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NATIONAL PROGRESS AND DATA REPORTING 2020

GREENLAND - PROGRESS REPORT ON MARINE MAMMALS 2020

I INTRODUCTION

Sections II, III and V of this report summarize the research on pinnipeds and cetaceans done in Greenland in 2020 by the Greenland Institute of Natural Resources (GINR), in collaboration with several organizations. Section IV and VI deals with management issues hunting data and was prepared by the Department of Fisheries, Hunting and Agriculture.

II RESEARCH BY SPECIES

A Species and stocks studied

Pinnipeds

- Walrus *Odobenus rosmarus* – Northern Baffin Bay and East Greenland
- Harbor seal *Phoca vitulina* – Central West and South Greenland
- Bearded seal *Erignathus barbatus* – East Greenland
- Ringed seal *Pusa hispida* - West and East Greenland
- Harp seal *Pagophilus groenlandicus* – West and East Greenland

Cetaceans

- Narwhal *Monodon monoceros* - West and East Greenland
- Beluga *Delphinapterus leucas* – West Greenland
- Harbour porpoise *Phocoena phocoena* – West Greenland
- Bowhead whale *Balaena mysticetus* – West and East Greenland
- Humpback whale *Megaptera novaeangliae* - West and East Greenland
- Fin whale *Balaenoptera physalus* – West Greenland
- Minke whale *Balaenoptera acutorostrata* – West and East Greenland
- White beaked dolphins *Lagenorhynchus albirostris* – East Greenland
- Killer whale *Orcinus orca* – East Greenland
- Pilot whale *Globicephala melas* – East Greenland

B Field work in 2020

Walrus

Work with walrus in 2020 consisted of analyses and writing based in data collected before 2020. In addition, we communicated with people from Pituffik, Qaanaaq, about the status of a terrestrial haul-out from Wolstenholme Fjord / Ummannap Kangerlua, discovered in 2018.

Seals

The time-series of ringed seal tagging in Sermilik (Southeast Greenland) and in Kangia (Ilulissat Icefjord, West Greenland), started in 2012, continued in 2020. The main aim of this work is to obtain oceanographic data for climate analysis. In Kangia, the study is complemented with data obtained from tags of Greenland halibut. A by-product of this study is data on habitat use, movements and ecology of seals and halibut in the area.

As part of an environmental study program financed by the oil industry, and in collaboration the Norwegian Marine Research Institute, data on harp seal pups tagged with satellite senders in the Greenland Sea in April 2017 were analyzed.

A second project from the same environmental study program, this time in collaboration with the University of Aarhus, consisted of tagging ringed seals in the coastal waters of Northeast Greenland in August 2017. Both studies sent data well into 2018 and some of the analyses were carried out in 2020.

An interview study of harbor seals in West Greenland was initiated in 2019 and continued in 2020.

Cetaceans

An aerial survey for narwhals, planned for May 2020, was cancelled due to travel restrictions posed by the COVID-19 pandemic. A telemetry study of bowhead whales in Disko Bay was also cancelled because of the pandemic.

Satellite telemetry of narwhals in East Greenland started in 2010. Fieldwork continued in 2020. However, there were no narwhals tagged in 2020.

In 2019, as in previous years, hunters from Qeqertarsuaq collected biopsies of bowhead whales during spring in Disko Bay.

Collection of identification pictures taken by the public of humpback whale flukes and dorsal fins from West Greenland continued throughout 2020.

Moorings to monitor underwater sounds placed in previous years in Melville Bay and other locations were collected in 2020.

The Danish Centre for Energy and Environment (DCE), University of Aarhus, maintains a database with observations collected by dedicated marine mammal and sea bird observers on board vessels carrying out seismic surveys under licences provided by the Government of Greenland.

C Laboratory work in 2020

Laboratory work carried in 2019 included the analysis of stomach samples from seals and fish from Ilulissat (GINR and University of Aarhus), as well as genetic analyses of bowhead whales from Disko Bay (University of Oslo), genetic analysis of belugas and narwhals (University of Copenhagen) and chemical analysis on narwhal tusks (multiple locations).

Sound recordings from moorings in West and East Greenland are being analyzed for estimates of background noise and seasonal occurrence of marine mammals, as well as monitoring of seismic exploration.

D Other studies in 2020

A number of desktop studies were carried out during 2020, including analysis of catch statistics for a number of species and assessments of narwhal for scientific working groups under NAMMCO and of large whales for the IWC.

E Research results in 2019

The majority of research results from the fieldwork of 2020 are not available yet.

III ONGOING (CURRENT) RESEARCH

An automated camera will be mounted, for monitoring the newly established walrus haulout in Qaannaq.

The time-series of ringed seal tagging in Sermilik (Southeast Greenland) and in Kangia (Jacobshavn Icefjord, West Greenland) will continue in 2021.

Marine mammal surveys planned for 2021 include the aerial survey for narwhals during spring off Ittoqqortoormiit that was cancelled in 2020.

To better understand stock delineation and to obtain complementary data for abundance estimates, GINR runs a series of satellite telemetry studies. In 2020, the focus will be on narwhals in East Greenland.

The long-term studies of bowhead whales in Disko Bay will also continue. Work in 2020 will focus in the collection of biopsy samples for mark – recapture abundance estimates.

Telemetry studies of narwhals in Scoresbysund, East Greenland, started in 2020. Tagging is planned for 2021.

Studies of large whales in Tasiilaq, Southeast Greenland, carried out by the Climate Research Centre (GCRC) at GINR will continue.

As in previous years, collection of identification pictures taken by the public of humpback whales flukes and dorsal fins from West Greenland will continue.

IV ADVICE GIVEN AND MANAGEMENT MEASURES TAKEN

Advice and quotas for cetaceans and pinnipeds in the calendar year 2019 2020 are summarized in table 1.

Quotas for large whales are set by the IWC. At the IWC 67 meeting in 2018, the IWC agreed upon quotas and revised carry-over provisions for the new quota block 2019 – 2026. The IWC quotas were implemented in 2020 and 2021. The Ministry has also implemented the new carry-over provisions both in West Greenland for minke whales, fin whales, humpback whales and bowhead whales. The same process happened in relation to East Greenland minke whale starting in 2020. If the level of catches of other large whales than minke whales rises, the carry-over provision might be fully utilized.

Minke whale catches West Greenland:

The quota was on 164. The total takes was on 109 minke whales, hereof 40 caught with vessels with harpoon cannon and 69 minke whales caught by collective - open boat hunts. No struck and lost were reported.

Furthermore, in all 52 minke whales were carried to 2020 hunting season from 2019. 3 minke whales caught by vessels with harpoon cannons and 49 by collective hunt. In all 161 minke whales were caught in 2020. 55 minke whales will be carried over to 2021 whale season in 2021.

Minke whale catches East Greenland:

The quota was on 20. The total takes was on 17 minke whales, all from Tasiilaq hunted from open boats with rifle. Furthermore, in all 3 minke whales were carried to 2020 hunting season from 2019. In all 20 minke whales were caught in 2020 whale season in East Greenland. 3 minke whales will be carried to 2021 whale season. No struck and lost were reported.

Finwhale, humpback and bowhead whale catches in West Greenland:

The finwhale quota was on 19, and 3 were caught.

Humpback whale quota was on 10, and 3 were caught.

Bowhead whale quota was on 2, and no catches in 2020.

The Government of Greenland sets the quotas for narwhals and belugas, with basis on user's knowledge and recommendations from NAMMCO and JCNB. Assuming that struck and lost animals were reported, quotas for narwhals in 2020 in Etah (Smith Sund), Qaanaaq (Inglefield Bredning) and Uummannaq would have been in accordance with the advice by NAMMCO and JCNB.

For Melville Bay, there was an original quota of 56 narwhals for 2020, compared with an advice of 70 narwhals. An additional quota of 14 narwhals was given to Upernavik in May, for a total quota of 70 narwhals for Melville Bay. There were 106 narwhals caught in Melville Bay in 2019 and, assuming a struck and loss rate of 7.6%, 281 narwhals were removed by hunting in Melville Bay from 2017 -2019. This is equivalent to an average of 94 removals per year, which is considerably higher than the advice. There was only two struck and lost report of narwhal in East Greenland in 2020, which was registered as a usage of two licensee. None report from Melville Bay was given on struck and lost.

The quota for 2020 for Disko Bay and Southwest Greenland was 111 narwhals, compared to an advice of 97, including struck and lost. The estimated average removals from 2017 – 2019 in this area was 97 narwhals per year.

During 2020, the advice from the Scientific Committee of NAMMCO for narwhals in East Greenland was not the same as the official NAMMCO advice, as the management committees did not meet in 2020 due to the Covid-19 pandemic and were not able to discuss the report of the Scientific Committee. The official NAMMCO advice for East Greenland in 2019 was that catches in Ittoqqortoormiit and Kangerlussuaq should not exceed 10 landed narwhals in each area, while there should be no catches in Tasiilaq. The advice from the Scientific Committee, based on a working group meeting on September 2019, was that number of narwhals in East Greenland, south of the National Park, had declined to a level where not even a small catch could be sustainable. Given that catches at the current level for even one year would have a significant negative impact, the SC recommended that there be an immediate reduction to 0 catches in East Greenland, at least until a new abundance estimate is generated.

In 2019, the Government of Greenland designed a plan for a gradual reduction of quota of narwhals starting in 2020 season in East Greenland, aiming to reach the advice of 10 narwhals in Ittoqqortoormiit and 10 in Kangerlussuaq by 2023. Following this plan, the East Greenland quotas at the start of 2020 were 40 narwhals for Ittoqqortoormiit, zero for Kangerlussuaq and 10 for Tasiilaq. An additional quota of 8 narwhals was given to Tasiilaq in June 2020, due to food safety and preserving hunting culture, which is seen as an Indigenous Peoples Right. Six of the additional quotas were utilized in 2020.

The Government of Greenland sets the quotas for beluga in West Greenland. The quotas for 2020 were in accordance with recommendations from 2015 by NAMMCO and JCNB. Until the 1920's, there used to be belugas in Southwest Greenland from fall to June. In order to facilitate the potential reestablishment of belugas in their historical range, NAMMCO Council recommended that belugas should be protected in Southwest Greenland, south of 65°N, and a seasonal closure in West Greenland during summer. In 2020 there was a quota of 20 belugas in Southwest Greenland and no seasonal closures. The Government of Greenland has decided not to follow the advice of NAMMCO, due to the assumption that it is unlikely that beluga will re-establish in the mentioned area due to several factors, including the increased level of ship traffic, much higher numbers of catching boats, climate and environmental changes. The Government of Greenland has decided not to establish seasonal closures because the quota has not been fully utilized during any year since the introduction of quotas in 2004. It is the assumption that hunting is not the only reason for no reestablishment of beluga in Mid West Greenland.

The Joint Working Group of the Scientific Committees of NAMMCO and JCNB (JWG) met in October 2020 and provided with new advice for belugas. As something new, the JWG considered the belugas that winter in the North Water Polynya as a separate stock, which is hunted in Qaanaaq, and estimated that a yearly catch of 37

belugas would give a probability of population increase of 70%. The previous advice for this area was that that a catch of 20 belugas a year in Qaanaaq was probably sustainable. The quota had been set as technical quota with 100 animals in a 5 year period, 20 animals per year, which had led to frustration for the hunting communities. To maintain a 70% probability for population increase, the JWG recommended an annual landed catch of no more than 265 individuals south of Cape York and north of 65°. The new advice for both stocks (North Water and west Greenland) was provided in terms of landed animals, instead of total removals, as in the previous advice of 2015. This means that quotas based on the new advice do not need to take struck and lost into consideration.

In December 2020, the Government of Greenland announced new quotas for narwhal and beluga for 2021. The new beluga quotas include an increase of the quota for Qaanaaq from 20 to 37, compared to 2020. The Government also issued an 8-year plan to subtract an overhunt of 64 belugas that took place in Qaanaaq in 2019, so that the actual quota from 2021 to 2028 will be of 29 belugas per year. For West Greenland, the 2021 quota was 265 belugas, which is in accordance with the advice for the JWG. As in previous years, a portion of the West Greenland quota (5 belugas) was allocated to areas south of 65°.

The main management body for narwhal and beluga in West Greenland the Joint Commission between Greenland and Canada/Nunavut on Narwhal and Beluga in Baffin Bay has not held meeting to handle the newest report from November 2020 with advice from the Joint working Group.

The JWG was not able to complete the assessment for narwhals in West Greenland at their meeting in October 2020, and therefore there was no new advice for this species. In West Greenland, narwhal quotas for 2021 follow the advice from 2015 in Etah (5 narwhals), Qaanaaq (98 narwhals), Uummannaq (154 narwhals) and Disko Bay/rest of West Greenland (97). As in 2020, the quotas equal the advice without accounting for struck and lost animals. So, if the whole quota is taken, and struck and lost animals are not reported, the removals would be larger than advised. For East Greenland, quotas followed the plan set in 2021 and consisted of 5 narwhals for Tasiilaq, 10 for Kangerlussuaq and 25 for Ittoqqortoormiit. According to the NAMMCO SC, these catches could have a serious negative impact in the narwhals in East Greenland. The Government of Greenland has decided to balance the recommendation from JWG and the statements made by hunters, given that the statements are opposites to preserve the culture and due to food safety for the communities.

There are no quotas for pilot whale, harbor porpoise, white-sided and white-beaked dolphins and killer whales. In 2013, NAMMCO recommended that Greenland should take a closer look at the accuracy of catch data for harbor porpoises and killer whales. This work has not been completed. An Executive Order covering the mentioned small cetaceans is underway and is expected to be finished in 2021-22. In 2020, the Government of Greenland took notice of scientific reports showing high level of contaminants in killer whales in Greenland and the subsequent recommendation on not to use killer whales for human consumption nor animal feed. As a result, the Government of Greenland is considering setting a ban on the catch of killer whales through executive order.

Walrus quotas are given by the Government of Greenland, and in 2020 and 2021, as in previous years, the Government of Greenland followed the advice from NAMMCO. Quotas for 2020 were 79 in Baffin Bay, 74 in Davis Strait / Baffin Island and 17 in East Greenland. Quotas for 2021 are unamended. The Government of Greenland has implemented a carry-over provision, so unused quotas are carried to next walrus season, including the provision regarding the request to report both struck and lost and landed animals. The walrus quotas both in West and East Greenland are un-amended.

Table 1. Overview of management advice per stock and the quota or other management measures used in 2020.

Species - stock	Advisor	Advice in 2020	Management measure 2020
Harbour seal	NAMMCO	Total protection	Protected since 2010
Grey seal	NAMMCO	Total protection	Protected since 2010
Harp seal	ICES/NAFO/NAMMCO	No concern	No catch limit
Hooded seal	ICES/NAFO/NAMMCO	No concern	No catch limit
Walrus - Baffin Bay	NAMMCO	84 landed animals	Quota of 79
Walrus - Davis Strait / Baffin Island	NAMMCO	86 landed animals	Quota of 74
Walrus - East Greenland	NAMMCO	17 landed animals	Quota of 17
Beluga - West Greenland	JCNB & NAMMCO	320 landed animals. Protection south of 65°N	Quota of 320, of which 20 are allocated south of 65°N
Beluga - Qaanaaq	JCNB & NAMMCO	Catch of 20 acceptable	Quota of 20
Narwhal - Etah	JCNB & NAMMCO	5 removals	Quota of 5
Narwhal - Inglefield Bredning	JCNB & NAMMCO	98 removals	Quota of 98
Narwhal - Melville Bay	JCNB & NAMMCO	70 removals	Quota of 70 (106 reported caught in 2019)
Narwhal - Ummannaq	JCNB & NAMMCO	154 removals	Quota of 140
Narwhal - Disko Bay to South Greenland area	JCNB & NAMMCO	97 removals	Quota of 97 ⁱ
Narwhal - Ittoqqortoormiit	NAMMCO	10 landed animals (SC: 0 catches)	Quota of 40
Narwhal - Kangerlussuaq	NAMMCO	10 landed animals (SC: 0 catches)	Quota of 0
Narwhal - Tasiilaq	NAMMCO	0 catches	Quota of 10+8=18 (there was a overhunt of 6 and 6 of the additional quota were utilized)
Bowhead whale – West Greenland/Arctic Canada	IWC	5 removals acceptable	Quota of 2
Humpback whale – West Greenland	IWC	10 removals acceptable	Quota of 10
Fin whale – West Greenland	IWC	19 removals acceptable	Quota of 19
Minke whale – West Greenland	IWC	164 removals acceptable	Quota of 164
Minke whale – East Greenland	IWC	20 removals acceptable	Quota of 20

ⁱ The quota in the Disko Bay area was 85, and the remaining 12 were allocated to West and Southwest Greenland.

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VI APPENDIX 1 – DATA REPORTING TO NAMMCO COMMITTEES

NEW this year is that all data requirements (catches, by-catch, entanglement, strandings, ship strikes, hunting- and inspection efforts) for all NAMMCO committees are to be reported on the excel worksheets compiled in “NPR database (Country) 2020”

a. Short narrative

In the narrative, include any relevant information about how the different data were collected.

The catch data submission to NAMMCO had in its table no field for revision of previous submitted data as for other RFMOs. We expect it will follow same procedure as for other RFMOs, where information on any revision to previous years submitted data is part of the annual Progress Reporting.

Specifically for data on seals and small cetaceans the database LULI has in 2019 undergone a thorough technical cleanup due to a digitalization process. This has resulted in a revision of data on catches of seals and small cetaceans in Greenland previously submitted. Information and revised data has been submitted in the NPR for 2020.

b. Fill in Excel spreadsheet

SC has agreed on new Management Areas, described in the excel sheet, to be used in the reporting of catches of seals and whales.

GREENLAND - PROGRESS REPORT ON MARINE MAMMALS 2019

I INTRODUCTION

Sections II, III and V of this report summarize the research on pinnipeds and cetaceans done in Greenland in 2019 by the Greenland Institute of Natural Resources (GINR), in collaboration with several organizations. Section IV and VI deals with management issues hunting data and was prepared by the Department of Fisheries, Hunting and Agriculture.

II RESEARCH BY SPECIES

A Species and stocks studied

Pinnipeds

- Walrus *Odobenus rosmarus* – Northern Baffin Bay and East Greenland
- Harbor seal *Phoca vitulina* – Central West and South Greenland
- Bearded seal *Erignathus barbatus* – East Greenland
- Ringed seal *Pusa hispida* - West and East Greenland
- Harp seal *Pagophilus groenlandicus* – West and East Greenland

Cetaceans

- Narwhal *Monodon monoceros* - West and East Greenland
- Beluga *Delphinapterus leucas* – West Greenland
- Harbour porpoise *Phocoena phocoena* – West Greenland
- Bowhead whale *Balaena mysticetus* – West and East Greenland
- Humpback whale *Megaptera novaeangliae* - West and East Greenland
- Fin whale *Balaenoptera physalus* – West Greenland
- Minke whale *Balaenoptera acutorostrata* – West and East Greenland
- White beaked dolphins *Lagenorhynchus albirostris* – East Greenland
- Killer whale *Orcinus orca* – East Greenland
- Pilot whale *Globicephala melas* – East Greenland

B Field work in 2018

Walrus

Work with walrus in 2019 consisted on analyses of an aerial survey during spring in the North Water Polynya carried out in 2018. The survey targeted also beluga, narwhals and bearded seals. In addition, we communicated with people from Pituffik, Qaanaaq, about the status of a terrestrial haul-out from Wolstenholme Fjord / Uummannap Kangerlua, discovered in 2018.

Seals

The time-series of ringed seal tagging in Sermilik (Southeast Greenland) and in Kangia (Jacobshavn Icefjord, West Greenland), started in 2012, continued in 2019. The main aim of this work is to obtain oceanographic data for climate analysis. The study is complemented with data obtained from tags of Greenland halibut. A by-product of this study is data on habitat use, movements and ecology of seals and halibut in the Ilulissat Icefjord, Disko Bay.

As part of an environmental study program financed by the oil industry, and in collaboration the Norwegian Marine Research Institute, data on harp seal pups tagged with satellite senders in the Greenland Sea in April 2017 were analyzed.

A second project from the same environmental study program, this time in collaboration with the University of Aarhus, consisted of tagging ringed seals in the coastal waters of Northeast Greenland in august 2017. Both studies sent data well into 2018 and some of the analyses were carried out in 2019.

An interview study of harbor seals in West Greenland was initiated in 2019.

Cetaceans

Aerial surveys for narwhals were carried out in Inglefield Bredning and Melville Bay, Northwest Greenland in summer 2019.

Target species of telemetry studies in 2019 were narwhals in East Greenland, as well as fin and minke whales off Maniitsoq, West Greenland and humpback whales in West and East Greenland.

Satellite telemetry of narwhals in East Greenland, started in 2010, continued in 2019.

In 2019, as in previous years, the long-term studies of bowhead whales in Disko Bay focused on testing technology for combining satellite telemetry and recording sounds on the surface of whale bodies, in order to better understand the effect of sound from seismic air guns. In addition, oceanographic tags that record temperature, salinity, depth and position are under development. Hunters from Qeqetarsuaq collected biopsies of bowhead whales during spring in Disko Bay.

Collection of identification pictures taken by the public of humpback whale flukes and dorsal fins from West Greenland continued throughout 2019. In Nuuk, fieldwork on humpback whales included photo-identification, biopsy sampling, satellite telemetry and drone recordings.

The Danish Centre for Energy and Environment (DCE), University of Aarhus, maintains a database with observations collected by dedicated marine mammal and sea bird observers on board vessels carrying out seismic surveys under licences provided by the Bureau of Minerals and Petroleum.

C Laboratory work in 2019

Laboratory work carried in 2019 included the analysis of stomach samples from seals and fish from Ilulissat, as well as genetic analyses of bowhead whales from Disko Bay at the University of Oslo.

Sound recordings from moorings in West and East Greenland are being analyzed for estimates of background noise and seasonal occurrence of cetaceans and bearded seals, as well as monitoring of seismic exploration.

D Other studies in 2019

A number of desktop studies were carried out during 2019, including analysis of catch statistics for a number of species and assessments of narwhal for scientific working groups under NAMMCO and of large whales for the IWC.

E Research results in 2019

The majority of research results from the fieldwork of 2019 are not available yet.

III ONGOING (CURRENT) RESEARCH

The time-series of ringed seal tagging in Sermilik (Southeast Greenland) and in Kangia (Jacobshavn Icefjord, West Greenland) will continue in 2020.

The interview study on harbor seals will continue.

Marine mammal surveys planned for 2020 include an aerial survey for narwhals during spring off Ittoqqortoormiit.

In order to understand the stock delineation and to obtain complementary data for abundance estimates, GINR runs a series of satellite telemetry studies. In 2020, the focus will be on narwhals in East Greenland.

The long-term studies of bowhead whales in Disko Bay will also continue. Work in 2020 will focus in the collection of biopsy samples for mark – recapture abundance estimates.

Telemetry studies of narwhals in Scoresbysund, East Greenland, started in 2020. Tagging is planned for 2020.

Studies of large whales in Tasiilaq, Southeast Greenland, carried out by the Climate Research Centre (GCRC) at GINR will continue.

As in previous years, collection of identification pictures taken by the public of humpback whale flukes and dorsal fins from West Greenland will continue. This work is coordinated by the GCRC.

Other work on marine mammals carried out by the GCRC include the establishment of a network of acoustic and oceanographic moorings and a pilot study to monitor narwhals and glacier fronts with automated cameras.

IV ADVICE GIVEN AND MANAGEMENT MEASURES TAKEN

Advice and quotas for cetaceans and pinnipeds in the calendar year 2018 2019 are summarized in table 1.

Quotas for large whales are set by the IWC. At the IWC 67 meeting in 2018, the IWC agreed upon quotas and revised carry-over provisions for the new quota block 2019 – 2026. The IWC quotas were implemented. A revised Executive Order regulating the hunt on large whales came into force from January 2019. The changes were in line with decisions made at IWC 67 on extension of hunting period for minke whales to all year round and removal of the minimum length limit for hunting fin whales.

The Government of Greenland sets the quotas for narwhals. The quotas for 2018 were in accordance with recommendations from 2015 by NAMMCO and JCNB. However in October 2019, the Government of Greenland decided to raise the quota in Etah, Qaanaaq, Melville Bay and East Greenland with 54 narwhals in total. The quota for Etah was on 9 animals, raised from 5 animals. The quota for Qaanaaq was on 114 animals, raised from 98 animals. The quota for Melville Bay was on 86 animals, raised from 70 animals. In East Greenland, the narwhal quota was raised from 66 to 84. Catches in Melville Bay during the past several years have consequently been higher than the advice. Surveys from 2007, 2012 and 2014 indicate that the summering stock of narwhals in Melville Bay is relatively small and the level of catches poses a risk of decline higher than recommended by NAMMCO and JCNB.

The original quotas for narwhals in East Greenland in 2019 were in accordance with recommendations from 2017 by NAMMCO and JCNB. The level of quotas was decided politically higher than recommended due to food safety and several uncertainties mentioned in the scientific and working group reports. For Ittoqqortoormiit, the quota was 50 animals, while in Tasiilaq the quota was of 16. However, in October 2019, there was a political decision to increase the quota of Tasiilaq with 12 narwhals. The quota of Ittoqqortoormiit was increased with 6 narwhals in October 2019. The official NAMMCO advice in 2017 was as recommended by the JCNB/NAMMCO JWG in 2015. The JWG met again in spring 2017 and concluded that narwhals below 72°N in East Greenland were with a

high probability, declining. A reduction of catches to 10 narwhals in Ittoqqortoormiit, 10 in Kangerlussuaq fjord (north of Tasiilaq) and zero south of Kangerlussuaq was recommended. This advice was corroborated by NAMMCO SC in November 2017. During the council's annual meeting in 2018, the delegation from Greenland requested clarifications on how "small stocks" are defined, and which criteria are used to categorize a stock as a "small stock". The question was answered by the SC in 2018. In 2019 the Management Committee advised that the catches of narwhals in East Greenland should be reduced to 10 in Ittoqqortoormiit, 10 in Kangerlussuaq and 0 in Tasiilaq. In December 2019, the Government of Greenland put forward a plan for a gradual reduction of catches, aimed at complying with the 2019 advice by 2023. Quotas for 2020 are 40 narwhals in Ittoqqortoormiit, 0 in Kangerlussuaq and 10 in Tasiilaq. In 2017, 93 narwhals were reported caught in East Greenland. In 2018, 51 narwhals were reported caught in Ittoqqortoormiit, and 23 in Tasiilaq. In 2019, 57 were reported caught in Ittoqqortoormiit and 21 in Tasiilaq. An ad-hoc working group under the SC met in September 2019 to assess the status of narwhals in East Greenland, and concluded that catches were no longer sustainable. Based on this assessment, the SC recommended a total protection of narwhals in East Greenland.

The Government of Greenland sets the quotas for beluga in West Greenland. The quotas for 2019 were in accordance with recommendations from 2015 by NAMMCO and JCNB. Until the 1920's, there used to be belugas in Southwest Greenland from fall to June. In order to facilitate the potential reestablishment of belugas in their historical range, NAMMCO Council recommends that belugas should be protected in Southwest Greenland, south of 65°N, and a seasonal closure in West Greenland during summer. There is currently a quota for eight belugas in Southwest Greenland and no seasonal closures. Government of Greenland has decided not to follow the biological recommendation due to the assumption that it is unlikely that beluga will re-establish in the mentioned area due to several factors, including the increased level of ship traffic, much higher numbers of catching boats, climate and environmental changes. The Government of Greenland has decided not to establish seasonal closures in August because the quota has not been fully utilized, since the introduction of quota in 2004.

There are no quotas for pilot whale, harbor porpoise, white-sided and white-beaked dolphins and killer whales. In 2013, NAMMCO recommended that Greenland should take a closer look at the accuracy of catch data for harbor porpoises and killer whales. This work has not been completed. An Executive Order covering the mentioned small cetaceans is underway and is expected to be finished in 2020-21.

Walrus quotas are given by the Government of Greenland, and in 2019, as in previous years and in 2020, followed the advice from NAMMCO. Quotas for 2020 are 79 in Baffin Bay, 74 in Davis Strait / Baffin Island and 17 in East Greenland.

Table 1. Overview of management advice per stock and the quota or other management measures used in 2019.

Species - stock	Advisor	Advice in 2019	Management measure 2019
Harbour seal	NAMMCO	Total protection	Protected since 2010
Grey seal	NAMMCO	Total protection	Protected since 2010
Harp seal	ICES/NAFO/NAMMCO	No concern	No catch limit
Hooded seal	ICES/NAFO/NAMMCO	No concern	No catch limit
Walrus - Baffin Bay	NAMMCO	85 landed animals	Quota of 85
Walrus - Davis Strait / Baffin Island	NAMMCO	100 or less removals	Quota of 69
Walrus - East Greenland	NAMMCO	20 or less removals	Quota of 18
Beluga - West Greenland	JCNB & NAMMCO	320 landed animals. Protection south of 65°N	Quota of 320, of which 20 are allocated south of 65°N
Beluga - Qaanaaq	JCNB & NAMMCO	Catch of 20 acceptable	Quota of 20
Narwhal - Etah	JCNB & NAMMCO	5 landed animals	Quota of 5
Narwhal - Inglefield Bredning	JCNB & NAMMCO	98 landed animals	Quota of 98
Narwhal - Melville Bay	JCNB & NAMMCO	70 landed animals	Quota of 90
Narwhal - Uummannaq	JCNB & NAMMCO	154 landed animals	Quota of 154
Narwhal - Disko Bay to South Greenland area	JCNB & NAMMCO	97 landed animals	Quota of 97 ⁱ
Narwhals - Ittoqqortoormiit	JCNB & NAMMCO	0 landed animals	Quota of 50
Narwhal - Tasiilaq	JCNB & NAMMCO	0 landed animals	Quota of 16
Bowhead whale – West Greenland / Arctic Canada	IWC	5 removals acceptable	Quota of 2
Humpback whale – West Greenland	IWC	10 removals acceptable	Quota of 10
Fin whale – West Greenland	IWC	19 removals acceptable	Quota of 19
Minke whale – West Greenland	IWC	164 removals acceptable	Quota of 164
Minke whale – East Greenland	IWC	20 removals acceptable	Quota of 20

ⁱ The quota in the Disko Bay area was 85, and the remaining 12 were allocated to West and Southwest Greenland.

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VI APPENDIX 1 – DATA REPORTING TO NAMMCO COMMITTEES

a. Short narrative

The catch data submission to NAMMCO had in its table no field for revision of previous submitted data as for other RFMOs. We expect it will follow same procedure as for other RFMOs, where information on any revision to previous years submitted data is part of the annual Progress Reporting.

Specifically for data on seals and small cetaceans the database LULI has in 2019 undergone a thorough technical cleanup due to a digitalization process. This has resulted in a revision of data on catches of seals and small cetaceans in Greenland previously submitted. Information and revised data has been submitted in the NPR for 2020.