

ENVIRONMENTAL ASSESSMENT  
SCREENING REPORT

INTERIM WOOD SUPPLY PLAN FOR THE  
KASKA YUKON TRADITIONAL TERRITORY-YEAR 1

Blocks C5, C9 and C12

Prepared by:  
Yukon Government  
Forest Management Branch  
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## **EXECUTIVE SUMMARY**

This environmental assessment has been completed for blocks C5, C9 and C12 (approximately 155 hectares and 44,000 m<sup>3</sup> of timber located in the Cosh Creek operating area in the southeast Yukon). These three blocks complete the environmental assessment for Year 1 of the Interim Wood Supply. Five blocks (approximately 250 hectares and 60,000 m<sup>3</sup>) were previously environmentally assessed in the spring of 2004. Currently, planning is underway for years 2 and 3 of the Interim Wood Supply. It is expected that the environmental assessment for years 2 and 3 will proceed in the fall of 2004.

The Director of the Yukon Forest Management Branch is delegated as the representative of the Responsible Authority (the Minister) for purposes of carrying out environmental assessments under Section 4.1 of the *Yukon Environmental Assessment Act* for forest management projects. Given the mitigations provided in this screening report, the Responsible Authority is satisfied that this project is not likely to cause significant adverse environmental effects. Accordingly, the *Yukon Environmental Assessment Act* determination is that, subject to the mitigation requirements contained in this screening report, this project is hereby authorized and may proceed.

## 1. TOMBSTONE DATA

**Table 1.0.** Environmental Assessment File Information

<b>Proponent Name</b>	Yukon Government Forest Management Branch
<b>Contact Information</b>	Gary Miltenberger, Director, Forest Management Branch Box 2703 (K-918); Whitehorse, YT Y1A 2C6 Phone: (867) 456-3838 Fax: (867) 667-3138
<b>Project Title</b>	“Environmental Assessment Screening Report: Interim Wood Supply Plan for the Kaska Yukon Traditional Territory-Year 1 Blocks C5, C9 and C12.”
<b>Physical Work or Activity</b>	Timber harvesting and all associated activities
<b>Multiple Activity</b>	No
<b>E. A. Start Date</b>	August 9, 2004
<b>E. A. Finish Date</b>	November 26, 2004
<b>E. A. Determination</b>	This project is not likely to cause significant adverse environmental effects (s. 16) of <i>YEAA</i> .
<b>Subject Descriptor</b>	Forestry
<b>Project Category Code</b>	Point

**Table 2.0.** Responsible Authority Identification

<b>Lead Responsible Authority</b>	Department of Energy, Mines and Resources
<b>Responsible Authority Contact Information</b>	c/o Gary Miltenberger, Director, Forest Management Branch Box 2703 (K-918) Whitehorse, Yukon Y1A 2C6 Ph: (867) 456-3838 Fax: (867) 667-3138
<b>Other Responsible Authority</b>	None identified
<b>Date EAA Coordination Regulations Triggered</b>	Not applicable
<b>Project Trigger</b>	(s. 8) Inclusion List Regulations; timber volume > 1000 m <sup>3</sup>
<b>Lead Type of Approval</b>	Commercial Timber Permits
<b>Status of Approval</b>	Ongoing
<b>Integrated Screening</b>	No
<b>Other Triggers</b>	None
<b>Other Types of Approval</b>	None
<b>Project File Location</b>	Forest Management Branch, Whitehorse, YT.

**Table 3.0.** Project Location

<b>Region</b>	Yukon Territory
<b>NTS Map #s</b>	095D04
<b>Geographic Location Name</b>	East Hyland Planning Area
<b>Latitude/Longitude</b>	Approximately 60 deg. 04’N., 127 deg. 48’W.
<b>Watershed/Drainage Region</b>	Cosh Creek, flows into the Liard River
<b>Nearest Community</b>	Watson Lake, Yukon
<b>First Nation Traditional Territories</b>	Kaska Dene, Liard First Nation, Daylu Dena, Ross River Dene, Kaska Tribal Council
<b>Surrounding Land Status</b>	Crown
<b>Special Designation</b>	None

## 2. PROJECT BACKGROUND

### a. Relevant History

A *Memorandum of Understanding (MOU) on Forest Stewardship for the Kaska Traditional Territory* was signed by the Liard First Nation, Ross River Dena Council, Kaska Dene Council, Indian Affairs and Northern Development and the Government of Yukon on July 29, 2002. The MOU empowered the Kaska Forest Resources Stewardship Council (KFRSC) to pursue a forest management plan for southeast Yukon and an interim wood supply in Forest Management Units (FMUs) Y02 and Y03. A portion of Y09 (which covers the Kaska Traditional Territory) was also included in the planning process.

The KFRSC is composed of Kaska First Nation members and Yukon government representatives. On February 3, 2003, the KFRSC recommended that planning begin for an interim wood supply of up to 128,000 m<sup>3</sup>/year for three years in the East Hyland, Watson Lake and West Rancheria planning areas. With the exception of the previously deferred year 1 blocks (blocks C5, C9 and C12), year 1 (blocks C4, C6, C8, C10 and C11) was environmentally assessed in the spring of 2004. Blocks 4, 10A, 10B and 11 have been recently tendered to Yukon companies. Currently years 2 and 3 (approximately 128,000 m<sup>3</sup>/year) are in the planning stages. It is expected that the environmental assessment for years 2 and 3 will proceed in the fall of 2004.

### b. Requirement for Project Assessment

The *Yukon Environmental Assessment Act (YEAA 2003)* describes a project as:

*“an undertaking in relation to a physical work such as any proposed construction, operation, modification, decommissioning, abandonment or other undertaking” or “any proposed physical activity not relating to a physical work that is listed in the regulations to YEAA.”*

This project consists of timber harvesting and the associated activities of blocks C5, C9 and C12 (Project Maps; Appendix #2). The proposed harvest volumes are approximately 44,000 m<sup>3</sup>, totaling approximately 155 hectares.

### 3. DESCRIPTION OF PROJECT

#### a. East Hyland Planning Unit

The East Hyland planning unit, as identified by the KFRSC, is located approximately 45 km east of Watson Lake, adjacent to the Alaska Highway. It is bounded by the Hyland River on the west; Contact Creek on the east; the BC/Yukon border on the south and the headwaters of Irons Creek on the north (IFS 2003; Figure 1).

The East Hyland is a large planning unit with a large percentage of forested area (89%; Table 4.0). The total area of the East Hyland planning unit is approximately 109,000 ha.; 38% (or approximately 41,000 ha.) of the area is less than 30 years old and considered not satisfactorily restocked; however, recent colour air photos show the area has considerable lodgepole pine regeneration. It is likely that this area is fully stocked with 10-15 year old lodgepole pine regeneration (M. Thorp 2004 pers. comm.). According to IFS 2003, 39% (or just less than 43,000 ha.) of the area is 80-130 years old.

**Table 4.0.** Land Cover of the East Hyland Planning Unit.<sup>1</sup>

<b>Planning Area</b>	<b>Approximate Total Forest (ha.)</b>	<b>%</b>	<b>Approximate Total Non-Forest<sup>2</sup> (ha.)</b>	<b>%</b>	<b>Approximate Unit Area (ha.)</b>
East Hyland	97,600	89	11,600	11	109,000

<sup>1</sup>Adapted from IFS 2003.

<sup>2</sup>Water and alpine area.



A map of the project area is located at the end of this document.

The East Hyland Planning Area has been divided into five operating areas (Irons, Boundary, Cosh, Lost and Hyland). The Cosh Creek Operating Area is the only operating unit addressed in this environmental assessment and was chosen as a priority area to locate an interim wood supply for three years. The area had:

- Previous logging history.
- Resource information existed (Final Resource Report East Hyland Planning Area; DIAND 2000).
- Fewer conflicts with non-timber values compared to other areas.
- Existing road access reduces the amount of new road construction (which has wildlife management benefits); amalgamation of forest disturbance to create large patches which provide less disturbance to marten home ranges (large blocks provide opportunity to leave large blocks).
- Sufficient volume was available for 3 years timber supply.
- Opportunity to remove timber and create a forest stand pattern which better represented natural disturbance patterns.
- Tradeoff opportunity to harvest volume and then decommission roads, short duration impact versus numerous entries.

## **b. Ecoregion Description and Environment**

The East Hyland Planning Unit is located within the Liard Basin that spans the British Columbia–Yukon-NWT boundary. The East Hyland Planning Unit incorporates the Liard Plain, a broad, rolling, low-lying area mantled with glacial drift and outwash deposits in which the Liard River is entrenched (Fisheries and Environment Canada 1977).

The mean annual temperature for the area is approximately  $-3^{\circ}\text{C}$ , with a summer mean of  $11^{\circ}\text{C}$  and a winter mean of  $-18.5^{\circ}\text{C}$ . Annual precipitation is 350–450 mm (Fisheries and Environment Canada 1977).

The ecoregion is characterized by extensive stands of boreal forest composed of lodgepole pine (*Pinus contorta*), white spruce (*Picea glauca*), black spruce (*P. mariana*), sub-alpine fir (*Abies lasiocarpa*) and trembling aspen (*Populus tremuloides*). In the Liard ecoregion, dry sites support lodgepole pine while moist sites support black spruce and typically a Labrador tea (*Ledum groenlandicum*) and horsetail (Fam. *Equisteraceae*) understory. Permafrost is discontinuous, confined mainly to lower north-facing slopes and sphagnum bogs.

Characteristic wildlife in the greater Liard Basin includes moose: (*Alces alces*), black bear (*Ursus americanus*), wood bison (*Bison bison*), caribou (*Rangifer tarandus*), marten (*Martes americana*), beaver (*Castor Canadensis*), muskrat (*Ondatra zibethica*), Snowshoe hare (*Lepus Americanus*), ruffed grouse (*Bonasa umbellus*), various owl, raptor, passerine species and waterfowl.

### **c. Block Descriptions**

Table 5.0 describes approximate opening sizes, internal reserves, existing openings, approximate total opening size (sum of existing and proposed blocks), approximate volume estimated for harvest and tree species details for blocks C5, C9 and C12 in the Cosh Creek operating unit.

**Table 5.0.** Blocks C5, C9, C12 in the Cosh Creek Operating Unit.<sup>1</sup>

Block	Approx. Opening Size (ha)	Internal Reserve (ha)	Existing Openings (ha)	Approx. Total Opening Size (ha; Sum of Existing and Proposed Blocks)	Approx. Volume estimated to be Harvested (m <sup>3</sup> )	Species <sup>2</sup>
C5, A	28	8	17	45	10,000	Sw; P; F
B	5	0	12	17	1,500	Sw; P; F
C	12	2	11	23	3800	Sw; P; F
D	3	0	19	22	1,200	Sw; P; F
<b>C5 Total</b>	<b>48</b>	<b>10</b>	<b>59</b>	<b>107</b>	16,5000	
C9	45	8	39	84		Sw; P; F
<b>C9 Total</b>	<b>45</b>	<b>8</b>	<b>39</b>	<b>84</b>	8,500	
C12, A	21	4	22	43	6,700	Sw; P; F
B	33	0	24	57	9,800	P; Sw
C	8	1	22	30	2,500	Sw; P; F
<b>C12 Total</b>	<b>62</b>	<b>5</b>	<b>68</b>	<b>130</b>	19,000	
<b>Total</b>	<b>155</b>	<b>23</b>	<b>166</b>	<b>321</b>	44,000	

<sup>1</sup>Adapted from KFRSC (2004).

<sup>2</sup>Sw= white spruce; F=sub alpine fir; P=lodgepole pine. The tree species are not necessarily in order of abundance.

## **4. PROJECT TRIGGERS AND RESPONSIBLE AUTHORITIES**

According to *YEAA*, an environmental assessment is required for a project requiring a timber permit for a volume over 1,000 m<sup>3</sup> or if the project requires an environmental screening for any of its components. Since the project involves the timber harvesting and associated activities of three blocks in the Cosh Creek operating area, the Yukon Government Department of Energy, Mines and Resources (EMR) Forest Management Branch is the representative of the Responsible Authority (RA), the Minister of EMR. A RA is an authority that either has proposed the project or has been asked to provide support or approval in the form of funding, land, or a permit, license or other approval specified by regulation (*YEAA* 2003). The Yukon Government, Department of EMR is the only department that declared themselves an RA for this assessment.

## **5. SCOPE**

Scope is defined as those components of the proposed development that are considered part of the project for the purposes of environment assessment (*YEAA* Practitioners Guide 2003).

### **a. Scope of the Project**

The scope of the project identifies the development activities. The scope of the project includes:

- All phases of the project, including but not limited to, the construction of new in-block roads and the upgrade of existing roads, construction of stream crossings, decommissioning of roads and stream crossings, regeneration of the blocks and associated activities such as regeneration surveys.
- The operation of equipment and machinery.
- Potential accidents and malfunctions related to the project, or that may occur in connection with the project (i.e. spills, etc.).

### **b. Scope of the Assessment**

The scope of the assessment identifies the environmental components in the screening. The temporal scope of this assessment includes the environmental effects of the project for 10 years (including the one year period for forest harvesting, three year period for regeneration and six years for regeneration establishment and the deactivation and rehabilitation of the site), plus the durations of any adverse environmental effects triggered during that time period. After this 10 year time period, forest recovery will be well underway. Usually enough time has elapsed after

tree establishment to ensure that crop trees have reached a stage where they can reasonably be expected to continue development to maturity without significant additional intervention.

The spatial scope of this assessment includes the environment (land, water, air) contained within the proposed project boundaries and the environment outside the project that could be potentially affected through the administration of the project.

## **6. FACTORS CONSIDERED IN THIS ASSESSMENT**

This assessment considers the following factors from Section 12 of *EAA (Yukon)*:

- The environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative effects that is likely to result from the project in combination with other projects or activities that have been, or will be carried out.
- The significance of the above environmental effects.
- Technically and economically feasible mitigation measures, implemented to mitigate potentially significant adverse environmental effects related to the project.
- Comments from the public.

## **7. CUMULATIVE EFFECTS**

A cumulative environmental effect is defined as the effects on the environment (i.e. Valued Ecosystem and Cultural Components; VECC) which result from effects of a project when combined with those of other past, existing and imminent projects and activities, occurring over a certain period of time and space (Government of Canada 1994). The cumulative effects evaluation considers past and proposed forest harvesting and other activities that have occurred, are occurring or are forecasted to occur in the Cosh Creek area. Ten evaluations were conducted as part of the cumulative effects review; refer to Appendix 4 for the analysis and the associated user guide that assisted with the evaluation of cumulative effects.

### **a. Scope of the Cumulative Effects**

The purpose of defining the scope of the cumulative effects section is to identify the environmental effects to be considered in regards to a project; identify the likely cumulative environmental effect and set appropriate geographic and temporal boundaries. The scoping of the cumulative effects section has been divided into: i) regional issues of concerns; ii)

appropriate regional VECCs; iii) spatial and temporal boundaries; iv) other actions that may affect the same VECCs and v) uncertainty.

### i. Regional Issues of Concern

In regards to regional issues of concern, this section has been divided into past, present and future harvesting activities. Harvesting in the Contact Creek, Cosh Creek and Irons Creek areas began in 1995 (D. White pers. comm. 2004) and a total of 209 blocks were harvested (approximately 1,800 hectares). Most harvesting that occurred during this time consisted of small patch-cuts ranging from less than one hectare to 30 hectares; the average block size was 8.8 hectares (D. White pers. comm. 2004). Some of the harvested blocks have islands of trees or scattered trees left behind. (D. White pers. comm. 2004).

Currently, there have been four timber permits prescribed in the Cosh Creek area. All indications are that Block C11 will be harvested in the fall of 2004. The block descriptions are provided in Table 6.0.

**Table 6.0.** Blocks Tendered in the Cosh Creek Area in 2004.

Block	Opening Size (ha.) <sup>1</sup>	Total Opening Size (ha.; Sum of Existing and Proposed Blocks) <sup>1</sup>	Volume (m <sup>3</sup> ) <sup>2</sup>	Species <sup>3</sup>	Status
4	33	37	9,400	Pl; Sw; F	Permit issued in summer 2004.
10 A	66	183 (combined total for 10A and B)	12,200	F; Sw; Pl	Permit awarded in summer 2004.
10 B	47	see above	8,400	Pl; F; Sw	Permit awarded in summer 2004.
11	14	25	6,000	Sw; Pl; F	Permit issued- harvesting expected to occur in the fall of 2004.
<b>Total</b>	<b>160</b>	<b>245</b>	<b>36,000</b>		

<sup>1</sup> Approximate total opening size.

<sup>2</sup> Approximate volume to nearest 100 m<sup>3</sup>.

<sup>3</sup>Pl=Lodgepole pine; Sw=white spruce; F=sub-alpine fir. Not in any particular order.

Blocks C5, C9 and C12 are currently proposed for harvesting and forest harvesting activities are forecasted in the next two years in the Cosh Creek watershed. Future forest harvesting in Boundary Creek, Irons Creek, Lost Creek and the Hyland operating areas is also forecasted.

Other projects have occurred in the vicinity of the Cosh Creek operating area which contributes to the cumulative effects of the area. For example, the Alaska Highway was completed (but not paved) in 1942 and was completely paved in 1988 (S. Cole pers. comm. 2004). The Alaska Highway is periodically upgraded (i.e. widened, paved, etc.) and gravel is obtained for the construction activities from the borrow pits along Alaska Highway. No known oil/gas or mineral exploration has occurred in the Cosh Creek operating area.

## **ii. Appropriate Regional VECCs**

The regional VECCs are discussed in Tables 7.0 and 10.0.



**Table 7.0.** Regional Valued Ecosystem and Cultural Components

<b>Component Type</b>	<b>VECCs</b>	<b>Justification</b>
<b>ENVIRONMENTAL</b>		
Ungulates	Woodland caribou.	Maintain quality habitat.
Ungulates	Moose.	Maintain quality habitat.
Furbearers	Marten.	Trapping values.
Forest Birds	Northern goshawk, boreal owl, three-toed woodpecker, pileated woodpecker, passerines, water fowl.	Maintain quality habitat.
Aquatic Resources	Fish and fish habitat, water quality.	Maintain aquatic quality.
<b>CULTURAL</b>		
Traditional and community lifestyle	Trapping, hunting, gatherings, berry picking.	Maintain traditional and cultural lifestyles.
Wilderness values	Recreation, visual quality, tourism, etc.	Maintain wilderness values of the area.

### **iii. Spatial and Temporal Boundaries**

The purpose of the spatial and temporal boundaries section establishes a frame of reference for assessing cumulative environmental effects and facilitates their identification (CEAA 2003). This section will discuss the spatial and temporal bounds of this project, the availability of existing data and knowledge and the relevant ecological boundaries.

#### **iii a. Spatial and Temporal Bounds of this Project**

Regarding the spatial scope of this assessment, this project is bounded by Cosh Creek to the west, Contact Creek to the east, a tributary to Contact Creek to the north and the Alaska Highway to the south. This project encompasses approximately 3.5 square km.

The temporal scope of this cumulative effects assessment includes the environmental effects of any past projects in the Cosh Creek watershed, the environmental effects caused by the current project for 10 years (including the one year period for forest harvesting, three year period for regeneration and six years for regeneration establishment and the deactivation and rehabilitation of the site, plus the durations of any adverse environmental effects triggered during that time period) and any future projects forecasted for the Cosh Creek watershed.

#### **iii b. The Availability of Existing Data and Knowledge**

The availability of existing data is important in assessing the cumulative effects. Current and past forest harvesting in the Cosh Creek watershed has occurred where information has been obtained and was useful for this project (regeneration, operability, etc.). This information includes air photos, a resource report, miscellaneous reports (IFS 2003, KFRSC 2004, etc.), forest cover maps, overview flights and field assessments.

There are knowledge gaps for the Cosh Creek area. These data and knowledge gaps include: field heritage assessments, overview fisheries and wildlife inventory and habitat assessments. However by being conservative and using precautionary measures and the existing data and knowledge, there is sufficient data and knowledge of the Cosh Creek area to effectively assess the cumulative effects of this project. The precautionary approach has been taken in relation to mitigative measures prescribed. These measures include: riparian management areas, and set-

aside areas and Forest Ecosystem Networks, variable retention (and retention of all deciduous and snags that are considered safe), reserves, coarse woody debris piles left randomly on blocks, etc. It is believed that the mitigations proposed are conservative enough to overcome these gaps. Also the Land Stewards and the KFRSC has provided valuable information in regards to this project.

In addition to the existing data and knowledge for the Cosh Creek area, new fisheries and heritage information was collected for the area in 2004. In August 2004, stream assessments were conducted associated with future harvesting in the Cosh Creek operating unit (year 2 and 3 road crossings; Tobler 2004). Also an overview assessment of potential heritage resource concerns was carried out for the East Hyland Planning Area (Thomas Heritage Consulting 2004).

### **iii c. Relevant Ecological Boundaries**

Currently there are no known ecological boundaries (such as physiographic, vegetation, land use, habitat, soil and surface materials) that are limiting to this project. The Rancheria Caribou Herd's range is not within the bounds of this project.

### **iv. Other Actions That May Affect The Same VECCs**

Other actions that may affect the VECCs are listed below:

- woodland caribou and moose populations
  - increase in noise, increase in road access, increase in hunting).
- Forest bird populations (northern goshawk, boreal owl, three-toed woodpecker, pileated woodpecker, passerines)
  - increase in noise; decrease in cover.
- Old forest species (marten)
  - increase in noise, access, cover.
- Maintenance of traditional and community lifestyle and uses.
- increase of access may cause an increase of usage.
- Wilderness values (e.g. recreation, visual quality, tourism)
  - increase of usage, affect to visual quality.

### **v. Uncertainty**

There will always be some uncertainty associated with any environmental assessment (CEAA 2003). According to CEAA (2003), uncertainty can be related to scientific methodology, data availability and accuracy, new or unproven technology, new or unfamiliar environmental setting,

or the uncertainty of future projects. In the preparation of this screening report, the most up to date information and professional knowledge and judgment was used.

### **b. Changes in the Environment Caused by the Project**

The project, timber harvesting of three blocks in the Cosh Creek operating unit, will cause changes to the environment in the Cosh Creek watershed. The volume proposed for harvest is approximately 45,000 m<sup>3</sup>, or 155 hectares. The total block sizes (existing and proposed) is 321 ha, ranging from 84 ha (C9) to 130 ha (C12). According to P. Beaudry and Associates (2004), harvesting of blocks C5, C9 and C12 will increase the amount of forest removed in the Cosh Creek watershed to approximately 23%.

Roads are already present in the Cosh Creek watershed and will be upgraded as necessary for winter logging. These roads will be deactivated following harvesting activities (when the reforested areas are considered at the free-growing stage). In-block roads and landings will be similarly deactivated and rehabilitated when the reforested areas are considered free-to-grow<sup>1</sup>.

There are summer harvest options for C5, C9 and C12. For summer harvesting, the following steps must be taken:

- All access routes must be upgraded to allow for summer haul.
- Harvesting must be done during dry soil conditions to minimize site degradation.
- Rubber tired skidders (low ground pressure is recommended) should be used to reduce compaction and site degradation due to areas of clayey soils.
- Minimize duff disturbance (i.e. use a dispersed skidding pattern, do not blade skid trails).
- A minimum 5 m Machine Free Zone must be placed on either side of any non classified drainage. Designated skidder crossings of these drains will be proposed.

### **c. The Effects of any Such Changes**

There could be effects to the environment caused by this project. These effects are described below in Table 8.0.

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<sup>1</sup> Defined in the *Forest Practices Code of British Columbia Act* as a stand of healthy trees of a commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees.

**Table 8.0.** Possible Environmental Effects Caused by Forest Harvesting in the Cosh Creek Watershed.

Alterations	Possible Environmental Effects
Harvesting	There will be an effect on wildlife habitat and forest dependent wildlife species; industrial noise; fragmentation and visual quality. For visual quality, each of the three blocks has been classified for possible visual concerns. All 3 blocks have been classified as having possible visual quality concerns from viewpoints along the Alaska Highway. According to the DTM, blocks C5A and C12 will be highly visible from the Alaska Highway, while Block C9 has potential visual sensitivity. The DTM was used to help determine the level of variable retention that will be required to mitigate visual concerns.
Reforestation	Brush competition, increased snow press damage.
Roads and landings	Erosion, increase in access. Until the roads are deactivated, the Cosh Creek area will be more easily accessed than it currently is. In-block roads and the Cosh Creek mainline will allow all-terrain traffic as well as potential 4WD truck traffic. The increase in access may result in the Cosh Creek watershed being frequented more by recreationalists and other users temporarily.
Hydrology	Erosion and sediment caused by culvert installation for summer harvesting.
Pollution	Oil, litter, sewage, etc.

**d. Health and Socio-economic Conditions**

No known health conditions will be caused by this project. The following socio-economic conditions with regards to this project have been raised:

- Economic effect on trappers and guide outfitters is expected to be minor.
- Short-term increased access for hunters and berry pickers and negative affects from increased harvesting.

**e. Physical and Cultural Heritage**

Thomas Heritage Consulting (2004) conducted an overview assessment of potential heritage resource concerns for the East Hyland Planning Area in January 2004. According to Thomas Heritage Consulting (2004), the Cosh Creek Operating Unit and specifically blocks C5, C9 and C12, were assessed as being in areas of low heritage potential. Therefore, no advance heritage resource impact is required in the areas of low impact potential. However, there are areas within the East Hyland Planning Area that correspond, in whole or partially, with areas of heritage potential; these cut blocks include C-14, C16, L-31, L32, L33 and H26 (Refer to Appendix 3,

Thomas Heritage Consulting, pages 10-11).<sup>2</sup> These cut blocks will potentially be future projects, for which environmental assessment screenings will be conducted.

**f. Current uses of Lands and Resources for Traditional Purposes by Community Members**

The Cosh Creek Operating Area is traditionally used by community members and recreationalists; some of the outdoor recreation activities include: hunting, trapping, berry picking and traditional gatherings. Furbearer trapping has been conducted for many years in the Cosh Creek area and in nearby Contact Creek and Coal River (R. Hennings, pers. comm. 2004). According to IFS (2004), there is evidence that the Cosh Creek mainline had been used as a trapping route.

**g. Structures or Site that are of Historical, Palentological or Architectural Significance.**

In relation to this project, there was no structure or site that is of historical, palentological or architectural significance located.

**h. Any Change to the Project Caused by the Environment**

It is difficult to determine or predict whether there will be any change to the project caused by the environment. Some examples of possible changes to the project caused by the environment include, but are not limited to:

- Unusual weather occurrences.
- Insect and disease outbreak.
- Forest fire.

**i. Cumulative Effects Evaluation**

The likelihood and significance of the cumulative effects was determined to be low (Appendix 5, Form 10). The forms in Appendix 5 summarize the cumulative effects evaluation.

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<sup>2</sup> C=Cosh; L=Lost; H=Hyland.

## **8. COMMENTS/RECOMMENDATIONS RECEIVED THROUGH CONSULTATION PROCESS**

The goal of this environmental assessment is to focus on significant and potentially significant environmental effects.

Stakeholder groups, identified in Table 9.0, were asked to review the site plans, site plan maps, block reports and additional information (existing openings, proposed blocks and reserve areas for each block rather than each vegetation type). As part of the review process, the FMB Environmental Assessment (EA) Coordinator reviewed and compiled all of the responses received by the FMB. All documentation received by the FMB is attached to this report (Appendix #3).

**Table 9.0.** Consultation/ Referral List.

<b>Organization</b>	<b>Contact Person</b>	<b>Incoming Comments</b>
<b>FEDERAL GOVERNMENT</b>		
Environment Canada/Canadian Wildlife Service	Martin Raillard Mile 91782 Alaska Hwy, Whitehorse, Y1A 5B7	No response.
Department of Indian and Northern Affairs Canada	Laura Spicer 667-3326	No response.
Fisheries and Oceans Canada	Eero Karanka 393-6703 100-419 Range Road, Whitehorse, Y1A 3V1	No response.
<b>YUKON GOVERNMENT</b>		
	<b>Box 2703 Whitehorse, Y1A 2C6</b>	
Community Services-Community Development Branch	Gerry Gerein 667-5707	No response.
Community Services-Protective Services, Wildland Fire Management	Ken Colbert 456-3904	No response.
Community Services-Land Development	Brian Ritchie 667-3093	No response.
ECO- Development Assessment Process Branch	Colleen Tyrner 393-6425	No response.
ECO-Development Assessment Process Branch	Heidi Rumscheidt 667-8195	No response.
ECO-Environmental Assessment	Ian Church 456-3860	No response.
ECO-Environmental Assessment	Ryan Parry 456-3876	Received August 27, 2004.
Economic Development- Investment, Trade and Business Development	Rick Sudeyko 667-3430	No response.
EMR- Assessment and Abandoned Mines	Marg Crombie 393-7098	No response.
EMR-Agriculture Branch	David Beckman 667-5838	No response.



**Table 9.0.** Consultation/ Referral List cont'd.

<b>Organization</b>	<b>Contact Person</b>	<b>Incoming Comments</b>
EMR-Client Services and Inspections Branch	Richard Potvin 536-2256 Box 289 Watson Lake Y0A 1C0	No response.
EMR Library	Aimee Ellis 667-3108	No response.
EMR-Integrated Resource, Policy and Planning	Diane Brent 667-5471	No response.
EMR-Land Use	Marg White 667-3173	Received August 31, 2004
EMR-Lands Branch	Lyle Henderson 667-5218	No response.
EMR-Mineral Development Branch	Jesse Duke 667-3422	No response.
EMR-Mineral Development Branch Yukon Geology Survey	Ken Galambos 667-5996	No response.
EMR-Mineral Management Branch	Robert Holmes 667-3126	No response.
EMR-Minerals Management Branch	Dave Wiebe 456-3822	No response.
EMR-Oil and Gas Business Development and Pipeline Branch	Brian Love 667-3566	No response.
EMR-Oil and Gas Management Branch	John Masterson 667-5026	No response.
EMR-Sustainable Resources	Greg Komaromi 667-3140	No response.
Environment-Deputy Minister's Office	Edward Huebert 667-5460	Received
Highways and Public Works-Lands and Granular Resources	Florian Vedress 633-7905	No response.
Justice-Solicitor	Laurie Henderson 667-5391	No response.
Tourism and Culture- Tourism Product Development and Research	Robert Clark 667-5632	No response.
Tourism and Culture-Tourism Product Development and Research	Cathryn Paish 667-5433	No response.

**Table 9.0.** Consultation/ Referral List cont'd.

<b>Organization</b>	<b>Contact Person</b>	<b>Incoming Comments</b>
Tourism and Culture-Yukon Archaeology	Ruth Gotthardt 667-5983	Received August 13, 2004. Further comments received on August 31, 2004.
Yukon College Library	Bente Sorensen 668-8870	No response.
<b>INTEREST GROUPS</b>		
Association of Yukon Renewable Resources	-	No response.
Canadian Parks and Wilderness Society	Theresa Gulliver 393-8080 Box 31095 Whitehorse, Y1A 5P7	Received September 3, 2004.
Kerry Rees-resident of Faro area		No response.
Rhonda Rosie-resident of area	P.O. Box 860 Watson Lake, YT Y0A 1C0	No response.
South East Proper Land Use Society	Ulla Rembe Box 505, Watson Lake Y0A 1C0	Received September 7, 2004.
Tourism Industry Association	-	No response.
Town of Watson Lake	-	No response.
Watson Lake Chamber of Commerce	-	No response.
Wilderness Tourism Association	-	No response.
Yukon Agricultural Association	-	No response.
Yukon Chamber of Mines	-	No response.
Yukon Conservation Society	Karen Baltgailis/Sue Kemmit 668-5678 302 Hawkins Street Whitehorse, Y1A 1X6	Received August 26, 2004. Further comments received on September 6, 2004.
Yukon Fish and Game Association	-	No response.
Yukon Fish and Wildlife Management Board	-	No response.
Yukon Land Use Planning Council	-	No response.
Yukon Prospectors Association	-	No response.
Yukon Outfitters Association	Terry Kennedy 4194 A 4th Avenue Whitehorse, Y1A 1J8	No response.
Yukon Trappers Association	-	No response.

**Table 9.0.** Consultation/ Referral List cont'd.

<b>Organization</b>	<b>Contact Person</b>	<b>Incoming Comments</b>
<b>FIRST NATIONS</b>		
Kaska Forest Stewardship Council	Norm MacLean	No response.
Kaska Dene Council	Dave Porter	No response.
Kaska Tribal Council	Hammond Dick	No response.
Liard First Nation	Liard McMillan	No response.
Daylu Dena	George Miller	No response.
Ross River Dene Council	Jack Caesar	No response.
Council of Yukon First Nations	-	No response.

This assessment will examine the significant and potentially significant effects that the project will have on the environment under the authority of *YEAA*, as well as determine if any mitigation is required. Table 10.0 describes the VECCS and the potential impact from harvesting and significance of the impact that the proposed forest harvesting will have on the Cosh Creek watershed. The mitigation, if required, is also described in Table 10.0.

### **a. Mitigation**

Mitigation is the elimination, reduction, or control of a project's adverse environmental effects, including restitution for any damage to the environment caused by such effects through replacement, restoration, compensation, or any other means (Canadian Environmental Assessment Agency 1994). There is a summer harvesting option for blocks C5, C9 and C12. According to the site plans, summer harvesting should only be proposed if the following conditions are met:

- All access routes must be upgraded to allow for summer haul.
- Harvesting must be done during dry soil conditions to minimize site degradation.
- Minimize duff disturbance to reduce aspen suckering (i.e. use a dispersed skidding pattern, do not blade skid trails and if available use rubber tired skidders.
- A minimum 5 meter machine free zone ribbon must be placed on either side of all non-classified drainages or seepages.

Mitigation options are discussed in Tables 10.0 and 11.0 and Appendix 4.

### **b. Stakeholders and Yukon and Federal Government Agencies**

Specific comments or recommendations and suggested mitigations have been identified in Table 11.0.

**Table 10.0.** Valued Ecosystem and Cultural Components, their Significance and Mitigation Required.

VECC	Potential Impact From Harvesting	Mitigation Required	Significant Effects
Woodland caribou population.	Low; the winter range of the Rancheria Caribou Herd presently does not extend into the East Hyland planning area. Caribou were viewed in alpine sites of the northeast corner of the East Hyland planning area (part of summer range), which is not in proximity to the planned areas.	There is no evidence that the current plan will impact caribou or caribou habitat; no mitigation required.	None.
Moose population.	Low; moose is a key sport hunting species and there is key calving habitat within 4 km of the Hyland River, which is not in close proximity to the five blocks in the Cosh Creek watershed. Refer to IFS 2003, pages 14, 16.	No further mitigation required.	None.
Marten population.	Low-moderate; currently there are no thresholds for marten in the Yukon.	Mitigations have been addressed for the marten in the plans (i.e. coarse woody debris piles (3m x 3m x 3m) will be left randomly in the blocks, all snags, except those that are considered safety hazards, dispersed retention, FEN, internal reserves); no additional mitigation required.	None.
Aquatic Resources.	Low-the potential impact to the aquatic resources from this project is considered low.	Mitigations have been addressed for aquatic resources (i.e. riparian management areas; machine free zone around non-classified drainages and seepages that are adjacent to or blocks, use of clean snow and corduroy for winter stream crossings).	

**Table 10.0.** Valued Ecosystem and Cultural Components, their Significance and Mitigation Required cont'd.

VECC	Potential Impact From Harvesting	Mitigation Required	Significant Effects
Forest Birds	<p><u>Northern goshawk</u>- No Northern goshawk nests were noted by field crews during the engineering and layout phases; however formal goshawk surveys have not been conducted in the Cosh Creek area. <u>Black tern</u>-low; Yukon's only recorded black tern colony is located at Blind Lake, approximately 22 km from the planned cut blocks. <u>Boreal owl</u>- Forest Ecosystem Network (FEN) will provide habitat for later seral species such as the boreal owl. <u>Three-toed woodpecker</u>-low; FEN will provide habitat for later seral species such as the three-toed woodpeckers. <u>Passerines</u>-low (moderate if summer harvest); the harvesting area is at the northern edge of range; however, harvesting activities are scheduled for winter when the impact is anticipated to be low. <u>Trumpeter swan</u>-low; forest harvesting is not within proximity of large bodies of water (such as Blind Lake). Blind Lake is located approximately 22 km from the planned cut blocks.</p>	<p>Mitigation has been provided for forest bird species (i.e. winter harvesting, leaving all safe snags, deciduous trees and coarse woody debris in blocks and riparian zones in riverine areas). Northern goshawk nests found during the reconnaissance level planning stage will have a 24 ha. reserve area established adjacent to contiguous mature forests to prevent islands of harvested areas forming around them. Nests found post project approval will be buffered with a 200-metre leave area, without a 24 ha. reserve area.</p>	None.
Wilderness Values (visual quality; recreation; tourism).	Blocks C5/C9/C12-Variable retention harvesting using dispersed/aggregated retention will minimize visual impact of blocks.	Although visual quality from the Alaska Highway will be affected by harvesting, dispersed/aggregated retention will minimize the visual impacts of the blocks; no further mitigation required.	None.

**Table 10.0.** Valued Ecosystem and Cultural Components, their Significance and Mitigation Required cont'd.

VECC	Potential Impact From Harvesting	Mitigation Required	Significant Effects
<p>Maintenance of traditional and community lifestyle (trapping, wilderness values, hunting, berry picking, traditional gathering sites).</p>	<p>Minor; the IWSC is not privy to traditional land use practices, nor land steward information. At this time the Kaska and the KFRSC do not have a TK Protocol, but a TK Protocol will likely be developed in the future to guide the collection and use of TK of Kaska people as per the MOU.</p>	<p>An overview assessment of potential heritage resource concerns was carried out for the East Hyland Planning Area. Blocks C5, C9 and C12 in the Cosh Creek operating unit were assessed as being in areas of low heritage potential. First Nation crewmembers assisted with identifying potential First Nation cultural sites and according to the field crew, no known cultural sites or issues exist within the harvest area of the blocks. It is recommended that TK pertaining to the harvest area be documented as soon as possible.</p>	<p>Minor.</p>

**Table 11.0.** Identified Concerns and Mitigation Suggestions Received by the Forest Management Branch.

<b>Organization: Government of Yukon, Executive Council Unit, Environmental Assessment Unit</b>		
<b>Identified Concerns</b>	<b>Suggested Mitigation</b>	<b>Mitigation Measures</b>
In Block C5, the section at the beginning of the C5-1 road is described as being a short 19m section. The road illustrated on the map appears to be closer to 50m given the provided scale. This should be made to be consistent.	This should be made to be consistent.	According to the field notes, the road distance is 19m-no mitigation required.
In Block C5 it is described that a 1.5m through cut of 20m length is required to cross a small esker.	The physical limitations requiring this cut-through should be elaborated upon.	Eskers indicate well drained soils and in the project area there is no erosion expected. The through-cut should be minimized as much as possible in order to minimize soil disturbance.
The C5-2 road does not appear to have an efficient layout which would minimize the required amount of linear disturbance. The current layout entails two drainage crossings in order to access a very small area at the north end of the block segment.	Access from the adjacent cut block to the north would require only 1 crossing of the drainage. If access from the existing cut block to the north is not possible, then this segment of timber should be considered for internal reserve considering the cost/benefit of its harvest.	The rationale for the road location is outlined in the C5 block report (Appendix 1; IFS 2004). The road length is proposed because of the hauling grade. The drainage that is being crossed twice is sub-surface and culverts will ensure maintenance of the drainage during harvest (when the ground is not frozen); however when the ground is frozen during the winter, culverts may not be needed. Access from the north would require the construction of 450 m of new road to reach landing 6, an adverse haul to landing 8 and the crossing of 3 drainages, increasing the hauling costs. This would also increase environmental risks due to an increased number of drainage crossings.
Although non-classified drainages may not be considered streams per se, these features do feed watercourses downstream. Vegetative retention along these draws/tributaries should be designed.	The THPOG requires a minimum 5m machine free zone on all ephemeral draws.	All non classified drainages require a minimum 5 m machine free zone. This would leave the shrub layer and advanced regeneration in place.



**Table 11.0.** Identified Concerns and Mitigation Suggestions Received by the Forest Management Branch cont’d.

<b>Organization: Government of Yukon, Executive Council Unit, Environmental Assessment Unit</b>		
<b>Identified Concerns</b>	<b>Suggested Mitigation</b>	<b>Mitigation Measures</b>
Road location.	When possible, roads should be located away from streams, off ridges, and minimize lengths and widths to meet needs.	Roads should be located away from streams off ridges when possible. No mitigation required.
Maps inconsistently show planned skid trails.	Skid trails should be designed with the following criteria in mind: frequency (minimize), location, proper use (i.e. reducing damage to residual trees, using designated bumper trees), and stabilization methods and material (seeding, water bars, logging slash).	Skid trails were designed according to frequency, location, proper use and stabilization methods and material.
Within the context of this project, there is a real need for the FMB to define “Variable Retention” in terms of ecological goals and how they are met. In certain jurisdictions this has been used as a catch-all term to describe any variation to the classic clear cut, so some degree of clarity should be given. Block objectives such as retention percentage and type should not only be outlined but backed-up in terms of management goals for the landscape as they relate to ecological processes. The document states that rationale for this silvicultural system is provided in Section 5.2 of the Interim Wood Supply Plan for FMUs Y02, Y03, and Y09. In the context of the Act, this is a different project than the IWS, and as such every effort should be made to make this a stand-alone document.	If sections from other documents are being referred to, they should be included for the benefit of the reviewers.	Variable retention provides the options needed for ensuring that forest practices are compatible with the ecology of the site and stand, rather than imposing a mismatch of blanket rules (IFS 2003). Three major purposes of using the Variable Retention System include: life boating-providing localized refugia for species before the remainder of the stand is fully re-established; enriching-providing habitat elements that would not otherwise be present in the new stand and maintaining connectivity-providing stand-level connectivity in conjunction with landscape level corridors or forest ecosystem networks (IFS 2003).

**Table 11.0.** Identified Concerns, Suggested Mitigation and Mitigation Measures cont'd.

<b>Organization: Government of Yukon, Executive Council Unit, Environmental Assessment Unit</b>		
<b>Identified Concerns</b>	<b>Suggested Mitigation</b>	<b>Mitigation Measures</b>
<p>The site and harvest plan states the objective: "...leave slash scattered throughout the block as widely dispersed as possible to simulate wildfire debris...". The northern boreal forest has one of the slowest decomposition rates on the continent, due in part to low temperatures and acidic (low pH) microsite conditions. Fire disturbances result in markedly different changes to the forest environment than harvesting in terms of factors that affect these conditions.</p>	<p>The concept of uniform slash distribution throughout cut blocks should be examined with respect to the effects of this added debris on ecological processes and microsite conditions.</p>	<p>Soil conditions will be monitored for cooling. The adaptive management principle<sup>3</sup> will apply and will be utilized in post harvest surveys to monitor and address any emerging soil concerns.</p>
<p>The maps that have been provided do not effectively show the applicable harvesting boundaries e.g. block C5 looks like a series of cut blocks, not like one block with various types of internal and external retention.</p>	<p>This layout comes across as a series of several clear cuts instead of one cut block that has adapted strategies to retain ecological values.</p>	<p>For the ease of planning and permitting, etc., some blocks (blocks C5 and C12) have been broken down into sub-blocks, but still should be considered as one block. (For example, blocks 5A, 5B, 5C and 5D are components of block 5). It is important to remember that when the site plan maps are being reviewed that in the context of seral stage the existing blocks and the proposed (or "new" blocks) are considered as early seral vegetation complexes and provide the same ecological habitat function as "new" cut blocks do.</p>
<p>The document states that FN crewmembers assisted in all operational field stages and that no observations were made with respect to cultural sites. Unless crewmembers were specifically trained to identify cultural issues this is an inadequate procedure.</p>	<p>The Department of Heritage should be contacted with respect to cultural/archaeological sites and issues.</p>	<p>An overview assessment of potential heritage resource concerns for the East Hyland Planning Area was conducted in January 2004. The Cosh Creek Operating Unit and specifically blocks C5, C9 and C12 were assessed as being areas of low heritage potential.</p>

<sup>3</sup> Adaptive management rigorously combines management, research, monitoring, and means of changing practices so that credible information is gained and management activities are modified by experience (Government of British Columbia 2004).

**Table 11.0.** Identified Concerns, Suggested Mitigation and Mitigation Measures cont'd.

<b>Organization: Government of Yukon, Tourism and Culture, Heritage Resources</b>		
<b>Identified Concerns</b>	<b>Comments and Suggested Mitigation</b>	<b>Mitigation Measures</b>
In the block reports submitted for the environmental screening, the block reports indicate that First Nation community members assisted in the identification of historic and cultural sites. Archaeological sites are buried and would not be visible during block inspection.	Archaeological resources impact assessment can only be carried out by a professional archaeologist.	Thomas Heritage Consulting conducted an overview assessment of potential heritage concerns for the East Hyland Planning Area in January 2004. The Cosh Creek Operating Unit and specifically Blocks C5, C9 and C12 were assessed as being in areas of low heritage potential.
<b>Organization: Yukon Conservation Society</b>		
<b>Identified Concerns</b>	<b>Suggested Mitigation</b>	<b>Mitigation Measures</b>
Concerns regarding the size of openings that result from combinations of the proposed new blocks and existing openings.	Have cut blocks that are consistent with the Timber Harvest Planning and Operating Guidebook.	The THPOG is not part of any legislation, making the literature in the guidebook recommendations rather than mandatory requirements. According to the THPOG, the recommended block size is 40 ha.; however the proposed block sizes in this project range from 45 ha. to 62 ha. The total opening sizes (including existing and proposed block) range from 84 to 130. Larger block sizes means there will be less road construction, less access concerns and less erosion and siltation concerns reducing landscape level fragmentation as well.
The proposed new reserve withdraws the V9 type should be included as part of the cut block.	Include the entire V9 component of Block C5D in the reserve.	As the V9 type is not rare, endangered or unique, there was no specific strategy developed to preserve the V9 type in its entirety. Preserving the V9 type while not preserving the other V-types would be contradictory to ecosystem management principles.

## 9. REASONS FOR DECISION

On April 1, 2003, the Director of the Yukon Government Forest Management Branch (Director FMB) was delegated as representative of the RA (the Minister) for purposes of carrying out environmental assessments under the Section 4.1 of *Yukon Environmental Assessment Act* by the Department of Energy, Mines and Resources Deputy Minister (for matters relating to forest management for the Yukon Territory). Accordingly, it is the responsibility of the Director FMB to render a decision on this environmental assessment.

### a. Decision Options

Section 16.1 of the *Environmental Assessment Act* requires that:

*“The responsible authority shall take one of the following courses of action in respect of a project after taking into consideration the screening report and any comments filed pursuant to subsection 14(3):*

*(a) subject to subparagraph (c)(iii), where taking into account the measures that the responsible authority considers appropriate, the project is not likely to cause significant adverse environmental effects, the responsible authority may exercise any power or perform any duty or function that would permit the project to be carried out and shall ensure that any mitigation measures that the responsible authority considers appropriate are implemented;*

*(b) where, taking into account the implementation of any mitigation measures that the responsible authority considers appropriate, the project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances, the responsible authority shall not exercise any power or perform any duty or function conferred on it by any other Act that would permit the project to be carried out in whole or in part; or*

*(c) where:*

- the project, taking into account the implementation of any mitigation measures that the responsible authority considers appropriate, is likely to cause significant adverse environmental effects and paragraph (b) does not apply, or*
- public concerns warrant a reference to a mediator or review panel, the responsible authority shall refer the project to the Minister for a referral to a mediator or a review panel in accordance with Section 25.*

### b. Screening Decision

Having reviewed and considered the likely environmental effects of this project, the issues raised in the referral responses by individuals and agencies and after due consideration, the RA has concluded that the final screening report for this project accurately and appropriately addresses the significant and/or potentially significant environmental effects that have been identified.



## 10. REFERENCES

- Burton, P. J., C. Messier, D. Smith and W. Adamowicz. 2003.** *Towards Sustainable Management of the Boreal Forest*. National Research Council of Canada.
- Canadian Environmental Assessment Agency. 1994.** *The Canadian Environmental Assessment Guide: Responsible Authority*.
- DIAND Forest Resource. 2000.** *Final Resource Report East Hyland Planning Area Forest Management Unit Y02*. August 3, 2000.
- DIAND Forest Resources. 1999.** *Timber Harvest Planning and Operating Guidebook. Incorporating Environmental and Human Values into Timber Harvest Planning*.
- Fisheries and Environment Canada. 1977.** *Ecoregions of Yukon Territory*.
- Forest Management Branch. 2004.** *Environmental Assessment Screening Report: Interim Wood Supply Plan for the Kaska Yukon Traditional Territory*.
- Government of British Columbia Ministry of Forests. 2004.** *Glossary of Forestry Terms*. <http://www.for.gov.bc.ca/hfd/library/documents/glossary/index.htm>.
- Government of Canada. 1994.** *A Reference Guide for the Canadian Environmental Assessment Act: Addressing Cumulative Environmental Effects*. Prepared by the Federal Environmental Assessment Review Office.
- Hegmann, G. and J. Green. 1997.** *Users Guide for Level 1 Screening of Cumulative Effects Yukon DIAND Northern Affairs Program*. Prepared for Department of Indian and Northern Development. Prepared by Axys Environmental Consulting Ltd.
- Industrial Forestry Service Ltd. 2003.** *Interim Wood Supply Plan for Forest Management Units Y02, Y03 and Y09 in the Kaska Yukon Traditional Territory*. Prepared for the Kaska Forest Resources Stewardship Council and the Forest Management Branch, Yukon Territorial Government.
- Industrial Forestry Service Ltd. 2004.** *Site and Harvest Plans for Blocks C5, C9 and C12*. Prepared for the Yukon Government Forest Management Branch, July 2004.
- Kaska Forest Resources Stewardship Council. 2004.** *Interim Wood Supply Plan: Summary Report of the Kaska Forest Resources Stewardship Council Interim Wood Supply and Recommendations*.
- P. Beaudry and Associates. 2004.** *Watershed Management Considerations Relative to the Cosh Creek Forest Development Plan*. Prepared for Industrial Forestry Services Ltd.

**Thomas Heritage Consulting. 2004.** *Overview Assessment of Potential Heritage Concerns in the East Hyland, Watson Lake, West Rancheria and Ross River Planning Areas.* Prepared for Heritage Resources Unit and Forest Management Branch.

**Timber Screening with CEEA and Cumulative Effects: A Reference Guide for Field Operations.** (no other information provided).

**Tobler, P. 2004.** *Stream Assessments Associated with Years 2 and 3 for the East Hyland Planning Unit.* Letter Report Prepared by EDI Environmental Dynamics Inc., submitted to S. Cole, District Forester, August 31, 2004.

**Yukon Environmental Assessment Act (YEAA). 2003.** *Practitioner's Guide.* Prepared by the Development Assessment Branch.

**a. Personal Communications**

**Cole, S. 2004.** pers. comm. Conversation between Scott Cole, RPF, District Forester, Watson Lake, Yukon Government Forest Management Branch and Robin Sharples, Environmental Assessment Coordinator, Yukon Government Forest Management Branch, dated April 7, 2004.

**Hennings, R. 2004.** pers. comm. Phone conversation between Ryan Hennings, District Conservation Officer, Department of Environment, Watson Lake and Robin Sharples, Environmental Assessment Coordinator, Yukon Government Forest Management Branch, dated April 7, 2004.

**Thorp, M. 2004.** pers. comm. Conversation between Myles Thorp, Manager, Forest Planning and Development, Yukon Government Forest Management Branch and Robin Sharples, Environmental Assessment Coordinator, Yukon Government Forest Management Branch, dated March 19, 2004.

**White, D. 2004.** pers. comm. Email sent from Don White, Silviculture Technician, Yukon Government Forest Management Branch to Robin Sharples, Environmental Assessment Coordinator, Yukon Government Forest Management Branch, dated March 16, 2004.

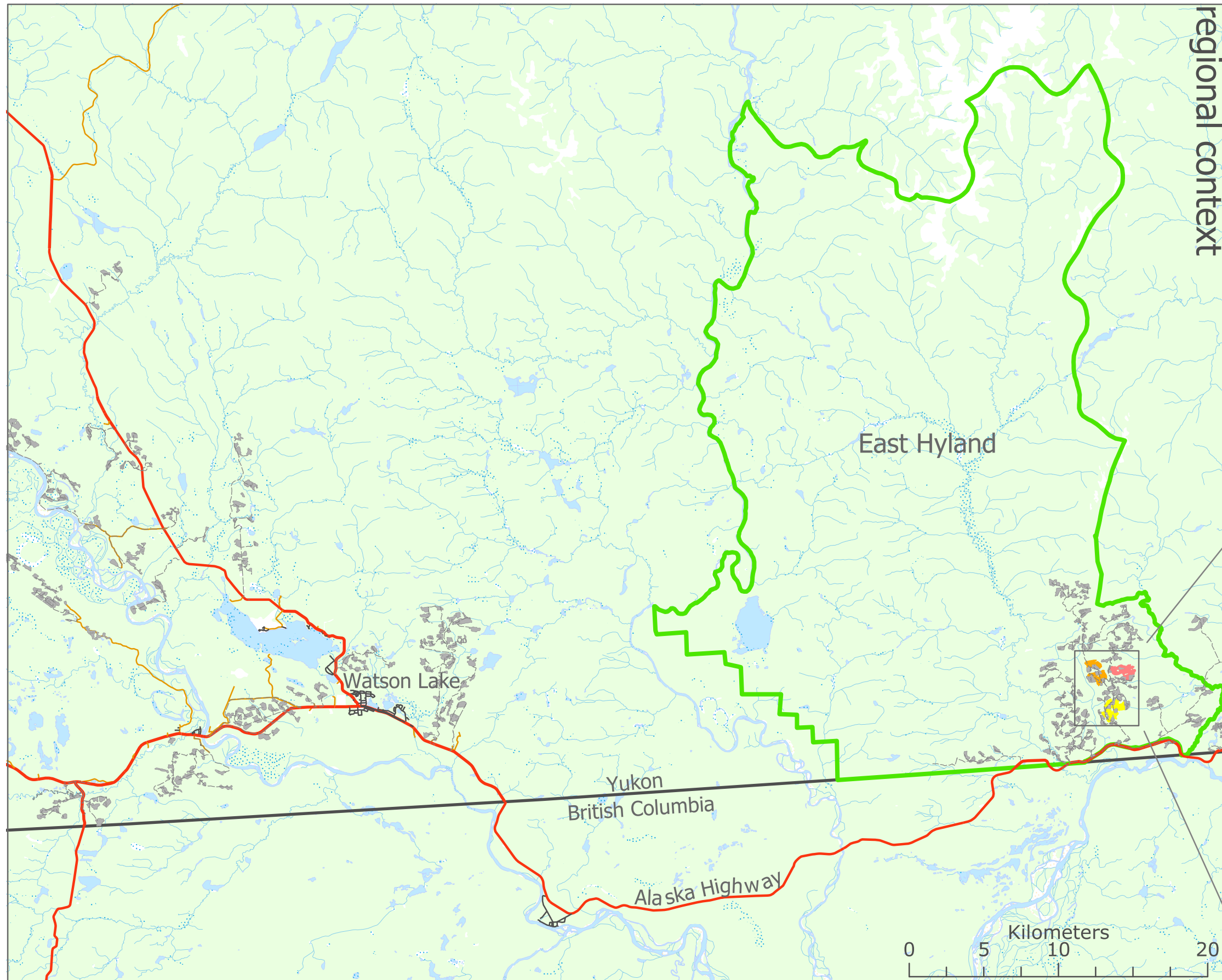


Fig. 1

# Overview

