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Table 3. A summary of northern Kivalliq muskox survey results north of Chesterfield Inlet/Thelon River and west to the NWT/Thelon Game Sanctuary boundaries (1999–2017).

Year	Total stratum area (km ²)	Population estimate	Standard error	CV	Lower 95% CI	Upper 95% CI	% calves	Authors
1999 (July)	35,378	1,522	331	0.22	843	2,365	12.5	Campbell & Setterington, 2006
2012 (July)	49,302	2,341	275	0.12	1,796	2,886	13.2	Campbell & Lee, 2013.
2017 (July)	60,576	3,239	510	0.16	2,228	4,249	17.0	This Study

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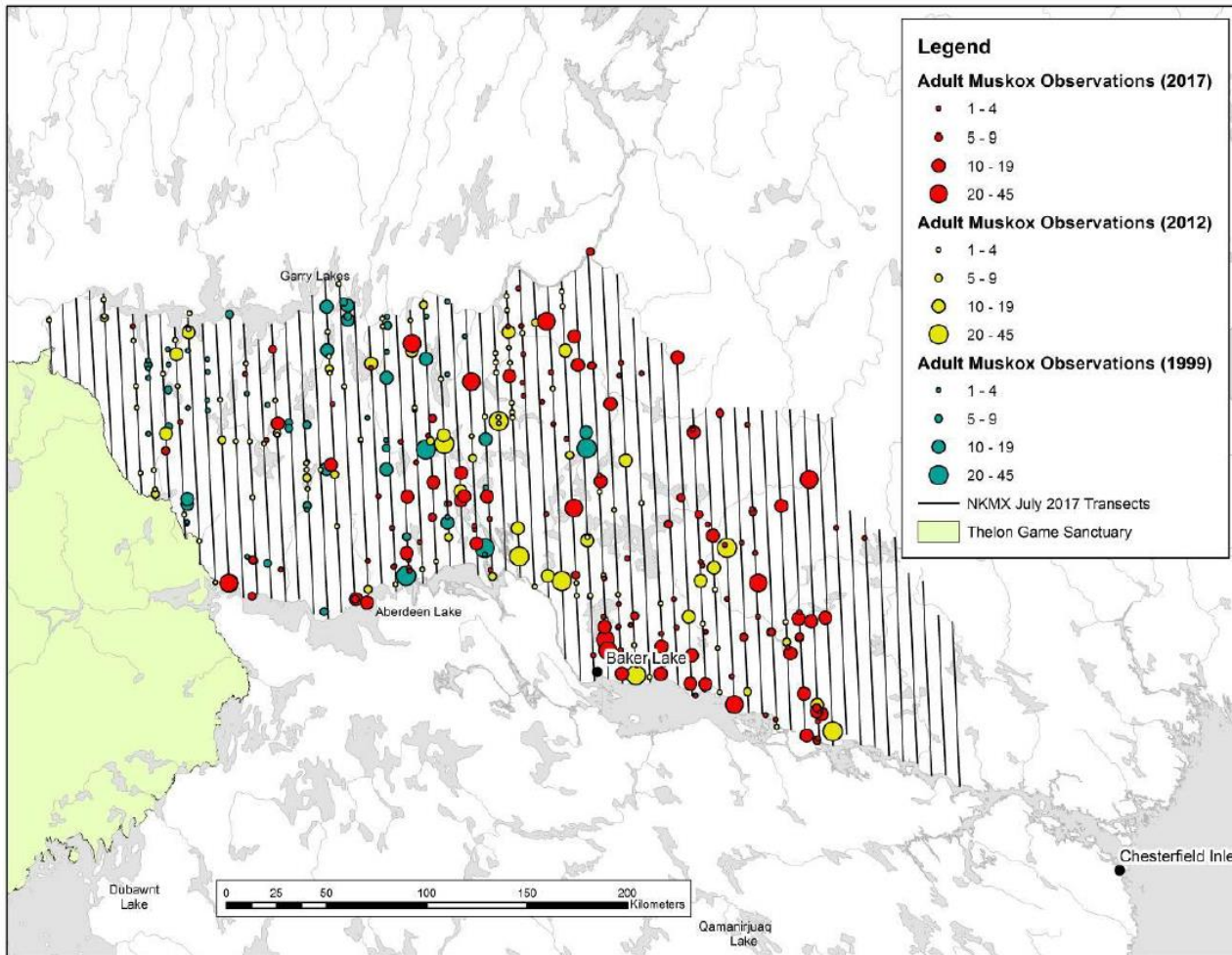
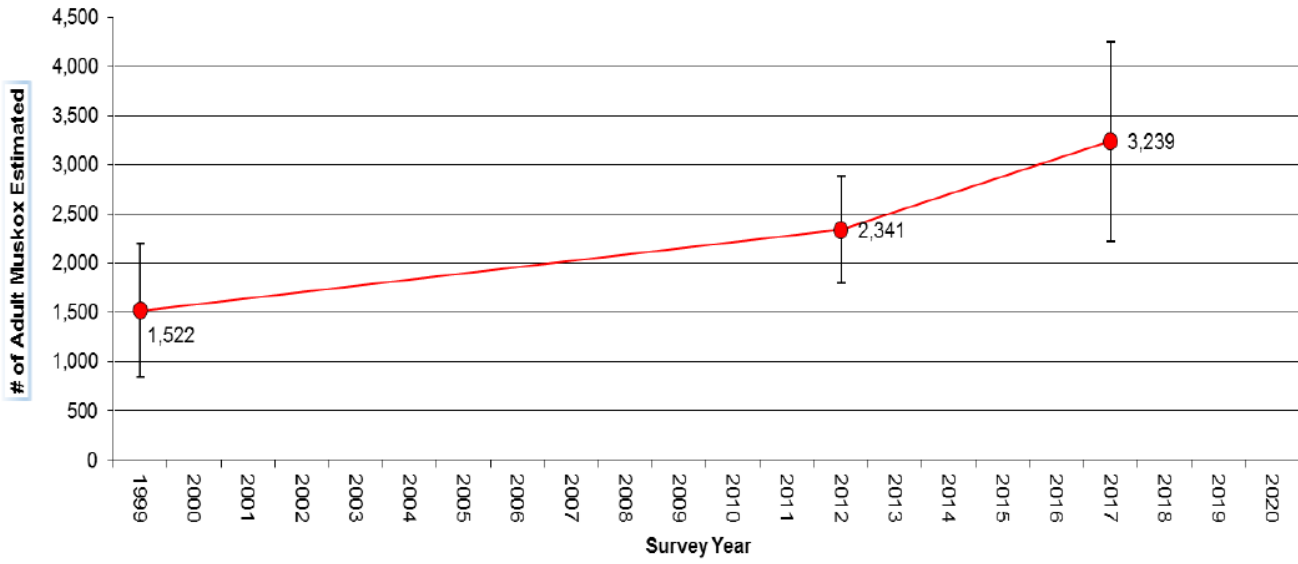


Figure 10. Northern Kivalliq muskox aerial survey observations of muskox from July 1999 (blue), to July 2012 (yellow), and July 2017 (red).

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THANK YOU
QUANAQUTIN
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Hall Beach Hunters' and Trappers' Association
P.O. Box 14
Sanirajak, NU
XOA-0K0
(867) 928-8994

To Nunavut Wildlife Management Board:

During our recent meetings the board members of Sanirajak HTA has had discussions regarding Muskox tags for the Muskox Management Unit, zone 10. The community of Sanirajak has not received tags in the past due to Muskox not being relatively close to our community. However, our harvester's do travel long ways to hunt and would like to seek new hunting opportunities when the resources are present. The harvesters of Sanirajak would prefer to receive tags from their own community rather than having to request tags from a HTO in another community to harvest Muskox from the Northeast Mainland Group.

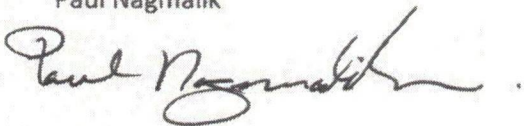
The Sanirajak Hunters and Trappers Association would like to request an annual harvest quota of ten tags for Muskox Management Unit, zone 10.

We appreciate you taking the time to read through our request and look forward to hearing your response.

Regards.

Read and approved by Sanirajak Hunters' and Trappers' Association chair:

Paul Nagmalik

A handwritten signature in black ink, appearing to read "Paul Nagmalik", with a stylized flourish at the end.

Date: 21-02-22

***Re-evaluation of the Northern Kivalliq Muskoxen
(Ovibos moschatus) Distribution, Abundance and Total
Allowable Harvests in muskox management unit MX-10***

Final Technical Report

Government of Nunavut, Department of Environment

Arviat, Nunavut, Canada.

For submission to the Nunavut Wildlife Management Board
2019

Prepared by:

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¹Nunavut Department of Environment, Arviat, Nunavut.

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Introduction / Summary

Prior to the enactment of protection in 1917 (Burch, 1977), muskox subpopulations throughout the central Arctic were hunted to near extirpation. Muskox populations within Nunavut are currently re-colonizing much of their historical range (Fournier and Gunn, 1998; Campbell, 2017), but there remain gaps in information on the status of muskox subpopulations in the area collectively known as the Northeastern Mainland north of the Thelon River, Baker Lake, and Chesterfield Inlet where the Northern Kivalliq Muskox subpopulation (NKMX) resides, within the MX-10 muskox management unit (**Figure 1**). This subpopulation is part of a greater population in Kivalliq which also includes the subpopulation south of MX-10, the Central Kivalliq Muskox (CKMX) in management unit MX-13.

At its greatest extent, the distribution of muskox in the Kivalliq region of Nunavut occurred within an area extending south of 66° latitude, west to the Northwest Territories (NWT)/Thelon Game Sanctuary boundaries, east to the Hudson Bay coastline and south to the Manitoba border (Barr, 1991). Survey work conducted within the last 20 years has indicated a range expansion of Kivalliq muskox subpopulations to the northeast, east, and south of their historical range (Campbell, 2017) (**Figure 2**).

Prior to 2010, Kivalliq muskox subpopulations were estimated using fixed-width line transect surveys in July of 1985, July 1986, July 1991, July 1999 and July 2000 (Campbell and Settington, 2006; Fournier and Gunn, 1998; Case and Graf 1986; Graff et al. 1989; Mulders and Bradley 1991). Surveys were generally flown in July when muskox are distributed more evenly across the landscape, as compared with the winter season when groups can often coalesce due to limited forage accessibility due to snow and ice (Banfield, 1974). The history and reasons behind fluctuations in muskox numbers for the NKMX subpopulation are poorly understood. The first abundance survey of this subpopulation was undertaken in July 1999 within the southern extents of the MX-10 management zone, formerly known as the MX-20 management zone. This July 1999 survey resulted in an estimated population size of 1,522 (95% CI = 679; CV = 0.22) adult and yearling muskox (Campbell and Settington, 2006) for the NKMX in MX-10.

In the five years following the July 1999 survey estimates, local hunters from Arviat, Whale Cove, Rankin Inlet, Chesterfield Inlet and Baker Lake reported increased muskox abundance in MX-10 and a continued expansion of muskox into previously unoccupied range. Motivated by this local knowledge, the Government of Nunavut Department of Environment (GN DOE) met with the Kivalliq Wildlife Board (KWB) to discuss an increase in the Total Allowable Harvest (TAH), and the removal of the seasonal Non-Quota limitations (NQL), based on a new population assessment of both the CKMX and NKMX subpopulations.

By the fall of 2008, a new TAH was established for both the CKMX and NKMX subpopulations. All parties agreed to increase the TAH from 3% to 5% of the lower confidence intervals of the 1999 survey estimates, with the understanding that aerial surveys to confirm hunter observations of increased muskox numbers would be flown as soon as possible. Additionally, all NQLs were removed for both the CKMX and NKMX subpopulations.

A re-evaluation of Kivalliq muskox subpopulations was undertaken in July 2010, and again in 2016, for the CKMX subpopulation, and in July 2012 for the NKMX subpopulation. Using the Jolly (1969) method for unequal sample sizes to analyze survey observations, the 2010 CKMX survey suggested continued growth from the estimated 2,143 (95% CI = 396; CV = 0.09) adults and yearlings in MX-13 in July 1999 to an estimated 4,506 (95% CI = 948; CV = 0.11) adult and yearling muskox in MX-13 by July 2010. The most recent survey of the CKMX subpopulation flown in July 2016, resulted in an abundance estimate of 4,437 (95% CI = 1,054; CV = 0.12) adult and yearling muskox, suggesting that the muskox population had remained stable between survey periods.

The July 2012 NKMX subpopulation abundance survey estimated 2,341 (95% CI = 545; CV = 0.12) adult and yearling muskox, an increase from the July 1999 survey estimate of 1,522 (95% CI = 679; CV = 0.22) adult and yearling muskox (Campbell and Settington, 2006). The results of this survey suggested strong growth within the NKMX subpopulation. Additionally, range expansion to the south and east for the CKMX subpopulation, and eastward for the NKMX subpopulation was evident (Campbell and Lee, 2013) (**Figure 2**). The following report provides a re-assessment of the NKMX subpopulation and summer range.

To date, there are no indications of disease within the herd. Research into the distribution of the lungworm (*Omingmakstrongylus pallikuukensis*) amongst mainland muskox has included samples from the NKMX subpopulation, but no evidence of the disease had been found (Kutz et al., 2002; Gunn and Wobeser, 1993). Similarly, no evidence of Yersiniosis has been discovered in muskox within the Kivalliq region, though no screening has occurred for Kivalliq muskox in recent years (Blake et al., 1991). Despite the lack of evidence of prevalent disease within Kivalliq muskox subpopulations, continued screening of suspect samples provided by hunters is strongly recommended.

From the late 1980s to present, hunters have been reporting increased observations of muskox closer to their communities both south and east of previously known distributions (Mulders and Bradley, 1991; Rankin Inlet (HTO pers. comm.; Baker Lake HTO pers. comm.; Arviat HTO pers. comm.; Chesterfield Inlet HTO pers. comm.; Repulse Bay HTO pers. comm.; Coral Harbour HTO, pers. comm.; Whale Cove HTO, pers. comm. 2008). Ideally, communities in the Kivalliq region would like to have access to healthy muskox populations. Both population estimates and distribution observations discussed herein will provide information that will enable Regional Wildlife Organizations (RWOs), local Hunters and Trappers Organizations (HTOs), and biologists to

determine the potential long-term effects of current harvest regimes on muskox populations in the Kivalliq, while also providing information on the continued expansion of muskox into their historical range.

At present, the Government of Nunavut continues to use aerial surveys and strip transect quantitative methods to estimate both CKMX and NKMX subpopulation numbers, and uses these estimates to re-assess the TAH for both management units (Heard, 1985; Heard, 1987; Jolly, 1969). The TAH for Kivalliq muskox subpopulations is currently based on 5% of the estimated lower 95% Confidence Interval (CI) of the mean population estimate. At present there is a TAH of 190 for MX-10 (**Figure 1**). There are no NQLs established for either subpopulation.

In this report we provide the detailed analysis of the results of our 2017 abundance survey for the NKMX subpopulation. The abundance survey of MX-10 in July 2017 resulted in an estimated 3,239 adult and yearling muskox and significant range expansion within the management unit.

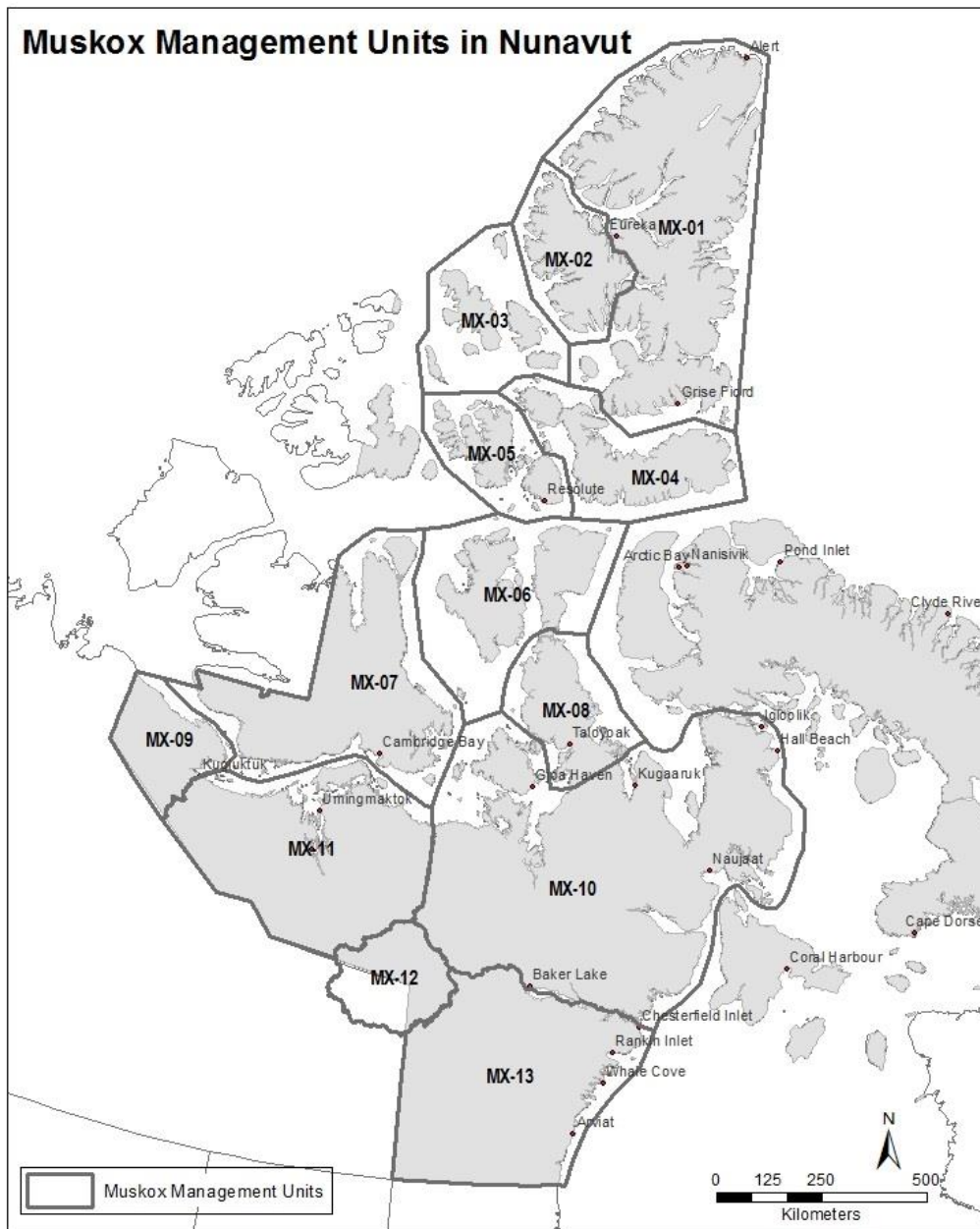


Figure 1. Nunavut’s muskox management zones. The northern Kivalliq muskox subpopulation (NKMX) extents are represented by the southern extents of the northeastern mainland group (MX-10).

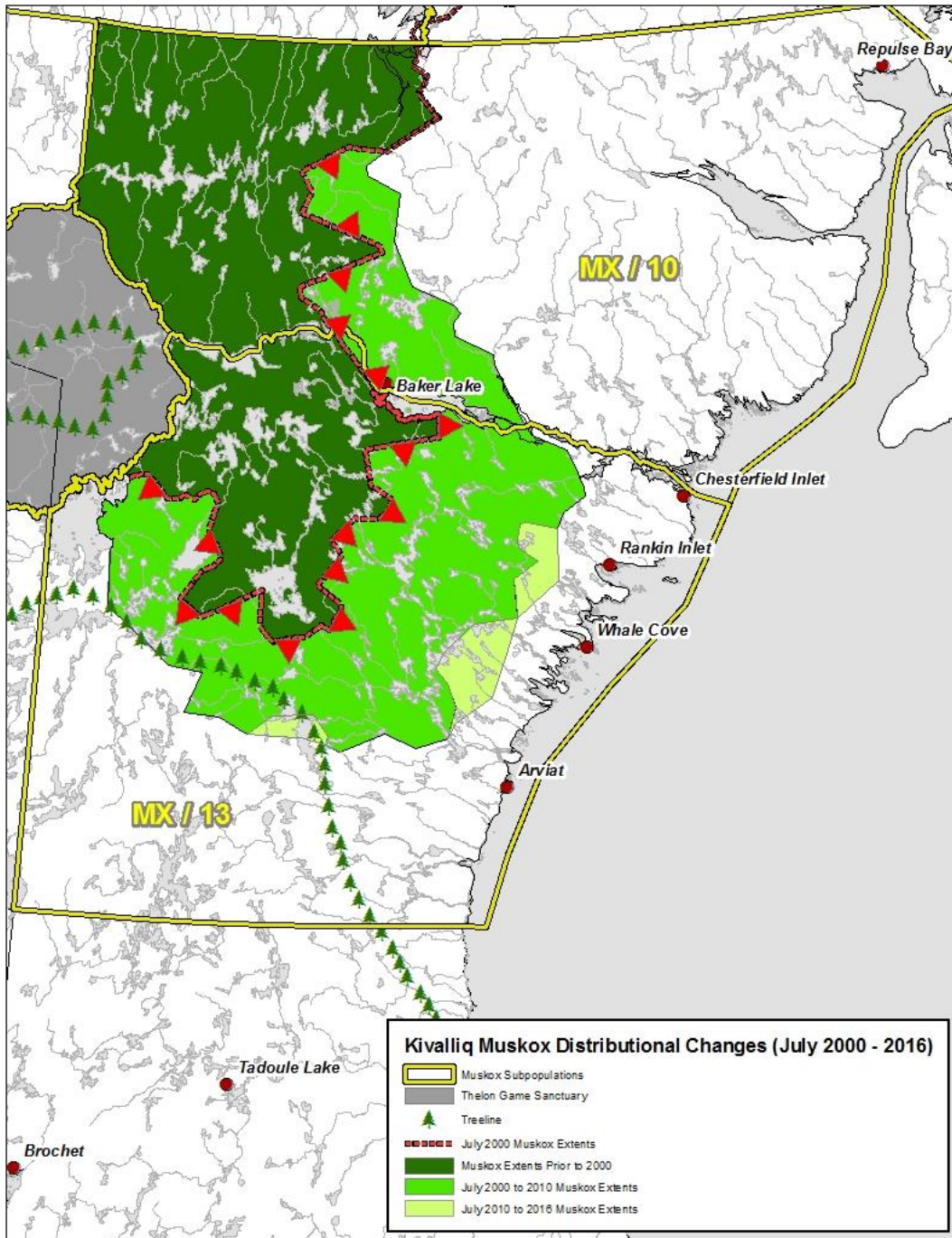


Figure 2. Indicated central and northern Kivalliq muskox range expansion from pre-2000 extents to July 2010, and to July 2016 extents (Campbell, 2017).

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Study Area:

The survey study area was based on the July 1999 and 2012 survey observations and extents, as well as observations from local hunters and other reported sightings, collected during consultations with local HTOs. Local HTO representatives taking part in the survey also indicated areas where muskox range expansion had likely occurred in recent years. Efforts were also made to survey outside of known distributions to ensure questions regarding range expansion were addressed, and to ensure overlap between survey years was achieved, for distributional and density-related comparisons. The July 2017 survey area is an estimated 60,576 km² and encompassed the lower half of the MX-10 muskox management zone (**Figure 3**). The study area included portions of the Back River Plain, the Garry Lake Lowland ecoregions of the Southern Arctic ecozone, and the Wager Bay Plateau ecoregion of the Northern Arctic ecozone (Wiken, 1986; Ecological Stratification Working Group, 1996) (Error! Reference source not found., **Figure 3**).

Table 1. Ecoregions of the northern Kivalliq muskox survey study areas in the Kivalliq region of Nunavut.

Study Area	Ecozone	Ecoregion
NKMX	Southern Arctic	Back River Plain
		Garry Lake Lowland
	Northern Arctic	Wager Bay Plateau

Northern Arctic Ecozone:

The Northern Arctic Ecozone covers an estimated 1.5 million square kilometres, or about one seventh of Canada, and extends over most of the non-mountainous areas of the Arctic islands and parts of northeastern Kivalliq, western Baffin Island, and northern Quebec. This ecozone covers the eastern half of the survey area and is one of the largest arctic ecosystems in the world (**Figure 3**). Winters in this ecozone pass in near darkness. Snow may fall any month of the year and usually remains on the ground from September to June. Extremely low temperatures and an average precipitation of about 200 mm per year characterize the climate. When not covered in snow, much of the landscape is typified by barren plains covered in frost-patterned soils and the occasional rock outcrop (Wiken, 1986; Ecological Stratification Working Group, 1996).

The Wager Bay Plateau ecoregion, a part of the Northern Arctic Ecozone, covers the eastern half of the survey area (**Figure 4**). This ecoregion is classified as having a low arctic ecoclimate with a mean annual temperature of approximately -11°C. Seasonal mean temperatures are 4.5°C in summer and -26.5°C in winter. The mean annual precipitation ranges between 200 and 300 mm. Vegetation of the ecoregion includes a discontinuous cover of tundra plant communities dominated by dwarf birch (*Betula glandulosa*), willow (*Salix spp.*), northern Labrador tea (*Ledum decumbens*), Mountain Avens (*Dryas integrifolia*), and *Vaccinium spp.* Taller dwarf birch, willow, and alder (*Alnus spp.*) occur on warm sites while wet sites are dominated by willow and sedge (*Carex spp.*). Lichen-covered rock outcroppings are prominent throughout the ecoregion. Massive Archean rocks of the Canadian Shield form broad, sloping uplands, plains, and valleys within this ecoregion, rising gradually westward from Chesterfield Inlet to 600 m asl elevation, where it is deeply dissected. Turbic and Static Cryosols developed on discontinuous, thin, sandy moraine and alluvial deposits are the dominant soils in the ecoregion, while large areas of Regosolic Static Cryosols are associated with marine deposits along the coast. Permafrost is continuous with low ice content (Wiken, 1986; Ecological Stratification Working Group, 1996).

Southern Arctic Ecozone:

The Southern Arctic Ecozone forms an extensive ecosystem covering close to a million square kilometres of sprawling shrub lands, wet sedge meadows, and cold, clear lakes. This ecozone covers the western half of the survey area (**Figure 3**). Habitats within this ecozone are characterized by intense frost action and the resultant formation of frost-patterned soils. The two ecoregions covering the western half of the survey area and include the Garry Lake Lowland, covering the central quarter of the survey area, and the Back River plain, covering the western quarter (**Figure 4**).

The Garry Lake Lowland extends across a vast area of massive granitic Archean rocks, forming a broad, level to gently sloping plain that reaches about 300 m asl in elevation. This ecoregion is classified as having a low arctic ecoclimate with a mean annual temperature of -10.5°C. Summer and winter mean temperatures are 5.5°C and -26.5°C, respectively. The mean annual precipitation ranges from 200 to 275 mm. Dominant plant communities include shrub tundra composed predominantly of dwarf birch, willow, and alder on warm, dry sites. Poorly drained sites are dominated by willow, sedge, and moss. Soils within this ecoregion are composed of Turbic and Static Cryosols developed on discontinuous, thin, sandy moraine with Organic Cryosolic soils on level high-centre peat polygons. Permafrost is continuous with low ice content throughout the ecoregion (Wiken, 1986; Ecological Stratification Working Group, 1996).

The Back River Plain ecoregion occurs in the central Kivalliq from the Back River south to Aberdeen Lake. The ecoregion is characterized by relatively level terrain, differing from adjacent ecoregions which tend to have greater relief. The Back River Plain has a low arctic ecoclimate and an estimated mean annual temperature of -10.5°C with a summer mean of 5.5°C and a winter mean of -26.5°C. Mean annual precipitation ranges from 200 to 300 mm. Plant communities within the ecoregion are characterized by shrub tundra consisting of dwarf birch, willow, Labrador tea, Mountain avens, and the genus *Vaccinium*. Tall dwarf birch, willow, and alder occur on warm sites with well-drained upper slopes tending to have a discontinuous vegetative cover. Wet sites are dominated by willow, moss, and sedge hummocks and tussocks. The ecoregion includes areas of nearly flat-lying sandstones and volcanic rocks that are commonly expressed on the surface by sandy flats covered with sparse vegetation. Soils of the ecoregion are typified by Turbic Cryosols developed on level to undulating, discontinuous veneers of sandy morainal and fluvioglacial material. Within wetlands, Organic Cryosols with associated frost-formed patterned ground are typical. Permafrost is continuous with low ice content throughout the ecoregion (Wiken, 1986; Ecological Stratification Working Group, 1996).

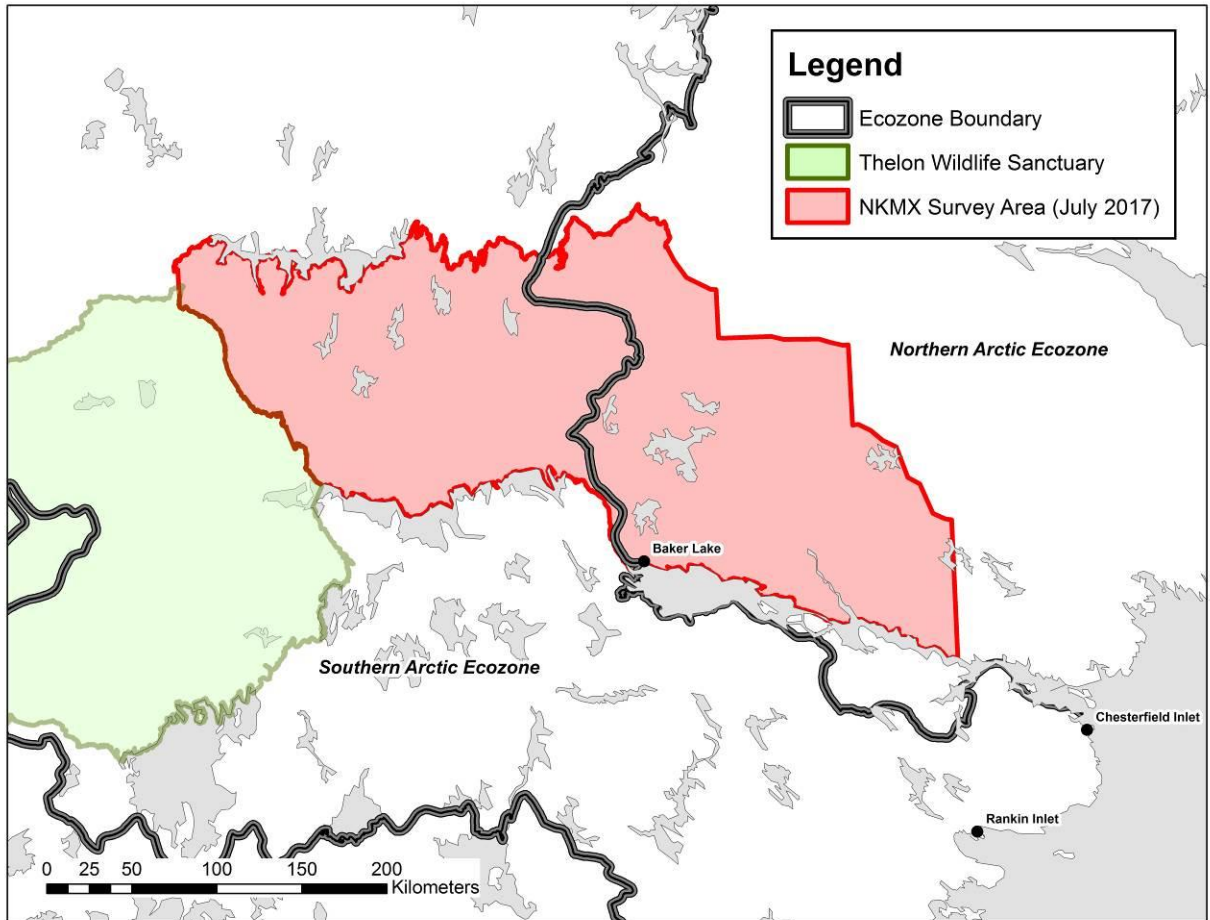


Figure 3. Ecozones of the northern Kivalliq muskox subpopulation (After Wiken, 1986; Ecological Stratification Working Group, 1996).

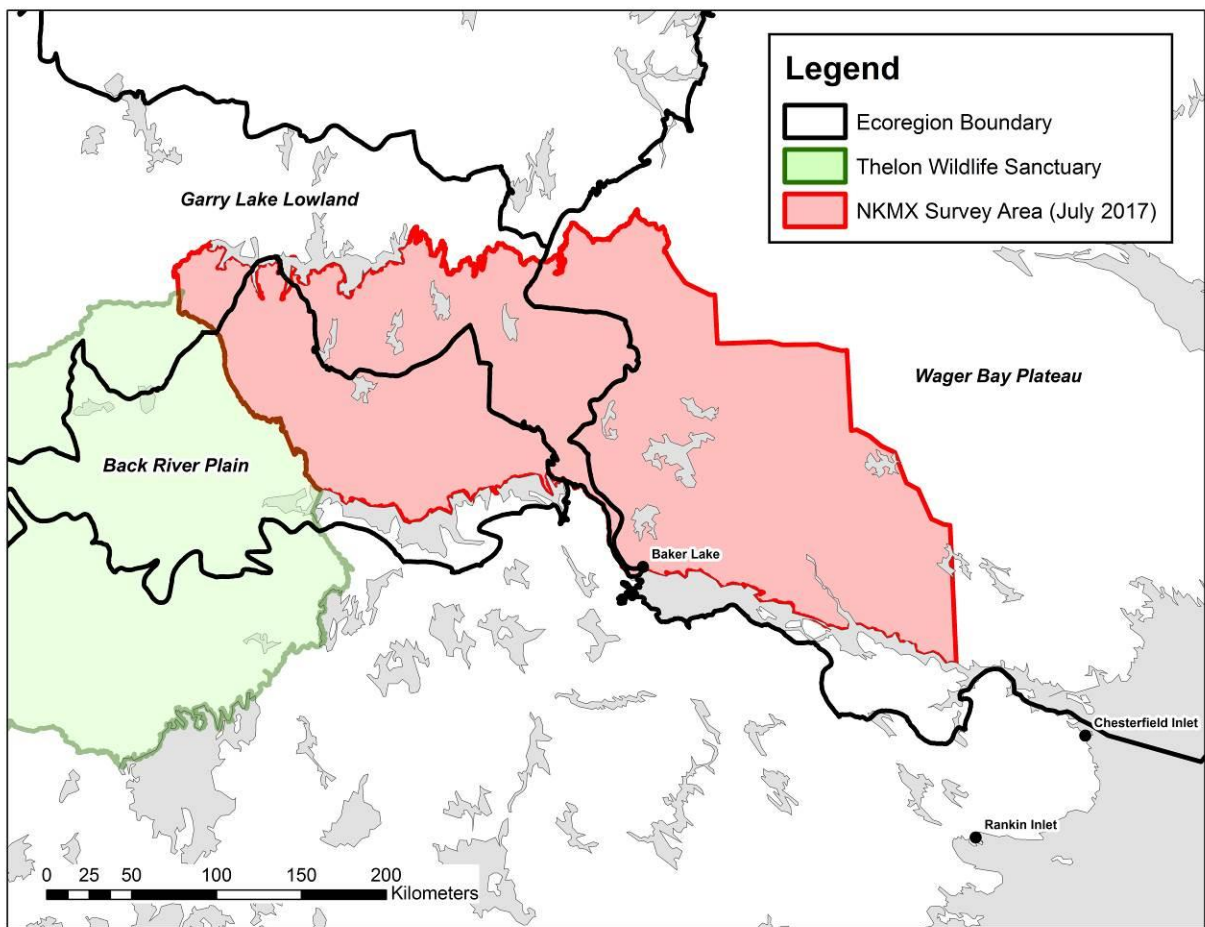


Figure 4. Ecoregions of the northern Kivalliq muskox subpopulation and survey area (After Wiken, 1986; Ecological Stratification Working Group, 1996).

Methods:

Two methods were used to determine the geographical extent of the July 2017 abundance survey: the first being the collection of *Inuit Qaujimaqatuqangit* (IQ) and local knowledge to determine contemporary distributions of the NKMX subpopulation, and the second: an examination of past survey extents and estimates based on muskox observation data. IQ and local knowledge were collected and compiled during annual consultation visits with the communities of Rankin Inlet, Baker Lake, Chesterfield Inlet and Naujaat. The whole of the information collected was then used to help determine subpopulation boundaries and survey study area extents. Once the survey study area was designated, systematic transects were drawn every 7.0 kilometers, with a random starting point. Survey transect placement was the same as that used in July 2012, with some necessary additions and/or extensions to accommodate hypothesized range expansion (Campbell and Lee, 2013). All transects were placed perpendicular to the longitudinal axis of the survey area (Campbell and Lee, 2013). Transects were numbered west to east and oriented north-south across major riparian habitat as in previous Kivalliq based muskox surveys (Fournier and Gunn, 1998; Campbell, 2017; Campbell and Settingington, 2006; Case and Graf 1986; Graff et al. 1989; Mulders and Bradley 1991). Transects were flown at an altitude of 152 meters (500 ft.) above ground level (agl) which, when configured on the survey planes wing struts, provided a cumulative left side and right-side observer strip width of 2,000 meters (1,000 meters per side). The 2,000-meter strip width yielded 29.2% coverage of the entire survey area (**Figure 5**). Due to the size of the study area, the relatively limited data on muskox densities within much of the study area, and time and other logistic limitations, we decided to allocate all the survey effort into one systematic random transect survey. We also used this same allocation of effort during the previous July 2012 survey of the NKMX population.

Due largely to the exceptional sightability of muskox in July, visual transect survey methods are widely accepted as being the most cost-effective means of estimating muskox populations, while also still providing an acceptable level of precision (Case and Graf, 1986; Graf and Case, 1989; Graf *et al.*, 1989; Gunn, 1995; Mulders and Bradley, 1991). The July 2017 visual survey was flown using a Cessna 206 Grand Caravan high wing single engine turbine aircraft, based out of Rankin Inlet and Baker Lake. To facilitate distance sampling techniques, strip widths of 0 to 250 meters, 250 to 500 meters, 500 to 750 meters and 750 to 1,000 meters were established on the wing struts on both sides of the aircraft using streamers to mark off the 0 meter, 500 meter and 1,000 meter markers and tape to delineate the remaining 250 and 750 meter segments (Buckland *et al.*, 1996; Buckland *et al.*, 2004; Buckland *et al.*, 2010). Strip width (w) was calculated using the formula of Norton-Griffiths (1978, **Figure 6**). The strip width area for density calculations was 1,000 meters out each side of the aircraft, for a total of 2,000 m strip width along each transect. To investigate the accuracy of distance bins, each observed group of muskoxen was overflown at survey

altitude and a waypoint of the exact location of the group recorded. Following any deviations from the transect to mark the position of groups, the aircraft would backtrack, parallel to the transect, and then rejoin the transect 1 to 2 kilometers behind the point of departure thus ensuring continuous observations along each transect. Survey altitude was maintained as close as possible to 152 m above ground level (agl.) using a radar altimeter. Ground speed was maintained between 175 and 195 kilometers per hour. The July 2017 abundance survey was initiated on July 21 and completed July 29, 2017.

The survey was flown using an independent double observer pair, sight-re-sight method (Borchers et al., 1998; Buckland et al. 2010; Laake, et al., 2008). To configure the double observer pair and distance sampling methods, we employed a survey crew of 7; two (2) data recorders/navigators (one in the front right seat and the second in the rear left seat), two left side observers, two right side observers and the pilot in the front left seat (**Figure 7**). We installed visual barriers between each of the left and right-side front (primary) and rear (secondary) observers to ensure no visual cues to muskox presence could be passed between same side observers. Additionally, we isolated all intercom systems between the front observers, data recorder and pilot, and the rear observers and data recorder. We also installed a quick intercom link between the front and rear in case of emergency. As part of the double observer pair sampling method, front and rear observers on both the left and right side switched between the front and rear positions halfway through the day though remained on their designated sides. This switching between front and rear positions was important to determine potential sightability, issues either with aircraft related limitations to viewing, and/or differences between observer ability.

Observations from all survey crew members were recorded along with the observer's role and position. Where a dedicated observer was indisposed, the data recorder would move to the appropriate side to temporarily cover that position. In the case, this was to happen to the front left observer, and then the pilot, when feasible, would temporarily cover that side. For survey estimates, only observations from the four dedicated observers were used. Two of the selected observers, one for each side of the aircraft, had experience surveying wildlife visually from aircraft while the two remaining observers were selected by the local HTOs and were both Nunavut Inuit who had hunting grounds located within the survey area (Rankin Inlet, Baker Lake, Chesterfield Inlet, and Naujaat). The observers were further divided into front and rear teams, each isolated from the other using visual barriers between the seats as well as isolated through the use of two independent, intercom systems monitored by each of a front data recorder/navigator and a rear data recorder/navigator. The pilot's responsibilities were to monitor air speed and altitude while following transects pre-programmed on a Garmin Montana 650 T geographic positioning system device (GPS). The data recorder/navigators were responsible for monitoring a second and third identically programmed GPS unit for the purposes of double-checking the position, as well as to record the waypoints and numbers of observed muskox groups, composed of adults and calves, on data sheets. The responsibilities of

the observers were to, constantly and thoroughly, search their 1,000-meter strips and call out numbers of muskox within each of the delineated bins marked out on the wing struts. All observations were separated into adults and calves within each designated 250-meter-wide sub-strip. In addition to binning observations, actual group locations were also recorded by flying off transect to each observation to record position. The rear right and front left observers, the pilot and the two data collector/navigators remained consistent throughout the 2017 survey. Though calves were recorded, only counts of adults and yearlings were used in the final population estimate.

Statistical Analyses:

Survey data collected within the strata were analyzed using the Jolly method (1969). This method has been used effectively for several decades to estimate the abundance of numerous wildlife populations including muskox (Campbell and Settingington, 2006; Jolly, 1969; Mulders and Bradley, 1991). Only counts of adults and yearlings (> 1 year old) were used for the final population estimates and lake areas were not subtracted from the total area calculations used in density calculations.

Trend Analyses:

For the purposes of determining the significance of any change detected, we first conducted a z-test to compare the most recent population estimate (2017) and the previous population estimate (2012) to assess any significant difference in the population estimates. Specifically, we compared the 2017 population estimate to the 2012 population estimate using equation 5.3 of Thompson *et al.* (1998):

$$z = \frac{Y_{2017} - Y_{2012}}{\sqrt{\text{Var}(Y_{2017}) + \text{Var}(Y_{2012})}}$$

Where:

- Y = Muskox Population Estimate
- z = z Statistic;
- Yx = Population Estimate for Year
- $\text{Var}(Yx)$ = Variance of the Population Estimate

We then compared the 2017 population estimate to the 1999 population estimate. We used the two-tailed probability of the z statistic because there was no *a priori* prediction about whether there would be an increase or decrease in the population size. Hence the research hypothesis stipulated that there is a significant difference between 2012 and 2017, and the null hypothesis stated that there is no significant difference. To further explore potential differences between the 2017 and 2012 population estimates, we used Monte Carlo

computer simulation methods. We assumed a log-normal distribution and built a probability distribution for each survey through random draws ($n = 1,000,000$) that were based upon the population estimate and standard error of each aerial survey. Several levels of difference between the two surveys were then assessed. We plotted the three survey estimates and applied a simple linear model, Poisson (log) model, and binomial (logit) model to further assess the observed changes in abundance.

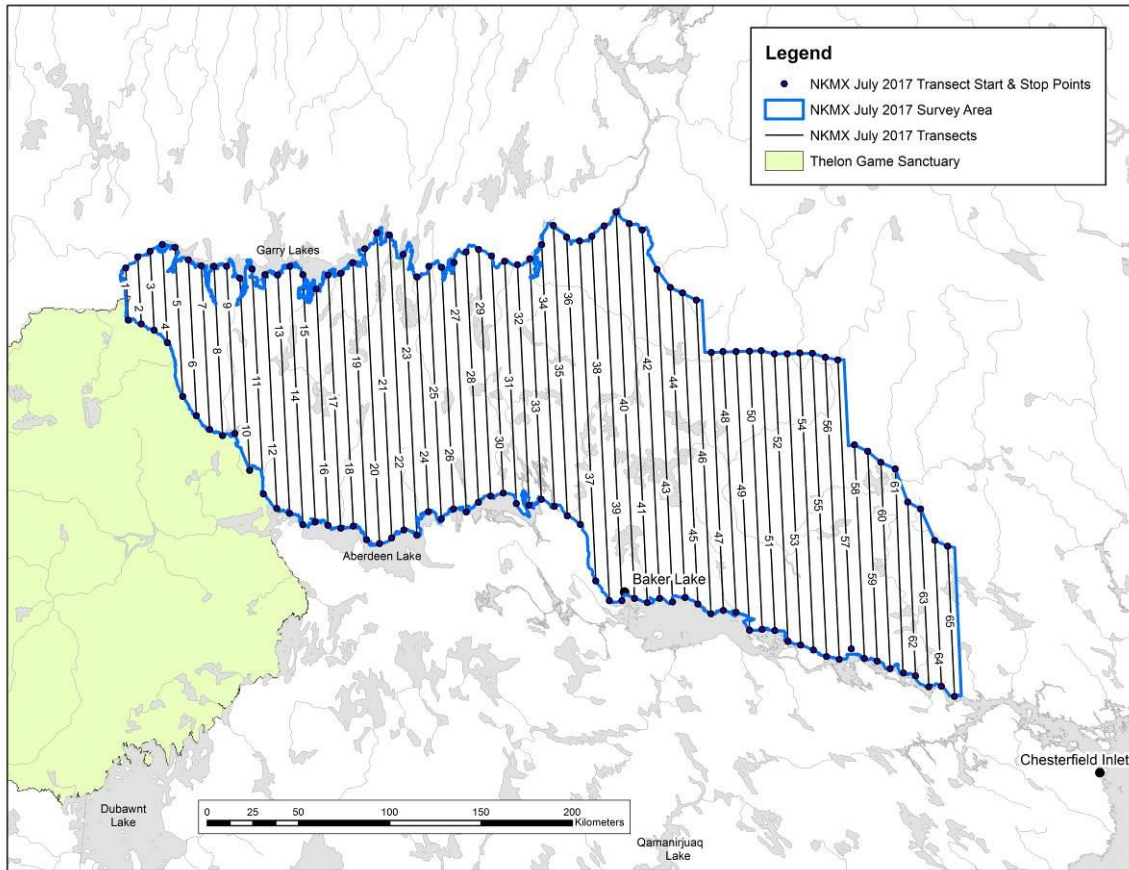


Figure 5. Study area and transects of the July 2017 northern Kivalliq muskox survey. The study area delineated based on estimated densities from IQ studies and past survey results.

$$w = W * h/H$$

where:

W = the required strip width;

h = the height of the observer's eye from the tarmac; and

H = the required flying height

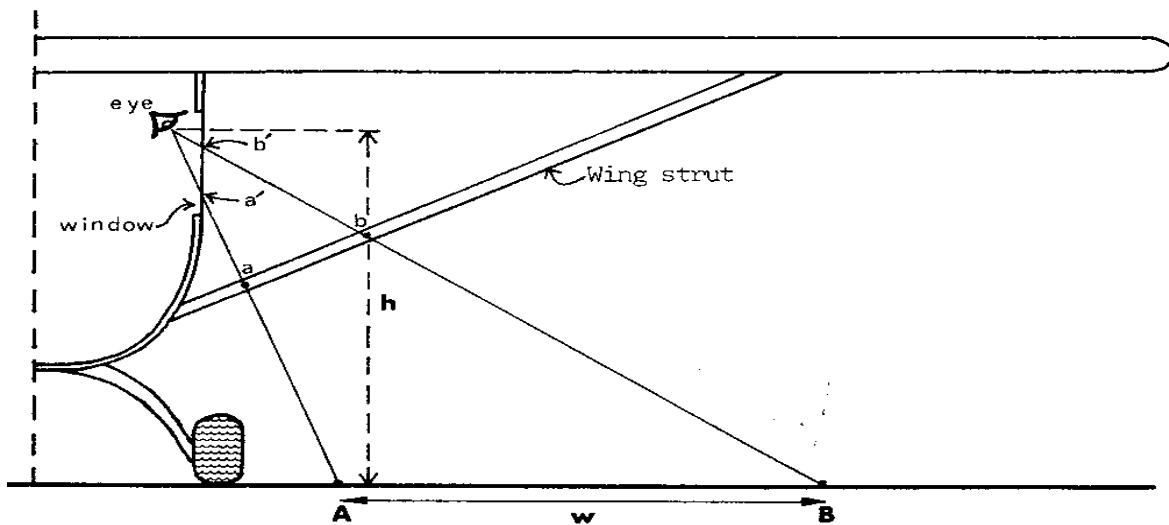


Figure 6. Schematic diagram of aircraft configuration for strip width sampling (Norton-Griffiths, 1978). W is marked out on the tarmac, and the two lines of sight $a' - a - A$ and $b' - b - B$ established. The streamers are attached to the struts at a and b . a' and b' are the window marks.

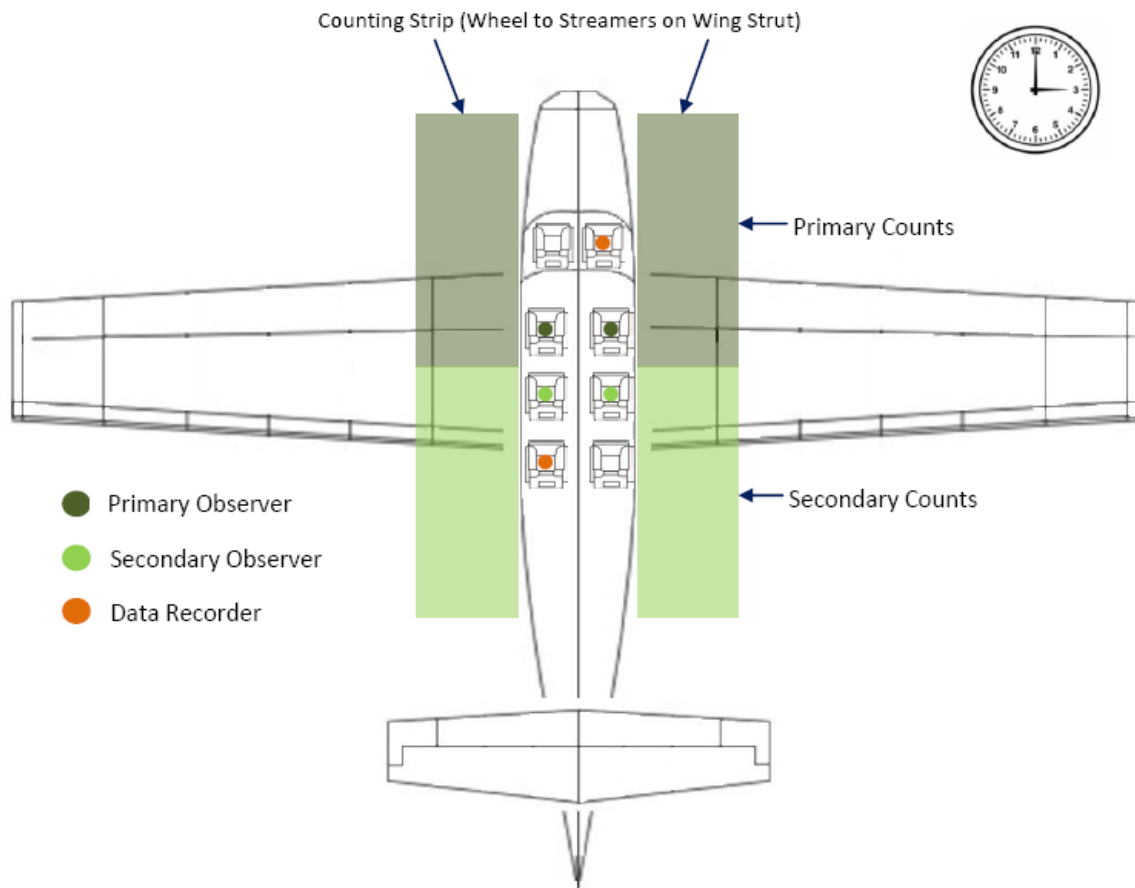


Figure 7. Observer position for the double observer sight-re-sight and distance sampling methods deployed on this survey. The secondary (rear) observer calls out muskox not seen by the primary (front) observer after the muskox have passed the main field of vision of the primary observer to their 9 (left side) or 3 (right side) o'clock. The small hand on a clock is used to reference relative locations of muskox groups (e.g. "muskox group at 3 o'clock" would suggest a muskox group 90° to the right of the aircraft's longitudinal axis.).

Results and Discussion:

Initial results of the July 2017 muskox survey using Jolly (1969) indicate a continued increase in abundance from July 1999 through July 2017 (**Figure 8**). Current estimates show the northern Kivalliq muskox subpopulation to have increased from an estimated 1,522 (95% CI = 396; CV = 0.09) adult and yearling muskox in July 1999 to 2,341 (95% CI = 545; CV = 0.12) in July 2012, and 3,239 (95% CI = 1,050; CV = 0.16) by July 2017 (Campbell and Settingington, 2006; Campbell and Lee, 2013).

There was not a significant statistical difference between the 2012 and 2017 population estimates ($z = 1.55$, $p = 0.12$) using the z-test. However, there was a significant statistical difference ($z = 2.83$, $p = 0.0047$) between the 1999 mean estimate of 1,522 (CI = 843—2201, CV=0.22) and the 2017 mean estimate of 3,239 (CI = 2221—4257, CV=0.16) using the z-test, which is consistent with information gathered through local hunters that the numbers of muskox observed in the area have increased over the past two decades. In the Monto Carlo simulations, 92.4% of the runs demonstrated an increase of 100 animals from 2012 to 2017 (**Figure 8**). See **Table 2** for levels of increase ranging from 100 to 500.

Table 2 – Percentage of Runs that resulted in an increase, for each level of difference value explored.

Level of Difference between 2012 and 2017 (absolute numbers)	Percentage of Runs demonstrating an increase by the Value indicated
+100	92.4%
+200	89.2%
+300	85.3%
+400	80.5%
+500	74.9%

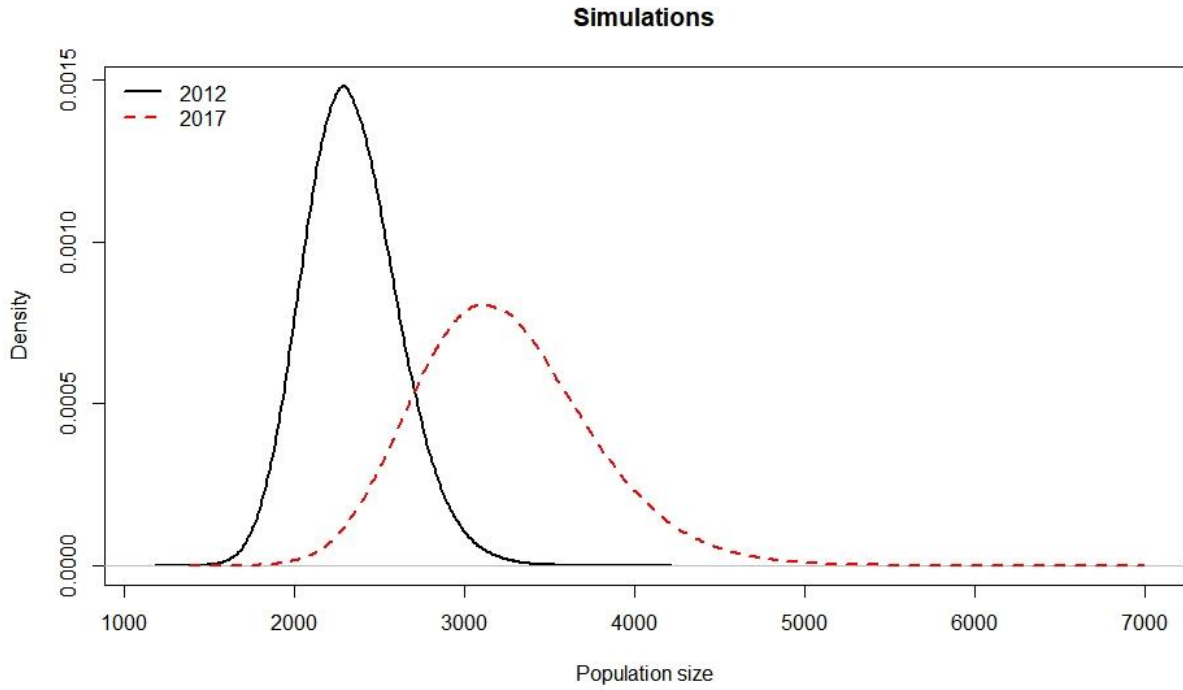


Figure 8. Distributions that were generated and used in the Monte Carlo simulation exercise to explore differences between the northern Kivalliq muskox 2012 and 2017 aerial surveys.

Generalized Linear Models:

We also fit a simple linear model, Poisson (log) model, and binomial (logit) model to the three years of survey data. The observations and models suggest population growth occurred between 1999 and 2017 in NKMX. Based on the simple linear regression model ($R^2 = 0.92$, $p = 0.18$), the population was increasing at an average rate of 4.3% per year from 1999 to 2012 and 6.5% from 2012 to 2017 (**Figure 9**). Carrying capacity for the population is unknown.

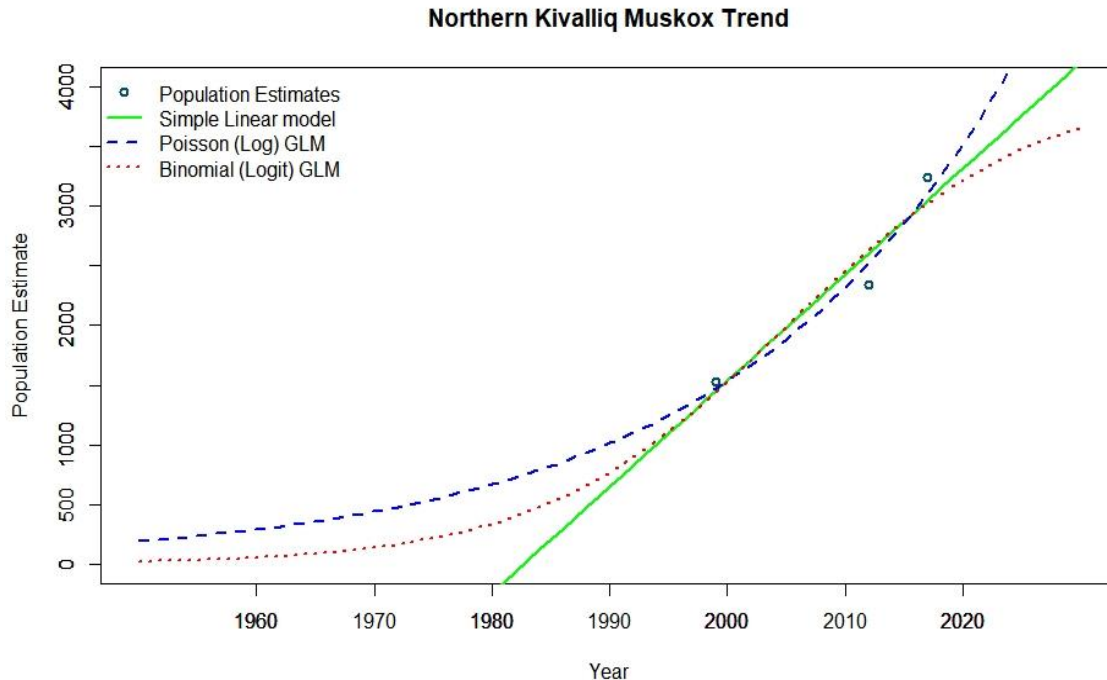


Figure 9. Plots of northern Kivalliq muskox population estimates with generalized Linear Models.

As with the CKMX subpopulation (MX-13), survey observations also suggest an expansion of the NKMX subpopulation's geographic distribution, eastwards (**Figure 10**). Survey areas, based on the extents of previous survey observations and IQ, have increased from 35,378 Km² in July 1999 to 49,302 Km² in July 2012 and to 60,576 Km² by July 2017, yielding an estimated increase in NKMX range area, between 1999 and 2017, of 41% (**Table 3**). A comparison using survey observations of muskox to construct a minimum convex polygon show continued expansion of the NKMX primarily to the east and southeast between July 1999 and July 2017 (Campbell et al. 2012) (**Figure 11**). Although our survey was not designed to estimate predator densities, in total we observed five wolves and no grizzly bears in July 2017. This provides no indication of quantitative changes in

predator numbers from July 2012, when we observed 8 wolves and single grizzly bear (**Figure 12**).

Table 3. A summary of northern Kivalliq muskox survey results north of Chesterfield Inlet/Thelon River and west to the NWT/Thelon Game Sanctuary boundaries (1999–2017).

Year	Total stratum area (km²)	Population estimate	Standard error	CV	Lower 95% CI	Upper 95% CI	% calves	Authors
1999 (July)	35,378	1,522	331	0.22	843	2,365	12.5	Campbell & Setterington, 2006
2012 (July)	49,302	2,341	275	0.12	1,796	2,886	13.2	Campbell & Lee, 2013.
2017 (July)	60,576	3,239	510	0.16	2,228	4,249	17.0	This Study

In addition to range expansion, the relative densities of the NKMX subpopulation have also increased when compared to the July 1999 abundance survey (**Table 4**). Relative densities of adult muskox within survey areas have increased from 0.043 muskox/km² in July 1999, to 0.048 muskox/km² in July 2012, and most recently, to 0.054 muskox/km², in July 2017. Relative densities within the 2017 survey extents are consistent with muskox densities of adjacent subpopulations, outside the survey area, and suggest that population stability and/or growth had occurred, compared with earlier findings of density in NKMX. A survey flown in July 1998 in the vicinity of the Thelon Game Sanctuary found between 0.021 and 0.063 adult muskox/km² (Bradley et al., 2001). Surveys flown to the north of the NKMX survey area in the vicinity of the Queen Maud Gulf (1996) found between 0.030 and 0.090 adult muskox/km², while a survey flown over the Adelaide Peninsula in June 1992 recorded 0.78 adult muskox/km² (Gunn et al., 1996; Nishi, 2001). Further north on the Boothia Peninsula, a survey flown in late July-early August of 2017 and recorded 0.084 adult muskox/km². There was an assessment of abundance and relative densities north of the survey area from the July 2000 Northeast Kitikmeot muskox survey (**Figure 13**). This July 2000

survey led to estimates which suggested stability in muskox abundance in Northeast Kitikmeot since the late 1990s, with reported relative densities within the southern extents of the survey area extending to the north shores of Garry Lakes of 0.056 adult muskox/km². Northern extents of the 2000 survey, extending to the northern shores of Adelaide Peninsula, reported adult muskox densities of 0.030/km², which was well below the June 1992 findings of 0.78/km² (Campbell and Settingington, 2006; Gunn et al., 1996). The most recent survey north of MX-10 was completed in 2017 for the MX-08 management unit. The results from this survey showed the population estimate increased significantly from 554 in 1995 and 1058 in 2006 to 3649 muskoxen in 2017. The increasing population in MX-08 may be an indication that the same trend could be occurring in the northern portion of MX-10 that was not included in this survey.

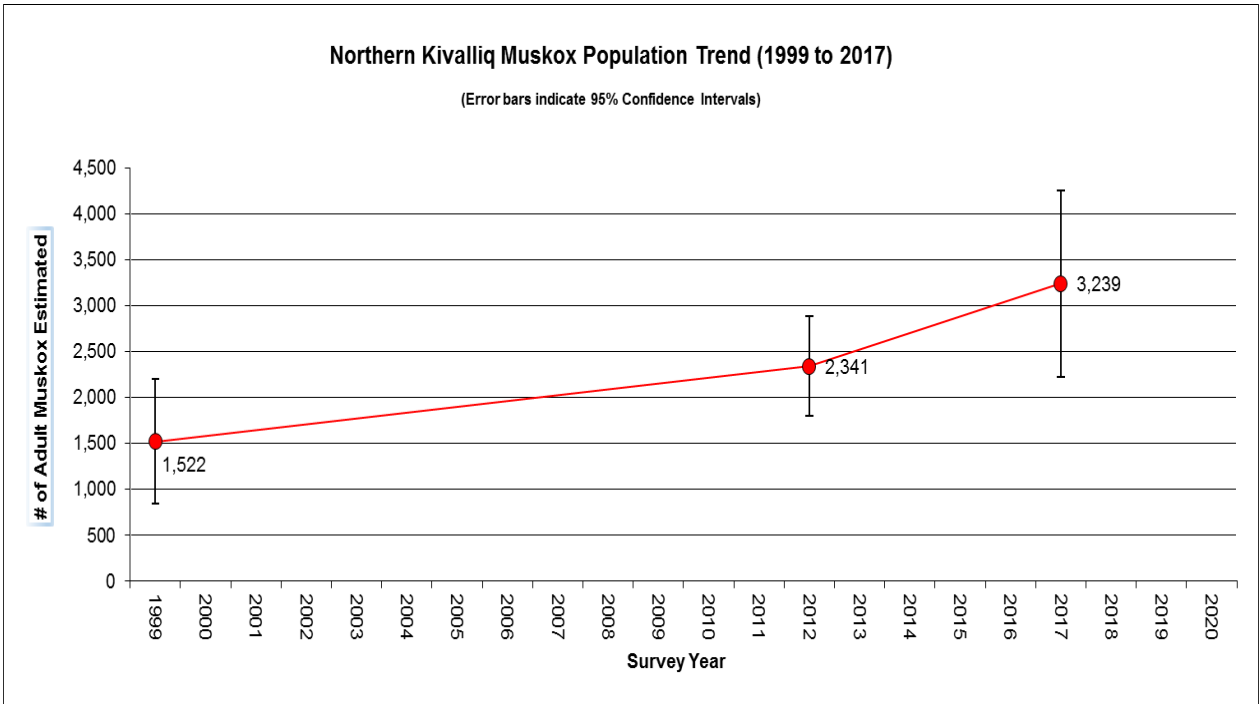
Calf proportions within the NKMX subpopulation have increased between survey years: from 12.5% in July 1999, to 13.2% in July 2012 and to 17.0% in July 2017. The 2017 calf proportions are consistent with the estimated productivity that would be related with a stable to increasing abundance. An examination of muskox abundance on the Adelaide Peninsula across three abundance survey years including July 1986, June 1992, and July 2000, suggested a period of strong growth between July 1986 and June 1992, which was reflected in an estimated increase in abundance from 213 (Coefficient of Variation, CV = 0.59) in July 1986 to 1,165 (CV = 0.33) adult muskox in July 1992. However, the high CVs for both surveys make it difficult to determine the confidence of this increase, although actual observations support the likelihood of an increase.

On-transect observations of animals increased from 44 adult muskox in 1986 to 233 adult muskox in 1992. Over the same survey periods calf proportions were reported as 17.1% in 1986 and 6.6% in 1992 (Gunn et al., 1996). While a survey flown in July 2000 over the Adelaide Peninsula did not subsample nor estimate the population of the Adelaide Peninsula due to low abundance, an examination of the July 2000 observations over the same survey area covered by Gunn et al. (1996) revealed a total count of 142 adult muskoxen and calf proportions of 14.8%. Examining these past trends suggest that caution must be exercised when extrapolating calf proportions as an indication of longer-term trends. Additionally, calf proportions can vary widely from year to year. With this caution in mind, a comparison between calf proportions recorded in 1986, just prior to a reported increase in muskox relative densities within an area close to the July 2017 survey area, though qualitative, does corroborate the likelihood of the observed calf proportions in July 2017 as being consistent with increasing muskox abundance between July 2012 and 2017, when compared to a similar muskox subpopulation with a similar relative distribution and shared Ecozone.

Overall, the July 2017 NKMX surveys CV exceeded ten percent of the mean estimate, suggesting the need for stratification into two to three strata in future. The more clumped distributions of muskox encountered in 2017 were the main cause of the increased CVs. Because of the relatively high variance within the current analysis, these results should be used with caution.

Table 4. Data summary for the July northern Kivalliq muskox abundance survey, Nunavut.

Statistic		July 1999	July 2012	July 2017
Maximum number of transects	N	136	205	227
Number of transects surveyed	n	28	60	65
Total stratum area (km ²)	Z	35,378	49,302	60,576
Transect area (km ²)	z	7,276	14,405	17,600
Number of adult muskoxen counted	y	313	684	941
Number of Calves Counted		39	90	160
Muskox density (muskox/km ²)	R	0.043	0.048	0.054
Proportion Calves Observed		12.5 %	13.2 %	17.0 %
Population estimate (Adult Muskox)	Y	1,522	2,341	3,239
Population variance	Var (Y)	109569	75543	259659
Standard error	SE (Y)	331	275	510
95% confidence limits	(±)	679	566	1,050
Coefficient of variation	CV	0.22	0.12	0.16



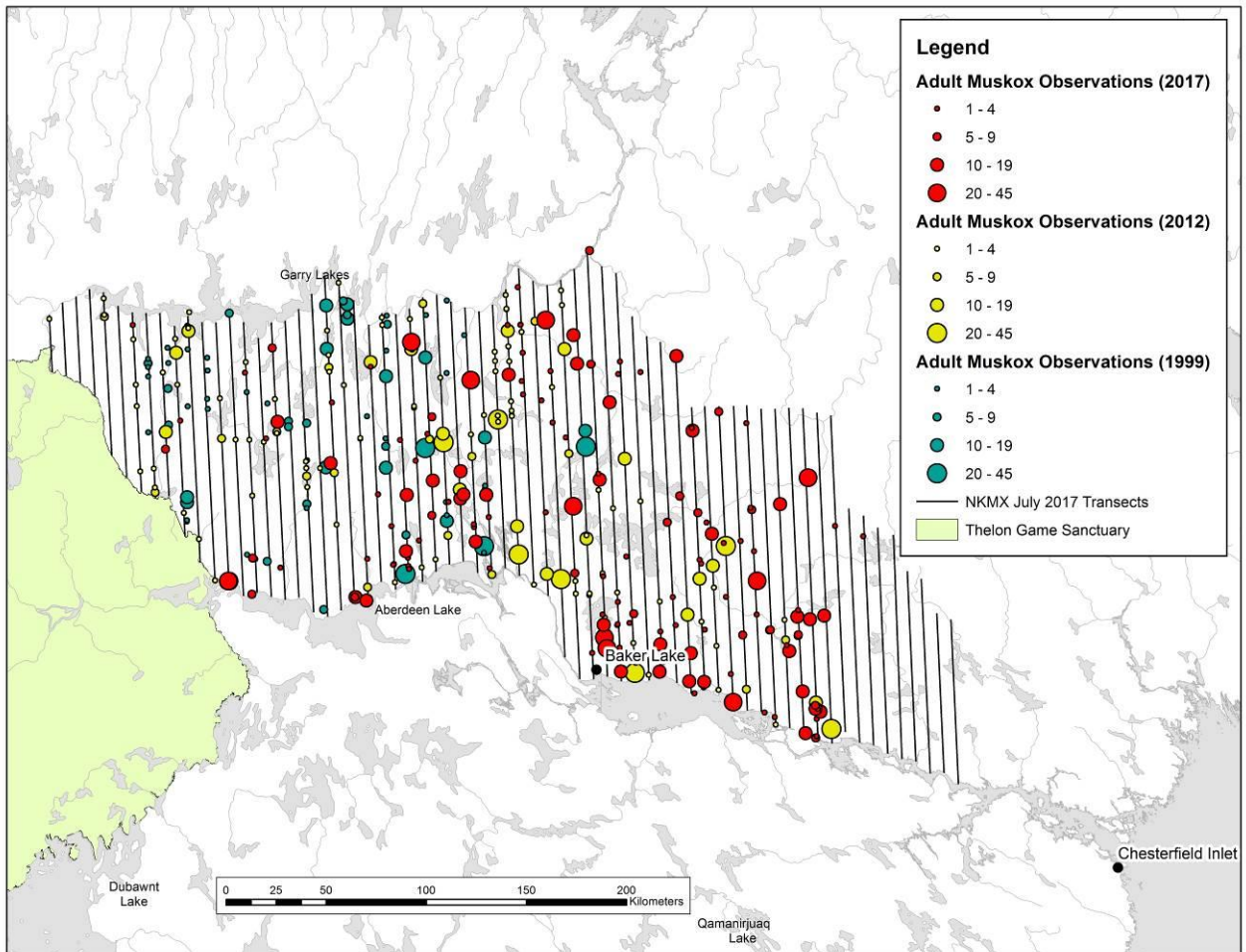


Figure 10. Northern Kivalliq muskox aerial survey observations of muskox from July 1999 (blue), to July 2012 (yellow), and July 2017 (red).

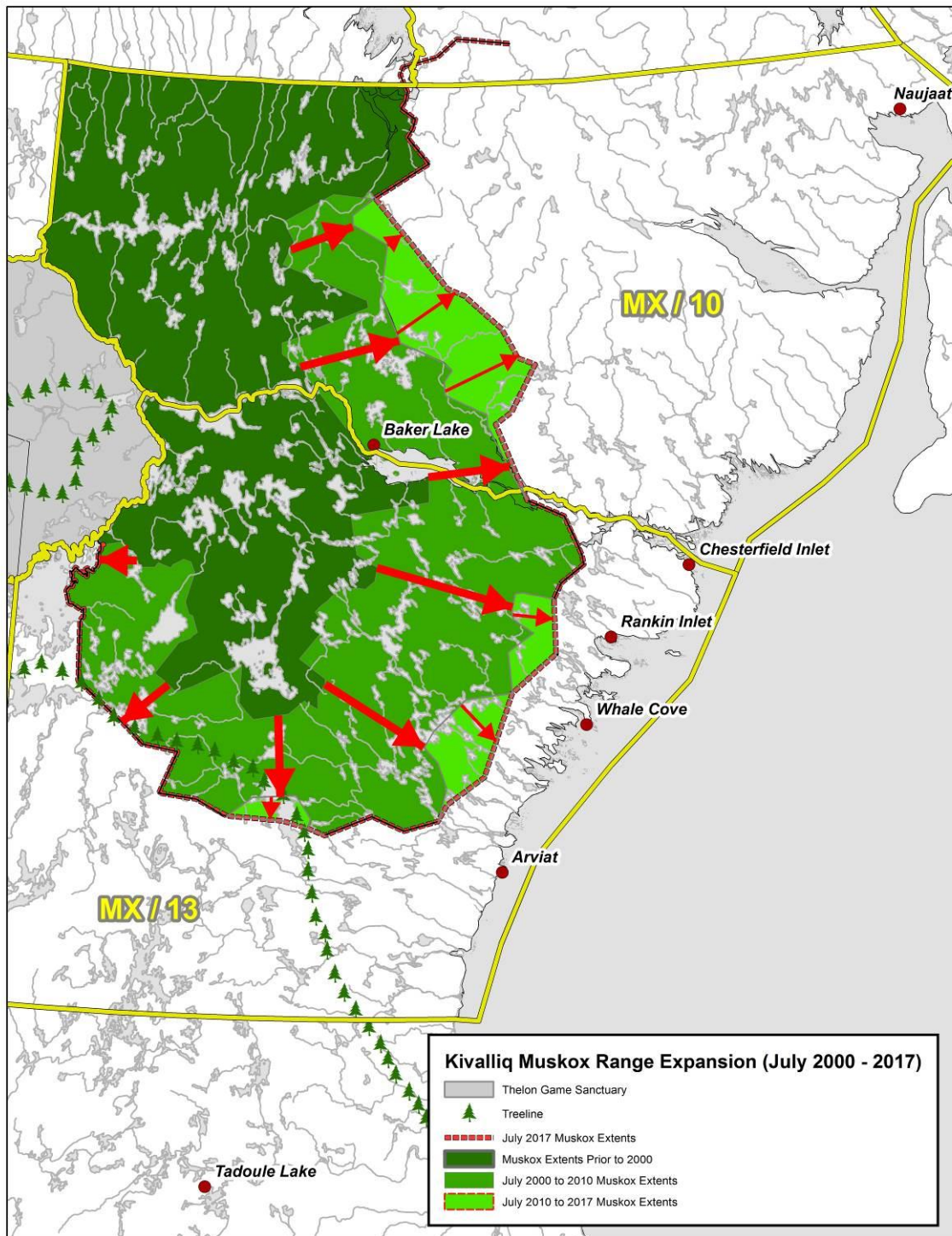


Figure 11. Indicated central and northern Kivalliq muskox range expansion between July 1999 and July 2016 (Central Kivalliq) and July 2017 (Northern Kivalliq).

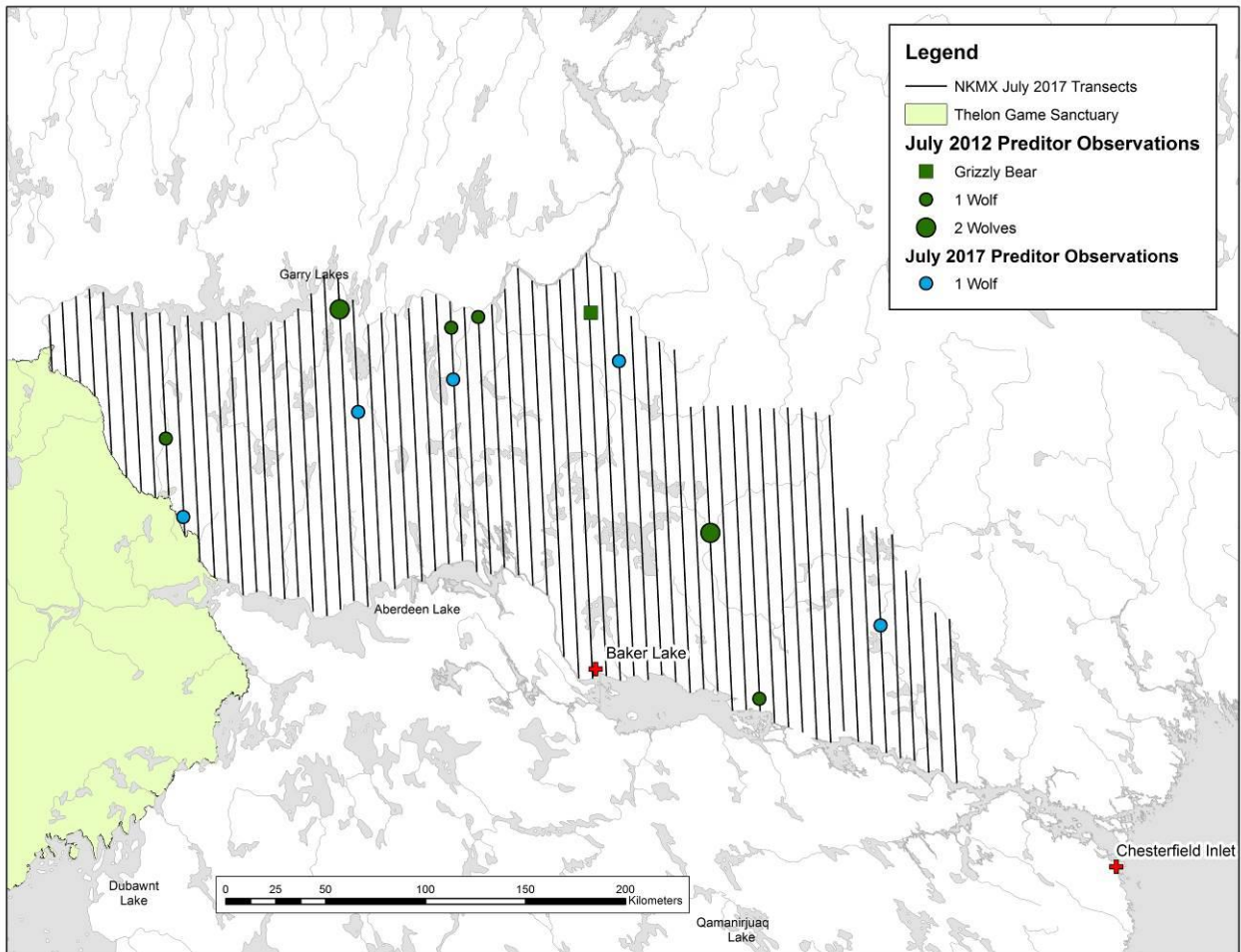


Figure 12. Predator observations during the July 2012 and 2017 northern Kivalliq muskox aerial surveys.

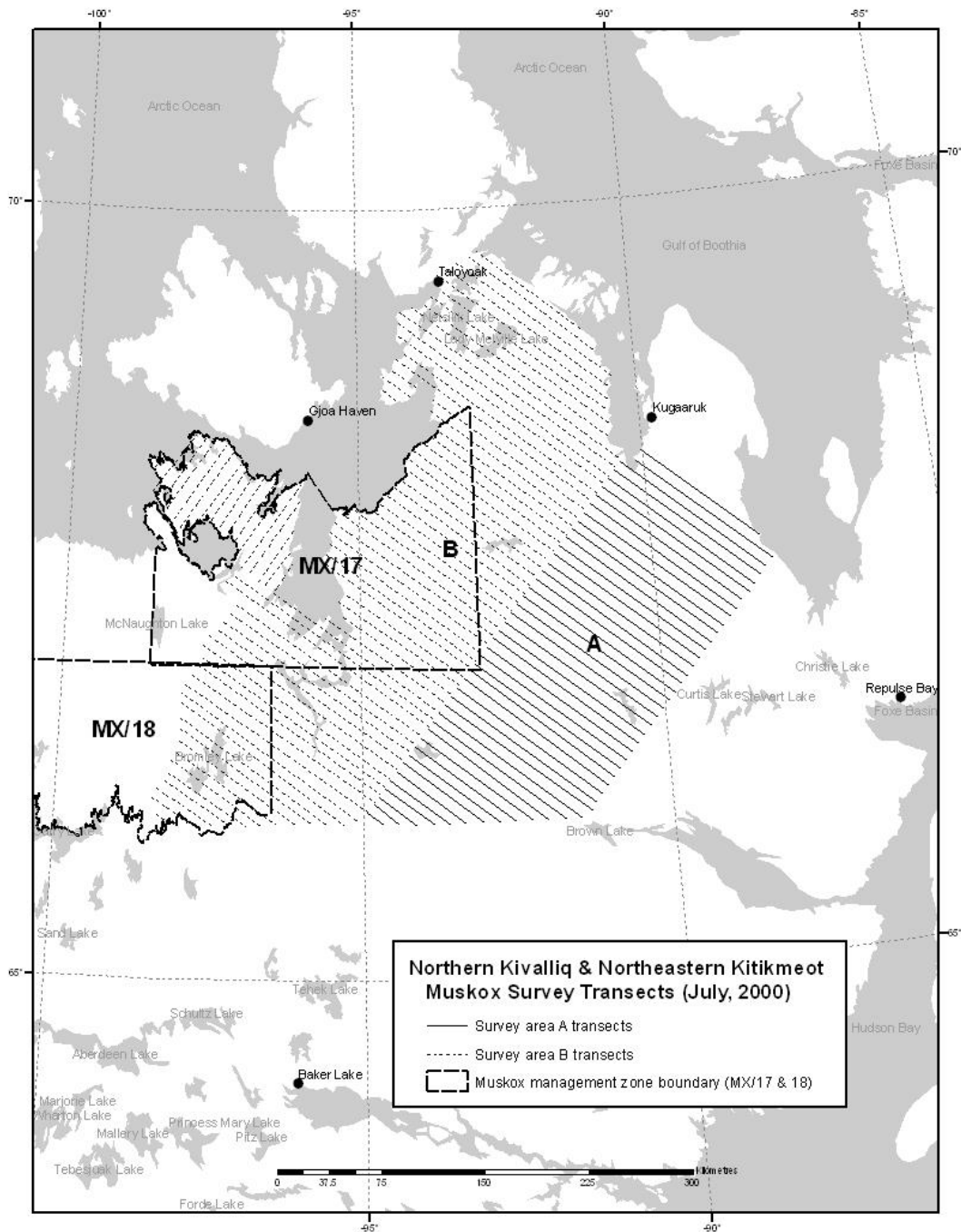


Figure 13. Survey areas and the transects flown over the northeastern Kitikmeot survey area in July 2000 (Campbell and Settingington, 2006).

Acknowledgments:

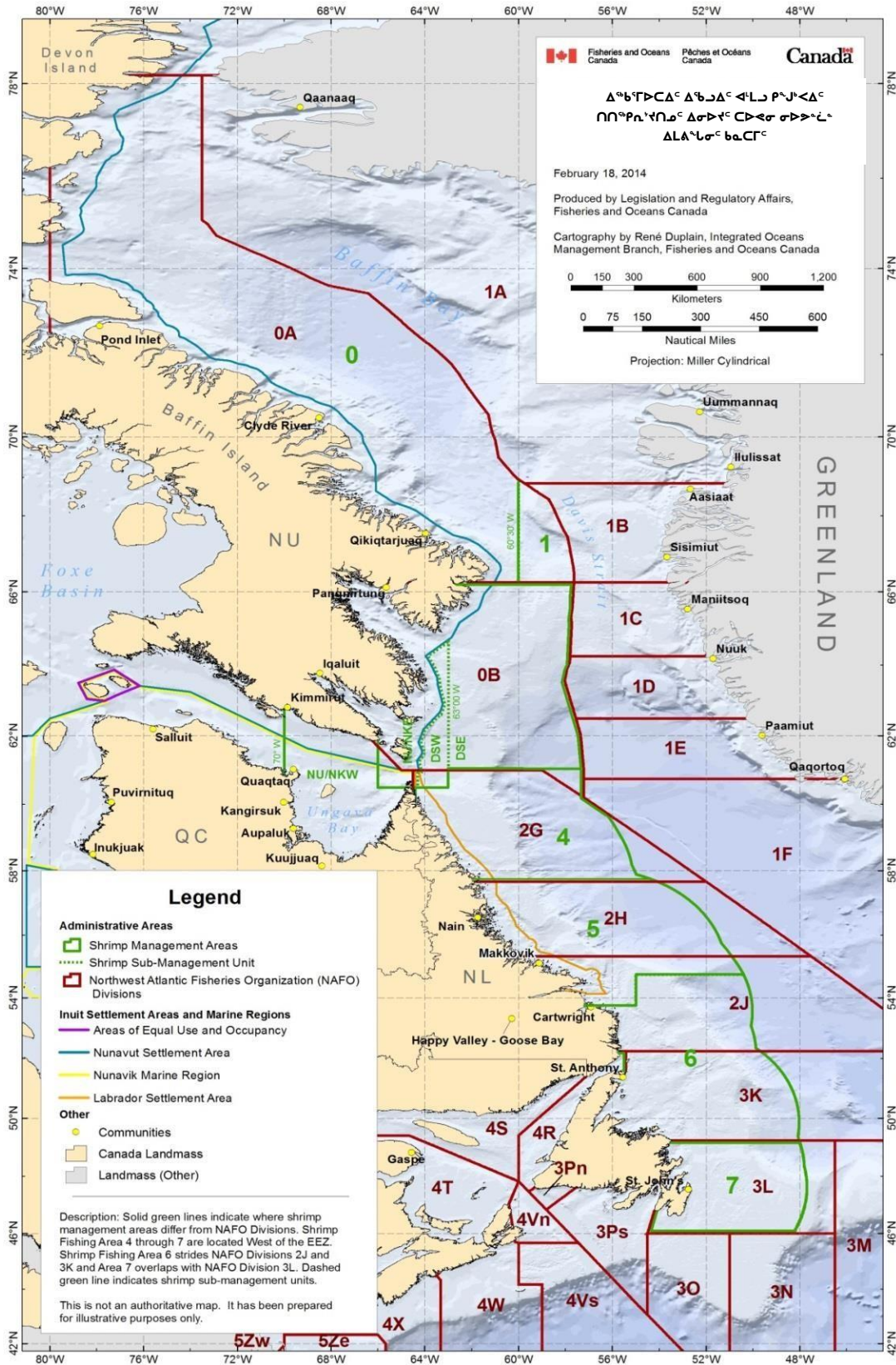
We would like to thank the Kivalliq Wildlife Board, and the Baker Lake, Rankin Inlet, Chesterfield Inlet, and Naujaat HTOs for their ongoing support of muskox research programs within the northern Kivalliq. I would like to extend a special thanks to our community based observers Quentin Quinangnaq, Timothy Evviuk, and Leo Ikakhik for their professionalism and keen observation skills. Keenan Lindell, Kivalliq Regional Wildlife Technician, commendably handled travel, lodgings, and worked with the HTOs to select and manage observers on top of his many other survey-related tasks including his participation as an observer. We would also like to thank our Pilot Paige Moritz for her skillful handling of our survey aircraft, bringing us to a safe and successful conclusion to the 2017 muskox survey program. We would also like to thank Lynda Orman, the former Manager of Wildlife Research, for her support of the Kivalliq Ungulate Monitoring Program. We are also grateful to the Nunavut Wildlife Management Board for their continued financial support of the Kivalliq ungulate monitoring program.

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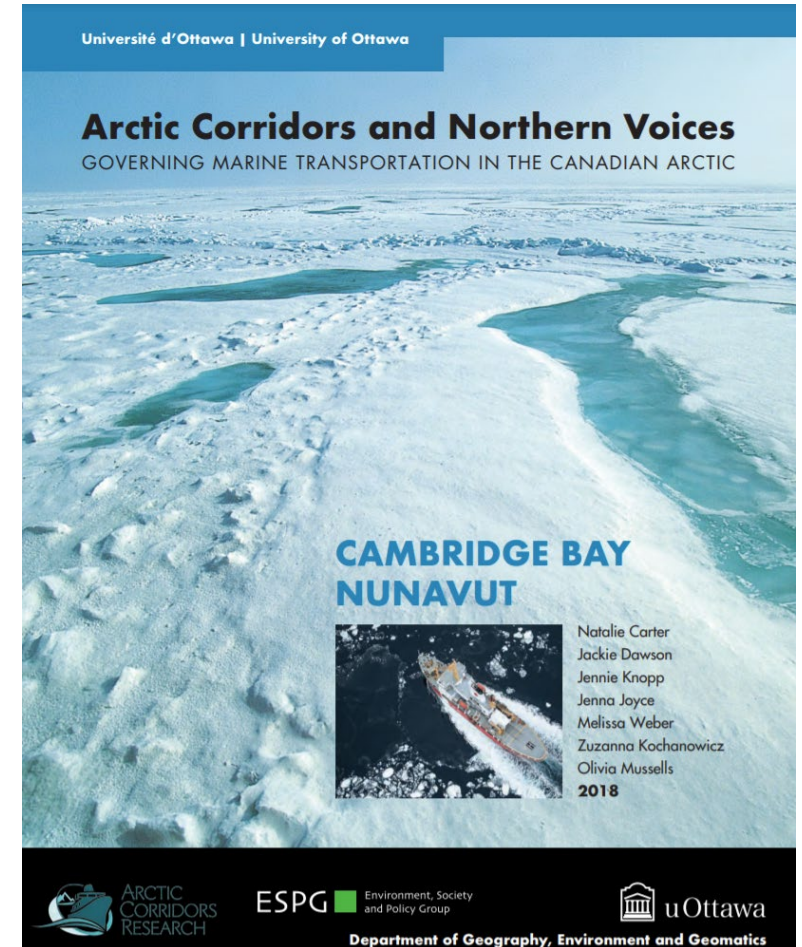


TRANSPORT CANADA PILOT PROJECTS IN CAMBRIDGE BAY

SEPTEMBER 2021

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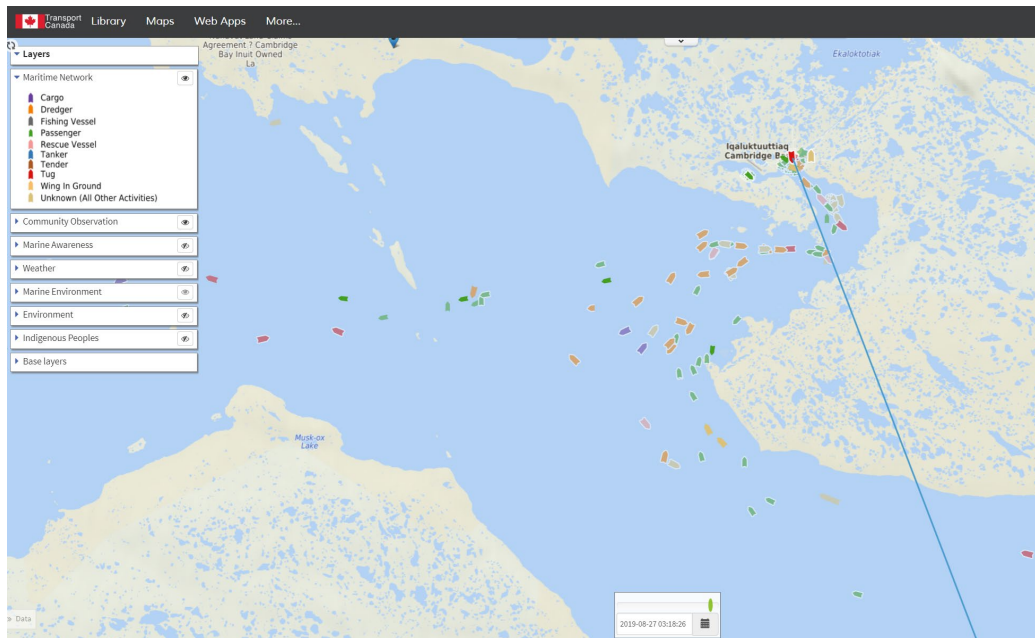


TRANSPORT CANADA OCEANS PROTECTION PLAN PILOT PROJECTS IN THE ARCTIC

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ENHANCED MARITIME SITUATIONAL AWARENESS (EMSA)



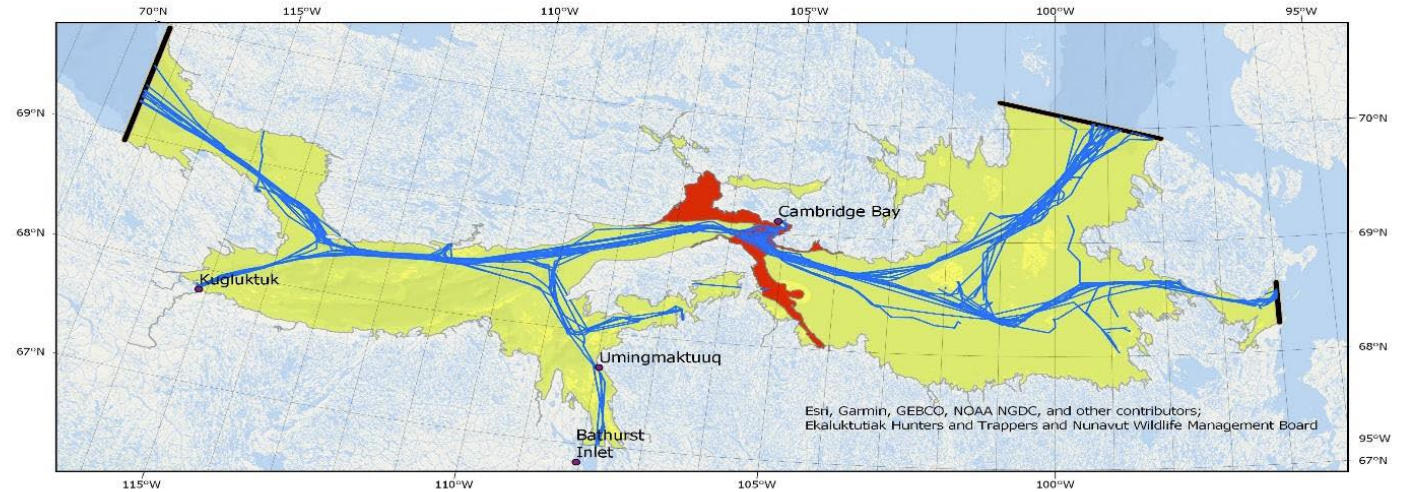
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7C Vessels Intending to Navigate in Kitikmeot Region in Canada's Northern Waters



- Inuit Community
- Boundary Lines
- 2018 Track Lines
- Area of Intensive Winter Travel by Cambridge Bay Community Members
- Area of Winter Caribou Crossing

Data on this map reflects information from Automatic Information System (AIS) reports for vessels, as received both from satellite reports (space-based AIS) and radio tower reports (terrestrial AIS).

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CONCLUSIONS

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**SUBMISSION TO THE
NUNAVUT WILDLIFE MANAGEMENT BOARD
FOR DECISION AND RECOMMENDATION**

Issue: Access Fees Charged to the Nunavut Fishing Industry by DFO for Shrimp in the WAZ and EAZ

Authority

Given that access fees are a key component of commercial fisheries management, the NFA believes the NWMB is the appropriate governing body to address this issue. Under Section 5.2.34 (d) of the Nunavut Land Claims Agreement, the NWMB has the authority to approve plans for “(i) management, classification, protection, restocking or propagation, cultivation or husbandry of particular wildlife...” Under Section 5.3.8, which governs section 5.2.34, “when the NWMB makes a decision, it shall forward that decision to the Minister.”

Background

Access fees are standard practice in most non-Indigenous fisheries where fishing areas are not governed by Indigenous Land Claims Acts, Agreements, or Treaties. When fees are properly implemented and evenly applied, NFA members have no problem paying these fees on their allocations. However, in the WAZ and EAZ shrimp fisheries there are two distinct issues on access fees which our members are facing which need to be addressed in terms of equity and fairness. At present, the access fees unilaterally charged to industry by DFO on shrimp (both *P. borealis* and *P. montagui*) are \$67.96/tonne. For *montagui* access fees in the WAZ Land Claims area, DFO simply applied the *borealis* fees that were being used in non-Land Claims areas. This appears to have been done without proper process, in both Nunavut and Nunavik.

WAZ Access Fees

- The Western Assessment Zone (WAZ) is situated fully within the Settlement Areas of Nunavut and Nunavik, where the Wildlife Management Boards have jurisdiction. Since the *montagui* and *borealis* fishery was established in this area, based on survey research which has been fully funded by industry and other stakeholders in Nunavut and Nunavik, DFO has been invoicing NFA members for access fees on both species at an equivalent rate. In total, the current access fees charged to the Nunavut industry for *borealis* and *montagui* in the WAZ are \$514,389 per annum.
- NFA has been made aware that the Nunavik industry has not paid access fees in the WAZ since the start of this fishery. It is understood that the Nunavik industry takes the view that this region is under Nunavik Marine Region Wildlife Board (NMRWB) management and therefore they should not have to pay access fees.

- In contrast, NFA members have paid the majority of their access fees in the WAZ, with one member interrupting payment after learning of the situation in Nunavik. Millions in access fees have been paid by Nunavut industry
- NFA also understands that for First Nations in southern jurisdictions no access fees are paid on their communal fishery allocations.
- The annual stock survey in the WAZ is completed by the Northern Shrimp Research Foundation (NSRF), an industry organization, and fully paid for by stakeholders in Nunavut and Nunavik, consisting of industry and the Government of Nunavut (GN). As summarized in Appendix 1, since the initiation of this survey in 2014, NFA has paid almost \$1.3 Million towards the survey costs, for 55.1% of the total costs. In total, Nunavut stakeholders have covered 76.3% of the \$2.35 Million in contributions made to NSRF since 2014 to cover the survey costs. DFO has not provided any financial contribution towards the costs of undertaking this critical annual survey.
- NFA is seeking a decision from the Board on whether DFO has the right to charge access fees in an area which is subject to decision making by the NWMB without the Board's prior consent and approval.
- In addition, although montagui has been obtaining a much lower price than borealis in the market on a consistent basis, as detailed in Appendix 2, DFO has been charging the same access fees per tonne for both species. This is especially significant this year as the montagui prices have dropped significantly, such that these access fees now account for a significant portion of returns, making the fishery break-even at best. With one member in this fishery not paying any fees they have a competitive advantage in the market for montagui as compared to the Nunavut industry.
- Members of the NFA are asking NWMB make a decision to implement a moratorium on access fees within the Nunavut Land Claims Area, for equity and consistency with Nunavik. .
- In particular, NFA is requesting the NWMB consider, as part of its decision-making review: the overpriced fee structure for montagui as compared to much higher-valued borealis; the competitive disadvantage faced by Nunavut Inuit Companies compared to Nunavik Companies, and the significant contribution made by Nunavut fishing companies towards research costs, in the context of fee revenue being intended for research.

EAZ Access Fees

- The Eastern Assessment Zone (EAZ) is located primarily outside of the NSA (other than NU/NK E). In this area the Wildlife Boards do have a role to play in making recommendations to the Minister
- This Shrimp Fishing Area (SFA) is comprised of three sub-areas (the only SFA like this), i.e. Davis Strait West (DSW), Nunavut/Nunavik East (NU/NK E), and Davis Strait East (DSE). Both DSW and NU/NK E are

considered commercial fishing areas while DSE is considered exploratory. DSE is very much a hit or miss fishery with limited harvests on an annual basis, somewhat similar to SFA 1.

- DFO is requiring NFA members to pay 50% of their access fees for DSE up front, regardless of whether they plan to fish in this area. With NFA members holding substantial allocations in DSE, this is a significant financial burden for access to an area that in most cases will not be fished. The total up front payment required for Nunavut's share of the DSE quota would be close to \$55,000.
- For the offshore commercial shrimp sector, the longstanding practice has been for areas that are considered exploratory or questionable in terms of fishing success that participants could pay access fees in 50 tonne increments, as required, if they desired to try fishing in these areas. This has worked well and minimized the burden on industry.
- DFO has indicated that the 50% up front is written policy and that it is now being implemented for Nunavut industry, even though it was not in the past.
- NFA is requesting that the NWMB make a recommendation to the Minister on access fees in DSE (or any other exploratory area) where payment can be made in 50 t increments, as per past practice and to recognize the exploratory nature of these areas.

Stakeholder Consultation

NFA has reached out to its primary stakeholders to obtain their views and input on these issues. As outlined in Appendix 3, this has included several email exchanges with representatives of stakeholders in Nunavut, including the Government of Nunavut (GN), Nunavut Tunngavik Inc. (NTI), and the Qikiqtani Inuit Association (QIA). A conference call for these stakeholders was held on January 26th and attended by representatives from the GN, QIA and the NWMB.

DFO has also been contacted to provide their input and to provide notice of NFA's plans to make a submission to the NWMB on the access fees issues. Note that NFA was directed by DFO to approach the NWMB on these issues, given the Board's decision and recommendation making roles in the WAZ and EAZ respectively.

Summary of Request

NFA is requesting from the Board the following decisions/recommendations:

- 1) For the WAZ:
 - a. A decision by the NWMB to place a moratorium on access fees within the Nunavut Land Claims Area;
 - b. In its review and decision-making process, consideration of equity of the Nunavut industry: overpriced fees based on the market price differential between borealis and montagui shrimp; competitive disadvantage faced by Nunavut as compared to the Nunavik industry, and; research

survey costs for the WAZ are primarily paid directly by Nunavut fishing enterprises and stakeholders, with no financial support from DFO.

- 2) For the EAZ, a recommendation on the following:
 - a. That access fees in DSE, as an exploratory area, be payable up front in 50 tonne increments as utilized by allocation holders.

Prepared by: Brian Burke, Executive Director, Nunavut Fisheries Association

Date: February 5, 2021

Appendix 1: Table of Contributions Toward Annual WAZ Shrimp Survey – 2014-2020

WAZ Survey Contributions		
2020		
NFA	\$163,500	50.0%
Makivik	\$163,500	50.0%
Total	\$327,000	100.0%
2019		
NFA	\$179,944	56.9%
Makivik	\$136,247	43.1%
Total	\$316,190	100.0%
2018		
NFA	\$217,994	68.9%
GN	\$43,579	13.8%
Makivik	\$54,599	17.3%
Total	\$316,172	100.0%
2017		
NFA	\$207,587	69.0%
GN	\$41,516	13.8%
Makivik	\$51,897	17.2%
Total	\$301,000	100.0%
2016		
NFA	\$175,000	60.3%
GN	\$40,000	13.8%
BF	\$25,000	8.6%
Makivik	\$50,000	17.2%
Total	\$290,000	100.0%
2015		
NFA	\$175,000	42.7%
GN	\$160,000	39.0%
BF	\$25,000	6.1%
Makivik	\$50,000	12.2%
Total	\$410,000	100.0%
2014		
NFA	\$175,000	45.1%
GN	\$138,000	35.6%
BF	\$25,000	6.4%
Makivik	\$50,000	12.9%
Total	\$388,000	100.0%
2014 to 2020		
NFA	\$1,294,025	55.1%
GN	\$423,095	18.0%
BF	\$75,000	3.2%
Makivik	\$556,243	23.7%
Total	\$2,348,362	100.0%

Appendix 2: Market Price Differentials – *P. borealis* vs *P. montagui*

Price Differentials Between *P. borealis* and *P. montagui* Shrimp

The following paragraphs outline details on actual market price differentials between *P. borealis* and *P. montagui* shrimp obtained by Nunavut companies. For confidentiality purposes, the data has been summarized.

P. montagui as a targeted fishery is a relatively new species and when the volumes of the species were low the price differentials were minimal. However, with the rapid expansion in volumes in recent years, largely from the WAZ fishery, this situation has changed and price differentials with borealis have expanded and overall market prices have declined. In the early years, as industry was learning how to handle and process this species, there were quality issues (black spot) which impacted on prices and demand. Although these issues have been largely addressed, as demonstrated below the price differentials continue to expand. As such, the Nunavut industry is seeking to undertake a targeted marketing and branding program for montagui to address this situation in the coming years, with support from external sources.

Excerpt from Marketing Proposal Submitted by NFA to CanNor:

Background

The Canadian shrimp industry harvests two commercial species, *P. borealis* and *P. montagui*. The *P. borealis* is considered the main commercial species, with the largest quotas and is also considered by industry to be preferable in terms of quality and value. *P. montagui*, in contrast, is located in northern Shrimp Fishing Areas (SFAs) and until recently has not been a focus for industry. As such, minimum effort has been expended in general to evaluate and develop market opportunities for this species and industry has been accepting prices which are significantly discounted from their *P. borealis* sale values. Allocations of *P. montagui* shrimp are primarily held by northern indigenous businesses in Nunavut and Nunavik. These northern interests hold 100% of directed *P. montagui* allocations and 79% of total allocations (the remaining as bycatch allocations in the *P. borealis* fishery). In 2019, the quotas for *P. montagui* increased significantly in the Western Assessment Zone (WAZ), with a 95% increase almost doubling the allocations available to Nunavut and Nunavik industry players for directed fishing. The current breakdown of *P. montagui* shrimp allocations by quota holder is outlined in the following table.

2019 <i>P. montagui</i> Allocations					
	WAZ	EAZ	SFA 4	Total	%
Nunavut	5,987.5	337.2	355.9	6,680.6	40%
Nunavik	5,987.5	165.2	355.9	6,508.6	39%
Remaining Offshore (bycatch)	0.0	337.6	3,321.2	3,658.8	22%
Totals	11,975.0	840.0	4,033.0	16,848.0	100%
Note: NU and NK allocations for EAZ and SFA 4 include their respective shares of offshore bycatch in these areas. NU and NK hold 100% of directed <i>P. montagui</i> allocations.					

Price Differentials

The price differentials between borealis and montagui shrimp sales can be quite significant and can be even higher when coldwater shrimp is under negative pressure in terms of demand and overall price levels. Coldwater shrimp prices were under downward pressure in 2019 for all players in the sector, placing further pressure on *P. montagui* demand and pricing. At present, given the overall downward price pressure on coldwater shrimp, which is being further exacerbated by the COVID-19 crisis, and the significant discounts on *P. montagui*, the viability of harvesting this species by the Nunavut industry is questionable.

A review of pricing data provided confidentially by Nunavut industry participants for the past three years illustrates the significant price differentials and how the relative differentials have increased, especially for smaller industrial shrimp. For cooked borealis and montagui the price differentials ((borealis-montagui)/montagui) have ranged for similar pack sizes from 7-24% in 2017, to 20-50% in 2018, and 26-50% in 2019. For industrial shrimp the differentials have varied from 63-73% in 2018 to 112-125% in 2019. Although some of the price differentials may be attributable to some intrinsic differences in the species, any such differences do not account for the wide disparity experienced by industry.

Update to Include 2020 Prices:

For 2020 harvested shrimp, the price differential between borealis and montagui on cooked shrimp has ranged from 23% early in the season to 76% later in the season as markets tightened, while for industrial the price differential has been around 128%.

In addition to the differential in prices between the species which has expanded in recent years, the overall market prices for both species have been declining in recent years. For montagui, prices have declined by over 185% over three years and around 75% since last year.

(Detailed price sheets can be provided to NWMB on a confidential basis)

Appendix 3: Correspondence with Stakeholders on Access Fees Issues

Correspondence with Nunavut stakeholders (GN, NTI, QIA), initiated on October 19, 2020 (5 emails)

Correspondence with DFO (2 emails)

From: [Brian Burke](#)
To: ["Martin, Zoya"](#); [Andrew Bresnahan](#); [Andrew Randall](#); [Jeffrey Maurice](#)
Subject: EAZ/WAZ Shrimp Access Fees Submission for the Next NWMB Board Meeting
Date: October 19, 2020 3:33:00 PM

Good afternoon,

NFA's members who are participating in the EAZ and WAZ shrimp fisheries have been experiencing issues with DFO access fees in these fisheries which, once again, demonstrate the inequitable and less than fair treatment we are experiencing from DFO Arctic. As a result, as outlined below, NFA is planning to bring forward a submission to the NWMB Board for consideration at their upcoming December Board meeting. NFA is requesting support from our stakeholders on this issue, either through participating in a joint submission with NFA or through making individual representation to the NWMB in support of our submission. The final date for submission to the NWMB in advance of the next Board meeting is November 6th, as such time is of the essence.

DFO access fees are a normal cost of business for the Canadian commercial fishing industry and, where warranted and evenly applied, NFA members have no problem paying these fees on their allocations. However, in the WAZ and EAZ shrimp fisheries there are two distinct issues on access fees which our members are facing which need to be addressed in the spirit of equity and fairness. Each of these are outlined below:

- WAZ Access Fees:
 - As you are all aware the Western Assessment Zone (WAZ) is situated fully within the Settlement Areas of Nunavut and Nunavik. Since the montaguui and borealis fishery was established in this area, based on survey research which has been fully funded by industry and other stakeholders in Nunavut and Nunavik, DFO has been invoicing NFA members for access fees on both species at an equivalent rate.
 - NFA has found out that Makivik has not paid access fees since the start of this fishery, refusing to do so based on decisions in this area being up to the Wildlife Boards and not DFO and we have heard that they also have a legal opinion in support of their position. In contrast, one of the NFA members has paid their access fees every year and another stopped paying for a couple of years after learning of the Makivik situation but had to pay again this year or DFO would refuse to transfer their license to another vessel for fishing in this area. Upwards of \$1M has been paid in access fees by Nunavut industry while Nunavik industry has paid none.
 - NFA also understands that in the south First Nations pay no access fees on their communal fishery allocations.
 - NFA now questions whether DFO has the right to charge access fees in an area which is subject to decision making by the Boards without their prior consent and approval. Are land claims rights being ignored by DFO?
 - In addition, although montaguui has been obtaining a much lower price than borealis in the market, DFO has been charging the same access fees per tonne for both species. This is especially significant this year as the montaguui prices have dropped significantly, such that these access fees now account for a significant portion of returns, making the fishery break-even at best. With Makivik not paying any fees they have a competitive advantage in the market for montaguui.

- NFA members have discussed this with DFO management and have been told that this should be brought to the Wildlife Boards.
- NFA is proposing to make a submission to the NWMB requesting a decision of the Board on whether Nunavut industry members should be paying access fees, to whom, and at what level.
- EAZ Access Fees:
 - Although the Eastern Assessment Zone (EAZ) is outside of the NSA (other than NU/NK E), the Wildlife Boards do have a role to play in making recommendations to the Minister in this area.
 - This Shrimp Fishing Area (SFA) is comprised of three sub-areas (the only SFA like this), i.e. Davis Strait West (DSW), Nunavut/Nunavik East (NU/NK E), and Davis Strait East (DSE). Both DSW and NU/NK E are considered commercial fishing areas while DSE is considered exploratory. DSE is very much a hit or miss fishery with limited harvests on an annual basis, somewhat similar to SFA 1.
 - For the first time, DFO Arctic is now requiring NFA members to pay 50% of their access fees for DSE up front, regardless of whether they plan to fish in this area. In addition, one member has asked if these fees for the DSE subarea can be transferred to one of the other subareas in the EAZ if not used and has been told no. With NFA members holding substantial allocations in DSE this is a significant financial burden for access to an area that in most cases will not be fished.
 - For the offshore commercial shrimp sector, the practice has been for areas that are considered exploratory or questionable in terms of fishing success that participants could pay access fees in 50 tonne increments as required if they desired to try fishing in these areas. This has worked well and minimized the burden on industry.
 - DFO Arctic has indicated that the 50% up front is written policy and that it is now being implemented for Nunavut industry, even though it was not in the past.
 - NFA is proposing to also request that the NWMB make a recommendation to the Minister on access fees in DSE (or any other exploratory area) where payment can be made in 50 t increments, as per past practice and to recognize the hit and miss nature of these areas.

As mentioned above, NFA would appreciate your support on these access fees issues (recommended by NWMB that we reach out to stakeholders to get their input/support). If you wish we can hold a call to discuss further. Please let me know if you are willing/able to participate in a joint submission or to write the NWMB outlining your support in advance of the deadline for their next meeting.

Regards,

Brian Burke
 Executive Director
 Nunavut Fisheries Association (NFA)
 Tel: (709) 351-7263

From: [Brian Burke](#)
To: "[Martin, Zoya](#)"; "[Andrew Bresnahan](#)"; "[Andrew Randall](#)"; "[Jeffrey Maurice](#)"
Subject: RE: EAZ/WAZ Shrimp Access Fees Submission for the Next NWMB Board Meeting
Date: November 3, 2020 8:54:00 AM
Attachments: [NFA Submission to NWMB on Shrimp Access Fees - NFA Nov 6 2020 Final.docx](#)

Good morning,

Attached is the submission NFA has prepared for the NWMB on the access fees issue. Please review and provide any comments and suggestions today if at all possible, as I have to get the document translated and submitted by this Friday. As per the prior emails, NFA would appreciate your support on this important issue. NFA members have paid DFO millions of dollars for access fees since the WAZ fishery started while Makivik has paid none, hardly a fair situation, especially when the margins on montagui are so tight (or possibly non-existent this year).

Regards,

Brian

From: Brian Burke
Sent: October 27, 2020 2:14 PM
To: 'Martin, Zoya' <Zoya.Martin@dfo-mpo.gc.ca>; Andrew Bresnahan <ABresnahan@QIA.ca>; Andrew Randall <ARandall@QIA.ca>; Jeffrey Maurice <JMaurice@tunngavik.com>
Subject: RE: EAZ/WAZ Shrimp Access Fees Submission for the Next NWMB Board Meeting

Good afternoon,

Following up on my prior email below. Any comments/suggestions for moving forward. I have to prepare our NWMB submission over the next few days.

Regards,

Brian

From: Brian Burke
Sent: October 19, 2020 3:33 PM
To: 'Martin, Zoya' <Zoya.Martin@dfo-mpo.gc.ca>; Andrew Bresnahan <ABresnahan@QIA.ca>; Andrew Randall <ARandall@QIA.ca>; Jeffrey Maurice <JMaurice@tunngavik.com>
Subject: EAZ/WAZ Shrimp Access Fees Submission for the Next NWMB Board Meeting

Good afternoon,

NFA's members who are participating in the EAZ and WAZ shrimp fisheries have been experiencing issues with DFO access fees in these fisheries which, once again, demonstrate the inequitable and less than fair treatment we are experiencing from DFO Arctic. As a result, as outlined below, NFA is planning to bring forward a submission to the NWMB Board for consideration at their upcoming

December Board meeting. NFA is requesting support from our stakeholders on this issue, either through participating in a joint submission with NFA or through making individual representation to the NWMB in support of our submission. The final date for submission to the NWMB in advance of the next Board meeting is November 6th, as such time is of the essence.

DFO access fees are a normal cost of business for the Canadian commercial fishing industry and, where warranted and evenly applied, NFA members have no problem paying these fees on their allocations. However, in the WAZ and EAZ shrimp fisheries there are two distinct issues on access fees which our members are facing which need to be addressed in the spirit of equity and fairness. Each of these are outlined below:

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 - As you are all aware the Western Assessment Zone (WAZ) is situated fully within the Settlement Areas of Nunavut and Nunavik. Since the montagui and borealis fishery was established in this area, based on survey research which has been fully funded by industry and other stakeholders in Nunavut and Nunavik, DFO has been invoicing NFA members for access fees on both species at an equivalent rate.
 - NFA has found out that Makivik has not paid access fees since the start of this fishery, refusing to do so based on decisions in this area being up to the Wildlife Boards and not DFO and we have heard that they also have a legal opinion in support of their position. In contrast, one of the NFA members has paid their access fees every year and another stopped paying for a couple of years after learning of the Makivik situation but had to pay again this year or DFO would refuse to transfer their license to another vessel for fishing in this area. Upwards of \$1M has been paid in access fees by Nunavut industry while Nunavik industry has paid none.
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 - NFA members have discussed this with DFO management and have been told that this should be brought to the Wildlife Boards.
 - NFA is proposing to make a submission to the NWMB requesting a decision of the Board on whether Nunavut industry members should be paying access fees, to whom, and at what level.
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 - Although the Eastern Assessment Zone (EAZ) is outside of the NSA (other than NU/NK E), the Wildlife Boards do have a role to play in making recommendations to the Minister in this area.
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- For the offshore commercial shrimp sector, the practice has been for areas that are considered exploratory or questionable in terms of fishing success that participants could pay access fees in 50 tonne increments as required if they desired to try fishing in these areas. This has worked well and minimized the burden on industry.
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- NFA is proposing to also request that the NWMB make a recommendation to the Minister on access fees in DSE (or any other exploratory area) where payment can be made in 50 t increments, as per past practice and to recognize the hit and miss nature of these areas.

As mentioned above, NFA would appreciate your support on these access fees issues (recommended by NWMB that we reach out to stakeholders to get their input/support). If you wish we can hold a call to discuss further. Please let me know if you are willing/able to participate in a joint submission or to write the NWMB outlining your support in advance of the deadline for their next meeting.

Regards,

Brian Burke
Executive Director
Nunavut Fisheries Association (NFA)
Tel: (709) 351-7263

From: [Brian Burke](#)
To: [Martin, Zoya](#); [Onalik, Jimi](#); [Andrew Bresnahan](#); [Andrew Randall](#); [Jeffrey Maurice](#)
Cc: [sakiassie_sowdlooapik](#); [Jerry Ward](#); [Jaypetee Akeeagok](#); [David Alexander](#); [Harry Earle](#); [Dave Bollivar \(TFC\)](#); [Peter Keenainak](#); [Jesslene Jawanda](#)
Subject: FW: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry
Date: November 18, 2020 6:12:00 PM
Attachments: [NFA Submission to NWMB on Shrimp Access Fees - NFA Nov 6 2020 Final.pdf](#)
[NWMB ltr to NU Fisheries Association RE Access Fees ENG.pdf](#)
Importance: High

See attached from the NWMB denying our request for a chance to present this issue at their upcoming December meeting. As you recall I did reach out to each of you on this issue and requested your input and support. With respect to DFO, it was actually David Whorley who had indicated to one of my members that this needed to go to the NWMB for review. I would greatly appreciate if you could each inform the NWMB of this prior contact and request and, if possible, indicate your support for our position. I have sent an immediate request for the NWMB to reconsider their position and this would greatly help. Otherwise our industry will continue to be treated unfairly on this issue into another fishing year.

Stakeholder support would be greatly appreciated. If you are unable or unwilling to provide this support please let me know as soon as possible.

Regards,

Brian Burke
Executive Director
Nunavut Fisheries Association (NFA)
Tel: (709) 351-7263

From: Taqialuq Sataa <tsataa@nwmb.com>
Sent: November 18, 2020 5:41 PM
To: Brian Burke <executivedirector@noaha.ca>
Cc: Gabriel Nirlungyuk <gabriel.nirlungayuk@dfo-mpo.gc.ca>; david.whorley@dfo-mpo.gc.ca
Subject: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry
Importance: High

Good afternoon,

Attached is titled "**NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry**", please confirm receipt, thanks.

PS the Inuktitut translation will be sent when we get it back from our translator, please let us know if you have any questions/comments, thanks again.

From: [Brian Burke](#)
To: ["Martin, Zoya"](#); ["Onalik, Jimi"](#); ["Andrew Bresnahan"](#); ["Andrew Randall"](#); ["Jeffrey Maurice"](#)
Cc: ["sakiasie sowdlooapik"](#); ["Jerry Ward"](#); ["Jaypetee Akeegok"](#); ["David Alexander"](#); ["Harry Earle"](#); ["Dave Bollivar \(TFC\)"](#); ["Peter Keenainak"](#); ["Jesslene Jawanda"](#)
Subject: RE: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry
Date: January 18, 2021 6:19:00 PM

Good afternoon,

Following up on our access fees issue and obtaining input from the GN, NTI and QIA. We need to bring this back to the NWMB for their next Board meeting and need your input/response on the issues and/or a note indicating that your organization has been consulted. We can organize a call to discuss collectively or individually if you prefer.

Regards,

Brian

From: Brian Burke
Sent: November 18, 2020 6:12 PM
To: Martin, Zoya <ZMartin@gov.nu.ca>; Onalik, Jimi <JOnalik@GOV.NU.CA>; Andrew Bresnahan <ABresnahan@QIA.ca>; Andrew Randall <ARandall@QIA.ca>; Jeffrey Maurice <JMaurice@tunnjavik.com>
Cc: sakiasie sowdlooapik <sowdlooapik@hotmail.com>; Jerry Ward <JWard@Qcorp.ca>; Jaypetee Akeegok <Jaypetee@arcticfisheryalliance.com>; David Alexander <dalexander@baffinfisheries.ca>; Harry Earle <harry@arcticfisheryalliance.com>; Dave Bollivar (TFC <dbollivar@trinavfisheries.com>; Peter Keenainak <PKeenainak@Qcorp.ca>; Jesslene Jawanda <JJawanda@Qcorp.ca>
Subject: FW: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry
Importance: High

See attached from the NWMB denying our request for a chance to present this issue at their upcoming December meeting. As you recall I did reach out to each of you on this issue and requested your input and support. With respect to DFO, it was actually David Whorley who had indicated to one of my members that this needed to go to the NWMB for review. I would greatly appreciate if you could each inform the NWMB of this prior contact and request and, if possible, indicate your support for our position. I have sent an immediate request for the NWMB to reconsider their position and this would greatly help. Otherwise our industry will continue to be treated unfairly on this issue into another fishing year.

Stakeholder support would be greatly appreciated. If you are unable or unwilling to provide this support please let me know as soon as possible.

Regards,

Brian Burke

Executive Director
Nunavut Fisheries Association (NFA)
Tel: (709) 351-7263

From: Taqialuq Sataa <tsataa@nwmb.com>
Sent: November 18, 2020 5:41 PM
To: Brian Burke <executivedirector@noaha.ca>
Cc: Gabriel Nirlungyuk <gabriel.nirlungayuk@dfo-mpo.gc.ca>; david.whorley@dfo-mpo.gc.ca
Subject: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry
Importance: High

Good afternoon,

Attached is titled "**NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry**", please confirm receipt, thanks.

PS the Inuktitut translation will be sent when we get it back from our translator, please let us know if you have any questions/comments, thanks again.

Brian Burke

Subject: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry
Location: Call #: 866 969-8429 ID: 5111556#

Start: Tue 2021-01-26 3:00 PM
End: Tue 2021-01-26 4:00 PM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Andrew Bresnahan

For ease, this scheduler may appear in our calendars. Feel free to edit as needed.
AB

From: Brian Burke <executivedirector@noaha.ca>
Sent: January 25, 2021 10:29 AM
To: Martin, Zoya <ZMartin@gov.nu.ca>; Andrew Bresnahan <ABresnahan@QIA.ca>; Andrew Randall <ARandall@QIA.ca>; Onalik, Jimi <JOnalik@GOV.NU.CA>; Jeff Maurice <jmaurice@tunnigavik.com>
Cc: sakiasie sowdloopik <sowdloopik@hotmail.com>; Jerry Ward <JWard@Qcorp.ca>; Jaypetee Akeegok <Jaypetee@arcticfisheryalliance.com>; David Alexander <dalexander@baffinfisheries.ca>; Harry Earle <harry@arcticfisheryalliance.com>; Dave Bollivar (TFC <dbollivar@trinavfisheries.com>; Peter Keenainak <PKeenainak@Qcorp.ca>; Jesslene Jawanda <JJawanda@Qcorp.ca>
Subject: RE: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry

Fantastic. Let's go ahead with the call for 1:30 pm Eastern, using the following contact details:

Meeting Date: January 26, 2021
Meeting time: 1:30 pm Eastern
Call #: 866 969-8429
ID: 5111556#

Looking forward to the discussion and getting our partners' input on this important issue.

Regards,

Brian

From: Martin, Zoya <ZMartin@gov.nu.ca>
Sent: January 25, 2021 11:51 AM
To: Andrew Bresnahan <ABresnahan@QIA.ca>; Andrew Randall <ARandall@QIA.ca>; Brian Burke <executivedirector@noaha.ca>; Onalik, Jimi <JOnalik@GOV.NU.CA>; Jeff Maurice <jmaurice@tunnigavik.com>
Cc: sakiasie sowdloopik <sowdloopik@hotmail.com>; Jerry Ward <JWard@Qcorp.ca>; Jaypetee Akeegok <Jaypetee@arcticfisheryalliance.com>; David Alexander <dalexander@baffinfisheries.ca>; Harry Earle

Subject: Re: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry

Hi Brian,

Tomorrow works for me as well.

Thanks
Andrew

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From: Brian Burke <executivedirector@noaha.ca>

Sent: Monday, January 25, 2021 8:12:58 AM

To: Martin, Zoya <ZMartin@gov.nu.ca>; Onalik, Jimi <JOnalik@GOV.NU.CA>; Andrew Bresnahan <ABresnahan@QIA.ca>; Andrew Randall <ARandall@QIA.ca>; Jeffrey Maurice <JMaurice@tunngavik.com>

Cc: sakiasie sowdloopik <sowdloopik@hotmail.com>; Jerry Ward <JWard@Qcorp.ca>; Jaypetee Akeeagok <Jaypetee@arcticfisheryalliance.com>; David Alexander <dalexander@baffinfisheries.ca>; Harry Earle <harry@arcticfisheryalliance.com>; Dave Bollivar (TFC <dbollivar@trinavfisheries.com>; Peter Keenainak <PKeenainak@Qcorp.ca>; Jesslene Jawanda <JJawanda@Qcorp.ca>

Subject: RE: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry

Good morning,

Looking to set a meeting time to discuss the access fees issues with the GN, QIA and NTI. Would 1 pm or later EST tomorrow (Tuesday) work for each of you? Let me know what time would be best and I will send around an invite.

Attached again is the NFA submission to the NWMB.

Regards,

Brian

From: Brian Burke

Sent: January 18, 2021 6:19 PM

To: 'Martin, Zoya' <ZMartin@gov.nu.ca>; 'Onalik, Jimi' <JOnalik@GOV.NU.CA>; 'Andrew Bresnahan' <ABresnahan@QIA.ca>; 'Andrew Randall' <ARandall@QIA.ca>; 'Jeffrey Maurice' <JMaurice@tunngavik.com>

Cc: 'sakiasie sowdloopik' <sowdloopik@hotmail.com>; 'Jerry Ward' <JWard@Qcorp.ca>; 'Jaypetee Akeeagok' <Jaypetee@arcticfisheryalliance.com>; 'David Alexander' <dalexander@baffinfisheries.ca>; 'Harry Earle' <harry@arcticfisheryalliance.com>; 'Dave Bollivar (TFC' <dbollivar@trinavfisheries.com>; 'Peter Keenainak' <PKeenainak@Qcorp.ca>; 'Jesslene Jawanda' <JJawanda@Qcorp.ca>

Subject: RE: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry

Good afternoon,

Following up on our access fees issue and obtaining input from the GN, NTI and QIA. We need to bring this back to the NWMB for their next Board meeting and need your input/response on the issues and/or a note indicating that your organization has been consulted. We can organize a call to discuss collectively or individually if you prefer.

Regards,

Brian

From: Brian Burke

Sent: November 18, 2020 6:12 PM

To: Martin, Zoya <ZMartin@gov.nu.ca>; Onalik, Jimi <JOnalik@GOV.NU.CA>; Andrew Bresnahan <ABresnahan@QIA.ca>; Andrew Randall <ARandall@QIA.ca>; Jeffrey Maurice <JMaurice@tunngavik.com>
Cc: sakiasie sowdloopik <sowdloopik@hotmail.com>; Jerry Ward <JWard@Qcorp.ca>; Jaypetee Akeegok <Jaypetee@arcticfisheryalliance.com>; David Alexander <dalexander@baffinfisheries.ca>; Harry Earle <harry@arcticfisheryalliance.com>; Dave Bollivar (TFC <dbollivar@trinavfisheries.com>; Peter Keenainak <PKeenainak@Qcorp.ca>; Jesslene Jawanda <JJawanda@Qcorp.ca>

Subject: FW: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry

Importance: High

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Stakeholder support would be greatly appreciated. If you are unable or unwilling to provide this support please let me know as soon as possible.

Regards,

Brian Burke

Executive Director

Nunavut Fisheries Association (NFA)

Tel: (709) 351-7263

From: Taqialuq Sataa <tsataa@nwmb.com>

Sent: November 18, 2020 5:41 PM

To: Brian Burke <executivedirector@noaha.ca>

Cc: Gabriel Nirlungyuk <gabriel.nirlungayuk@dfo-mpo.gc.ca>; david.whorley@dfo-mpo.gc.ca

Subject: NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry

Importance: High

Good afternoon,

Attached is titled "**NWMB Review of Nunavut Fisheries Association's Request for NWMB Decision and Recommendations Concerning Access Fees Charged to the Nunavut Fishing Industry**", please confirm receipt, thanks.

PS the Inuktitut translation will be sent when we get it back from our translator, please let us know if you have any questions/comments, thanks again.

From: [Brian Burke](#)
To: [Whorley, David](#)
Subject: Access Fee Issues
Date: January 18, 2021 6:32:00 PM
Attachments: [NWMB ltr to NU Fisheries Association RE Access Fees ENG.pdf](#)
[NFA Submission to NWMB on Shrimp Access Fees - NFA Nov 6 2020 Final.pdf](#)

David,

Good evening, hope you had a good holiday season and that 2021 is an improvement on 2020.

Attached is a letter from the NMWB which denied NFA's request to bring issues related to access fees to their last Board meeting. One of the reasons identified for the denial was the need for more information from and consultation with DFO. This was a bit surprising in that my understanding is that it was actually DFO who indicated to one of my members that this needed to go the NWMB for their review and recommendations.

I am hoping to resubmit for consideration at the next NWMB Board meeting in March and request DFO's input so that the issues can be placed on the agenda. Available to chat if that would be helpful.

Regards,

Brian Burke
Executive Director
Nunavut Fisheries Association (NFA)
Tel: (709) 351-7263

From: [Brian Burke](#)
To: [Whorley, David](#)
Subject: RE: Access Fee Issues
Date: January 31, 2021 3:40:00 PM

David,

Good afternoon. Following up on my prior email, NFA held a meeting with its Nunavut stakeholders on these issues last Tuesday, which was attended by representatives from the GN, QIA and the NWMB. We are planning to resubmit our request to the NWMB this coming week, in time for their March Board meeting. Please let me know if you wish to discuss in advance of our submission, I will forward the final copy to you in advance.

Regards,

Brian Burke
Executive Director
Nunavut Fisheries Association (NFA)
Tel: (709) 351-7263

From: Brian Burke
Sent: January 18, 2021 6:33 PM
To: Whorley, David <David.Whorley@dfo-mpo.gc.ca>
Subject: Access Fee Issues

David,

Good evening, hope you had a good holiday season and that 2021 is an improvement on 2020.

Attached is a letter from the NMWB which denied NFA's request to bring issues related to access fees to their last Board meeting. One of the reasons identified for the denial was the need for more information from and consultation with DFO. This was a bit surprising in that my understanding is that it was actually DFO who indicated to one of my members that this needed to go the NWMB for their review and recommendations.

I am hoping to resubmit for consideration at the next NWMB Board meeting in March and request DFO's input so that the issues can be placed on the agenda. Available to chat if that would be helpful.

Regards,

Brian Burke
Executive Director
Nunavut Fisheries Association (NFA)

Fisheries and Oceans Canada is providing the following reminder and update as it relates to the payment of licence fees in accordance with the interim NORTHERN SHRIMP SCHEDULE FOR OTHER ALLOCATIONS and interim NORTHERN SHRIMP ENTERPRISE ALLOCATION SCHEDULE FOR OFFSHORE LICENCE HOLDERS, as appended to your fishing licence.

Payment Procedures:

Payment procedures for Northern (*P. borealis*) and Striped (*P. montagui*) shrimp fees vary based on the fishing area.

A reminder that current guidelines that govern the transfer of allocations between allocation holders require the payment of licence fees before a transfer can be approved. Additionally, where increments are permitted, harvesters are expected to acquire sufficient quota to cover expected catches before commencing a fishing trip.

The current payment schedule available to quota holders is as follows:

Area	Species	Method
SFA 1	Borealis	Payment in 50t increments
NU/NK – E	Montagui	Payment in 50t increments
NU/NK – E	Borealis	*REVISED Payment in 50t increments
DS – E	Borealis	*REVISED Payment in 50t increments
DS – W	Borealis	Full payment when Schedule is available
NU/NK – W	Montagui	Payment in 50t increments
NU/NK – W	Borealis	Payment in 50t increments
SFA 4	Montagui	N/A - Bycatch
SFA 4-6	Borealis	Full payment when Schedule is available

Where *P. borealis* is a directed species in NU/NK-E management units, licence fees will apply beginning in 2021-22.

Carry Forward / Quota Borrowing:

Quota holders permitted to carry-forward unfished quota or borrow quota from the following season are required to contact Gordon Goodkey at the NHQ Statistics Office (Gordon.Goodkey@dfo-mpo.gc.ca). Seasonal borrowing must be requested and caught within the last month of the fishery, and carry forwards must be requested and fished prior to the end of the applicable carry forward period.

Current carry forward periods are as follows:

Fishing Area	Carry Forward Period
SFA 1	N/A
NU/NK– E (Montagui)	N/A
NU/NK– E (Borealis)	Must be fished by July 31
DS – E	Must be fished by July 31
DS – W	Must be fished by July 31
NU/NK – W (Montagui)	Must be fished by September 30
NU/NK – W (Borealis)	N/A

SFA 4	Must be fished by July 31
SFA 5	Must be fished by June 30
SFA 6	N/A

For any questions, or additional information related to the issuance of allocations for the Northern Shrimp Fishery; please direct your question to : Courtney.D'Aoust@dfo-mpo.gc.ca

.....

Le ministère des Pêches et des Océans (MPO) vous fait parvenir ce tableau mise à jour en ce qui concerne paiement des frais de permis conformément au NORTHERN SHRIMP SCHEDULE FOR OTHER ALLOCATIONS provisoire (calendrier provisoire de pêche à la crevette nordique pour d'autres allocations) et au NORTHERN SHRIMP ENTERPRISE ALLOCATION SCHEDULE FOR OFFSHORE LICENCE HOLDERS provisoire (calendrier provisoire d'allocation d'entreprise de crevette nordique pour les détenteurs de permis de pêche hauturière), qui sont annexés à votre permis de pêche.

Procédure de paiement:

Les procédures de paiement des frais de permis pour la crevette nordique (*P. borealis*) et ésope (*P. montagui*) varient selon la zone de pêche.

Rappel : les directives actuelles qui régissent le transfert des allocations entre les détenteurs d'allocations exigent le paiement des frais de permis avant que le transfert ne puisse être approuvé. De plus, là où les augmentations sont autorisées, les pêcheurs devraient acquérir suffisamment de quotas pour couvrir les prises attendues avant de commencer une sortie de pêche.

Voici la procédure de paiement actuelle pour les détenteurs de quota :

Zone	Espèces	Méthode
ZPC 1	Borealis	Paiement des incréments de 50 tm
NU/NK – E	Montagui	Paiement des incréments de 50 tm
NU/NK – E	Borealis	*MODIFIÉ Paiement des incréments de 50 tm
DD – E	Borealis	*MODIFIÉ Paiement des incréments de 50 tm
DD – O	Borealis	Paiement total lorsque le calendrier est disponible
NU/NK – O	Montagui	Paiement des incréments de 50 tm
NU/NK – O	Borealis	Paiement des incréments de 50 tm
ZPC 4	Montagui	S. O. – Prises accessoires
ZPC 4-6	Borealis	Paiement total lorsque le calendrier est disponible

Lorsque *P. borealis* est une espèce dirigée dans les unités de gestion NU / NK-E, des frais de permis s'appliqueront à compter de 2021-2022.

Reporter/emprunter le quota :

Les détenteurs de quota qui peuvent reporter les quotas non pêchés ou emprunter des quotas de la saison suivante doivent communiquer avec Gordon Goodkey, bureau des statistiques de l'AC,

Gordon.Goodkey@dfo-mpo.gc.ca). Les emprunts saisonniers doivent être demandés et pêchés au cours du dernier mois de la pêche. Les reports doivent être demandés et pêchés avant la fin de la période de report applicable. Voici les périodes de report actuelles :

Zone de pêche	Période de report
ZPC 1	S. O.
NU/NK Est (Montagui)	S. O.
NU/NK Est (Borealis)	Doit être pêché avant le 31 juillet
DD – E	Doit être pêché avant le 31 juillet
DD – O	Doit être pêché avant le 31 juillet
NU/NK Ouest (Montagui)	Doit être pêché avant le 30 septembre
NU/NK Ouest (Borealis)	S. O.
ZPC 4	Doit être pêché avant le 31 juillet
ZPC 5	Doit être pêché avant le 30 juin
ZPC 6	S. O.

Si vous avez des questions ou souhaitez obtenir de plus amples renseignements sur l'émission d'allocations de quota pour la pêche de la crevette nordique, veuillez envoyer un message à : Courtney.D'Aoust@dfo-mpo.gc.ca



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Director General

Directeur général

Mr. Daniel Shewchuk
Chairperson
Nunavut Wildlife Management Board
Box 1379
Iqaluit, NU X0A 0H0

Dear Mr. Shewchuk,

Thank you for your correspondence of April 8, 2021, in which you request the position and comments of Fisheries and Oceans Canada (DFO) as it relates to matters within the Nunavut Fisheries Association's (NFA's) submission presented at the Nunavut Wildlife Management Board's (NWMB or Board) Regular Meeting on March 10, 2021 (RM001-2021).

Upon review of the NFA's submission, DFO does not see that the matters raised, or the requested decisions and recommendation, fall within any of the Board's decision-making or advisory authorities established within the *Nunavut Agreement*. We note that in the "Authority" section of its submission, the NFA referred the Board to s. 5.2.34(d), and quoted this portion "[approve plans for] (i) management, classification, protection, restocking or propagation, cultivation or husbandry of particular wildlife..." However, the determination of commercial fishing licence fees does not fall within the functions referred to in s.5.3.34(d), or elsewhere in Article 5.

Given these circumstances, DFO is not in a position to determine what information or submissions would be appropriate to provide in response. If the Board were to proceed further on these matters, DFO would request that the Board first identify any specific authorities it considers to be engaged and on what basis, so that DFO could respond appropriately.

Should you have any questions, please do not hesitate to contact me.

Thank you,

Adam Burns
Director General
Fisheries Resource Management

July 23, 2021

Jason Akearok
Executive Director
Nunavut Wildlife Management Board
PO Box 1379, Iqaluit, NU
X0A 0H0

Re: Access Fees Charged to the Nunavut Fishing Industry by DFO for Shrimp in the WAZ and EAZ

Dear Mr. Akearok:

Thank you for your email of June 30th and the invitation to provide input in response to DFO's letter of May 5th and the NWMB's response of May 20th with reference to NFA's submission and request for decision and recommendations by the NWMB on the issue of access fees charged to the Nunavut fishing industry by DFO for shrimp allocations in the WAZ and EAZ. NFA is pleased that the NWMB is not accepting DFO's position on its authority on this issue at face value and that it is undertaking its own internal analysis.

NFA is extremely disappointed that DFO has taken this approach rather than trying to address the substantive issues we have identified in our submission to the NWMB. Unfortunately, we have faced this situation of DFO either ignoring our substantive issues or reverting to technicalities rather than addressing issues for way too long. Our Northern industry has been waiting since 2016 for DFO to undertake the policy discussion recommended in the Ministerial Advisory Panel (MAP) report on shrimp on increasing access to adjacent allocations and, most recently, we have seen DFO back away from the longstanding practice of 60-day Ministerial responses to NWMB decisions based on land claim technicalities.

The Nunavut industry continues to be treated differently from other jurisdictions, and in the case of WAZ access fees this is not only an issue of fairness and equity but also one of competitiveness in a difficult market environment. We continue to hear the talk of reconciliation and increased Indigenous access to the fishery from DFO and the federal government in general but have seen no substantive action or progress on either.

We look forward to NWMB's assessment of its authority on this important issue and the feedback provided by our land claims organizations. NFA also supports the NWMB's request for a substantive reply from DFO on the access fees issues and remains hopeful that DFO will address this longstanding issue in a fair and equitable manner.

Please let me know if there are any questions.

Sincerely,



Brian Burke
Executive Director, Nunavut Fisheries Association

- c.c. Minister Bernadette Jordan, Fisheries and Oceans Canada
Tim Sargent, Deputy Minister, Fisheries and Oceans Canada
Adam Burns, Director General, Resource Management, Fisheries and Oceans Canada
Gabriel Nirlungnayuq, Regional Director General, Arctic Region, Fisheries and Oceans Canada
President Aluki Kotierk, Nunavut Tunngavik Inc.
President PJ Akeeagok, Qikiqtani Inuit Association
Premier Joe Savikataaq, Government of Nunavut
Minister David Akeeagok, Economic Development and Transportation, Government of Nunavut
Daniel Shewchuk, Chair, Nunavut Wildlife Management Board
Sakiasie Sowdloopik, A/Chair, Nunavut Fisheries Association
Jaypetee Akeeagok, Director, Nunavut Fisheries Association
David Alexander, Director, Nunavut Fisheries Association
Jerry Ward, Director, Nunavut Fisheries Association