



## NAMMCO ANNUAL MEETING 29

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

### MEETING OF THE COUNCIL

<b>DOCUMENT FI07</b>	<b>APPLICATION FOR FUNDING TO THE NORWEGIAN MINISTRY OF FOREIGN AFFAIRS (ARKTIS-2030 GRANT SCHEME)</b>
<b>Submitted by</b>	Secretariat
<b>Action requested</b>	Take note
<b>Background/content</b>	An application for funding containing the NASS-2024 proposal was submitted in June 2022 to the Arktis-2030 Grant Scheme of the Norwegian Ministry of Foreign Affairs. Here we provide the full application document.



Norwegian Ministry  
of Foreign Affairs

## Application for grants from the Ministry of Foreign Affairs

S01 – Application for project/programme support

Ministry of Foreign Affairs  
Postbox 8114 Dep  
N-0032 Oslo

The application and attachments should be sent to [post@mfa.no](mailto:post@mfa.no)  
with a copy to the unit responsible for the grant scheme. For more  
information see [www.regjeringen.no](http://www.regjeringen.no).

### Read this first

- The budget and results framework should be attached to the application.
- In principle, all the information asked for in the application form should be filled in. If any questions are not relevant, this should be explained.
- Instructions and questions that may be relevant are provided in the comments. These may be useful when filling in the sections concerned.

### Key information

Name of applicant (and abbreviation)

[ North Atlantic Marine Mammal Commission (NAMMCO) ]

Name of project/programme and a brief description

[ NORTH ATLANTIC SURVEY OF SELECTED CETACEANS (NASS 2024) ]

The North Atlantic Sightings Surveys series (NASS, 1987-2015) provides 30-year trends in distribution and abundance for cetaceans in areas within the remit of NAMMCO management, the waters of Norway, Iceland, Greenland and the Faroe Islands. These trends are required to understand anthropogenic impacts, which is essential for conservation and management in times of climate and environmental changes. The 2024 sightings survey will prolong and update this unique series and will be key to the development of sound and solid scientific and ecosystem-based management advice by NAMMCO. ]

Grant scheme

[ Arktisk 2030 ]

Unit responsible for the grant scheme (in the Ministry or at a mission abroad)

[ Nordområdene ]

Total amount applied for in NOK

År 1 [ x ]

År 2 [ x ]

År 3 [ x ]

År 4 [ x ]

[ 9 780 000 ]

[ 16 500 ]

[ 9 595 000 ]

[ 105 200 ]

[ 63 300 ]

### PART I: GENERAL INFORMATION ABOUT THE APPLICANT AND PARTNERS

#### 1. Contact information, applicant

1.1 Postal address

[ Sykehusveien 21-23; POB 3613, 9278 T Guleng Tromsø ]

1.2 Telephone no.

[ +47 908 87 954 ]

1.3 Email address

[ nammco-sec@nammco.org ]

1.4 Website

[ [www.nammco.org](http://www.nammco.org) ]

1.5 Contact person, name and title

[ Dr. Albert Fernandez Chacón, Scientific Secretary ]		
1.6 Contact person, email address [ albert@nammco.org ]		1.7 Contact person, telephone no. [ +47 908 87 954 ]
<b>2. About the applicant</b>		
2.1 Type of organisation (enter a cross in one box per line) [ ]		
<input checked="" type="checkbox"/> Governmental/public <input type="checkbox"/> Non-governmental, specify: [ ] <input checked="" type="checkbox"/> Multilateral		
<input type="checkbox"/> Norwegian, org. no.: [ 971 401 362 ] <input type="checkbox"/> Non-Norwegian, org. no. if relevant: [ ]		
2.2 Brief description of applicant [ NAMMCO is an inter-governmental advisory body for the conservation and management of marine mammals (both cetaceans and pinnipeds) in the North Atlantic. Based on the best available scientific and user knowledge, the Commission provides management advice to the governments of its member countries: the Faroe Islands, Greenland, Iceland, and Norway. The Secretariat is based in Tromsø. ]		
2.3 Brief description of applicant's routines for procurement, anti-corruption work and internal control [ ]		
2.4 Information about the auditor [ PricewaterhouseCoopers AS, Muségata 1, POB 6128, NO-9291 Tromsø, since 2001. No reservations have been expressed in the auditor's report in the last three years. ]		
2.5 Has the applicant previously received support from the Ministry, a mission abroad, Norad or FK Norway? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
2.6 If yes, give details [ MFA, QZA-15/0249 «NASS 2015» Total grant 7,095,700 NOK ]		
<b>3. Bank details</b>		
3.1 Name and address of the bank [ Sparebank 1 Nord Norge ]		
3.2 Name of the account holder [ NAMMCO ]		
3.3 Account number/IBAN number [ NO3247500798196 ]	3.4 Swift code [ SNOWNO22 ]	3.5 Currency of the account [ NOK ]
<b>4. Partner(s)</b>		
4.1 Name(s) of partner(s) (and abbreviation(s)) [ See attachment 05 ]		
4.2 Postal address [ ]		4.3 Country [ ]
4.4 Telephone no. [ ]	4.5 Email address [ ]	4.6 Website [ ]
4.7 Type of organisation (enter a cross in one box per line) [ ]		
<input checked="" type="checkbox"/> Governmental/public <input type="checkbox"/> Non-governmental, specify: [ ] <input checked="" type="checkbox"/> Multilateral		
<input type="checkbox"/> Norwegian, org. no.: [ ]		<input type="checkbox"/> Non-Norwegian
4.8 Brief description of applicant's experience with this partner		

[ All cooperating partners are research institutes from NAMMCO member countries, with representation both in the NAMMCO Council and with scientists from these national institutes delegated to the NAMMCO Scientific Committee. The Scientific Committee of NAMMCO is the body that has coordinated the series of North Atlantic Surveys (NASS) since 1995 and will coordinate and overview the 2024 survey. ]

## PART II: THE PROJECT/PROGRAMME

### 5. General information about the project/programme

5.1 Where will the project/programme be implemented (area/country)?

[ North Atlantic Ocean waters of Norway, Greenland, Iceland, and Faroe Islands ]

5.2 Project/programme duration (mm.yyyy–mm.yyyy)

[ 2023-2026 ]

5.3 Sector/field

[ 41082 ]

5.4 Is the application for additional support for a project/programme that is already receiving or has already received support?

☒ No

☐ Yes, agreement no.: [ ]

5.5 If yes, give a brief description of the results achieved so far and status for the project that has previously received support

[ ]

### 6. Applicant's and partner's/partners' competence and capacity to carry out the project/programme

6.1 The applicant's and partner's/partners' experience with the thematic and geographical area of the project/programme and other relevant experience

[The NAMMCO countries have conducted six previous North Atlantic Sightings Surveys (NASS) for cetaceans, the first in 1987 and the last in 2015. Since 1995, the coordination of these surveys has been conducted under the auspices of the NAMMCO Scientific Committee, which has been involved in all stages of the planning, coordination and data analysis - the results to be found in the NAMMCO Scientific Publication Series Volume 7 and 11. NASS 2024 will add to the series of NASS, thus forming a 37-year time series, providing a realistic opportunity for detecting changes in abundance over time for species with long life spans and slow reproductive rates. ]

6.2 Distribution of roles between the applicant and the partner(s)

[ The four national research institutes, and the scientists involved, the Institute of Marine Research in Norway, the Marine and Freshwater Research Institute in Iceland, the Greenland Institute of Natural Resources, and the Faroese Museum of Natural History/Marine Research Institute, have been involved in the planning, executing and analysis of the previous 6 NASS surveys. Furthermore, several of these institutes have also conducted smaller scale national sighting surveys targeting the same whale species and/or other marine mammals. Overall, these four institutes concentrate some of the best and most diverse experience in Europe in marine mammal sightings surveys, supplemented and supported by a tight cooperation with other leading institutes in Europe, the United States and Canada, in terms of survey design, equipment development and data analysis. NAMMCO's role will be a coordination and oversight role, mainly facilitating planning meetings for overall survey protocols and design, procurement of equipment, logistical support for conducting the survey, and supporting survey evaluation, data analysis and results evaluation. The NAMMCO Scientific Committee will oversee the methods, design, survey execution, analysis, evaluation, and presentation and publication of results. The national institutes will be responsible for chartering survey platforms (vessels and aircraft), hiring observers, conducting the surveys, data preparation and validation, and analysis. NAMMCO's role will continue after the surveys to oversee and facilitate the review of the data, the abundance and trend analyses for the different species, and the evaluation of the results, as well as their final publication.]

### 7. Description of the project/programme and anticipated results

7.1 The project/programme's overall objective and target group (up to 500 characters in English, for statistical purposes)

[The general objective for this survey of cetaceans in the North Atlantic is to obtain fully corrected abundance estimates for predefined target species in all areas of importance for management, all subjected to anthropogenic removals in the NAMMCO area. However, although the design of the surveys is tuned towards

the targeted species, it will also provide abundance for the other cetacean species present in the area, so-called secondary species. The long-term desired effect is to enable managers to make informed decisions on sustainable anthropogenic removals for the survey target species, as well as providing a strong basis for evaluating the long-term impact of anthropogenic activities for all species.]

#### 7.2 Description of the project/programme

[ NAMMCO focuses on modern approaches to the study of the marine ecosystem as a whole, and to understanding better the role of marine mammals in this system. It provides a mechanism for cooperation on management for all species of cetaceans (whales and dolphins) and pinnipeds (seals and walruses) in the region, many of which are not covered by any other international agreements.

Management decisions to ensure the sustainable use of cetaceans necessitate scientific advice based on regularly updated abundance estimates and trends in abundance. A prerequisite for estimating abundance is reliable sighting surveys, and in the North Atlantic, the North Atlantic Sightings Surveys (NASS) and associated surveys have been conducted in 1987, 1989, 1995, 2001, 2007 and 2015. In 2007, the first fully trans-Atlantic survey was undertaken in cooperation with non-member range states. The NASS are perhaps the largest-scale wildlife surveys ever attempted, with the T-NASS 2007 achieving a transatlantic coverage.

The International Whaling Commission (under the framework of the Revised Management Procedure) recommends that the time interval between surveys is 6 years. Therefore, a survey of the North Atlantic is more than due, considering the changes in whale distributions revealed by the last surveys. This is especially important in the light of the ecosystem changes seen in recent years, affecting both cetaceans, prey species and other marine organisms.

NAMMCO members will carry out nationally planned and financed surveys in 2024. As whales are in essence migratory species, the coordinated, synergic, and synchronous organisation of these national surveys is especially important for obtaining additive and synoptic information on whale distributions and abundances in the whole area of the North Atlantic within the remit of NAMMCO management. However, the national surveys and other planned surveys in the range states alone do not provide a wide enough geographical coverage to obtain a synoptic abundance estimates for the target species: common minke, fin, humpback, and pilot whales in the North Atlantic. Several important areas where the whales can move to are not covered by the national surveys, and we know that important distribution shifts of whales and prey species have occurred in recent years. NAMMCO therefore plans to survey three additional “extension” areas (NASS 2024) to obtain full synoptic abundance estimates for the target species and thus facilitate the continued rational management of cetaceans. Furthermore, the data from these additional areas are also essential in detecting true trends in distribution and abundance of species for ecosystem monitoring, i.e., trends due to real changes in abundance and not due to whales moving in and out of a smaller survey area.

The general objective for the NASS 2024 survey is:

To obtain fully corrected abundance estimates for predefined target species in all areas of importance for management.

The specific objectives for NASS-2024 are to obtain robust unbiased abundance estimates of:

- i) pilot whales around the Faroe Islands and in the North Atlantic
- ii) minke whales in West and East Greenland, around Iceland, Jan Mayen and Svalbard and the central Norwegian sea
- iii) fin whales in the Central North Atlantic (around Iceland, off East Greenland, Faroe Islands and Jan Mayen) and in West Greenland
- iv) humpback whales in West Greenland

The primary areas of focus for the 2024 survey together cover about app. 5,000,000 km<sup>2</sup>.

The implementation of the described activities includes the national surveys (West Greenland (GL), Iceland-Faroes areas (IS + FO), and the Svalbard area). The extension surveys or NAMMCO surveys which cover East Greenland, the Jan Mayen area, and additional efforts around and south of the Faroe Islands.

Cetaceans spend a significant amount of time under the surface, when they cannot be detected, and therefore counted, by the observers, although they are in the survey area. This is called an availability bias and needs to be corrected for during the analysis. To correct abundance estimates of baleen whales and pilot whales generated from the NASS 2024 for submerged whales, the ideal and most reliable is to use a correction factor obtained from satellite transmitters deployed on the target species during the time and in the area of the NASS2024 survey. A coordinated satellite tracking project has been launched by NAMMCO-Japan in August 2021. The first series of tag deployments should be done during spring-summer 2024. A cooperation with the MINTAG project would ensure that tags are deployed during and in the area of the survey at a minimum cost, as the tags themselves and any other expenses related to the tagging would be covered by the MINTAG project. NASS2024 would only fund the extra shiptime devoted to the tagging.

More detailed descriptions of survey design, effort, coverage and methodology are to be found in the attached proposal.

The NASS2024 will be organized and overseen by the NASS2024 Scientific Planning Committee and the NAMMCO Scientific Committee which will ensure the successful coordination, implementation, and analysis of the results. The NASS2024 Scientific Planning Committee has invited independent and leading experts in the field of cetacean surveys to participate in the planning meetings in charge of survey design and protocols. Experts will also be invited to participate in the meetings which will review and evaluate of data analyses and the development of abundance estimates and trends. External leading experts will also be invited by NAMMCO to participate in the Working Groups which will make use of the results generated by the NASS2024 project for conducting species assessment and providing scientific management advice to managers.

The information obtained from the NAMMCO extension surveys and tagging effort, in concert with the data from the national surveys, is critical to the assessment of abundance and trends of cetaceans in the North Atlantic, and the development of sound scientific and ecosystem-based management advice by NAMMCO.

7.3 Comments on the attached results framework

## 8. Risk, cross-cutting issues and sustainability

8.1. Assess what risks could affect goal achievement. Also describe the risks that could have a negative impact on cross-cutting issues (human rights, women's rights and gender equality, climate and the environment, and anti-corruption)

- **Corruption is not seen as a risk factor for NAMMCO.** NAMMCO budgets are reviewed by the Finance and Administration Committee of NAMMCO at least twice per year, and the expenses are audited by an independent company quarterly (see above).
- **Weather is a risk factor for NASS2024.** This risk factor cannot be managed, but time for bad weather is allocated in the time survey schedule, and proportionally to the statistical risk, i.e., more time is allocated for lost survey time due to bad weather in the northern areas than in the southern areas.
- **Changing distribution of whales could be considered a risk factor.** NASS2024 is planned such that we are managing the risks of changing distributions of whale species as much as possible by precisely applying for being able to extend the area of the national survey, to avoid some of the problems encountered in previous surveys with changing distributions of whales. One of the main goals of NASS2024 is, by expanding the survey coverage, to be able to document such changing distribution. This also underlines the unique value of this long series of surveys.

<p>- <b>Gender and equal right.</b> Scientists and observers participating in the survey will be hired based upon their qualifications, experience, and fitness for the task, rather than gender. All qualifications and experience being equal, NAMMCO, which is very much aware of this as an institution, will strive to achieve an even distribution of gender when it has an influence on it, for example when it invites external experts.</p>							
Identification	Analysis			Management	Follow-up		
Risk	Probability	Impact	Overall risk	Risk-reducing measures	Responsibility	Deadline	Status
[See above]				• [• [•			
[Cross-cutting issues: Negative impact on human rights]	Not applicable			• [• [•			
[Cross-cutting issues: Negative impact on women's rights and gender equality]	Not applicable			• [• [•			
[Cross-cutting issues: Negative impact on climate/environment]	Not applicable			• [• [•			
[Cross-cutting issues: Negative impact on anti-corruption]	Not applicable			• [• [•			
[	[	[	[	[	[	[	[

## 8.2. Describe the sustainability, local ownership and exit strategy of the project/programme

[The institutional foundation is strong. NASS-2024 will be part of a long history of cetacean sightings surveys in the North Atlantic, from 1987 to 2024, and as such, is backed by extensive background experience. With NASS2024, not only will NAMMCO provide the best possible cetacean abundance estimates in 2024, the results will allow for the ability to obtain trend estimates for almost 4 decades.

The national research institutions in all four countries will carry out the surveys in their national waters. The surveys will be conducted using methods that have been developed and are well-accepted by cetacean survey experts. These methods are well known and have been practiced during the last previous surveys. Survey protocols and observer manuals have been developed for previous surveys and there are few new and unknown factors with respect to implementation of the surveys. Survey protocols needs to be updated to encompass any developments in survey and ship technologies and for insuring that the combination of survey effort and tagging efforts do not compromise the success of each other when both activities compete both for the same favorable weather conditions.

The NAMMCO Scientific Planning Committee will meet following the NASS2024 in October 2024 to debrief and discuss an initial review of the data collected, and finalise plans for data analysis. Once data analysis has been completed, projected to be fall 2025, the NAMMCO Abundance Estimates Working Group will meet to evaluate the analyses and results, and to formally endorse the abundance estimates or request further analysis if necessary. In that case, a further review will be organised. When endorsed estimates are available, the Scientific Committee will develop management advice to be forwarded to the NAMMCO Cetacean Management Committee. ]

## 9. Budget and financing plan

9.1. Comments to the attached budget

[ See attachments 02 and 04 ]

#### 10. Additional information

10.1 Any additional information of relevance for the application

[ see implementation plan in attachment 03 ]

### PART III: ATTACHMENTS

☐ Number [01\_] **Results framework (mandatory)**

☐ Number [02\_] **Budget (mandatory)**

☐ Number [03\_] Implementation/activity plan

☐ Number [ ] Theory of change

☐ Number [ ] Documentation of bank details

☐ Number [04\_] Proposal: North Atlantic Survey of Selected Cetaceans (NASS 2024) [ ]

☐ Number [05\_] Cooperating partners [ ]

#### DATE AND SIGNATURE

I confirm that I am authorised to enter into legally binding agreements on behalf of the applicant, and I confirm that to the best of my judgement the information in this application is correct.

[ Tromsø (Norway), 27 of June 2022 ]

[ Dr. Albert Fernandez Chacón,  
NAMMCO Scientific Secretary ]





## Attachment 01: RESULTS FRAMEWORK

GOAL HIERARCHY	GOAL DESCRIPTION/EXPECTED RESULT	INDICATORS	MAIN TARGET GROUP
<b>IMPACT ON SOCIETY</b>	To enable managers to make informed decisions	Updated management (including sustainable removals) of cetacean stocks in the North Atlantic set by managers.	Managers in the NAMMCO member countries
<b>INTENDED OUTCOME</b>	To provide the best possible scientific advice to managers for management of cetacean stocks in the North Atlantic	Updated management (including sustainable removals) of cetacean stocks in the North Atlantic set by managers.	Managers in the NAMMCO member countries
<i>OUTPUT 1</i>	Abundance estimates and trends for priority species including: - Common minke whale abundance estimate - Fin whale abundance estimate - Pilot whale abundance estimate - Humpback whale abundance estimate	Abundance estimates that are endorsed by the NAMMCO Scientific Committee's Abundance Estimates Working Group, which includes both scientists from member countries and invited external lead experts, which are highly competent and world recognised in the field of cetacean abundance estimation and modelling.	Managers in the NAMMCO member countries
<i>OUTPUT 2</i>	Abundance estimates and trends for secondary species including: - other large baleen whales (sei, bowhead, etc.) - small cetaceans (harbour porpoises, killer whales, etc.)	Abundance estimates that are endorsed by the NAMMCO Scientific Committee's Abundance Estimates Working Group, which includes both scientists from member countries and invited external lead experts, which are highly competent and world recognised in the field of cetacean abundance estimation and modelling.	Managers in the NAMMCO member countries
<i>OUTPUT 3</i>	Publication and dissemination of results	Publications in scientific journals and outreach through websites, social media and public presentations.	Scientists and wider public

	2023	2024	2025	2026	Total	Percentage of Total
<b>Project Expenses- Grant Recipient (NAMMCO)</b>	<b>250,000</b>	<b>9,560,000</b>	<b>570,000</b>	<b>570,000</b>	<b>10,950,000</b>	<b>28%</b>
<i>2023 Details</i>						
Coordination and meetings	100,000					
NAMMCO salaries	150,000					
<i>2024 Details</i>						
Coordination and meetings		150,000				
East Greenland coastal area		1,700,000				
Jan Mayen area		5,000,000				
Increased Faroe Island area		500,000				
Satellite tagging		1,500,000				
Abundance estimation of non-target species		400,000				
NAMMCO salaries		310,000				
<i>2025 Details</i>						
Coordination, meetings, review and publication of results			260,000			
NAMMCO salaries			310,000			
<i>2026 Details</i>						
Coordination, meetings, review and publication of results				200,000		
NAMMCO salaries				370,000		
<b>Project Expenses- Cooperating Partners</b>	<b>825,000</b>	<b>24,750,000</b>	<b>1,265,000</b>	<b>660,000</b>	<b>27,500,000</b>	<b>71%</b>
<i>2023 Details</i>						
Marine Research Institute- Iceland	300,000					
Marine Research Institute- Faroe Islands	75,000					
Institute of Marine Research- Norway	300,000					
Greenland Institute of Natural Resources	150,000					
<i>2024 Details</i>						
Marine Research Institute- Iceland		9,000,000				
Marine Research Institute- Faroe Islands		2,250,000				
Institute of Marine Research- Norway		9,000,000				
Greenland Institute of Natural Resources		4,500,000				
<i>2025 Details</i>						
Marine Research Institute- Iceland			460,000			
Marine Research Institute- Faroe Islands			115,000			
Institute of Marine Research- Norway			460,000			
Greenland Institute of Natural Resources			230,000			
<i>2026 Details</i>						
Marine Research Institute- Iceland				240,000		
Marine Research Institute- Faroe Islands				60,000		
Institute of Marine Research- Norway				240,000		
Greenland Institute of Natural Resources				120,000		
<b>Overheads</b>	<b>16,500</b>	<b>495,000</b>	<b>25,200</b>	<b>13,300</b>	<b>550,000</b>	<b>1.4%</b>
<b>Total Expenses</b>	<b>1,091,500</b>	<b>34,805,000</b>	<b>1,860,200</b>	<b>1,243,300</b>	<b>39,000,000</b>	
<b>Applicant's own financial contribution (NAMMCO)</b>	<b>- 250,000</b>	<b>- 460,000</b>	<b>- 490,000</b>	<b>- 520,000</b>	<b>- 1,720,000</b>	<b>-4.4%</b>
<b>Financial Contributions from other sources</b>						
Partners (National Institutes)	<b>- 825,000</b>	<b>- 24,750,000</b>	<b>- 1,265,000</b>	<b>- 660,000</b>	<b>- 27,500,000</b>	<b>-70.5%</b>
<i>2023 Details</i>						
Marine Research Institute- Iceland	- 300,000					
Museum of Natural History- Faroe Islands	- 75,000					
Institute of Marine Research- Norway	- 300,000					
Greenland Institute of Natural Resources	- 150,000					
<i>2024 Details</i>						
Marine Research Institute- Iceland	- 9,000,000					
Museum of Natural History- Faroe Islands	- 2,250,000					
Institute of Marine Research- Norway	- 9,000,000					
Greenland Institute of Natural Resources	- 4,500,000					
<i>2025 Details</i>						
Marine Research Institute- Iceland		- 460,000				
Museum of Natural History- Faroe Islands		- 115,000				
Institute of Marine Research- Norway		- 460,000				
Greenland Institute of Natural Resources		- 230,000				
<i>2026 Details</i>						
Marine Research Institute- Iceland			- 240,000			
Museum of Natural History- Faroe Islands			- 60,000			
Institute of Marine Research- Norway			- 240,000			
Greenland Institute of Natural Resources			- 120,000			
<b>Amount applied for from the MFA</b>	<b>16,500</b>	<b>9,595,000</b>	<b>105,200</b>	<b>63,300</b>	<b>9,780,000</b>	<b>25%</b>

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## Attachment 03: Implementation Plan

[illegible]

## PROPOSAL FOR A NORTH ATLANTIC SURVEY OF SELECTED CETACEANS (NASS-2024)

Compiled by the NASS2024 Scientific Planning Committee (SpC); Nils Øien (IMR, NO), Gisli Vikingsson and Guðjón Már Sigurðsson (MFRI, IS), Bjarni Mikkelsen (FMRI, FO) and Rikke Guldborg Hansen (GINR, GL; Chair).

### Background

Due to national and international requirements, management decisions on cetacean harvests require scientific advice based on updated abundance estimates. It is generally agreed within the NAMMCO SC that a better basis for the management of cetacean species in the area would be obtained through effort coordination aiming at a synoptic and contiguous survey across the North Atlantic. In particular, it is important that the surveys are coordinated and designed to obtain reliable estimates of the target species (stocks), while at the same time allow for modifications necessary to meet national requirements.

The data gathered in such coordinated cetacean surveys will also be useful for detecting trends in distribution and abundance of species for ecosystem monitoring. This also requires a very large survey area and a series of surveys spread over time to be successful. Previous large-scale surveys (like TNASS-2015) have proven successful in meeting these objectives with a long list of estimates endorsed by the Scientific Committee of NAMMCO and used in stock assessments, as well as published estimates, e.g. in Volume 11 of the NAMMCO Scientific Publication Series, titles "Sighting surveys in the North Atlantic: 30 years of counting whales" (<https://nammco.no/topics/vol-11/>).

### Objective

The general objective for a survey of selected cetaceans in the North Atlantic is:

*To obtain fully corrected abundance estimates for predefined target species in all areas of importance for management.*

The specific objectives for NASS-2024 are:

*To obtain robust unbiased abundance estimates of*

- i) pilot whales around the Faroe Islands and in the North Atlantic*
- ii) minke whales in West and East Greenland, around Iceland, Jan Mayen and Svalbard and the central Norwegian sea*
- iii) fin whales in the Central North Atlantic (around Iceland, off East Greenland, Faroe Islands and Jan Mayen) and in West Greenland*
- iv) humpback whales in West Greenland*

## Approach

1. The survey is focused on abundance estimates for areas and species that are important for providing robust management advice
2. The following species are identified as primary target species: long-finned pilot whales, common minke whales, fin whales and humpback whales. It is, however, assumed that the survey will also provide robust estimates of blue and sei whales and to some extent also larger cetaceans like Northern bottlenose whale, sperm whales and killer whales, as well as smaller dolphins (incl. white sided and white beaked dolphins) and harbour porpoises.
3. The survey should be planned for 2024 to ensure common coordinated efforts and sufficient time for preparations. Due to Covid-19 disrupting national monitoring plans, the survey year is moved from 2023 to 2024. Effort had been made to coincide with surveys in the Northwest Atlantic, but these areas are tentatively planned for 2027 by Canadian national effort and surveys in the European parts of the Atlantic (SCANS IV<sup>1</sup>) which is scheduled for summer 2022.

## Geographical coverage

The geographical extent of the planned survey is shown in Figure 1. In addition to areas covered in most previous NASS, the following areas are also considered of primary importance for a NASS2024 survey:

1. The East Greenland shelf from Cape Farewell to about 80°N where significant numbers of baleen whales have been detected in NASS-2015;
2. The area between Iceland and Jan Mayen is important for assessments of Central North Atlantic common minke whales as it represents an important “Small Area” within the “Central Medium Area” (in the RMP terminology). It is also important for monitoring a possible northward shift in cetacean distribution due to climate change (compared to earlier NASS), and could, for example, be the “sink” for minke whales not encountered in recent aerial surveys in Iceland. This area should be surveyed to ensure a coherent coverage;
3. Intensified survey coverage will be established around the Faroe Islands based on ‘home range’ information from ongoing satellite tracking experiments of pilot whales instrumented in the Faroe Islands.

Areas of secondary importance that would be important to include are:

1. Areas south of the Irminger Sea and generally south of 55°N where sei whales and pilot whales occur;
2. Areas north of 70°N in West Greenland where recent catches of minke whales have been taken;
3. Areas between east Iceland and Norway depending on the Norwegian mosaic survey effort.

Proper coverage of all areas of primary importance will ensure that unbiased estimates are obtained. The use of double-platforms will further reduce the bias of the estimates. Both approaches are critical for achieving a survey

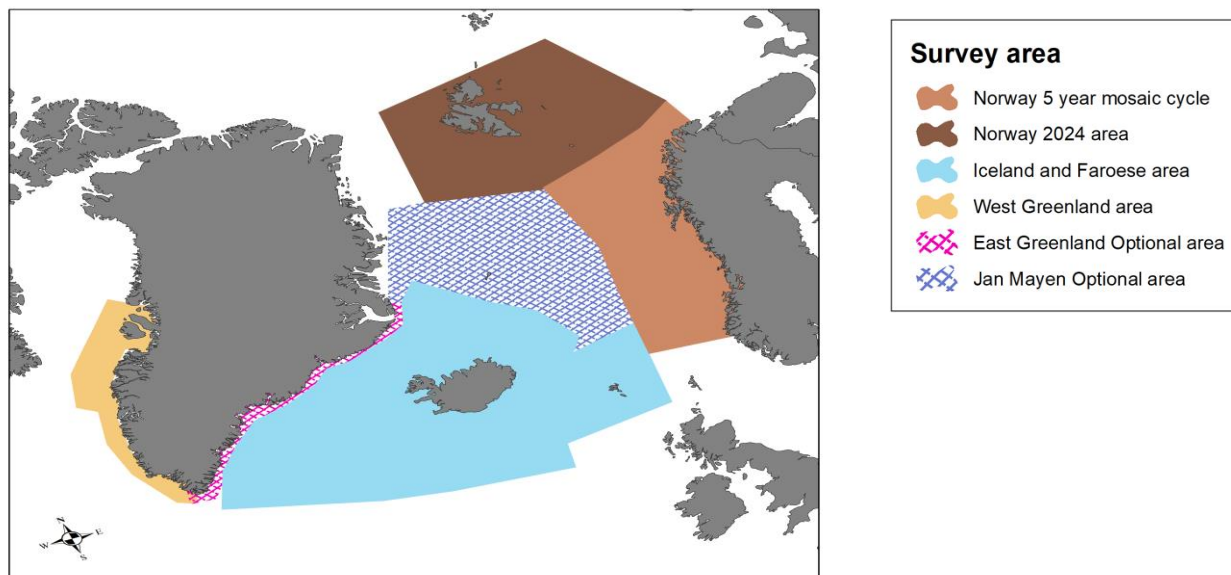
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<sup>1</sup> [https://www.ascobans.org/sites/default/files/document/ascobans\\_ac26\\_pres6.1d\\_scans-iv\\_scheidat.pdf](https://www.ascobans.org/sites/default/files/document/ascobans_ac26_pres6.1d_scans-iv_scheidat.pdf)

that will be of long-term value for the management of whales in the North Atlantic. Coverage of areas of secondary importance will provide additional abundance estimates and data on distributional changes. The combination of areas of primary and secondary importance will generate a large-scale survey, that will be able to detect major shifts in abundance caused by ongoing climatic perturbations in the North Atlantic. Finally, the survey will provide critically important information on several of the non-target species and provide abundance estimates for some of those (i.e. blue whales, sei whales, sperm whales, Northern bottlenose whales, killer whales, white-beaked and white-sided dolphins and harbour porpoises). Obtaining robust abundance estimates for harbour porpoises has gained increased economic importance in recent years with new data on by-catch rates and potential associated sanctions of fish export to the US.

An example of how the results of this planned survey will be fundamental for the interpretation of observed changes in abundance is the minke whales around Greenland. A significant decline in abundance in coastal areas of West Greenland was detected in the TNASS-2015 but because of the effort of the large-scale survey, East Greenland coastal areas were also covered. A large abundance of minke whales was detected in these areas and the coverage of East Greenland turned out being of critical importance for management of minke whales. Without the large-scale area covered it would have been impossible to hypothesize that the decline in West Greenland may not represent a catastrophic drop in population abundance but rather a shift in distribution, perhaps in response to oceanographic changes.

For the NASS2024 survey a large-scale coherent area should be covered to ensure the detection of major shifts in the abundance and distribution of cetaceans, which could result in abundance decline such as the ones observed off West Greenland in 2015 or in Icelandic Coastal waters in 2007. The primary areas of focus for the 2024 survey together cover about app. 5,000,000 km<sup>2</sup> (Figure 1).



**Figure 1.** Extension of the proposed NASS 2024 and associated surveys. The size of the areas is estimated to be 726,044 km<sup>2</sup> for the Jan Mayen area, 1,911,354 km<sup>2</sup> for the Iceland and the Faroe Island area, 934,722 km<sup>2</sup> for the Norwegian mosaic cycle area, 936,437 km<sup>2</sup> for the Norway area (Svalbard), 225,285 km<sup>2</sup> for the West Greenland area and 233,659 km<sup>2</sup> for the East Greenland area.

## Existing survey plans from member countries

Individual NAMMCO member countries plan to conduct local surveys in 2024 and these are generally planned to be similar to those of previous NASS surveys.

**Greenland** plans to conduct an aerial survey of the West Greenland shelf area from Cape Farewell to Uummannaq in August-September 2024. No ship surveys are planned due to a lack of suitable survey ships and unfavourable weather conditions that require large effort during small windows of good survey conditions. Greenlandic scientists will ensure survey execution, analysis and presentation of the survey results.

**Norway** conducts a series of mosaic surveys covering different parts of the North Atlantic each year. According to the schedule of the mosaic surveys, Norway will cover the area around Svalbard. Analysis and presentation of results are covered by Norway.

**Faroe Islands** will provide one survey platform (one vessel). Participation of Faroese scientists is included in national budgets as well, and will includes planning, survey execution and post-processing.

**Iceland** will provide 3-4 survey platforms (2-3 vessels and one aircraft) that will cover the areas traditionally covered by Iceland. Icelandic scientists will participate in survey design, survey execution and analysis and presentation of results.

Overview of survey expenses covered by National institutions for NASS 2024:

Country	Contribution	Costs NOK (mill.)
Greenland	Survey platform (Twin Otter aircraft with survey crew)	4.0
Greenland	Preparation, analysis and presentation in subsequent years	1.0
Iceland	Survey platform (Two large survey vessel, aircraft and crew)	8.0
Iceland	Preparation, analysis and presentation in subsequent years	2.0
Norway	Survey platform (One large survey vessel for 8 weeks with crew)	8.0
Norway	Preparation, analysis and presentation in subsequent years	2.0
Faroe Islands	Survey platform (One large survey vessel for 4 weeks with crew)	2.0
Faroe Islands	Preparation, analysis and presentation in subsequent years	0.5
<b>Total</b>		<b>27.5 mill</b>

For the target species chosen for NASS2024 it is desirable to have a large and coherent survey coverage. The expenses for a large-scale survey cannot solely be covered by current national budgets and it is unlikely that funding for such an effort can be secured from scientific funding agencies.

Partial funding of the survey could cause gaps in coverage that will leave areas without data that cannot be included in the abundance estimates and will also reduce the options for detecting shift in abundance between areas. This scenario will eventually hamper the assessment of whale stocks.

## Budget

Based on experience from past surveys, the SpC has estimated the costs for a large-scale survey to be in the magnitude of ~36.5 mill NOK, including national post-survey analysis and presentations of results. In comparison the total cost of the TNASS-15 survey was 43.5 mill NOK, when corrected for inflation to 2020. National funding contributions in terms of already planned survey effort, incl. ship-time, are expected to cover about 27.5 mill NOK and additional 9.5 mill NOK are needed to ensure coherent and synoptic survey coverage.

Overview of budget for the NAMMCO part of NASS 2024 (excluding salaries of scientists and NAMMCO Secretariat staff):

Year	Notes below	Activities within NAMMCO	Costs NOK
2023		Meetings & co-ordination	100 000
2024		Meetings & co-ordination	150 000
	1	East Greenland coastal area	1 700 000
	2	Jan Mayen area	5 000 000
	3	Increased Faroe Island area	500 000
	4	Satellite tagging	1 500 000
	5	Abundance estimation of non-target species	400 000
2025		Co-ordination, meetings & review of results	180 000
		Publication of results	80 000
2026		Co-ordination, meetings & review of results	150 000
		Publication of results	50 000
<b>Total 2023 - 2026</b>			<b>9 810 000</b>
<b>Of which NAMMCO supports</b>			<b>580 000</b>

The meeting in 2023 will be a face-to-face meeting coordinating survey timing, area boundaries, national and collaborative effort, survey setup and protocols across countries. The meeting will also address best practise for estimating pilot whale group size by reviewing latest drone developments. The SpC propose to invite 2 external experts to the planning phase of the NASS-2024. The meeting in 2024 will be with expert participation. Meeting costs include external experts' participation and NAMMCO secretariat expenses.

1. The East Greenland coastal area was covered during NASS-2015. This survey revealed large abundance of minke-, fin- and humpback whales in this area and remains an important area for these species. Covering this area in the same way as the surveys in West Greenland would ensure comparable estimates of abundance. The costs include all expenses such as airplane charter, crew and analysis;
2. The plan for the coverage of the Jan Mayen area is to conduct a ship-based survey with the methods used in the Norwegian mosaic survey design to ensure that this important area is covered simultaneously with Icelandic coastal areas and areas in the Norwegian Sea. The costs include all expenses such as ship charter, crew and analysis;



3. The plan for the increased survey coverage of potential pilot whale habitat is to design of the survey strata based on the information on the species habitat delineation gained from whales tracked by satellite. This should ensure that areas with the highest abundance are covered and that survey effort can be intensified in these areas. This survey design should enable a more robust estimation of pilot whale abundance, as it should cover a wider part of the area from where the hunt is recruited, and will generate abundance estimates with lower variance because of the increase effort in areas of highest abundances.
4. A coordinated satellite tracking project has been launched by NAMMCO-Japan in August 2021. The first series of tag deployments should be done during spring-summer 2024. A cheaper option than dedicating specific ship-time to satellite tagging could be to use the survey vessels for tagging effort, providing that more ship-time is allocated. All expenses except ship time would be covered by the satellite tagging project.
5. Experience from previous NASS survey has shown that the cost of generating abundance estimates for non-target species should be included in survey budget, so these analyses are completed in a timely manner, together with the analyses related to target species, otherwise they take years to be completed and published. This ensures an ecosystem approach can be maintained. Generating and publishing abundance estimates for non-target species for Norway and Iceland/Faroes will require an estimated 350,000 NOK covering ca. 6 months salary.

### **Organisation of the NASS2024**

The NASS-2024 will be organized by the Scientific Planning Committee (SpC) constituted by members of the Scientific Committee appointed by the Scientific Committee and by the Secretariat. The SpC will operate on the funding provided by the Council.

The funding to the projects related to the NAMMCO part of NASS 2024 will be made available to national research agencies after an application procedure specifying methodologies and design and detailing costs. The SpC will review and provide advice on the project proposals to ensure high standard and a good coordination with the other parts.

In 2023 and 2024, the SpC will monitor the development concerning methodology and data quality requirements in other organisations using systematic survey data for management (e.g. the IWC SC), and will ensure that the methodology in the different part of the NASS2024 surveys will comply to the present standard in methodology and data collection.

## **Attachment 05: Cooperating partners and contact details**

The four member countries councillors are given in addition to the different countries head scientist responsible for the national surveys.

### **Norway**

Ministry of Trade, Industry and Fisheries

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Head Scientist:

Nils Øien, Institute of Marine Research, tel. : +4791002344, E-mail : [nils.oien@imr.no](mailto:nils.oien@imr.no)

### **Greenland**

Ministry of Fisheries, Hunting and Agriculture

Amalie Jessen , Tel.: + 299345304, E-mail: [AMALIE@nanoq.gl](mailto:AMALIE@nanoq.gl)

Head Scientist:

Rikke Guldberg Hansen, Greenland Institute of Natural Resources, Tel.: +45 32833826, E-mail: [rg@ghsd.dk](mailto:rg@ghsd.dk)

### **Faroe Islands**

Ministry of Foreign Affairs

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### **Iceland**

Ministry of Industries and Innovation

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Head Scientist:

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