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# 1. Summary

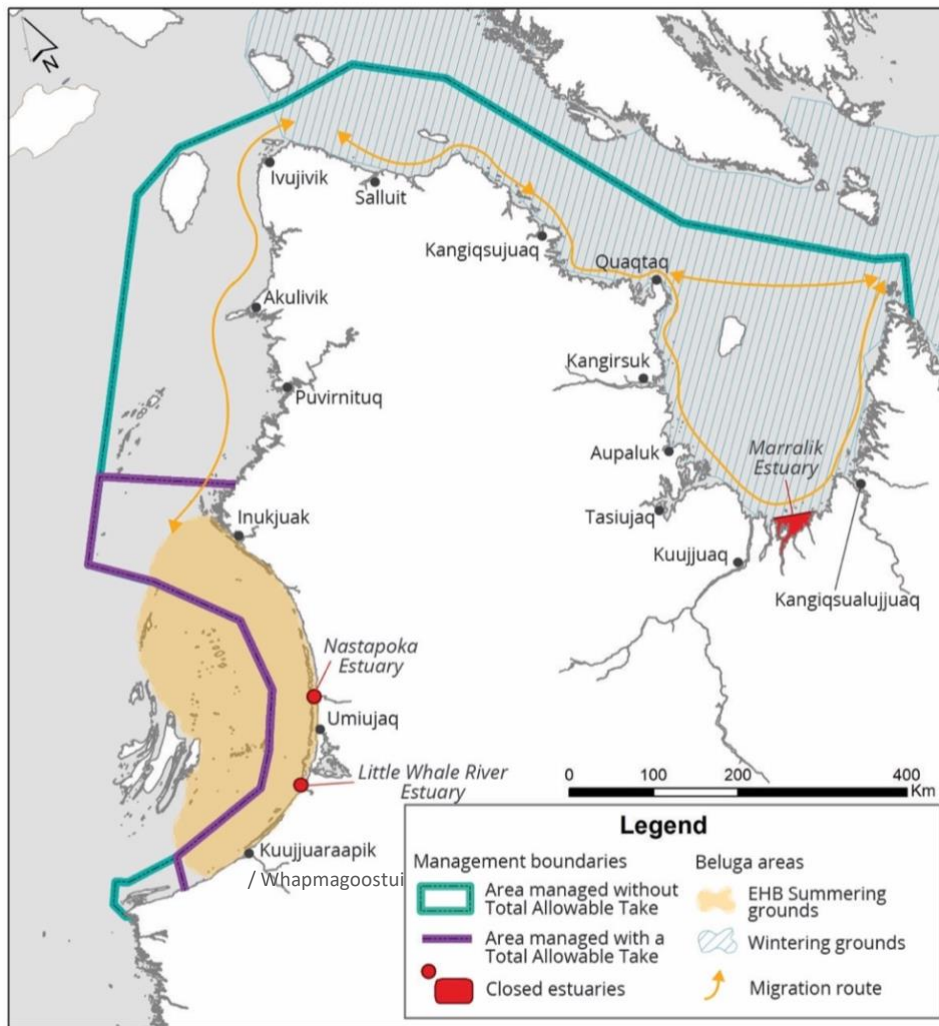
Beluga are an extremely important species in Nunavik Marine Region (“NMR”), fundamental to both the ecosystem, and the culture and lives of Nunavik Inuit. Government run beluga management systems have been in place in Nunavik since the 1980s and have often been a point of contention between Nunavik Inuit and Government decision makers. The points of contention have centered around the exclusion of Inuit from beluga management decision making and the exclusion of Indigenous Knowledge, specifically Inuit knowledge and practices, from management measures established by the Canadian Government. This legacy continues to impact wildlife management even in the modern context of co-management as designed under modern land claim agreements. This is particularly true in the case of beluga management.

As of February 1<sup>st</sup>, 2020, the previous 2017-2020 beluga management system expired and new decisions have been formulated. This document, along with the attached appendices, forms an integral part of the resolutions issued by the Nunavik Marine Region Wildlife Board (“NMRWB”) and the Eeyou Marine Region Wildlife Board (“EMRWB”) and in conjunction with those resolutions constitutes the collective decisions of the NMRWB and the EMRWB in relation to the establishment of a Total Allowable Take (“TAT”) for the Eastern Hudson Bay Arc Region and Non-Quota Limitations (“NQL’s”) in relation to beluga whale harvesting throughout the NMR, including the Inuit Zone and the Cree/Inuit Zone as defined by the *Consolidated Agreement between the Crees of Eeyou Istchee and the Nunavik Inuit*.

In January 2020, in the communities of Kuujjuaraapik and Whapmagoostui, the NMRWB and the EMRWB (collectively “Boards”) jointly held an in-person public hearing regarding beluga management in the NMR, including the overlapping areas with the Eeyou Marine Region (“EMR”). The hearing was held to provide co-management partners and rights holders with an opportunity to present information to the Boards so as to inform their decision-making. All parties with an interest and those with standing, as defined in the Nunavik Inuit Land Claim Agreement (“NILCA”) and the Eeyou Marine Region Land Claim Agreement (“EMRLCA”), were engaged and given the opportunity to participate in the public hearing. Those in attendance at the public hearing included each of the Local Nunavimmi Umajulirijiit Katujjiqatigiinningit (“LNUK”), the Regional Nunavimmi Umajulirijiit Katujjiqatigiinninga (“RNUK”), Makivik Corporation, Nunavut Tunngavik Incorporated (“NTI”), the Sanikiluaq Hunters and Trappers Organization, representatives from the Government of Canada (specifically representation from the Department of Fisheries and Oceans Canada (“DFO")), and individual Nunavik Inuit and Eeyou Istchee Cree rights holders. Other parties, such as the Cree Nation Government (“CNG”), chose to exclusively submit written submissions.

Following the conclusion of the hearing and a thorough review of all available information, the

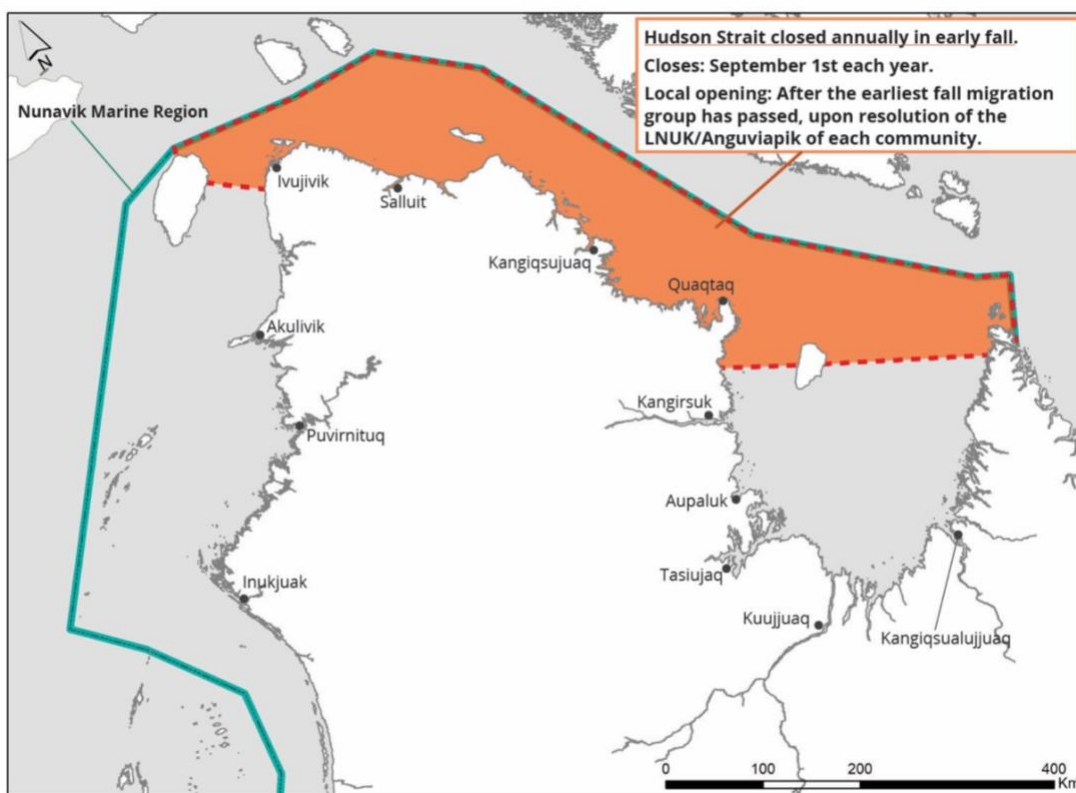
NMRWB and the EMRWB have decided to establish a TAT of 24 beluga to be harvested within the Eastern Hudson Bay Arc Region<sup>1</sup> of the NMR from May 1<sup>st</sup> to November 30<sup>th</sup>. The Boards determined that at present, the establishment of a TAT within the Eastern Hudson Bay Arc Region from May 1<sup>st</sup> to November 30<sup>th</sup> is necessary and the most effective way to conserve and protect the Eastern Hudson Bay (“EHB”) beluga stock which is a depleted population due primarily to historic over harvesting by the non-Indigenous commercial whaling industry. In the southern range of the Eastern Hudson Bay Arc Region there is little chance of harvesting EHB beluga until later in the spring, as the EHB stock have yet to migrate into that area, as such the TAT season begins on June 15<sup>th</sup> (Figure 1). This has generally been referred to as the Kuujjuaraapik Pilot Project.



**Figure 1:** The migratory pattern of EHB beluga shown together with the NMR separated by management areas with both a TAT and NQL's (purple), with only NQL's (blue-green), and where harvest is currently closed (red).

<sup>1</sup> The area encompassing the traditional harvesting grounds of Kuujjuaraapik, Umiujaq, and Inukjuak, including the Nastapoka and Little Whale River Estuaries (the area defined in purple (Figure 1)).

Harvesting throughout the entire NMR, including the Eastern Hudson Bay Arc Region will be further regulated through a series of NQL's. These measures are required to meet conservation objectives for EHB beluga. Although the Boards recognize that the migratory nature of EHB beluga means they are present in other regions of the NMR, and need protection during that time, the Boards believe their protection is best accomplished through NQL's, without the need for a TAT. Notably the Boards have decided to introduce a new seasonal hunting closure in Hudson Strait, to protect EHB beluga during their fall migration (Figure 2). This closure will be in place annually from September 1st until October 31st with opening occurring locally when the EHB beluga have migrated past. This should effectively minimize harvest of EHB beluga in Hudson Strait, while also minimizing the impact on harvesting and cultural rights.



**Figure 2:** Map indicating the area of the NMR which will be closed to harvest starting each year on September 1st until October 31st.

The effectiveness of a regional TAT and NQL's will depend on monitoring and compliance to ensure that implementation of this decision is in line with the management objective of maintaining the EHB beluga around 3,000 whales. As such, the Boards have established a Monitoring Plan, which will serve as an integral part of the implementation of these decisions (**Appendix A**). If monitoring measures show that EHB beluga are being harvested throughout the NMR to an extent that compromises the conservation objectives, then the Boards will reconvene

before the expiration of the term of this decision to evaluate whether measures need to be added or varied.

In addition to the issue of beluga management being a matter of great importance to all parties, it was challenging for the Boards to fulfill their mandates due to events outside of their control. The NILCA and the EMRLCA require the Boards to make decisions in relation to the Joint Cree/Inuit Zone together. Although joint sittings of the Boards are contemplated and preferred, due to the COVID-19 pandemic and the travel restrictions established at the regional, provincial, and national levels, the Boards were unable to meet in person. As such deliberation and voting on these decisions were conducted via teleconference and through electronic voting processes as defined under the by-laws of each Board. In accordance with the NILCA and the EMRLCA, parties with observer status were given full opportunity to observe these processes.

In conclusion, the Boards recognise that the involvement of rights holders and co-management partners throughout the management process is essential for effective wildlife management (Richard and Pike 1993, Dale and Armitage 2011, Thornton and Scheer 2012). Being responsive to the concerns raised and to the practices and measures proposed by Inuit and Cree rights holders (i.e. those most affected by wildlife management) is critical for the integrity and effectiveness of beluga management measures. Despite efforts to amend previous government established management systems to address the concerns of Nunavik Inuit and the Cree of Eeyou Istchee, previous measures did not effectively balance the rights of Inuit and Cree, nor did it incorporate and build on Inuit and Cree knowledge, approaches and capacity as stewards of the land and marine wildlife. This has resulted in widespread frustration with the previous management system. Although the previous system was effective with respect to conserving and possibly increasing the EHB stock, the widespread frustration and growing anger over the interference with Inuit rights and practices has rendered the previous system near ineffective. In making their final decisions, the Boards considered whether these decisions created changes that were too drastic in a short period of time. Although many aspects of the old system will remain, including the tracking of EHB harvest, the Boards deemed an overhaul of the management approach for beluga in the NMR is needed to maintain the support and confidence of the Inuit of Nunavik and the Cree of Eeyou Istchee, as well as all Canadians. Specifically, the Boards assert that the revitalization of EHB beluga and the sustainability of beluga management depend upon creating space for Inuit and Cree to develop their own community driven harvesting and stewardship practices that promote conservation. The NMRWB and the EMRWB submit that the decisions enclosed will serve to continue the conservation objectives for beluga while balancing and protecting the harvesting, Human, and Indigenous Rights of the Nunavik Inuit and the Cree of Eeyou Istchee, which includes their cultural rights and rights to self-determination.















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### 3. Glossary of Terms

**“Areas of Equal Use and Occupancy”** means those territories the Inuit of Nunavik and Nunavut historically and currently share, and are defined in Schedule 40-1 of the *Nunavut Land Claims Agreement* and in Schedule 27-1 of the *Nunavik Inuit Land Claims Agreement*.

**“Beluga Management System”** means a set of decisions, policies, and procedures put in place by the co-management partners to ensure management objectives are met.

**“Beluga Stock”** means a group of beluga that summer together and are named for these summering areas. Beluga which occupy the Nunavik Marine Region for at least part of the year include, **“Eastern Hudson Bay beluga”** or **“EHB beluga”**, **“James Bay beluga”**, **“Ungava Bay beluga”**, **“Western Hudson Bay beluga”**.

**“Co-management partners”** means partners (individuals, local/regional organizations, governmental department) who have roles and responsibilities in relation to wildlife management within the Nunavik Marine Region and/or the Eeyou Marine Region.

**“Eastern Hudson Bay Arc Region”** means the area encompassing the local harvesting grounds of Kuujjuaraapik/Whapmagoostui, Umiujaq, and Inukjuak, and includes Nastapoka and Little Whale River Estuaries (see Figure 8, as well as **Appendix B** of NMRWB Resolutions #2020-09-04, #2020-09-05, and #2020-09-06, and EMRWB Resolution #2020/21-23). The Eastern Hudson Bay Arc Region encompasses the summering area for Eastern Hudson Bay beluga.

**“Eeyou Marine Region”** or **“EMR”** as defined by section 4.1 of the *Eeyou Marine Region Land Claims Agreement*, includes the offshore area adjacent to, but not in Québec, which includes the Overlap Area, as described in Schedule 4-1 and shown in the map contained in Schedule 4-1A of the EMRLCA.

**“Estuary”** means a partially enclosed coastal body of brackish water with one or more rivers or streams flowing into it, and with a free connection to the open sea. **“Estuaries”** form a transition zone between river environments and maritime environments. It can also be described as the tidal mouth of a large river, where the tide meets the river or stream.

**“Estuary Harvest Plan”** describes the harvesting practices that may be put in place in the currently closed estuary, and how harvest in the estuary will be monitored and respected. The plan will require the endorsement of the LNUK and Northern Village of neighbouring communities and the approval of the NMRWB and the EMRWB where required.

**“Genetics”** refers to the scientific study of DNA and heredity, and the resulting ability to understand relatedness and uniqueness between individuals based on biological sampling. In the context of this management system, genetics is used primarily to identify beluga stocks from biological harvest samples.

**“James Bay and Northern Québec Agreement”** or **“JBNQA”** means the Agreement approved, given effect and declared valid by the *James Bay and Northern Québec Native Claims Settlement Act* (S.C., 1976-77, Chapter 32) and by the *Act* approving the Agreement concerning James Bay and Northern Québec (S.Q., 1976, Chapter 46), and as amended from time to time by Complementary Agreements thereto.

**“Local Nunavimmi Umajulirijiit Katujjiqatigiinningit”** or **“LNUK”** or **“Anguviapik”** as defined by section 5.1.1 of the *Nunavik Inuit Land Claims Agreement*, means a local hunting, fishing, and trapping association as defined by Part 5.7 of the *Nunavik Inuit Land Claim Agreement*.

**“Monitoring Plan”** means the plan outlined in **Appendix A**. The monitoring plan is designed based on the objectives identified in this document, the key questions that need to be answered, and the indicators/information that need to be monitored. The type of data to be collected, the frequency of collection, the method of collection, and how the data will be used is described in the Monitoring Plan.

**“Non-quota limitation”** or **“NQL”** as defined by section 5.1.1 of the *Nunavik Inuit Land Claims Agreement*, and Chapter 1 of the EMRLCA, means a limitation on harvesting of any kind, except a total allowable take. This may include limitations on season of harvest, sex of wildlife, size of wildlife, age of wildlife or method of harvest.

**“Nunavik Inuit Land Claims Agreement”** or **“NILCA”** means the *Agreement Between Nunavik Inuit and Her Majesty the Queen in Right of Canada Concerning Nunavik Inuit Land Claims*.

**“Nunavik Marine Region”** or **“NMR”** means the offshore area adjacent to, but not in, Québec described in Schedule 3-2 and shown on the map contained in Schedule 3-3 of the *Nunavik Inuit Land Claims Agreement*, including the overlap area of the Agreement Relating to the Cree/Inuit Offshore Overlapping Interests Area. For the purpose of ease of use within this document, the NMR is generally referred to as the area defined above, but excluding the Areas of Equal Use and Occupancy, and the Cree Zone of the Overlap Area (as these areas are beyond the jurisdiction of the NMRWB).

**“Overlap Area”** means the Overlap Area constitutes part of both the Nunavik Marine Region and of the Eeyou Marine Region.

- **Cree Zone:** The Cree Zone, as illustrated in Schedule 3a of the Cree / Inuit Overlap Agreement, including all the marine areas, islands, lands and waters in the Cree/Inuit Offshore Overlapping Interests Area within the boundary illustrated on the map.
- **Inuit Zone:** The Inuit Zone, as illustrated in Schedule 4a of Cree / Inuit Overlap Agreement, including all the marine areas, islands, lands and waters in the Cree/Inuit Offshore Overlapping Interests Area within the boundary illustrated on the map.

- **Joint Inuit / Cree Zone (“Joint Zone”)**: The Joint Inuit/Cree Zone, as illustrated on Schedule 2a of Cree / Inuit Overlap Agreement, including all the marine areas, islands, lands and waters in the Cree/Inuit Offshore Overlapping Interests Area within the boundary illustrated on the map.

**“Rights holders”** means individuals and/or Indigenous Peoples with legal rights within the NMR, as recognized through the NILCA, the EMRLCA or through other legal instruments.

**“Regional Nunavimmi Umajulirijit Katujjiqatigiinninga” or “RNUK” or “Anguvigak”** as defined by section 5.1.1 of the *Nunavik Inuit Land Claims Agreement*, means the regional hunting, fishing and trapping association as defined in Part 5.7 of the *Nunavik Inuit Land Claims Agreement*.

**“Total Allowable Take” or “TAT”** as defined under section 5.1.1 of the *Nunavik Inuit Land Claims Agreement* and under Chapter 1 of the EMRLCA, is an amount of a species, stock or population of wildlife able to be lawfully harvested as established by the NMRWB pursuant to sections 5.2.10 and 5.2.11 and by the EMRWB pursuant to section 13.5 of the EMRLCA.



## 4. Background

### Historic Harvesting

Since time immemorial beluga have been harvested by Nunavik Inuit, and likewise have always been managed by Nunavik Inuit. Inuit wildlife management predates contemporary government run wildlife management systems by centuries. Inuit harvesting practices are fundamental in the development of Inuit land and wildlife stewardship systems based on Inuit Qaujimagatunangit (IQ). The term IQ is not directly translatable to English, but is a systematic way of thinking and knowing, drawing on intergenerational knowledge, lived experience, observations, and wisdom (Usher 2000, Inuit Circumpolar Council 2020). Management through IQ allowed for centuries of successful and sustainable coexistence between Inuit and beluga which operated with no risk to beluga populations. Inuit management faces new challenges such as a larger Inuit population, and fewer EHB and Ungava Bay beluga. However, the success of IQ based management cannot be accredited simply to historically smaller human populations and higher beluga populations. Inuit IQ-based management remains integral to effective wildlife management in the NMR today.

Comparing contemporary government run wildlife management to Inuit management systems is difficult due to the fundamental differences between them. Under IQ the concepts of harvesting and conservation are integrated, fundamental aspects of survival for both Inuit and beluga (Kendrick 2013). Under government run wildlife management systems these concepts are regulated separately. The full scope of IQ and beluga harvesting will not be outlined in this document; however, it is recognized that certain aspects of this knowledge have been documented in Nunavik (see Doidge et al. 2002, Lee et al. 2002, Tyrrell 2007a, Lewis et al. 2009, Breton-Honeyman et al. 2016). An important concept rooted in IQ is the importance of only taking what is needed, and what can be effectively stored or shared (Alayco et al. 2007). Additionally, the traditional practice of allowing the migratory leaders to pass by without harvesting those first beluga ensures that the learned migration routes of the beluga are not disrupted (Breton-Honeyman et al. 2017).

Much has changed in the NMR and in Nunavik and the Eeyou Istchee since the onset of settler colonialism. However, IQ and Indigenous knowledge remains foundational to life and wildlife management in the NMR and it provides important guidance for decision makers.

### Commercial Whaling

In the 1800s and early 1900s, commercial whaling of beluga occurred in several areas of the NMR including southern Ungava Bay and Eastern Hudson Bay. Most, or all, commercial whaling was run by the Hudson Bay Company. Precise total harvest numbers are difficult to attain, but some

accepted estimates give a good indication of the level of harvest. It has been estimated that at least a total of 1,340 beluga were harvested from Ungava Bay between the 1860s and the 1900s. In Eastern Hudson Bay from 1854 to 1863 it is estimated that a total of 7,875 beluga were commercially harvested - a number more than double the current population estimate for the EHB stock (Reeves and Mitchell 1987a, DFO 2005a).

This period of time represents the highest harvest level of beluga in the NMR recorded to date. Harvest during this time is widely accepted to have been responsible for the initial decline of the EHB and Ungava Bay beluga stocks from their historic stock size, and the primary cause of their status as depleted stocks today. While true historic stock sizes, and therefore the extent of decline of the EHB and UB, are unknown, the historic commercial harvest levels indicate that the stocks were likely significantly more numerous than contemporary estimates. Population modeling has created back-casted estimates, with the resulting historic EHB stock estimate at 12,500 individuals in 1854 (DFO 2005b). Using a similar modeling exercise DFO estimates the population of the Ungava Bay beluga stock to have numbered 1,900 whales in the late 1800s, but the stock today is estimated to be less than 100 individuals, and there is a strong possibility of extirpation (DFO 2005, Doniol-Valcroze and Hammill 2012).

Large scale commercial whaling ceased in the early 1900s, after which the majority of beluga harvesting returned to Indigenous, primarily Inuit, harvesting practices based on their social, cultural and economic needs. However, commercialization of beluga harvesting continued in some areas at a smaller scale (such as Inuit harvesters being paid to catch beluga) until approximately the mid 1900s (Morantz 2017, Durkalec and Basterfield 2020). Assuming these stocks did in fact have much larger historic populations sizes, current population estimates indicate that the stocks have not been able to recover to their historic numbers. It is unknown why this is the case, but possibilities include climate change, increased noise pollution, increased predation, shifts in the food web, harvest levels, human alterations to the marine habitats (including hydroelectric dams and associated changes in salinity and turbidity) as well as any number of other possibilities.

## **Federal Management**

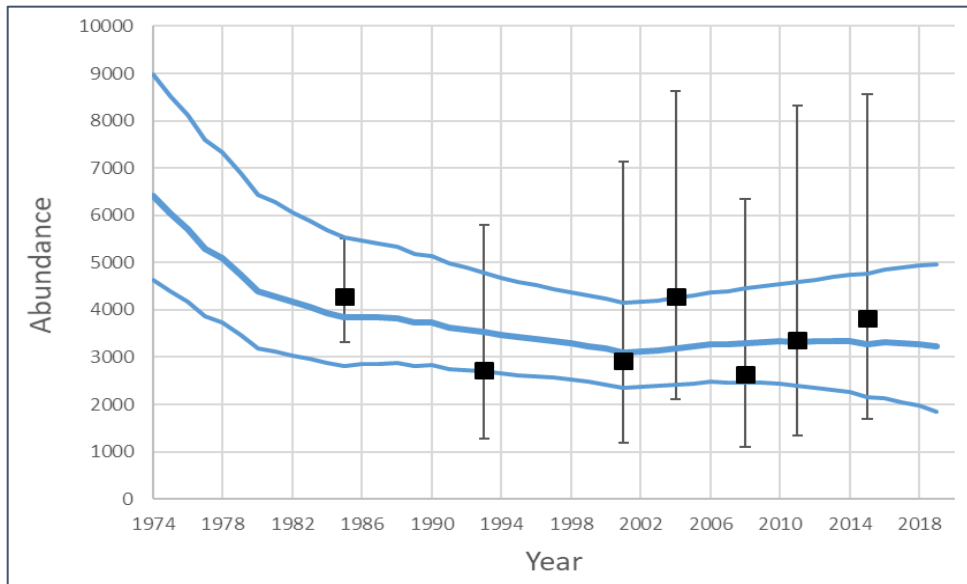
The Federal government asserted jurisdiction over beluga management and imposed formalized conservation measures for the EHB and Ungava Bay beluga stocks starting in the 1980s. This stemmed from growing federal concern regarding beluga stocks, paralleled with the "endangered" designation given to the Ungava Bay and EHB beluga stocks by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 1988 and 2004, respectively (COSEWIC 2004). Regulatory measures implemented during this time took a few different forms, but broadly included the introduction of harvest limits, closed areas for harvesting, seasonal closures,

and measures to attempt the redirection of harvest pressure to healthy beluga stocks.

Over this period of time various areas of the NMR (which at the time was not yet established as an area under co-management) were closed to harvesting. The most constant areas of harvesting closure were three estuaries closed through the federal laws and / or policy. These included the Southern Ungava Bay area which includes the Mucalic estuary, and the Little Whale River estuary and the Nastapoka Estuary in Eastern Hudson Bay. The closure of these areas served different purposes. The closure in Ungava Bay aimed to protect the Ungava Bay stock and was based on four aerial surveys flown from 1985 to 2008, all of which found zero beluga (Doniol-Valcroze and Hammil 2012), and was used as justification that the stock must be too small to support hunting. The two closures in Eastern Hudson Bay region intend to protect family groups of beluga that summered in the area whom were believed to be vulnerable to large single event harvests.

Under these quota systems, Nunavik Inuit were given a limited harvest level at the outset of the harvest season. Quotas took various forms and the number of beluga allowed, their location, and the timing of harvest changed with time. Additional restrictions, above and beyond the quotas, aimed to protect the EHB beluga, but due to the similar migration patterns of the Western Hudson Bay and EHB beluga, they also limited harvest at times when harvesters were more likely taking from other stocks (e.g. the Western Hudson Bay whales).

Since approximately the year 2000, the modeled population of the stock has been relatively stable (Figure 3). This suggests that federal government management appears to have been successful in its goal of preventing decline of the EHB stock. Federal management achieved this goal without completely closing harvesting in Nunavik, while implementing techniques that led to increased scientific understanding of the stocks (e.g. biological harvest sampling).



**Figure 3:** Estimated trajectory obtained by fitting a population model to seven aerial surveys estimates (1985-2015), and harvest data (1974-2019). Survey estimates are shown as black squares with 95% confidence intervals. The model estimate is represented by the thick blue line with outer lines showing the 95% Confidence Interval. The 2018 abundance estimate from the population model is 3400 (CV=23%, 95% CI=2000-5100) EHB beluga (DFO's Written Submission to the Hearing).

Despite the success of federal management in achieving stability in the EHB stock many of the restrictions put in place through this system, especially closed areas and quotas, received continuous opposition from Nunavik Inuit (Lee et al. 2002, Gislason 2007, Tyrrell 2007b, 2007a, 2008). Although there is variation in sentiments towards the beluga management system, overall, Nunavik Inuit asserted that many of the management measures were not needed, or overly restrictive, and that Inuit could manage beluga stocks in accordance with Inuit management systems (Nunavik Beluga Public hearing transcripts, 2020). The period of federal management predated the signing of the NILCA in 2006, and therefore many of the harvesting rights of Inuit, including their political rights, were not yet recognized by the Federal, Territorial or Provincial governments. Government decision-making in relation to beluga management was unilateral, primarily science-based and it did not give consideration or weight to Inuit or Cree Knowledge, nor did it provide room for Indigenous self-determination and self-governance. Overall, federal government beluga management never achieved acceptance from Nunavik Inuit, and management measures faced constant opposition. The tensions and disharmony between Nunavik Inuit the Government of Canada, particularly DFO is well documented and was undeniably an underlining sentiment expressed by harvesters and their representatives at the public hearing.

## Co-Management

*The objective of co-management is to bring together the traditional Inuit system of knowledge and management with that of Canada's. We knew we could manage our resources in our own tradition, but we also recognized that the government's management system had something to offer. Our definition of co-management is the blending of these two systems of management in such a way that the advantages of both are optimized, and the domination of one another is avoided.*

*- Inuit Tapirisat of Canada (1994)*

The current reality of wildlife co-management within the NMR can be considered to have begun following the signing of the NILCA (December 2006) and the EMRLCA (July 2010), and the establishment of the NMRWB and EMRWB. Although federal management measures which were in place immediately before the agreements came into force were given continued authority under the NILCA and the EMRLCA, both agreements contemplate the Boards exercising their authority in order to replace federal management measures with locally developed and co-managed systems that meet the provisions, principles and objectives of the NILCA and the EMRLCA through co-management.

With respect to beluga management in particular, the decisions of the NMRWB and the EMRWB in 2014 were the first steps in co-management of beluga in the NMR under the NILCA and the EMRLCA. At that time the Boards recognized the challenges of previous measures and tried to move away from previous management systems and instituted a new flexible quota beluga management system. However, the quota system remained and was marred by several issues. While the potential existed for communities to take advantage of the system in managing their annual harvesting, the reality was that the complexity of such systems often made it inaccessible and incomprehensible to rights holders. Additionally, small mistakes in divergence from community allocations had the potential to cause seemingly disproportional negative effects for harvesting in other parts of the NMR. This allowed the situation where the management of harvesting was inadvertently delocalized, especially when the mistakes of one community had the potential to affect the available TAT in another community, to continue.

In 2017 the NMRWB and the EMRWB renewed the flexible quota system, with adaptations aiming at addressing the above noted issues. This included a partnership with the RNUK to create simplified allocations, where communities would not need to consider stock mixing to determine how many actual beluga their allocation allowed. The flexible quota system also included a focus on using non-quota measures based on IQ as pilot projects where in some parts of the NMR harvesters believed they could avoid harvesting the EHB stock and redirect harvest pressure onto non EHB beluga stocks. The primary example of this is the Hudson Strait pilot project, which allowed harvesters to avoid harvesting when the EHB stock was migrating past communities. The

NMRWB also took measures to increase communication in the hopes of also increasing understanding of the flexible quota system.

Despite the efforts over the past six years, the opposition and negative aspects of the flexible quota system have continued to overshadow the potential benefits of the system. While the theoretical benefits of the flexible quota system were evident, it has become clear that work is needed to create a management system that will not only achieve the conservation objectives defined in the NILCA and the EMRLCA, but will more fully incorporate Indigenous knowledge and practices, including self-governance, in order to attain critical rights holder support that is integral to effective stewardship.

## 5. Summary of Available Information on NMR Beluga Management

### Scientific and related reports

#### ***Beluga stocks***

Four stocks of beluga, EHB, Western Hudson Bay, James Bay and Ungava Bay beluga, inhabit the NMR for at least part of the year. The scientists in the academic community and the Government of Canada, defined and name beluga after their distinct and specific summering distribution and stocks which can be differentiated based on characteristics such as genetics, behaviour and morphology (Turgeon et al. 2012). Experienced Inuit beluga harvesters notice that beluga from different stocks differ in body size (see also Luque and Ferguson 2010) as well as in the timing of their migration through Hudson Strait (Breton-Honeyman et al. 2017). Microsatellite DNA analyses of skin samples obtained from Inuit harvesters has shown that the EHB and Western Hudson Bay stocks belong to a single breeding population that overwinters together in Hudson Strait, but disperses in spring to their different summering areas. Results from mitochondrial DNA studies support that the summering EHB stock is differentiated from the summering Western Hudson Bay stock (Turgeon et al. 2012, Colbec et al. 2013). Beluga occurring in James Bay differ from EHB and Western Hudson Bay beluga in microsatellite DNA composition and mitochondrial DNA, indicating that these animals are not only a different stock but form a different breeding population (Postma et al. 2012). There is no genetic reference population for the Ungava Bay stock given the very limited availability of biological samples from the past 40 years.

#### ***Variation in population abundance and stocks status***

Eastern Hudson Bay and Ungava Bay beluga stocks have not recovered from the heavy commercial whaling of the 19<sup>th</sup> and early 20<sup>th</sup> century to historic abundance levels, and are considered endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC; Table 2). Informed primarily by abundance estimates from aerial surveys, limits have been placed on harvesting for the Ungava Bay and EHB beluga since 1986. To protect any remaining Ungava Bay beluga, a historically important area of southern Ungava Bay including the Mucalic (Marralik) estuary and Whale (Ungunniavik) River estuary was protected from all harvesting through federal regulation. In 1988 and 2004, the Ungava Bay and EHB stocks were assessed as “Endangered” by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC; 2004). Following efforts by DFO and Inuit to reduce harvest pressure on the EHB stock, the stock appears to have stabilized since the early 2000s (Doniol-Valcroze et al. 2012, Gosselin et al. 2017). There have been no surveys of the Ungava Bay region since 2008. The most recent estimates based on modeling of aerial surveys (conducted in 1985, 1993, 2001 and 2008 where no beluga were observed along transects) suggested that the summering population was less

than 100 animals (Gosselin et al. 2009, Doniol-Valcroze and Hammill 2012). There is considerable uncertainty as to whether the Ungava Bay stock persists to this day despite the closing of the area in Southern Ungava Bay including Ungunniavik (Whale) and Marralik (Mucalic) River estuaries in 1986 by DFO. However, a recently conducted study on Indigenous Knowledge (IK) of beluga in Ungava Bay reported that, although there are less opportunities to observe beluga in the Marralik area, beluga are still occasionally spotted in the area. While pods of 20 animals were observed over 40 years ago, groups of five animals are now observed by the few harvesters still passing in the area (Durkalec, Basterfield et al. 2020).

The Boards stress that ongoing research and monitoring (both scientific and Indigenous knowledge) is imperative to the successful management of beluga stocks in the NMR. Continued EHB beluga aerial surveys, and a new UB beluga aerial survey will continue to help inform the NMRWB and the EMRWB, to make the best possible decisions for harvesters and beluga alike. Likewise, biological sampling programs have been very successful and fundamental to wildlife management as they have provided greater understanding about stock differentiation, population demographics and health. The continued support of, and participation in, these programs by co-management partners is essential.

**Table 1:** Historical abundance estimates (with year in bracket), most recent abundance estimates and the 2004 COSEWIC stock status of the four different beluga stocks found in the Nunavik Marine Region. Estimates are based on various methodologies (models, harvest statistics) coming from the literature: ((Reeves and Mitchell 1987<sup>b1</sup>, DFO 2005<sup>b2</sup>, 2018<sup>5</sup>, Doniol-Valcroze and Hammill 2012<sup>3</sup>, Gosselin et al. 2017<sup>4</sup>). Estimates may require correction to be comparable.

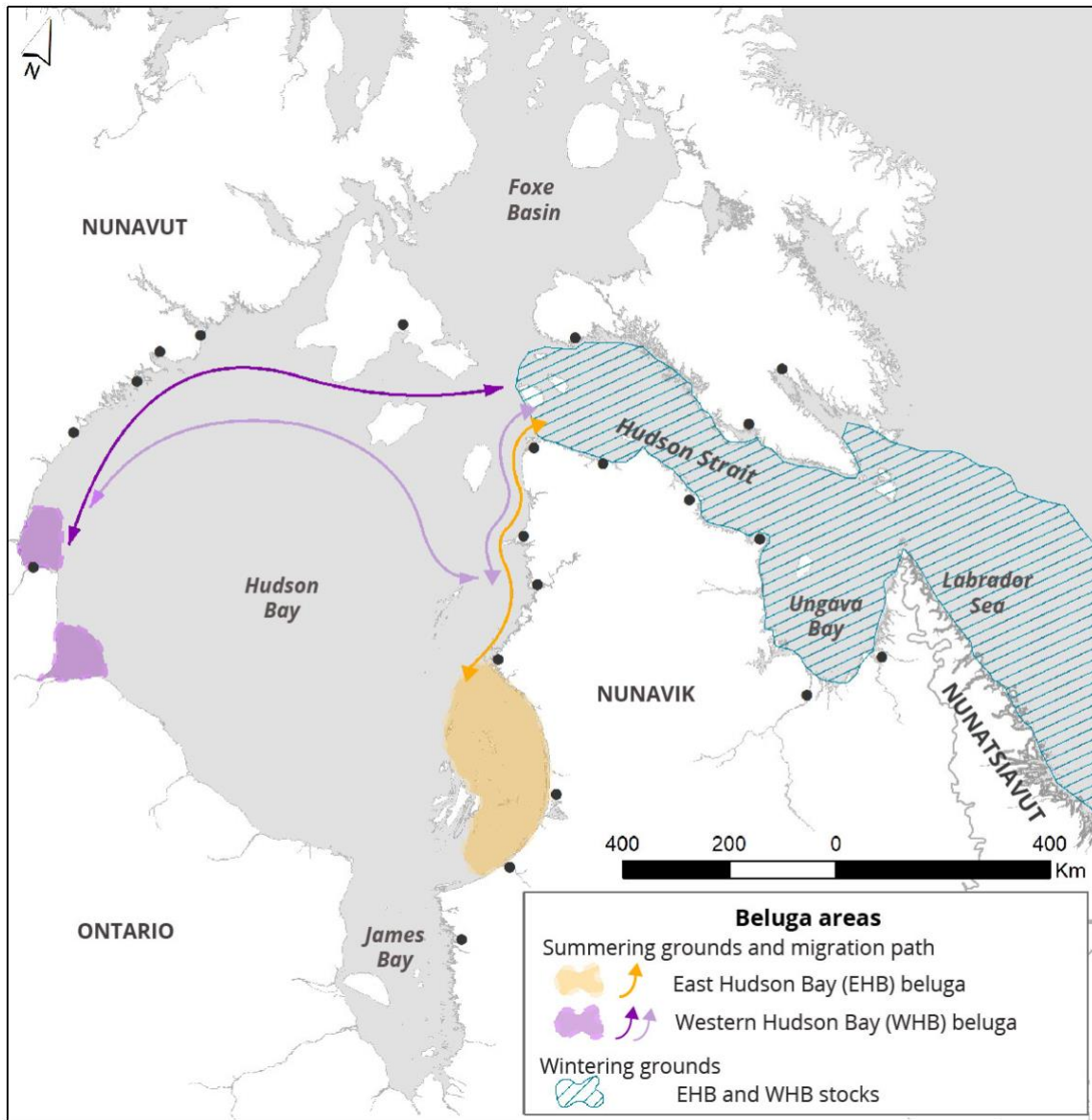
Beluga stock	Estimated historical abundance (year)	Abundance estimates (year)	COSEWIC status <sup>15</sup>	stock
Eastern Hudson Bay (EHB)	> 6,600 (1853) <sup>1</sup> 12,500 (pre-1854) <sup>2</sup>	3,800 (2015) <sup>4,5</sup>	Endangered	
Western Hudson Bay	31,100 (1987) <sup>5</sup>	54,500 (2015) <sup>5</sup>	Special concern	
James Bay	unknown	10,600 (2015) <sup>4,5</sup>	N/A	
Ungava Bay	1,900 (late 1800s) <sup>2</sup>	32 (95% CI = 0 to 94) <sup>3</sup>	Endangered	

### ***Distribution, seasonal migrations and movement***

The four beluga stocks found in the NMR have different migratory behaviors and routes (Figure 4). The Western Hudson Bay and the EHB stocks spend the summer respectively in the western and the eastern areas of Hudson Bay, typically using shallow areas and estuaries along the coast. During the fall, beluga travel to and from their specific summering areas along distinct routes to reach Hudson Strait and the Labrador Sea; EHB whales travel along the Hudson Bay coast of Nunavik and Western Hudson Bay whales cross Hudson Bay through Coats and Mansell Islands. IQ suggests EHB beluga pass first through Hudson Strait (west to east) during the autumn migration, followed by the more numerous Western Hudson Bay beluga. While the eastern and



the Western Hudson Bay stocks are separated during the summer, they usually overwinter together in Hudson Strait, Ungava Bay and off the coast of Labrador (Lewis et al. 2009, Luque and Ferguson 2010, Elliott et al. 2013, Yurkowski et al. 2018) where they interbreed (Turgeon et al. 2012). Although researchers and harvesters have a general understanding of the wintering locations, the stock distribution in the winter remains largely unknown due to the logistical and environmental challenges associated with observing and accessing whales in the winter.



**Figure 4:** Map showing the general location of the summering grounds for Eastern Hudson Bay (orange) and Western Hudson Bay (purple) beluga and the area where both stocks may overlap from late fall to spring (dashed outline). The approximate migratory route used from the summering to the wintering ground is indicated by the orange (EHB) and purple (WHB) arrows. James Bay beluga are not specifically indicated but occur primarily within James Bay and move to nearby open water areas in the winter, without extensive annual migration. Inuit and Cree communities are identified by black dots.

As temperatures become warmer in the spring, beluga start travelling back to their summering grounds through Hudson Strait and Ungava Bay, likely tracking the opening areas made available by the melting ice cover and along the floe edge (see also Lee et al. 2002). Indeed, local sea ice conditions have an important impact on the fall and spring migration routes used by beluga (NMRWB, 2020; Lee et al. 2002, Lewis et al. 2009). In Ungava Bay, beluga travel along the coast and visit rivers that are ice free (Durkalec, Basterfield et al. 2020). An IQ study conducted in four communities across Nunavik suggests that larger beluga, typically males, are thought to lead the migration followed by larger groups of females and calves (Breton-Honeyman et al. 2017). Most calves are born in late spring or during the summer around the period when beluga are back in their summering areas, but can also be born during spring or fall migrations (Heide-Jørgensen and Teilmann 1994, Breton-Honeyman 2017). Beluga use rivers flowing into Ungava Bay and Eastern Hudson Bay in July and August to moult, using falls and rapids to clean and shed their skin, as well as to feed (Breton-Honeyman 2017, NMRWB, 2020). An IQ study conducted in the early 2000s showed that beluga are more likely to travel further offshore than previously thought, and one of the causes for this change in migratory behaviour could be attributed to disturbances from noise coming from outboard motors (Lee et al. 2002). Traditionally, beluga harvesting was conducted by teams using kayaks, therefore very quietly, and based on traditional practices such as respect, avoiding waste, avoiding noise and sharing (Alayco et al. 2007). With technologic advancements, rifles and outboard motors started being used more and more and became the new harvesting method, along with the long standing practice of using harpoons. Indeed, most harvesters have maintained harpoon use during beluga harvesting given the effectiveness of this unique tool in retrieving killed beluga.

Beluga exhibit strong seasonal site and migratory route fidelity, which is thought to be based on the young learning the migration route from their mothers during lactation (Turgeon et al. 2012, Colbeck et al. 2013). Females are therefore thought to play an important role in the stock structure during migration and on the summering grounds (Colbeck et al. 2013). The EHB and Western Hudson Bay stocks use migration routes that are partly coincidental and partly different, both spatially and temporally. These maternally transmitted migratory strategies may have important conservation implications as they may limit the amount of exchange through immigration and emigration between the two stocks outside of the breeding season. This may hinder the potential for animals from the more numerous Western Hudson Bay stock to contribute to the recovery (i.e. 'rescue effect') of the less abundant EHB stock, despite interbreeding during the winter (Colbeck et al. 2013, Turgeon et al. 2012).

The James Bay beluga, different from the Western Hudson Bay and EHB stocks, appear to have limited seasonal movements constrained to the James Bay and southeast Hudson Bay region (Bailleul et al. 2012). Although beluga are mostly seen in the summer when they come closer to the coastline, the people of Kuujjuaraapik have long known about beluga overwintering in their area (Richard 2010, Breton-Honeyman et al. 2017).

## Public Hearing Information

In order to ensure the Boards had the best available information to guide their decisions and to ensure the procedural rights of parties and rights holders were respected, the Boards held a joint Public hearing on January 21<sup>st</sup>, 22<sup>nd</sup>, and 23<sup>rd</sup>, 2020 in the communities of Kuujjuaapik and Whapmagoostui.

In addition to parties with standing as defined under the NILCA and the EMRLCA, the Sanikiluaq Hunters and Trappers Organization was also given status as the decisions had the potential of impacting the beluga harvesting rights of Sanikiluaq Inuit and because they had material information to provide about their harvesting practices.

All parties to the hearing had the opportunity to present to the Boards and to question the other parties. Some parties solely made written submissions (e.g. Cree Nation Government) while others solely made oral submissions (e.g. Elders). Most of the parties to the hearing made both written and oral submissions. Written submissions were received from 13 local harvesting organizations and communities (LNUKs and a Nunavut Hunters and Trappers Organization) and four regional organizations and government (Makivik, DFO, NTI and CNG) and 3 individuals. The three days of hearing resulted 579 pages of transcripts. The entirety of the record created from the Public Hearing is available on the NMRWB's website (<https://nmrwb.ca/public-hearings-beluga-management-system-2020/>).

All parties agreed that Nunavik Inuit acceptance of, and self-determination in, harvest practices and management is required to create sustainable and effective beluga management in the NMR. In written submissions, all parties supported this approach, although DFO raised concerns around the timelines for this transition. In their written and oral submissions, Makivik Corporation called for an Inuit led approach to management, a move which was supported by all communities and hunting associations. During their oral submission, NTI stated that it is their position that TATs should be a management measure of 'last resort', even in cases where a population or stock is depleted. The EHB management system in Sanikiluaq was discussed during the hearing and held up as an example of a successful management approach that is based entirely on NQL's, primarily a seasonal closure. Many communities cited traditional harvest practices that would sustain the community and beluga, such as harvesting only what is necessary for food security. In relation to effectiveness of an Inuit-led approach, representatives of the Purvirnituk LNUK stated that Elders have always been there to regulate harvesting and this is much more effective than a TAT. Additionally, several communities provided submissions which indicated their readiness to develop their own EHB community conservation strategy to direct harvest pressure away from EHB beluga (e.g. Tasiujaq LNUK).

## 6. Legal framework under the NILCA and the EMRLCA

### NMRWB and EMRWB Authority and Decision-Making

The NMRWB and the EMRWB play specific and defined roles in wildlife management in the NMR and the Eeyou Marine Region (“EMR”). In accordance with Article 5 of the NILCA, the NMRWB is the main instrument of wildlife management in the NMR.<sup>2</sup> Within the EMR, the EMRWB has such authority in accordance with Chapter 13 of the EMRLCA.<sup>3</sup> Specified portions of the Eastern Hudson Bay region and the Eastern James Bay Coast are areas that since time immemorial have been areas shared between Nunavik Inuit and the Crees of Eeyou Istchee. This long-standing relationship and shared use of lands and waters and the rights and obligations flowing from it, were affirmed and outlined by the Inuit and the Cree through the *Consolidated Agreement relating to the Cree/Inuit Offshore Overlapping Interests Area between Crees of Eeyou Istchee and the Nunavik Inuit* (“**Cree/Inuit Overlap Agreement**”). Article 28 of the NILCA and Chapter 30 of the EMRLCA incorporate into the agreements the provisions set out in the Cree/Inuit Overlap Agreement. The provisions of the NILCA, EMRLCA and Cree/Inuit Overlap Agreement collectively set out the decision-making regimes to be followed in relation to wildlife management in the areas of overlap, and divides the area of overlap into three distinct management zones: the Joint Inuit/Cree Zone, the Cree Zone and the Inuit Zone.

Management decisions within the Inuit Zone remain the sole responsibility of the NMRWB, however, when the NMRWB is making decisions in relation to the Inuit Zone, the Cree of Eeyou Istchee are entitled to have an observer participate and vote as a sitting member of the NMRWB in the place of an Inuit nominated member.<sup>4</sup> Within the Joint Zone, the wildlife management regimes of the NILCA and the EMRLCA apply jointly and equally, and the NMRWB and the EMRWB retain their respective authorities, however, they must jointly and equally exercise their authority, must sit together when making decisions and must render the same decisions.<sup>5</sup> It is important to note that the NMRWB’s authority within the NMR is further narrowed by Article 27 of the NILCA and Article 40 of the *Nunavut Land Claims Agreement* wherein wildlife management decisions for the areas of equal use and occupancy between Nunavut Inuit and Nunavik Inuit, specifically the islands defined under Schedule 40-1 of the *Nunavut Land Claims Agreement* fall under the authority of the Nunavut Wildlife Management Board. For the remaining areas within the NMR, outside of the areas of overlap and the areas of equal use and occupancy, the NMRWB, and its members as appointed in accordance with Article 5 of the NILCA, have sole authority with

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<sup>2</sup> NILCA, section 5.2.3.

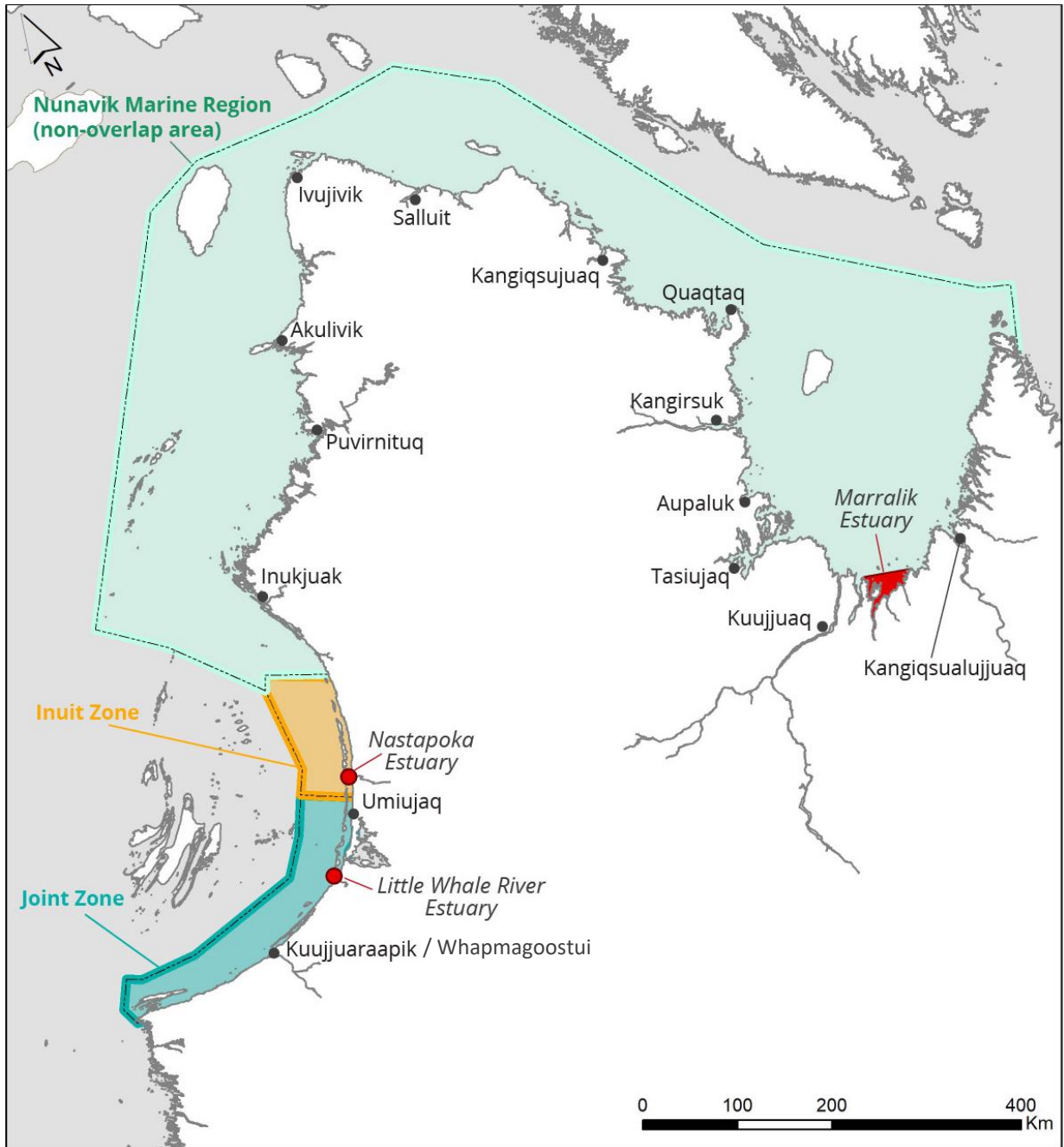
<sup>3</sup> EMRLCA, section 13.2.1

<sup>4</sup> Overlap Agreement section 4.5

<sup>5</sup> Overlap Agreement sections 4.4 and 7.5

respect to wildlife management under Article 5 of the NILCA.

The decisions of the NMRWB and the EMRWB, as discussed herein, apply to the NMR, including the Inuit Zone and the Joint Cree/Inuit Zone (Figure 5). For the purposes of the decisions herein, the EMRWB and the NMRWB deliberated jointly and made their decisions jointly on **September 25<sup>th</sup>, 2020** for the Cree/Inuit Joint Zone (NMRWB Resolutions #2020-09-04, and EMRWB-2020/21-23). The NMRWB, with the participation of a Cree appointee made their decision on **September 25<sup>th</sup>, 2020** in relation to the Inuit Zone (NMRWB Resolution #2020-09-05). Finally, in relation to the remainder of the NMR the NMRWB reached their decision on **September 25<sup>th</sup>, 2020** (NMRWB Resolution #2020-09-06).



**Figure 5:** Map showing the three management zones: The Joint Inuit/Cree Zone (subject to NMRWB Resolution #2020-09-04, and EMRWB-2020/21-23), the Inuit Zone (subject to NMRWB Resolution #2020-09-05) and the rest of the NMR (subject to NMRWB Resolution #2020-09-06).

## The Establishment of a TAT and NQL

The establishment of wildlife harvesting measures by the NMRWB and the EMRWB is complex and stands to have a tremendous impact of Nunavik Inuit, and the Cree of Eeyou Istchee in the areas of overlap. Harvesting of wildlife and harvesting practices are central to the individual and

collective identity, culture, economic security, health and wellness and social structure of Inuit and Cree peoples. The relationship Inuit and Cree have with wildlife is a relationship that has been mutually sustaining since time immemorial. The importance of these relationships, and the need to protect and sustain these relationships is reflected in the NILCA and the EMRLCA. The NMRWB and the EMRWB recognize that Inuit and Cree have been engaged in effective wildlife management since time immemorial and have the knowledge and capacity to continue to do so. Further, it is their inherent right to do so as affirmed in the NILCA and the EMRLCA. The NMRWB and the EMRWB do not see their role as replacing the inherent rights and responsibilities of Inuit and Cree in relation to managing the harvesting practices of Inuit and Cree. The NMRWB and the EMRWB are institutions of public government established to ensure the protection of harvesting rights, as well as ensuring wildlife populations within the NMR are healthy and vital. It is recognized that harvesting rights of Inuit and Cree cannot be exercised without wildlife to harvest. Further, continued protection and promotion of Inuit and Cree culture cannot be realized without the promotion, protection and practice of harvesting. The NMRWB and the EMRWB recognize this is a very sensitive and vital balance to maintain.

When considering the establishment of a TAT and/or NQL's, the NILCA specifically requires the NMRWB to do so in a manner that minimally restricts or limits Nunavik Inuit harvesting rights, and only under specified circumstances. Section 5.5.3 of the NILCA states as follows:

*Decisions of the NMRWB or a Minister made in relation to Parts 5.2 and 5.3 shall restrict or limit Nunavik Inuit harvesting only to the extent necessary:*

- a) to effect a conservation purpose in accordance with sections 5.1.4 and 5.1.5;*
- b) to give effect to the allocation system outlined in this Article, to other provisions of this Article and to Articles 27, 28 and 29; or*
- c) to provide for public health or public safety.*

This section is mirrored in the EMRLCA under section 15.2.1, which states:

*Notwithstanding any other provision of this Part III, decisions of the EMRWB or a Minister or the Executive Council made in relation to Chapter 11 or Chapter 13 shall restrict or limit Cree Harvesting only to the extent necessary:*

- a) to effect a conservation purpose in accordance with sections 10.3 and 10.4;*
- b) to give effect to the allocation system outlined in Chapter 11, to other provisions of Part III and to the provisions in this Agreement arising from Chapter 30; or*
- c) to provide for public health or public safety.*

Further, when specifically considering the establishment of NQL's, the NMRWB and the EMRWB,

are prohibited from unduly or unreasonable constraining harvesting rights.<sup>6</sup> Additionally, the EMRLCA prohibits the EMRWB from establishing NQL's affecting Creees unless conservation or public safety reasons justify such measures.<sup>7</sup>

The dominant issue before the NMRWB and the EMRWB in the Joint Zone is the issue of conservation of the EHB beluga stock. Information presented to the NMRWB and the EMRWB suggests that the EHB stock has suffered considerably from historic over harvesting by non-Indigenous commercial harvesting, and they require protections to ensure their conservation. As such the NMRWB and the EMRWB find that it is reasonable to characterize the EHB stock as a depleted stock in need of management measure to ensure its conservation. With conservation being the primary factor justifying the imposition of TAT's and/or NQL's, the analysis herein will focus on the interpretation of section 5.5.3(a) of the NILCA and section 15.1.2 (a) of the EMRLCA; the provisions related to effecting conservation purposes.

## **Application of the Conservation Provisions**

Section 5.5.3(a) of the NILCA permits the restriction of harvesting rights only where needed to give effect the conservation principles as outlined in sections 5.1.4 and 5.1.5 of the NILCA.

Section 5.1.5 defines the principles of conservation as:

*(a) the maintenance of the natural balance of ecological systems within the NMR;*

*(b) the maintenance of vital, healthy wildlife populations capable of sustaining harvesting needs as defined in this Article;*

*(c) the protection of wildlife habitat; and*

*(d) the restoration and revitalization of depleted populations of wildlife and wildlife habitat.*

Section 5.1.4 of the NILCA requires that 5.1.5 be interpreted and applied in a manner that gives full regard to the principles and objectives outlined in sections 5.1.2 and 5.1.3 and the rights and obligations set out in Article 5 of the NILCA.

The EMRLCA mirrors the NILCA, and at section 15.2.1(a) recognizes conservation as a basis for restricting harvesting rights and defines conservation principles and objectives at section 10.3 and 10.4 of the EMRLCA.

Section 10.4 of the EMRLCA defines the principles of conservation as:

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<sup>6</sup> NILCA, section 5.2.21 and EMRLCA 13.8.3

<sup>7</sup> EMRLCA 13.8.4



- a) the maintenance of the natural balance of ecological systems within the EMR;*
- b) the maintenance of vital, healthy Wildlife populations, including maintaining such populations to sustain the Harvesting needs as defined in Part III;*
- c) the protection of Wildlife habitat; and*
- d) the restoration and revitalization of depleted populations of Wildlife and Wildlife habitat.*

Similar to section 5.1.4 of the NILCA, section 10.3 of the EMRLCA requires principles of conservation found in 10.4 to be interpreted and applied giving full regard to the principles and objectives outlined in sections 10.1 and 10.2 and the rights and obligations set out in Part III of the EMRLCA.

Given that principles of conservation are to be interpreted and applied giving full regard to the principles and objectives of wildlife management defined by each the NILCA and the EMRLCA respectively, it is important to outline and reflect on those provisions.

At section 5.1.2 of the NILCA the following principles of wildlife management are defined:

- (a) Nunavik Inuit have traditionally used and occupied the NMR and continue to do so;*
- (b) from Nunavik Inuit traditional use and occupancy flow certain legal interests with respect to wildlife which Nunavik Inuit enjoy throughout the NMR;*
- (c) Nunavik Inuit are traditional and current users of wildlife and other resources of the NMR and have developed particular knowledge and understanding of the region and resources;*
- (d) the Nunavik Inuit population is steadily increasing;*
- (e) a long-term, healthy, renewable resource economy is both viable and desirable;*
- (f) there is a need for an effective system of wildlife management that respects Nunavik Inuit harvesting rights and priorities;*
- (g) there is a need for systems of wildlife management that provide optimum protection to the renewable resource economy;*
- (h) the wildlife management system and the exercise of Nunavik Inuit harvesting rights are governed by and subject to the principles of conservation;*
- (i) Nunavik Inuit shall have an effective role in all aspects of wildlife management; and*
- (j) Government has ultimate responsibility for wildlife management and agrees to exercise this responsibility in the NMR in accordance with the provisions of this Article.*

Section 5.1.3 of the NILCA defines the objectives of Article 5 as the establishment of a wildlife

management regime that:

- (a) defines and protects Nunavik Inuit harvesting rights;*
- (b) is governed by and implements the principles of conservation;*
- (c) reflects levels, patterns and the character of Nunavik Inuit harvesting;*
- (d) promotes the long-term economic, social and cultural interests of Nunavik Inuit;*
- (e) provides for harvesting and continued access by persons other than Nunavik Inuit;*
- (f) recognizes the value of Nunavik Inuit approaches to wildlife management and Nunavik Inuit knowledge of wildlife and wildlife habitat and integrates those approaches with knowledge gained through scientific research;*
- (g) integrates the management of all wildlife species and wildlife habitat within a comprehensive management system;*
- (h) provides for public participation and promotes public confidence in wildlife management, particularly amongst Nunavik Inuit;*
- (i) establishes the NMRWB to make decisions pertaining to wildlife management; and*
- (j) provides for effective coordination with other institutions responsible for the management of wildlife migrating between the NMR and other areas.*

Similarly, with respect to wildlife management under section 10.1 of the EMRLCA, the principles of wildlife management are as follows:

- a) Crees have traditionally used and occupied the EMR and continue to do so;*
- b) from the Crees' traditional use and occupancy flow certain legal interests with respect to Wildlife which Cree enjoy throughout the EMR;*
- c) Crees are traditional and current users of Wildlife and other Resources of the EMR and have developed particular knowledge and understanding of the region and its Resources;*
- d) the Cree population is steadily increasing;*
- e) a long-term, healthy, renewable resource economy is both viable and desirable;*
- f) there is a need for an effective system of Wildlife management that respects the Crees Harvesting rights and priorities;*
- g) there is a need for a system of Wildlife management that provide optimum protection to the Wildlife resource economy;*
- h) the Wildlife management system and the exercise of Cree Harvesting rights are governed by and subject to the principles of conservation;*

*i) Crees have traditionally had and shall have under this Agreement an effective and fundamental role in all aspects of Wildlife management; and*

*j) Government has ultimate responsibility for Wildlife management and agrees to exercise this responsibility in the EMR in accordance with the provisions of Part III.*

The objective as defined under section 10.2 of the EMRLCA is for the establishment of a wildlife management regime that:

*a) defines and protects Cree Harvesting rights;*

*b) is governed by and implements the principles of conservation;*

*c) reflects levels, patterns and the methods of Cree Harvesting;*

*d) reflects the primary role of the Crees in the Harvest of Wildlife;*

*e) reflects the importance of an effective role for Crees in Wildlife management;*

*f) promotes the long-term economic, social and cultural interests of the Crees;*

*g) provides for defined Harvesting and access by individuals other than Crees;*

*h) recognizes the value of Cree approaches to Wildlife management and Cree knowledge of Wildlife and Wildlife habitat and integrates those approaches with knowledge gained through scientific research;*

*i) integrates the management of all Wildlife species and Wildlife habitat within a comprehensive management system;*

*j) provides for public participation and promotes public confidence in Wildlife management, particularly amongst Crees;*

*k) establishes the EMRWB to make decisions pertaining to Wildlife management; and*

*l) provides for effective coordination with other institutions responsible for the management of Wildlife migrating between the EMR and other areas.*

The NMRWB and the EMRWB take the position that in accordance with the NILCA and the EMRLCA, both Boards are required to give full regard and effect to the objectives and principles guiding their respective regimes when applying the principles of conservation. Further, and in accordance with section 5.5.3 (a) of the NILCA and section 15.2.1 (a) of the EMRLCA, the NMRWB and EMRWB take the position that when restrictions on harvesting are required to ensure the conservation of wildlife, that the measures imposed must be the least restrictive effective measures. The NMRWB and the EMRWB recognize the importance of the collective and comprehensive consideration of the provisions, objectives and principles outlined in the NILCA, and the EMRLCA when considering the areas of overlap. Fine balancing based on the information provided is crucial.

The evidence gathered, and the submissions provided by the parties to the hearing, suggest that previous harvesting measures have given more weight to certain principles and objective to the detriment of others. Although previous measures demonstrated success in meeting conservation objectives, they have not been successful in the protection of Inuit and Cree harvest rights, they have not reflected harvesting levels, patterns, and nature of Inuit beluga harvesting practices. Further, they have not resulted in the public confidence in wildlife management regimes, particularly among Nunavik Inuit. Parties, particularly those representing Inuit and Cree rights holders, take the position that previous management measures have been excessive in their infringement on Inuit rights and need to be adjusted to ensure that in addition to the objectives of conservation, Inuit and Cree knowledge is given equal weight and Inuit and Cree rights are given equal protection and promotion.

## **Inuit and Cree Rights**

In order to ensure the effective balance of objectives and to ensure that Inuit and Cree harvesting rights are only restricted to the level required to give effect to conservation objectives, it is essential to understand the full scope of Inuit and Cree rights as stake.

Both the NILCA and the EMRLCA recognize that in the absence of harvesting measures determined necessary by the Boards, Nunavik Inuit and Crees have the right to harvest up to the full level of their economic, social and cultural needs.<sup>8</sup> The full level of need is understood to mean the full level of harvest.<sup>9</sup> Further, in assessing the economic, social and cultural needs of Nunavik Inuit, the NILCA requires the Boards to consider the actual levels of harvest, the availability of and accessibility of wildlife, and the economic, social and cultural conditions and circumstances of Nunavik Inuit.<sup>10</sup> These provisions that guide the interpretation of full level of economic, social and cultural needs, are not found in the EMRLCA in relation to Cree rights. However, the NMRWB and the EMRWB interpret the provisions of the NILCA and EMRLCA in a full and purposive way, and conclude that Cree and Inuit, in the absence of NMRWB and/or EMRWB established harvesting restrictions, have the right to harvest in accordance with their economic, social and cultural rights and to do so in accordance with Inuit and Cree practices and laws. These rights although rooted in the practices of Inuit and Cree since time immemorial, include contemporary expression of economic, social and cultural rights.

Harvesting practices or methods are integral part of harvesting and are as important as the actual take of wildlife. Harvesting practices and methods are rights recognized under the NILCA and the EMRLCA. Nunavik Inuit have the right to employ any type, method or technology of harvesting,

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<sup>8</sup> NILCA section 5.3.1 and EMRLCA section 11.1.1

<sup>9</sup> NILCA section 5.3.2 and EMRLCA section 11.1.2

<sup>10</sup> NILCA section 5.3.10

so long as it does not conflict with NQL's established by the NMRWB, or laws of general application in relation to humane killing of wildlife, public safety and firearms control or, so long as the practice does not result in harmful alterations to the environment.<sup>11</sup> For the Cree, as defined under the EMRLCA, harvesters can employ any type of method or technology that does not conflict with established NQL's on type of method or technology of harvest.<sup>12</sup>

Throughout the public hearing, information was brought forward in relation to the impact of harvesting restrictions and limitations on a range of Indigenous rights, particularly Inuit rights. The testimony of Inuit harvesters as well as Inuit Elders, women and parents of children and youth, greatly assisted in the NMRWB and the EMRWB's understanding of the scope of Inuit rights impacted by harvesting restrictions. The right to harvesting a beluga goes beyond the right to take a beluga, as the harvesting of beluga is interconnected with the political, cultural, economic and social rights of Nunavik Inuit. Beluga are a staple food for many Nunavik Inuit, and the social activities that surround a harvest, such as butchering, sharing of beluga meat and maktaaq, are an integral part of Inuit society, knowledge, skill, identity, kinship, as well as the intergenerational transfer, protection and promotion of Nunavik Inuit identity. This is recognized and protected under the NILCA and the EMRLCA, however, they are also recognized, and their scope informed by Canadian laws, international legal instruments and by political commitments such as the commitment to Reconciliation. The NMRWB and the EMRWB, in reaching their decisions found it imperative to consider the rights, principles and objectives defined in these instruments to fully understanding the scope of rights at stake in their decision.

## **United Nations Declaration on the Rights of Indigenous peoples**

This decision comes at a unique and pivotal moment in Canada's relationship with Indigenous Peoples. Since the previous decisions issued by the NMRWB and the EMRWB for the Joint Cree/Inuit Zone, Canada has committed to giving full legal effect to the *United Nations Declaration on the Rights of Indigenous Peoples* ("**UNDRIP**")<sup>13</sup> in Canada. The UNDRIP constitutes minimum standards for the survival, dignity and well-being of Indigenous Peoples through recognition of a broad spectrum of existing political, social, economic and cultural rights, including the right to self-determination. The decisions of the NMRWB and the EMRWB directly impact Inuit and Cree rights as outlined in UNDRIP, as such, the NMRWB and the EMRWB find it vital to give due regard to the provisions and principles of the UNDRIP. Accordingly, but without limitation to the other provisions outlined in the UNDRIP, the NMRWB and the EMRWB have

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<sup>11</sup> NILCA section 5.3.23

<sup>12</sup> EMRLCA section 11.9.1

<sup>13</sup> United Nations Declaration on the Rights of Indigenous Peoples, A/RES/61/295, UNGAOR, 61st Sess (2007) 1 [UNDRIP].

given regard to the following principles and rights in reaching their decisions:

- (a) the respect and promotion of Indigenous self-determination, Indigenous knowledge, culture and traditional practices;
- (b) the recognition that Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired;
- (b) the recognition that respect for Indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment;
- (c) the recognition of the urgent need to respect and promote the rights of Indigenous peoples affirmed in treaties, agreements and other constructive arrangements, and that, the relationship they represent, are the basis for a strengthened partnership between indigenous peoples and States; and,
- (d) the recognition of the rights of Indigenous Peoples in the UNDRIP will enhance harmonious and cooperative relations between the State and Indigenous peoples, based on principles of justice, democracy, respect for human rights, non-discrimination and good faith.

Finally, the Government of Canada has further committed to reconciliation with Indigenous Peoples and has committed to the full recognition and protection of Indigenous People's rights, including the rights to self-determination and self-governance. The Prime Minister of Canada has emphasized repeatedly that there is no relationship more important than the relationship between the Government of Canada and Indigenous Peoples. The NMRWB and the EMRWB as institutions of public government established through treaty, are an important forum for giving effect to the objectives of renewed relationships between Canada and Nunavik Inuit and the Cree of Eeyou Istchee and for the advancement of reconciliation. As such, the NMRWB and the EMRWB believe that their decisions, in addition to being in compliance with the NILCA and the EMRLCA for the areas of overlap, must also be in harmony with the UNDRIP and the principles and objectives of reconciliation.

## 7. NMRWB and EMRWB Decisions

### Goals and Objectives of the Decisions

The Boards recognize that previous management decisions and systems may have been successful in accomplishing the singular goal of maintaining the population of EHB beluga. The previous management decisions and systems have allowed for a continued, and relatively stable harvest in the NMR. This harvest level, however, has been restricted and regulated in a way that has limited harvesting to levels that do not meet the social, cultural, and economic needs of Inuit, including food security needs. As such, the Boards recognize that previous management systems have been unsuccessful in balancing the principles and meeting the objectives in the NILCA and the EMRLCA. Earlier plans never attained the support from Nunavik Inuit that is required for management to be effective and have faced widespread rejection. This was evidenced by publicly expressed complaints and dissatisfaction, and the rejection of the previous plan through actions such as protests, and harvesting even after the season had been closed.

During the January 2020 beluga Public Hearing, the majority of the submissions to the Boards from Nunavik Inuit and organizations representing Inuit included a rejection of the previous plans and asserted the need for a new and transformative approach, rooted in respect for Inuit knowledge, practices, and leadership as stewards of the land, waters and wildlife. Further, it was asserted that a quota-based system, such as the previous system, were detrimental to Inuit rights and conservation objectives. In addition to the impact on rights and practices, parties identified numerous social and economic challenges and disruptions as a result of the previous system. These included the following challenges and adverse impacts: expensive and sometimes dangerous travel to distant communities to harvest; host communities dealing with disrespect (intentional or not) of their traditional harvesting areas; and harvest in some regions disproportionately and confusingly limiting the harvest in others. Further, the necessity to travel for harvesting has limited the access of women, children and youth to participate in the harvest, unreasonably limiting their rights.

Enforcement and implementation remain significant challenges. There is a marked insufficiency of Federal enforcement within the NMR. Addressing this insufficiency alone would not improve implementation. By all accounts, the implementation of management measures requires the acceptance of Inuit and Cree harvesters and the support of the LNUK and Cree Trappers associations. The harvesters and their associations are the front line of wildlife management, and notwithstanding the Uumajuit wardens who have limited authority, are often the only agencies present within the NMR during harvest seasons. The importance of local and harvester driven wildlife management solutions and support is evident from the terms of the EMRLCA and the NILCA.

The Boards acknowledge that the previous measures have not been holistically successful and

agree that transformative change is required. An effective management system of harvesting in the NMR requires the balanced consideration of numerous goals and objectives. In reaching these decisions, the NMRWB and the EMRWB have identified and attempted to balance the following goals and objectives for the current 2020-2026 management period:

- Preserve the EHB beluga stock population around 3,000 whales;
- Preserve the current vitality of the Western Hudson Bay and James Bay beluga stocks;
- Increase knowledge regarding the persistence and /or existence of the Ungava Bay beluga stock and eliminate and / or minimize illegal harvesting, while not increasing overall harvesting pressure;
- Support and advance Inuit and Cree self-determination as outlined in NILCA, the EMRLCA and UNDRIP, including the recognition, promotion and further implementation of Indigenous management systems;
- Protect Indigenous harvesting rights and practices; including the rights of women, children, and youth as integral parts of harvesting;
- Promote cultural and linguistic continuity as well as social and intergenerational sharing and learning and reduce adverse social and economic impacts of harvesting limitations/regulations;
- Achieve social, political, and cultural acceptance of management measures;
- Maintain or increase the overall level of information gathered through beluga population surveys and biological sampling (especially through harvest sampling), and increase biological sampling in zones where genetic information is under-represented (especially Hudson Strait in late fall);
- Ensure effective communication between the Boards, co-management partners, harvesters, and rights holders such that information is available and understood on all aspects of beluga management;
- Create a management environment where communities, LNUKs and the Cree Trappers Associations have the ability and resources to develop locally-based conservation and harvest strategies and plans, as is their right and responsibility under the NILCA and the EMRLCA;
- Support reconciliation between the Crown/DFO and Indigenous Peoples in the NMR.



Decisions that balance and meet all these objectives, in addition to the principles and objectives as defined in the NILCA and the EMRLCA, are required to have an effective management system. A beluga management system within the NMR must be socially and culturally appropriate and acceptable to the communities to be effective. It must be a management system that meets conservation objectives and respects and upholds Inuit and Cree harvesting rights within the broadest and most purposive sense. Decisions must recognize the essential contribution of Inuit and Cree knowledge, culture, practices and self-governance to result in effective beluga management. There will be no success without the active participation and leadership of Inuit and Cree communities.

With respect to the conservation objectives, the goal of this decision is to preserve beluga populations, including the EHB population, at levels which will allow for the ongoing vitality of populations (ie. not lead to major or irreversible declines), while achieving socially acceptable management over the course of this 5-year management system. It is believed that in the long term, this social acceptability will in turn allow for community driven plans and measures that will support the growth and recovery of beluga stocks. While slight declines in overall stock abundance of EHB beluga may occur over the course of this 5-year plan, the goal is stability and setting the groundwork for future growth through the establishment of the locally driven and accepted set of measures and practices. The risk of minor declines during this 5-year period is considered acceptable by the Boards, in the interest of achieving long-term stability and/or growth. Without societal acceptance of management measures, long-term growth will never occur. Although the Boards accept that the EHB stock is a depleted stock, significant work is required of DFO, Makivik, the RNUK, the Cree Nation Government, Cree Trappers Association, Cree people and Nunavik Inuit jointly to develop a full understanding of the status of the population and to establish a shared understanding of what measures and plans are required for the restoration and revitalization of this population. Little is known about the population historically, therefore, understanding what levels are needed to see the stock restored and revitalised remains unclear. Without these discussions and efforts, and left with a vacuum of information, the Boards have no choice but to continue with the goal of stability, while accepting the slight risk of short-term decline over this 5-year period in order to create societal and systemic stability with the management measures. When a shared understanding is reached, as described above, the Boards will have the necessary platform, and societal acceptance upon which to build management decisions which restore and revitalize this depleted stock and balance Inuit and Cree harvesting and cultural rights.

An objective of these decisions is to continue the overall success of harvest sampling, while improving the distribution of the effort across the NMR. Previous management has achieved considerable success in establishing a large genetic database for beluga in the region. Harvest sampling accounts for nearly all of the biological sampling used in beluga management in the NMR, and hundreds of samples have been collected by hunters in recent years. However, sampling effort and is not evenly distributed across the NMR, and while some areas have

achieved a very large database, other areas or seasons are lacking in genetic information. In particular, genetic information is lacking from the late fall in Hudson Strait. Inuit Knowledge holders have indicated that EHB beluga can be avoided in fall in Hudson Strait by letting the first migratory groups pass without harvesting. A primary goal will be to improve genetic information from the late fall in Hudson Strait.

As Inuit are the primary users of beluga, the protection and promotion of Inuit harvesting rights and practices, including food preparation and distribution, language retention and transmission, and intergenerational learning, is imperative. These rights are shared among all Inuit within the community, not only the harvesters. Therefore, the decisions of the Boards must promote and protect harvesters as well as all members of the community, including women, children and Elders. There is no harvesting without beluga to harvest, so conservation is crucial. However, in addition to conserving the beluga population decisions must be designed to promote and protect Inuit and Cree rights as well. This is inherent in the NILCA and the EMRLCA where it specifically states that any restrictions imposed must be the least restrictive measures required to meet demonstrated conservation or safety concerns. It is clear from the information gathered at the hearing and the submissions provided, that, to-date, beluga management has resulted in the disruption of Inuit harvesting practices and knowledge, with disproportionately negative impacts on women and children and the intergenerational transfer of knowledge and practices. Under the scenario created by modern land claim treaties such as the NILCA and the EMRLCA, a TAT-based management system should be a management measure of last resort. Given that previous TAT or quota focused measures have not proven to be the sole means of meeting conservation objectives, a new approach is required.

Tensions are high among harvesters and communities as a result of previously imposed systems. Furthermore, the tension between beluga harvesters and DFO is also high. Reconciliation is required. Therefore, it is the objective of the Boards to introduce a management plan that will mitigate and reduce the negative social and cultural impacts of previous systems, that supports and promotes Inuit and Cree self-determination, which will in turn promote and support reconciliation between Nunavik Inuit and DFO.

Effective and comprehensive communication is imperative to the success of this new management strategy. While the NMRWB and EMRWB have a central role in establishing the systems of beluga management, the implementation and communication of these systems fall to co-management partners in accordance with their individual mandates. While effective communication is absolutely essential to the success of this plan, no single organization can develop a fulsome communication plan alone. This needs to be co-developed with all co-management partners. The NMRWB and EMRWB suggest that the previously formed Nunavik beluga working group will be an effective group to co-ordinate communication and implementation of this new beluga management system.

## Potential Annual Removal Considerations

A primary concern of the Boards and co-management partners, especially DFO, is that the removal of a TAT for all of the NMR may increase the total removal of EHB beluga each year, as well as the uncertainty regarding the maximum possible removal. This concern largely revolves around the consideration that removal of a TAT (in whole or in part) could create a situation where harvest levels are unpredictable, with no means of control. Likewise, a concern is that removal levels may become so high as to cause stock decline that may be very difficult to reverse, or may be wholly irreversible.

The Boards agree that these are essential points to consider to ensure the conservation of the EHB beluga stock. However, the Boards believe that the risk associated with these considerations is minimal as the objective is to create the space for Nunavik Inuit to develop and implement their own locally driven management measure rooted in sustainable Inuit values and practices. The Boards have explored the potential annual harvest of EHB beluga, given the changes implemented in this management system. Further, **Appendix A** describes the Monitoring Plan which will track EHB harvest to ensure it remains within acceptable levels.

Despite the concerns associated with removing the use of a TAT for the entire NMR, several co-management partners have asserted that removal of the TAT will likely have little effect on the total EHB removal per year, especially considering the changes being introduced in these harvest management decisions. Further, compliance with the NMR TAT under the previous management plan declined, markedly so after the variation order to close the hunt was issued in Fall 2019. During this time DFO has been reluctant to enforce the variance order to the full extent of the law. The Boards understand that the enforcement strategy of DFO Conservation and Protection Division ("DFO C&P") is currently focused on education, awareness and improving relationships, and that regulatory enforcement measures are avoided as much as possible. The Boards agree with this strategy and are not advocating for a change in DFO C&P strategy in this regard. However, the NMRWB is also aware that DFO has not allocated the resources necessary to allow for effective enforcement of a TAT variance order in all 14 Nunavik communities (as was the case in late 2019). It has become clear, and was reiterated during the 2020 public hearing, that the issuance of a variation order as a means of enforcement within a TAT-based management system requires DFO C&P presence in communities upon the closure of legal harvest. To date, the management of a simultaneous harvest closure in all the communities of Nunavik has not been a successful endeavor. In short, the TAT/quota approach throughout the NMR has not seen compliance, nor enforcement, and simply cannot be said to be working. It is hard to conclude that the success of previous management plans, however limited, was achieved due to the use of the TAT or quota approach.

The disparity between DFO's preferred management system (TAT throughout the NMR) and enforcement system (prevention instead of responsiveness), led to a situation where many

Nunavik Inuit have begun to see the TAT as meaningless. The new management plan addresses these issues. Limiting the application of the TAT to three communities (in the Eastern Hudson Bay Arc Region) will enhance co-management partners capacity to implement the TAT, and allow communities to manage harvest locally or with neighbouring communities. This should lead to more consistency, both in management and EHB harvest numbers, in the Eastern Hudson Bay Arc Region and throughout the NMR.

The largest contribution to the number of EHB beluga removed per year is the harvest in Eastern Hudson Bay (14-36 EHB beluga harvested in the last 6 years, with an average of 23.7 per year, Table 2). This harvest will remain regulated through the TAT under this new management system. This will remove a major source of uncertainty in terms of total annual EHB beluga harvest, especially if a smaller regional TAT allows for improvements in implementation and enforcement of the TAT.

The second most important area affecting the number of EHB beluga harvested is in Hudson Strait. The fall harvest in Hudson Strait has results in 5.5 - 31.9 EHB beluga harvested in the last 6 years with an average of 21 per year (see Table 2). The fall harvest closure within Hudson Strait will reducing the number of EHB beluga harvested during this season.

Total EHB harvest in the rest of the NMR (aside from the fall harvest in Hudson Strait and the harvest in the Eastern Hudson Bay Arc region as mentioned above) has been between 17.8 and 32.4 over the last 6 years, with an average of 27.5 (see Table 2). According to information submitted during the public hearing, these harvest numbers are determined more by seasonal conditions verses limitations and regulation through allocation or TAT. Therefore, demonstrating that for the rest of the NMR, a TAT is not the most effective or necessary means of meeting conservation objectives. As such, the new decisions will empower local responsibility over management within the framework of the NMRWB and EMRWB decisions, which should lead to more ownership over conservation by local organizations, and greater compliance, and as required, enforcement by traditional and local authorities.

**Table 2:** Beluga harvest information from 2014-2019 broken down by seasons and zones, and including both total harvest and corresponding EHB harvest. %EHB is the proportion of biological samples from each zone showing the genetic signature of EHB beluga. Where sample sizes are small the %EHB from the nearest zone.

Season	Location	%EHB	2014		2015		2016		2017		2018		2019		Summary Stats		
			Total	EHB	Total	EHB	Total	EHB	Total	EHB	Total	EHB	Total	EHB	avg harvest	avg EHB	CV
<b>Spring/</b>	Ungava Bay	6.0%	11	0.7	28	1.7	24	1.4	23	1.4	100	6.0	23	1.4	35	2.1	0.9
<b>Summer</b>	Hudson Strait	11.7%	208	24.3	106	12.40	121	14.2	150	17.55	146	17.1	144	16.8	146	17.1	0.2
	NE Hudson Bay	11.7%	1	0.1	0	0	0	0.0	0	0	2	0.2	2	0.2	1	0.1	1.2
<b>Fall/</b>	Ungava Bay	29.0%	0	0.0	5	1.5	3	0.9	4	1.2	2	0.6	2	0.6	3	0.8	0.7
<b>Winter</b>	Hudson Strait	29.0%	37	10.7	92	26.7	19	5.5	85	24.7	91	26.4	110	31.9	72	21.0	0.5
	NE Hudson Bay	44.0%	14	6.2	31	13.6	3	1.3	13	5.7	17	7.5	24	10.6	17	7.5	0.6
	Long Island	0.0%	5	0.0	0	0	39	0.0	6	0	6	0.0	27	0	14	0.0	-
	Eastern Hudson Bay Arc	100.0%	22	22.0	36	36	17	17.0	18	18	14	14.0	35	35	24	23.7	0.4
	Ottawa Islands	20.0%	0	0.0	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0	-
	<b>TOTALS</b>		<b>298</b>	<b>64.0</b>	<b>298</b>	<b>91.9</b>	<b>226</b>	<b>40.3</b>	<b>299</b>	<b>68.5</b>	<b>378</b>	<b>71.8</b>	<b>367</b>	<b>96.5</b>	<b>311</b>	<b>72.1</b>	<b>0.44</b>

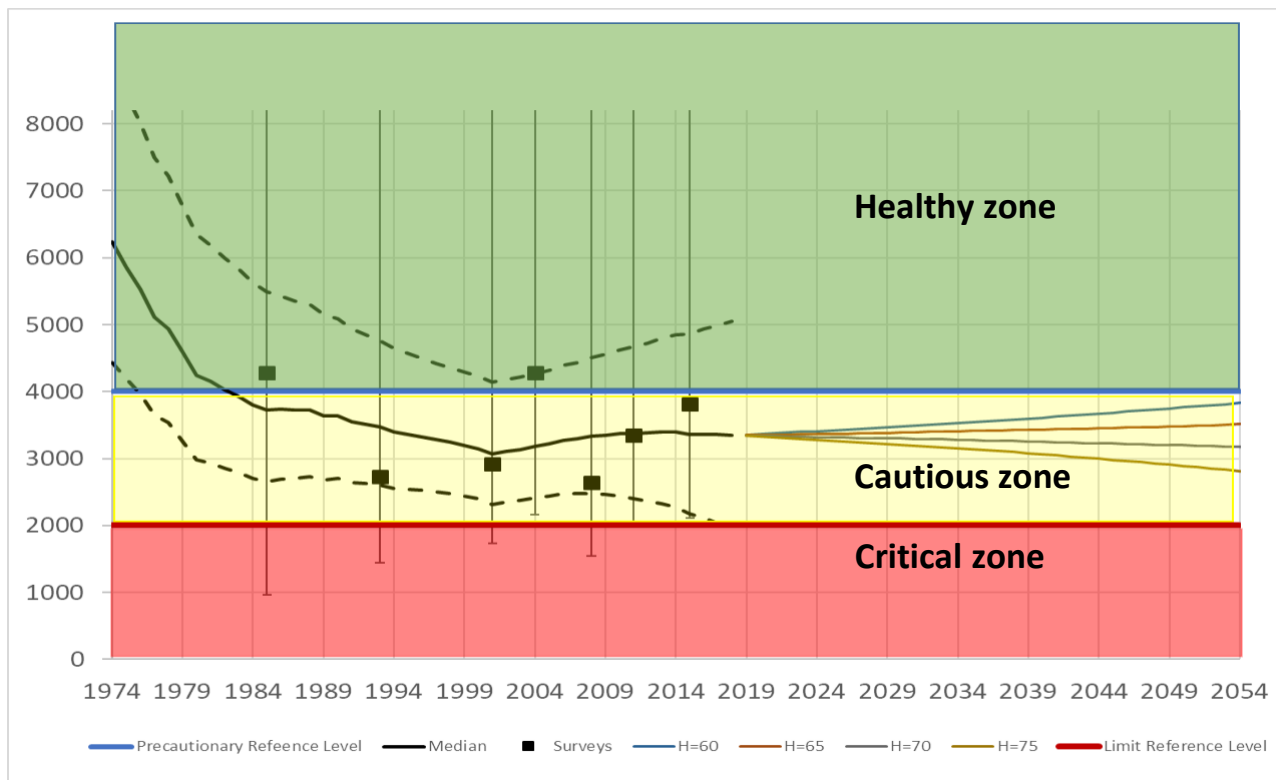
The Boards have considered the best available Indigenous Knowledge and Science in formulating these decisions and are confident that the combined regional TAT and NQL approach will meet all objectives. However, because the removal of the NMR TAT is a source of concern for some co-management partners, the Boards further analyzed the annual harvest in the NMR under speculative scenarios. Given the reasoning described in the Monitoring Plan (Appendix A), the Boards hypothesize the open harvest season in late fall in Hudson Strait likely includes a maximum of 20% EHB. The Boards consider this to be a conservative approach given the available IK related to EHB migration patterns. Additionally, the Boards recognize that without a TAT, total harvest levels (i.e. not necessarily EHB harvest levels) may increase from the 6-year average. Given these conservative assumptions, it would be expected that the annual EHB removal by Nunavik Inuit will be approximately 70 or fewer beluga per year.

Figure 6 shows the EHB beluga population model overlaid on Precautionary Approach reference levels and zones, as presented by DFO during the August 2019 NMRWB regular meeting. Within the context of wildlife co-management, the NMRWB considers full adoption of the Precautionary Approach as defined by DFO an undertaking which may not be possible without amendment to the NILCA and EMRLCA and at minimum would require extensive consultations on all aspects of the approach by all co-management partners (especially setting the reference level thresholds to define the healthy, cautious, and critical zones).

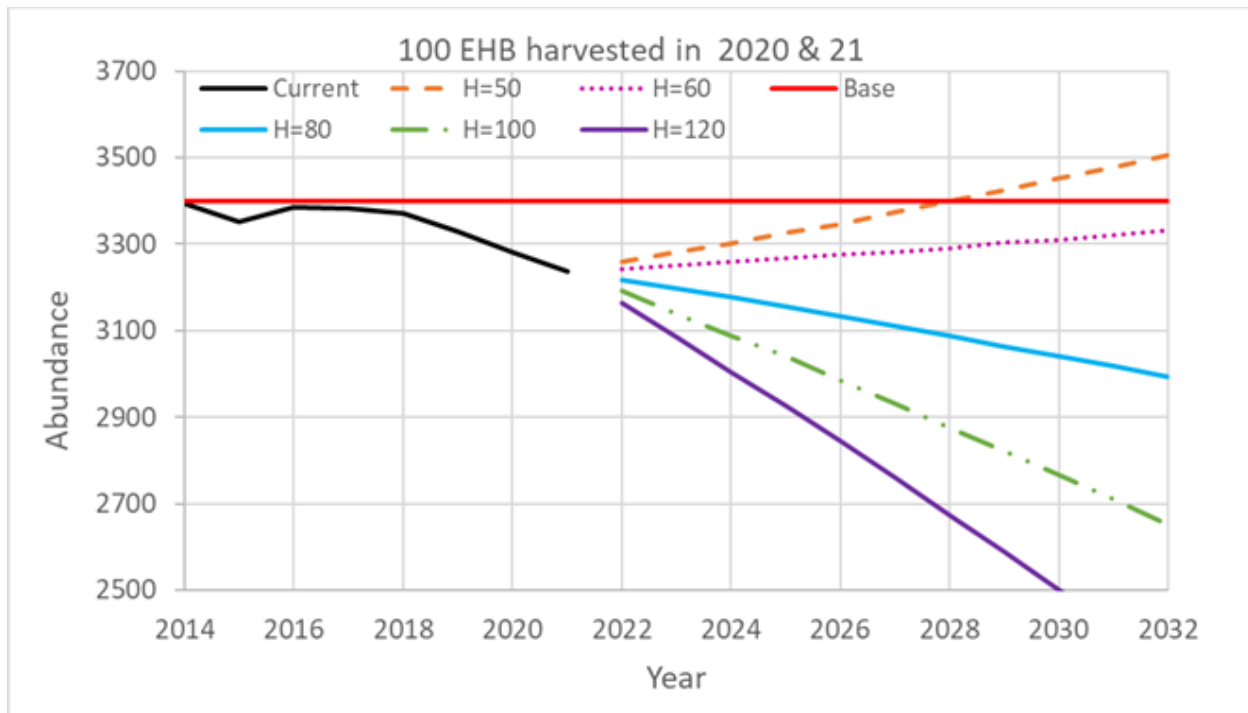
The Boards have recognized and considered the recommendation by the Department of Fisheries and Oceans to adopt the precautionary approach (as communicated by the former Minister of Fisheries and Oceans, the Honourable Dominic Leblanc on May 15<sup>th</sup>, 2017). However, the Boards believe the above concerns (extensive consultation, and consideration of how to define limit reference levels) must be addressed. The Boards are ready to work with the Department of Fisheries and Oceans, and other co-management partners in working towards satisfying these concerns in the future.

Nevertheless, the Boards have considered the principles of the Precautionary Approach in making management decisions. In the August 2019 presentation, DFO suggested stock sizes of 2000 as the division between the critical and cautious zones, and 4000 as the divisions between the cautious and healthy zones. For only the speculative purpose of considering the how the Boards 2020-2026 decisions could fit within a Precautionary Approach framework, the Boards used these reference levels. While the Boards are not adopting a Precautionary Approach framework as presented by DFO in the 2020-2026 management decisions, consideration has been given to how goals and objectives of these management decisions fit with DFO's precautionary approach. The first objective set by the Boards can be considered alongside the Precautionary Approach framework. This goal is to *preserve the EHB beluga stock population around 3000 whales*.

Figures 6 and 7, provided by DFO, along with the analysis of potential/speculative removal levels give insight into future population levels. If an average removal level of 72 EHB beluga over the next 5 years is considered optimistic and 87 is considered pessimistic (as discussed above), the overall stock size of the EHB beluga should certainly stay well above 3000 on the pessimistic end, and optimistically may increase slightly above the current population estimate of 3400.



**Figure 6:** The EHB beluga population model overlaid on the healthy, cautious, and critical zones using a population of 2000 and 4000 as reference levels. Population change over time is extrapolated at various harvest levels. Figure provided to the NMRWB by DFO Quebec.



**Figure 7:** The current and recent past EHB beluga stock population estimates produced with a model, and with extrapolations based of various harvest levels and assuming 100 EHB beluga are harvested in 2020 and 2021. Figure provided to the NMRWB by DFO Quebec.

## Total Allowable Take Decisions

This section provides the reasons behind each of the decisions of the NMRWB and EMRWB. After carefully weighing the evidence before the Boards, including presentations by all parties to the hearing, the Boards decided to make a significant move away from managing beluga through a TAT-based system. Broadly, the Boards are establishing a combination of a TAT for the Eastern Hudson Bay Arc Region as well as NQL management measures throughout the NMR.

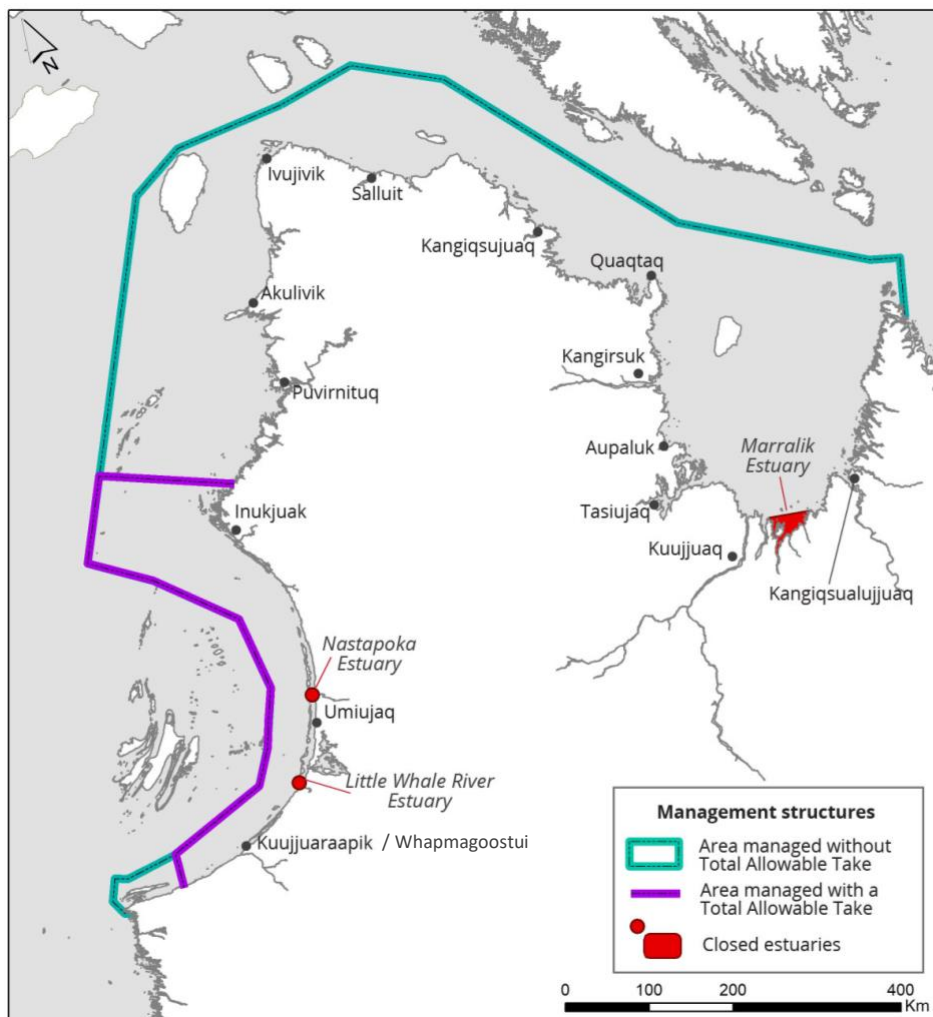
### The Establishment of a Total Allowable Take in the Eastern Hudson Bay Arc Region

*The establishment of a TAT of 24 beluga within the Eastern Hudson Bay Arc Region, the boundaries for which are set out in Appendix B of NMRWB Resolution #2020-09-04, #2020-09-05 and #2020-09-06, and EMRWB-2020/21-23. For greater certainty, this TAT applies from May 1<sup>st</sup> to November 30<sup>th</sup> of each year.*

*Upon the request of a LNUK or the RNUK, the NMRWB, and/or where required, the NMRWB and the EMRWB jointly, may permit a portion of the aforementioned TAT not harvested in one year to be carried over and added to the TAT for the following year. In any given year, the portion of the unused TAT carried over cannot exceed 10 beluga.*

*In the event that the TAT for the Eastern Hudson Bay Arc Region is exceeded in any given year, the number of beluga harvested in excess of the TAT will be subtracted from the available TAT for the following year. In addition to the reduction of the TAT for the following year, the NMRWB and the EMRWB encourage the LNUK and Cree Trappers Association within the Eastern Hudson Bay Arc Region to develop mechanisms to respond to people that over harvest in accordance with Inuit or Cree laws and practices.*

The Eastern Hudson Bay Arc Region includes the local harvesting grounds of Kuujjuaraapik, Umiujaq, and Inukjuak (see Figure 8). The Eastern Hudson Bay Arc Region is the known summering area for EHB beluga and therefore EHB beluga are considered to make up 100% of the harvests in this region during the ice-free season. Since this is the area with the highest potential for harvesting that could impact the stability of the EHB beluga population, the Boards are establishing a TAT to be in place in this region every year between May 1st until November 30th.



**Figure 8:** Map outlining the Eastern Hudson Bay Arc Region where both a TAT and NQL's apply (purple) and the extent of the area in which only NQL's apply (green). Areas closed to hunting are also shown in red.



Outside of the May 1<sup>st</sup> to November 30<sup>th</sup> timeframe it is safe to assumed the presence of beluga in the Eastern Hudson Bay Arc Region are from a different stock (most likely the James Bay beluga stock), therefore harvests during that time are not to be included in the calculation of the TAT. In circumstances where a TAT is not reached in one season, the unused portion of the TAT (up to a maximum of 10 beluga) may be carried over to the following season upon approval of the NMRWB and EMRWB jointly.

Exceeding the annual TAT in the Eastern Hudson Bay Arc in a year, and especially over multiple years, can have negative impacts on the EHB stock population and could greatly impact the effectiveness of these management decisions. Therefore, any over harvest in one season will be deducted from the available TAT for the following year. The threat of regulatory proceedings being commenced in response to harvesting in excess of the TAT has resulted in confusion and tensions between harvesters, Inuit communities and government agencies. As harvesting is such a corner stone of Inuit culture, the characterization of over harvesting as a quasi-criminal regulatory offence is often seen as the criminalisation of the Inuit way of life, culture and society. Accordingly, the Boards call for the adoption of alternatives to regulatory proceedings, and specifically encourages the LNUK and the Cree Trappers Associations within the Eastern Hudson Bay Arc Region to develop mechanisms to respond to over harvesting in accordance with Inuit or Cree laws and practices, depending on whether the harvesters are from Inuit or Cree communities.

Although the Boards accept DFO's assumption that all beluga in the Eastern Hudson Bay Arc Region during the summer are EHB beluga, they also acknowledge that there are serious limitations to the current genetic approach and understanding that need to be addressed. Particularly relevant is the practice of concluding that all beluga sampled within the Eastern Hudson Bay Arc Region are EHB regardless of their genetic signature. This means that any potential immigration to the area from other stocks (e.g. James Bay or Western Hudson Bay beluga) would be considered to be an EHB beluga by default. This assumption in the genetic model could be having multiple effects on the current understanding of beluga management (e.g. 'shifting baseline'), which is especially impactful since the genetic model is the basis for the current management system.

In determining the TAT level for the Eastern Hudson Bay Arc Region, the Boards evaluated the harvest levels over the past six years (Table 2) and decided to make the TAT the average of the harvest from 2014-2019 in the Eastern Hudson Bay Arc Region. This regional TAT, in conjunction with the NQL's, and the seasonal closure in the Hudson Strait, should provide for optimal protection of the EHB stock while also providing the least restrictions on harvesting rights and Inuit and Cree rights more generally.

In determining the TAT of 24 beluga, the Boards have considered the harvest of EHB beluga outside of the NMR. Sanikiluaq is the only community outside of Nunavik known to also harvest from the EHB beluga stock. Part of Sanikiluaq's long term conservation efforts include a seasonal

harvest closure from July 15<sup>th</sup> until September 30<sup>th</sup> to avoid harvesting when EHB beluga are considered most abundant locally (Sanikiluaq's submission). According to the appendix attached to NTI's submission, 84% of Sanikiluaq's harvest occurs between April 1<sup>st</sup> and July 14<sup>th</sup>. The best available genetic information indicates that the proportion of EHB beluga in the harvest during that time is 4.4% (DFO 2018). Based on this information and according to the calculations provided by NTI, the average take of EHB beluga by Sanikiluaq is 2 EHB per year.

## **Allocation of the Harvest**

*The allocation of the TAT shall be made in accordance with the applicable provisions of the NILCA and the EMRLCA;*

The Boards recognize that allocation of the TAT is the jurisdiction of the harvester representative organizations and that these allocations should be guided by community harvesting preferences. The Boards fully support these organizations in exercising their jurisdiction and will continue to offer technical advice if requested. For further clarity, any harvest in the Eastern Hudson Bay Arc Region will be removed from the TAT, regardless of which community the hunter is from.

The Boards further note and draw to the attention of co-management partners that in accordance with section 5.3.7 (b) of the NILCA, it is to be presumed that Nunavik Inuit need the entire beluga TAT established by the NMRWB. Further, and in accordance with section 24.6.2 (a) of the James Bay Northern Quebec Agreement (JBNQA) guaranteed harvest levels for beluga were established for the Cree and Nunavik Inuit. The NMRWB and the EMRWB acknowledge those guaranteed levels under the JBNQA and the presumption of need outlined in the NILCA and urge the parties to take these into consideration in the allocation of the Eastern Hudson Bay Arc Region TAT.

## **Kuujjuaraapik Pilot Project**

*Beluga harvested in accordance with the Kuujjuaraapik Pilot Project which occurs annually from December 1<sup>st</sup> to June 15<sup>th</sup>, and within the co-ordinates described in Appendix D of NMRWB Resolution #2020-09-04 and EMRWB Resolution #2020/21-23, are exempt from the application of the Eastern Hudson Bay Arc Region TAT.*

Based on the information provided and agreed upon by the parties, it is believed that the harvest of beluga in accordance with the Kuujjuaraapik Pilot Project presents no risk to the Eastern Hudson Bay beluga. Further, the project provides samples that serve to further the science and knowledge in relation to non-Eastern Hudson Bay beluga in the area, including James Bay beluga. The Boards continue to support this pilot project. As is expected of all beluga harvesting in the

NMR and within the areas of overlap, biological harvest sampling is imperative, and the Boards expect 100% harvest sampling from beluga harvested through the Kuujuaraapik Pilot Project.

## **Non-Quota Limitation Decisions**

The following sections detail NQL's that will apply to the entire NMR, with the exception of the Cree Zone as this area is within the exclusive authority of the EMRWB and the Areas of Equal Use and Occupancy as this area is within the exclusive authority of the Nunavut Wildlife Management Board.

During the hearing, many communities identified Inuit management practices that they would like to see reinforced. For example, representatives from Aupaluk discussed the practice of avoiding the first beluga, or the leaders of the migrating beluga to protect the migratory patterns. They further described the necessity of harpooning beluga in the fall in order to prevent injuring and losing beluga. Representatives from Ivujivik discussed the impact of noise on beluga and emphasized the need to avoid disturbing beluga during the main calving time in June. Several other communities presented methods to avoid harvesting EHB beluga as alternative ways to the quota system. The Boards take the position that TAT's are to be used as a last resort and encourage the development of NQL's to meet conservation objectives. The Boards wish to learn more from each community on how they can develop measures to protect the EHB beluga. It is the hope of the NMRWB and the EMRWB that LNUKs, with the support of the RNUK and co-management partners, will develop and define their own management systems using their authority under section 5.7.2(c) of the NILCA. This is key to the long-term goal of local Inuit and Cree lead management.

After careful consideration, the Boards decided to establish the following NQL's in the NMR.

### **Hudson Strait Seasonal Fall Closure**

*The establishment of a NQL for an annual seasonal closure of beluga harvesting within the Hudson Strait area, which boundaries are set out in Appendix C of NMRWB Resolution #2020-09-06, starting on September 1<sup>st</sup> and ending on October 31<sup>st</sup>. Following October 31<sup>st</sup>, each respective LNUK in the Hudson Strait area, upon the direction of Elders and in accordance with Inuit knowledge and practices may further decide when to reopen the harvest.*

Nunavik Inuit shared their understanding that although EHB and Western Hudson Bay beluga migrate together in the spring, the stocks migrate at different times during the fall. Specifically, the EHB beluga are understood to be the first beluga groups to migrate in the fall followed by groups of Western Hudson Bay beluga. In the previous decision (2014-17), the NMRWB utilized this knowledge to implement the Hudson Strait Pilot Project. This present decision furthers the

use of the understanding of the migratory nature of the different stocks (Figures 1 and 4) to implement a seasonal harvest closure in the early fall with the objective of removing harvesting pressure off of the EHB stock (Figure 2). Harvesting in the Hudson Strait will close beginning on September 1<sup>st</sup> until at least October 31<sup>st</sup> and harvesting will resume once the EHB beluga have passed. The opening of the fall harvest following October 31<sup>st</sup>, will rely on the knowledge of harvesters in each of the four Hudson Strait communities (Ivujivik, Salluit, Kangiqsujuaq, and Quaqtaq). For clarity, the intention is that the season will remain closed while the smaller groups of beluga are migrating (assumed to be EHB) and to be opened for harvesting of the larger migratory groups (assumed to be Western Hudson Bay). The LNUKs self-govern the manner by which the re-opening after October 31<sup>st</sup>, is done through their own by-laws as established under 5.7.2 (c) and 5.7.11 of the NILCA. the NMRWB and the EMRWB encourage the RNUK to support the work of the LNUK in this regard.

### **Provisions within the *Marine Mammal Regulations, SOR/93-56* Maintained**

*The Boards support the continued application of the following NQL's set out in the Marine Mammal Regulations:*

- (a) *No person shall disturb a beluga whale, except when beluga hunting;*
- (b) *No person shall attempt to kill a beluga except in a manner that is designed to kill it quickly;*
- (c) *No person shall hunt for beluga without having on hand the equipment necessary to retrieve it;*
- (d) *No person who kills, or wounds, a beluga shall fail to make a reasonable effort to retrieve it without delay, nor shall he abandon or discard it;*
- (e) *No person who kills a beluga shall waste any edible part of it;*
- (f) *No person shall kill a beluga calf (dark in colour and less than 2 m in length), or an adult beluga that is accompanied by a calf;*

### **Struck and Lost**

A fundamental Inuit harvest management value is to only take what is needed and not to waste animals or parts of animals. The *Marine Mammal Regulations* also states that all actions that result in killing or wounding a whale without being able to retrieve it are prohibited. In accordance with traditional values and the *Marine Mammal Regulations*, harvesters must make all efforts to retrieve a whale that has been struck, so that it is not lost.

Given the limited number of whales that can be harvested from the EHB stock, it is especially

important to reduce the number of struck and lost beluga as these whales have a high likelihood of succumbing to their injuries. Harvesters interviewed during the NMRWB consultation process in 2013 stressed that harvesters must have all equipment necessary to land and butcher a beluga on hand when attempting to make a kill, and the NRMWB supports this recommendation. The Boards have also taken Struck and Loss factors into account in determining what is a reasonable TAT for the Eastern Hudson Bay Arc Region.

### **Restrictions on Calves and Females with Calves**

In the beluga mating system, a single male can breed with a number of females during a given year. Therefore, the potential contribution of each breeding-age female to a population's recovery is greater than that of any single male. For example, simulations of the impact of harvest on population growth show that a male-biased harvest greatly reduces the chances of population decline (Hammill et al. 2009).

Based on this, the NMRWB recognizes that targeting males reduces the impact of harvest on the beluga populations and encourage harvesters to selectively harvest males, but do not see this as a management measure that can be effectively implemented. As such, Inuit may harvest adult (white) or sub-adult (light-grey) whales regardless of sex class.

Inuit maintain that harvesting a calf leads its mother to reproduce more frequently. In their oral submission Quaqtamiut stated that it is problematic to avoid grey whales and to focus on harvesting males. In addition, females accompanied by calves are known to be active reproducers and are therefore immediately contributing to the stock's recovery and should not be harvested. This is reflected in section 18 of the MMRs, which reads "No person shall fish for a beluga calf or for an adult beluga that is accompanied by a calf". It is thus important that harvesters pay particular attention when tracking a group of beluga in which there are calves so as to avoid killing a mother that may be temporarily without her calf. All accidental catches of dark beluga must be reported under the area TAT as they count towards it the same as older whales.

### **Wastage**

The decision of the Boards to maintain the *Marine Mammal Regulations* directive that wasting any edible part of a whale is prohibited, is intended to ensure proper use of harvested beluga in accordance with the values and traditions of Nunavik Inuit.

During earlier consultations, the issue of spoilage was discussed at length (Breton-Honeyman et al. 2013). It was felt that most wastage is the result of harvesters being required to travel long distances to harvest. Since mattaq (skin and blubber) is prized over meat and other parts, some are forced to leave meat/heads behind to transport mattaq back to their home. Others suggest that it has been impossible to teach the younger generations about the value and proper preparation of meat and other beluga by-products due to the forced long-distance travel to harvest. Overall, it was agreed that actions to reduce wastage are necessary.

Considering tensions between host communities in the Hudson Strait and those who visit for the spring/summer and fall beluga harvest, it is extremely important that proper communication and coordination with host communities be established prior to the harvesting trip. This will help to minimize both conflict between harvesters and the wastage of beluga, since any unused parts may be recovered and used by local community members. Coordination with Uumajuit wardens or technicians in host communities, by visiting harvesters, is also recommended to ensure proper reporting of the harvest.

## **Netting**

*Netting as a means of harvesting beluga is permitted, however subject to the following conditions:*

- (a) Nets shall be removed when not under constant surveillance; and*
- (b) Any calves, and females with calves, that have been netted and are found alive shall be released from nets as soon as possible and whenever it is safe to do so;*

Although some communities have employed nets to capture beluga for many generations, others have voiced their disagreement towards some aspects of this practice (e.g. capturing females and calves, wastage of whales that remained submerged for extended periods of time, preventing young harvesters from catching their first beluga, etc.). As well, Inuit harvesters feel that entangled whales emit distress vocalizations when entangled in nets; this is evidenced by the sudden absence of whales at harvesting sites after a whale has been netted (Breton-Honeyman et al. 2013). Despite this, the Boards recognizes that they can only regulate harvesting method employed by harvesters where justified under the NILCA and EMRLCA. Netting is a traditional harvesting method and continues to be used as harvesting method. Should any community wish to prevent their harvesters from using nets to capture beluga, the LNUK may adopt its own by-laws that further address this issue. The conditions established herein are designed to protect against the killing of beluga calves and their mothers, as they play an essential role in stock maintenance and recovery. As such, harvesters must take necessary steps to prevent females and calves from becoming entangled in their nets. This includes constant surveillance of nets and removing the nets whenever a group with females and calves is known to be in the vicinity.

## **Estuary Harvest Management**

*Continued prohibition of harvest at Ungava Bay Mucalic estuary, Nastapoka River estuary, and Little Whale River estuary, it being understood that:*

- (a) on a case by case basis, the above estuaries may open for limited harvesting activity;*

- (b) *approval of harvesting shall require an application from communities that traditionally accessed the estuary and shall include an Estuary Harvest Plan;*
- (c) *any approved harvest at the Nastapoka River and Little Whale River estuary would count against the TAT, as these estuaries are within the Eastern Hudson Bay Arc Region;*
- (d) *the proposed harvests are to focus on harvesting activity designed to ensure the full access of rights holders, especially women and children; and*
- (e) *prior to the approval of any application to harvest at an estuary, the NMRWB, or jointly with the EMRWB when required, will provide a mechanism for impacted parties, including but not limited to the Government of Canada and Indigenous rights holders, to give submission in relation to the application.*

Harvesting has been prohibited at Mucalic estuary in Ungava Bay, and Nastapoka River estuary and Little Whale River estuary in Hudson Bay for decades. Little is known about the effectiveness of these closures since there has been very little monitoring of the estuaries in the past 20 years with the notable exception of the Mucalic estuary research that began in 2019. This project was initiated in large part to provide this type of monitoring information to the NMRWB to inform decision making. The most recent research for the Hudson Bay estuaries is from land based observation over one month in 2001, which indicated that there was daily vessel disturbance and subsequent departure of the whales from Nastapoka and Little Whale River for 10.5 and 22.3 hours, median, respectively (Doidge and Lesage 2001). In an Inuit Knowledge study of beluga in southern Ungava bay and the estuaries, harvesters noted that they have not observed any increases in beluga numbers in the estuaries but cited multiple negative impacts of the closure on beluga harvesting, knowledge and relationship to beluga (Durkalec, Basterfield et al. 2020).

The Boards were presented with evidence of the importance of estuaries to both beluga and Nunavik Inuit as calving and moulting areas and traditional harvesting grounds. The RNUK stressed the importance of at least reopening these estuaries for Elders and youth. LNUKs also submitted the importance of access to these traditional territories, and recommended to reopen them carefully, and to avoid disturbance of beluga, especially during calving. DFO cautioned that if estuaries are reopened, there will need to be substantial monitoring.

Given the evidence, the Boards have decided that all estuaries will remain closed but may be reopened by the Boards on a case by case basis. Communities that traditionally harvested from an estuary can apply to the Boards for permission to harvest at an estuary. Estuary Harvest Plans are to be submitted to the NMRWB, or both Boards in the case of Little Whale River, for review and approval prior to reopening. Additionally, for Little Whale River the guidelines for the adjacent park, Tursujuq, should be taken into consideration. It is expected that Estuary Harvest Plans include the following components:

- How many beluga are to be harvested in the area per year from all communities;
- A strategy to ensure compliance with the area management plan;
- Strategies to mitigate noise disturbance in the estuaries;
- Details of how cultural knowledge and traditional harvesting practices will be transmitted between knowledge holders, Elders and youth; and
- How the management, including monitoring, of the area will be addressed on an ongoing basis, who will conduct this management, and how the use and management of the area will be shared between adjacent communities.

Development of the Estuary Harvest Plans may be submitted by any individual or organization but must include the approval of at least the LNUKs and Northern Villages Offices of the neighbouring communities as follows:

**Little Whale River estuary:** The LNUKs of Kuujjuaraapik, Umiujaq, and Inukjuak and the NVs of the same communities.

**Nastapoka River estuary:** The LNUKs of Umiujaq and Inukjuak, and the NVs of the same communities.

**Mucalic Estuary:** The LNUKs of Kangiqsualujjuaq and Kuujjuaq and the NVs of the same communities.

Prior to the approval of any such application the NMRWB and the EMRWB, where appropriate, will provide a mechanism for impacted parties, including but not limited to the Government of Canada and Indigenous rights holders, to give submissions in relation to the application. Boards reserve the rights to determine the most appropriate format and timing of such a process. Estuary Hunt Plans are due in March 1<sup>st</sup> the year of the anticipated estuarian hunt in order to provide adequate time for this process.

## **Mandatory Reporting of Harvest, and Biological Harvest Sampling**

*Harvesters are required to report all beluga harvested to the federal Department of Fisheries and Oceans (DFO) and/or Uumajuit Wardens. Further, harvesters are required to take all steps necessary to obtain samples from all beluga harvested within the NMR for the purposes of biological sampling research;*

## **Monitoring Plan**

*The decisions herein are subject to the terms of the Monitoring Plan appended to the Reasons for Decisions at Appendix A;*



*the NMRWB and the EMRWB where appropriate, shall re-evaluate and consider the adoption of additional or varied measures to ensure the fulfilment of beluga management objectives where, prior to expiration of the decisions:*

*(a) certain circumstances defined in the Monitoring Plan are triggered; and*

*(b) harvesting levels of Eastern Hudson Bay beluga throughout the NMR reach a level of take that frustrates the objectives of the decisions;*

The Boards recognize that this substantial shift in the approach to beluga management to managing primarily through NQL's in the NMR will require intensive reporting and monitoring of the harvest in order to ensure the continued conservation of EHB beluga and the success of this management system. Regardless of the management approach taken, monitoring is needed to assess the effectiveness of any measures at meeting their objectives. The Boards have therefore included a mandatory harvest reporting requirement and stated that all efforts must be taken to obtain biological harvest samples. These two measures will ensure that all co-management partners have access to the information to assess the sustainability and effectiveness of these decisions. Further details about the mechanisms by which the harvest will be monitored are outlined in the Monitoring Plan, including harvest thresholds beyond which would trigger a reconsideration of management decisions by the Boards (Appendix A).

### **Monitoring the Effectiveness of Management Measures**

*Those with rights and interests in relation to beluga (specifically Nunavik Inuit and Cree of the Eeyou Istchee) meet annually with the NMRWB and EMRWB to evaluate the effectiveness of the foregoing decisions and their implementation;*

The Boards will annually review the effectiveness of implementation of these decisions in light of the goals and objectives, with co-management partners (Makivik, Cree Nation Government/Grand Council of the Cree, DFO, and the RNUK), and assess if changes are needed. The Boards intend this to be an adaptive and responsive management plan. These discussions will likely take place through a joint December meeting, though the Boards reserve the rights to determine the most appropriate format and timing of this meeting.

### **Beluga Harvesting Season and Duration**

*Each year, the beluga harvesting season shall be from February 1 of one year to January 31 of the following year;*

*The decisions shall be effective for a period of five (5) years from their coming into force;*

These decisions will come into force upon approval by the Minister. As with previous decision, the harvest season will be from February 1<sup>st</sup> until January 31<sup>st</sup> of the following year for the purposes of tracking beluga harvest numbers for both the TAT in the Eastern Hudson Bay Arc Region and for the Monitoring Plan for the NMR. Within the year the proportion of EHB harvested will be calculated based upon the location and timing of the harvest according to the updated genetic proportions (refer to Monitoring Plan at Appendix A).

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# Appendix A - Monitoring Plan

## Monitoring Plan Summary:

- Harvest will be monitored and communicated on a weekly basis, through the established Uumajuit warden program in the NMR;
- Biological harvest sampling will continue to provide important information for increased understanding of beluga demographics (e.g. age, sex, and stock) which can inform future management;
- Harvest monitoring and biological sampling information will be considered in an annual review of the beluga management system, to analyze the performance of the system in meeting its objectives;
- If harvest levels of Eastern Hudson Bay beluga is between 71-82 in a single year, the Boards decision-making process will be launched, and all aspects of beluga harvest management in the NMR will be re-assessed.

The Boards recognize that establishing a beluga harvest management system based primarily upon NQL's requires a high level of adaptability. A robust Monitoring Plan will be essential in ensuring the continued conservation of EHB beluga and the success of this adaptable management system. One of the major successes of the previous management systems was the establishment and/or improvement of successful harvest monitoring and biological harvest sampling initiatives. This decision seeks to build off this success, recognizing the fundamental importance of these programs to beluga management in the NMR, and will continue to strongly support them. The programs are briefly described below.

**Biological Harvest Sampling:** harvesters are asked to provide samples of their harvest, including measurements, a tooth, tissue samples, and other descriptive information. Since some beluga stocks are migratory, genetic analysis of tissues is used to gather information on the proportions of beluga from various stocks (most notably the endangered EHB stock) at various times of year throughout the NMR. Age and sex class of harvested beluga are gleaned from the biological harvest sampling program. The Nunavik Research Center in Kuujuaq is the administrative center for harvest sampling, and genetic analysis is conducted by DFO.

**Harvest Monitoring:** Harvest monitoring in the NMR is conducted largely via the Uumajuit Warden program, a network of wildlife wardens in each village of Nunavik who provide weekly harvest information reports to DFO. This information is reviewed weekly, and is used with stock proportionality gleaned through the genetic results of biological sampling to determine the estimated number of EHB beluga harvested.

The continuation of the above programs will provide essential information to the Boards throughout the five years of this management system. As outlined in NMRWB Resolution #2020-

09-04, #2020-09-05, and #2020-09-06 as well as EMRWB Resolution #2020/21-23, the NMRWB and EMRWB will conduct an annual review of the performance of the 2020-2026 beluga management system in meeting the objectives. The biological harvest sampling program will continue to improve co-management partners understanding of stock structure and mixing, and will allow the Boards to potentially further improve the management system. Harvest monitoring data will provide essential information for the annual review, and will form an important aspect of the performance assessment. Likewise harvest monitoring will provide information for DFO to update their population model, which can be provided annually to aid in the Boards' performance review. Lastly, the ongoing monitoring will provide weekly updates of the beluga harvest in the NMR, and will immediately trigger the launch of the Board's decision-making process if certain harvest levels on the beluga harvest are exceeded, both on an annual basis and over the full 5-year term of the decision. The success of both the biological harvest sampling, and harvest monitoring will be evaluated each year. Widespread failure of either program could trigger a re-evaluation of the Board's decisions.

Given the issues with managing by TAT, the complexity and importance of beluga conservation and harvesting, and the spirit and intent of the NILCA, the Boards strongly believed that a TAT should be used to the least extent possible. Therefore, for clarity, these levels on harvest in the NMR should not be confused with a TAT. The Boards strongly believe that the management system (i.e.: NQL's, a TAT in the Eastern Hudson Bay Arc Region, and annual reviews) fully addresses conservation concerns for EHB beluga and will not only preserve the EHB stock, but also enable restoration and revitalization.

Despite this, the Boards believe that a failsafe is needed, in case harvest pressure exceeds expectations, or other changes warrant further consideration and/or regulation. The harvest limitations described in this Monitoring Plan represent harvest pressure thresholds, beyond which the Boards believe harvest may frustrate the long-term conservation objectives for EHB beluga, and indicate the need for immediate refinement of management decisions. **Harvest in excess of a threshold will trigger the launch of the Boards decision-making processes. Unlike a TAT, this threshold should not be considered a target or even maximum harvest by managers or harvesters nor will it trigger an immediate hunt closure.** In the event the threshold is reached the Boards will immediately come back to the decision-making process and discuss with co-management partners how to proceed. Under certain circumstances it may be that the Boards direct the closure of the hunt as part of the decision-making process. The Boards recognize that the threshold levels described below are higher than what would be recommended for long term viability. Again, the Boards do not expect these thresholds to be reached given the other limitations put in place and given the information available to the Boards.

The Boards will consider harvest thresholds for EHB beluga, over a single year for each of the 5 years of the plan. The thresholds will consider harvest throughout the entirety of the NMR, including the TAT. The EHB harvest will be calculated as a proportion of the total harvest in the

same manner as in the previous plan using the updated EHB proportions from DFO. Table 3 below has been used in previous management decisions and has been updated with the genetic proportions provided in DFO’s written submission to the hearing, rounded to the nearest 5%. For clarity, percentages rounded to the nearest 5% will be used only to track the aforementioned thresholds, for the purpose of clarity and simplicity for all co-management partners. The percentages estimated by DFO (shown in table 2) will continue to be used as the best available information for use in the population model, and other ongoing usage.

**Table 3:** The proportion of EHB beluga throughout the NMR in various areas and at various times of year. All information is based on genetic tissue analysis, with the exception of that marked with an \*, which is based on a combination of other information, including Inuit Knowledge of beluga migrations patterns.

<b>Time Period</b>	<b>Area</b>	<b>Proportion of EHB*</b>
Spring Hunt: February 1 – August 31	Ungava Bay	5%
	Hudson Strait	10%
	North-Eastern Hudson Bay	10%
Summer Hunt: May 1 - November 30	Eastern Hudson Bay	100%
Fall Hunt: September 1 – January 31	Ungava Bay	30%
	Hudson Strait "A" (any harvest during fall closure)	30%
	Hudson Strait "B" (any harvest after fall harvest has been opened)	20%*
	North-Eastern Hudson Bay	45%



Winter Hunt: December 1 – April 30	Eastern Hudson Bay	0%
Year-Round Hunt: February 1 – January 31	Long Island and James Bay	0%
	Ottawa Islands	20%

Due to minimal genetic information in two of the zones, table 3 uses percentages extrapolated from nearby zones. The 'Spring - North East Hudson Bay' zone and the 'Fall - Ungava Bay' zone use the percentage from the Hudson Strait zone for the corresponding season. This method was used by DFO in their submission to the Boards at the 2020 Nunavik Beluga Public Hearing. While this may not be as accurate as zones with more genetic information, it is likely more accurate than using information from very small sample sizes. Furthermore, harvest in the areas with low biological sampling is also low and therefore the impact of these areas in calculating the total EHB removal is minimal.

While certain biases are likely present in the percentages shown above, the Boards accept the above percentages as the best available knowledge for use in monitoring EHB harvest, based off of total harvest numbers. All percentages in the above table are based on genetic tissue sampling, with the exception of 'Fall - Hudson Strait B'. The Boards will not use genetic information as the basis for establishing an EHB proportion on 'Fall - Hudson Strait B' for the following reasons:

- The newly established NQL for a seasonal closure changes what was previously considered a single temporal zone into two zones;
- Under the previous TAT system, the fall harvest (and resulting biological sampling) largely occurred early in the season, and the resulting EHB proportion likely best describes the Fall - Hudson Strait A zone.

Given the temporal limitations of the Fall genetic information for Hudson Strait (bias toward early fall), the Boards provide the following rationale for an alternative 'Fall - Hudson Strait B' EHB %:

- The best available information for the Boards to use in setting %EHB in 'Fall - Hudson Strait B' is the Inuit Knowledge indicating that the EHB beluga migrate first in the fall, followed by a larger Western Hudson Bay group;
- The genetic information that is available from 'Fall - Hudson Strait B' indicates 25% EHB, but is still highly biased towards early in this season;
- While Inuit Knowledge and the corresponding seasonal closure aim to fully avoid EHB beluga, the Boards consider it pertinent to be cautious given the lack of genetic information, therefore the Boards will assume that the %EHB in 'Fall -

Hudson Strait B' is double that of 'Spring - Hudson Strait', when the stocks appear to be randomly mixed, i.e. 20% EHB beluga, but will continue to reevaluate this percentage as new information becomes available.

While the 'Fall - North-Eastern Hudson Bay' zone may have been subjected to a bias toward rising EHB% over the last six years, similar to the 'Fall - Hudson Strait A' zone, at this time the Boards still accept the % provided in the table as the best available knowledge.

The Boards harvest thresholds for returning to decision-making are EHB beluga harvest levels, at which the Boards deem further harvest to pose a risk to the EHB beluga stock such that reconsideration of the Decisions is required. The calculation for these thresholds is shown below.

## Threshold

- To ensure harvest does not cause a conservation concern, the Boards will commence a new decision-making process if EHB harvest is between 71 and 82, based on the following variables and rationale:
  - The 2018 abundance estimate from the population (relies on the last aerial survey in 2015): 3,400 (DFO 2018);  
Given that the certainty associated with the model decreases the further in time it is from a survey estimate, but also recognizing that it is important to consider more recent harvest information, the Boards believe this is the most reliable estimate;
  - A maximum sustainable rate of increase of 3.3%.  
Literature shows 4% is the upper limit of removal / reproductive rate and DFO has used this management approach for even smaller populations (e.g. Cumberland Sound). DFO science estimates the maximum rate of increase to be 3.3% for this population and the Boards find this to be a reasonable rate to use given the depleted status of the EHB stock;
  - A 20-30% struck and lost rate;  
The current stuck and lost rate estimated by DFO's population model is 39% but also includes unreported harvest. The literature suggests that actual struck and lost varies between 5.4 and 30% for beluga in other regions (DFO's written submission to the Public Hearing). Hunters in Nunavik report a stuck and lost rate of 5.7% and stated during the Public Hearing that stuck and lost rates are low. The Boards also consider that harvest reporting will improve with the removal of the TAT and therefore consider 20% to be a reasonable estimation for stuck and lost at this time. However, in order to be precautionary decided to include a range from 20-30%.
  - Harvest of 2 EHB per year outside of the NMR;  
See NTI's written submission to the Public Hearing for harvest from Sanikiluaq;
- EHB beluga population estimate = 3,400; Sustainable removal rate = 0.033; Struck and lost rate = 0.20-0.30 Harvest outside NMR = 2;  
Therefore average annual EHB removal within the NMR is calculated as follows:  
 $(3,400 * 0.033) = 112.2;$   
 $[(112.2) - (112.2 * 0.30) = 78.5]$  to  $[(112.2) - (112.2 * 0.20) = 89.8];$   
 $[(78.5 - 2) = 76.5]$  to  $[(89.9 - 2) = 87.9];$

- A further 28 beluga (to account from harvest in excess of the interim decision in 2020 (10) plus the remaining two-thirds of the over-harvest from the previous management system (18)) will be removed from this threshold to account for beluga taken in excess of the previous TAT. These 28 EHB beluga will be averaged over the 5 years of the management plan (5.6 per year);
- **Therefore, harvest in any one year between 71 and 82 EHB over the 5-year period will trigger the decision-making processes of the Boards.**