TWENTY SEVENTH MEETING OF THE COUNCIL

3 - 4 April 2019, Tórshavn, Faroe Islands

DOCUMENT NPR	**National Progress Report 2018 - Greenland**
Submitted by	**Greenland**
Action requested	Take note
Background	Each NAMMCO party shall submit an annual a National Progress Report by March 1st the following year.

NATIONAL PROGRESS REPORTS GREENLAND 2018

I INTRODUCTION

National Progress Reports should directly address the management measures and research undertaken by member countries in response to NAMMCO proposals for conservation and management, and research recommendations.

Sections II and III of this report summarize the research on pinnipeds and cetaceans done in Greenland in 2018 by The Greenland Institute of Natural Resources (GINR), in collaboration with several organizations. Section IV deals with management issues and was prepared by the Ministry of Fisheries, Hunting and Agriculture.

II RESEARCH BY SPECIES

If relevant, please note any field (sightings, tagging, scientific catches, etc.) and laboratory work, and any research results.

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* –East 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 and East Greenland
- Minke whale *Balaenoptera acutorostrata* – West and East Greenland
- White beaked dolphins *Lagenorhynchus albirostris* – East Greenland
- Killer whale *Orcinus orca* – East Greenland

B Field work in 2018

Walrus

Work with walruses in 2018 consisted on analyses of a variety of analysis for a NAMMCO assessment during fall and an aerial survey during spring in the North Water Polynya. The survey targeted also beluga, narwhals and bearded seals. In addition, we communicated with people from Pituffik, Qaanaaq, to document terrestrial haul-outs from Wolstenholme Fjord / Uummannap Kangerlua.

Seals

The time-series of ringed seal tagging in Sermilik (Southeast Greenland) and in Kangia (Jacobshavn Icefjord, West Greenland) continued in 2018. 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 with 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.

Cetaceans

An aerial surveys for narwhals was carried out in Dove Bugt, Northeast Greenland in summer 2018, as part of the environmental study program mentioned above.

Target species of other telemetry studies in 2018 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 was complemented with the use of sensors to document feeding events, heart rate and received sound levels to develop techniques for assessing the impact of anthropogenic noise. In East Greenland, telemetry studies in Scoresbysund started in 2010. The 2018 season in Scoresbysund included, as in 2017, controlled exposure experiments using a research vessel with a modified seismic air gun in an area with hydrophones moored into the sea floor and instrumented narwhals.

For the last time in a three year series, a narwhal tagging project was carried out in Kangerlussuaq fjord, East Greenland in August 2018.

As in previous years, the long-term studies of bowhead whales in Disko Bay for 2018 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.

Collection of identification pictures taken by the public of humpback whales flukes and dorsal fins from West Greenland continued throughout 2018. In Nuuk, fieldwork on humpback whales included photo-identification, biopsy sampling, satellite telemetry and drone recordings.

Studies of large whales in Tasiilaq, Southeast Greenland, carried out by the Climate Research Centre in Greenland, continued in 2018. Methods include photo identification, biopsy darting, satellite telemetry, passive acoustic monitoring, oceanographic measurements, distribution of potential prey and analysis of diverse samples from harvested animals.

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 2018

Laboratory work carried included the analysis of stomach samples from seals and fish in Nuuk, as well as genetic analyses of bowhead whales at the University of Oslo, and preliminary x-ray spectrometry analysis of trace elements in narwhal teeth.

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 2018

A number of desktop studies were carried out during 2018, including analysis of catch statistics for a number of species and assessments of narwhal and beluga for scientific working groups under NAMMCO/JCNB and of large whales for the IWC.

E Research results in 2018

The majority of research results from the fieldwork of 2018 are not available yet.

III ONGOING (CURRENT) RESEARCH

A brief description of current year research projects that would be relevant to the Scientific Committee.

The time-series of ringed seal tagging in Sermilik (Southeast Greenland) and in Kangia (Jacobshavn Icefjord, West Greenland) will continued in 2019.

Marine mammal surveys planned for 2019 include surveys for narwhals during summer in Inglefield Bredning and Melville Bay.

In order to understand the stock delineation and to obtain complementary data for abundance estimates, GINR runs a series of satellite telemetry studies. In 2019, the focus will be on narwhals in East Greenland.

The long-term studies of bowhead whales in Disko Bay will also continue. Work in 2019 will focus on the collection of biopsy samples for mark – recapture abundance estimates.

Telemetry studies of narwhals in Scoresbysund, East Greenland, started in 2010. Tagging is planned for 2019.

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. In Nuuk, fieldwork on humpback whales includes photo-identification, biopsy sampling and satellite telemetry. 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

Report what kind of management advice (scientific) of relevance for the NAMMCO Council and the Scientific Committee has been provided to the authorities in respective member countries, and, similarly, what management measures have been taken e.g. Executive Orders.

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

Quotas for large whales are set by the IWC. On its meeting in 2014, the IWC agreed upon quotas for the remaining years of the block period 2015 – 2018. The IWC quotas were implemented. At the IWC 67 meeting in 2018, the IWC agreed upon quotas and revised carry-over provisions for the new quota block 2019 – 2026.

A revised Executive Order regulating the hunt on large whales come into force from January 2019. The changes are 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 December 2018, the Government of Greenland decided to raise the quota in Melville Bay and Disko Bay with 20 narwhals in each area. The quota for Melville Bay was on 90 animals, raised from 70 animals. In Disko Bay the narwhal quota was raised from 85 to 105. 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 quota for narwhals in East Greenland were in accordance with recommendations from 2015 by NAMMCO and JCNB. For Ittoqqortoormiit, the quota was 50 animals, while in Tasiilaq the quota was of 16. 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 were recommended. This advice was corroborated by NAMMCO SC in November 2017. 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 has been given to SC, and it is expected that an answer to be given during the Annual Meeting in 2019. In 2017, 91 narwhals were reported caught in East Greenland. In 2018, 51 narwhals were reported caught in Ittoqqortoormiit, and 22 were reported caught in Tasiilaq. It is highly probable that the catch of narwhals in East Greenland is not sustainable.

The Government of Greenland sets the quotas for beluga. The quotas for 2018 were in accordance with recommendations from 2015 by NAMMCO and JCNB.

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.

Table 1. Overview of management advice per stock and the quota or other management measures used in 2018.

Species - stock	Advisor	Advice in 2018	Management measure 2018
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 117[i]
Narwhals - Ittoqqortoormiit	JCNB & NAMMCO	50 landed animals	Quota of 50
Narwhal - Tasiilaq	JCNB & NAMMCO	16 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	12 removals acceptable	Quota of 12

[i] The quota in the Disko Bay area was 85, and the remaining 12 were allocated to West and Southwest Greenland. After quotas were raised in December 2018, the quotas in Disko Bay were 105, and unchanged in West and Southwest Greenland.

V PUBLICATIONS AND DOCUMENTS (2018 ONLY, GINR ONLY)

Include titles of publications, reports and documents published in the report year that are likely to be of interest to the work of the Scientific Committee. List peer-reviewed publications first and then "grey" literature separately.

Peer reviewed

Accardo, C.M., Ganley, L.C., Brown, M.W., Duley, P.A., George, J.C., Reeves, R.R., Heide-Jørgensen, M.P., Tynan, C.T. and Mayo, C.A. 2018. Sightings of a bowhead whale (*Balaena mysticetus*) in the Gulf of Maine and its interactions with other baleen whales. J. Cetacean Res. Manage. 19: 23-30.

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Hastrup, K., Oberborbeck Andersen, A., Grønnow, B., Heide-Jørgensen, M.P. 2018. Hunting around the North Water: Drivers of natural and social change over a millennium. AMBIO https://doi.org/10.1007/s13280-018-1028-9

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Laidre KL and Regehr EV (2018) Arctic marine mammals. In "Encyclopedia of Marine Mammals" (Bernd Würsig, J.G.M. Thewissen, and Kit M. Kovacs, eds.), 3rd edition. Pp 34-40. Academic Press/Elsevier, San Diego, CA, USA

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Hansen R. & Heide-Jørgensen MP, Abundance of walrus in the North Water 2018. SC/25/14-WWG/06

Hansen R, Recalculations for North Water Survey 2018. NAMMCO SC/25/14-WWG/06b

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Rosing-Asvid A, Zinglersen K (2018) Telemetry – tracking the first year of harp seal pups born in the Greenland Sea - To describe their distribution in relation to future oil-exploration activities in the area. A study is under the Northeast Greenland Environmental background study program for the Strategic Environmental Impact Assessment.

VI APPENDIX 1 - CATCH DATA

In the narrative, include any relevant information about catch reporting. See Excel worksheet "NAMMCO NPR database (Country) 2019". Report the variables indicated for each species harvested. "Stock area" refers to generally accepted stocks, if appropriate, e.g. Northeastern Atlantic for minke whales, West Greenland for beluga. If no stock areas exist, give area of catch, e.g. NW coastal Iceland. If "struck and lost" data are available, please list these.

a. Short narrative

b. Filled out in Excel spreadsheet 1

VII APPENDIX 2 - BY-CATCH DATA

In the narrative, include a brief explanation of how by-catch information was collected. The explanation should include the methodology used (e.g. log book, observers, questionnaires), the fisheries covered and the extent of the coverage by fishery, and should be adequate for a future evaluation of by-catch monitoring procedures by the Scientific Committee and/or the Working Group on By-catch. In the Excel spreadsheet "NAMMCO NPR database (Country) 2019", report the variables indicated for each species taken. "Fishery" means the fishery in which the by-catch occurred, and "Gear" means the type of fishing gear that was used. Reports should discriminate between no by-catch, and an apparent lack of by-catch because of inadequate monitoring.

a. Short narrative

b. Filled out in Excel spreadsheet 2

VIII APPENDIX 3 - STRANDINGS

In the narrative, include a brief description of stranding incidents and describe any biological samples and/or data that were collected. In the Excel spreadsheet "NAMMCO NPR database (Country) 2019", include species, numbers, and any other relevant data that is available (sex, age class, etc.).

a. Short narrative

b. Filled out in Excel spreadsheet 3

IX APPENDIX 4 – SHIP STRIKES

In the narrative, include a brief description of ship strike incidents. In the Excel spreadsheet "NAMMCO NPR database (Country) 2019", include species, numbers, and any other relevant data that is available (sex, age class, etc.).

a. Short narrative

b. Filled out in Excel spreadsheet 4