EFFECTS ASSESSMENT: JAMES SMITH CREE NATION

1.0 INTRODUCTION

Shore Gold Inc (Shore's) representatives and James Smith Cree Nation (JSCN) Tradition Land Use (TLU) contractors met in August 2011 to discuss the methodology to be used to assess effects on JSCN TLU from the proposed Star-Orion South Diamond Project. There was general agreement in the meeting on two key aspects of the TLU Effects Assessment (EA):

1) The valued components (VCs) were agreed upon for this specific project (hunting, gathering, fishing, sites, and conditions for use); and
2) A tripartite assessment tool was agreed upon, which includes three dimensions to each identified VC (biophysical, economic, and socio-cultural) for assessing the residual effect attributes of magnitude, context and direction (AMEC 2011).

As described in Section 5.4.1.10 of the revised EIS, information on the number of Aboriginal people living on reserve who participated in traditional harvesting activities was collected as part of the 2001 census but not in more recent censuses (Statistics Canada 2001). The 2001 census indicated that 31% of adults on the JSCN reserve hunted for food during the previous 12 months. Also, 19% of adults fished, with 89% of these fishing for food. Thirty-six percent of adults reported gathering wild plants. These activities do not necessarily occur within the FalC area.

The JSCN TLU report indicates that the FalC area is of importance for traditional use. It is used frequently for hunting, most often for elk, and generally in the autumn although the area is used throughout the year. "Participants reported big game hunting for moose, elk and deer as well as small game hunting for animals such as squirrels, rabbits and chickens" (Calliou Group 2011: 38). The area is also used for trapping "beaver, coyote, squirrel, otter, marten, muskrat, lynx, mink, and rabbit" (Calliou Group 2011: 45) although no trappers who use the area were interviewed. Fishing, in particular in the Saskatchewan River for walleye or pickerel, jackfish and goldeye, was also reported. The area is used extensively by berry pickers who harvest "blueberries, low bush cranberries, high bush cranberries, raspberries, saskatoons and strawberries" (Calliou Group 2011: 50) and medicinal plants. JSCN members also use travel routes through the area, and recorded camps and other TLU and sacred sites. All the interviewees of the Calliou Group study used the FalC area for traditional harvesting. The JSCN's activities resemble a 'mixed' or dual economy "in which the harvesting of country food for primarily domestic consumption plays a significant role in their economies and cultures" (Usher, Duhaime and Searles 2003: 175).

2.0 ASSESSMENT

The following VCs have been used to assess possible effects to JSCN TLU: Hunting, Gathering, Fishing, Sites, and Conditions for Use. VCs were selected based on the information in the TLU Report (Calliou Group 2011) and agreed upon in discussion with JSCN representatives. Trapping was not included as a VC due to lack of specific information on trapping gathered during the TLU study, although the 'conditions for use' VC is used to assess potential impacts on the ability to use the area and the quality of traditional use, which would include trapping use in general.

2.1 SPATIAL CONTEXT

The FalC forest is an area of extensive Traditional Use by the JSCN (Calliou Group 2011) due to proximity to JSCN and due to the large area (132,619 ha) of the forest available for use. In addition to the FalC, JSCN traditional territory extends to other forested areas (e.g., Pascua-Porcupine area) where traditional activities can occur; however these other areas are outside the scope of assessment for the Project. Impacts on VCs will be assessed at an appropriate scale depending on the type of effect as described below. In general, the LSA was first examined as a screening step to confirm potential effects. Further analysis, if justified, was then conducted at an appropriate scale to provide context to the potential effects.

Hunting

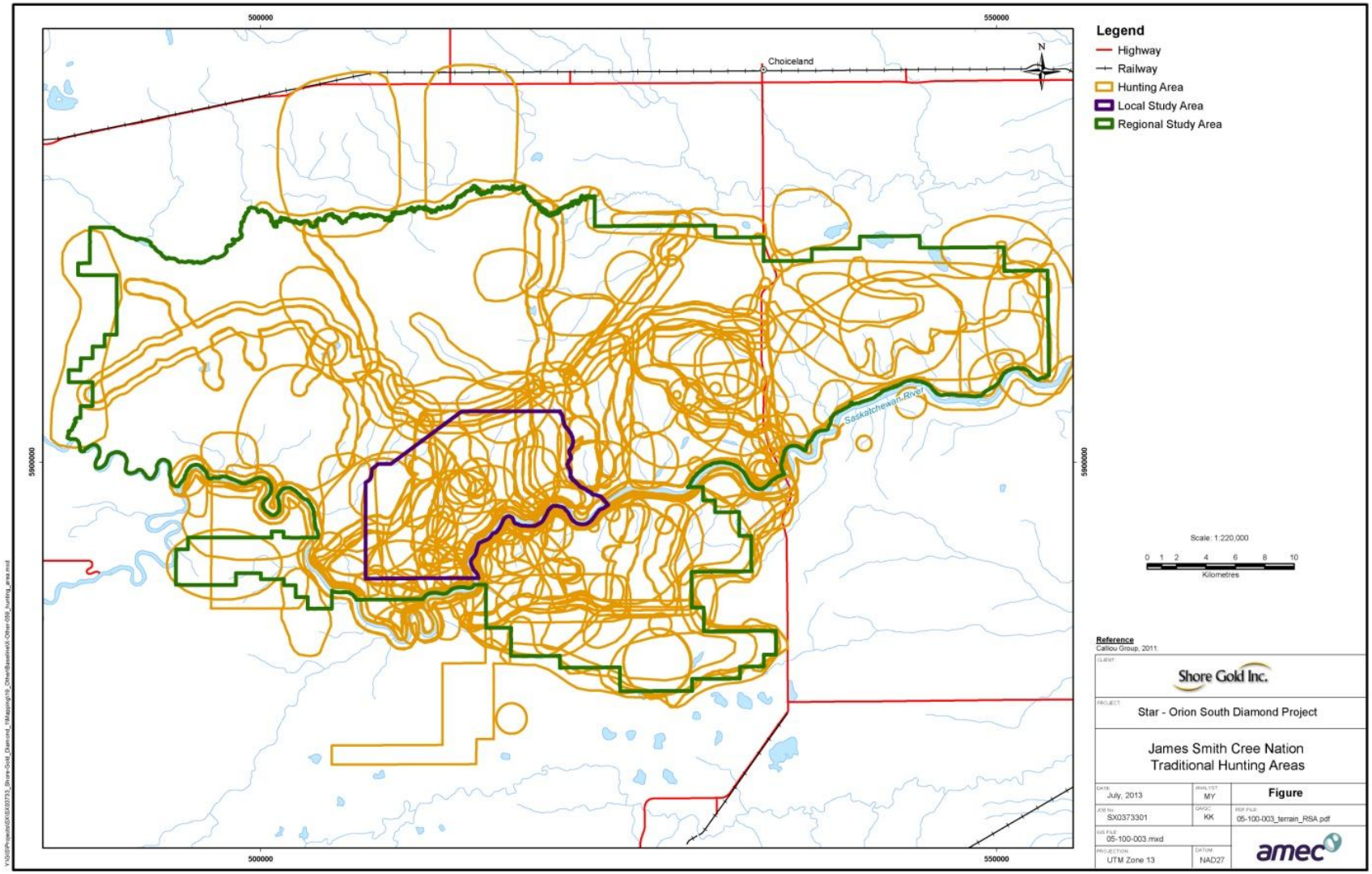
Hunting is an important traditional activity for the JSCN in the FalC forest. JSCN hunters use the LSA and Regional Study Area (RSA) to hunt "moose, elk and deer as well as small game hunting for animals such as squirrels, rabbits and chickens" (Calliou Group 2011: 38). People hunt throughout the year, but most often in the fall. Current hunting occurs across the LSA and RSA, with concentrations along many roads and along the Saskatchewan River; and in three concentration zones:

1. South of the Saskatchewan River around the Where the Horse Died Road,
2. At the southern reach of Jail Camp Road, and
3. In the triangle created by Highway 6, Wapiti Road, and Division Road. In the LSA, there is a concentration of hunting along the Saskatchewan River, and the road east of Lars Road. The Lars Road area shows slightly less concentrated hunting use. Hunting within the exclusion zones will be displaced for the life of the Project to other concentration zones or perhaps new areas, and will only resume when remediation has reached a stage where preferred game returns and if preferred hunting habitat is re-established.

Only one current use hunting polygon out of a total of 194 (<1%) from the TLU baseline (Calliou Group 2011) is wholly within the exclusion zones created by the windrows, indicating most hunting areas which cross into the exclusion zone also have a component outside where hunting can continue. The exclusion area during operations (Table 6.4.2-1 of the revised EIS) is 5,381 ha (or 4% of the FalC forest).

A total of 74 current use polygons intersect with the LSA, with 16 of those polygons having less than 5% of their area within the LSA, and 15 current use polygons are located entirely within the LSA (Table 1). Note that the Hunting Areas overlap considerably as shown on Figure 1. As a result, the total area of each polygon within the LSA in Table 1 below cannot be directly compared to the area of the LSA. JSCN hunting polygons also extend beyond the RSA (Figure 1.

Figure 1: James Smith Cree Nation (JSCN) Hunting Polygons



To describe the extent of hunting within the Project area, polygons were merged to account for overlap. On an absolute basis, within the LSA, hunting polygons occupy 97.6% of the area (11,927 ha of hunting polygons within the 12,218 ha of the LSA). Within the RSA, Traditional Hunting was identified on 76.8% of the FalC forest (101,854 ha of Traditional Hunting Area out of 132,619 ha of FalC forest).

Table 1: James Smith Cree Nation Current Hunting Polygons within the LSA

Polygon ID	Total Hunting Area (ha)	Hunting Area within LSA (ha)	Percent of Polygon within LSA (%)
1	11155.5	564.1	5.1
10	350.8	350.8	100
15	3829.0	852.5	22.3
27	890.5	721.5	81
28	889.3	720.5	81.0
30	766.5	624.3	81.4
32	6788.6	873.6	12.9
36	21868.6	1.2	<0.1
37	21843.9	1.4	<0.1
48	16791.6	1775.6	10.6
91	4910.4	1922.5	39.2
92	4969.4	1957.0	39.4
116	81.8	81.8	100
117	56.4	56.4	100
118	48.2	5.8	12.0
120	41.0	41.0	100
123	69.2	69.2	100
130	801.4	801.4	100
152	166.2	0.2	0.1
162	10268.5	9211.4	89.7
174	443.1	334.4	75.5
175	1591.8	1443.2	90.7
178	1197.4	56.4	4.7
180	2666.3	273.8	10.3
182	1251.4	6.9	0.6
187	1919.1	558.0	29.1
195	562.8	562.8	100
198	888.1	744.5	83.8
199	5629.9	3289.2	58.4
201	347.8	347.8	100
202	6644.0	836.0	12.6
203	1256.8	33.2	2.6
223	3924.9	3923.4	100

Polygon ID	Total Hunting Area (ha)	Hunting Area within LSA (ha)	Percent of Polygon within LSA (%)
227	2675.1	379.7	14.2
236	30915.3	2745.4	8.9
243	376.5	376.5	100
255	565.8	13.1	2.3
256	168.1	1.3	0.8
260	3945.9	82.2	2.1
261	358.6	179.9	50.2
262	485.8	485.8	100
263	1514.5	1102.8	72.8
266	6060.4	882.5	14.6
269	965.9	32.6	3.4
270	1110.6	739.5	66.6
282	623.2	623.2	100
283	738.8	738.8	100
289	433.5	432.3	99.7
290	275.1	97.0	35.2
296	536.1	532.6	99.3
297	490.3	490.3	100
300	762.9	4.7	0.6
303	236.0	7.0	2.9
304	234.8	12.9	5.5
323	877.0	266.0	30.3
325	884.2	739.8	83.7
349	5532.9	0.3	<0.1
360	609.4	94.1	15.4
364	11019.3	4.6	<0.1
367	685.3	366.3	53.4
371	1553.8	910.8	58.6
377	1468.8	117.4	8.0
380	2273.6	844.1	37.1
381	673.4	362.9	53.9
382	1467.3	120.6	8.2
388	1180.0	29.0	2.5
402	3786.5	865.1	22.8
405	1539.7	901.4	58.5
407	935.0	935.0	100
413	1242.4	295.2	23.8
414	1110.0	1110.0	100
417	874.2	731.1	83.6
418	972.9	764.5	78.6

Polygon ID	Total Hunting Area (ha)	Hunting Area within LSA (ha)	Percent of Polygon within LSA (%)
422	1800.1	0.7	<0.1

The JSCN TLU study (Calliou 2011) indicates that Traditional Hunting occurs over most of the LSA (Table 2) and the majority (76.8%) of the RSA (Table 3). As such, in order to adequately account for this extensive use, and to correlate to the biophysical assessment on wildlife, the RSA (i.e., the entire FalC forest) was determined to be the appropriate areal extent for the hunting assessment. Examination of the RSA considers both local and regional effects on Traditional Hunting, and places a holistic context to the assessment.

The percentage and area of hunting polygons within the LSA and RSA that intersect the Management, Protected and Sensitive Zones of the Draft FalC Provincial Forest Integrated Forest Land Use Plan are presented below in Table 2 (LSA) and Table 3 (RSA). The combined hunting polygon and the draft management zones are presented in Figure 2

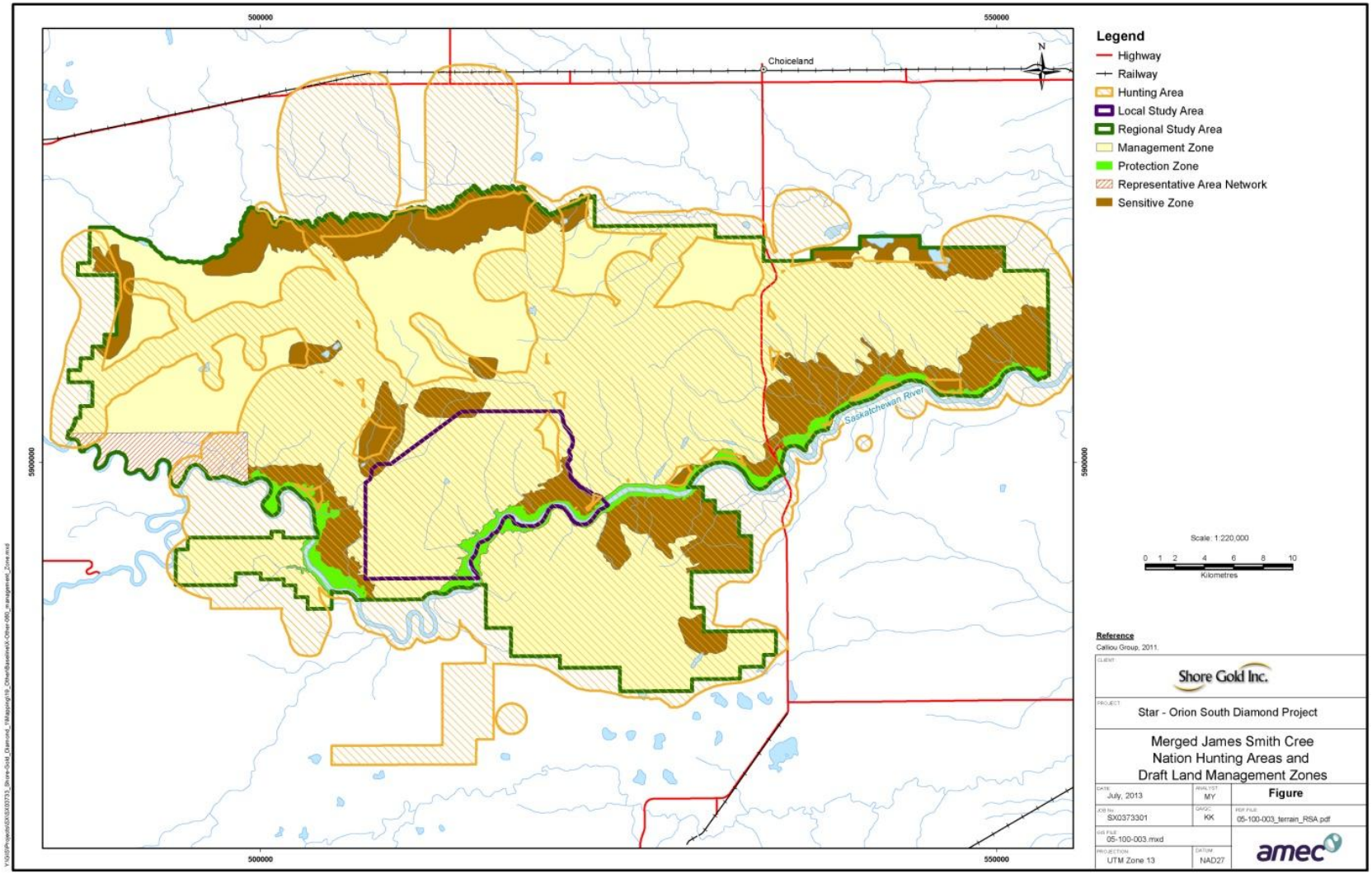
Table 2: Area of JSCN Hunting Polygons within the Draft Management Zones for the LSA

Draft Land Use Zone	JSCN Hunting Areas (ha)	Total Area (ha)	JSCN Hunting Area (%)
Management Zone	10,049	10,322	97.4
Sensitive Zone	917	934	98.1
Protection Zone	962	962	100
Representative Area Network	0	0	0
Total Area	11,927	12,218	

Table 3: Area of JSCN Hunting Polygons within the Draft Management Zones for the RSA

Draft Land Use Zone	JSCN Hunting Areas (ha)	Total Area (ha)	JSCN Hunting Area (%)
Management Zone	78,411	100,342	78.1
Sensitive Zone	17,474	24,589	71.1
Protection Zone	4,726	4,920	96.1
Representative Area Network	1,309	2,834	46.2
Total Area	101,919	132,684	

Figure 2: James Smith Cree Nation (JSCN) Hunting Areas and Draft Management Zones



Currently, to access the hunting concentration near Lars Road (i.e., within the LSA), it would take a 75 km trip by road. Other hunting concentrations are closer by road. The TLU baseline indicates accessing hunting areas may also happen by boat and occasionally by skidoo. Areas accessed by boat from the JSCN within the LSA likely include areas immediately north of the Saskatchewan River, which will not be displaced by the Project. It is unclear which areas are accessed by skidoo, although the focus on hunting in the fall rather than winter likely indicates that only occasional skidoo hunting occurs in the exclusion zone. Effects on hunting are categorized Table 4 later in this document.

Biophysical Aspect

The ungulate VC from the wildlife EA (Section 6.3.3 of the revised EIS) is used to assess effects on the biophysical aspect of hunting, as according to Calliou (2011) the majority of large game hunting is for elk. The wildlife EA concludes that "Project effects on ungulate populations within the RSA are small, reversible, and can be easily mitigated" – mitigation suggestions are detailed in the wildlife EA chapter (Section 6.3.3 of the revised EIS) and include suggesting changes to the hunting season draw quotas, season timing and bag limits within the ungulate population management units, and regional planning (likely to include closure of certain access trails). These mitigations may affect JSCN hunters positively by ensuring ungulate populations remain at a level adequate for hunting by regulating non-traditional hunting in the RSA. JSCN hunters may also be adversely affected if they regularly use access trails designated for closure to protect the ungulate populations. To mitigate this possible adverse effect, Shore will encourage JSCN participation in regional planning processes.

The wildlife EA also indicates that the "effects assessment on terrestrial, aquatic and semi-aquatic fur-bearer populations within the RSA in general is also considered minimal during the construction and operations phases." (Shore 2012) Rabbit and grouse habitat would not be limited at the large (FalC forest) scale and Project effects would not be measureable/detectable at that scale. Effects on rabbit and grouse habitat and populations would be small and local. Additionally, the Country Food Assessment (Section 6.4.5 of the revised EIS) indicates that there will likely be negligible exposure to chemicals of potential concern through the consumption of fish, plants and berries, and game.

Economic Aspect

JSCN interviewees indicated they share meat with other members of their families and community (Calliou Group 2011). Impacts on hunting may trickle down to sharing of meat, which will have caloric, economic, social, and cultural effects. Although 31% of residents on the JSCN hunted at least once in the 12 months leading up to the 2001 census, it is not known how often JSCN members hunt now nor is the caloric contribution of game to their diet known. It is not clear how often meat is shared or what contribution to the community's economic well-being the practice of sharing meat may provide. If hunting declines due to increased employment (see below) then it is possible that sharing of meat will decline. If hunting increases due to increased employment, then it is possible that the sharing of meat will increase.

As noted in section 6.4.1.8 of the revised EIS, "Shore Gold has indicated that local First Nations and Métis could account for 27 % of the operational workforce or approximately 200 jobs. Given that only 47 % of the adults on First Nations reserves in the SRSA were actively working or seeking work and that 301 of these were unemployed (an unemployment rate of 32 %), the addition of up to 200 jobs has the potential to drop Aboriginal unemployment rates." The economic effect of the project on JSCN members may be both positive (potential for gaining high-paying employment, having disposable income to pay for hunting necessities) and adverse (removing opportunity due to time spent at the place of employment and potential employment-related quality of life issues). JSCN members employed by the project may successfully resolve the scheduling issues and continue to hunt.

The successful harvesting household is often also the successful wage-earning household, as this cash income is used for purchasing harvesting equipment, and especially fast means of transport. This is the key means of resolving the time allocation problem, mainly for men, between wage work and harvesting. There has also been increasing specialization among households, so that some harvest far more than their own needs and share or exchange the surplus. So long as harvest disruption does not occur, wage employment does not normally displace harvesting, and people have greater choice about their activities and their diet (Usher, Duhaime and Searles 2003:178).

Although 'fast means of transport' may not be required in this context, it is possible that increased employment opportunities will allow more hunters to purchase all terrain vehicles, which can allow hunters access to areas where normal vehicular traffic has been blocked. Lack of vehicular access due to road closures was noted as an issue in the TLU study.

Hunting will be displaced from the exclusion zones of the Project area although it appears that other hunting areas that JSCN hunters often use would be closer by road. For this reason, the displacement will likely not cost more in gas consumption or time and should not result in lost production. Mitigations described in the 'Biophysical Aspect' will also mitigate economic costs and maintain hunting opportunities by ensuring ungulate populations are available for JSCN hunters.

Socio-Cultural Aspect

Many JSCN members who hunt also share meat, a traditional practice (Calliou Group 2011). As the wildlife effects assessment and the information on hunting area concentrations indicate, most hunting can continue with minimal effect from displacement to nearby hunting areas. However, time for hunting may be curtailed if paid employment is obtained by a previously unemployed individual. This effect may be mitigated by the newly employed individual's increased ability to finance hunting activities (gas, all terrain vehicles, ammunition, etc.). Effects on opportunities for the transfer of traditional knowledge and to the ability to preserve and enhance cultural values through on-the-land activities are described in the 'Conditions for Use' VC, below.

2.1 COMBINED JSCN HUNTING ASSESSMENT

The Project is removing an area (up to 5,831 ha) used for hunting from future use until reclamation is complete; however a large area of the FalC forest and identified areas of Traditional hunting will still be available for use. There are hunting concentrations closer to the JSCN by road and hunting will likely increase in these and possibly new areas as well as potential displacement to other forested areas within JSCN traditional territory. Boat-accessed areas even within the LSA will generally not be fenced off and will largely continue to be accessible (the Star Pit boundary and Project facilities will limit use of a section of river-accessed hunting area about two kilometers long). The Hunting assessment is summarized in Table 4 below.

Table 4: Hunting VC Effect Attributes for JSCN

VC Assessed	Magnitude	Direction	Duration	Geographic Extent	Frequency	Significance Rating
Hunting: Biophysical aspect (RSA)	Low	Adverse	Long-term	Local	Continuous	Not significant
Hunting: Economic aspect	Low to Moderate	Adverse and Positive	Long-term	n/a	Continuous	Not significant
Hunting: Socio-cultural aspect	Low to Moderate	Adverse and Positive	Long-term	n/a	Continuous	Not significant
Hunting VC combined	Low	Adverse and Positive	Long-term	Local	Continuous	Not significant

4.0 CONCLUSION

The overall effect at the regional level is appropriate in determining the combined (economic, socio-cultural and bio-physical) effect on JSCN hunting activity. Calliou (2011) identified hunting areas within the Project area and within the FalC forest. The effect is limited in duration as a result of biophysical mitigation and appropriate follow-up and monitoring. Although not considered in the assessment, additional mitigation may be identified through future discussions and negotiations with JSCN relating to lost opportunity to harvest within the exclusion zone during operations. Overall, the effect on JSCN hunting is determined to be not significant.