Development Plan
For
Coffee Lake
Ross River, Yukon Territory
Forest Management Unit Y09

Yukon Government
Department of Energy, Mines and Resources
Forest Management Branch
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CONTENTS

Executive Summary

This development plan fulfills a portion of the interim wood supply requirements identified in the Kaska Traditional Territory under the Kaska Forest Stewardship Memorandum of Understanding between the Kaska First Nation and Yukon Government, signed in July 2002. This plan has been developed to provide small volume timber permit opportunities to the community of Ross River, Yukon Territory.

The 380-hectare (ha) area identified in this plan was determined as a result of a landscape level plan (IFS, 2003) and public consultation process initiated by the Kaska Forest Resource Stewardship Council (KFRSC). The harvesting areas proposed within this plan include four operating units totaling 63.6 ha, which contain an estimated volume of 11,302 cubic metres (m^3) of roundwood for the local community. However, in keeping with a recommendation from the KFRSC, a maximum (total) of 5,000 m^3 will be made available for permits over the first three years.

This document attempts to implement the recommendations brought forward by the Ross River community and the KFRSC. As per one of the recommendations made by the KFRSC, management decisions regarding activities in this harvest area will be made by the Forest Management Branch in conjunction with the Ross River Dena Council. Permits for volumes of 1,000 cubic metres (m^3) or less will be issued and administered by the Client Services and Inspections (CS&I) Branch of the Department of Energy, Mines and Resources.

1.0 Introduction

This plan was developed as a result of the *Memorandum of Understanding (MOU) on Forest Stewardship for the Kaska Traditional Territory,* between the Kaska First Nation and the Yukon Government, signed July 29, 2002. The MOU empowered the KFRSC to create a forest management plan for the southeast Yukon in forest management units Y02, Y03 and Y09. The MOU also directed the KFRSC to establish a three-year interim wood supply within the same forest management units.

In September 2003, a landscape plan was completed by the Interim Wood Supply Technical Working Group established under the KFRSC. The landscape plan identified Coffee Lake and Buttle Creek as two potential areas for meeting local timber needs (IFS, 2003).

In June, 2004, Forest Management Branch initiated a development plan for the Coffee Lake area. The objective was to develop a harvest area for primarily small volume (less than or equal to 1,000 m^3) timber permits.

On May 26, 2005, KFRSC provided these specific recommendations (see Appendix 1):

- That the Coffee Lake area be managed as a “Community Forest” as is currently occurring in British Columbia. [This would be managed] between the Ross River Dena Council and Forest Management Branch.
- That the Coffee Lake area be managed to maintain visual quality from adjacent lakes, the Robert Campbell Highway and Order-In-Council lands and the area will be harvested and accessed as local interests occur over time.
- That large clearcuts will not occur, but the blocks are management boundaries for smaller openings to access small volumes of timber.

- That the access into Coffee Lake be developed as local need arises to access the timber.
- That the main access will occur off the Robert Campbell Highway in a designated area.
- That levels for interim wood supply in the vicinity of Ross River not exceed 5,000 m^3 (total) over a three-year period (KFRSC, 2005).

All recommendations were incorporated into this development plan. To clarify the idea of a "community forest," the Yukon currently does not have such a tenure designation; however, the intent is that the area will provide local access to timber for the Ross River community. Additionally, the Ross River Dena Council will be treated as a partner in respect of management decisions affecting this harvest area.

2.0 Planning Area

The planning area covers 380 ha although the actual harvest area is 63.6 ha in four operating units, with an estimated volume of 11,302 m^3 (IFS, 2003).

2.1 Ecoregion, Drainage and Location

The area under the plan is located within the Boreal Cordillera, Yukon Plateau, North Ecoregion. The area drains into Coffee Lake which flows into the Lapie River and then into the Pelly River system (Smith, 2004).

The development area is located approximately 25 kilometres southeast of Ross River. It is bound by Mud Lake to the west, an unnamed lake and associated drainage to the north and east and the Robert Campbell Highway to the south. Access is located near kilometer 351, on the north side of the Robert Campbell Highway.

3.0 Landscape Features

3.1 General Vegetation Types

The development plan area is composed of forested uplands, dominated by a late seral white spruce stand. Vegetation types represented in the area include type V11 and V13 (Zoladeski, 1996). The V11 vegetation type is described as a closed white spruce forest. These are tall, white spruce dominated forests, occasionally including black spruce, lodgepole pine or paper birch. V13 is described as a closed white spruce–black spruce forest with occasional lodgepole pine.

3.2 General Fish and Wildlife Considerations

There are no fish-bearing streams within the identified operating units.

The area east of Operating Unit 4, adjacent to an unnamed lake, has been identified as high potential for moose habitat (KFRSC, 2004). The operating unit is 100m from the lake and avoids this habitat.

The operating guidelines (section 7.3) provides harvesting requirements and criteria to minimize the impact to avian and wildlife habitat within the planning area.

3.3 Recreation and Visual Quality Concerns

The Ross River community and the Ross River Dena Council expressed concerns with the impact on visual quality. Coffee Lake is an important traditional use area for the Ross River Dena people. The concern was that the road and the harvest blocks would be visible from the Robert Campbell Highway and Coffee Lake.

The entire development is located in a basin that cannot be seen from any vantage point on Coffee Lake, the Robert Campbell Highway or from private land west of the planning area.

4.0 Stand Level Considerations

4.1 Ecosystem

Located in the Simple Upland Natural Disturbance Zone (NDZ 3) (Forest Resources, 1999), these stands are subject to stand replacing events. Fire and insect infestations occur naturally (at 40 year intervals, approximately). These disturbances produce openings that average 300 ha and range from1-1000 ha.

The V11 sites (dominated by white spruce), are in late seral to mature stages of forest succession. The V13 sites (dominated by white spruce/lodgepole pine), are in the same stages of forest succession.

4.2 Silviculture System

The intent is to develop a series of small volume (less than or equal to 1,000 cubic metres) timber permits within the four operating units. The blocks developed for these permits would be small patch cuts with block size related to the volume of the permit. Retention within the operating units would be comprised of the reserves identified on the attached maps as well as setbacks between the blocks.

Decisions regarding configuration of the cut blocks within the operating units will be made by the Department of Energy, Mines and Resources, in conjunction with the Ross River Dena Council. This co-management approach will be used to direct activities in this timber harvest area. In all cases, harvesting activities will be set up to avoid the reserve areas shown on the accompanying maps.

4.3 Cultural Concerns

Yukon Government Heritage Branch completed an archaeological overview assessment in January, 2004 (Thomas, 2004). Currently, there are no known archaeological sites within this planning area. The recommendations provided by Thomas (2004) will be adopted for harvest activities.

This area has traditionally been used by the Ross River Dena people and a retreat has been established on the southwest shore of Coffee Lake. There is an intricate trail network that the Ross River Dena Council uses to move between lakes for fishing and hunting. The proposed development does not impact the trail network (Ross River Dena Council, 2005).

Harvesting operations will cease immediately if a heritage trail or significant archaeological site is discovered. The discovery must be reported immediately to the (CS&I) Natural Resources Officer, who will advise the appropriate authorities and the Ross River Dena Council.

5.0 Harvesting Section

5.1 Operating Units

Operating unit areas are outlined in Table 1. The total area of disturbance is approximately 64 ha.

Table 1 Operating Units

Operating Unit	Gross Size (ha)	Reserves (ha)	Net Area (ha)	Estimated Volume (m^3)
1	8.0	1.0	7.0	1297
2	9.5	0.4	9.1	1836
3	31.1	5.6	25.5	5143
4	15.0	0.0	15.0	3026
Total	**63.6**	**7.0**	**56.6**	**11,302**

5.2 Harvest Scheduling and Season

Demand will determine the harvest schedule.

The preferred season of harvest is dry summer conditions to allow some disturbance of the soil. The site disturbance promotes soil-mixing, creating seed beds favorable for natural regeneration. To minimize road degradation, rutting and compaction of forest soils, operations will cease during wet conditions.

The area is also suitable for winter harvest, although additional site preparation may be required for silviculture activities.

6.0 Access and Access Management Plan

6.1 Access

The Coffee Lake mainline (proposed) road accesses the Coffee Lake Wood Supply Area. The proposed route ascends along a ridge, sequentially accessing all four operating units. Given slope constraints, this is the most practical route. A 200 m buffer conceals the road from the Robert Campbell Highway.

6.2 Access Management Plan

An access management plan has been developed to minimize erosion and mitigate wildlife concerns. The mainline will be constructed as local demands merit. Forest Management Branch will be responsible for the construction of the mainline up to Operating Unit 1 (construction is proposed for October 2005). Maintenance and any further road construction will be the responsibility of the permit holders. As stated earlier, access development is dependent on industry demand, and defined harvest levels for the first three years.

The proposed access to the harvest area was located as far from private property as was feasible given the slope constraints.

All roads will be temporary and in block roads will be deactivated as part of permit terms and conditions. The mainline will be seasonally deactivated ensuring that water bars and cross-ditches move spring run-off from the road surface. These serve to limit access to all-terrain vehicle-only as requested by the Ross River Dena Council. Once the harvesting blocks have been completed the mainline access between blocks will be deactivated when reforestation activities are complete and the block assessments indicate they are satisfactorily restocked.

7.0 Monitoring Plans

The monitoring of timber permits within the development plan is the responsibility of the CS&I Branch. Audits will be conducted by the Forest Management Branch to ensure that all permit activities meet the objectives of the final development plan.

7.1 Harvest Monitoring Plan

This development plan is to be used as a guideline for harvesting activities on the land base. CS&I Branch staff will ensure that all timber permit terms and conditions are adhered to.

7.2 Reforestation Monitoring Plan

All areas impacted by timber harvesting activities will be monitored and treated to ensure they are satisfactorily restocked. All assessments will be conducted as per the *Yukon Sivilculture Manual*.

8.0 Operational Guidelines

The following guidelines are being suggested for harvesting activities within this planning area.

8.1 Permits

Permits for volumes of 1,000 m^3 or less are issued and administered by the CS&I Branch. The Natural Resource Officer must submit harvesting proposals to the Ross River Dena Council for consideration of cut block size and configuration. Mitigations suggested in this Development Plan (finalized after Environmental Assessment) shall be followed.

8.2 Riparian Management

The operating units have been configured is such a way as to avoid any riparian areas and wetland complexes present in the area. Operating Unit 4 is 100m away from the unnamed lake to the east and the non classified drainage (NCD)

associated with the lake (on the accompanying map, this drainage appears to be a stream). As such, there is no need for any riparian management areas. Any ephemeral draws that may be located within actual cut block boundaries (as they are developed) will be maintained by establishing 5m machine-free zones and using directional falling (away from the NCD).

8.3 Wildlife

There is evidence of large mammal use (moose and bear) throughout the wetland and drainage areas outside the operating unit boundaries. Appropriate buffers established in the configuration of the operating units will maintain these habitat areas. Harvesting activities will not be permitted from May 1 to July 31 in order to avoid the migratory bird breeding season.

8.4 Road Development and Reclamation

All access to the area is temporary and will be deactivated after harvest activities are complete. The Forest Management Branch will build the mainline road to a Class 2 standard, as per Timber Harvest Planning and Operating Guidebook (THPOG). This is an all season road with an 8m road bed and up to 20m right of way width. The remainder of the mainline road will be developed as demand grows for further access. This main road will follow the route shown in the accompanying maps. Additional in-block access to landings in small volume permit areas will be developed as the permits are issued. Permit holders will be responsible for development of all in-block roads. All in-block roads will be rehabilitated after activities are complete, and will become part of the net area to reforest (NAR).

8.5 Cultural Concerns

As described in Section 4.3, harvest operations will cease immediately if a significant heritage or archeological site is discovered. The find will be reported to the Ross River Dena Council by the Natural Resource Officer.

8.6 Reforestation Description

All harvested areas will be planted within two years after harvest. White spruce will be the preferred species for restocking. Regeneration surveys will be carried out within 5 years (early stocking) and 10 years (late performance).

9.0 Operating Unit Summaries

9.1 Operating Unit 1 Summary

Boundary

Operating Unit 1 is 8 ha with two 0.5 ha internal reserves. To address visual quality concerns, the south boundary follows the upper terrain break on the southern portion of the unit. The east boundary is defined by a large draw. A distinct forest type boundary forms the north operational boundary. The west boundary is formed by a forest type, terrain break and a 650 m set back east of the private lot.

Ecology and Site Conditions

ECO-REGION			VEGETATION TYPE		SOIL TYPE			
Boreal Cordillera Yukon Plateau-North Region			V11(13)		S4, S6			
ELEV	SLOPE %	ASPECT	TERRAIN	SLOPE POSITION	MOIST. REGIME	SOIL DRAINAGE	LFH(OM) DEPTH	SOIL TEXTURE
850m	0-30	Crest south	Mid to lower	Upper ridge	Fresh Moist	Moderate	10-30cm	Silt loam Silt Silty clay

Harvest Stand Description

MERCH. AREA	VEGETATION TYPE	CROWN CLOSURE	AGE	HEIGHT	AVG. DBH	EST. VOL/HA
5.87 1.13	V11 V13	36-45% 36-45%	110 120	20.3 11	24.7 15	201.7 100

Riparian Considerations

There are no streams or wetlands within or adjacent to this operating unit.

Terrain Stability

No concerns exist inside the operating unit. There is a steep (up to 80%) sand hill to the south, north of the Robert Campbell Highway. This is unstable and harvesting activities will avoid this area.

Visual Sensitivity

This unit has a high visual sensitivity rating because of the Coffee Lake recreational area. To mitigate the visual impact, the southern boundary was moved uphill to the highest terrain break. The Coffee Lake mainline is located along the north boundary for the same reason.

Cultural Heritage

There are no known archaeological sites within this unit. The Ross River Dena Council maintains a recreational site at the southwest side of the Coffee Lake.

Forest Health

There are no known forest health issues within this operating unit.

9.2 Operating Unit 2 Summary

Boundary

Operating Unit 2 is 9.5 ha with a 0.4 ha reserve. The south boundary follows the deep draw and then the upper break of the hill. There is scattered aspen and spruce between this boundary and the upper edge of the steep sand hill. The east and west boundaries are formed by forest types. The north boundary follows the break of a deep draw. The irregular shape and the feathering factor minimize the potential for blowdown.

Ecology and Site Conditions

ECO-REGION				VEGETATION TYPE		SOIL TYPE		
Boreal Cordillera Yukon Plateau-North Region				V11(13)		S4, S6		
ELEV	**SLOPE %**	**ASPECT**	**TERRAIN**	**SLOPE POSITION**	**MOIST. REGIME**	**SOIL DRAINAGE**	**LFH(OM) DEPTH**	**SOIL TEXTURE**
850m	**0-30**	**Crest south**	**Mid to lower**	**Upper ridge**	**Fresh Moist**	**Moderate**	**10-30cm**	**Silt loam Silt Silty clay**

Harvest Stand Description

MERCH. AREA (ha)	VEGETATION TYPES	CROWN CLOSURE	AGE	HEIGHT	AVG. DBH	EST. VOL/HA
9.1	V11	36-45%	120	20.3	24.2	201.7

Riparian Considerations

There are no streams or wetlands within or adjacent to this unit.

Terrain Stability

No concerns exist inside this operating unit. There is a steep (up to 80%) sand hill to the south, north of the Robert Campbell Highway. This is unstable and harvesting activities will avoid this area.

Visual Sensitivity

This unit has a low visual sensitivity rating. No visual impact to the Robert Campbell Highway or Coffee Lake.

Cultural Heritage

There are no known archaeological sites within this operating unit. The Ross River Dena Council maintains a recreational site at the southwest side of the Coffee Lake.

Forest Health

There are no known forest health issues within this operating unit.

9.3 Operating Unit 3 Summary

Boundary

Operating Unit 3 is 31.1 ha and contains internal reserves totaling 5.6 ha. The south boundary follows a major draw and the upper break of the hill. The east boundary follows a major terrain draw. The north boundary is located on the edge of a swampy leave strip between this unit and Operating Unit 4. Progressing west, the boundary follows the forest type.

Ecology and Site Conditions

ECO-REGION	VEGETATION TYPE	SOIL TYPE
Boreal Cordillera Yukon Plateau-North Region	V13	S4, S6

ELEV	SLOPE %	ASPECT	TERRAIN	SLOPE POSITION	MOIST. REGIME	SOIL DRAINAGE	LFH(OM) DEPTH	SOIL TEXTURE
900m	0-30	Crest south	Rolling broken	Upper ridge	Fresh Moist	Moderate Well	10-30cm	Silt loam Silt Silty clay

Harvest Stand Description

MERCH. AREA	VEGETATION TYPE	CROWN CLOSURE	AGE	HEIGHT	AVG. DBH	EST. VOL/HA
25.5	V13	36-45%	121-150	20-24	20.8	201.7

Riparian Considerations

There are no streams or wetlands within or adjacent to this operating unit.

Terrain Stability

No concerns inside the unit. There is a steep (up to 80%) sand hill to the south, above the Campbell highway. It is unstable And disturbance should be avoided.

Visual Sensitivity

This operating unit has a low visual sensitivity rating. The elevation and aspect of the unit mitigate the visual impact to the highway and lake.

Cultural Heritage

There are no known archaeological sites within this unit. The Ross River Dena Council maintains a recreational site at the southwest side of the Coffee Lake.

Forest Health

There are no known forest health issues within this operating unit.

9.4 Operating Unit 4 Summary

Boundary

This operating unit is 15 ha with no pre-designated internal reserves. The southwest and north boundaries follow the edge of a swampy depression covered by willows, black spruce and heavy peat moss. There is an unnamed lake to the northeast of this operating unit. The east boundary avoids a Non Classified drainage (NCD) extending south from the lake. This boundary also defines the eastern edge of the planning area.

Ecology and Site Conditions

ECO-REGION				VEGETATION TYPE			SOIL TYPE	
Boreal Cordillera Yukon Plateau-North Region				V11			S4, S6	
ELEV	**SLOPE %**	**ASPECT**	**TERRAIN**	**SLOPE POSITION**	**MOIST. REGIME**	**SOIL DRAINAGE**	**LFH(OM) DEPTH**	**SOIL TEXTURE**
900m	0-30	Crest south	Rolling broken	Upper ridge	Fresh Moist	Moderate Well	10-30cm	Silt loam Silt Silty clay

Harvest Stand Description

MERCH. AREA (ha)	VEGETATION TYPE	CROWN CLOSURE	AGE	HEIGHT	AVG. DBH	EST. VOL/HA
15.0	V11	36-45%	121-150	20-24	23.5	201.7

Riparian Considerations

A 100m setback has been established to buffer the unnamed lake to the northeast of this unit. An NCD exists east of the operating unit and south of the unnamed lake. The ground in the NCD is wet, although there were no signs of running water and no signs of seasonal runoff.

Terrain Stability

No concerns exist inside this operating unit. The area is flat to evenly-sloped with some insignificant dry draws.

Visual Sensitivity

This unit has a low visual sensitivity rating. No visual concerns.

Cultural Heritage

There are no known archaeological sites within this operating unit. The Ross River Dena Council maintains a recreational site at the southwest side of the Coffee Lake.

Forest Health

There are no known forest health issues within this operating unit.

9.0 References

Forest Resources, Department of Indian and Northern Development. 1999. *Timber Harvest Planning and Operating Guidebook (THPOG). Incorporating Environmental and Human Values into Timber Harvesting.*

Industrial Forestry Services Ltd. (IFS). 2003. *Interim Wood Supply plan for Forest Management Units Y02, Y03, and Y09.* Prepared for the Kaska Forest Resources Stewardship Council and the Forest Management Branch.

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

Zoladeski, C.A., Cowell, D.W. and Ecosystem Classification Committee. 1996. Ecosystem Classification for the Southeast Yukon Field Guide.

APPENDIX 1: Background Letters from Kaska Forest Resources Stewardship Council

See attachment named “Appendix 1.”

APPENDIX 2: Maps

See attachment named “Appendix 2 – Maps.”