



NAMMCO ANNUAL MEETING 31

19-21 March 2024

Hotel Reykjavík Grand, Reykjavík

NAMMCO/31/NPR/ GL-2023	National Progress Report Greenland – 2023
Submitted by	Greenland
Action requested	For Information
Background/content	



NATIONAL PROGRESS AND DATA REPORTING 2023

GREENLAND - PROGRESS REPORT ON MARINE MAMMALS 2023

I INTRODUCTION

Sections II, III and V of this report summarize the research done on pinnipeds and cetaceans in Greenland in 2023 by the Greenland Institute of Natural Resources (GINR), in collaboration with several organizations. Sections IV and VI deal with management issues. The Department of Fisheries and Hunting provided the hunting data.

II RESEARCH BY SPECIES

A Species and stocks studied

Pinnipeds

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

Cetaceans

- Narwhal *Monodon monoceros* - West and East Greenland
- Beluga *Delphinapterus leucas* – West and 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 and West Greenland

B Field work in 2023

Walrus

In 2021, an automated camera was mounted on Edderfugleøerne, in Wolstenholme Fjord / Uummannaq Kangerlua, Northwest Greenland, to monitor a terrestrial haul-out of walrus discovered in 2018. The camera continued to take pictures throughout 2023.

To study the movements of walrus on Northern Baffin Bay on a cost-effective way, hunters from Qaanaaq tagged walrus with Satellite senders for a second year in a row. This fieldwork was carried out 100 % by local hunters, without participation of GINR staff.

Seals

A time-series of ringed seal tagging in Sermilik (Southeast Greenland) and in Kangia (Ilulissat Ice fjord, West Greenland), started in 2012 and finished in 2022. However, analyses continued in 2023.

A two-year tagging study of ringed seals in Inglefield Bredning, which started in 2021, continued in 2022 and ended in 2023. The main aim of this work is to obtain oceanographic data for climate analysis. By-product of this study is data on habitat use, movements and ecology of seals in the area.

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no facebook.com/nammco.org twitter.com/NAMMCO_sec

Two PhD students from the University of Hokkaido continued their studies on the marine ecology of Qaanaaq, including seals and other top predators.

Cetaceans

A spring survey focusing on polar bears in East Greenland yielded data on cetacean distribution, including bowhead whales, narwhals and one beluga ice entrapment. Local hunters participated in the areas close to their hunting grounds.

Aerial surveys for narwhals were carried out during summer in Melville Bay and Inglefield Bredning.

In 2023, as in previous years, hunters from Qeqertarsuaq collected biopsies of bowhead whales during spring in Disko Bay.

A telemetry study of bowhead whales in Disko Bay was carried out in May 2023.

Fieldwork for a PhD done in collaboration between the Faroese Marine Research Institute and GINR was carried out in East Greenland in July and August, focusing on the ecology of pilot whales, killer whales and dolphins (in East Greenland, white beaked dolphins). Two pilot whales were tagged with remotely deployed satellite transmitters, one of which sent data for two months. Biological samples from pilot whales, white beaked dolphins and killer whales were obtained. In addition, biopsied from sperm whales and fin whales were obtained, as well as distribution data and identification pictures of sperm whales, humpback whales and pilot whales.

Tagging of fin whales in Tasiilaq, as part of the NAMMCO Mintag project was carried out in August 2023.

Collection of identification pictures taken by the public of humpback whale flukes continued throughout 2023.

Tissue samples from belugas caught in Ittoqqortoormiit were acquired from hunters.

As every year, hunters sent samples from harvest of large cetaceans: humpback whales, fin whales, bowhead whales and minke whales.

C Laboratory work in 2023

Laboratory work carried in 2023 included the analysis of stomach samples from seals and narwhals from Qaanaaq (GINR and Hokkaido University), stomach samples from white beaked dolphins in East Greenland (GINR/GCRC & University of Copenhagen), genetic analyses of killer whales from East and West Greenland (University of Trondheim, University of Manitoba and GINR), genetic analyses of bowhead whales from Disko Bay (University of Oslo and GINR), genetic analysis of belugas and narwhals (University of Copenhagen and GINR), chemical analysis on narwhal tusks (multiple locations) and diverse contaminant studies.

Sound recordings from moorings in West and East Greenland were analysed for estimates of background noise and seasonal occurrence of marine mammals, as well as monitoring of seismic exploration and studying different aspects of human disturbance.

Deployment of tags for physiological measurements was tested on captive belugas.

D Other studies in 2023

A number of desktop studies were carried out during 2023, including analysis of catch statistics for a number of species and assessments of narwhal for scientific working groups under NAMMCO and of large cetaceans for the IWC. A postdoc on the effects of climate change on the distribution and movements of cetaceans that started in 2022 continued in 2023. Two PhD studies from Hokkaido University, in collaboration with GINR continued in 2023.

E Research results in 2023

The majority of research results from the fieldwork of 2023 are not available yet.

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no [facebook.com/nammco.org](https://www.facebook.com/nammco.org) twitter.com/NAMMCO_sec

III ONGOING (CURRENT) RESEARCH

The automated camera monitoring the newly established walrus terrestrial haul out in Wolstenholme Fjord, Qaanaaq, will get new batteries in summer 2024 and the memory card will be shifted.

Hunters from Qaanaaq will continue efforts to tag walruses during spring and early summer in 2024.

The marine mammal survey planned for 2024 is the NAMMCO coordinated NASS aerial survey for cetaceans during summer in West and East Greenland.

A second and last season of fieldwork for TOPLINK; a PhD done in collaboration between the Faroese Marine Research Institute and GINR will be carried out in East Greenland in 2024, focusing on the ecology of pilot whales, killer whales and white beaked dolphins.

The long-term studies of bowhead whales in Disko Bay will also continue. Work in 2024 will focus on the collection of biopsy samples for mark – recapture abundance estimates, and on satellite telemetry.

If funding is secured, opportunistic observations, satellite tagging and biopsy sampling of narwhals will be carried out during a ice breaker survey in north Greenland.

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

Acoustic moorings will be deployed by GINR's Climate Research Centre in Qaanaaq in 2024.

IV ADVICE GIVEN AND MANAGEMENT MEASURES TAKEN

Advice and quotas for cetaceans and pinnipeds in the calendar year 2023 are summarized in table 1.

Large cetaceans:

Quotas for large cetaceans 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 2023. Greenland have decided only to follow the carry-over provision for minke whales both in West and East Greenland. Carry-over provision for other large whales will be implemented if necessary.

Small cetaceans:

The Government of Greenland sets the quotas for narwhals, with basis on user's knowledge, cultural and meat needs and recommendations from NAMMCO and JCNB. JCNB has not had commission meeting in 2023. However the scientific advice for the JCNB/NAMMCO JWG in 2022 was, for the constellation of catches that gives the highest number of narwhals in West Greenland: Smith Sund 38 narwhals, Inglefield Bredning 52, Melville Bay 0, Uummannaq 123 and Disko Bay 54. The reason for a zero advice in Melville Bay is that this is declining stock and a proportion of the narwhals that summer in Melville Bay is caught during winter in Uummannaq and Disko Bay areas.

In 2023, the quota for Etah (Smith Sund) was five animals, Qaanaaq (Inglefield Bredning) 98 animals, Melville Bay 110 (15 for Savissivik and 95 for Upernavik), Uummannaq 154 animals and 88 for Disko Bay and the rest of West Greenland.

For belugas in West Greenland, the quotas for 2023 were in accordance with recommendations from 2020 by the Joint Working Group of the Scientific Committees of JCNB NAMMCO and JCNB. The only difference is the management measure taken for Qaanaaq is still in effect, due to overharvest in 2019. The decision to subtract 8 belugas per year until 2029 is still in due.

Furthermore, Government of Greenland has decided not to follow the recommendations regarding no hunting south of 65° N and seasonal closures in other parts of West Greenland.

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no [facebook.com/nammco.org](https://www.facebook.com/nammco.org) twitter.com/NAMMCO_sec

For the first time, quotas for belugas in East Greenland were introduced in December 2022, with a technical quota of 30 animals for the period 2022-2027.

The Scientific Committee of NAMMCO recommends that belugas in East Greenland remain fully protected, as it is thought that there is insufficient information to perform an assessment, and the few belugas occasionally observed in East Greenland are probably vagrants from other populations, including the Svalbard population. In response to observations by hunters of large groups of belugas in East Greenland, the Government of Greenland granted a total quota of 30 belugas, to be taken between December 2022 and including season 2027.

Regarding harbour porpoises, quota advice was received from NAMMCO in 2021, 1.869 landed harbour porpoises. This is yet to be followed.

There are catches without quotas for pilot whale, harbour porpoise, white-sided dolphins, and white-beaked dolphins, as there was no advice in 2023 from NAMMCO nor the Greenland Institute of Natural Resources on quotas.

In 2013, NAMMCO recommended that Greenland should take a closer look at the accuracy of catch data for harbour porpoises and killer whales. This work has not been completed. Furthermore, NAMMCO has noted that killer whales should be included in existing mandatory reporting schemes, and advice Greenland to regulate the hunt and restrict quotas in a precautionary way. An executive order for small cetaceans is underway.

Pinnipeds:

Walrus quotas are given by the Government of Greenland, and in 2023, as in previous years, followed the advice from NAMMCO. An executive order on walrus was introduced in 2022. Changes include hunting all year, protection of haul outs, new management areas and protection of adult females in East Greenland removed.

Harbour seals and grey seals are still protected, and there are no quotas for other seal species: ring seals, harp seals, hooded seals and bearded seals, as there is no advice on quotas from NAMMCO. However, all catches including struck and lost must be reported annually.



Table 1: Overview of management advice per stock and the quota or other management measures used in 2023.

Species - stock	Advisor	Advice in 2023	Management measure 2023
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
Ringed seal	ICES/NAFO/NAMMCO	No concern	No catch limit
Bearded seal	ICES/NAFO/NAMMCO	No concern	No catch limit
Walrus - Baffin Bay	NAMMCO	79 landed animals	Quota of 79
Walrus - Davis Strait / Baffin Island	NAMMCO	74 landed animals	Quota of 74
Walrus - East Greenland	NAMMCO	17 landed animals	Quota of 17
Beluga - West Greenland	JCNB & NAMMCO	265 landed animals. Protection south of 65°N.	Quota of 265, hunting still allowed south 65°N.
Beluga - East Greenland	NAMMCO	0 catches	Technical quota of 30 in all from December 2022 including 2027.
Beluga - Qaanaaq	JCNB & NAMMCO	37 landed animals	29 allowed takes, due to overharvest in 2019.
Narwhal - Etah	JCNB & NAMMCO	38 landed animals	Quota of 5
Narwhal - Inglefield Bredning	JCNB & NAMMCO	52-55 landed animals	Quota of 98
Narwhal - Melville Bay	JCNB & NAMMCO	0-24 catches	Quota of 110
Narwhal - Uummannaq	JCNB & NAMMCO	0-123 landed animals	Quota of 154
Narwhal - Disko Bay (West Greenland)	JCNB & NAMMCO	0-54 landed animals	Quota of 88 ⁱ
Narwhal - Ittoqqortoormiit	NAMMCO	0 catches	Quota of 20
Narwhal - Kangerlussuaq	NAMMCO	0 catches	Quota of 20
Narwhal - Tasiilaq	NAMMCO	0 catches	Quota of 10
Bowhead whale – West Greenland / Arctic Canada	IWC	5 removals acceptable	Quota of 2

ⁱ The quota in the Disko Bay area was 85, and the remaining 3 were allocated to West and Southwest Greenland.

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

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no facebook.com/nammco.org twitter.com/NAMMCO_sec



V PUBLICATIONS AND DOCUMENTS (INCOMPLETE)

Peer reviewed

- Autenrieth, M., K. Havenstein, B. De Cahsan, J. Canitz, H. Benke, A. Roos, C. Pampoulie, G. M. Sigurðsson, U. Siebert, M.T. Olsen, V. Biard, M.P. Heide-Jørgensen, A. Amaha Öztürk, B. Öztürk, J.W. Lawson, R. Tiedemann. (2023) Genome-wide analysis of the harbour porpoise (*Phocoena phocoena*) indicates isolation-by-distance across the North Atlantic and potential local adaptation in adjacent waters. *Conservation Genetics* :
- Berger ML, Shaw SD, Rolsky CB, Chen D, Sun J, Rosing-Asvid A, Granquist SM, Simon M, Backlin BM, Roos AM (2023) Alternative and legacy flame retardants in marine mammals from three northern ocean regions. *Environ Pollut* 335:122255
- Biddlecombe B.A., S.H. Ferguson, M.P. Heide-Jørgensen, D.M. Gillis, C.A. Watt. (2023) Estimating abundance of Eastern Canada-West Greenland bowhead whales using genetic mark-recapture analyses. *Global Ecology and Conservation* 45:e02524
- Boertmann D, Raundrup K, Nymand J, Fritt-Rasmussen J, Johansen KL (2023) Observations of bowhead whales in west Greenland during summer. *Polar Res.* 42:9436
- Chambault P, Blackwell SB, Heide-Jørgensen MP (2023) Extremely low seasonal prey capture efficiency in a deep-diving whale, the narwhal. *Biol Lett* 19:20220423
- Jensen FH, Tervo OM, Heide-Jørgensen MP, Ditlevsen S (2023) Detecting narwhal foraging behaviour from accelerometer and depth data using mixed-effects logistic regression. *Animal Biotelemetry* 11:
- Kettemer LE, Ferguson SH, Watt CA, Matthews CJD, Kiszka JJ, Jourdain E, Borgå K, Ruus A, Granquist SM, Rosing-Asvid A, McKinney MA (2023) Quantitative fatty acid signature analysis reveals a high level of dietary specialization in killer whales across the North Atlantic. *J Anim Ecol* 92:126-1229
- Land-Miller H, Roos AM, Simon M, Dietz R, Sonne C, Pedro S, Rosing-Asvid A, Rigét FF, McKinney MA (2023) Comparison of feeding niches between Arctic and northward-moving sub-Arctic marine mammals in Greenland. *Mar Ecol Prog Ser SHIFTA7*:
- Louis M., Korlevic P., Nykanen M., Archer F., Berrow S., Brownlow A., Lorenzen E., O'Brien J., Post K., Racimo F., Rogan E., Rosel P. E., Sinding M.-H.S., van der Es H., Wales N., Fontaine M.C., Gaggiotti O.E., Foote A.D. (2023) Ancient dolphin genomes reveal rapid repeated adaptation to coastal waters. *Nature Communications* 14:4020
- Lysiak N. S. J., Ferguson S.H., Hornby C.A., Heide-Jørgensen M.P. and Matthews C.J.D. (2023) Prolonged baleen hormone cycles suggest atypical reproductive endocrinology of female bowhead whales. *R. Soc. open sci.* 10:230365
- Nielsen LR, Tervo OM, Blackwell SB, Heide-Jørgensen MP, Ditlevsen S (2023) Using quantile regression and relative entropy to assess the period of anomalous behavior of marine mammals following tagging. *Ecology and Evolution* 13:e9967
- Pedersen AF, Dietz R, Sonne C, Liu L, Rosing-Asvid A, McKinney MA (2023) Development and validation of a modified QuEChERS method for extracting polychlorinated biphenyls and organochlorine pesticides from marine mammal blubber. *Chemosphere* 312:137245
- Remili A, Dietz R, Sonne C, Samarra FIP, Letcher RJ, Rikardsen AH, Ferguson SH, Watt CA, Matthews CJD, Kiszka JJ, Rosing-Asvid A, Mckinney MA (2023) Varying diet composition causes striking differences in legacy and emerging contaminant concentrations in killer whales across the North Atlantic. *Environ. Sci. Technol.* 57:16109-16120
- Remili A, Dietz R, Sonne C, Samarra FIP, Rikardsen AH, Kettemer LE, Ferguson SH, Watt CA, Matthews CJD, Cory JD, Kiszka JJ, Jourdain E, Borgå K, Ruus A, Granquist SM, Rosing-Asvid A, McKinney MA (2023)

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no [facebook.com/nammco.org](https://www.facebook.com/nammco.org) twitter.com/NAMMCO_sec

Quantitative fatty acid signature analysis reveals a high level of dietary specialization in killer whales across the North Atlantic. *J. Anim. Ecol.* 92:1216-1229

Rosing-Asvid A, Löytynoja A, Momigliano P, Hansen RG, Scharff-Olsen CH, Valtonen M, Kammonen J, Dietz R, Rigét FF, Ferguson SH, Lydersen C, Kovacs KM, Holland DM, Jernvall J, Auvinen P, Olsen MT (2023) An evolutionarily distinct ringed seal in the Ilulissat Icefjord. *Mol Ecol* 32:5932-5943

Schiøtt S, Jensen MR, Sigsgaard EE, Møller PR, Avila MdP, Thomsen PF, Rysgaard S (2023) Environmental DNA metabarcoding reveals seasonal and spatial variation in the vertebrate fauna of Ilulissat Icefjord. *Mar Ecol Prog Ser* 706:91-108

Selbmann A, Deecke VB, Filatova OA, Fedutin ID, Miller PJO, Simon M, Bowles AE, Lyrholm T, Lacey C, Magnúsdóttir EE, Maunder W, Wensveen PJ, Svavarsson J, Samarra FP (2023) Call type repertoire of killer whales (*Orcinus orca*) in Iceland and its variation across regions. *Mar Mammal Sci* 39:1136-1160

Shuert, C.R., N.E. Hussey, M. Marcoux, M.P. Heide-Jørgensen, R. Dietz and M. Auger-Méthé (2023) Divergent migration routes reveal contrasting energy-minimization strategies to deal with differing resource predictability. *Movement Ecology* 11:

Straneo F, Slater DA, Bouchard C, Cape MR, Carey M, Ciannelli L, Holte J, Matrai P, Laidre K, Little C, Meire L, Seroussi H, Vernet M (2023) An interdisciplinary perspective on Greenland's changing coastal margins. *Oceanography* 35:3-4:106-117

Suárez-Menéndez, M., M. Bérubé, F. Furni, V.E. Rivera-León, M.P. Heide-Jørgensen, F. Larsen, R. Sears, C. Ramp, B.K. Eriksson, R.S. Etienne, J. Robbins, P.J. Palsbøll. (2023) Wild pedigrees inform mutation rates and historic abundance in baleen whales. *Science* 381:990-995

Tervo OM, Blackwell SB, Ditlevsen S, Garde E, Hansen RG, Samson AL, Conrad AS, Heide-Jørgensen MP (2023) Stuck in a corner: Anthropogenic noise threatens narwhals in their once pristine Arctic habitat. *Sci Adv* 9:eade0440

Tervo OM, Louis M, Sinding M-HS, Heide-Jørgensen MP, Hansen RG (2023) Possible signs of recovery of the nearly extirpated Spitsbergen bowhead whales: observations of calves in East Greenland. *Pol Res* 42:8809

Videsen SKA, Simon M, Christiansen F, Friedlaender A, Goldbogen J, Malte H, Segre P, Wang T, Johnson M, Madsen PT (2023) Cheap gulp foraging of a giga-predator enables efficient exploitation of sparse prey. *Sci Adv* 9:eade3889

Witting L (2023) On the natural selection of body mass allometries. *Acta Oecologica* 118:103889.

Meeting documents

CITES (2023) Draft guidance: Non-detriment findings - Module 3: incorporation of local and traditional knowledge, 4-8 December. Nairobi, Kenya

De Clerck S, Heide-Jørgensen MP, Mikkelsen B (2023) Movements of white-sided dolphins tagged in the Faroe Islands, 30-2 October - November. Copenhagen, Denmark

Hansen R (2023) Update on the North Atlantic Survey of Selected Cetaceans NASS-2024 and funding, 29-30 March. Tromsø, Norway

Hansen R (2023) Abundance of bowhead whales (*balaena mysticetus*) in West Greenland, 2022, 24-6 April - May. Bled, Slovenia

Hansen R (2023) Update to SC 29 on the proposal for a North Atlantic survey of selected cetaceans (NASS-2024), 23-26 January. Copenhagen, Denmark

Hansen RG (2023) Collaboration on a narwhal aerial survey in 2022: Pinngortitaleriffik and East Greenland narwhal hunters, 11-15 December. Copenhagen, Denmark

Hansen RG (2023) Winter habitat for narwhals in East Greenland, 11-15 December. Copenhagen, Denmark

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no facebook.com/nammco.org twitter.com/NAMMCO_sec

Jones LS, Allen JM, Balcomb KC, Basran C, Berrow SD, Betancourt L, Bouveret L, Boye TK, Broms F, Chosson V, Clapham PJ, Fernald TW, Frediani JG, Jann B, Kempen R, Lien J, Suárez PL, Magnúsdóttir EE, MacKay MM, Mattila DK, Øien N, Rasmussen MH, Rinaldi M, Robbins J, Sears R, Seton RE, Simon M, Stevick PT, Víkingsson GA, Weinrich M, Wenzel FW, Whitehead H, Young D, Todd SK (2023) Ocean-basin-wide movement patterns of North Atlantic humpback whales, *Megaptera novaeangliae*. SC69A, IWC Scientific Committee meeting, April. Slovenia, Jones LS, Allen JM, Balcomb KC, Basran C, Berrow SD, Betancourt L, Bouveret L, Boye TK, Broms F, Chosson V, Clapham PJ, Fernald TW, Frediani JG, Jann B, Kempen R, Lien J, Suárez PL, Magnúsdóttir EE, MacKay MM, Mattila DK, Øien N, Rasmussen MH, Rinaldi M, Robbins J, Sears R, Seton RE, Simon M, Stevick PT, Víkingsson GA, Weinrich M, Wenzel FW, Whitehead H, Young D, Todd SK (2023) Ocean-basin-wide movement patterns of North Atlantic humpback whales, *Megaptera novaeangliae*. SC69A, IWC Scientific Committee meeting, April. Bled, Slovenia

Louis M, Garde E, Kovacs KM, Lydersen C, Heide-Jørgensen MP, Lorenzen ED (2023) Fine-scale genetic

Rosing-Asvid A (2023) Responsible removals from small coastal seal stocks in Greenland, 8-11 May. Copenhagen, Denmark

Tervo O, Hansen R (2023) Catch statistics for *Lagenorhynchus* sp. in Greenland, 30-2 October - November. Copenhagen, Denmark

Witting L (2023) Assessment runs for white-sided dolphins in the Central North Atlantic – 2023, 30-2 October - November. Copenhagen, Denmark

Witting L (2023) Collapse continues for narwhals in Scoresby Sound, Copenhagen, Denmark

Witting L (2023) Narwhals summering around Kangerlussuaq at the verge of extinction, Copenhagen, Denmark

Witting L (2023) Assessing the de facto extirpated summer aggregation of narwhals around Tasiilaq, Copenhagen, Denmark

Witting L, Hansen R, Garde E, Heide-Jørgensen MP (2023) Note on struck and lost white-beaked dolphins in the Greenland hunt, 30-2 October - November. Copenhagen, Denmark

Reports and other written documents

Aldrin M, Biuw M, Buren A, Chacon A, Frie AK, Hamilton C, Hammond P, Henden JA, Skaug H, Witting L (2023) Benchmark Workshop for Harp and Hooded Seals (WKBSEALS). ICES Scientific Reports 74 pp.

Anon. (2023) Greenland, progress report on marine mammals 2022. NAMMCO national progress and data reporting 10 pp.

Biuw M, Chacon A, Frie AK, Hamill, M, Hamilton Ch, Haug T, Henden JA, Howell D, Lang S, Murray K, Salberg A, Smout S, Stenson G, Witting L (2023) Report of the Joint ICES/NAFO/NAMMCO Working Group on Harp and Hooded Seals (WGHP). ICES Scientific Reports 75 pp.

GINR (2023) CITES non detriment findings for havpattedyr i Grønland 2023. CITES Scientific Authority in Greenland 12 pp.

Hansen R (2023) Bidrag til svar til §37 spørsmål om narhval og hvidhvalstællinger i og ud for Nationalparken. Notat til Naalakkersuisut, Rådgivningdokument

Hansen R (2023) Kommentar til punkt om narhvaler i fangstrådet møde d. 23. november, 2023. Notat til Naalakkersuisut, Rådgivningdokument

Hansen R, Nielsen N (2022) Hvidbog om narhvaler i Grønland. Pinngortitaleriffik teknisk rapport 229 pp.

Hansen RG, Jacobsen IBD, Zinglersen KB (2023) Notat om: Vigtige områder med overvintrings- og forårsområder for hvalros (*Odobenus rosmarus*) vedrørende aktiviteter i forbindelse med mineralaktiviteter. Notat til Miljøstyrelsen for Råstofområdet 8 pp.

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no facebook.com/nammco.org twitter.com/NAMMCO_sec

Hansen RG, Tervo O, Jacobsen IBD, Zinglensen KB (2023) Notat om: Vigtige sommerområder for narhvaler (*Monodon monceros*) vedrørende aktiviteter i forbindelse med mineralefterforskning. Notat til Miljøstyrelsen for Råstofområdet 7 pp.

Hansen RG, Ugarte F, Jacobsen IBD, Zinglensen KB (2023) Notat om: Områder med landgangspladser for hvalros (*Odobenus rosmarus*) vedrørende aktiviteter i forbindelse med mineralaktiviteter. Notat til Miljøstyrelsen for Råstofområdet 7 pp.

Heide-Jørgensen MP, McKenzie BR (2023) East Greenland: at the tipping point in a unique marine ecosystem. researchaether.com, Populærartikel

Laidre K (2023) Field report aerial survey for polar bears in East Greenland. Pinngortitaleriffik internt rapport 41 pp.

NAMMCO (2023) Report of the 29th meeting of the NAMMCO Scientific Committee. NAMMCO-North Atlantic Marine Mammal Commission 59 pp.

NAMMCO (2023) Report of the NAMMCO Panarctic Bearded Seal Workshop. NAMMCO-North Atlantic Marine Mammal Commission 40 pp.

NAMMCO (2023) Report of the NASS 2024 Scientific Planning Committee. NAMMCO-North Atlantic Marine Mammal Commission 14 pp.

NAMMCO (2023) Report of the Scientific Committee Ad Hoc Working Group of Narwhals in East Greenland. NAMMCO-North Atlantic Marine Mammal Commission pp.

NAMMCO (2023) Report of the Scientific Committee Working Group on Coastal Seals. NAMMCO-North Atlantic Marine Mammal Commission 33 pp.

NAMMCO (2023) Report of the Scientific Committee Working Group on Dolphins. NAMMCO-North Atlantic Marine Mammal Commission 44 pp.

NAMMCO (2023) Report of the Scientific Committee Working Group on Ringed Seals. NAMMCO-North Atlantic Marine Mammal Commission 37 pp.

Rosing-Asvid A (2023) Høringssvar vedrørende spættet sæl. Notat til Naalakkersuisut, Rådgivningdokument

Rosing-Asvid A, Jacobsen IBD, Zinglensen KB (2023) Notat om: Vigtige områder for spættet sæl (*Phoca vitulina*) vedrørende operationer relateret til mineralaktiviteter. Notat til Miljøstyrelsen for Råstofområdet 5 pp.

Schiøtt S (2023) The Marine Ecosystem of Ilulisat Icefjord, Greenland. PhD afhandling ved Århus Universitet pp.

Tervo O (2023) Støj får narhvalerne til at sulte. [Videnskab.dk](https://www.videnskab.dk), Populærartikel

Ugarte F (2023) CITES-NDF for hvidhval i Grønland. Notat til Naalakkersuisut, Rådgivningdokument

Ugarte F, Hansen R (2023) Bidrag til besvarelse af §37 spørgsmål om optællinger af narhvaler og isbjørne. Notat til Naalakkersuisut, Rådgivningdokument

Witting L (2023) §37-svar: Fototekniske apparater. Notat til Naalakkersuisut, Rådgivningdokument

Witting L (2023) Intern rapport fra 2023 mødet (69a) for den Internationale Hvalfangstkommission's Videnskabelige Komité. Pinngortitaleriffik internt rapport 2 pp.

Witting L, Heide-Jørgensen MP (2023) Bidrag til besvarelse af spørgsmål om hvidhvaler i Østgrønland. Notat til Naalakkersuisut, Rådgivningdokument

Witting L, Heide-Jørgensen MP, Ugarte F (2023) Høring vedr. etablering af kvoter på marsvin i Vestgrønland. Notat til Naalakkersuisut, Rådgivningdokument

VI APPENDIX 1 – DATA REPORTING TO NAMMCO COMMITTEES

a. Short narrative

North Atlantic Marine Mammal Commission
 Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway
 +47 77687371; nammco-sec@nammco.org
www.nammco.no facebook.com/nammco.org twitter.com/NAMMCO_sec

Hunting data for narwhals, belugas, walrus and large cetaceans are collected through mandatory catch reporting. The catch reports include biological information on the catches such as species, sex, length, presence of foetus and stomach content. Area of catch, hunting methods and time of death are also collected.

In other small cetaceans such as pilot whale, harbour porpoise, white-sided and white-beaked dolphins and killer whales, yearly reporting of catch numbers are collected. There is currently no mandatory reporting scheme in this moment in time. The same for seals.

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.

North Atlantic Marine Mammal Commission

Postbox 6453, Sykehusveien 21-23, N-9294 Tromsø, Norway

+47 77687371; nammco-sec@nammco.org

www.nammco.no facebook.com/nammco.org twitter.com/NAMMCO_sec