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 walruses 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, Norhtwest 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 come 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^{o}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 Ittoqortoormiit, 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 Ittoqqortormiit and 21 in Tasiilaq. An ad-hoc working group under the SC meet 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 65ºN	Quota of 320, of which 20 are allocated south of 65ºN
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.