Appendix F

Availability of Resources for First Nations' Traditional Use on Crown Land Near the Sisson Project

Stantec

Memo

To:	Dr. John Boyle Sisson Mines Ltd.	From:	Denis Marquis Stantec Consulting Ltd.
File:	121810356	Date:	May 20, 2014

RE: AVAILABILITY OF RESOURCES FOR FIRST NATIONS' TRADITIONAL USE ON CROWN LAND NEAR THE SISSON PROJECT

INTRODUCTION

Some reviewers of the Environmental Impact Assessment (EIA) Report for the Sisson Project (the Project) are of the opinion that Northcliff has failed to rigorously demonstrate that the habitats and species that may be lost as a result of the Project are readily available in the surrounding area. This memo addresses the concern that the Project may result in reduced availability of resources to First Nations communities from the surrounding contiguous Crown Land Block (CLB), by demonstrating the distribution of habitats that may be used by these resources within the surrounding CLB, relative to the Local Assessment Area (LAA) for Current Use, and discussing the distribution of individual species that have been identified to be of importance to First Nations.

For clarity, unless otherwise stated, when referring to the LAA in this document, it refers to the LAA for the Current Use valued environmental component (VEC), as defined in Section 8.13.1.4 of the EIA Report. When referring to the contiguous Crown Land Block (CLB) in this document, it refers to a large block of Crown land in Central New Brunswick within which the Project will be situated, as depicted in Figure 3 of the Indigenous Knowledge Study (IKS) for the Sisson Project (MFCI 2013).

HABITAT AVAILABILITY

The LAA and CLB are shown in Figure 1, along with the varying types of forest habitat within them.

As noted in Section 8.13.4.3 of the EIA Report, the Project will result in an area of approximately 1,446 ha that will be inaccessible to First Nations use following the development of the Project. That extent of forested habitat and associated resources contained within them represents an area of approximately 1.9% of the CLB.

It is difficult to accurately estimate the distribution and abundance of many wildlife species, particularly in an area such as the CLB. Field surveys for the EIA of the Project were generally limited to the LAA for each VEC, representing a generally small portion of the CLB. The CLB is relatively large, and would require extensive surveys to be adequately assessed—this is beyond the scope of the Project's EIA, which is to determine and assess the environmental effects of the Project, not the entire area of the CLB in Central New Brunswick. In addition, different survey techniques are required to accurately estimate abundance and distribution of various wildlife species. For these reasons, among others, habitat types and availability are often used as a surrogate parameter for determining environmental effects on wildlife species (particularly secure species), to augment wildlife assessments.

Habitat Types – Forest Cover

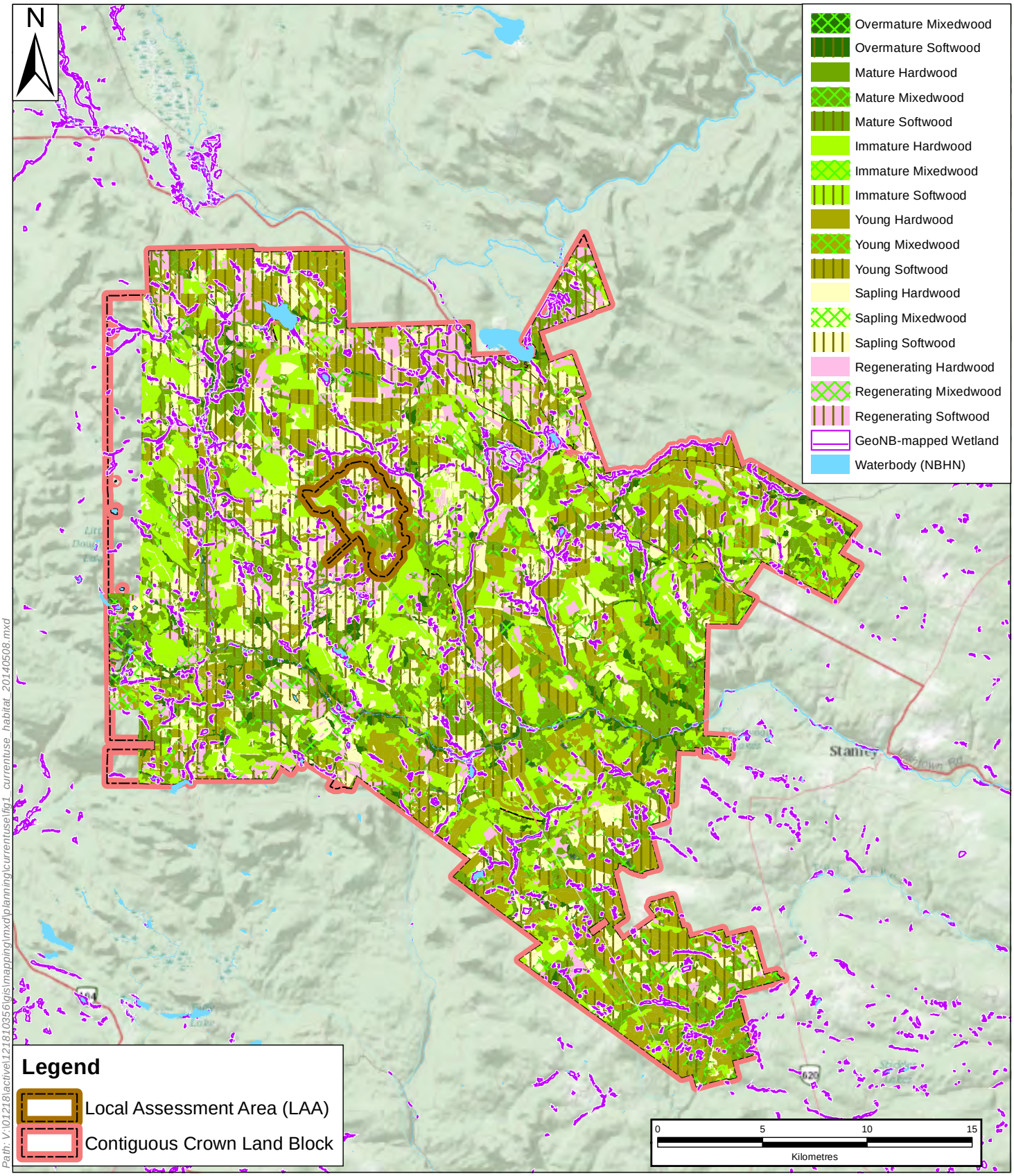
Stantec was able to obtain land use data from the New Brunswick Department of Natural Resources (NBDNR) for approximately 96.5% of the area covered by the CLB. Forest cover and other land use

data within the LAA and the CLB is summarized in Table 1 below. For simplicity, these forest stands are summarized by age (*i.e.*, regenerating, sapling, young, immature, mature, and overmature) and by forest cover type (*i.e.*, hardwood, mixedwood, and softwood). The distribution of these habitat types is illustrated in Figure 1.

Table 1 Area (ha) of Forest Stand Types and Other Land Use in the Current Use LAA and the CLB

Habitat type (maturity and forest cover class for forest stands)	Sum of Area in LAA for Current Use (ha)	Percent (%) of Habitat Type within LAA	Sum of Area in CLB (ha)	Percent (%) of Habitat Type within CLB	Percent (%) of Habitat Type within CLB lost to LAA
Regenerating Hardwood	0	0	1,282.74	1.72	0
Regenerating Mixedwood	20.49	1.42	1,088.02	1.46	1.88
Regenerating Softwood	130.41	9.02	3,138.57	4.21	4.15
Regenerating Unknown	0	0	49.05	0.07	0
Sapling Hardwood	15.47	1.07	2,691.75	3.61	0.57
Sapling Mixedwood	9.34	0.65	969.10	1.30	0.96
Sapling Softwood	311.80	21.57	9,456.02	12.70	3.30
Young Hardwood	49.79	3.44	3,594.16	4.83	1.39
Young Mixedwood	1.42	0.10	1,444.42	1.94	0.10
Young Softwood	329.32	22.78	12,588.35	16.90	2.62
Immature Hardwood	194.27	13.44	12,751.08	17.12	1.52
Immature Mixedwood	2.49	0.17	442.35	0.59	0.56
Immature Softwood	0	0	811.93	1.09	0
Mature Hardwood	69.04	4.78	4,783.64	6.42	1.44
Mature Mixedwood	27.75	1.92	2,590.34	3.48	1.07
Mature Softwood	202.34	14.00	10,725.20	14.40	1.89
Overmature Hardwood	0	0	0.30	0	0
Overmature Mixedwood	0	0	382.34	0.51	0
Overmature Softwood	24.80	1.72	2,855.20	3.83	0.87
Waterbodies	1.02	0.07	408.35	0.55	0.15
GeoNB-mapped Wetlands	42.41	2.93	2,129.57	2.86	1.98
Other Non-forested	13.47	0.93	281.07	0.38	4.79
TOTAL	**1,445.63**		**74,474.33**		**1.94**

The relative amount of area for each forest cover type within the LAA that will be lost as a result of the Project is less than 5% of the CLB, which is a common threshold of "low" magnitude for characterizing environmental effects. The average percent loss is well below this, at 1.9%. Land use types with the highest concentrations in the LAA (*i.e.*, relatively more area in the LAA than the average of 1.9%) include non-forested land, GeoNB-mapped wetlands, and younger age classes of softwood (*e.g.*, regenerating softwood, sapling softwood, young softwood). These softwood stand types are certainly not limiting within the CLB – within each age class (except for immature) softwood forest cover is more abundant than hardwood or mixedwood. Forest management practices, which are arguably a larger threat to habitat in the CLB, are likely to increase the area of these softwood stand types in the CLB over time. The entire CLB is subject to forest management plans by Crown Timber Licence Holders under the *Crown Lands and Forests Act*.



NOTE: THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO A STANTEC PROJECT AND SHOULD NOT BE USED FOR OTHER PURPOSES.

Habitat of Contiguous Crown Land Block Sisson Project: Napadogan, N.B. Client: Northcliff Resources Ltd.	Scale: 1:250,000	Project No.: 121811420	Data Sources: Service Layer Credits: Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community	Fig. No.: 1	Stantec
	Date: (dd/mm/yyyy) 08/05/2014	Dwn. By: JAB	Appd. By: DLM		

Map: NAD83 CSRS NB Double Stereographic

RE: AVAILABILITY OF RESOURCES FOR FIRST NATIONS' TRADITIONAL USE ON CROWN LAND NEAR THE SISSON PROJECT

Habitat Types - Wetlands

GeoNB-mapped wetlands (also known as regulated wetlands) in New Brunswick have been classified by the Province of New Brunswick (NBDNR 2006) into seven wetland types. Alteration of wetlands in New Brunswick is subject to the requirements of the *Watercourse and Wetland Alteration Regulation – Clean Water Act*, and requires both permitting and compensation for any authorized loss of regulated wetlands.

The various wetland types differ in their vegetation composition, hydrology, and soils, and as a result, also differ in the wildlife species they support. As shown in Table 2 below, there are three GeoNB wetland types within the LAA of the Project: bogs (18.5%), freshwater marshes (33.3%), and shrub wetlands (48.1%). There are additional GeoNB wetland types in the CLB that are not present in the LAA, and thus will not be affected by the Project: aquatic beds, fens, and forested wetlands. Coastal marshes are the only GeoNB wetland type absent from the CLB. Forested wetlands are generally not well represented.

Table 2 Area (ha) of GeoNB-mapped Wetland in the Current Use LAA and the CLB

Wetland Type	Sum of Area in LAA for Current Use (ha)	Percent (%) of Wetland Type within LAA	Sum of Area in CLB (ha)	Percent (%) of Wetland Type within CLB	Percent (%) of Wetland Type within CLB lost to LAA
Aquatic Bed	0	0	16.874	0.79	0
Bog	7.88	18.57	271.32	12.74	2.90
Fen	0	0	134.89	6.33	0
Freshwater Marsh	14.13	33.32	361.34	16.97	3.91
Forested Wetland	0	0	103.78	4.87	0
Shrub	20.40	48.11	1,241.37	58.29	1.64
TOTAL	**42.4**	**21.57**	**9,456.02**	**12.70**	**1.99**

The average relative area of wetlands in the LAA that will be lost as a result of the project is 2.0% of the wetlands in the CLB, and the loss is less than 4% of the CLB for each individual GeoNB wetland type (Table 2).

Habitat Types – Conservation Forest

Conservation Forest is Crown land that is managed by NBDNR for various biodiversity preservation purposes, and includes protected natural areas (PNAs), candidate protected natural areas (cPNAs), old forest communities (OFC), old forest wildlife habitat (OFWH), deer wintering areas (DWA), and waterbody buffer zones as part of their Crown land management obligations. These stands are important for many wildlife species, including those that have been identified as important for local First Nations groups (MFCI 2013). Approximately 135 ha of Conservation Forest will be lost as a result of the Project. However, there are currently 19,126 ha of Conservation Forest within the CLB; thus the loss associated with the Project represents 0.7% of Conservation Forest within the larger CLB. In addition, the Conservation Forest within the LAA that will be lost to the Project consists largely of watercourse or wetland buffers. Approximately 85% of the Conservation Forest area within the LAA (115.4 ha) is watercourse or wetland buffer only, with no other specific conservation value identified. There are no NBDNR-designated DWA within the LAA.

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RESOURCE AVAILABILITY BY SPECIES

There are a number of information sources available that collect data with respect to various species of conservation concern within New Brunswick, including the Atlantic Canada Conservation Data Centre (AC CDC), Bird Studies Canada, Maritime Breeding Bird Atlas, and others. The focus of these conservation databases and information available therein is on species at risk (SAR) or species of conservation concern (SOCC), none of which are known to be present in the LAA. These sources of information provide little to no information on wildlife species whose conservation status is secure, or for which populations are abundant in New Brunswick.

The Indigenous Knowledge Study (IKS) prepared by Moccasin Flower Consulting Inc. (MFCI 2013) identified several species that are thought to be important to First Nations groups from the surrounding area. Below, a brief discussion of the availability of several of the individual species mentioned in the IKS as being of importance to First Nations is provided. It is noted that the majority of the species mentioned in the IKS, while reported to be important to First Nations, are common within New Brunswick and have secure populations. As a result, there is little data on specific locations for most of these species. Therefore, the focus of the discussion below is on the preferred habitat for each species as documented by the literature, with specific discussion of the availability of those preferred habitat types to each individual species, within the LAA and in comparison to the CLB.

Moose and White-tailed Deer

Moose (*Alces alces)* and white-tailed deer (*Odocoileus virginianus*) are both common species within the province of New Brunswick. Both are ranked S5 by the Atlantic Canada Data Conservation Centre (AC CDC), and "Secure" by the Canadian Endangered Species Conservation Council (CESCC). The AC CDC ranking of S5 indicates these species are "widespread, abundant, and secure, under present conditions" (AC CDC 2013). Similarly, the CESCC ranking of "Secure" can include species in decline within Canada, but that "remain relatively widespread or abundant" (CESCC 2012).

Harvest data is released annually by the Fish and Wildlife Branch of NBDNR in a "Big Game Harvest Reports" document (NBDNR 2013). Although the information in this document is not at a fine enough scale to differentiate the relative abundance of moose and deer in the LAA vs. in the CLB, it gives an indication of relative abundance of moose and deer in each of the 27 Wildlife Management Zones (WMZs) of New Brunswick. It is important to note that this report does not include harvests by First Nations individuals, which are not reported. The majority of the CLB (almost 97%) falls within WMZ 16. In 2012, there were 0.032 moose harvested/km^2 and 0.13 deer harvested/km^2 in WMZ 16, which are both lower than the provincial averages of 0.049 moose harvested/km^2 and 0.233 deer harvested/km^2 (Figures 2 and 3). Note that the average for deer is skewed by several WMZ with very high harvest rates; the median number of deer harvested/km^2 is 0.07 for the province.

Moose use a variety of habitat types throughout the year, reflective of seasonal preferences, and largely dependent on food availability. In summer, moose diets are primarily composed of young deciduous leaves and shoots, as well as aquatic plants, grasses, and sedges (Newbury *et al.* 2007). A variety of habitats can be used in summer, including open and aquatic areas, coniferous forests, cutovers, wetlands and mixedwood and hardwood forests (Bergerud and Manuel 1968; Courtois *et al.* 2002; Dodds 1960; Irwin 1985; Peek 1997; McLaren *et al.* 2000; Minaskuat Inc. 2011; Schwab and Pitt 1991). In winter, willow, birch, and alder are the preferred browse (Bowyer *et al.* 2003; Newbury *et al.* 2007), but coniferous species can sometimes be used as a supplementary food source

(Bowyer *et al.* 2003). In winter, moose often gather in high quality habitats referred to as 'yarding areas' with high forage availability and/or low snow accumulation (Northland Associates and Jacques Whitford 2000). These yarding areas are often characterized by dense forests with canopy gaps, which allow moose to avoid deep snow, hard ice crusts, and predation, as well as to take advantage of available forage. These habitats used by moose in winter and summer months are found both within the LAA and within the CLB, and are generally not relatively more abundant within the LAA than the CLB (Table 1).

No moose yarding areas were seen within the LAA or surrounding areas during winter aerial wildlife surveys conducted in support of the Project; however, moose were abundant both within the LAA and in the surrounding CLB, and may have been more abundant outside of the LAA than inside, although this observation was not tested (Stantec 2013a). The observations from the winter aerial wildlife surveys supported incidental observations made by various field staff throughout summer months (Stantec 2012a).

Deer can be found in a variety of habitats in summer, including edges of hardwood forests, young forests, wetlands, and stream banks, generally avoiding mature hardwood stands as these stands provide little understory forage, and buds on mature trees are typically out of reach (Banfield 1981). In winter, deer tend to congregate in dense mixedwood or coniferous stands to gain protection from high winds and rain, and cover from snow (Telfer 1970). Although there are Deer Wintering Areas (DWAs) within the CLB, and the 2012 NBDNR Big Game Harvest Reports document suggests that deer are abundant within WMZ 16, deer were rarely incidentally observed during summer field survey work done in support of the Project, either within the LAA or within adjacent areas of the CLB. No deer or signs of deer were observed during the winter aerial wildlife surveys nor during track transect surveys within the LAA and the surveyed portions of the surrounding CLB (Stantec 2013a).

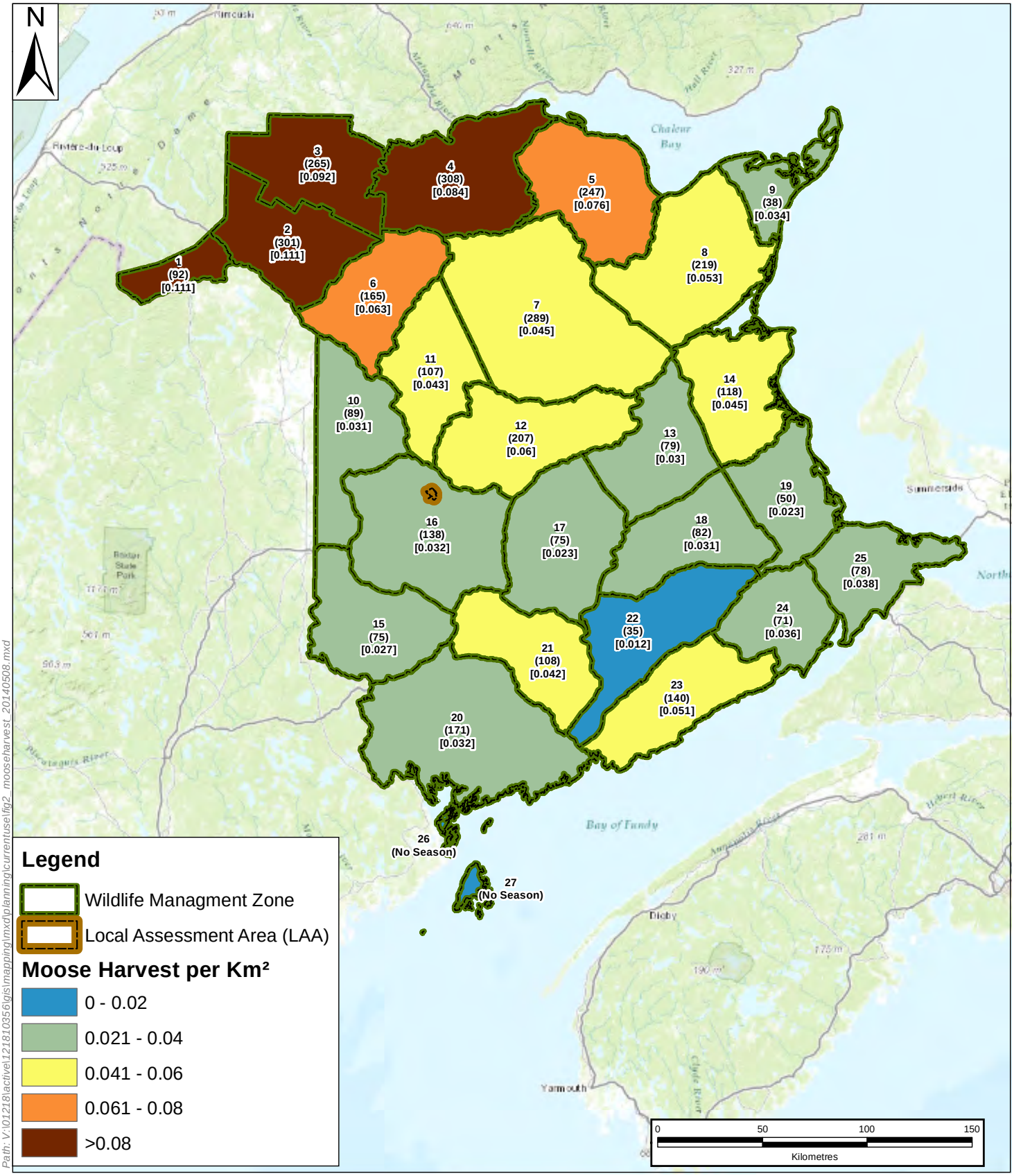
American Black Duck

American Black Duck (*Anas rubripes*) is a common waterfowl species in New Brunswick, and is ranked S5B/S4N by AC CDC indicating that it is "widespread, abundant and secure" while breeding, and "usually widespread, fairly common" while not breeding. American Black Duck is ranked "Secure" by CESCC.

Black Ducks nest in open water wetlands such as freshwater or coastal marshes (Cornell Lab of Ornithology 2014). Although GeoNB-mapped wetlands and freshwater marshes in particular make up a slightly higher percentage of the wetlands in the LAA than in the CLB, freshwater marshes within the LAA represent only 3.9% of the freshwater marshes in the CLB. This habitat is unlikely to be limiting within the CLB.

Snowshoe Hare

The snowshoe hare (*Lepus americanus*) is known to have 8-11 year population cycles, during which their abundances gradually increase followed by a sharp population crash (Hodges 2000). Despite the fluctuations in abundance over time, snowshoe hares are common throughout the province, and are ranked S5 ("Abundant") by AC CDC and "Secure" by CESCC.



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Moose Harvest (Total Harvest (#) and Harvest/km² [ ]) for 2012 within WMZs of New Brunswick Sisson Project: Napadogan, N.B. Client: Northcliff Resources Ltd.	Scale: 1:2,500,000	Project No.: 121811420	Data Sources: Service Layer Credits: Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community	Fig. No.: 2	Stantec
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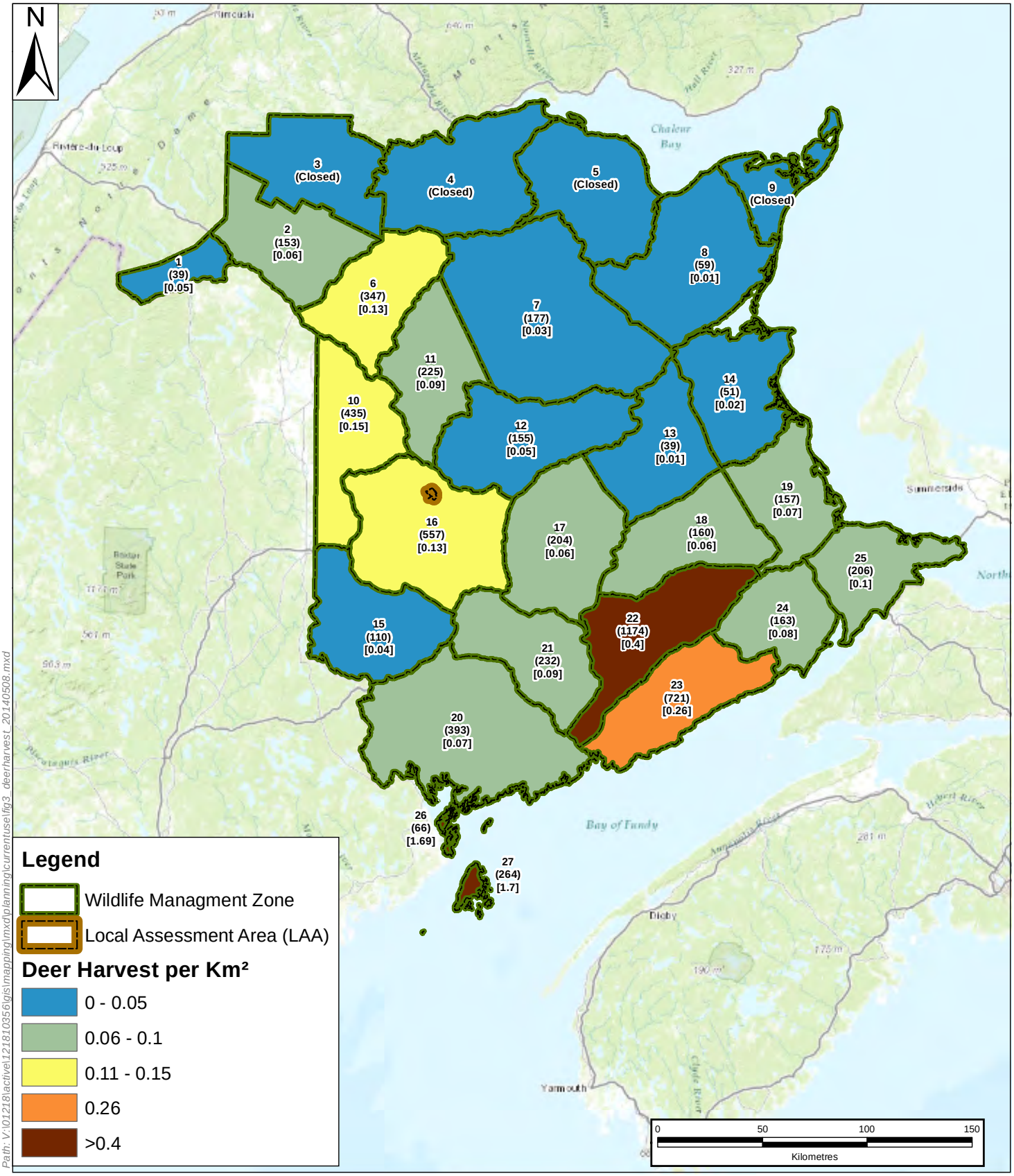

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Deer Harvest (Total Harvest (#) and Harvest/km² [ ]) for 2012 within WMZs of New Brunswick Sisson Project: Napadogan, N.B. Client: Northcliff Resources Ltd.	Scale: 1:2,500,000	Project No.: 121811420	Data Sources: Service Layer Credits: Sources: Esri, DeLorme, HERE, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community	Fig. No.: 3	Stantec
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Map: NAD83 CSRS NB Double Stereographic

Younger softwood stands and other aged softwood stands with dense understory regeneration are preferred habitat for snowshoe hare because they provide protective cover from predators (Hik 1994; Hodges 2000). Although younger age softwood stands are slightly more represented in the LAA than in the CLB (Table 1), these are stand types that are not limiting in the CLB block, and are only likely to increase in area over time as a result of forest management, which is common in the CLB.

Fish

Atlantic salmon (*Salmo salar*) were listed within the IKS as a species that is used by First Nations people in the area. Atlantic salmon in the CLB area would be part of the Outer Bay of Fundy (OBoF) population, which is listed as "Endangered" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and under the New Brunswick *Species at Risk Act* (NB *SARA*). OBoF Atlantic salmon is not listed on the federal *Species at Risk Act* (*SARA*). Neither COSEWIC nor NB *SARA* confer any protection on the population, as they are not listed federally by *SARA* nor are they listed on the prohibitions list of NB *SARA*. However, the fishery for OBoF salmon in the Nashwaak River watershed has been closed to commercial fishing since 1994, and closed completely (including to Aboriginal and recreational fisheries) since 1998 (DFO 2012).

Brook trout (*Salvelinis fontinalis*) are a commonly fished species and are ranked S4 by AC CDC, indicating that they are "usually widespread, fairly common, and apparently secure with many occurrences, but of longer-term concern"; they are considered "Secure" by CESCC. Field surveys conducted for the Project indicate that brook trout was the most prevalent species found in the watercourses in and near the LAA. Within the Napadogan Brook watershed it was present in 33 of 36 stations sampled, and was observed in all of the surveyed watersheds. Brook trout densities ranged from 6.3 to 86.4 fish per 100 m^2 in the PDA, and 1.1 to 26.8 fish per 100 m^2 in the Aquatic Environment LAA (Note: the LAA for Aquatic Environment is slightly larger than the PDA, and is different from the LAA for Current Use) (Stantec 2012b). These brook trout densities are similar to those found in other parts of the Nashwaak River watershed (Sisson Project EIA Report, p. 8-185 [Stantec 2013b]). Sizes of brook trout within the PDA ranged from 4.1 to 18.3 cm and 0.7 to 6.1 g, based on quantitative electrofishing surveys conducted in 2011. Approximately 76% of the brook trout found in the PDA were less than 10 cm in fork length, and were typically juvenile. These sizes of fish are likely not suitable for First Nation diets as a result of their small size. Within the Aquatic Environment LAA, brook trout smaller than 10 cm made up a smaller proportion of the population (50%), and ranged in size from 4.9 to 18.6 cm and in weight from 1.4 to 70.6 g. Based on the sizes of fish captured, it is likely that brook trout within the Aquatic Environment LAA would be more suitable for First Nations diets than those in the PDA.

There are approximately 835 km (linear length) of watercourses within the CLB, many of which provide habitat for brook trout and a variety of other ubiquitous fish species. Of these, approximately 18 km are within the LAA, approximately 2.2% of watercourses in the CLB. Although watercourse qualities such as stream order and fish presence are not described in this database, the watercourses that will be lost as a result of the Project are tributaries to larger watercourses within the CLB that will not be directly affected by the Project. In addition, within the CLB, there are 70 waterbodies as defined by NBDNR, which amount to an area of 674 ha in total. Within the LAA, there are only two waterbodies, which total 1.0 ha, or approximately 0.15% of the waterbodies in the CLB (Table 1).

The IKS does not indicate much use of the watercourses specifically within the LAA for fishing by First Nations. Although there was one "Interview Collected Point Data" point within the LAA, the IKS

fishing data (Interview Collected Line and Polygon Data, MFCI 2013, Figure 9) indicate that the majority of reported fishing activity within the CLB occurs outside of the LAA, in lower Napadogan Brook, in the upper Nashwaak River watershed, and in several lakes north and east of the LAA.

Berries

Red raspberries, most blackberries, and blueberries (late lowbush and velvetleaf), although different plant species that have some different habitat requirements, are all common species in New Brunswick (*i.e.*, all are ranked S5 ["Abundant"] by AC CDC and "Secure" by CESCC). All these species grow best in regenerating or young stands. These species were seen throughout the LAA and surrounding CLB during field surveys conducted in support of the Project.

As indicated in Table 1 and mentioned above, regenerating and sapling stands are common within the LAA and CLB, and forest management is a regular activity within the CLB which will maintain levels of these stands. Habitat for these edible berry species is unlikely to be limiting in the CLB over time.

Fiddleheads

Fiddleheads, also known as ostrich fern, have more specific habitat requirements than many other species here discussed, but are also ranked S5 ("Abundant") by AC CDC and "Secure" by CESCC. Fiddleheads are found in wet forests, or forested wetlands, typically in floodplain areas (Hinds 2000). Fiddleheads were noted in three locations during vegetation surveys conducted in support of the Project. All of these observations were outside of the LAA, and none were in concentrations large enough to sustain harvest levels. Although this species is common and widespread within New Brunswick, there are no known populations that will be affected by the Project.

Balsam Fir

Balsam fir is a common coniferous tree species that is found in a wide range of habitat conditions, and is ranked S5 ("Abundant") by AC CDC and "Secure" by CESCC. Stands that contain balsam fir as a dominant canopy species as identified by NBDNR are summarized in Table 3 by area and percent within the LAA and CLB. Balsam fir stands are disproportionally represented in the LAA as compared to the CLB, making up 45.6% of the LAA, but only 25.8% of the CLB. Despite the relatively higher proportion of balsam fir in the LAA, the loss of balsam fir stands in the LAA represents only 3.4% of the balsam fir stands in the CLB – this species will remain prevalent within the CLB.

Table 3 Area (ha) of Balsam Fir Stand Types in the LAA and the CLB

Forest stand type	Sum of Area in LAA for Current Use (ha)	Percent (%) of Stand Type within LAA	Sum of Area in CLB (ha)	Percent (%) of Stand Type within CLB	Percent (%) of Stand Type within CLB lost to LAA
Balsam Fir	466.70	33.61	10,436.51	14.57	4.47
Balsam Fir Mix	21.51	1.55	2,550.66	3.56	0.84
Balsam Fir – Spruce	10.32	0.74	1,580.61	2.21	0.65
Black spruce – Balsam Fir	102.98	7.42	3,434.75	4.79	3.00
Spruce – Balsam Fir	31.94	2.30	512.86	0.72	6.23

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Forest stand type	Sum of Area in LAA for Current Use (ha)	Percent (%) of Stand Type within LAA	Sum of Area in CLB (ha)	Percent (%) of Stand Type within CLB	Percent (%) of Stand Type within CLB lost to LAA
Total (for balsam fir stands)	**633.45**	**45.61**	**18,515.39**	**25.84**	**3.42**

Goldenthread

Goldenthread, also known as goldthread, is a small, common herbaceous plant that is in moist coniferous or mixedwood stands (Hinds 2000). It is ranked S5 ("Abundant") by AC CDC and "Secure" by CESCC. The habitat used by goldenthread is common within both the LAA and the CLB (Table 1).

Calamus Root

Calamus root (*Achorus americanus*), which was identified in the IKS as being of particular importance, is a widespread plant in New Brunswick (ranked S4 ["fairly common"] by the ACCDC), but was not identified in the LAA despite extensive walkover of the LAA throughout the growing season of 2011 and part of 2012. Riparian and marsh habitat types where calamus root is typically found were identified prior to surveys as areas of elevated potential for rare plant species and field surveys targeted these areas with increased effort.

Medicinal Plants

None of the species found in the LAA that were identified in the IKS as having medicinal or food value are of conservation concern according to the AC CDC, nor are they found in the LAA in an unusual abundance that is atypical to other surrounding areas of New Brunswick.

It is noted that Northcliff has committed to provide First Nations with reasonable opportunity to collect plants of importance in the LAA prior to construction.

Other Species

There were various other species mentioned in the IKS as being of importance to First Nations. A brief summary and discussion of the key species mentioned is as follows.

- Black ash (*Fraxius nigra*) is not a SAR or SOCC, and as such, there is no critical habitat identified for this species. There were scattered black ash in some of the wetland habitats within or near the LAA, but this species was not as common in the LAA as is typical in many areas of the province. Black ash is common across most of the province, but is less commonly found in larger diameters. There were some black ash trees in the mine portion of the LAA, occurring in a mesotrophic forested wetland at the headwaters of Bird Brook. Other small black ash trees were found along the transmission line corridor, and one small stand of larger black ash was found approximately 400 m north of the sub-station at the southern terminus of the transmission line at Keswick. As this stand was not completely within the transmission line RoW, the stand will be only partially affected.

- Butternut (*Juglans cinera*) – typical habitat for this species was not present in the LAA and none were found. Although butternut is a Species at Risk (SAR), critical habitat has not been identified for butternut. This species is not known to occur within the LAA and vicinity. Based on the habitat

conditions and lack of calcareous influence in the local soils, it is not likely that this species occurs in the LAA. It is important to note that Butternut is intolerant of shade and is a relatively short-lived species. The greatest threat to butternut is the butternut canker disease.

- Gooseberry (*Ribes uva crispa*) – While this species is not native to New Brunswick, it is likely that the author intended *Ribes hirtellum*. While other of *Ribes* spp. that produce edible berries were identified in the LAA, *Ribes hirtellum* was not.

- Chokecherry (*Prunus virginiana*) - While this species was not included on the plant list identified in field surveys, pin cherry (*Prunus pennsylvanica*), which also has edible berries, was abundant within the LAA, and both species are widespread throughout the Project area and the province.

- Sand plum (*Prunus angustifolia*) – *Prunus angustifolia* is not native to New Brunswick, although this common name may refer to *Prunus pumila* which is somewhat uncommon in New Brunswick (ranked S4). It was not observed in the LAA.

- White willow (*Salix alba*) - This species is not native to New Brunswick.

- Red willow (*Salix laevigata*) – This species is not native to New Brunswick. It is likely that this refers to *Cornus sericea*, syn. *Swida sericea* which is most widely called red osier dogwood, but is sometimes referred to as red willow. This latter species is common and widely distributed around the province and is present in the LAA.

- Blood root (*Sanguinaria* canadensis) – This species is found in rich alluvial woods and thickets, which were not present in the LAA.

- Pearly everlasting (*Anaphalis margaritacea*) - This is a widespread and common weedy species that is found throughout the province on disturbed sites. It was not recorded in the LAA.

- Touch me not (*Mimosa pudica*) – This species is not native to New Brunswick. This may refer to "spotted touch-me-not" (*Impatiens capensis*), which is one of the most common wetland plant species in the province, having wide distribution. This species was abundant in the LAA.

- Primrose (*Primula vulgaris*) – This species is not native to New Brunswick. This may refer to common evening primrose or others in the *Oenothera* Genus native to New Brunswick. *Oenothera biennis* is common to disturbed areas throughout the province, and was abundant in the LAA.

- Balm of Gilead (*Populus jackii)* – This species as named is not native to New Brunswick. This may refer to *Populus balsamifera,* common in New Brunswick and found in the LAA.

- Winter green (*Protheria procumbens*) - This species as named is not native to New Brunswick. This may refer to *Gaultheria procumbens*, which is common and widespread in New Brunswick, and was found in the LAA.

SUMMARY

In summary, the following can be stated with respect to the availability of resources within the Local Assessment Area (LAA) in comparison to those in the larger contiguous Crown Land Block (CLB) within which the LAA is situated.

RE: AVAILABILITY OF RESOURCES FOR FIRST NATIONS' TRADITIONAL USE ON CROWN LAND NEAR THE SISSON PROJECT

- The Sisson Project will result in the loss of availability of resources and habitat, including some forested stands, wetlands, waterbodies, and watercourses, within the LAA, representing 1.9% of the area of the CLB.

- The relative amount of each land use type or habitat within the LAA is less than 5% of that land use type or habitat within the CLB.

- Forest types that are more concentrated than average within the LAA (*i.e.*, more than 1.9% of that forest type in the CLB is located within the LAA) include regenerating, sapling, and young softwood. These are stand types that are common within the CLB, and created through forest management activities – thus they are expected to become even more common over time in the CLB.

- Conservation Forest areas (as identified by NBDNR) within the LAA represent only 0.7% of the Conservation Forest within the CLB. The majority of the Conservation Forest within the LAA is watercourse and wetland buffer only, with no specific conservation value identified.

- The area of wetlands within the LAA is approximately 2% of the CLB wetlands area. Only three of the six GeoNB wetland types occur in the LAA, each representing less than 4% of its type in the CLB.

- The majority of species that have been identified as important within the CLB to First Nations people are common within New Brunswick. Although there is little locational data available for common species in the province, an assessment of the availability of preferred habitat for species that are important to First Nations people indicates that these species are common within the CLB, and are not any more likely to be found in the LAA than in any other area of the CLB.

The majority of species and resources that are of concern to First Nations groups are common and secure within the province and, as demonstrated above, the loss of access to the LAA resources represents a small proportion of the resources and associated habitat that will remain available in the surrounding CLB. The IKS (MFCI 2013, Figure 9) indicates that although there is use of resources within the LAA, many activities and resource use occurs primarily in areas of the CLB that are outside of the LAA.

Respectfully,

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