



**SUBMISSION TO THE**

**NUNAVUT WILDLIFE MANAGEMENT BOARD**

**FOR**

**Information: X**

**Decision:**

**Issue:** Results of the 2021 survey results and community consultations of the Western Hudson Bay (WH) Polar Bear Subpopulation.

**Background:**

- The Western Hudson Bay (WH) polar bear subpopulation is shared between Manitoba and Nunavut (Figure 1). The last inventory studies to estimate abundance were conducted in 2011 and 2016, resulting in estimates of 949 and 842 bears, respectively. The WH polar bear subpopulation was considered to be in decline at that time.
- Communities from Arviat, Whale Cove, and Rankin Inlet harvest from WH. The current Total Allowable Harvest (TAH) for WH is 38 bears per year. This TAH was set under the Flexible Quota System (FQS) at a 2:1 harvest sex ratio and was maintained under the 1:1 harvest sex ratio when the new Harvest Administration and Calculation system (HACCS) came into effect in 2022. The average harvest between 2012/2013 and 2022/2023 was 28 bears per year (Figure 2). The average harvest in WH over the last 10 years (2012/2013 to 2022/2023) was about 26% below the available TAH.
- WH and Southern Hudson Bay (SH) have been following a 5-year monitoring regimen, with the most recent surveys completed in 2021. Following community consultations via phone in 2021 (in-person consultations were not possible due to COVID-19 related travel restrictions), the survey began in August 2021 and finished in September 2021. A minimally invasive aerial abundance survey method was used for this study. SH was surveyed at the same time by the Government of Ontario and Government of Québec.
- Environment and Climate Change Canada (ECCC) has been conducting scientific studies in WH since the 1980s. Ongoing research includes a biopsy darting genetic analysis project which has been conducted since 2017 along the Manitoba and Ontario coast. This research examined movement between WH/SH and ice dynamics in Hudson Bay. The results from this report were very informative and help to explain the lower estimate from the 2021 GN aerial survey.

## Current Status:

- The final report and results for the 2021 WH study were distributed to all relevant co-management partners in November 2022. The new abundance estimate of 618 bears is less than the estimate from the last studies in 2011 and 2016.
- The WH and SH estimates for 2011, 2016, and 2021 were combined in the WH report. This resulted in combined estimates of 1892, 1622, and 1621 bears, respectively. When both subpopulations are combined, this shows a stable population (WH and SH) between the 2016 and 2021 surveys.
- Given the limitations of an aerial abundance survey, it was unclear to what degree the decline in WH in 2021 was due to movement of bears into SH, which the ECCC and Ontario genetic mark and recapture studies confirmed.
- The ECCC biopsy darting report determined that the decline in WH in 2021 was largely due to movement of bears into SH, likely due to remnant ice in SH near the time of the aerial survey.
- The ECCC biopsy darting report also examined harvested bear locations. It reaffirms that the WH management boundary is valid because bears harvested in WH were initially biopsied in WH, whereas bears harvested in SH were initially biopsied in SH.

## Consultations:

In-person community consultations with WH Hunters and Trappers Organizations (HTOs) were held between March 26-27 and May 9-10, 2024. Consultations focused on the results of the GN aerial abundance survey and ECCC biopsy darting study. HTO members raised concerns with the accuracy of the aerial abundance survey and were interested in the results of the biopsy darting study. HTOs expressed interest in increasing the TAH due to public safety concerns and cultural preservation. Staff from Nunavut Tunngavik Inc. and Nunavut Wildlife Management Board attended several meetings (see details in WH Consultation Summary Report by GN ENV).

## Recommendations:

1. ENV recommends **no change to the current TAH of 38 for the WH subpopulation**. When considering the SH and WH estimates collectively between 2016 and 2021, the subpopulations have been stable under current environmental conditions and harvest levels.

2. In keeping with current national and international polar bear management initiatives, ENV requests that the NWMB establish a management objective for the Western Hudson Bay polar bear subpopulation. ENV suggests that the management objective is to **maintain current abundance**.

# Appendix 1

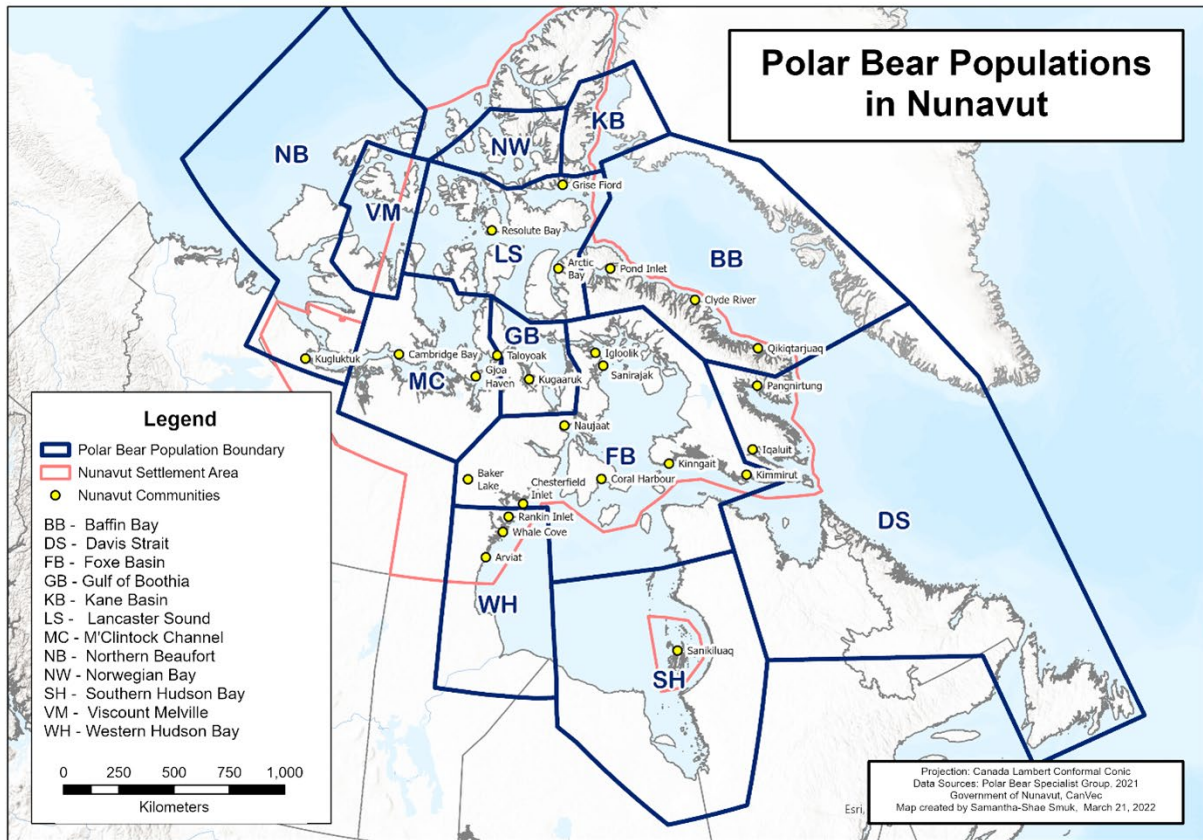


Figure 1. Overview of Nunavut polar bear subpopulations (WH = Western Hudson Bay, SH = Southern Hudson Bay).

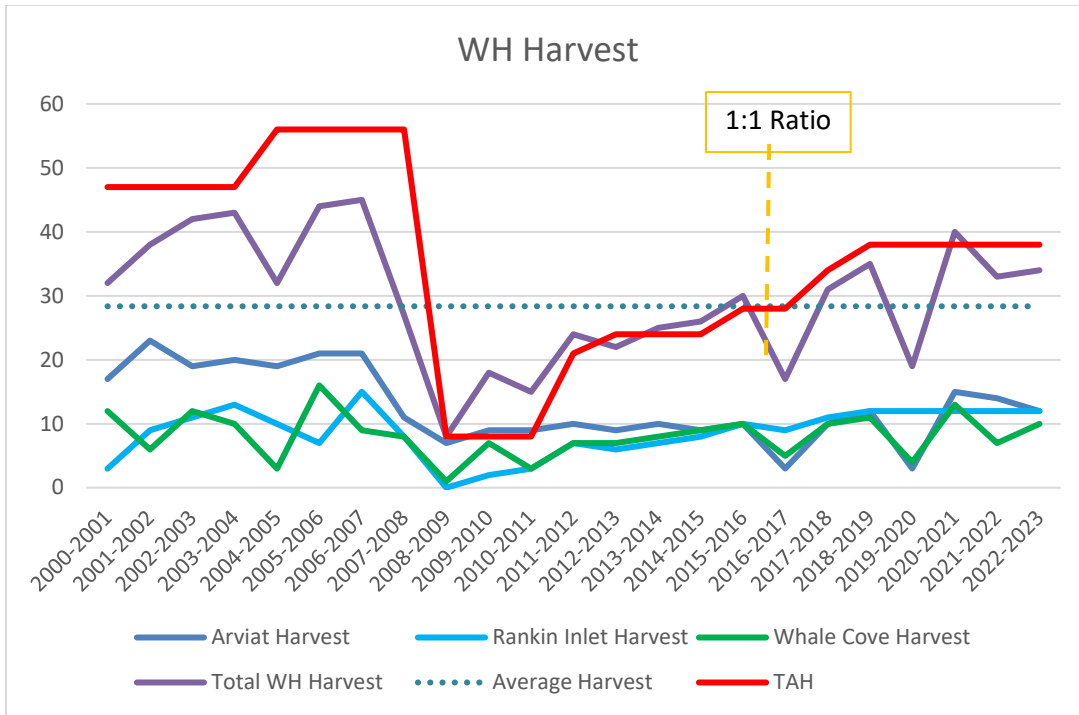


Figure 2. Overview of the Western Hudson Bay polar bear Total Allowable Harvest (TAH), actual and average harvest since 2000.

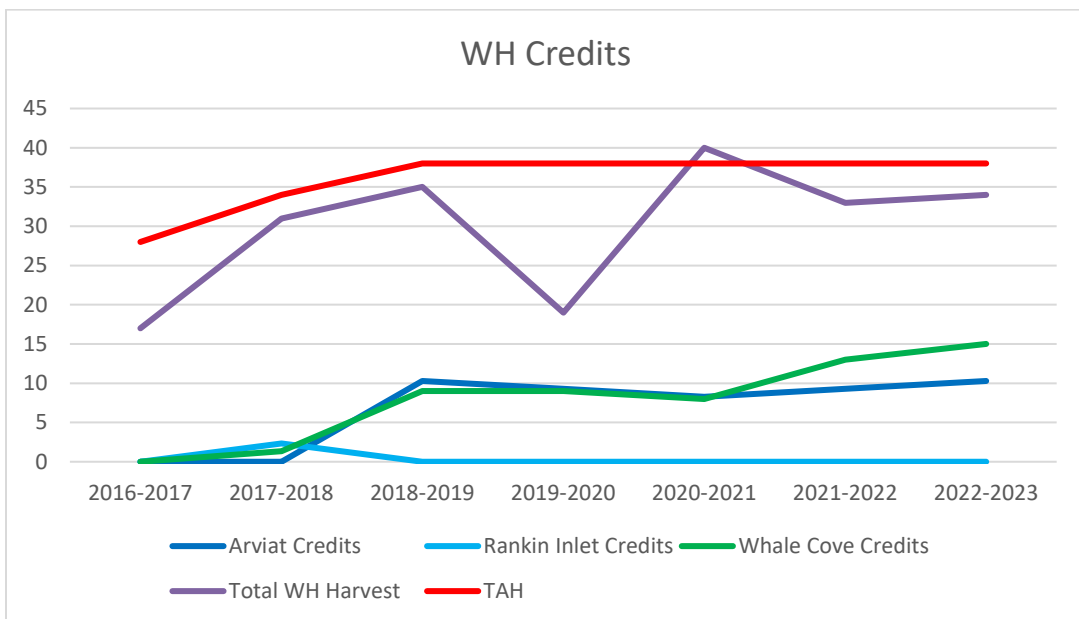


Figure 3. Overview of the Western Hudson Bay polar bear credits since 2016.

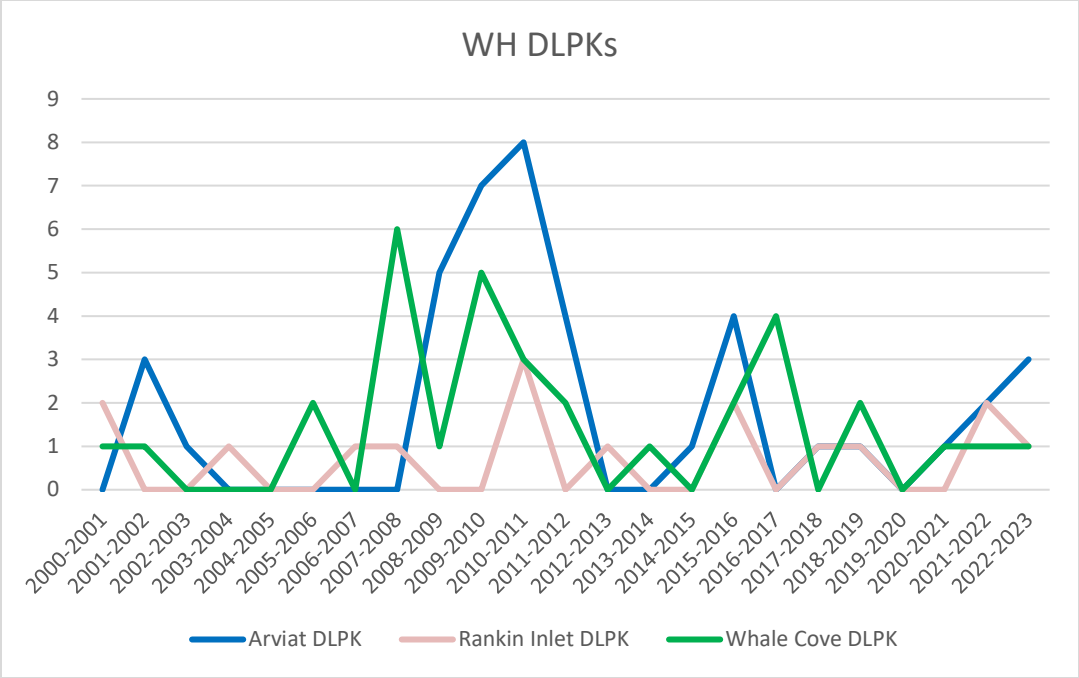


Figure 4. Number of Defence of Life and Property polar bear kills (DLPKs) in Western Hudson Bay since 2000.