



## NAMMCO ANNUAL MEETING 29

*13-15 September 2022  
Grand Hotel, Oslo & Hybrid*

## MEETING OF THE COUNCIL

<b>DOCUMENT 07</b>	<b>ADMINISTRATIVE REPORT 2021</b>
<b>Submitted by</b>	<b>Secretariat</b>
<b>Action requested</b>	Take note
<b>Background</b>	The document summarises the activities of the Commission and the Secretariat in 2021. As the Council Meeting was delayed from March 2022 to September 2022, it also provides some information on the major Committees' and Secretariat activities until June 2022.

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## ABBREVIATIONS USED IN THE REPORT

### Committees and other bodies

AEWG: Working Group on Abundance Estimates

AM: Annual Meeting

BYCELS: Council Working Group on By-catch, Entanglements and Live Strandings

CHM: Committee on Hunting Methods

CIO: Committee on Inspection and Observation

FAC: Finance and Administration Committee

HoDs: Heads of Delegations

JWG: NAMMCO-JCNB joint scientific Working Group

MMEN: CAFF Marine Mammal Expert Network

MM: Marine mammals

NSP: NAMMCO Scientific Publications Series

RFABs: Regional Fisheries Advisory Bodies

RG: Resource Group

SC: Scientific Committee

Sec: Secretariat

SG: Sub-Group

StC: Steering Committee

StG: Steering Group

WG: Working Group

WS: Workshop

### Staff:

CW = Charlotte Winsnes, Deputy Secretary

FW = Fern Wickson, Scientific Secretary (to 31.10.2021)

AC = Albert Chacón, Scientific Secretary (from 01.05.2022)

GD = Geneviève Desportes, General Secretary

HM = Heleen Middel, Assistant (01.05.2022) & Interim (01.11.2021 – 31.04.2022) Scientific Secretary

MT = Mana Tugend, intern

NS = Nicolai L.P. Scherdin

MB = Martin Binachon

## ADMINISTRATIVE REPORT 2021

The Administrative Report provides an overview of the activities of the Commission and the Secretariat over the past year, 2021, as well as some information on the major committees' and Secretariat activities until June 2022.

### 1. NAMMCO OFFICERS

The officers listed in the table below are those elected at the 28<sup>th</sup> Annual Meeting on 22-25 March 2021 or their replacement.

Committee	Chair (Member Country : Officer)	Term
Commission	NO: Ole-David Stenseth	April 2021 – March 2023
	Petter Meier, acting as Chair	From 23 May 2022
Finance and Administration Committee (FAC)	IS: Ásta Einarsdóttir	April 2021 – March 2023
Management Committee for Cetaceans (MCC)	FO: Ulla S. Wang	April 2021 – March 2023
Management Committee for Seals and Walrus (MCSW)	GL: Amalie Jessen	April 2020 – March 2023
Committee on Hunting Methods (CHM)	NO: Kathrine Ryeng	April 2019 – Sept. 2022
Committee on Inspection and Observation (CIO)	NO: Hild Ynnesdal	April 2021 – June 2022
	Guro Gjelsvik	July 2022 – March 2023
Scientific Committee (SC)	FO: Bjarni Mikkelsen, Chair	April 2019 – Sept. 2022
	GL: Aqqalu Rosing Asvid, Chair	Sept. 2022 – March 2025
	IS: Sandra Granquist, Vice-Chair	From Sept. 2022
Working Group on By-catch, Entanglements and Live Strandings (BYCELS)	FO: Ulla S. Wang	April 2021 – March 2023

### 2. FOCAL ACTIVITIES 2021

#### 2.1 COMMITTEES

A summary of the focal activities in the NAMMCO Committees during 2021 is presented below. Further information is also available in the list of meetings under item 5. *NAMMCO Meetings*.

##### 2.1.1 Committee on Hunting Methods

The CHM focussed on updating and exchanging information related to hunting and hunting methods in member countries.

It also supervised and provided input to the development the 1<sup>st</sup> information video of a series of training videos on hunting methods. This first one focusses on the safe handling of the 50 mm Kongsberg whaling cannon with loaded pusher shell (cartridge), and the harpoon and the Whale grenade 99. Egil Ole Øen was contracted as advisor and was the main contributor to the video. The development of the manuscript and editing of the film was done as a cooperation between the filmmaker, Relevant Film, Egil Ole Øen and Winsnes from the Secretariat. Filming on location was carried out during one day at MS Marie in Midtsun in late September 2021. The editing constituted most of the time used on the project.

### 2.1.2 Committee on Inspection and Observation

The CIO implemented the approved scope and range of observations activities in 2022. The 2022 season was later postponed due to the COVID-19 uncertain situation in late 2021.

It finalised the review of the provisions of the old Joint NAMMCO control scheme for the hunting of marine mammals, i.e., Section A on national inspection schemes was seen as redundant and is no longer an element under the CIO mandate.

It developed a proposal for a revised Terms of Reference for the Committee reflecting the new Observation Scheme and the deletion of the old Joint NAMMCO Control Scheme sections A and B.

### 2.1.3 Council Working Group BYCELS

BYCELS reviewed the 2020 data submitted by member countries on by-catch, entanglements and strandings.

### 2.1.4 Scientific Committee

An SC meeting was held in 2022, which discussed the status of all requests for advice and received available updates on all pinniped and cetacean species. At this meeting, the SC also reviewed the reports of all Working Group meetings held in 2021 since SC27. This included WGs on by-catch (BYCWG), narwhal in East Greenland (NEGWG), and a NAMMCO-JCNB Joint Working Group on Narwhal and Beluga (JWG). The SC also started developing a principle-based approach to setting management objectives, with a particular focus on depleted stocks.

Since the January 2022 meeting of the SC, an online meeting of the WG on by-catch (BYCWG) was held in May 2022 and the final report circulated.

A sub-group of the SC is member of the Steering Group of the MINTAG project, which was launched on 4 August 2021, and is progressing well. The aim of the project is to develop a smaller satellite transmitter tagging system for use on fast rorquals. This is presently missing, with important movements and migration information missing for those species.

### 2.1.5 Finance and Administration Committee

Between the meeting held during the Annual Meeting in March 2021 and August 2022, the FAC held 6 online meetings and one face to face meetings (May 2022). The focus of the Committee was the financing of the MINTAG project, progressing with the review and update of the Staff Rules (the latest modification was in May 2016 with the addendum of the item 11. Relocation), and the preparation of the draft and forecast budgets of the Commission.

## 2.2 SECRETARIAT

The emphasis of activities within the Secretariat in 2021 has been on:

***Preparing a draft revision and update of the Staff Rules*** for the FAC, considering the changes in the secretariat and Norwegian employment-related regulations.

***Preparing the Food Conference***, which will be held in the Faroe Islands in October 2022.

Supporting the negotiations between the member countries and with Japan around the financing of the **Super-Tag project**, now called **MINTAG project**. The project was launched on 4 August 2021.

***Updating the species pages on the website*** (adding recent catch data from NPR 2020 and assessment information, updating descriptions of ongoing research projects in Member Countries). The harbour seal, walrus, pilot whale, and minke whale pages were fully updated, following the review of the Scientific Committee in 2021. Early 2022, the pages for the narwhal, beluga, humpback whale, and fin whale, were also updated, after the review of the Scientific Committee at its 28<sup>th</sup> meeting.

**Preparing the material to be presented at the IUCN World Conservation Congress**, held in Marseille in September 2021.

**Creating a revamped website**, which was launched in April 2022 to mark the 30<sup>th</sup> anniversary of NAMMCO in 2022. This included a new landing page, a re-organisation of existing pages, and the addition of new informative pages.

**Updating NAMMCO's databases**, including those on Abundance Estimates for Cetaceans; Requests from the Council to the SC and SC responses; Proposals for Conservation and Management and Research Recommendations, and Responses from Member Countries; Removals (with the data received from Member Countries in their National Progress Reports 2020).

### 3. SECRETARIAT STAFF

In 2021, the Secretariat staff has included 8 employees and interns, although not all at the same time, as described in Table 1.

Table 1. Secretariat staff in 2021

General Secretary	Geneviève Desportes (GD)
Deputy Secretary	Charlotte Winsnes (CW)
Scientific Secretary	Fern Wickson (FW): to 31 October
	Heleen Middel (HM): from 1 November
Assistant Scientific Secretary	Heleen Middel (HM): 1 May – 31 October
Interns	Mana Tugend (MT): to 28 February
	Nikolai L.P. Scherdin (NS): 1 February – 31 July
	Martin Binachon (MB): 16 August – 7 January 2022

### 4. COVID-19 PANDEMIC

The global coronavirus (COVID-19) pandemic continued to impact the operations of NAMMCO in 2021, with several meetings being held online, including the 28<sup>th</sup> Annual Meeting in March 2021. Because of the continued uncertainty regarding travel possibilities in the first half of the 2022, the Annual Meeting 2022 was postponed from March to September, with the hope that it could be held face-to-face. When necessary, decisions necessary to the continuation of NAMMCO's work were taken in restricted Council formations by the Heads of Delegations. The activities under the NAMMCO Observation Scheme had been cancelled in 2020 for 2021, and were cancelled in 2021 for 2022, due to the continued COVID-linked uncertainty regarding travelling and meeting possibilities.

Taking advantage of the continued use of online meetings, the Secretariat participated in a range of external meetings and events that it would not likely have participated in in person due to the time demands and travel costs.

### 5. NAMMCO MEETINGS

Table 2 presents a chronological overview of the NAMMCO meetings held in 2021. The staff attending each meeting is specified, as well as the date when the report was adopted. All the reports that are publicly available (underlined in the table) can be found on the NAMMCO website under [Meeting reports and documents](#).

Table 2. Overview of NAMMCO meetings in 2021

Date	Meeting	Venue	Staff	Output
<b>January</b>				
12	Coastal Seals WG	Online	FW	<a href="#">Report adopted 20 January 2021</a>
26-29	NAMMCO SC	Online	GD, FW, MT, CWp	<a href="#">Report adopted 12 February 2021</a>
<b>February</b>				
11	JWG Quantitative SG	Online	FW	Minutes to JWG
16	HoDs	Online	GD	No summary
16	CIO	Online	CW	<a href="#">Report adopted 17 February 2021</a>
17	CIO	Online	CW	
18	Joint meeting of the MCs	Online	SEC	<a href="#">Report adopted 1 March 2021</a>
23	CHM	Online	CW, NS	<a href="#">Report adopted 25 February 2021</a>
25	CHM	Online	CW, NS	
26	BYCELS	Online	CW, NS	<a href="#">Report adopted 3 March 2021</a>
<b>March</b>				
11	HoDs	Online	GD	No summary
22	HoDs	Online	GD	No summary
22	AM / FAC	Online	SEC	<a href="#">Report adopted 22 February 2021</a>
23-25	AM / MCs			<a href="#">Reports adopted 25 March 2021</a>
22-25	AM / Council 28			<a href="#">Report adopted 26 April 2021</a>
<b>April</b>				
27	FAC	Online	GD	<a href="#">Report adopted 6 Mai 2021</a>
<b>May</b>				
6	HoDs	Online	GD, CW, FW	Food Conference kick-off meeting, no minutes
12	FAC	Online	GD	No minutes
18	JWG Quantitative SG	Online	FW	Minutes to JWG
20	JWG Quantitative SG	Online	FW	Minutes to JWG
27	2022 Food Event RG	Online	GD, FW, CW	Minutes approved 2 June 2021
<b>June</b>				
8	2022 Food Event RG	Online	GD, FW, CW	Minutes approved 21 June 2021
7-8	JWG Quantitative SG	Online	FW	Minutes to JWG
15	FAC & HOD	Online	GD	Synopsis of decisions adopted 16 June 2021
30	2022 Food Event RG	Online	CW, FW	Minutes approved 9 July 2021
<b>August</b>				
4	MINTAG StG (1st meeting)	Online	GD, FW	Minutes approved 04 August 2021
11-13	JWG Quantitative SG	Online	FW, HM	Minutes to JWG
25	FAC	Online	GD, CW	<a href="#">Report adopted 10 September 2021</a>
<b>September</b>				
14	2022 Food Event RG	Online	CW, FW, MB	Minutes approved 22 September 2021
16	CIO	Online	CW, MB	<a href="#">Report adopted 1 October 2021</a>
20-22	JWG Quantitative SG	Online	FW, HM	Minutes to JWG
28	CHM	Online	CW, MB	<a href="#">Report adopted 28 October 2021</a>
<b>October</b>				
15	By-catch WG	Online	FW, GD, HM	<a href="#">Report adopted 11 November 2021</a>
25-29	Narwhal in East Greenland WG	Copenhagen, DK	FW, GD, HM	<a href="#">Report adopted 11 November 2021</a>
<b>November</b>				
24	MINTAG StG	Online	GD, HM	No minutes
<b>December</b>				
2	FAC	Online	GD	Synopsis of decisions adopted 17 January 2022
13	2022 Food Event RG	Online	CW, GD	Minutes approved 17 December 2021
13-17	NAMMCO-JCNB Joint WG	Winnipeg, CA	HM	<a href="#">Report adopted 7 January 2021</a>

## 6. EXTERNAL RELATIONS

NAMMCO maintains relationships with a number of governmental and inter-governmental bodies working with marine management. Two organisations were in focus in 2021, OSPAR and CAFF.

### OSPAR

NAMMCO Member Countries have been considering a possible Memorandum of Understanding with OSPAR. A draft MOU between NAMMCO and OSPAR was developed and forwarded to the OSPAR Secretariat in June 2020. After some exchange between the two organisations, NAMMCO was informed in December 2021, that some Contracting Parties express reservations about progressing the MoU. However, the OSPAR Secretariat was tasked to explore how the two organisations could cooperate in the absence of an MoU.

### CAFF

The CAFF Marine Mammal Expert Network (MMEN), of which Desportes is a member, had in the framework of the CBMP Marine Implementation plan 2021-24 an activity focused on Bearded seals. NAMMCO planned to conduct an assessment of bearded seals in the North Atlantic in 2022. NAMMCO therefore proposed in the course of spring 2021 a joint NAMMCO-CAFF workshop to conduct a pan-Arctic review of the status of the species for helping address knowledge gaps and identify priority actions needed to ensure effective monitoring and conservation of the species.

The proposal was positively received and a WS Steering Group with representatives from the CAFF Board, MMEN and CAFF and NAMMCO Secretariat was formed and corresponded with a first meeting in November 2021 and with the CAFF and NAMMCO Secretariats as support team.

The Joint Workshop was originally planned for May 2022 but was postponed in the light of the Ukraine crisis. It is now tentatively planned for March 2023.

### ASCOBANS

Although it only came into force in 1994, the agreement was concluded in 1992. NAMMCO congratulated ASCOBANS on its 30<sup>th</sup> anniversary with a [message](#): “Although ASCOBANS and NAMMCO have different views on the use of marine mammal resources, for the past 30 years we have shared the same objective: to conserve cetaceans for future generations. The current environmental and climatic challenges strongly call for scientific cooperation of all forces to ensure cetacean well-being. NAMMCO will welcome any such joining of forces. Congratulations on ASCOBANS 30th anniversary”.

#### 6.1 NATIONAL AND IGO EVENTS ATTENDED BY THE SECRETARIAT

Table 3 below presents a chronological overview of the events organised by national bodies or inter-governmental organisations that were attended by the Secretariat during 2021. The staff that attended the meeting is specified, as well as their contribution. References to observer reports (available in Appendix A) are provided when relevant.

#### 6.2 IGO EVENTS ATTENDED BY MEMBER COUNTRIES ON BEHALF OF NAMMCO IN 2021

As is the practice, Member Countries represented NAMMCO at the 2021 annual meetings of NASCO (Faroe Islands), NAFO (Iceland) and NEAFC (Norway).

Table 3. Overview national bodies or inter-governmental organisations events attended in 2021.

Date	Organisator // Meeting	Venue	Staff	Comment	App. A #
<b>February</b>					
2	ASCOBANS // Beaked whales WG	Online	FW	Share & request data from NAMMCO area	1
24	Regional Fishery Body Secretariats Network // 8th	Online	CW		2
<b>April</b>					
21	Arctic Council (AC) // Observer Chairman's event	Online	CW	To enhance meaningful engagement with AC Observers to improve Arctic Governance	3
30/04 & 25/06	Norwegian leadership of the Global Action Network & WorldFish // Food System Summit Dialog: "Transforming food systems with aquatic foods"	Online webinar	GD	04: "Access to sustainable, safe and nutritious food for all" 06: "Advancing equitable livelihoods for healthy people and planet"	
<b>Mai</b>					
27/04 - 14/05	IWC // SC68c	Online	GD, FW, DP	Attend relevant committees & items	4
11	CAFF - CBMP Marine // Spring AM	Online	GD		
20	AC // Ministerial Meeting	Online	GD		
<b>June</b>					
17-18	JP // Sustainable Use of Aquatic Marine Resources	Online	GD	Presentation GD: "Sustainable food systems and Marine Mammals"	5
<b>July</b>					
6	FAO & Worldfish // UN Food Systems Summit Science Day event	Online	GD	Question about MM	
26-28	UN // Food Systems Summit 2021 - Pre-Summit	Online	FW	Observe several relevant sessions	
<b>August</b>					
17	NORA // Webinar on project funding and application	Online	CW		
<b>September</b>					
3-11	IUCN // World Conservation Congress	Marseille, FR	GD, HM, MB	NAMMCO had a stand and staff assisted to many side events	6 App. B/3 App. I
9-10	IWC // Commission 68	Online	CW	Aim: Intersessional reporting leading up to IWC 68. Attend relevant items	
<b>October</b>					
21-22	NO // Norwegian Marine Mammal Scientific Advisory Board AM	Tromsø, NO	CW, HM		7
<b>November</b>					
3-4	CAFF - CBMP Marine // Fall AM	Online	GD		
8-12	ASCOBANS // AC 26	Online	GD, HM	Attend relevant agenda items	8
<b>December</b>					
7	ICES // Harp & Hooded seals Benchmark kickoff	Online	HM		

### 6.3 CONTACT WITH IGO SECRETARIATS, PARLIAMENTS, INSTITUTES

The Secretariat staff maintained in 2021 a closer contact with some IGOS secretariats and staff from different Institutions, either for facilitating the sharing of information or for preparing of a joint event. A list of meetings is provided in Table 4.

#### 6.3.1 Regional Fishery Body (RFB) Secretariats' Network

NAMMCO has actively contributed to the [Magazine](#) edited by the RSN since 2011 by submitting material for publication that describes the importance of its work on the conservation and management of marine mammals and highlighting ongoing priorities.

In 2021 only one issue was published in November dedicated to [Beyond COVID-19](#). NAMMCO shared experiences, both its challenges and positive lessons learned from the years with COVID-19. Highlighted were the new observation scheme, the planning of the 2022 Food Conference and recent published publications.

#### 6.3.2 Norwegian Centre for the Law of the Sea (NCLOS)

NCLOS and the NAMMCO Secretariat continued in 2021 the contacts and cooperation initiated in 2020. They organised jointly the 3d Marine Mammal Student Symposium on 9 April 2021 with the theme

"Marine Mammal Management in the Arctic: Between Scientific and Legal Perspectives". See Appendix B/1 for more information.

### 6.3.3 Office of the United Nations Food Systems Summit 2021

In August 2021, prior to the United Nations Food Summit 2021, the General Secretary, on behalf of the Commission, sent a letter to the UN Special Envoy for the 2021 Food Systems Summit, Dr. Agnes Kalibata. The letter was copied to Director of the Fisheries and Aquaculture Policy and Resources Division, Food and Agriculture Organization, Prof. Manuel Barange, as well as to the Chair of NAMMCO, Ole-David Stenseth.

The objective of the letter was to underline that effectively and responsibly managed marine mammal hunting can contribute to resilient and sustainable food systems (socially, economically, and environmentally) and supports the global action towards meeting the Sustainable Development Goals. However marine mammals were systematically ignored in the discourse on food security. It was therefore important that an event as important as the UN Food Systems Summit recognised and discussed the role that marine mammals play around the world in ensuring food security and food sovereignty, both now and in the future.

Although a reminder was sent, the letter remains unanswered to this date. A copy of the letter is available in Appendix I.

Table 4. Overview of meetings with secretariats and institutes in 2021

Date	Secretariat // Institute	Venue	Staff	Comment // Subject
<b>January</b>				
14	NAMMCO Sec & AMAP Sec	Online	GD, FW	At NAMMCO initiative, meeting with R. Rødven & M. Acquarone for establishing contact and discussing options for collaboration.
<b>April</b>				
20	Norwegian Institute of Marine Research + S. Smith		CW	Meeting with K. Ryend and S. Smith on how to progress for the publication of S. Smith's welfare project
<b>May</b>				
11	NORDECO	Online	FW	Meeting with F. Danielsen and M. Enghoff to discuss following up on the User Knowledge WS with the development of a brief outlining in more detail options for strengthening user knowledge described in the NAMMCO presentation.
18	Norwegian Polar Institute, Biodiversity Department	Tromsø, NO	FW, NS	Meeting with K. Kovacs and C. Lydersen on NS's bearded seal review
<b>June</b>				
7	CAFF Sec & CAFF Representatives	Online	GD	Following up on the CAFF bearded seal project from 2016 with NAMMCO bearded seal WS initiative, and how to involve TEK. With T. Barry, CAFF; K. Kovacs (MENN Chair); M. Pettersvik Arvnes (CAFF Board) & E. Pettersen (CBMP - Marine StG)
25		Online	GD	Talk with Despinas
<b>October</b>				
22	CAFF Sec	Online	GD	Organisation of the joint bearded seal panarctic WS
<b>November</b>				
9	CAFF // Bs WS StC	Online	GD	Organisation of the joint bearded seal panarctic WS
29	CAFF // Bs WS StC	Online	GD	Organisation of the joint bearded seal panarctic WS
<b>December</b>				
8	Norwegian Centre for the Law of the Sea - UIT	Tromsø, NO	GD	With V. De Lucia, on cooperation, 'MOU', student symposium

## 7. EXTERNAL RESEARCH PROJECTS WITH PARTICIPATION FROM NAMMCO

### 7.1.1 ARISE (February 2017 - July 2021)

[Initial project completion date was early 2021, but an extension was granted until July 2021]

This project was funded by the Changing Arctic Ocean programme of the Natural Environment Research Council of the UK. The project examined how environmental change affects Arctic food webs using novel biological markers present in phytoplankton and zooplankton at the base of the food chain and Arctic seals (ringed and hooded seals) at the top of the food chain. The project has partners from various UK universities. International collaborators included Fisheries and Oceans (CA), Akvaplan-niva, Institute of Marine Research and Polar Institute (NO), ICES, CAFF and NAMMCO.

Results from the project were reported to the ICES/NAFO/NAMMCO WG on Harp and Hooded seals in September 2019 and to the NAMMCO-ICES Seal Modelling Workshop in November 2020. Further results will be reported to the ICES Benchmark meeting in November 2022 and the 2023 CES/NAFO/NAMMCO WG. Several more scientific articles have been published in 2021.

### 7.1.2 Nordic Seals (2021 – launched in December 2020)

This research and networking project is funded by the Nordic Council of Ministers Working Group for Fisheries (AG-Fisk) and is coordinated by Matís in Iceland (Jónas Viðarsson). The objective is to identify, discuss and analyse the challenges associated with the moratorium on seal hunting and to explore alternatives for how to address seal management in the future. Specifically, it aims to a) collate information on seal populations and distribution in the North Atlantic, b) examine the impacts of seal populations on the Nordic seafood industry, c) identify means of controlling seal populations (including sustainable harvesting) and d) identify potential products and markets for seal products, whilst also considering barriers such as animal welfare concerns and pollutant loads. The project has partners from Iceland, the Faroe Islands, Canada, and Denmark. NAMMCO is an “associated partner”.

The project has progressed slowly and with intermittence due to competing priorities at the lead institution. It is now expected that the report will be finished, and the meeting/conference hosted before the end of 2022. Some preliminary results were presented by the Matís at the EFFOP (European Fishmeal and Fish Oil Producers) biennial in Skagen (DK) in June 2022.

## 8. IT SECURITY

NAMMCO IT support company is asked to regularly check the level of IT security at the Secretariat and provide recommendations on how it can be improved if necessary.

Such a check was performed in August 2022 and showed that the security was not optimal for an organisation exposed internationally and dealing with a sensitive matter. Improvements were recommended, and that they could be done at relatively low cost.

See Appendix C for the diagnostic and the recommendations provided.

## 9. COMMUNICATION AND OUTREACH

Outreach efforts to communicate the work of NAMMCO to a wide variety of audiences is important to ensure that the organisation is visible and accessible to diverse groups, that it maintains strong international networks, and that it fulfils its desire to be transparent. The outreach activities conducted by NAMMCO in 2021 included: maintenance of an up to date and engaging website, stand and activities at the IUCN World Conservation Congress, presentations at organised events- and training programs, publications in academic journals, and engagement with social media platforms.

This section of the report provides an overview of the outreach activities conducted by the Secretariat and/or supported by NAMMCO in 2021. It is divided into four sections: 1) Website, 2) Overview of

presentations made at different fora in 2021; 3) Summary of activities on the NAMMCO website and on social media; and 4) Overview of reports and scientific publications.

## 9.1 WEBSITE

NAMMCO 28 reiterated that the website [www.nammco.org](http://www.nammco.org) remains the most important information platform for the organisation, both as an internal and external tool. It was therefore important to keep it updated and accurate. Top priority was therefore granted to the provision of continual updates regarding the work of NAMMCO committees, and the knowledge on the different species. A special effort was given to taking search engine optimisation (SEO) into account, and the Secretariat had a review made by a specialised firm, which also gave advice on where to focus effort to get the website more visible and accessible to different search engines.

### 9.1.1 Improvements

#### 9.1.1.1 Information update

Work on updating four of our species pages with more recent information, new abundance estimates and assessments results, has been an important focus in 2021. At the end of 2020, all abundance estimates, and assessment data were up to date for all species. They were updated again for four species in 2021 (harbour seal, walrus, pilot whale, minke whale) and in 2022 (humpback whale, beluga, narwhal, fin whale).

Throughout 2021 and the beginning of 2022, the Secretariat has been working on a revamped NAMMCO webpage. This webpage was launched on 13 April 2022 to celebrate the 30<sup>th</sup> anniversary of the Nuuk agreement. Besides a restructure of the menu (including a new heading “Resource Management”) and a completely new landing page, several new content pages were added: Resources, Sustainability, Responsibility, Supporting Sustainable Development Goals, Hunting Past & Present.

#### 9.1.1.2 Website News/Blogs

News posts on the website included announcements of new articles published in Volume 12 of the NSP, event announcements such as the Marine Mammal Student Symposium, and introductions to – the new staff. A total of 18 news items were published on the website in 2021, as well as 4 blogs posts on interns’ experiences and the MINTAG project.

#### 9.1.1.3 Video “How to count marine mammals”

The Greenland Institute of Natural Resources (GINR) produced a video in Danish and Greenlandic to explain how scientists estimate the abundance of cetaceans off Greenland. One of the producers of the video is one of the scientists in the Greenland Delegation to the NAMMCO Scientific Committee.

Through an animation, the video describes in a clear and simple way the method used in Greenland for estimating the abundance of cetaceans using an aerial survey.

NAMMCO funded an English version of the [video](#), which is accessible on the website.

### 9.1.2 Website Content Quality Review

Based on recommendations from the Committees, the Council endorsed in 2020 a process for reviewing the content quality of the NAMMCO website.

The task has progressed in the different committees. At its 2021 meeting, the SC reviewed and provided comments on the information provided for four species: long-finned pilot whale, minke whale, harbour seal, and walrus. At its 2022 meeting, the SC reviewed and provided comments on the information provided for four species: humpback whale, fin whale, narwhal, and beluga.

The CHM, CIO and BYCELS finalised their processes in February 2021.

## 9.2 OUTREACH EVENTS & LECTURES

Table 5 presents an overview of the outreach events that the staff of the Secretariat attended in 2021. Each of the events where NAMMCO gave a presentation is described in more detail in Appendix B.

The big focus of 2021 was the participation as an exhibitor to the exhibition organised by the IUCN aside to the World Conservation Congress in September in Marseille, France; see Appendices B/3 and H for more details.

Table 5. Outreach events attended by the Secretariat in 2021

Date	Organisor // Meeting	Venue	Staff	Contribution & Comment	App. B #
<b>February</b>					
22	NORDECO // Arctic User Knowledge WS	Online	SEC	Presentation FW & Secretariat: "User Knowledge in NAMMCO's Advisory Work"	1
<b>April</b>					
9	NAMMCO - NCLOS // 3 <sup>rd</sup> Marine Mammal Student Symposium	Online	NS, MT, GD, FW	Chaired by FW, with 3 presentations by NAMMCO staff as below. Website news and FB post. GD: "NAMMCO - Contributing to a sustainable North" MT: "Legal Policies on Plastic Pollution in Relation to Marine Mammals in the Arctic" NS: "Assessment of Bearded Seal and Ringed Seal Stocks in the North Atlantic"	2
<b>September</b>					
3-11	IUCN // World Conservation Congress Exhibition	Marseille, FR	GD, HM, MB	NAMMCO had a stand manned with 3 staff and presenting in turn an association of 5 posters on different themes out of 8, as well as different activities. Activities on social media.	3
<b>November</b>					
2	DIS Copenhagen // Lecture	Sec	GD, CW	2hr lecture to students from USA on NAMMCO & on how the sustainable use of MM contributes to a sustainable North	4
9	NORDECO // "Community-Based Monitoring in the Arctic" Book Launch	Online	GD, MB	Interventions	

## 9.3 ACTIVITIES ON WEBSITE AND SOCIAL MEDIA IN 2021

An extended summary of the activity on the NAMMCO Facebook and Twitter pages in 2021 is summarised in Appendix D.

### 9.3.1 Activities on nammco.org

A summary of the visitor activity on the NAMMCO website in 2021 is presented in Appendix D.

The [NAMMCO website](#) has had 25,854 users between 1 January 2021 and 1 January 2022, which is an increase of 57% from 2020, and an increase of 31% from 2019.

Most users find the website through an organic search, while 27% navigate to the site directly. Facebook and Twitter referred just under 6% of users.

Computers remain the main tool used to access the website, but in 2021 there was a slight increase in mobile users compared to the previous years.

The top countries visiting the website for 2021 are the USA, followed by the UK, Canada, and China. Interestingly, Germany became 8<sup>th</sup> on the list, above Greenland, Iceland and the Faroe Islands.

As in previous years, the distribution of gender is relatively equal among the website users and most visitors were in the age class 25–34.

Some of the most popular pages, apart from the landing page, were the 'About NAMMCO' page, 'Council', 'News', and individual species pages. This suggests that, besides utilisation by the NAMMCO community, the website is used as a general source of information on marine mammals and that people outside the NAMMCO community use it to learn about the organisation. It is also worth noting that the Narwhal species page was the third most visited page on the website in 2021.

### 9.3.2 Facebook

Posts on Facebook during 2021 have included the weekly “Fun-fact Friday” posts, announcements of new species pages and news on the website, new articles published in the NSP, dissemination of scientific articles with NAMMCO scientists as co-authors, as well as scientific articles relevant to NAMMCO’s work (with all posts cross-linking to the NAMMCO website).

As of July 17<sup>th</sup>, 2022, the [NAMMCO Facebook account](#) has 2,472 likes and 2,682 followers. The account received 489 new likes and 731 new followers in 2021 and first half 2022.

The top three Facebook posts of 2021 (measured in terms of how many people were reached by the post) ranged between 18,000 to 78,000 users. These posts are all Fun Fact Friday posts on: killer whale and pilot whale interaction “Did you know that orcas in Iceland appear to fear pilot whales?”, hearing in odontocetes “Did you know that odontocetes (dolphins, porpoises and all other whales possessing teeth) receive sound through their lower jaw?” and the vitamin C levels in whale skin “Did you know that whale skin contains as much vitamin C as oranges?”. The latter was by far the most popular post, with 2,335 likes, 483 comments, and 472 shares. See the posts in Appendix D.

The Facebook posts are often complimented, including by senior scientists, for their diverse and interesting content. The posts are also regularly shared by other organisations working with marine mammals, such as the (World) Society for Marine Mammalogy, the American Cetacean Society, Sea Watch Foundation (UK), Humpbacks and High-rises (Australia), and the Intra-Quebec Sealers Association.

### 9.3.3 Twitter

Although NAMMCO has a Twitter account, activities on this platform are not prioritised and receive less time and attention than Facebook. Tweets included announcements of new articles in the NSP, dissemination of articles with NAMMCO scientists as co-authors, announcement of website news, retweets of relevant information and activities of organisations with whom NAMMCO fosters external relations.

The top tweet since January 2021 was about the 28<sup>th</sup> Annual Meeting of NAMMCO and its link to the press release, which reached 1,970 users. As of April 29, 2022, the [NAMMCO sec](#) Twitter account had 544 followers (an increase from 412 followers on January 1, 2021).

## 9.4 PUBLICATIONS

### 9.4.1 NAMMCO Reports

A link to the NAMMCO reports that have been published in 2021 can be found in the two tables under point 3.1. *NAMMCO Meetings*.

### 9.4.2 NAMMCO Scientific Publications

Volume 12 of the NAMMCO Scientific Publications series: *Chacón, A.F., Middel, H. and Wickson, F. Marine Mammals in the North Atlantic. NAMMCO Scientific Publications, 12.* <https://doi.org/10.7557/3.12> saw its first publication in May 2021.

The volumes of the Scientific Publications series have typically been species-based, around particular NAMMCO meetings that take place. As there was no such clear topic in 2020, it was decided that volume 12 would be based on an open call for submissions. Submissions were welcomed from across all disciplines (e.g., biology, economics, and law) relevant for the conservation and management of marine mammals in the North Atlantic. The deadline for submissions was initially October 1, 2021, but due to the COVID-19 situation this was extended to December 31, 2021.

One workshop report, 6 research articles, and 3 notes, were submitted in total. The workshop report was published in 2021, and the first research article in January 2022. As of August 2022, two more

research articles and two technical notes have been published. The remaining articles and note are currently in review and are aimed to be published later in 2022. The titles and references of the articles involving the NAMMCO scientific community are provided in Appendix E.

An *In Memoriam* for Dr. Gísli Arnór Víkingsson († July 2022), head of the Icelandic Delegation to the NAMMCO Scientific Committee and member of the Committee since its first meeting in 1993, will be included in the volume.

#### 9.4.3 Publication in other Scientific Journals

The Secretariat staff has authored and co-authored a number of scientific articles that were published in 2021. Additional articles have also been submitted for publication and are currently undergoing peer-review. The titles and references of these published or submitted articles are provided in Appendix F.

## 10. INFORMATION REQUESTS

Throughout the year, various informal requests are made to the Secretariat to provide information by students, educational institutes, RFMOs, Member Country representatives or other organizations, as well as the media. These requests are answered to the best of the ability of the Secretariat, or when relevant, forwarded to representatives from the Member Countries.

Responding to requests from the **FAO Regional Secretariats Network**, NAMMCO has contributed to the November RFABs surveys on safety and decent working conditions on fishing vessels.

Responding to requests from the **FAO Regional Secretariats Network**, NAMMCO has contributed to updating the [NAMMCO fact sheet](#) on the [FAO RFBs website](#) and to its survey of "Regional Fishery Body Secretariats to understand efforts and priorities in supporting safety and decent working conditions on fishing vessels".

## 11. NAMMCO INTERNSHIP PROGRAMME

The NAMMCO internship program started in November 2017. It continues to be a very positive and useful experience for the Secretariat and the selected candidates. It provides the Secretariat with substantial additional human resources and expertise, e.g., in technical and legal domains, and helps to alleviate the demanding workload for the permanent staff. Having interns able to carry out various administrative or technical duties in the daily work of the organisation (e.g., uploading documents, formatting articles etc) generate time for the permanent staff to focus on tasks requiring higher levels of expertise. Bringing new people into the organisation on a regular basis, has also brought new life, ideas, energy, motivation, and creative input to the otherwise small Secretariat.

The ability to have overlap between interns, when feasible, supports continuity in the handover of duties and alleviates the input from the Secretariat, as outgoing interns instructs incoming ones in some of the more technical aspects of their work (e.g., website editing). Although the interns remain under supervision of the permanent staff during their whole internship, this overlap increases the level of technical support, while reducing the time used by permanent staff on induction and orientation processes.

All interns contribute to the day-to-day work of the Secretariat, in particular helping to prepare for any meetings of the Commission. They are responsible for public outreach activities on social media; they create posts for the Facebook and Twitter sites of NAMMCO, including the *Fun Fact Friday* posts. This is carried out under the supervision of the Scientific Secretary and has proven to be very beneficial for growing the NAMMCO community and NAMMCO's audience.

**The intern that have served at NAMMCO in 2021 are:****Mana Tugend (FR): LL.M. in Polar Law, University of Akureyri (IS)**

Due to the COVID-19 situation, Mana's internship started in April 2021 with virtual interactions. She moved to Tromsø on 16 July 2020. During her internship, Mana has been heavily involved with copy-editing and formatting [Volume 11](#) of the NAMMCO Scientific Publications, including the preface, the introduction, 9 articles and 2 notes. She prepared a review of legal policies focusing on marine plastic pollution in the North Atlantic and updated the website on [Pollution](#), specifically updating the site on [Marine Debris](#) and [Microplastics](#). She also helped updating species pages, notably the [harbour seal](#). She was involved with the organisation of the 3<sup>rd</sup> Marine Mammal Student Symposium held in April 2021 together with N. Scherdin. A presentation of her pollution project was given to the 2021 Student Symposium: "Legal Policies on Plastic Pollution in Relation to Marine Mammals in the Arctic".

Mana is presently a PhD candidate at the NCLOS. She co-organised the 4<sup>th</sup> Marine Mammal Student Symposium held in April 2022 with the 2022 NAMMCO Intern, J. Schultze.

**Nicolai L.P. Scherdin (DK): BSc in Biology, University of Copenhagen, 1<sup>st</sup> year MSc Biology**

During his internship, Nicolai focused on preparing a review of the published and grey knowledge that had become available on bearded seal (and initially also ringed seals) since the last extensive review by the National Oceanic and Atmospheric Administration (NOAA) published in 2010. This was in preparation of the review and assessment that the NAMMCO Scientific Committee had been requested to perform. A presentation of his project was given to the 2021 Student Symposium: "Assessment of Bearded Seal and Ringed Seal Stocks in the North Atlantic"

The review of Nicolai "Bearded seals in the North Atlantic: draft review of recent knowledge available to inform stock assessments" was presented to the 28<sup>th</sup> meeting of the Scientific Committee in January 2022 and will be published as a technical note in NSP 12.

Nicolai is presently finishing his master's programme at the University of Copenhagen.

**Martin Binachon (FR): M.A. in Polar Law, University of Akureyri (IS)**

Martin was first involved with the preparation of the material which should be presented at the IUCN World Conservation Congress in September 2021 and help manning the NAMMCO bod at the Congress. Afterwards his focus was on User Knowledge and how user knowledge was 1) collected, and 2) integrated into research, considering which experiences might be relevant to NAMMCO. The two documents he prepared "User Knowledge in Research" and "User Knowledge Collections" are documents to the Management Committees at this annual meeting. A presentation of the first project was given to the 2022 Student Symposium: "User Knowledge in Research".

Martin is presently working as Policy Officer for Negotiations on the Ocean, Seas and Poles for the French Ministry of Ecological Transition.

## 12. FINANCIAL STATUS UPDATE

The audited accounts for 2021 closed with a surplus of NOK 642,331 as compared to NOK 248,138 foreseen in the budget adopted by the Council at NAMMCO 28. The discrepancy continues to be explained by COVID-19 with several online meetings and less travelling. The 2021 Accounts can be found in Appendix G.

The general reserve increased to NOK 1,824,543 compared to the budgeted NOK 1,430,350. The 2021 audited accounts were reviewed by the FAC at its meeting on 24 May 2022.

The 2021 Audited Accounts and Financial Statements can be found in document NAMMCO/29/05.

## APPENDIX A. SECRETARIAT OBSERVER REPORTS – NATIONAL AND IGO EVENTS ATTENDED IN 2021

### 1. Report of NAMMCO Observer (SEC) to the ASCOBANS Beaked Whale Working Group

Wickson attended the meeting held online 2 February 2021. This meeting was focused on advancing the WG draft report, that should be submitted to the Environment group of the IWC SC to provide feedback on at their 2021 meeting.

Participants were asked to submit strandings data. One aim for this information is to map where and when strandings have taken place, to analyse how many of these are single strandings vs mass strandings, and to other factors that may be involved in mass stranding events (e.g., examining in relation to the impulsive noise register). Data from 1990 onwards was requested, however earlier data could also be submitted and would be analysed as a separate dataset.

Following the meeting, FW sent an email to relevant contacts from each NAMMCO member country notifying them of this request for beaked whale strandings data.

The group also noted that the draft report had no population estimates for species other than the northern bottlenose whales (i.e., those submitted by NAMMCO after the first IWG meeting). It was noted that although some additional estimates were available, these have large confidence intervals and there is not full coverage of the relevant areas. The group agreed to provide an overview of all information that is available to also help encourage the generation of better estimates in the future.

### 2. Report of NAMMCO Observer (SEC) to the Regional Fishery Body Secretariats Network - RSN

Winsnes attended the meeting held online 24 February 2021. Summary of main points:

#### COFI-34 (1-5 Feb 2021) outcome of significance for RFBs

Underscored the central role played by RFMOs and RFABs in the implementation of international fisheries instruments e.g., combatting IUU fishing.

RFBs have a key role in supporting and strengthening fisheries science, management and monitoring, control, and surveillance both national and regional levels.

Appreciative of the supportive role the RSN play and that RFBs should cooperate to ensure common approaches on a number of cross-cutting issues.

#### Information on global and regional processes relevant to RFBs

FIRMS is FAO platform to provide stock status, currently 2000 stock status available, goal to become global, currently 17 partners.

#### RSN: current state and outcome of the survey questionnaire on RSN financial needs and potential donors

Generally welcome more information sharing as there are so many meetings taking place.

More focus and discussion on how we interact with the FAO Sec and among ourselves. RSN has limited resources with part time staff. Perhaps it would be useful to restructure into team with regional focus, to increase visibility, to focus action more on technical nature by region, by topic or other a tool to make us work together

#### Current state of the process of revision of the RSN terms of Reference and RoP

The drafting committee established at the 7th meeting of RSN in 2018 (secretaries of NEAFC, PSC, GFCM, ICCAT and FCWC) presented a draft and further work would be carried out via email correspondence.

### 3. Report of NAMMCO Observer (SEC) to Icelandic Chair's Observer event on Arctic Governance

Winsnes attended the meeting was held online 21 April 2021. The meeting aimed at discussing how to enhance meaningful engagement with Arctic Council Observers to improve Arctic Governance.

Keynote introductions followed by a moderated panel discussion with pre-recorded speaker presentations were available in advance of the online meeting from three observer representatives, one SAO and one Permanent Participant representative.

The meeting noted that AC must embrace the observers and ensure that the observer status is seen as meaningful for the observers. AC should consider actively requesting information from observers on specific topics. The observers must seek to concretely contribute to Working Groups and projects under AC. Little concrete proposals except for restructuring the agenda of SAO meetings.

All observers expressed their willingness to contribute with their expertise and knowledge to enhance the work of AC.

### 4. Report of NAMMCO Observer (SEC) to the 68b IWC Scientific Committee Meeting

The meeting was held online 26 April – 14 May 2021. Wickson (FW), Desportes (GD) and Pike (DP, Chair of the NAMMCO AEWG) participated on behalf of NAMMCO and followed, besides the Plenary Session (FW) sub-committees and agenda points of relevance to NAMMCO work: Points of relevance to NAMMCO are indicated below.

Points of particular interest to NAMMCO follows.

***E - Sub-Committee on Environmental Concerns (FW)*** – In a session on climate change and noise, the sub-committee on environmental concerns was presented with a report on beaked whales developed by an ASCOBANS Working Group (which the NAMMCO Secretariat has participated in and shared new abundance estimates with). The group emphasised the importance of obtaining more robust and comprehensive information on both beaked whales and impacts from noise disturbance.

***ASW - Aboriginal Subsistence Whaling (FW)*** – In the attended session on Aboriginal subsistence whaling, updates on the catch statistics (as well as biological sampling programs) from Greenland were presented. This included information for bowhead whales, minke whales, fin whales and humpback whales.

***SM - Sub-Committee on Small Cetaceans (GD)*** – The Committee prioritised the need to better document the take of small cetaceans for consumptive and non-consumptive purposes. The CMS Aquatic Wildmeat Group has an ongoing review process on the use of wild meat and in particular of the 33 targeted species that are listed as endangered, and/or requiring international cooperation for their conservation, on the CMS Appendices. An overview has been compiled for the 84 cetacean species and all regions of the world and is anticipated to be published in late 2021. Attention was drawn to the new information that highlight areas where wildmeat, once supplied from incidental takes, is now being obtained from targeted hunting and a commercial trade has developed. It recommends that these data, in addition to any emerging data, are reviewed in conjunction with the Aquatic Wildmeat workshop report series, which has been postponed to SC68D.

SC68c endorsed recommendations within the report of the International Workshop on the Status of Harbour Porpoises in the North Atlantic (IMR/NAMMCO 2018). The Committee also highlighted the challenges that exist for accessing reliable bycatch data and estimates and noted the importance of this information for generating scientifically sound assessments. The Committee recommended that it was imperative to: (1) construct more reliable time series of bycatch data for the different fisheries in the different areas, (2) modify the fishing effort database in such a way that the data is consistent and reliable and, (3) include by-catch data from small vessels in reporting, and (4) conduct more reporting

of by-catch by different types of gear. It was noted that Moan et al (2020) addressed (1) and (3) and SC/68c/HIM/02 (Bjørge et al 2021) addressed (4).

The SC has planned to progress work on the conservation of beaked whale species and to work with others who are also interested in these taxa, such as ASCOBANS.

**HIM - Sub-Committee on Non-deliberate Human-induced Mortality of Cetaceans (GD)** – Progress with regards to the IWC's Bycatch Mitigation Initiative (BMI) were given (fundraising, pilot project development, initiated cooperation, capacity building, etc.).

Information was provided on the Bycatch Risk Assessment (ByRA) toolkit, a suite of tools for place-based risk assessment of marine mammal bycatch that makes use of existing data and creates a framework for data acquisition. The ByRA tool kit is designed for use in data poor areas and uses a “traffic light” system of rating the quality and accuracy of data. The Marine Mammal Bycatch Impacts Exploration tool (<https://msiple.shinyapps.io/mammaltool/>) was also presented.

Bycatch/entrapment rates of humpback, minke and killer whales with fishing gear in Norway were estimated from the proportion of observed fishing effort to total fishing effort. It was noted that A new snow crab trap fishery is growing in the Barents Sea, and this is of concern, given what is known about interaction between this type of gear and whales in other parts of the world. Norway reported also on its two-year pinger trials in the cod, saithe and monkfish fisheries, as well as the new results on harbour porpoise by-catch in by the Norwegian commercial coastal gillnet fisheries from 2006 to 2018.

**ASI - Standing Working Group on Abundance Estimates, Stock Status and International Cruises (DP)** – Several points discussed under the ASI were of high relevance for the work of the NAMMCO AEWG and SC.

The classification system the ASI uses for abundance estimates ranging from Category 1, which are relatively unbiased and suitable for use in assessments, to Category 3, which have known and substantial biases that must be considered in use.

In the discussion of this issue DP briefly presented a paper which tabulates recent abundance estimates in the North Atlantic (NAMMCO, 2020) to inform the Group how another organisation summarises accepted abundance estimates. He also noted that this table is available in extended form on the NAMMCO web site.

In the past, the NAMMCO AEWG has classified abundance estimates as either acceptable or not, while providing commentary on known biases and recommendations for further work. The SC (or the AEWG) could develop a comparable system of classification if it is considered useful. However, in all cases, users should be directed to consult the original working paper or publication, as well as the review by the AEWG, in order to thoroughly understand the limitations of the estimate. A simple classification system cannot thoroughly capture the detail that is required for use in an assessment (for example) but could serve to alert the user to the main features of the review.

The ASI abundance estimates review process, including a like-peer review process where the reviewers are asked to concentrate on technical and analytical aspects to determine if the estimate is unbiased and accurate, and to recommend a classification based on the system described above.

The peer review process has the advantage of ensuring that abundance estimates are reviewed in detail by experts who in some cases would not be attending a meeting of ASI. However, it is very challenging to administer in practice. However, the experience of the editors for the Scientific Publications is that finding experts who are willing to devote time and effort to such a review would be very difficult. In addition, the process takes time, often several weeks or months, and this would require working papers to be submitted far in advance of any meeting. Even so, the SC might wish to employ a similar process in certain cases, for example for estimates of high importance or which use methods that are beyond the expertise of members or invited experts.

The ASI consideration of the status of stocks. ASI has been tasked with developing a format for the presentation of stock status to the Commission and the general public, as the NAMMCO SC has. Several options and drawback were presented. For many species and stocks, accurate information on current and historic abundance levels and trends will not be available, and for these the assignment of stock status using these criteria will be difficult. The WG established an intersessional correspondence group to move forward on this task, with instructions to provide some examples for the next meeting of ASI.

In general, the NAMMCO Scientific Committee has used a similar approach in assigning stock status; i.e., the ratio of estimated current abundance to modelled pre-exploitation abundance (depletion), as well as a measure of current trend if available. However, the presentation and terminology used by the SC and on the website are not standardised but generally reflect the wording in Scientific Committee reports, if available. The Scientific Committee may wish to explore the idea of presenting stock status information in a more standardised format and using consistent terminology, for which the monitoring of this effort within ASI should prove informative.

#### **5. Report of NAMMCO Observer (SEC) to the Meeting on Sustainable Use (SU) of Aquatic Living Resources**

Desportes attended this meeting, held online 17-18 June. The meeting reviews the current situation regarding sustainable use of aquatic resources and the developments occurring on a regional and global basis in terms of use, conservation, regulations and restrictions, and campaigns. The future actions of Japan and other countries supporting sustainable use within different international and national fora, including the IWC, is discussed. The meeting reaffirmed the sustainable use of aquatic living resources based on scientific evidence as a universal principle.

Over 45 countries and several fisheries organisations were represented at the two-half-day closed online meeting.

Desportes presentation **“Sustainable Food Systems and Marine Mammals”** was well received and generated questions.

#### **6. Report of NAMMCO Observer (SEC) to the IUCN world Conservation Congress**

Desportes, Middel and Binachon attended the IUCN World Conservation Congress held 3-9 September in Marseille, France. Every four years, the Congress brings together several thousand leaders and decision-makers with the goal of conserving the environment and harnessing the solutions nature offers to global challenges.

NAMMCO’s Secretariat participated to the Congress as an exhibitor, with the main objective of showcasing NAMMCO’s vision of conservation to experts as well as to the general public, and to open a dialogue on the sustainable use of marine mammals.

In addition to manning the stand, the staff was able to attend several sessions organised by different organisations on topics of interest to NAMMCO. The sessions covered a wide array of themes: sustainable use of wildlife and livelihoods, circular economy, empowerment of local communities, etc.

A general feeling was that the dominant paradigm in conservation was starting to shift, and that an increasing share of conservationists were voicing their support for the right of local communities to use their resources, and within members of IUCN as well. Many of the sessions attended by NAMMCO’s staff reflected this tendency.

NAMMCO’s Secretariat established connections with different participants of the Congress. Meaningful exchanges were made with the Sustainable Use and Livelihood ([SULi](#)) IUCN specialist group, of which the chair was very interested in NAMMCO’s work and suggested that it would be very relevant for NAMMCO to join that Group (it is not necessary to be member of IUCN to do so). The Secretariat also encountered potential collaborators for scientific studies.

### 7. Report of NAMMCO Observer (SEC) to the meeting of the Norwegian Marine Mammal Scientific Advisory Board

Middel and Winsnes attended the meeting held online 21-22 October 2021 at the Fram Center, Tromsø, Norway. This is an annual meeting for all Norwegian actors dealing with marine mammals. Information on all research and management issues are given and discussed, and the meeting provides recommendations to national authorities. It is attended by representatives from the Ministry, Directorate for Fisheries, and relevant research institutes. Although this is a national forum, NAMMCO has been invited to participate in recent years.

Donovan (convenor of the IWC Scientific Committee sub-group on *Implementation Simulation Trials*) gave an invited talk entitled 'Managing in the face of uncertainty: The IWC's RMP and AWMP Approach. He briefly summarised the history of approaches to providing management advice for whales and fisheries, stressing that everything – even doing nothing - can be said to be management and that we can only (try to) manage human activities that affect cetaceans, not cetaceans themselves.

Quota recommendations were given for all target species.

### 8. Report of NAMMCO Observer to the 26<sup>th</sup> Advisory Committee of ASCOBANS

Desportes and Middel attended the meeting held online 8-12 November, attending sessions and agenda items of relevance to NAMMCO. Agenda items of direct relevance were Item 2. Review of New Information on Threats and Other Issues Relevant to Small Cetaceans, and Item 4. Special Species Sessions and in particular 4.2 Lagenorhynchus species and 4.3 Beaked whales.

Main point of interest to the NAMMCO Scientific Committee was the decision of AC26, following the killing of Atlantic white sided dolphins in the Faroe Islands, to establish an Intersessional Working Group (IWG) on Lagenorhynchus sp. to 1) Review the available information about the population structures and trends, distributions, abundances, mortalities, reproductive outputs, health, diet, behaviour, and data gaps related to both species in the NE Atlantic; and 2) Review issues that pose a conservation threat to the species and their populations. Desportes informed that the NAMMCO Scientific Committee had planned to hold a WG on dolphins in 2023 to review the status of the species in the North Atlantic and possibly conduct assessment. She therefore suggested that jointly organising such a species review might be desirable and logical, as fair amount of information will come from the NASS survey series and the study conducted in the Faroe Islands.

Adopted Action Points of direct relevance to NAMMCO are given below.

#### *Lagenorhynchus species*

31. AP) *The Advisory Committee to establish an Intersessional Working Group (IWG) on Lagenorhynchus sp. to* • Review the available information about the population structures and trends, distributions, abundances, mortalities, reproductive outputs, health, diet, behaviour, and data gaps related to both species in the NE Atlantic; and • Review issues that pose a conservation threat to the species and their populations. • Take note of the relevant recommendations from AC24. Members: Mark Simmonds, Peter Evans, Andrew Brownlow, Meike Scheidat/Lonneke Ijsseldijk, Fiona Read, Nicola Hodgins. Others are welcome to join.

32. AP) *The Secretariat to send a letter to the Faroe Islands, copied to Denmark, based on the conclusions of [ASCOBANS/AC26/Doc.4.2](#).*

## APPENDIX B. REPORTS FROM OUTREACH EVENTS ORGANISED OR ATTENDED BY THE SECRETARIAT IN 2021

### 1. Arctic User Knowledge WS

The NAMMCO Secretariat participated in a workshop on Arctic User Knowledge organised by NORDECO (Nordic Foundation for Development and Ecology) and held online 22 February. NAMMCO was invited to give a presentation on how it brings local knowledge into its advisory and decision-making process and the plans for further strengthening the involvement of local knowledge in the organisation in the future. On behalf of the Secretariat, Wickson presented "***User Knowledge in NAMMCO's Advisory Work***", which was well received and generated questions and discussions.

During the workshop, opportunities for strengthening how local and user knowledge were included in the decision-making and advisory processes of different bodies, including the Government of Greenland, were presented, and discussed.

### 2. Marine Mammal Student Symposium 2021

The North Atlantic Marine Mammal Commission (NAMMCO), in association with the Norwegian Centre for the Law of the Sea (NCLOS), hosted on 9 April 2021 an online symposium for students working with marine mammals, titled:

***"Marine Mammal Management in the Arctic: Between Scientific and Legal Perspectives"***

Tugend, Scherdin, Wickson and Desportes attended the event.

NAMMCO arranged its first Marine Mammal Student Symposium in 2019, with an intention of initiating an annual event, with the dual purpose of promoting the work NAMMCO does amongst early career marine mammal scientists and creating networking opportunities. A symposium has been arranged every year since. In 2021, the symposium was for the first time jointly arranged by NAMMCO and NCLOS and due to Covid-restrictions, was held online. The online platform created an opportunity to include students from all over the world, and 74 participants registered for the event from countries such as Canada, Greenland, Norway, Denmark, France, Germany, Greece, and Turkey.

Wickson served as moderator for the day. A welcome from NAMMCO interns, Tugend and Scherdin began the morning session, followed by short presentations of NAMMCO (Desportes) and NCLOS (Pr. De Lucia). An icebreaker session was followed by 14 student presentations, and 3 short breakout groups to discuss the presentations. As in the 2019 and 2020 symposium, NAMMCO interns made a presentation of their project.

The student presentations covered a range of different topics, spanning both biology and law, and addressed a range of themes, such as bioacoustics, eDNA, plastic pollution, noise pollution, stock assessments and regulations on marine mammals. The extremely high quality of all the presentations was highlighted by several participants during the breakout discussions.

The afternoon session included a presentation from an invited keynote speaker, Dr. N.as Sellheim, titled: "*Arctic States and the International Management of Marine Mammals.*" The day concluded with a poll and discussion on the following question: "How can Scientific and Legal Minds Collaborate Effectively to Achieve Common Management Goals for Marine Mammals?" The goal was to have participants realise how crucial this collaboration is, as well as identify potential difficulties encountered and discuss how it could be improved in the future.

An evaluation survey was circulated amongst the participants to aid next year's symposium to run even smoother.

NAMMCO considers the symposium to have been a success overall, although the balance between participants and presenters with a background in science compared to law was tilted towards science, which requires attention for future symposiums.

### 3. IUCN World Conservation Congress Exhibition

NAMMCO, Desportes, Middel and Binachon, participated as an exhibitor to the IUCN World Conservation Congress held 3-9 September in Marseille, France. During the 2021 Congress, a large exhibition was held consisted of numerous stands in which different organisations (GOs, IGOs, NGOs, Research Institutes, private) presented their 'conservation'-related activities and/or organised thematic sessions and events.

NAMMCO's Secretariat participated to the Congress as an exhibitor, with the main objective of showcasing NAMMCO's vision of conservation to experts as well as to the general public, and to open a dialogue on the sustainable use of marine mammals.

**NAMMCO Activities** – NAMMCO had a stand, where posters summarising topics related to NAMMCO's work were displayed. A different association of 5 posters, out of 8, was presented every day addressing the sustainable use of marine mammals under different thematic. Different activities were also organised (opinion polls both for kids and adults, quiz, etc). The staff present dialogued with visitor and provided more specific information.

**Outcomes** – Overall, NAMMCO's participation to the IUCN Congress was considered relevant and fruitful. Throughout the week, the staff of the Secretariat was able to dialog with many visitors (around 20/30 per day, with around 60% being from the public, and 40% being participants to the Congress).

Interestingly, through the discussion, backed up by the information on the posters, most of the visitors to the stand arrived at an understanding, even if they were sceptical at first. They agreed with NAMMCO's vision that whaling and sealing can contribute to the blue economy, if well-managed.

**Challenges and considerations** – While the participation of the Secretariat was fruitful and relevant, the Secretariat felt that NAMMCO's presence could have been even more impactful. For instance, the interactive activities prepared by the Secretariat could have been catchier, and the Secretariat could have organised a session in collaboration with another organisation (e.g., the Sustainable Use and Livelihood IUCN specialist group, SULi). Such initiatives could have allowed NAMMCO to reach a bigger audience, and to have a greater impact in this Congress.

### 4. Lecture to DIS Copenhagen

Desportes and Winsnes gave a 2-hrs lecture on 2 November to ca. 25 US students of DIS Copenhagen, which were on Study Tour in Tromsø "**Regional Marine Mammal Management in the North Atlantic – Contributing to a sustainable North**"

DIS is a non-profit academic institute offering semester, academic year, and summer abroad programs for students from North American universities, who have completed at least two semesters in their own university.

The lecture presented NAMMCO foundation, vision of conservation, and processes in its advisory work, as well as its work in disseminating science and fact-based information on marine mammal and marine mammal hunting and utilisation. It also underlined the challenges in managing marine mammals and providing food for thoughts in presenting marine mammal utilisation, and seal bans, in the perspective of blue economy and sustainable food systems.

Clearly, the US students were presented with perspectives and logics they had not been presented with before, which created a very lively discussion and rethinking.

## APPENDIX C. RECOMMENDATIONS REGARDING IT SECURITY AT THE SECRETARIAT

### Nammco – August 2022

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## IT-STATUS REPORT FOR NAMMCO

### Equipment

NAMMCO have got a firewall, network switch, wireless access point and a server in addition to 4 laptops. Data and email are in Microsoft Office 365 cloud.

### Firewalls

The firewall is not licensed and should be updated with new firmware. There is no operational agreement for this equipment. Because of the lack of license on the firewall, there are no security filtration set up.

### Server

The server is discontinued, the users need to doublecheck that there is no data they have not copied out before it is turned off.

### Laptops

All the laptops are connected to the discontinued server and needs to be disconnected and set up against the Microsoft cloud. There is antivirus software on the laptops, but it is not monitored, and there is no operational agreement on the computers and antivirus.

### Diagnostic and recommendations

Security for organizations like yours is becoming more and more important. Your work and your organization are exposed internationally and might attract people with other views. So, either random or targeted attacks is a possibility. We recommend that you consider the following recommendations to reduce the attack surface.

Based on the information above we have the following recommendation for changes/upgrades, note that the cost are estimates and not binding:

- Buy license for the firewall – ca. 4500/year
- Configure security filtration on internet traffic on the firewall – 1-2 hours to set up
- Disconnect laptops from the old server and connect them to Office 365 – 1-2 hours per computer
- Operational agreement for the networking equipment - ca 550/month
- Operational agreement and antivirus for the laptops – 120/laptop/month
- Inbound spam filter for email – 20/user/mnd

# Security Posture Review - Office 365

## Introduction:

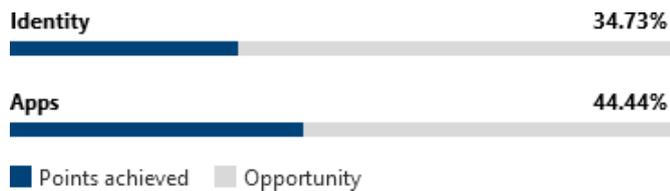
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Microsoft's security experts have created something called the "Microsoft Secure Score" which is a representation of an organization's security posture when it comes to identity and application security.

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## Secure Score: 36.08%

23.45/65 points achieved



## IMPROVEMENTS TO INCREASE YOUR SECURITY:

- Require MFA for all administrative roles
- Require MFA for all users
- Block legacy authentication
- Monitoring of high-risk users
- Monitoring of high-risk sign-ins

## SUMMARY

Based on your security review, we see that there is great potential to increase security by switching to a Business Premium license for all users. The recommendations we make in this document are based on Microsoft's best practices and contain the recommendations that fall under the category of advanced security.

Our recommendation would be to purchase Business Premium, which will provide opportunities to improve vulnerabilities in your Azure tenant. The aim will be to raise the safety score as high as possible and preferably as high as 90%. When the new license is in place, we will be able to monitor future threats in addition to being able to follow up security scores over time.

With a Business Premium license there will also be options for setting up Microsoft Intune, which is a Mobile Device Management solution. This is something we can look into in more detail if desired.

Upgrading from Business Standard to Business Premium is around 80,- more per user per month charged by Microsoft. We charge a onetime fee of 5000 and a monthly recurring cost of 90 per user per month for the job of increasing your security posture and continuously monitor the security of your Azure tenant and identities.

## APPENDIX D. STATISTICS OF ACTIVITIES ON THE NAMMCO WEBSITE AND SOCIAL MEDIA FOR 2021

### 1. Website

#### Unique users:

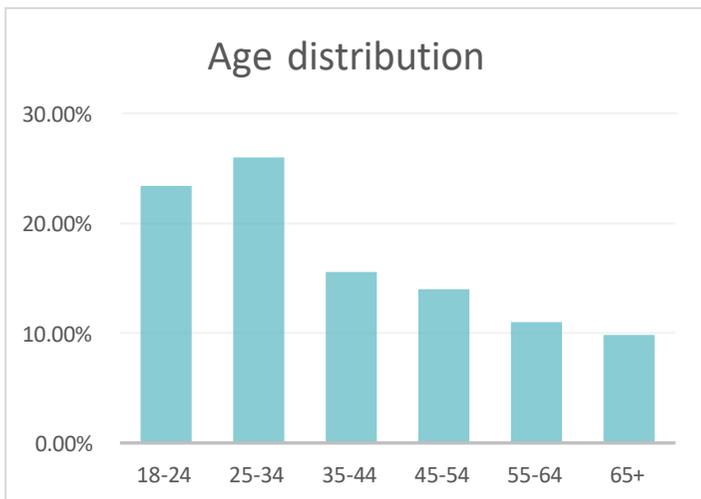
**2019:** (1 Jan – 31 Dec) 19 747

**2020:** (1 Jan – 31 Dec) 16 410

**2021:** (1 Jan – 31 Dec) 25,854

(with significant peak traffic on February 2 (1,177 users) and October 19 (619 users))

<b>Men:</b>	47.6 %
<b>Women:</b>	52.4 %



#### Most popular pages (views):

Front page	10 843
About us	3 049
Narwhal	2 018
Atlantic Walrus	1 986
Marine Mammals	1 420
Council	1 255
Pilot whale	1 254
News	1 036
Bowhead Whale	972
Ringed Seal	917

#### Web users by country:

US	28.3 %
UK	8.6 %
Canada	8.4 %
China	7.0 %
Norway	7.0 %
Denmark	2.7 %
(not set)	2.2 %
Germany	2.1 %
Faroe Islands	1.1 %
Iceland	1.0 %
Greenland	1.0 %

#### How did they find NAMMCO?

Organic search	64.9 %
Direct	27.5 %
Social media	5.9 %
Referral	3.5 %

#### Which devices?

Computer	64.1 %
Mobile	33.7 %
Tablet	2.2 %

**2. Facebook**

	Likes	1 197
<b>2020</b>	Followers	1 222
	Likes	2 213
<b>2021</b>	Followers	2 291
	Likes	2 316
<b>2022</b>	Followers	2 428

**Men:** 43 %  
**Women:** 56 %

**Top 10 page likes by country:**

Faroe Islands	9.8%	United Kingdom	6.7%
United States	9.3%	Canada	4.8%
Norway	7.4%	Spain	4.5%
Denmark	7.3%	Mexico	3.9%
Greenland	6.7%	France	3.8%

**Top 3 posts (in terms of both reach and likes) between January 2021 and January 2022:**

10/12/21



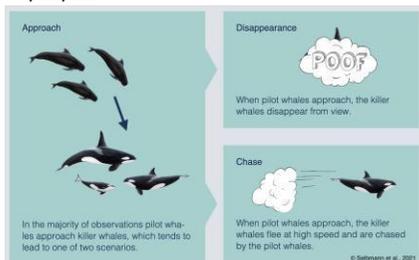
Did you know that whale skin contains as much vitamin C as oranges?

Below the polar circle, people get their vitamins mostly from plant-based sources. These, however, do not grow in the harsh Arctic winters of Greenland. For centuries, Arctic peoples have therefore used a different, yet incredibly nutritive, resource: whale skin. Narwhal skin, known as mattak in Greenland, contains around 38mg of vitamin C per 100g. In comparison, an orange usually contains around 50mg of vitamin C per 100g. The consumption of marine mammals has protected the Greenlanders from diseases like scurvy, a condition caused by vitamin C deficiency that was common in historical Western Arctic expeditions.

Not only is whale skin an important source of vitamin A, C, and D, antioxidants, selenium, and many other vitamins and minerals, this food is also a delicacy in Greenland and an important aspect of Inuit culture.

78 536 reached (organic)  
2 335 Reactions  
6 492 Post clicks  
472 Shares

26/11/21



Did you know that orcas in Iceland appear to fear pilot whales?

Orcas (or killer whales) are one of the top predators of the oceans, feeding on both small whales (e.g., belugas and narwhals) and large baleen whales (e.g. minke whales). As orcas are known to be apex predators, scientists were surprised to observe some of them fleeing from pilot whales in Icelandic waters. This unexpected behaviour was not an isolated event: it has been observed more than 20 times in Iceland since this initial sighting. Research on these interactions has found that the orcas not only disappear when pilot whales swim nearby but that pilot whales are often actively chasing the orcas away.

Even though this peculiar interaction has now been observed many times in Iceland as well as in the Strait of Gibraltar, scientists are still unsure as to why the pilot whales behave in such a way. One hypothesis is that the pilot whales approach orcas to compete for food resources; another explanation is that the pilot whales have developed an anti-predator mobbing behaviour in response to the orcas' threatening presence. To better understand this behaviour, scientists in Iceland are planning to track groups of whales. This research project, part of the Icelandic Orca Project, is available here: [uni.hi.is/eddaem/files/2021/04/P11-Anna\\_Selbmann.pdf](http://uni.hi.is/eddaem/files/2021/04/P11-Anna_Selbmann.pdf)

18 192 reached (organic)  
514 Reactions  
992 Post clicks  
82 Shares

05/03/21



Did you know that odontocetes (dolphins, porpoises and all other whales possessing teeth) receive sound through their lower jaw?

Whales in general are famous for their impressive hearing abilities. One curious adaptation to the reception of acoustic signals in water is that odontocetes rely on the lower jaw for receiving sound. Their lower jaw is hollow and surrounded by fats, which are effective at conducting these acoustic signals. Sound is conducted from the rear end of the jaw to the inner ear and ultimately the brain via a continuous lipid/fat body.

This is also how the echolocation 'clicks' produced by odontocetes are received when they return! Sadly, whales and other marine mammals pick up sound from anthropogenic sources too, which poses a significant risk to some populations.

7 021 reached (organic)  
285 Reactions  
143 Post clicks  
36 Shares

### 3. Twitter

		<b>Top 3 tweets</b>				
<b>2019</b>	(Re)Tweets	102	27/03/21	This week, a highly successful and productive 28th Annual Meeting of NAMMCO has drawn to a close. Information about the key outcomes and topics of discussion can be found in the Press Release, which is now available on the NAMMCO website: <a href="https://nammco.no/topics/press-releases/">https://nammco.no/topics/press-releases/</a>	1 970 impressions	73 total engagements 2 retweets 9 link clicks
	Followers	60				
	Likes	9				
<b>2020</b>	(Re)Tweets	156	18/08/21	NAMMCO is pleased to announce that it will participate in the #IUCNCongress this September. NAMMCO's Secretariat will be holding an on-site exhibition in Marseille, to present its vision of a sustainable north. Join us this September! <a href="http://ow.ly/drfg50EKYFs">http://ow.ly/drfg50EKYFs</a>	1 160 impressions	6 total engagements 0 retweets 1 link clicks
	Followers	290				
	Likes	434				
<b>2021</b>	(Re)Tweets	44	08/06/21	Happy #WorldOceanDay! Today we celebrate the importance of the #ocean in our everyday life, and are reminded of the need to take action to ensure a #sustainable future. (📷 Audun Rikardsen)	707 impressions	4 total engagements 1 retweets 0 link clicks
	Followers	412				
	Likes	98				

## APPENDIX E. PUBLICATIONS FROM NAMMCO COMMUNITY IN NSP 12

This list provides an overview of the involvement of the NAMMCO scientific community in Volume 12 of the NAMMCO Scientific Publications. The names of members of NAMMCO committees and NAMMCO staff are indicated in bold.

Smout, S., Murray, K., Aarts, G., **Biuw, M.**, Brasseur, S., Buren, A., Empacher, F., Frie, A.K., Grecian, J., Hammill, M., **Mikkelsen, B.**, Mosnier, A., **Rosing-Asvid, A.**, Russell, D., Skaug, H., Stenson, G., Thomas, L., ver Hoef, J., **Witting, L.**, Zabavnikov, V., Øigård, T.A., Fernandez, R. and **Wickson, F.** 2021. Report of the NAMMCO-ICES Workshop on Seal Modelling (WKSEALS 2020). NAMMCO Scientific Publications, 12. <https://doi.org/10.7557/3.5794>

**Biuw, M.**, Øigård, T.A., **Nilssen, K.T.**, Stenson, G., Lindblom, L., Poltermann, M., Kristiansen, M. and **Haug, T.** 2022. Recent Harp and Hooded Seal Pup Production Estimates in the Greenland Sea Suggest Ecology-Driven Declines. NAMMCO Scientific Publications, 12. <https://doi.org/10.7557/3.5821>

**Smith, S.D.G.** and **Ryeng, K.A.** 2022. Developments in the Quantitative Assessment of Welfare Outcomes in Hunted Mammals Subject to Shooting. NAMMCO Scientific Publications, 12. <https://doi.org/10.7557/3.5914>

Stenson, G., Gosselin, J.-F., Lawson, J., Buren, A., Goulet, P., Lang, S., **Nilssen, K. T.**, & Hammill, M. 2022. Pup Production of Harp Seals in the Northwest Atlantic in 2017 During a Time of Ecosystem Change. NAMMCO Scientific Publications, 12. <https://doi.org/10.7557/3.6214>

Solvang, H., **Haug, T** and **Øien, N.** in press. Recent trends in temporal and geographical variation in blubber thickness of common minke whales (*Balaenoptera acutorostrata acutorostrata*) in the Northeast Atlantic. NAMMCO Scientific Publications, 12.

**Scherdin, N.** and **Desportes, G.** in press. Bearded seals in the Atlantic arctic: draft review of post 2010 knowledge to inform stock assessments. NAMMCO Scientific Publications, 12.

## APPENDIX F. PUBLICATIONS IN OTHER SCIENTIFIC JOURNALS 2021-2022

Only the name of the first author and the names of the Secretariat's staff and members of the NAMMCO's committees are provided. The name of authors directly affiliated to NAMMCO for the publication are indicated in bold.

### **Published or in Press:**

Blanchet, M.A. ... and **Desportes, G.** 2021. Harbour seals: Population structure, Status, and Threats in a Rapidly Changing Environment. *Oceans*, 2, 41-63. <https://doi.org/10.3390/oceans2010003>

**Wickson, F.** 2021. Atlantic Walrus Management, Regulation and Conservation. Chap 11, 252-262. In: X. Keighley et al. *The Atlantic Walrus: Multidisciplinary insights into human-animal interactions*. Academic Press. 344p. <https://doi.org/10.1016/B978-0-12-817430-2.00005-4>

K.M. Kovacs, ... R.R. Reeves, R.C. Hobbs, **G. Desportes**, ... 2021. Beluga whales (*Delphinapterus leucas*): knowledge from the wild, human care and TEK. *Polar Research* 2021, 40, 8235. <http://dx.doi.org/10.33265/polar.v40.8235>

F. Ziegler, ..., N. Levermann, M. Dorph, ... and **G. Desportes**. 2021. Local seal or imported meat? Sustainability evaluation of food choices in Greenland, based on Life Cycle Assessment. *MDPI/Foods - Special Issue "The Role of Aquatic Food in Nutrition-Sensitive Sustainable Food Systems"*. *Foods* 2021, 10(6), 1194. <https://doi.org/10.3390/foods10061194>

Kovacs, K.M. ... **Desportes, G.** ... Hansen, R.G. ... Ugarte, F. ... 2021. State of the Arctic Marine Biodiversity Report - Marine Mammals 2021 Update. In: CAFF. *2021 SAMBR Update and Overview of Circumpolar Arctic Scientific Monitoring – Marine Mammals*. Conservation of Arctic Flora and Fauna International Secretariat, Akureyri, Iceland. <https://oaarchive.arctic-council.org/handle/11374/2879>

Kovacs, K.M. ... **Desportes, G.** ... Hansen, R.G. ... Ugarte, F. 2021. 2021 State of the Arctic Marine Biodiversity Report (SAMBR) update: Marine Mammals. Technical Report. Conservation of Arctic Flora and Fauna International Secretariat, Akureyri, Iceland. 43p. <https://caff.is/monitoring-series/all-monitoring-documents/572-state-of-the-arctic-marine-biodiversity-report-update-marine-mammals>

Verborgh, P. and **Desportes, G.** in press. Long-finned pilot whale *Globicephala melas* (Trail 1809). Submitted to *Handbook of the Mammals of Europe*. Springer.

### **Submitted:**

Stepien, E.N. ... **Desportes, G.**, ... Growth rate and intra-seasonal variations in the body mass for harbour porpoises (*Phocoena phocoena*). Accepted, in revision. *Global Ecology and Conservation*

## APPENDIX G. BUDGETS AND ACCOUNTS 2021

Income	Accounts 2021	Council 28 Adopted Budget 2021
Contributions Faroes		603,932
Contributions Greenland		603,932
Contributions Iceland	4,834,724	1,207,864
Contributions Norway		2,419,046
<b>Income // Contributions</b>	<b>4,834,724</b>	<b>4,834,773</b>
<b>Expenditure</b>		
Staff related costs	2,988,548	2,946,885
Internship	122,343	150,000
Staff travel and subsistence	103,073	211,000
Meetings	20,922	85,000
Office rent	321,675	257,250
Office supply	162,522	120,000
Communication and outreach	54,348	100,000
Accounts and auditing	155,320	200,000
Observation Scheme	-	-
Committee for Hunting Methods	38,527	150,000
Committee for Inspection and Observation	-	-
Working Group on BYCELS	-	-
Scientific Committee	166,321	171,500
Capacity building	-	20,000
Other expenses	56,062	20,000
Food Conference	-	
NASS		100,000
MINTAg		50,000
Adjustment	2	
<b>Total expenditure</b>	<b>4,189,663</b>	<b>4,581,635</b>
OPERATING RESULT	645,061	253,138
Financial revenue	1,513	
Financial costs	-4,243	-5,000
<b>RESULT to/from Reserve</b>	<b>642,331</b>	<b>248,138</b>
<b>Total Reserve</b>	<b>1,182,212</b>	<b>1,182,212</b>
Transfer to/from general reserve	642,331	248,138
<b>New Total Reserve 31.12</b>	<b>1,824,543</b>	<b>1,430,350</b>
<b>GENERAL NOTES</b>		
Accounts 2021 are well within the overall budget for 2021, giving a result of NOK 642,331 compared to NOK 248,138.		
The changes to the budget are explained by COVID related restrictions in activities (physical meetings and travel) generating less cost for committees and staff.		
MINTag cost of NOK 50,000 have been earmarked and transferred to the 2022 budget.		

**APPENDIX H. POSTERS PRESENTED AT THE IUCN WORLD CONSERVATION  
CONGRESS IN SEPTEMBER 2021**

**NAMMCO** Contributing to a Sustainable North

### Supporting the UN Sustainable Development Goals

**SUSTAINABLE DEVELOPMENT GOALS**

1

**NAMMCO** Contributing to a Sustainable North

### Do Sealing & Whaling Contribute to the Blue Economy?

*'Sustainable use of ocean resources for economic growth, improved livelihoods and jobs, while preserving the health of ocean ecosystems'*  
- World Bank 2017

**THE BLUE ECONOMY.**

- ✓ **Low environmental footprint**
  - Wild & local resources
  - Stable or increasing stocks
  - Low freshwater usage
  - Low carbon footprint
  - Low collateral costs (no pollution, habitat destruction, by-catch)
  - Resource efficient
- ✓ **Improved livelihoods**
  - Benefits & cash opportunities
  - Traditional activities & culture
  - Cultural identity & pride
  - Social activities & sharing
  - Transgenerational sharing
  - Health & well being
  - Food preference
- ✓ **Economic growth**
  - Jobs
  - Expanded harvesting season
  - 'Multi-gear' fisheries
  - Blue justice

**NAMMCO 2017. Marine Mammals – A Multifaceted Resource**

2

**NAMMCO** Contributing to a Sustainable North

### To What Extent are Marine Mammals Consumed?

**Globally: 85 species in 114 countries**

**Which species?**

- Large cetaceans
- Small cetaceans
- Seals
- Walrus

**How many?**

- No report of relative mammal consumption
- 0-50 animals/yr
- 51-99 animals/yr
- 100-999 animals/yr
- 1000 animals/yr

**In many places there is limited regulation and monitoring**

**North Atlantic Marine Mammal Commission**

3

**NAMMCO** Contributing to a Sustainable North

### Sustainable Food Systems?

**In Greenland, imported pig and poultry are less sustainable food choices than seal meat**

**Quantitative Results of a Life Cycle Assessment:**

**Qualitative Results:**

Category	Low Protein	High Protein	GHG Strik. Bal.	CL Strik. Net
Contribution gas emissions	Green	Red	Green	Green
Land use	Green	Red	Green	Green
Carbon footprint	Green	Red	Green	Green
Marine resource sustainability	Green	Green	Green	Green
Water use	Green	Green	Green	Green
Contribution acid	Green	Red	Green	Green
Antibiotic resistance	Green	Red	Green	Green
Food production	Green	Red	Green	Green

**Sealing also supports:**

- Livelihoods (food, cash, jobs)
- Health & well being
- Capacity building & sharing
- Cultural identity & sharing
- Social We

**Life Cycle Assessment (LCA):** Analyses the sustainability of a product through all the stages of its life cycle

**Engler, F., Wilson, E., Lindemann, N., Dorph, M., Ujorh, B., Jensen, A.A., Deppeler, G. Local Seal or Imported Meat? Sustainability Evaluation of Food Choices in Greenland. Based on Life Cycle Assessment. Foods 2021, 10, 1194.**

4

**NAMMCO** Contributing to a Sustainable North

## Is Whaling a Conservation Issue?

Is our thinking stuck in the past?

**BEFORE** **NOW**

**Purpose**  
 Supplying the oil industry → Primarily a food source

**Scale**  
 1900 – 1989 → 1990 – 2019  
 <2,900,000 in 100 years\* → <43,000 in 30 years\*  
 up to 75,000 a year\* → up to 2,300 a year\*

**Scope**  
 Global, incl. Antarctica → Coastal or EEZ  
 15 species, most stocks → 8 species, few stocks

**Sustainability**  
 High level of waste → Use most of the resource  
 Decreasing stocks, some hunted to 99% depletion → Hunted stocks are stable or increasing  
 Hunting of endangered stocks → Endangered stocks are protected

**Management**  
 Not properly regulated → Strictly regulated  
 Unknown stock abundances → Monitoring of stock abundances  
 Mismanagement & illegal hunting → Careful management & reporting

North Atlantic Marine Mammal Commission

5

**NAMMCO** Contributing to a Sustainable North

## Hunting: the challenge for management in the North Atlantic?

We need to have an ecosystem approach that integrates all impacts. Hunting in itself is not the challenge: it is the cumulative effect of all human activities. However, some of them are not easily quantifiable or mitigable.

North Atlantic Marine Mammal Commission

6

**NAMMCO** Contributing to a Sustainable North

## Abundance and Catches: Whales & Dolphins

North Atlantic Marine Mammal Commission

7

**NAMMCO** Contributing to a Sustainable North

## Abundance and Catches: Seals & Walrus

North Atlantic Marine Mammal Commission

8

**APPENDIX I. LETTER TO THE UN SPECIAL ENVOY FOR THE 2021 FOOD SYSTEMS  
SUMMIT, DR. A. KALIBATA**



Tromsø, 31 August 2021

**To the Attention of the United Nations (UN) Food Systems Summit Special Envoy**

Honourable UN Food Systems Summit Special Envoy Dr. Agnes Kalibata,

I am contacting you in my capacity as the General Secretary of the North Atlantic Marine Mammal Commission, NAMMCO, on behalf of the Commission.

Recognising that the upcoming Food Systems Summit will be a crucial opportunity to take stock of current practices and advance global action towards meeting the Sustainable Development Goals, I would like to underline that **effectively and responsibly managed marine mammal hunting can contribute to resilient and sustainable food systems (socially, economically, and environmentally)**. Several marine mammal populations can support a controlled and precautionary catch. Although many marine mammal stocks, especially of large whales but also some seal species, were overharvested and some hunted to near extinction, the ongoing impression that most remain in danger is false. There are several healthy populations which can sustain a harvest; some have recovered to pre-harvest levels or above because of lower, and sustainable, hunting pressure and favourable conditions.

Marine mammals play a key role in the livelihood and food security of many coastal communities, particularly in the Arctic, but also in many coastal areas around the world. More than half of the countries in the world, 114 out of 195, consume marine mammals, obtained from direct and indirect catches and sometimes strandings, with a total of 85 species being consumed (for more details see Robards and Reeves 2011\* and the attached map compiled from this paper and more recent data from different sources). As recently demonstrated, marine mammals can offer a local, low carbon, and more environmentally friendly meat source than local or imported agricultural products (Ziegler et al. 2021\*\*). Few types of food are, however, as stigmatised, and systematically ignored in the discourse on food security as marine mammals. It is therefore important that an **event as important as the UN Food Systems Summit recognises and discusses the role that marine mammals play around the world in ensuring food security and food sovereignty, both now and in the future.**

The inclusion of marine mammals in **food systems** can **support and accelerate the implementation of the SDGs, and bring proteins, benefits, and jobs in many places where alternatives are few.**

Confronted with unprecedented, multifaceted crises, **well-managed and sustainable hunting can be one of the game-changing solutions for food system transformation and contribute to addressing the climate crisis.** Marine mammals provide a low-carbon and low-water option for animal protein that, together with other aquatic foods, can be at the core of transformative food systems that aim to ensure food accessibility and availability for all without undermining climate mitigation and adaptation efforts.

Food systems that integrate the sustainable use of marine mammal also have other advantages for environmental conservation than just low GHGs emissions and little freshwater withdrawals. There are very limited collateral impacts (such as by-catch or discards, habitat disruption or destruction and pollution) involved in marine mammals hunting. There can be little waste, thus making them a

**North Atlantic Marine Mammal Commission**

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

*+47 95021228; [genevieve@nammco.org](mailto:genevieve@nammco.org)*

*[www.nammco.no](http://www.nammco.no) [facebook.com/nammco.org](https://facebook.com/nammco.org) [twitter.com/NAMMCO\\_sec](https://twitter.com/NAMMCO_sec)*



resource-efficient practice. However, the full utilisation of this resource is currently being impaired by bans on by-products, e.g., bans on seal skin products, although this is contrary to the resource efficiency and reduction of waste advocated by the blue economy. There is also an ethical advantage of sustainably harvesting from wild populations over industrial farming systems when looking at animal welfare across the lifetime of the organism.

The well-managed use of marine mammals can improve livelihoods in coastal communities. Existing hunting practices are inclusive and help with social cohesion and are often associated with social activities and communal sharing. In some places, these hunts can be seen as one of the components of multi-gear fisheries. Utilising marine mammals must, of course, be coupled with strict management and monitoring, but recent experience in the North Atlantic has shown that it is possible to reconcile conservation and sustainable harvest. Given that the UN Food Systems Summit aims to renew commitments for sustainable and resilient food systems that are able to tackle and adapt to current challenges, and because marine mammals are **systematically overlooked or ignored as potential sustainable food sources**, I would like to underline that for several coastal communities, sustainable whaling and sealing have great potential for assisting in this transition.

On this basis, I hereby kindly **ask for your consideration of this issue** as you prepare for the upcoming UN Food Systems Summit.

I look forward to your feedback and I am at your disposal should you like to further discuss the matter.

Sincerely yours,

Geneviève Desportes  
General Secretary

**For information, this letter is copied to:** Manuel Barange, Director of the Fisheries and Aquaculture Policy and Resources Division, Food and Agriculture Organization

**CC.:** Ole-David Stenseth, Chair of NAMMCO, Commissioner for Norway  
Norwegian Ministry of Fisheries and Coastal Affairs

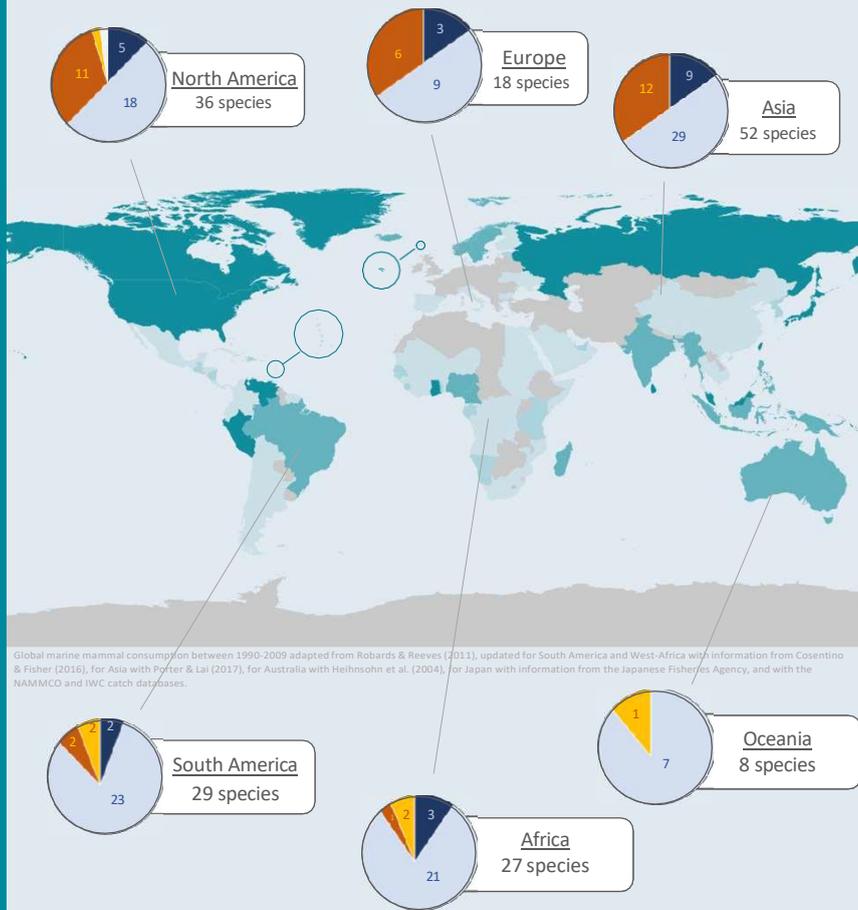
*\*Robards, M. D., & Reeves, R. R. (2011). The global extent and character of marine mammal consumption by humans: 1970–2009. Biological Conservation, 144(12), 2770–2786.*  
<https://www.sciencedirect.com/science/article/abs/pii/S0006320711002977>

*\*\*Ziegler, F.; Nilsson, K.; Levermann, N.; Dorph, M.; Lyberth, B.; Jessen, A.A.; Desportes, G. Local Seal or Imported Meat? Sustainability Evaluation of Food Choices in Greenland, Based on Life Cycle Assessment. Foods 2021, 10, 1194. <https://www.mdpi.com/2304-8158/10/6/1194>.*



# To What Extent are Marine Mammals Consumed?

Globally:  
**85 species in 114 countries**



Global marine mammal consumption between 1990-2009 adapted from Robards & Reeves (2011), updated for South America and West-Africa with information from Cosentino & Fisher (2016), for Asia with Porter & Lai (2017), for Australia with Heinsohn et al. (2004), for Japan with information from the Japanese Fisheries Agency, and with the NAMMCO and IWC catch databases.

### Which species?

- Large cetaceans
- Small cetaceans
- Pinnipeds
- Sirenia
- Polar bear

### How many?

- No report of marine mammal consumption
- Consumption, but unknown numbers
- 0-9 animals /yr
- 10-99 animals /yr
- 100-999 animals /yr
- >1000 animals /yr



In many places there is limited regulation and monitoring

Cosentino, A. M., & Fisher, S. (2016). The Utilization of Aquatic Bushmeat from Small Cetaceans and Manatees in South America and West Africa. *Frontiers in Marine Science*, 3. Heinsohn, R., et al. (2004). Unsustainable harvest of dugongs in Torres Strait and Cape York (Australia) waters: two case studies using population viability analysis. *Animal Conservation Forum*. Vol. 7, No. 4. Porter, Lindsay, and Hong Yu Lai. "Marine mammals in Asian societies; trends in consumption, bait, and traditional use." *Frontiers in Marine Science* 4 (2017): 47. Robards, M. D., & Reeves, R. R. (2011). The global extent and character of marine mammal consumption by humans: 1970-2009. *Biological Conservation*, 144(12), 2770-2786.

