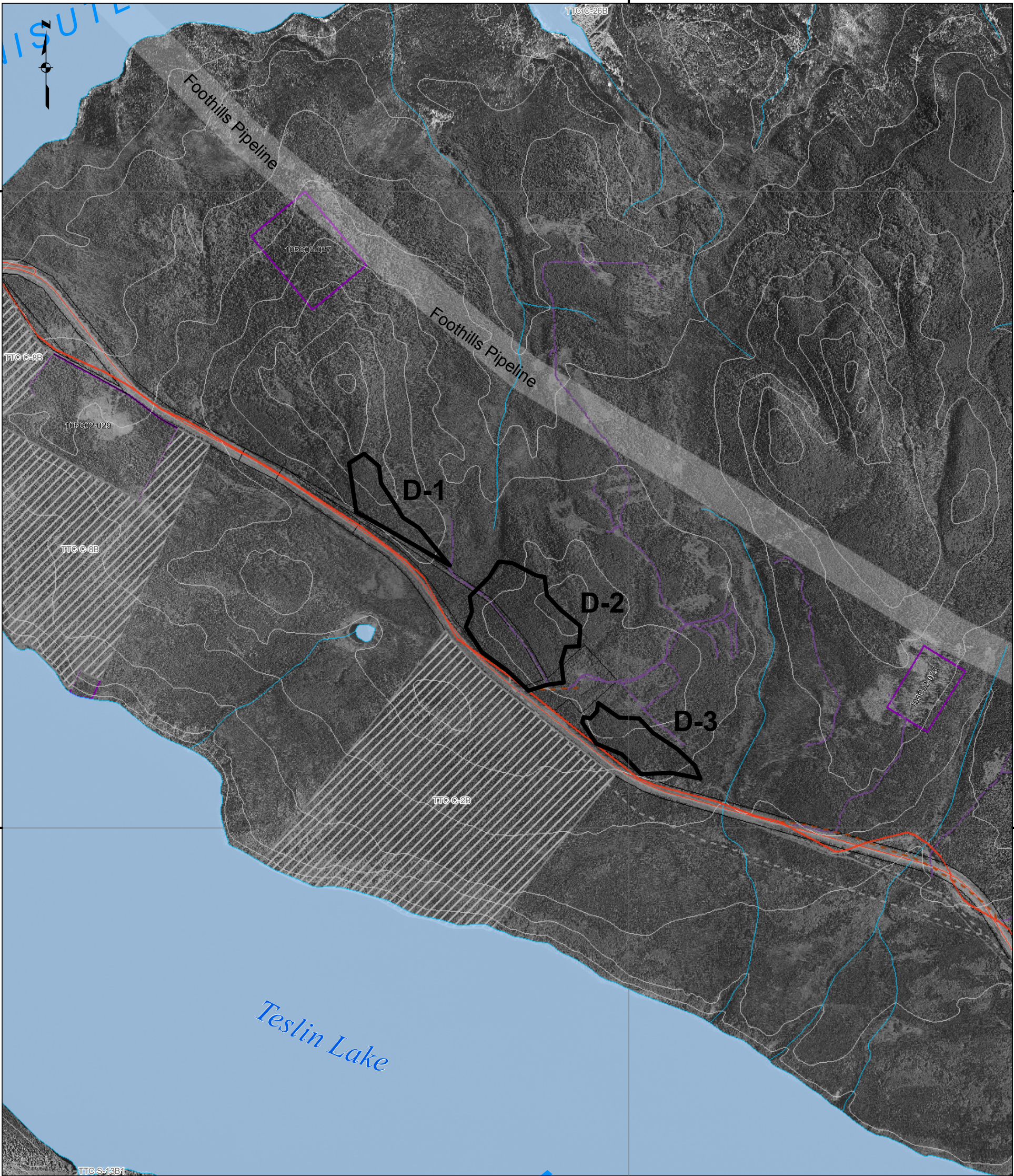
Map scale 1:25,000 when printing on 11"x17" paper.

**--- Map 2. Sawmill Road ---**

**Sawmill Road and Demonstration Forest  
Timber Harvest Plan**







**Project Specific Features**

- .....Existing Access Routes
- .....Harvest Blocks
- .....Proposed Access Route
- ★ Bear Den

**Administrative Features**

- .....Surveyed Parcel
- .....Agriculture Tenure
- .....Land Disposition
- .....Notations
- × Permanent Sampling Plots
- .....Teslin High Heritage Potential

**First Nation Settlement Lands**

- .....Category A
- .....Category B
- .....Fee Simple
- Operating Units

Area Forester: Kirk Price  
Contact: 867.633.7914  
Date: 2010  
Projection: NAD 1983 UTM Zone 8

**Digital Data Sources**

1:50,000 Canvec features downloaded from spatial data warehouse - [www.geogratis.gc.ca](http://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](http://www.geomaticsyukon.ca).

Map scale 1:25,000 when printing on 11"x17" paper.

**--- Map 3. Demonstration Forest ---**

**Sawmill Road and Demonstration Forest Timber Harvest Plan**







**Appendix B:  
Representation Summary**

***Sawmill Creek and Demonstration Forest Timber  
Harvest Plan***

***Prepared: March 22, 2011  
Prepared by: Kirk Price***

The Notification period for the Sawmill Creek and Demonstration Forest Timber Harvest Plan occurred from January 28, 2011 to February 28, 2011. A total of two representations were received from Teslin Tlingit Council and Yukon Environment (Yukon Government).

The following table contains a summary of the comments received, responses to comments and how the comments were addressed.

Topic	Name/ Organization	Comment	Consultation Comment Response	How comment/s have been addressed.
Maps	YG Environment Yukon (EY)	<p>Maps showing the general areas of interest for proposed harvest blocks are provided, but these don't show specific features within blocks – where the features have been identified through ground reconnaissance or otherwise identified (e.g. airphoto interpretation).</p> <p>EY Recommendations: It would be useful to provide more detail on the block maps showing any wetlands/wet soils, streams &amp; buffers, wildlife features, etc. that are set aside and not suitable for harvest.</p> <p>If these features haven't been identified or aren't present, this should be clarified in the THPs.</p> <p>It is also not clear in the THP if more detailed site plans showing these features will be produced following approval of THP.</p>	<p>The maps illustrate operating units. Operating units will contain blocks as they pertain to the licence and cutting permit.</p> <p>The THP will clarify that these features are not within the operating units. All area within the operating units are acceptable for harvesting.</p> <p>A site plan is required for cutting permit to be issued. Site factors will be considered at the time of issuance based on THP requirements and operator equipment constraints.</p>	The THP was updated to provide clarity in the Purpose section (1.2) and with the descriptions of the operating units.
Access Management	EY	Section 5.0 of THPs very briefly discusses access management	Skid trails will be used to haul timber to a landing or roadside.	Access management

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		<p>considerations.</p> <p>EY Recommendations. Might consider a small expansion to this section to address general access management considerations associated with new skid road/trail construction and location.</p> <p>The skid trails description indicates these will be temporary features. Additional clarification could be provided to confirm why this is the case, and how skid trail construction would be managed. In some operations skid trails persist for long periods of time.</p>	<p>Skid trails are not designed for continued use. Tree tops and brush will be spread across skid trails to help minimize potential off-road traffic.</p>	<p>and skid trails were clarified in the Access Management Section (5.0) and Silviculture sections of the operating unit descriptions.</p>
Section 2.2.1 Wildlife	EY	<p>Rationale for species reported on is not supplied.</p> <p>EY Recommendation: Should confirm in first sentence that the focal species from this description were those identified from the SFMP exercise, otherwise not sure how these were selected for inclusion in</p>	<p>That is correct; the species were based on the Teslin FMP.</p>	<p>A sentence was added to clarify this point in Section 2.2.1.</p>

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		THP.		
Section 2.2.1 Wildlife	EY	<p>The section currently states that the field work did not find or identify lichen concentrations within the operating units that are often associated with caribou use.</p> <p>EY Recommendation: Environment staff have not independently confirmed through ground reconnaissance that lichen concentrations are not present, which is within our mandate to inventory. The statement is somewhat misleading in this regard, as it is not clear who undertook the fieldwork to confirm the lack of lichen habitat. The statement as worded might imply that Environment assisted with the inventory.</p> <p>Remove word 'critical' from first sentence as this has meaning under the federal Species at Risk Act which is not used correctly in</p>	<p>FMB did all the field work. The operating units were walked through in a systematic manner to collect data for the THP.</p> <p>"Critical" will be removed from the sentence.</p>	The report was updated to reflect FMB did the field work.

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		this description.		
Section 3.1.5 Wildlife	EY	<p>The bear den identified in S-1 is referenced and shown in Map 2, but it is not clear where the den is located in relation to existing road/trail networks. The THP indicates that felling/skidding will be avoided near the den.</p> <p>EY Recommendation: The Plan should clarify how close the existing road/trail network is to the bear den, and show these features on map 2.</p> <p>Identified bear dens should have a 300m-2 km no activity buffer implemented around them, during the fall/winter/spring period when the den is likely to be occupied. There is currently no mention of an appropriate no activity buffer around the identified den feature.</p>	If the bear den is occupied during fall/winter/spring (i.e. active) then a 300 m no harvest buffer will apply to those seasons.	The THP and map were updated to reflect in Section 3.1.5.
Maximum Volume Permitted	Teslin Tlingit Council (TTC)	Teslin Tlingit Council (TTC) supports the maximum volume (m <sup>3</sup> ) that has been presented in the THP. TTC would like to be	Regular meetings and communication has been occurring between FMB and TTC. FMB staff will be able to	



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		informed after each year as to the amount of timber being harvested in each unit. In addition it is our request that we have input into any adjustments made to the volume permitted in each operating unit.	provide this information as Licences and Permits are issued.  In addition, all Licence applications must undergo a 30 day Notification period where representations can be made to FMB according to the <i>Forest Resources Act</i> (FRA). Also, the FRA requires First Nations to be notified specifically where representations can be made. This provides another venue to ensure awareness of activities in Teslin Tlingit Traditional Territory.	
Selective Harvesting	TTC	I note in the application that a selective harvest method will be used, we would like to emphasize that we strongly support this method in order to minimize the impact. Where it is feasible, winter harvesting is the preferred season for harvesting. Winter harvesting in the Yukon is less environmentally damaging and would offer better protection to the medicinal plants and berries that are harvested within these areas.	Winter harvesting is the preferred season for all operating units. However, D-1 and S-1 do have suitable conditions for summer harvesting if soil conditions are favourable, i.e., not saturated.  Site disturbance through skidding or forwarding will be addressed at the site plan level. A maximum of 5% of the block area will be allowed to be a disturbed state.	Clarity of skidding and forwarding was provided in the Silviculture sections of the operating units were updated.

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Simultaneous activities occurring within the harvesting location	TTC	Site S-2 has a trail located within the pipeline easement that is used throughout the year and should also be considered for mitigation.	To help ensure the trail is able to have continued use, harvesting activities that may occur on or near the trail will not limit trail activities. The cutting permit will have a Term and Condition to ensure trail use is not limited by harvesting activities.	Section 3.1.8 was updated to reflect this condition.
Section 2.29	TTC	Trapping within this area by the local Elders will most likely coincide with the harvesting of timber. Communication between the proponent and the local trapper(s) will be necessary to eliminate any disruption to the trapping activities or loss of traps.	At the licence and cutting permit level, the proponent and trapper(s) will be required to communicate to minimize disruption to the trapping activities and loss of traps.	Section 2.29 was updated.
Section 2.2.6 Heritage and Cultural Resources	TTC	The Teslin area has various clusters of Culturally Modified Trees (CMTs) within the specific geographic location of the application. Within the Sawmill Road, the CMTs recorded are pine trees that show scars from harvesting the inner bark or cambium of the tree for food. The CMTs documented within this	Thank you.	

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		<p>area have been cored to establish their age and the date when the cambium was harvested. The age range of the CMTs in the various clusters was from 1884 to 1954.</p> <p>While Cambium harvesting is a known Tlingit land use practice, the CMTs documented within the Sawmill Road area can also be taken as markers of Tlingit land use practices and therefore presence in the area in times past.</p> <p>We believe the CMTs warrant protection and preservation, so that future generations can learn from and appreciate these unique heritage resources. Therefore, we support the mitigations that have been presented on Pg 13 of the plan in order to protect and prevent damage to CMTs in the THP area.</p>		
Section 2.2.10	TTC	In addition to the list of Land Uses and Planned Land Uses close to	This will be added to the section for clarity.	Section 2.2.10 was updated.

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		the Sawmill Road there are residential lots – 4 dwellings are located in this area.		
Section 3.1.4	TTC	The TTC strongly supports the excluded area of Hermit Lake that has been identified as having a high heritage potential. As stated above other areas where clusters of CMTs are found should also be avoided and reported by the permit holders immediately.	Thank you.	
Sections 3.1.7, 3.2.7, 3.3.7, 3.4.7, 3.5.7, and 3.6.7	TTC	<p>Within these areas there are several traditional activities taking place including:</p> <ul style="list-style-type: none"> <li>a) subsistence harvesting for grayling at Hermit Lake,</li> <li>b) gathering of medicinal plants throughout the area, and</li> <li>c) harvesting of birch trees for traditional snow shoes takes place in the Demonstration Forest.</li> </ul> <p>TTC encourages the Forest Management Branch (FMB) to meet with us to discuss the mitigation measures intended to</p>	<p>A meeting was held on March 10, 2011 between Kirk Price and Tracy Boyes (TTC) where these comments were discussed.</p> <p>A riparian buffer with no harvesting around Hermit Lake which should address subsistence harvesting at Hermit Lake.</p> <p>Gathering medicinal plants can be impacted during timber harvesting through ground disturbance. Timber harvesting during the winter can mitigate and reduce the risk of damaging</p>	The THP was updated to take account of the traditional use values.

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		reduce the impact on the traditional activities occurring within the THP area.	<p>medicinal plants. S-1 and D-1 have an opportunity for summer harvesting where medicinal plants could be damaged. Harvesting operations will have to minimize skid trails and landings in the cutting permit area within the operating unit. A maximum of 5% of the block area can be in a disturbed condition through skid trails and landings.</p> <p>Birch trees are found through out the Demonstration Forest in small clumps or individual stems. Birch trees will not be targeted for commercial harvesting in operating units D-1, D-2 and D-3. Birch trees may be required to be used during harvesting to facilitate logging. For example, a birch tree may be required to be used for rub tree to skid timber to a landing so as not to damage other forest resources.</p>	
Section 3.4.8, 3.5.8, and 3.6.8	TTC	In the past, areas within the Demonstration Forest have been	The Director will consider the following when issuing a licence	Section 3.4.8, 3.5.8, and

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		used for recreational purposes, most specifically but not limited to winter ski trails. Mitigation measures used for the S-1 site should be applied to the D-1, D-2 and D-3 sites.	<p>and cutting permits in these 3 operating units in the Demonstration forest:</p> <p>The Director will consider the following prior to awarding the cutting permit to mitigate possible conflict with ski trail use:</p> <ul style="list-style-type: none"> <li>• The Teslin FMP provides direction on access management (FMP, page 49). The access management objective is to minimize environmental issues while providing access to forest resources.</li> <li>• Are there ski trails set in the application area or along existing access to the application area?</li> <li>• If ski trails are set; are there scheduling options to minimize disruption to the ski trail?</li> <li>• Are there suggested mitigations by the ski trail maintainer and licence applicant?</li> </ul>	3.6.8 were updated.

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			Communication between the ski trail maintainer, Forest Management Branch and licence holder will be necessary to facilitate both activities. Best efforts will be made to minimize damage and continued use of the ski trail.	