

Renewable Resource Assessment for the Kwets'ootł'àà (North Arm of Great Slave Lake) Candidate Protected Area

Prepared for:

Indian and Northern Affairs Canada
c/o Lindsay Armer
4914-50th Street, Bellanca Building
Yellowknife NT X1A 2R3

Prepared by:

SENES Consultants Limited
3rd Floor – NWT Commerce Place
4921 - 49th Street,
Yellowknife, NT X1A 3S5

March 2011

**Amended November 30th 2011
by Claudia Haas, GNWT**

EXECUTIVE SUMMARY

Overall, there are wide gaps in the knowledge of traditional, current and potential renewable resource stocks and use of the Kwets'ootl'àà Candidate Protected Area (CPA), whether by Dene, Métis or non-Aboriginal residents of the Tłıchǫ Settlement Area or Yellowknife and its surroundings. People consulted invariably indicated there is not a lot of information that has been collected on the area, and that more research and assessments should be done. As with other assessments completed for this CPA (e.g., AECOM 2009; PACTeam Canada 2009), compiling existing data was challenging given a lack of publicly available secondary data, in particular for the CPA itself, but also for its immediate surroundings in the southwest Tłıchǫ Settlement Area, northeastern Dehcho Region, and adjacent Akaitcho territory. This draft Renewable Resource Assessment (RRA) attempts to identify specific areas where additional research is recommended to assist in the Working Group's deliberations regarding protected area designation.

Table ES-1 summarizes the state of knowledge about renewable resources in the Kwets'ootl'àà CPA, based on available public secondary information sources.

**TABLE ES-1
SUMMARY OF THE RENEWABLE RESOURCE USE AND POTENTIAL**

Renewable Resource	Significance of the resource in Tłıchǫ context	Past use in CPA	Current use in CPA	Potential use in CPA	Potential effect of NWA designation
Wildlife	Medium to high		There is a standard crossing point for the moose in that area. Prime location for moose. Caribou are found to the north and northeast of the CPA and moose are found to the west.	Limited – similar to current levels.	Aboriginal access would not be limited and other access could be permitted.
Fish	Medium to High	There is a fishing site on south side, traditional fishing area. Elders go there all the time, because it is	There is no commercial fishery. There are two individuals who set nets in the area in both	Likely similar to current levels	Aboriginal access would not be limited and other access permitted.

Renewable Resource	Significance of the resource in Tłıchǫ context	Past use in CPA	Current use in CPA	Potential use in CPA	Potential effect of NWA designation
		shallow.	winter and summer.		
Timber (commercial logging)	Very low	There is no commercial timber harvest	Very low to non-existent	Very low	None
Fuel wood	Medium to high	There is very little right in the CPA, other than just outside the CPA, along the highway. Historically there was more.	Likely low, limited to some fuel wood for Behchokǫ and CPA seasonal cabin residents	Likely low, given other more easily accessible wood sources nearer Behchokǫ; no external market except Yellowknife	
Wood for traditional uses (e.g., birch bark baskets, canoe building, tools, traps)	Low	Very limited.	Very limited.	Likely low given minimal demand and variety of geographic sources	None; timber harvesting pressures minimal and birch bark removal doesn't kill the tree
Berry picking	High	Historical area of high berry harvest.	Some areas identified broadly. Good for berry harvest, especially on the south side.	Likely medium	Minimal to none; low to no industrial pressures in area to disrupt
Medicinal plants	High	This was an area of extensive harvest.	High use - there are a range of medicinal plants collected in the region by elders and harvesters, including K'a K'oo and rat root.	Unknown	Minimal to none; low to no industrial pressures in area to disrupt
Agriculture	Low	None (other than just outside the CPA - gardens at Old Fort Rae)	None.	Very low	Minimal given low potential

Renewable Resource	Significance of the resource in Tłıchǫ context	Past use in CPA	Current use in CPA	Potential use in CPA	Potential effect of NWA designation
Other renewable resources and stone used for arts and crafts	Medium	None	None.	Unknown	None (outside the CPA)
Tourism	High	Outfitters providing ecotourism opportunities.	Three licensed operators provide ecotourism opportunities in and around the CPA	Same as current level, and possible increase if interpretive trails added.	Activities could continue, and potentially be enhanced, with a NWA designation.
Hydro-electric power sources	Very low	Very low to non-existent	Very low to non-existent	None identified	n/a
Wind power sources	Very low	Non-existent	Non-existent	Low	If wind power locations identified, there may be issues related to impact on birds
Geothermal power sources	Very low	Non-existent	Non-existent	Low	Likely no impact
Solar power sources	Low	Very low	Very low (unconfirmed for cabins)	Low	Likely no impact
Biofuel power sources	Low to medium; growing interest	Limited harvest from within CPA	Limited harvest from within CPA	Limited harvest from within CPA	

In the absence of more detailed information about renewable resource distribution and use in the Kwets'oot'jàà CPA, the following assertions can reasonably be made that may assist the Working Group with its deliberations:

- There are likely no plentifully used or underutilized renewable resources within the Kwets'oot'jàà CPA that would be harmed by designation of the CPA as a National Wildlife Area. In other words, the ability of area residents (specifically Aboriginal people) to continue use of renewable resources would not be harmed by such a designation. In fact, the security of renewable resources would likely be increased by such a designation.
- Designation of the CPA as a National Wildlife Area would not be significantly harmful to the economic interest of current area land users, particularly when it comes to accessing renewable resources.

- A recommendation to not designate all or part of the CPA as a National Wildlife Area would not likely significantly damage the area's renewable resource stocks or use value. This is due to the fact there is little current and future potential for commercial use of renewable resources in the immediate vicinity that would damage existing resources.
- There is no current evidence available to indicate that there are additional vital non-renewable resources within the CPA beyond those identified by the Tłıchǫ Government and the CWS when they first established the area as a CPA (Dillon Consulting 2008, 2010) – important migratory bird staging area, valuable subsistence hunting and fishing grounds.
- The fact that the vast majority (approx. 95%) of the CPA is located within the waters of Great Slave Lake minimizes the potential for designation as a National Wildlife Area to have impacts of any sort on terrestrial activities. Based on current use and potential future use, water-based activities are not expected to be negatively impacted by a National Wildlife Area designation.

This RRA makes no effort to identify the cultural or other values associated with renewable resources in the CPA. Discussions with key contacts (see Appendix 1) and a reading of available secondary information, however, makes it clear that renewable resource locations, collection and use are culturally valued and protected by the Tłıchǫ citizenry. Personal communications with key contacts such as Tom Andrews, John B. Zoe, and Allice Legat indicate that while that areas proximal to the CPA were primarily the home place for the Dogrib in the area (e.g., Old Fort Rae), there has not been recent extensive archaeological, traditional knowledge or land use, or anthropological studies to determine the cultural values and important cultural sites within the CPA. Based on our assessment and given that the Phase 1 Cultural Impact Assessment for the CPA was limited to a broad description of secondary source materials (PACTeam Canada 2009), we make the following primary recommendations.

Recommendation #1: The Kwets'ootl'àà CPA Working Group should strongly consider funding a Phase 2 Cultural Assessment of the Kwets'ootl'àà CPA that emphasizes traditional knowledge collection on distribution and use of renewable resources by Aboriginal people within the Kwets'ootl'àà CPA and its vicinity.

Recommendation #2: Given the lack of secondary materials specifically detailing the importance of the Kwets'ootl'àà CPA for renewable resources and key locations of renewable resources within it, a Phase 2 RRA and Phase 2 Ecological Assessment (EA), possibly in combination with a Phase 2 cultural impact assessment, are highly recommended. If Phase 2 RRAs and EAs are conducted, it is recommended that they involve fieldwork between consultants and Behchokǫ citizens, utilize the Dene Mapping Project and Tłıchǫ traditional knowledge archives and mapping resources, and include a focus on areas with more extensive traditional trail systems and current vehicle access.

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1.0 INTRODUCTION

By way of a Request for Quotes (RFQ) under the Supply Arrangement 00-06-5001, Indian and Northern Affairs Canada (INAC) solicited proposals from qualified contractors to complete a *Renewable Resource Assessment for the Kwets'oot'jàà (North Arm of Great Slave Lake) Candidate Protected Area*. This work is intended to assist in furthering the decision related to the protection of the area of interest.

The Canadian Wildlife Service is the sponsoring agency for Kwets'oot'jàà to become a candidate National Wildlife Area (NWA). Through the Canada Wildlife Act NWAs can be established to protect both wildlife, especially migratory wildlife and species at risk, and their habitat. NWAs are regions which include relatively undisturbed ecosystems containing nationally significant aquatic and/or terrestrial habitats necessary for animals or plants to survive. They are created and managed for the purposes of wildlife research, conservation, and interpretation. Each NWA involves a management plan which specifies activities which are generally allowed within the protected area, as well as activities requiring permits.

1.1 OBJECTIVES

The overall objective of the work was to complete phases 1, 2, and 4 of the Renewable Resource Assessment (RRA) for the Kwets'oot'jàà Candidate Protected Area (CPA) using existing documented information. Reporting is based on the most up to date data, reports, and reference material. No field research was conducted, although SENES did contact some land users and other key informants to access existing data. Important knowledge gaps identified throughout the work are highlighted in this report.

The NWT PAS is required to undertake detailed evaluations of an area's ecological, cultural, and economic values. The RRA evaluates existing renewable resources within a study area, identifies economic opportunities associated with those resources, and knowledge gaps. As per the guidelines prepared by the NWT PAS (NWT PAS, undated), the RRA is made up of 4 phases; Phases 1, 2 and 4 being the requirement for this work.

- Phase 1: Collect and Review Existing Information on Renewable Resource Components and their Use
- Phase 2: Data Assessment, Evaluation and Identification of Gaps
- Phase 4: Reporting

Renewable resources such as wildlife, fish, trees, plants and other resources of the terrain and waters provide opportunities for hunting and fishing, berry picking, the production of medicine, construction, heating, and arts and crafts. Not only are these important aspects of a subsistence existence, they also highlight the economic potential of the Kwets'oot'jàà CPA through the addition of sustainable tourism possibilities.

1.2 METHODS

A variety of secondary data sources and discussions with area users and other key contacts were used to develop this draft RRA.

For the purposes of this work, the following assumptions were used in making qualitative estimates of the importance of the Kwets'ootl'aa CPA for renewable resources:

- Unless there was compelling evidence to the contrary, the residents of Behchokq and its immediate surroundings and Yellowknife were the only likely users of any renewable resources within the CPA.
- Unless there was compelling evidence to the contrary, that renewable resource intensity within the Kwets'ootl'aa CPA was likely to be similar to that immediately outside the Kwets'ootl'aa CPA. Therefore, a proxy for the degree of importance of the Kwets'ootl'aa CPA for any particular renewable resource can be the % of land used by Behchokq residents for renewable resource harvesting that lies within the Kwets'ootl'aa CPA. For example, if only 5% of the area used by Behchokq citizens for berry picking is located within the Kwets'ootl'aa CPA, it can be assumed that its importance is relatively low for harvesting that resource.
- In situations where the renewable resource is located primarily or solely on the land, the fact that the majority of the Kwets'ootl'aa CPA is located on the water is taken into consideration.
- Until additional Phase 2 cultural, renewable and ecological resources assessments are completed on the Kwets'ootl'aa CPA, the assumption has been made that more publicly accessible and previously or currently inhabited areas (closer to roads, along shoreline, near Old Fort Rae, near seasonal cabins or annual homes) within the Kwets'ootl'aa CPA are the most important areas for renewable resource extraction.

As with other teams that have contributed to the assessment of the Kwets'ootl'aa CPA for the Working Group, the SENES team has had trouble finding publicly available site specific (or CPA specific) traditional resource distribution and use information for Kwets'ootl'aa. This is a major gap that may merit further assessment. The authors echo the recommendation of AECOM (2009), that "a comprehensive Traditional Ecological Knowledge (TEK) assessment is required to obtain and describe the traditional knowledge [about renewable resource distribution and use and changes in both over time] for the [Kwets'ootl'aa CPA] on plants, wildlife and fisheries values".

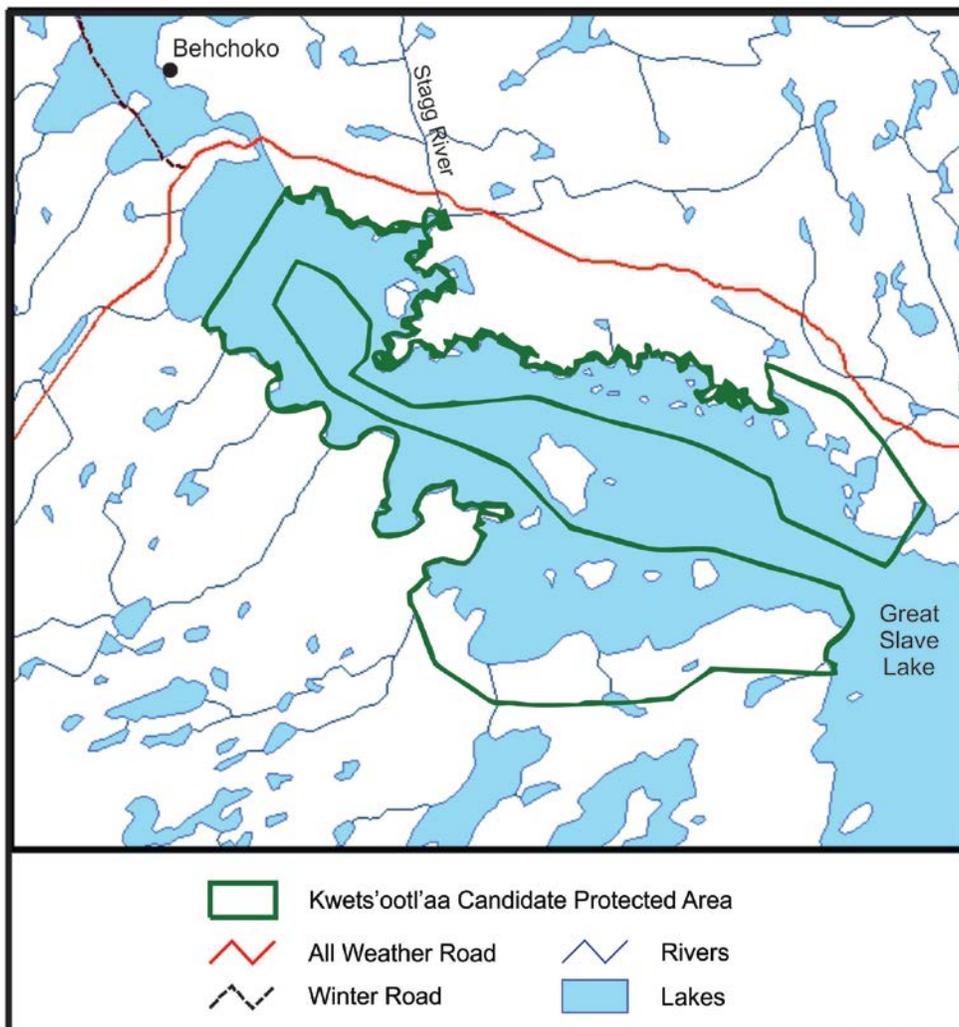
Discussions with key contacts indicate there is some traditional and local knowledge about renewable resources within the Kwets'ootl'aa CPA, especially among Behchokq residents (Dogrib and Métis). This information is either not put down in writing or is currently protected by confidentiality provisions that would need to be addressed if a full description of Kwets'ootl'aa CPA renewable resources is required by the Working Group.

2.0 STUDY AREA

The Kwets'ootl'aa CPA covers approximately 660 km² of the northern portion of the north arm of Great Slave Lake and includes the mainland shoreline, numerous islands, and the water of the lake itself (Figure 1). Within the area about 95% is made up of water (Great Slave Lake).

The protection of Kwets'ootl'aa was initiated by the Tłı̨chǫ Government, and is currently in Step 3 of the PAS planning process, having secured, in addition to local and regional support, sponsorship from the Canadian Wildlife Service as a candidate National Wildlife Area. The area is part of the Tłı̨chǫ traditional territory, and, in addition to its value for fishing, hunting, trapping and other harvesting activities, it is important in the culture and history of the Tłı̨chǫ people. Kwets'ootl'aa includes the traditional trail systems used by the Tłı̨chǫ for countless generations, and the landscape features are integral to the stories of Tłı̨chǫ heroes and prophets (Hayden 2009).

FIGURE 1
MAP OF THE KWETS'OOTL'AA CANDIDATE PROTECTED AREA



3.0 RENEWABLE RESOURCE ASSESSMENT

3.1 WILDLIFE

For Behchokò residents, as throughout the NWT, wildlife are of great importance and represent a significant link for people's ties to the land. From the standpoint of renewable resources, wildlife can be considered in the following categories:

- subsistence hunting
- non-aboriginal hunting
- outfitting
- trapping

3.1.1 Subsistence Hunting

Subsistence hunting remains an important contribution to the food basket of residents in the Kwets'ootl'àà area. In 2009, 37.5% of Behchokò residents 15 years of age or older hunted or fished and in 2008, 73.2% of households consumed country food (meat or fish), with it making up half or more of the food eaten (NWT Bureau of Statistics 2010). Of the Tłıchǵ communities surveyed; however, Behchokò had the lowest rates of hunting and fishing (e.g., compared to 55.6% of Wekweèti residents 15 years of age or older who hunted or fished).

The primary large game harvested in the Kwets'ootl'àà area are moose and caribou (primarily barren-ground caribou, but also boreal woodland caribou) (AECOM 2009). Harvest estimates were not available for the area; however, a barren-ground caribou hunting ban came into effect January 1, 2010. For Tłıchǵ citizens a limit of 150 animals for all the communities is in effect. Given that caribou are predominant to the north and northeast of Kwets'ootl'àà and moose to the west (AECOM 2009), subsistence harvest of large game is not expected to have a significant impact in the area.

Data about the subsistence harvest of migratory waterfowl and nesting birds were not available.

3.1.2 Non-Aboriginal Resident Hunting and Outfitting

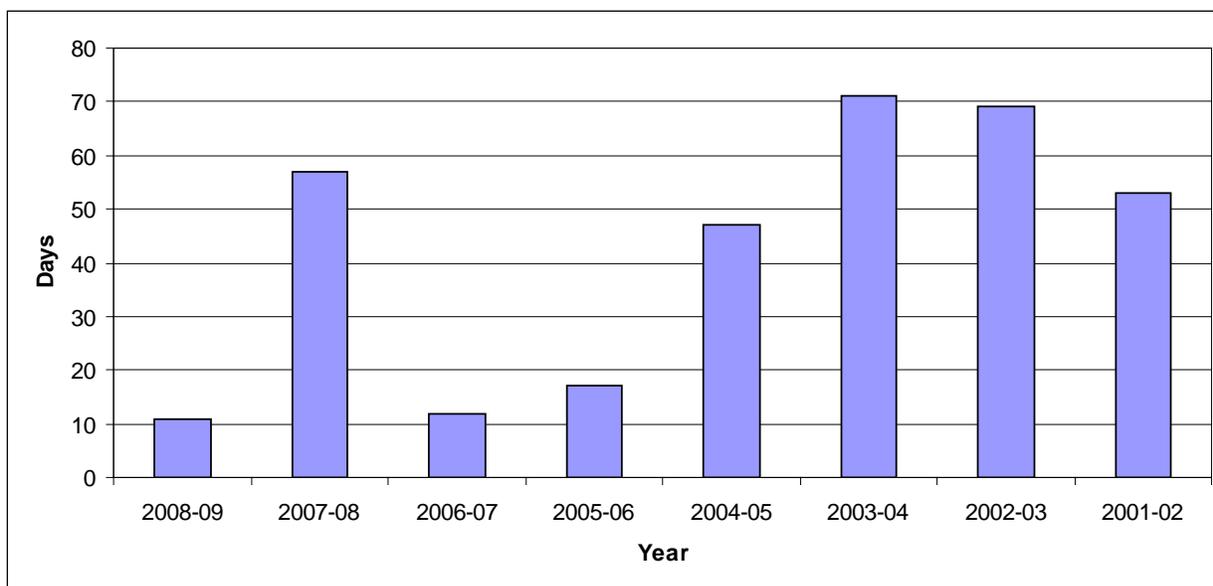
A recreational harvest is one carried out by non-Aboriginal residents, and constitutes a regulated activity through the NWT Hunting Regulations. Given the small size of the Kwets'ootl'àà CPA, its majority make-up being water, the current barren-ground caribou hunting ban and the fact that it is not a major area for caribou or moose (AECOM 2009), it is unlikely that it represents, or will represent, an important part of large-game recreational hunting activities. On the other hand, the North Arm of Great Slave Lake is a traditional Fall staging area for thousands of waterfowl from all four continental flyways. Migratory waterfowl and nesting birds are harvested from the area. Based on annual Resident Hunter Surveys conducted by Environment and Natural Resources of the GNWT, Table 1 shows the commonly harvested species.

Results of Resident Hunter Surveys conducted between 2001 and 2009 indicate the popularity of the Kwets'ootl'àà' region for Fall waterfowl hunts, in particular with Yellowknife residents (Carriere, personal communication). Of 92 respondents who hunted in the vicinity of Kwets'ootl'àà, 91 were from Yellowknife and one from Hay River. Figure 2 shows the total number of days spent hunting between 2001 and 2009 for those who responded to the survey (Carriere, personal communication). Figure 3 presents annual reported harvest numbers for the most commonly hunted waterfowl for the years 2001 through 2009. The total reported harvest for each year is also shown.

TABLE 1
COMMONLY HARVESTED WATERFOWL IN THE AREA OF KWETS'OOTL'ÀÀ

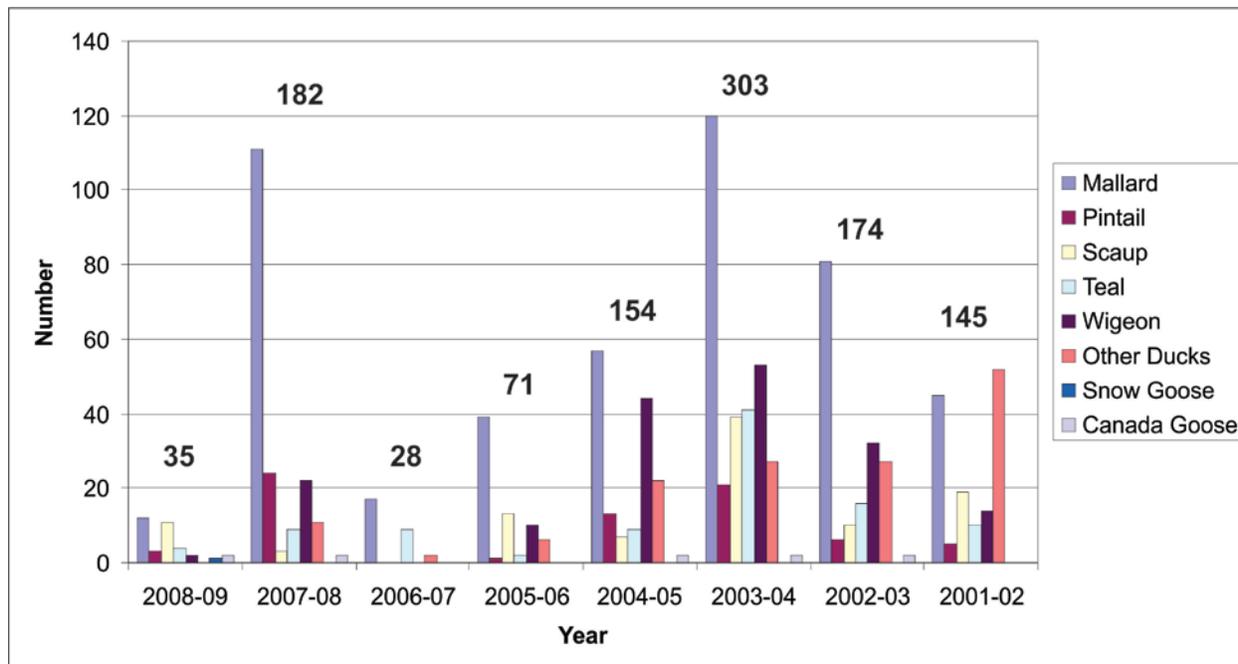
Common Name	Scientific Name
Mallard	<i>Anas platyrhynchos</i>
Northern Pintail	<i>Anas acuta</i>
Greater Scaup	<i>Aythya marila</i>
Lesser Scaup	<i>Aythya affinis</i>
Green-winged Teal	<i>Anas crecca</i>
Blue-winged Teal	<i>Anas discors</i>
American Wigeon	<i>Anas americana</i>
Snow Goose	<i>Chen caerulescens</i>
Canada Goose	<i>Branta canadensis</i>

FIGURE 2
NUMBER OF DAYS RESIDENT HUNTERS ACTIVELY HUNTED WATERFOWL IN THE KWETS'OOTL'ÀÀ AREA BETWEEN 2001 AND 2009



Source: Resident Hunter Survey data provided by Suzanne Carriere, GNWT ENR

FIGURE 3
NUMBER OF REPORTED WATERFOWL HARVESTED BETWEEN 2001 AND 2009.
SPECIES NUMBERS ARE SHOWN BY BARS AND THE TOTAL REPORTED HARVEST
FOR EACH YEAR IS SHOWN BY THE BOLD NUMBERS.



Source: Resident Hunter Survey data provided by Suzanne Carriere, GNWT ENR

The value of waterfowl as a dietary resource can be roughly estimated based on previously approximated edible weights for waterfowl and geese for Canada, and average costs for store-bought poultry. The 2002 report of Ashley provides the average edible weight for waterfowl as being 0.67 kilograms and 1.6 kilograms for geese. Based upon data available and an average price per kilogram for store-bought poultry of \$2.00, the replacement cost for geese for the 2001-2009 period can be estimated at \$35.20 and \$1,900 for waterfowl. Given a response rate for the Resident Hunter Survey of about 60% (S. Carriere, pers. comm.), these estimated replacement costs are low. However, the current use data do not indicate the waterfowl harvest to be of economic significance in the CPA.

With respect to outfitting, there are no big game outfitters within the Kwets'ootl'àà CPA. Licensed outfitters operating in the area provide northern pike fishing and ecotourism opportunities (True North Safaris and Narwal Northern Adventures). As with recreational hunting, given the relatively small size of the Kwets'ootl'àà CPA and even smaller land base, it is unlikely that it would represent opportunities for outfitter hunting.

3.1.3 Trapping

Trapping in the NWT is an important source of additional or seasonal income for many NWT community residents. A recent Genuine Mackenzie Valley Furs auction raised over \$550,000

in the US, with nearly all the marten, lynx and muskrat furs selling for more than they did one year earlier (Northern New Service 2010). In the area of the Kwets'oot''àà CPA; however, trapping is not a primary activity, with only 12.1% of Behchokò residents 15 years of age or older having trapped in 2009 (15.1% in 2004). When trapping does occur, marten, mink, muskrat, and beaver appear to be the most common species harvested (AECOM 2009).

Data were not available when this report was finalized for the number of pelts harvested, the number sold or the total sale price. As a result they are in Appendix 2 for consideration.

3.1.4 Summary

Data specific to the economic value of wildlife as a renewable resource in the Kwets'oot''àà CPA are very limited; therefore, determining monetary values for the various components is not possible. Community surveys detailing these contributions would help to estimate actual economic values.

3.2 FISH

Recreational and subsistence fishing is an important activity in the Kwets'oot''àà area. The area; however, is closed to commercial fishing (D. Leonard (DFO), pers. comm.) and there is no discussion regarding it potentially opening. Species identified as being important for domestic harvest or culturally are (AECOM 2009):

- Inconnu,
- Lake Whitefish,
- Lake Trout, and
- Northern Pike.

Harvest statistics are not available (D. Leonard (DFO), pers. comm.).

3.3 TREES

Forests throughout the NWT have always provided materials for clothing, shelter, arts and crafts, tools, heat and food for northern peoples.

3.3.1 Timber

The forested area of the NWT is 33.3 million hectares, according to the National Forest Inventory Report (InvestNWT 2005). These forests are composed of softwood (53%) and mixed-wood (47%). In terms of volume, it is estimated that the NWT has a total of 840,000,000m³ of wood. Spruce is by far the largest volume species, with an estimated 701,000,000 m³ (Source: http://nfi.cfs.nrcan.gc.ca/canfi/data/merchantable-large_e.html - from Forintek 2007).

Sawmill harvesting levels are extremely low in the NWT and realistic expectations for future sawmilling are generally focused on areas in the southern NWT with larger trees and greater harvestable volume per hectare (Forintek 2007).

Even though the NWT has a vast amount of forest, the economically harvestable resource is a small fraction of the total NWT resource. In 2004, close to 26,000 m³ of industrial roundwood were harvested from 51 hectares of NWT forests, of which 29 hectares were reforested. That volume harvested represents less than 0.0035% of all standing resources in the NWT (Forintek 2007). If anything, these numbers have declined rather than grown over time. In 2008, Natural Resources Canada estimated that the NWT produced only 24,000 m³ of roundwood worth less than \$80,000 (Natural Resources Canada 2009).

In 1999, exports of lumber and wood products totalled \$1.4 million, compared to \$0.7 million in 2002. During the same period, imports of wood products increased from \$15.6 million to \$26.8 million.

There is no current lumber mill in the Tłıchǵ Settlement Area and no reasonable expectation of any future dimensional lumber mill feedstock coming from any Tłıchǵ Settlement Area sources, including the CPA.

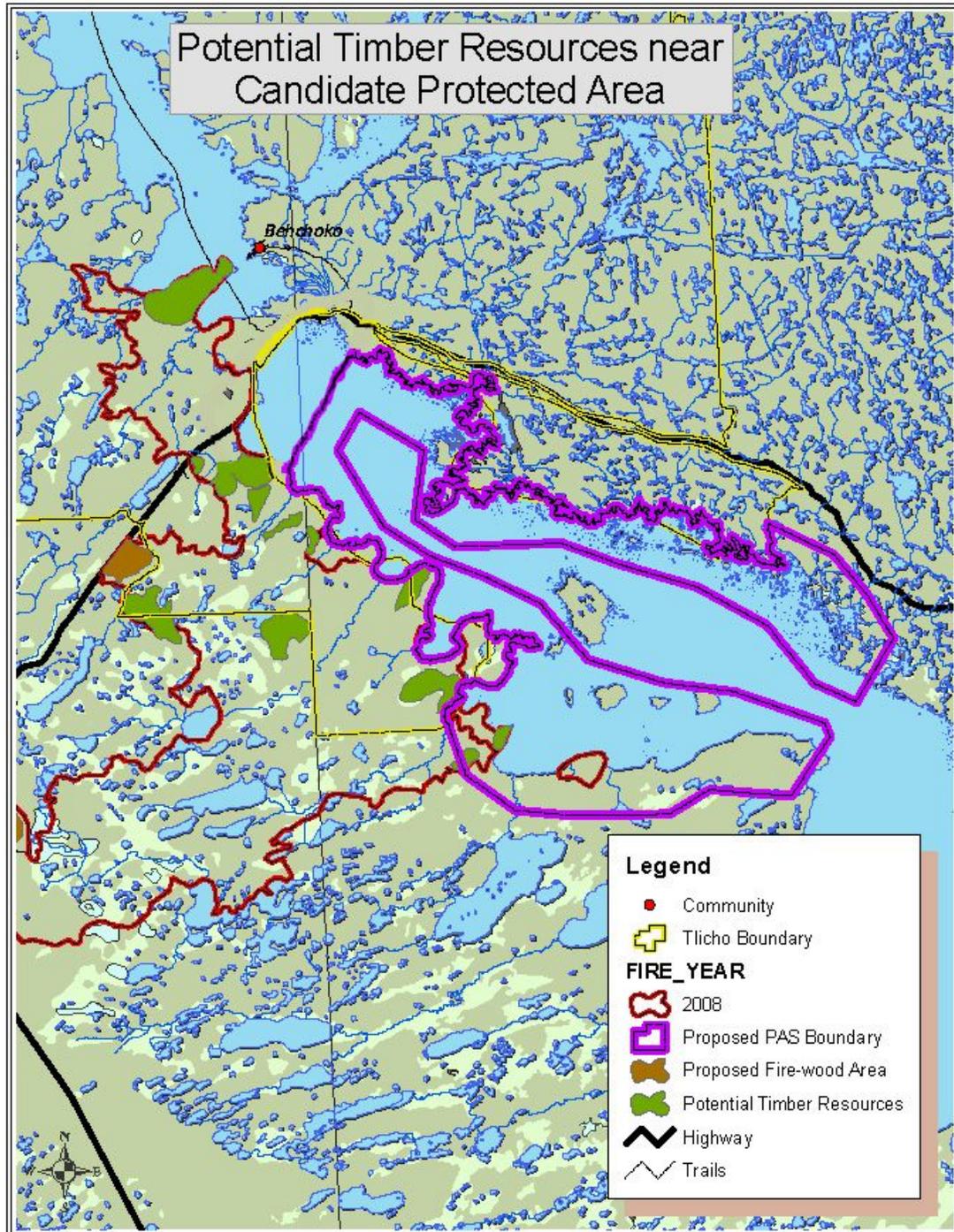
There are two different ecoregions within the CPA. Each has slightly different forest landscapes. The southern side of the CPA is within the Great Slave Plain High Boreal Ecoregion of the larger Taiga Plains Ecoregion (GNWT ENR 2009). Some 65% of the Great Slave Plain HB Ecoregion is occupied by lakes (12%) or bogs and fens (53%). It is characterized by young jack pine and white spruce forests subject to frequent burns.

The northern side of the CPA is within the Great Slave Lowland High Boreal Ecoregion, part of the Taiga Shield High Boreal Ecoregion (GNWT ENR 2008). Forested areas are interspersed between or on rock outcrops and include jack pine and aspen, white spruce and birch in moist areas. The land-based area within the CPA on this northern side is extremely small, at only approximately 3%.

Given the relatively low possibility of a marketable timber base in the area, the area around the CPA has not been a priority target for forest inventorying by the GNWT in the past (GNWT ENR: 2005). However, given the large burn in 2008, focused on the southwest side of the CPA, in 2010 a basic inventory was conducted by Environment and Natural Resources. Results will be out in 2011, but some initial findings and mapping results were described by GNWT staff. Figure 2 indicates potential timber resources near the Kwetsootl'aa CPA. While the CPA has some timber values, they are primarily limited to fuel wood harvesting (described in the next section). The only area within the CPA that has enough timber volume for larger scale timber harvesting is located in the relatively inaccessible southern portion of the west side of the North Arm (L. Smith, Inventory Forester, GNWT – pers. comm. 2010).

Given the small actual land base of the CPA (about 95% of the CPA is covered by the waters of Great Slave Lake), and the low annual resident population, pressures on timber resources can be expected to remain minimal.

**FIGURE 2
POTENTIAL TIMBER RESOURCE NEAR THE KWETS'OOTL'AA CPA**



Source: L. Smith, GNWT ENR, personal communication 2010

In the near term, the economic viability of the east side of the CPA for timber harvesting has also been reduced by the major burn that occurred in 2008. Given slow recovery time for forest areas in the northern climate, timber resources in this portion of the CPA can be expected to remain low for a couple decades to come.

The timber resource use and potential of the Kwets'ootl'àà CPA are limited by a variety of factors, including:

- Lack of a viable large scale timber volume in the general area to support a sawmill.
- The majority of the CPA itself is within Great Slave Lake. The land base is limited to only about 5% of the total area.
- Access to most of the CPA is limited by lack of roads.
- Most of the timber resources are relatively small, again limiting their economic viability against imports from the more heavily treed southern NWT, northern Alberta and northern BC.

3.3.2 Fuel wood

Use of wood to heat homes has always been important in the NWT. Over 60% of the wood harvested in the NWT is consumed as fuel wood (Forintek: 2007). In 2003, it was estimated that some 19% of homes in the NWT use wood fuel for some portion of their heating needs (InvestNWT: 2005). Permitted fuel wood harvest in the NWT in 2002-2003 was approximately 35,000 m³. Aboriginal citizens enjoy the right to access as much fuel wood as they need, while NWT residents require only a Free Timber Cutting Permit to access fuel wood. Wood fuel remains a relatively cheap but labour intensive way to heat homes. The Arctic Energy Alliance (no date) estimates that while 6% of energy used in Behchokò is from wood heat, this represents only 2% of the total energy cash cost.

The GNWT has recently prioritized examination of biomass as a community energy source (wood pellet and wood chip stoves largely – Miltenberger: 2010). The Tłıchǵ Government, Tłıchǵ Investment Corporation and the municipality of Behchokò are working with the GNWT to develop a biomass district heat system (DHS) for distribution of heat to 6 buildings in the downtown core (pers. Comm., Wade Carpenter, GNWT Alternative Energy Specialist and pers. comm., Bryan Pelkey, GNWT Alternative Energy Specialist). The DHS would use approximately 350 to 400 tonnes of pellets per year or roughly double that of wood chips. Over the next year they will be attempting to develop a harvesting capacity to fuel the boiler for the DHS. While these ideas remain conceptual; currently, according to the Arctic Energy Alliance, 100% of wood energy is used in residential homes in Behchokò (Arctic Energy Alliance: no date).

Regardless of the future users of wood for heat, it is unlikely that any of the fuel wood sources would be from within the CPA itself, given access issues. The main source in the short term would likely be salvage logging/chipping from the large burn that occurred around Behchokò in 2008.

The CPA is known to be used by some residents of Behchokò, and seasonal or annual residents within the CPA itself for fuel wood. The amount of wood harvested for this purpose

is not known, but given the small resident population outside Behchokò municipal limits and low population growth (GNWT Statistics 2009), it is likely to be very low.

In 2010, GNWT ENR did some work in the 2008 burn area to assess the amount of salvageable timber. In addition, a couple of potential residential fuel wood lots on the west side of the CPA were assessed for interested parties from Yellowknife. Data from this fieldwork has yet to be finalized, but preliminary reports indicate that the areas considered have no economic potential as sources for dimensional lumber, only for fuel wood or chipable feedstock.

3.3.3 Data Gaps in Assessment of Use of Tree Resources

- In 2011, a more detailed inventory of the area in the southern portion of the CPA where the 2008 major burn occurred will likely be released by ENR's Forest Management Division. This will assist in determining the total economic value of this portion of the CPA in regards to timber and fuel wood resources, although these resources are not expected to be deemed economic, in part due to access difficulties.

3.4 PLANTS

Non-timber forest products that are accessible within the CPA include berries, mushrooms, and medicinal plants. We have also included non-roundwood timber products in our examination such as birch sap and bark, spruce gum, and dry woods used for tanning hides.

The amount of berry picking that occurs in the Kwets'ootl'àà CPA has not been established or the information remains inaccessible at this time. A request was submitted to the Tłıchǵ Government to access its traditional knowledge databases, but that information was not provided at the time of preparation of this report. Existing and available secondary source material on subsistence harvesting of berries, mushrooms and medicinal plants is extremely limited for not only the Kwets'ootl'àà CPA but for the entire Behchokò area. This is another major gap in knowledge that may require additional primary research.

3.4.1 Wild Plants

Wild plants that are harvested by Aboriginal people within the Tłıchǵ region are shown in Table 1 (Marles et al. 2000; Walker 1984; Milburn & Pamplin no date).

**TABLE 1
PLANTS HARVESTED WITHIN THE TŁIČHǵ REGION**

Plant Species or type	Uses	Abundance in CPA
Bog or mountain cranberry	Food, tea	
cloudberry	Medicinal/tea	
Morel mushrooms	Cooking, cash sales	
Rat root	Medicinal values	A "may be at risk" plant
Baby moss	Traditional diapers	
Labrador Tea	Medicinal values	
Spruce gum	Medicinal values	
Spruce roots		

Birch bark	Crafts	
Birch sap	Syrup	
"dry woods"	Fuel, tanning	

As noted in the Phase 1 Ecological Assessment, the lack of detailed comprehensive vegetation surveys in the CPA limits the ability to determine the number of plant species (AECOM 2009).

Berries

Available secondary data does not identify specific good berry picking locations within or near the Kwets'oot'jàà CPA. Such locations tend to be subject of individual and family secrets among Aboriginal people and other northern residents. Given the fact that low-bush cranberries (also known as alpine or wild cranberries, but generally referred to simply as "cranberries" - *vaccinium Vitis-idaea L.*) and other berries are very common in northern forests, it is very likely that there are some locations within the CPA that see berry harvesting. Other berries that are harvested by Tłıchǫ citizens include cloudberry, blueberries, bear berries and crow berries.

There is not enough information about berry picking either within the CPA or in the general Behchokǫ/North Arm area to provide an estimate about the relative economic value of berry picking in this area. Tłıchǫ citizens are among the most avid berry and wild plant gatherers in the NWT. In 2002/3, the Tłıchǫ ranked only slightly behind the Dehcho region for the highest proportion of the population involved in wild food harvesting, with 26.4% of residents involved in berry picking and 14.3% reporting gathering of other wild plants (NWT Bureau of Statistics: 2003). With respect to Yellowknife residents' use of the area for berry harvesting, documented data are not available. Anecdotal evidence suggests areas northeast of Yellowknife and islands within Great Slave Lake closer to Yellowknife are more commonly used.

Mushrooms

The large 2008 burn to the southwest of Behchokǫ (see Figure 2) created a new harvesting opportunity in the form of morel mushrooms (*Morchella Esculenta*). Morels emerge in large numbers only in the first year after forest fires. They are in extremely high demand among mushroom harvesters for the fine foods market, as they are often worth \$40/pound wholesale dried (Darkes 2010) and from \$120-190 retail. Pickers can receive \$5 a pound for non-dried product. Tłıchǫ residents and NWT resident mushroom hunters reported that in 2009, professional mushroom hunters from outside the NWT came into the area after the burn, harvesting much of the morels (pers. Comm., Joline Huskey).

The amount of use for the morels for Behchokǫ area residents is unknown as is its economic value. However, it is an extremely variable wild food product because it only emerges after major burns, and it is not known to be cultivable by other means (Darkes 2010). Therefore, it can be reasonably asserted that the economic value of morels within and around the CPA is low to negligible.

Other parts of trees

Dene and Métis residents traditionally used birch bark for production of canoes as well as other parts of trees for trapping. It is unclear the degree to which any of these timber products have been or continue to be used from the CPA by area residents.

The Kwets'ootl'aa CPA is considered by some key contacts as being an area known to be good for collection of dry wood used for tanning hides (pers. Comm., Joline Huskey and Albertine Eyakfwo, Tłıchǫ Government 2010).

3.4.2 Agriculture

Agriculture does not represent a significant contribution to food supply or economic activity within the Tłıchǫ Region or the NWT at large (GNWT ITI 2005). Organized agriculture was largely an outgrowth of settlement by non-Aboriginal people, but has never been a large contributor due in particular to the short growing season and lack of arable soil in many locations.

There are currently no significant agricultural locations or activities within or in proximity to the Kwets'ootl'aa CPA; however, south of the CPA, there were gardens at Old Fort Rae when it was inhabited (Hayden 2009). Behchokǫ was planning to develop a market garden in 2010 with the support of the Canada/Northwest Territories Growing Forward Bi-lateral Agreement of 2009, which provides funds for small scale foods programs (GNWT ITI 2010; Government of Canada and GNWT ITI 2010).

Given the lack of extensive land base in the CPA, its remoteness, and the lack of agricultural soil, the agricultural potential of the CPA must be deemed very low.

3.4.3 Data Gaps in Assessment of Plant Resources

- There is no currently available secondary data on berry picking or other wild plant gathering either within or surrounding the CPA. Given the importance of berry picking and wild plant gathering for Tłıchǫ citizens, as well as Yellowknife residents, any further study on renewable resources/traditional knowledge about the CPA should attempt to identify the relative value of the CPA and, within the constraints of confidentiality and protection of sensitive traditional knowledge, areas within it, for wild plant harvesting.

3.5 ARTS AND CRAFTS MATERIALS

3.5.1 Overview of Arts and Crafts Activity and Materials

It is estimated that more than 5400 people in the NWT produce some form of art or fine craft on a regular basis, more than 10% of the total population (InvestNWT: 2005b). It has been estimated that the value of the arts and crafts industry in the NWT is about \$4 million to producers or about 3 times the harvest value of furs or forestry in the NWT (NWT Arts Strategy Advisory Panel: 2002). Participation in the arts and crafts industry is highest in the 60+ age group, in smaller communities, amongst women and in the Aboriginal population; About 42% of sales of arts and crafts are for fine art which include carvings, graphic arts, metal work, pottery, tapestries, birch bark baskets, moose hair tuftings and other products over \$250 (NWT Arts Strategy Advisory Panel: 2002).

In 2008, northern (primarily Aboriginal traditional) arts and crafts are practiced by an estimated 15% of residents of the Tłıchq Settlement Area. They are slightly less prevalent in Behchokq, at 12.7%, approximately half the population percentage that pursues these activities in the more remote community of Gameti (NWT Bureau of Statistics: 2009). Nonetheless, this is higher than the NWT average of 8.7% for people 15 and older. Sewing and needlecraft on caribou or moose hides, birch bark basket making, and painting are among the most common Tłıchq crafts, often with the distinctive flower beadwork.

Tłıchq Region artisans utilize a variety of renewable resources that can be sourced from the area around Behchokq, including:

- caribou skin, sinew, bone, antler, hide, fur and hair
- moose hide, sinew, antlers, and hair
- birch bark
- wood
- fur-bearing mammal parts (especially fur for clothing, including gloves and shoes)

The use of these renewable resources for arts and crafts is not a large part of economic activity. It is more of a “cottage industry” or home-based, small scale enterprise. However, it does create full time jobs for a small number of artisans, supplementary income for others, and promotes the Tłıchq way of life.

The Tłıchq Online Store (www.tlicho.ca/tlicho-onlinestore) sells around 20 items a month, with crafts costing anywhere between \$40 and \$1,000 (CBC 2010). Not all of the crafts utilize renewable resources sourced from the Tłıchq Region.

3.5.2 Data Gaps in Assessment of Arts and Crafts Materials Availability and Use from the CPA

- Data on the extent of use and economic value of arts and crafts materials harvested from the Kwets'oot'jàà CPA is limited.

3.6 TOURISM

Three licensed outfitters operate in and around the Kwets'oot'jàà CPA that offer ecotourism opportunities (True North Safaris, Narwal Northern Adventures and Enodah). If designated as a National Wildlife Area, Kwets'oot'jàà could accommodate these activities through the Management Plan as long as no harm to species or habitats occur. Cultural tourism could also be developed at sites already used for on-the-land camps and traditional teachings (e.g., site of Old Fort Rae – although this is outside the CPA boundary).

The North Arm Territorial Park is located just to the northwest of the Kwets'oot'jàà CPA. It is a small wayside stop on the edge of Great Slave Lake, at the side of the Mackenzie Highway, and receives limited visitation. Based on a 2008 NWT parks usage survey less than 1% of respondents identified having stayed at the park overnight (Kisquared 2008). Similarly, trip diaries completed by NWT travellers in 2007, 2008, and 2009, identified the park as a secondary destination 1%, 1%, and 0% of the time, respectively (Kisquared 2010).

The present level of tourism activity in the Kwets'oot'jàà area should not be negatively impacted by the creation of a protected area, and could be enhanced through the development of expanded cultural tourism opportunities.

3.7 RENEWABLE ENERGY

Power demands in the Tłjchq Settlement Area and Behchokq are relatively low. However, there is the potential for significant increases in costs (already started in recent years) associated with any reliance on fossil fuels for electricity generation and heat, which has led to interest in alternative energy sources in addition to the already strong hydro-electric power system of the Snare River.

3.7.1 Hydro-electric Power

“Hydro electric power generation is a renewable energy source that is widely recognized as more reliable, flexible and environmentally friendly than most other existing large scale means of power generation (GNWT 2009).” Currently, some 77% of residential and 39% of overall (residential plus industrial) power generation in the NWT is from hydro.

Any potential for hydro-electric power in the CPA would likely come from either the Emile or Snare Rivers, both of which enter the North Arm at its northern tip. Unfortunately, there are no Water Survey of Canada hydrometric gauging stations south of Whatí on the Snare River system (AECOM 2009), so accurate data on the stream flow and power potential of these water bodies when they enter the CPA is not readily available. However, the flows of the Emile River are known to be relatively low (highest recorded flow of 56.3m³/s – AECOM 2009) to support hydro-electric facilities. The Snare River’s flow, already affected by four

hydroelectric facilities (GNWT 2009) has highest flows downstream approximately six times higher at 335m³/s (AECOM 2009).

Power from the four current Snare River hydroelectric facilities (Snare Rapids, Snare Falls, Snare Forks and Snare Cascades) creates some 28.8 megawatts (MW) of energy capacity, approximately 55% of the NWT's total hydro-electric power generation. The owners of the facilities are the Northwest Territories Power Corporation (NTPC) and the Dogrib Power Corporation (DPC) (Snare Cascades only).

As noted in the Draft NWT Hydro Strategy (GNWT 2009), the vast majority of the Northwest Territories' hydro potential is undeveloped. Within the study area, both the La Martre (27 MW potential) and Snare Rivers (33 MW) have undeveloped potential. All of this potential, however, is located north of the CPA.

There are currently two proposals to develop additional hydro projects in the Tłjchq Settlement Area, both in the Snare River watershed:

1. A proposed 6-13 MW run-of-river project at the La Martre River Falls lead by the Tłjchq Investment Corporation (TIC). An interim feasibility study was completed in September 2011 (pers. comm., Kris Johnson, GNWT 2011)); and
2. Snare Site 7, a plant of up to 12 MW by the NTPC and DPC, that is dependent on load developments in the Snare-Yellowknife system (GNWT 2009).

Neither project has been forwarded to regulatory review at this time. The Draft NWT Hydro Strategy does not discuss any hydro-electric project potential within 60 km of the Kwetsootl'aa CPA. It is also unknown at this time whether either proposal could have detrimental effects on water flows south of Whatí in the Snare River system.

There appears to be minimal potential for economic hydroelectric power generation anywhere south of Whatí in the Tłjchq region.

3.7.2 Wind Power

Currently, a great deal less than 1% of all electricity generated in the NWT comes from wind power. There are no known wind turbines currently operating within the CPA. The wind power potential of the CPA is estimated to be relatively low (pers. Comm., Wade Carpenter, GNWT Alternative Energy Specialist) and is not currently one of the areas in the NWT being assessed for viability of large scale wind resource utilization. The North Arm area is not known for high winds. Arctic Energy Alliance (no date) estimates the average wind speed in the Behchokq area is "below average" at 3.33 m/s. The Canada Wind Energy Atlas (Environment Canada 2003) estimates the wind potential to be low in the area as well (see Figure 3).

An average annual wind speed of approximately 5.4 m/s equates to about 12 miles/hr or approximately 20km/h. While this is generally adequate to start generating electricity for small turbines, optimum wind speed for larger turbines is approximately 50km/h (Bloch

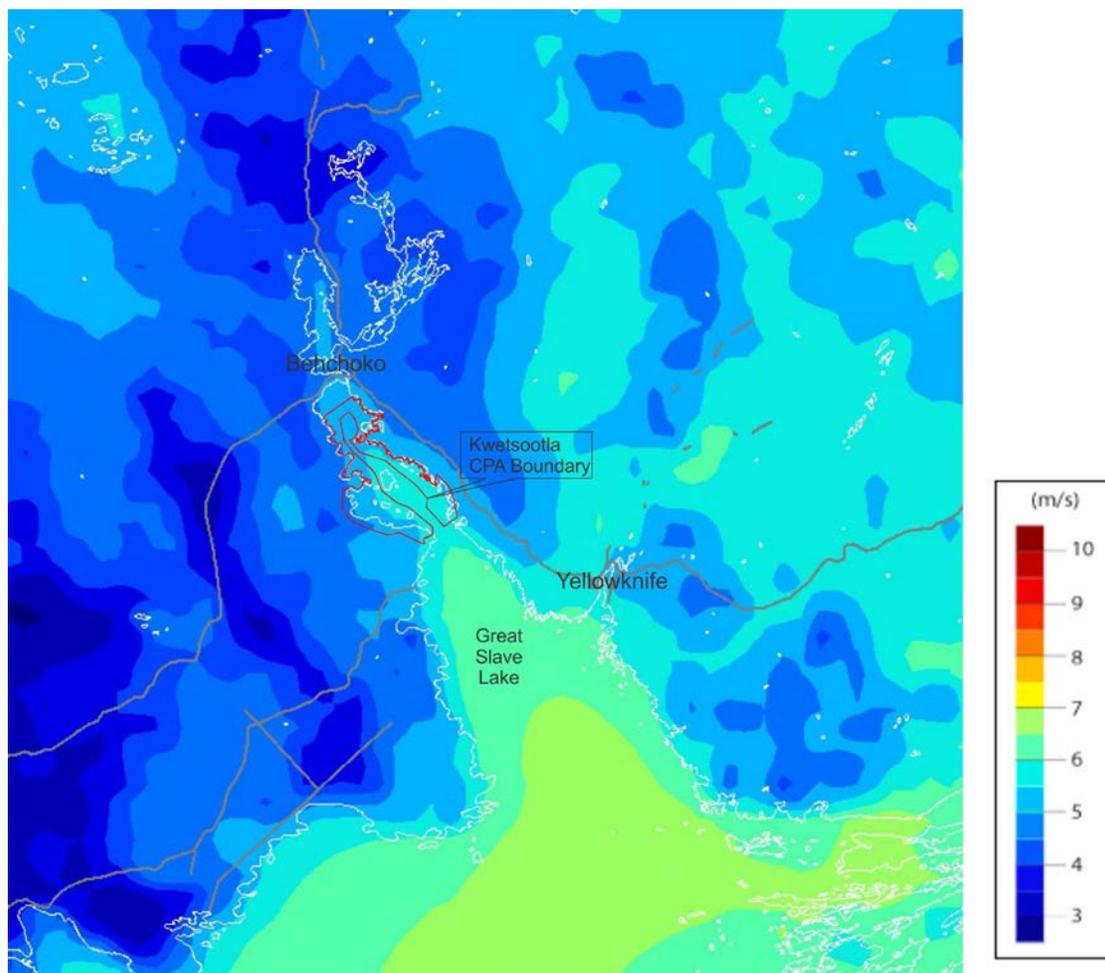
2008). Large scale wind turbine potential is limited in any area like the North Arm where winds are usually light and variable. The only reasonable use for wind power would likely be small wind turbines for cabins in the CPA.

3.7.3 Geothermal Power

In 2010, the GNWT issued a Geothermal Favourability Map for the Northwest Territories (EBA Engineering 2010) in which the geothermal favourability of the south side of the CPA was included in the medium/low category, and the north side included in the low category. In particular, the Taiga Shield area has characteristics (low porosity, low permeability and low geothermal gradients) that do not lend themselves to cost-effective geothermal development.

Thus, both the potential for and demand for geothermal power within and around the CPA is estimated to be low.

**FIGURE 3
AVERAGE WIND SPEED AROUND THE KWETS'OOTŁ'ÀÀ CPA**



3.7.4 Solar Power

Solar power potential for the generation of electricity is generally rated through a simple calculation of the amount of sunlight encountered on an average daily basis at a given location. The Arctic Energy Alliance (no date) estimates the average solar radiation in the Behchokò area to be “high” at 2.85 kWh/m²/day. Currently in the NWT, the amount of electricity generated by solar photovoltaic systems is well below 1% of the total¹ (diesel generates 43%, hydro 37%, and natural gas 20%).

The current use of solar systems for electricity generation in and around Behchokò is unknown. Again, given the relatively small energy demands of Behchokò and its surroundings, the only likely use of solar power would be for individual residences within the CPA.

**FIGURE 3
GEOHERMAL POTENTIAL AROUND THE KWETS'OOTŁ'ÀÀ CPA**



3.7.5 Biomass Energy

Biomass energy potential (basically wood for heat) within and around the CPA was discussed in the section on fuel wood above.

¹ According to an uncredited presentation on “Renewable Energy in the Northwest Territories, from the August 16, 2010 Yellowknife Dialogue on Renewable Energy in the North, located at <http://www.energy.ca/users/getdownload.asp?DownloadID=512>.

4.0 CONCLUSION

Overall, there are wide gaps in the knowledge of traditional, current and potential renewable resource stocks and use in the Kwets'oot''àà CPA, whether by Dene, Métis or non-Aboriginal residents of the Tłıchǫ Settlement Area or Yellowknife and its surroundings.

In the absence of more detailed information about renewable resource distribution and use in the Kwets'oot''àà CPA, the following assertions can reasonably be made that may assist the Working Group with its deliberations:

- There are likely no plentifully used or underutilized renewable resources within the Kwets'oot''àà CPA that would be harmed by its designation as a National Wildlife Area. In other words, the ability of area residents (specifically Aboriginal people) to continue use of renewable resources would not be harmed by such a designation. In fact, the security of renewable resources would likely be increased by such a designation.
- Designation of the CPA as a National Wildlife Area would not be significantly harmful to the economic interest of current area land users, particularly when it comes to accessing renewable resources.
- A recommendation to not designate all or part of the CPA as a National Wildlife Area would also not likely significantly damage the area's renewable resource stocks or use value. This is due to the fact that there is little current and future potential for commercial use in the immediate vicinity that would damage these renewable resources.
- There is no current evidence available to indicate that there are additional vital non-renewable resources within the CPA beyond those identified by the Tłıchǫ Government and the CWS when they first established the area as a CPA (Dillon Consulting 2008, 2010) – important migratory bird staging area, valuable subsistence hunting and fishing grounds.
- The fact that the vast majority (approx. 90%) of the CPA is located within the waters of Great Slave Lake minimizes the potential for designation as a National Wildlife Area to have impacts of any sort on terrestrial activities.

We propose the following primary recommendations as a means of addressing existing data gaps:

Recommendation #1: The Kwets'oot''àà CPA Working Group should strongly consider funding a Phase 2 Cultural Assessment of the Kwets'oot''àà CPA that emphasizes traditional knowledge collection on distribution and use of renewable resources by Aboriginal people within the Kwets'oot''àà CPA and its vicinity.

Recommendation #2: Given the lack of secondary materials specifically detailing the importance of the Kwets'oot''àà CPA for renewable resources and key locations of renewable resources within it, a Phase 2 RRA and Phase 2 Ecological Assessment (EA), possibly in combination with a Phase 2 cultural impact assessment, are highly recommended. If Phase

2 RRAs and EAs are conducted, it is recommended that they involve fieldwork between consultants and Behchokò citizens, utilize the Dene Mapping Project and Tłıchǫ traditional knowledge archives and mapping resources, and include a focus on areas with more extensive traditional trail systems and current vehicle access.

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Appendix 1: People Contacted

Person	Job Title, Affiliation
Dr. Tom Andrews	Territorial Archaeologist, Prince of Wales Northern Heritage Centre
Wade Carpenter	Alternative Energy Specialist, GNWT Environment and Natural Resources
Albertine Eyakfwo	Traditional Knowledge Researcher Assistant, Tłıchǫ Government
Eddie Erasmus	Director, Lands Protection, Tłıchǫ Government
Mark Fenwick	GIS Technician, Lands Protection, Tłıchǫ Government
Kerri Garner	Lands Regulator, Lands Protection, Tłıchǫ Government
Ritalene Gon	Protected Areas Strategy Coordinator, Tłıchǫ Government
Kathleen Groenewegen	GIS Specialist Forest Management Division Environment & Natural Resources, GNWT
Joel Holder	Manager, Lands - GNWT Environment and Natural Resources
Joline Huskey	Lands Administrative Officer, Tłıchǫ Government
Kris Johnson	Manager, Land and Resources Policy - GNWT Industry, Tourism and Investment
Dr. Alice Legat	Independent Consultant
Sheryl Grieve	Environment and Resource Manager, North Slave Métis Alliance
Margaret Mahon	Energy Management Specialist, Arctic Energy Alliance
Glenn Mackay	Archaeologist, Prince of Wales Northern Heritage Centre
Bryan Pelkey	Alternative Energy Specialist, Environmental Protection Division, GNWT Environment and Natural Resources
Doug Ritchie	Ecology North
Francois Rossouw	GNWT Industry, Tourism & Investment; Investment & Economic Analysis - Fur Marketing/ Traditional Economy
Suzanne Carriere	GNWT Environment & Natural Resources Wildlife Biologist Biodiversity
Steve Alan	CWS Wildlife Officer
Lisa Smith	Inventory Forester, Forest Management Division, GNWT Environment and Natural Resources
Deanna Leonard	Fisheries Management Biologist, DFO
Pete Cott	Fisheries Research Biologist, DFO
Mary Tapsell	Director, Land and Water, GNWT Environment and Natural Resources
John B. Zoe	Senior Advisor, Chiefs' Executive Council, Tłıchǫ Government

Appendix 2: Trapping

Behchoko

2004-05 Trappers	Species	Harvest/Sold	SoldPrice	2005-06 Trappers	Species	Harvest/Sold	SoldPrice	2006-07 Trappers	Species	Harvest/Sold	SoldPrice	2007-08 Trappers	Species	Harvest/Sold	SoldPrice
	Bear, Black				Bear, Black	1	65.4		Bear, Black				Bear, Black		
	Bear, Grizzly				Bear, Grizzly				Bear, Grizzly				Bear, Grizzly		
	Beaver	175	4,553.41		Beaver	211	5,823.48		Beaver	120	4,553.41		Beaver	102	1956.5
	Coyote				Coyote				Coyote				Coyote		
	Fisher				Fisher	4	155.52		Fisher				Fisher		
	Fox, Cross	1	74.91		Fox, Cross	12	377.01		Fox, Cross	1	74.91		Fox, Cross	3	139
	Fox, Red	6	177.52		Fox, Red				Fox, Red	5	177.52		Fox, Red	12.00	205
	Fox, Silver				Fox, Silver				Fox, Silver				Fox, Silver		
	Fox, White	1	65.83		Fox, White				Fox, White	1	65.83		Fox, White		
	Lynx	16	2,110.05		Lynx	17	2,320.91		Lynx	15	\$2,004.05		Lynx	8.00	1855
	Marten	1089	81,777.50		Marten	1077	119,326.72		Marten	1082	\$81,255.07		Marten	723	64144.06
	Mink	16	235.8		Mink	38	1,103.24		Mink	10	\$125.87		Mink	18	370
	Muskrat	892	3,054.40		Muskrat	824	6,706.33		Muskrat	1031	\$3,356.47		Muskrat	314	716.76
	Otter				Otter				Otter				Otter	3	81
	Squirrel	22	35.9		Squirrel	8	23.92		Squirrel	22	\$35.90		Squirrel	8.00	14.1
	Weasel	18	112.78		Weasel	1	1.09		Weasel	9	\$69.40		Weasel	1.00	9
	Wolf, Arctic				Wolf, Arctic				Wolf, Arctic				Wolf, Arctic		
	Wolf, Boreal	1	192.95		Wolf, Boreal				Wolf, Boreal	1	192.95		Wolf, Boreal		
	Wolf, Tundra				Wolf, Tundra				Wolf, Tundra				Wolf, Tundra		
	Wolverine	7	1,578.83		Wolverine	4	630.67		Wolverine	4	\$1,001.68		Wolverine	5	1304
60		2244	93,969.88	63		2197	136,534.29	64		2301	92,913.06	55			

2008-09 Trappers	Species	Harvest/Sold	SoldPrice	2009-10 Trappers	Species	Harvest/Sold	SoldPrice	2010-11 Trappers	Species	Harvest/Sold	SoldPrice
	Bear, Black				Bear, Black				Bear, Black	2	129.6
	Bear, Grizzly				Bear, Grizzly				Bear, Grizzly		
	Beaver	185	3098		Beaver	206	3125.49		Beaver	320	4,273.99
	Coyote				Coyote				Coyote		
	Fisher				Fisher				Fisher		
	Fox, Cross	6	181.14		Fox, Cross	5	110.4		Fox, Cross	6	183.78
	Fox, Red	6	117.81		Fox, Red	4	55.53		Fox, Red	13	498.16
	Fox, Silver				Fox, Silver	1	30.45		Fox, Silver	1	22.31
	Fox, White	1	13.75		Fox, White				Fox, White		
	Lynx	19	1434.1		Lynx	10	1183.12		Lynx	6	999.21
	Marten	1871	102607.13		Marten	1146	74356.4		Marten	958	68,464.18
	Mink	14	161.32		Mink	8	75.74		Mink	20	357.24
	Muskrat	1244	3788.55		Muskrat	1360	8023.91		Muskrat	1421	12,424.32
	Otter	1	14.37		Otter				Otter		
	Squirrel	1	2.2		Squirrel				Squirrel		
	Weasel				Weasel	1	2.54		Weasel	1	1.46
	Wolf, Arctic				Wolf, Arctic				Wolf, Arctic		
	Wolf, Boreal				Wolf, Boreal				Wolf, Boreal		
	Wolf, Tundra	1	64.2		Wolf, Tundra				Wolf, Tundra		
	Wolverine	5	721.1		Wolverine	4	973.88		Wolverine	5	880.68
63		3354	112,203.67	63		2745	87,937.46	64		2751	88,105.33

Species highlighted that occur/harvested in area of concern
 Number of active harvesters is under each harvest year.

Yellowknife

2004-05 Trappers	Species	Harvest/Sold	SoldPrice	2005-06 Trappers	Species	Harvest/Sold	SoldPrice	2006-07 Trappers	Species	Harvest/Sold	SoldPrice	2007-08 Trappers	Species	Harvest/Sold	SoldPrice
	Bear, Black				Bear, Black	1	65.4		Bear, Black				Bear, Black		
	Bear, Grizzly	1	1,219.00		Bear, Grizzly				Bear, Grizzly	1	1,219.00		Bear, Grizzly	1	900
	Beaver	53	1,269.55		Beaver	21	610		Beaver	11	242.55		Beaver	8	142
	Coyote				Coyote				Coyote	1	72.64		Coyote		
	Fisher				Fisher				Fisher				Fisher		
	Fox, Cross	1	72.64		Fox, Cross	4	71.56		Fox, Cross	1	72.64		Fox, Cross	1	72
	Fox, Red	21	645.63		Fox, Red	14	298.23		Fox, Red	14	404.16		Fox, Red	5	80
	Fox, Silver				Fox, Silver				Fox, Silver				Fox, Silver		
	Fox, white				Fox, white				Fox, white				Fox, white		
	Lynx	26	3,944.31		Lynx	20	3,185.62		Lynx	29	4184.31		Lynx	24	5770.8
	Marten	310	22,746.66		Marten	184	18,744.49		Marten	277	20469.12		Marten	304	26057.02
	Mink	35	597.48		Mink	66	1,743.70		Mink	35	594.46		Mink	30	476.5
	Muskrat	338	1,868.27		Muskrat	642	6,090.48		Muskrat	164	686.77		Muskrat	367	1103.4
	Otter				Otter				Otter				Otter		
	Squirrel	9	16.6		Squirrel	12	40.2		Squirrel	8	15.12		Squirrel	21	43.75
	Weasel	46	244.54		Weasel	40	309.83		Weasel	33	181.27		Weasel	23	170
	Wolf, Arctic				Wolf, Arctic	3	658.4		Wolf, Arctic				Wolf, Arctic		
	Wolf, Boreal				Wolf, Boreal				Wolf, Boreal				Wolf, Boreal	1	500
	Wolf, Tundra				Wolf, Tundra	1	102.6		Wolf, Tundra				Wolf, Tundra		
	Wolverine	19	4,782.32		Wolverine	19	2,370.24		Wolverine	16	4,094.82		Wolverine	6	1630
42		859	37,407.00	39		1026	34,225.35	42		590	32,236.86	32			

2008-09 Trappers	Species	Harvest/Sold	SoldPrice	2009-10 Trappers	Species	Harvest/Sold	SoldPrice	2010-11 Trappers	Species	Harvest/Sold	SoldPrice
	Bear, Black				Bear, Black				Bear, Black		
	Bear, Grizzly	2	1150		Bear, Grizzly	1	1015		Bear, Grizzly		
	Beaver	11	316.38		Beaver	18	230		Beaver	25	336.35
	Coyote	1	15.4		Coyote	1	15		Coyote	7	208.73
	Fisher				Fisher				Fisher		
	Fox, Cross	4	125.7		Fox, Cross				Fox, Cross	13	477.41
	Fox, Red	5	95.01		Fox, Red	5	81.69		Fox, Red	15	405.66
	Fox, Silver				Fox, Silver				Fox, Silver		
	Fox, white				Fox, white				Fox, white		
	Lynx	58	5997.16		Lynx	17	1884.34		Lynx	23	3,690.27
	Marten	296	15462.83		Marten	63	3950.1		Marten	317	22,875.63
	Mink	46	594.12		Mink	16	167.89		Mink	29	474.12
	Muskrat	246	770.72		Muskrat	769	4911.01		Muskrat	687	5,748.20
	Otter	2	75		Otter	1	17.26		Otter	2	200
	Squirrel	4	8.75		Squirrel	7	7.18		Squirrel	15	17.19
	Weasel	64	297.12		Weasel	17	39.57		Weasel	6	22.54
	Wolf, Arctic				Wolf, Arctic				Wolf, Arctic		
	Wolf, Boreal	4	597		Wolf, Boreal				Wolf, Boreal	12	3,063.74
	Wolf, Tundra				Wolf, Tundra				Wolf, Tundra		
	Wolverine	27	8316.8		Wolverine	7	2300.12		Wolverine	12	2,917.34
37		770	33,821.99	37		922	14,619.16	35		1163	40,437.18

Species highlighted that occur/harvested in area of concern
Number of active harvesters is under each harvest year.

Persons Who Hunted & Fished or Trapped During 2008, by Community in the NWT

	Persons 15 & Older	Hunted or		Trapped		TEAF data	
		Fished	%		%	# active trappers	%
Tłı̨chǫ	2,029	811	40.0	267	13.2	104	39.0
Behchoǫ̀ (Rae-Edzo)	1,374	515	37.5	166	12.1		
Gamè̀ti (Rae Lakes)	214	81	37.9	30	14.0		
Wekweè̀ti	81	45	55.6	18	22.2		
Whatì	360	170	47.2	53	14.7		
Yellowknife Area							
Detah	182	70	38.5	36	19.8		
Yellowknife	15,775	5,440	34.5	186	1.2	39	21.0
N'dilo	262	96	36.6	37	14.1		

Source: 2009 NWT Community Survey

Prepared by: NWT Bureau of Statistics

LISN (licence, export permit data)

NORTH SLAVE	WOLF	WOLVERINE
2004-05	43	50
2005-06	45	20
2006-07	119	57
2007-08	3	7
2008-09	23	14

Big game harvest - resident and non-resident hunters (commercial)

2008-09 WOLF EXPORT PERMITS (LISN)

YEAR	REGION	General Hunting License	Hunting License (resident hunters)
2008	North Slave	4	7
2009		6	35