



32ND MEETING OF THE NAMMCO SCIENTIFIC COMMITTEE

19–22 January 2026

Marine Research Institute, Tórshavn, Faroe Islands (hybrid)

REPORT



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EXECUTIVE SUMMARY

The 32nd meeting of the NAMMCO Scientific Committee (SC) was held at the Faroe Marine Research Institute in Tórshavn (Faroe Islands) on 19–22 January 2026. The meeting was chaired by Sandra Magdalena Granquist (Iceland) and was observed by Japanese scientists.

All proposals and recommendations made by SC/32 are available in Appendix 6.

Environmental and Ecosystem Issues

Multi-species approaches to management and modelling: The SC will devote a session at its next meeting to evaluate information on the subject of ecosystem and multi-species modelling approaches. Each delegation will present updates from their country, and the SC will determine whether the NAMMCO process can be improved by including such methods, either at that meeting or a subsequent workshop.

Environmental Issues: No updates were available on the Mary River Project and its impacts on marine mammals in the area; however, this will be discussed at the next Joint NAMMCO-JCNB Working Group.

On the subject of including other anthropogenic stressors (besides removals) in stock assessments, the SC lacks the relevant expertise to progress beyond superficial information levels. The Secretariat was *tasked* with seeking cooperation with AMAP and OSPAR on the subject of pollutants and their effects on marine mammals, and proposing ways forward to SC/33.

Marine Mammal / Fisheries Interactions: The By-catch WG (BYCWG) project to map exposure of marine mammals to by-catch risk in the NAMMCO region is progressing. Fishing effort data from all four Parties has now been standardised to allow for the calculation of relative fishing intensity. Density distributions for selected marine mammals have also been acquired, although not for all the species of interest; information on different seasons (particularly winter months) and areas is still lacking for several species. The Parties were *urged* to provide more species distribution data that could be used in the calculation of relative by-catch risk.

Monitoring marine mammal stock levels and trends

The Abundance Estimates WG (AEWG) met several times in 2025, including an in-person meeting in September, to review the results of the 2024 North Atlantic Sightings Survey (NASS). Fully corrected abundance estimates from Greenland's aerial surveys were endorsed for minke, fin, humpback, and pilot whales. At surface (perception-corrected) estimates were also endorsed for harbour porpoise and white-beaked dolphin. There were significant delays in the analysis of shipboard survey data, which resulted in endorsed estimates only for pilot whale in the Faroe Islands/Iceland component of NASS 2024. The AEWG made a series of recommendations to minimise such delays in future surveys.

The AEWG will meet in 2026 to review estimates for the remaining target and non-target species. Trends analyses for target species will be conducted by each Party, while the analyses for non-target species will be pooled.

A workshop on spatial and space-time models for whale surveys was held in November 2025, with the aim of exploring different approaches to model-based abundance and distribution estimation. Three different methods were discussed and tested on different datasets: density surface modelling; integrated nested Laplace approximation using inlabru; and multiple scale line transect analysis using Template Model Builder. Methodological considerations for density modelling were also discussed.

A workshop on alternatives to design-based cetacean surveys is planned for 2026, with the aim to assess the status of current development and practicality of novel methods for obtaining robust abundance estimates of cetaceans in the North Atlantic. The workshop will explore different techniques (e.g., genetic methods, acoustic monitoring, camera and satellite imaging), as well as appropriate sampling design and analytical methods.

The SC *endorsed* all the recommendations of the AEWG, and further *recommended* that model-based analysis of all NASS datasets be conducted, coordinating efforts pertaining to trends analyses between Parties. The AEWG was *tasked* with providing concrete protocols for standardised data collection and validation well ahead of the next survey.

Seals and walrus stocks

Harp and Hooded seals: The ICES/NAMMCO WG on Harp and Hooded seals (WGHARP) held a short online meeting in September 2025. Updates on the status of abundance estimates and modelling techniques were given. The status of information is such that it precludes robust stock assessments for either species in the NAMMCO area. Close-kin mark-recapture is being explored as an alternative approach to obtaining abundance estimates; if successful, stock assessments may be conducted in 2027.

Updates from Greenland indicate a concerning decline in both harp and hooded seal numbers in the Northwest Atlantic in recent years. Ecosystem changes, paired with low reproduction and juvenile survival rates, are likely contributing factors. Information on the potential impacts of the hooded seal decline on the hunt in East Greenland will be presented to the SC at its next meeting.

Satellite tracking and dietary studies of hooded seals in the Northeast Atlantic stock show breeding and moulting areas shifting northward, while foraging areas have moved eastward and are projected to continue doing so.

Harbour and Grey seals: Updated coastal seal counts are expected in 2026 for both the Faroe Islands and Iceland. While overall by-catch levels appear to have decreased in Iceland, along with a reduction in fishing effort, the lump sucker fishery in particular remains a threat for seals. In Norway, by-catch of grey seals in the monkfish fishery, especially in Central Norway, is a pressing concern. Low breeding population size and pup production has led to the advice to stop the hunt in the southern management area, while the quota remains in the northern management area (where catches have been well below quota since 2018).

The Coastal Seals WG (CSWG) will hold an online meeting in 2026 to provide a status update and discuss alternative census methods for coastal seals, prior to a stock assessment in 2027. The technical WG on Genetics is tasked with reviewing existing and new information on genetic structure in the North Atlantic, to inform the assessment.

The SC expressed *serious concern* over the declining grey seal populations in Norway and strongly reiterated its recommendations to both Iceland and Norway for the collection of jaws of by-caught seals to enable reliable species identification. The SC also *recommended* that the forthcoming management plans for Norwegian and Icelandic coastal seals be reviewed by the CSWG.

Bearded seal: New survey and telemetry data are to be collected in Greenland during 2026 and 2027, respectively. Circumpolar evidence also reveals at least three genetically distinct populations in the Atlantic: Northeast Atlantic, Northwest Atlantic, and High Arctic. It is likely that the latter is a resident population that remains in Melville Bay year-round.

The SC will revisit the status of knowledge on bearded seals in 2027, when new and archived survey data will have been analysed.

Ringed seal: Due to changes in ice conditions, spatial patterns of hunting activity in Ilulissat Icefjord (Greenland) have changed recently, and the consequences of this are currently unknown. The SC will conduct a formal assessment of the Kangia ringed seal at its next meeting.

In Svalbard, drone surveys of selected fjords between 2023 and 2025 resulted in an estimate of 1,486 ringed seals. A state-of-the-art machine learning algorithm was trained on drone images, dramatically reducing the human workload required to analyse aerial footage.

The SC *reiterated* its previous recommendation to Greenland, namely, to determine whether there are isolated ringed seal stocks in other fjord systems besides Ilulissat.

Walrus: Norway reported the first documented case of bird flu in a Svalbard walrus. A new aerial survey is planned for 2026 in Svalbard, with the aim to compare with concurrent satellite images. Remote sensing has already revealed several previously unknown haul-out sites; as such, the SC recognises that it will become increasingly important for monitoring purposes, although the cost may be limiting.

Due to the delay in conducting an aerial survey in Greenland, the stock assessment is postponed to 2027. In the interim, the SC *recommended* that the advice from the 2018 assessment continue to be followed.

Cetacean stocks

Narwhal and Beluga: Current knowledge suggests that belugas in East Greenland are vagrants from other areas; as such, there is no stock in the area to be assessed, and this cannot be further investigated without new genetic samples.

Long-term survey data on both belugas and narwhals in West Greenland indicate a decline in abundance. Of particular concern is the indication that the Melville Bay narwhal stock is now below the 1,000-individual threshold to be classified as a Small stock.

The SC called for a meeting of the Joint NAMMCO-JCNB WG in 2026, to conduct an assessment of both narwhal and beluga in West Greenland. The SC *reiterated* its recommendation for zero beluga catches in East Greenland. Furthermore, while acknowledging the significance of the NAMMCO 31 recommendation to aim towards zero quotas for narwhal in East Greenland, as well as food security concerns, the SC noted that precautionary principles and a large body of evidence support the *reiteration* that zero catches should be permitted in all three East Greenland Management Areas.

Pilot whale: The Pilot Whale WG (PWWG) met in November 2025 to conduct an assessment for the North Atlantic, focusing on the Faroe Islands and Greenland. Updated genetic information that was reviewed by the Genetics WG, along with telemetry data from all four Parties, suggest that pilot whales in the region of interest form a single stock. Biological parameters such as age, growth, and reproduction rates, were analysed from the Faroese drive hunt data. Abundance estimates from NASS and other surveys were included in the assessment, as were catch statistics, primarily from the Faroe Islands and Greenland. Contaminant monitoring in the Faroe Islands shows increasing mercury levels in adult pilot whales, exceeding thresholds for negative effects. Population models estimate a slowly increasing population with an overall annual production of 2.0% and an abundance of 320,000 pilot whales in 2025. An annual total removal (including struck and lost or by-caught animals) of 1,570 pilot whales across the central and eastern North Atlantic allows the population to increase with 70% probability. As such, the current catch levels in the Faroe Islands and Greenland are considered sustainable.

The SC *endorsed* the PWWG's recommendations regarding removals, conservation and management, and further research (these are listed under 9.2 in the main report.)

Dolphins: The SC will review new information on white-beaked dolphin genetic structure at its next meeting, with the aim of conducting a full assessment of the species as soon as possible. Further information on catch rates, including struck and lost estimates, are also necessary for such an endeavour.

Harbour porpoise: The Harbour Porpoise WG (HPWG) is scheduled to meet in 2026, although it is likely that only Greenland will be able to provide an updated abundance estimate. However, a new stock assessment is needed for both Greenland and Norway, as catch and by-catch rates, respectively, are currently deemed unsustainable. (The Terms of Reference for the HPWG are given under 9.4.)

Minke and Fin whale: The Large Whale Assessment WG (LWAWG) met in January 2026, to provide updated advice on catch limits for fin and minke whales for Iceland. While no new data were available on abundance, biological parameters, or stock structure, updated catch statistics were incorporated into the respective stock assessments, following the IWC Catch Limit Algorithm. For management area

CIC, the recommended catch limits for 2026 are 134 minke whales at a tuning level of 0.6, or 86 minke whales at a tuning level of 0.72. For fin whales, different stock structure hypotheses result in different management variants. The LWA WG recommended either variant V3 (WI+EG+EI/F are a Small Area and catches are taken in WI) or V7 (WI+EG and EI/F are Small Areas). Catch limits for V3 are 150 fin whales at a tuning level of 0.6 or 90 fin whales at a tuning level of 0.72. Under V7, catch limits for WI are 116 fin whales at 0.6 tuning, or 70 fin whales at 0.72 tuning, and catch limits for EI/F are 34 fin whales at 0.6 tuning, or 21 fin whales at 0.72 tuning. In the absence of updated advice, the current advice can continue to be extended following the 20% phase-out per year. These assessments will be updated as soon as the fin and minke whale abundance estimates from NASS 2024 have been approved.

The SC *endorsed* the LWA WG's recommendations regarding removals, as well as for conservation and management and further research (these are given under 11.9 in the main report). A joint workshop with the IWC is *proposed* as a means of updating information on population structure and movements of both fin and minke whales in the North Atlantic, prior to the next in-depth assessment.

Other cetacean species: New information was also provided for northern bottlenose whales, other beaked whale species, bowhead whales, humpback whales, killer whales, and sperm whales.

NAMMCO Scientific Publications

Volume 14 of NAMMCO Scientific Publications was published in 2025, with the title "Anthropogenic Impacts on Marine Mammals". It comprised five research articles on the topics of strandings, by-catch, underwater noise, and hunting. The next two volumes will contain issues on surveys and abundance estimates, as well as general issues. The SC is now serving as the Editorial Board for the journal.

Management procedures

Given the risks of oversimplifying management advice, as well as the significant workload involved, the SC agreed that developing a NAMMCO-specific categorisation system for stock status would face considerable scientific and practical limitations. Instead, existing information on the NAMMCO website could be highlighted in a more accessible format. Additionally, the SC *recommended* that the Secretariat present the Council with an overview of existing categorisation frameworks applied by other organisations.

Collaborative projects

MINTAG: Field activities during 2025 were presented and the performance of tags and carriers was discussed. Due to weather and other obstacles, successful deployments were limited; however, 53 of the 75 tags available were used, and minke, fin, sei, humpback, and pilot whales were tagged, as well as one sperm whale. Plans for fieldwork in 2026 and dissemination of results were discussed, with the end-of-project symposium to be held in 2028.

Cooperation with Japan: Preliminary results of the project to explore the distribution and feeding ecology of North Pacific minke whales were presented. Analysis of body condition of animals found in Sendai Bay shows some correlations between blubber thickness and sex, length, and stock, but further work to incorporate spatial effects and account for seasonality within this migration corridor is needed. Data on offshore minke whales will also be analysed.

Future workplans and budget

The budget allocated for SC WG meetings during 2025 was NOK 215,000, with only NOK 51,999 actually expended, as the costs for the AEWG meetings and workshop were covered by the NASS 2024 budget. The Council has allocated NOK 260,000 for SC use in 2026. The SC proposed some modifications to the allocated budget for WG meetings, to fulfil assessment needs in the coming years. The SC *recommended* that any unspent funds be allocated to building a centralised NAMMCO data repository to house raw and processed project data and relevant shapefiles, that would be accessible to NAMMCO scientists, as well as to facilitating travel for SC members participating in joint projects with Japan.

The recommended SC workplan for 2026–2028, aligning with the long-term plans for stock assessments (Table 3 under item 16 in main report), is shown below. *Items in bold should not be moved to other years. The LWAWG has already met in 2026, but may meet again online.*

	2026	2027	2028
WG and WS meetings	<ul style="list-style-type: none"> • Large whale Assessment WG • By-catch WG • Abundance Estimates WG • WS on cetacean survey alternatives • JWG NAMMCO-JCNB • Harbour porpoise WG • NAMMCO-IWC WS on minke whale and fin whale (scoping WS) 	<ul style="list-style-type: none"> • Harp and hooded seals WG • Coastal seals WG • WS on age estimation • Walrus WG 	<ul style="list-style-type: none"> • Killer whale assessment • Dolphin WG • NAMMCO-IWC WS on minke whale and fin whale • WS for MINTAG end
Other	<ul style="list-style-type: none"> • MINTAG StG: online and physical meetings • MINTAG: deployment fieldwork and analysis 	<ul style="list-style-type: none"> • MINTAG StG: online and physical meetings • MINTAG: analysis • (maybe) SC-related Council workshop 	
External events	<ul style="list-style-type: none"> • MINTAG StG in SMM tagging WS 		

Other business

The SC *requested* guidance from the Council on how to address external requests for access to NASS data, bearing in mind the current geopolitical situation, as well as obligations to open-access information. The SC *recommended* that any external collaborators receiving data from NAMMCO projects should be required to return processed datasets in a usable and standardised format, to be archived centrally at the Secretariat and made available to the Parties as needed.

MAIN REPORT

The 32nd meeting of the NAMMCO Scientific Committee (SC) was held at the Marine Research Institute in Tórshavn (Faroe Islands) on 19–22 January 2026. The meeting was chaired by Sandra Magdalena Granquist (Iceland) and was observed by representatives of Japan. The full list of participants is given in Appendix 1.

1. WELCOME FROM THE CHAIR AND OPENING REMARKS

The Chair of the SC, Granquist, welcomed participants to the 32nd meeting of the Committee and to Tórshavn. She noted that it was her first time chairing the SC, and welcomed Anne Kirstine Frie (Norway) as the new Vice Chair of the SC. She then introduced the two newest members of the Secretariat, Olof Bengtsson (Research Assistant) and Ricardo de Almeida Mendes (Intern), and welcomed three local scientists, Helga Bára Mohr Vang, Katrin Hoydal, and Sunnvør Klettskarð í Kongsstovu—encouraging the regular SC members to be especially welcoming, so as to entice them to join the ranks. Granquist extended a particular welcome to the observers from Japan. Finally, she noted that there would be some online participation from Working Group (WG) Chairs outside the SC, who would join to present reports of their respective meetings during 2025, and that one SC member, Martin Biuw (Norway) would attend partially online. NAMMCO Secretary General, Geneviève Desportes, expressed deep regret at the unprecedentedly limited participation of Norway, and especially the absence of key persons for some issues or/and species (including coastal seals, population modelling, etc.).

2. ADOPTION OF AGENDA

Following the Rules of Procedure, a provisional agenda was circulated to the Committee on 12 December 2025, and a modified version thereof (in effect, reorganising items to better fit SC priorities) was circulated as a draft agenda on 5 January 2026. The agenda was adopted with no further modifications or comments (Appendix 2).

3. APPOINTMENT OF RAPORTEURS

Deputy Secretaries Maria Garagouni and Naima El bani Altuna were appointed primary rapporteurs, with assistance from the other members of the Secretariat as needed. All participants were asked to submit written summaries of presentations and lengthy interventions made during the discussion of agenda items.

4. REVIEW OF AVAILABLE DOCUMENTS AND REPORTS

4.1 NATIONAL AND ANNUAL PROGRESS REPORTS

4.1.1 Updates from Parties

The Chair noted that National Progress Reports for 2024 from each of the Member countries had been submitted as For Information documents (NAMMCO/SC/32/FI02–FI05).

4.1.2 Updates from observers

Haruna Murata presented NAMMCO/SC/32/FI06a and NAMMCO/SC/32/FI06b, which summarise Japanese research activities in Japan from April 2023 to March 2025.

Summary

The following Japanese research projects/activities on cetaceans were conducted from April 2023 to March 2025: 1) Sighting surveys for large and small cetaceans under national programs: Japanese

Abundance and Stock structure Surveys in the Antarctic (JASS-A) in the Southern Ocean and dedicated sighting survey in the North Pacific Ocean, and under international programs: International Whaling Commission-Pacific Ocean Whale and Ecosystem Research (IWC-POWER) in the North Pacific and the Arctic Ocean. These programs involved mainly sighting surveys for abundance estimates. Additionally, photo-identification (photo-ID), biopsy sampling, satellite tagging, oceanographic studies, and marine debris surveys were also conducted during these programs; 2) Collection of biological samples and data from commercial whaling on common minke, Bryde's, sei, and fin whales in Japan's Exclusive Economic Zone (EEZ), as well as from small cetacean fisheries. These samples and data are being analysed in contribution to the stock assessment and management of large and small cetaceans in the western North Pacific; 3) Records and analyses (mainly on population genetic structure) of by-catches and strandings, including large and small cetaceans; 4) DNA register and molecular monitoring of large whales in the retail market. In 2024, a total of 350 whale market products were sampled. Except for one sample that PCR amplification could not confirm, 349 products matched species and individuals in the ICR DNA database for large whales; 5) Publications. A total of 15 and 7 peer-reviewed scientific papers on large and small cetaceans, respectively, were published in the period of the reports.

Luis Pastene presented NAMMCO/SC/32/FI35, the report of the mid-term international review workshop of the Japanese Abundance and Stock structure Surveys (JASS-A).

Summary

JASS-A is a research program designed and implemented by the ICR and authorised by the Government of Japan in the Antarctic. The main research objectives of JASS-A are: i) the study of the abundance and abundance trends of large whale species; and ii) the study of the distribution, movement, and stock structure of large whale species. JASS-A also has several secondary research objectives related to oceanography, marine debris, abundance estimates from genetic data, and whale biology. The mid-term international review (MTR) workshop of JASS-A was carried out successfully in Tokyo between 20 and 22 October 2025. A total of 28 scientific documents derived from the JASS-A program were discussed between Japanese scientists and invited participants from Norway, United Kingdom, Germany, and South Africa. A total of 24 scientists and two government officials (Fisheries Agency of Japan) participated in the workshop. The scientific outputs from the JASS-A program were well evaluated and useful suggestions and recommendations were provided by the MTR workshop, which will improve the ICR's Antarctic research in the future. Pastene explained that the motivation to present FI35 at this meeting was i) the participation and contribution of some scientists from NAMMCO countries in the JASS-A workshop; and ii) some of the JASS-A objectives and analytical procedures are relevant for the work of the Scientific Committee.

Taiki Katsumata presented NAMMCO/SC/32/FI07, which summarised results of satellite tagging experiments in the Antarctic and North Pacific conducted by the Institute of Cetacean Research (ICR) in 2025.

Summary

The tagging experiments are designed to respond to questions on the movement and stock structure of baleen whales. In the Antarctic, the survey was conducted during the 2024/2025 austral summer season. Satellite tags were deployed on seven Antarctic minke whales and eight fin whales in Area IV East (100 °E–130 °E) from January to February 2025. For Antarctic minke whales, the period of transmission varied between 13.0 and 59.1 days. Antarctic minke whale ID 206560 showed a novel mid-latitude residence at approximately 54 °S from February 15 to March 16. For fin whales, the longest tracking was achieved for whale ID 203508 (239.2 days). Tagging in the North Pacific was conducted from May to November 2025 across a wide area from the Pacific coast of northern Japan to the central North Pacific. A total of 94 fin whales and 17 sei whales, including MINTAG deployments, and two common minke whales were tagged. Since tracking is still ongoing, only deployment locations were presented in FI07.

Pastene briefly informed on a paper published recently (NAMMCO/SC/32/FI36), which documented movement of sei whales between high latitude waters in spring–summer and a possible breeding ground in lower latitudes around the Marshall Islands in the North Pacific in winter.

Discussion

The SC thanked Japan for the interesting and extensive information and sought some additional information on the subject of by-catch and strandings, noting the rather high number of by-caught minke whales. Set nets appear to pose the highest risk to minke whales, and most animals are thus by-caught along the coast. A national regulation in Japan stipulates that fishers can sell by-caught animals once confirmed dead to recoup the losses due to gear damage, provided they send a tissue sample to the Institute of Cetacean Research for genetic analysis, so that the animal can be incorporated into the Japanese DNA register for large whales. This is thought to encourage accurate reporting of by-catch by the fishers and monitoring in the market. Pastene clarified that ICR implement two types of stranding records, historical and the more recent ‘Response to Large Whale Strandings’ (‘Yori Kujira’ project). Since the implementation of the latter in 2021, the ICR historical stranding record has focused on marine mammals other than large whales, while the ‘Yori Kujira project’ focused on stranding of large whales. For stranded animals, the reporting form includes pictures and records of any markings/wounds that could indicate cause of death, but it is not often possible to tell the cause of the stranding; very few strandings of minke whales have been observed.

The report on the JASS-A workshop was received with thanks, as providing inspiration in the discussion on item 7.3. The SC commended Japan on their extensive work in the Antarctic, the only survey and research of its kind in the region, and looked forward to the continuation of the project, hoping for the opportunity of its prolongation.

The SC congratulated Japan on their extensive tagging efforts and looked forward eagerly to the results of the telemetry studies on fin whales and Antarctic minke whales. To the question on how much human-power and ship time was required to successfully deploy this number of tags, Katsumata informed that dedicated tagging cruises take place between May and October, with one or two research vessels per cruise, and approximately 20 crew and scientists per vessel; each of the vessels can remain at sea without refuelling for up to 60 days at a time.

4.2 WORKING GROUP REPORTS

The reports of four Working Group (WG) meetings held in 2025 were available for review by the SC:

- Harp and Hooded seals Working Group (NAMMCO/SC/32/05)
- Abundance Estimates Working Group (NAMMCO/SC/32/06)
- Genetics Working Group (NAMMCO/SC/32/07)
- Pilot Whale Working Group (NAMMCO/SC/32/08).

The draft report of the Working Group on Large Whale Assessments, which held a meeting on 14–16 January 2026, was also made available to the SC (NAMMCO/SC/32/09).

4.3 OTHER REPORTS AND DOCUMENTS

A report of the MINTAG Steering Group (StG), presenting progress made in 2025, was made available (NAMMCO/SC/32/10). The report of the Spatial Modelling Workshop was also included as a meeting document (NAMMCO/SC/32/19).

A full list of submitted documents can be found in Appendix 3.

5. UPDATES FROM COUNCIL AND MANAGEMENT COMMITTEES

Desportes provided an overview of decisions and recommendations from the Management Committees and the Council of direct relevance to the SC, which were discussed at the annual NAMMCO meeting in March 2025. These are provided in Appendix 4.

All SC/31 Proposals for Conservation and Management and Recommendations for Research forwarded to the Management Committees and the Council in 2025 had been endorsed and forwarded to the Parties.

Two new Requests for Advice were forwarded to the SC:

- **R-2.5.3:** *To investigate alternatives to traditional crewed aerial and boat-based surveys as methods for estimating coastal seal abundance.*
- **R-2.1.12:** *To investigate whether and to what extent the coastal hooded seal hunt in East Greenland will be affected if the decline in the Greenland Sea and west Atlantic populations continues.*

The Council recommended that:

- the necessity for physical meetings contra virtual meetings continues to be carefully weighed by committees and subsidiary bodies, both from a financial and an environmental perspective
- following this line, the number of in-person working groups and workshops organised by the Scientific Committee continues being limited to four per year
- the expenses for inviting external experts to meetings organised by the SC be, as a rule, capped at NOK 50,000.

The SC took note of the information, observing that the new request pertaining to hooded seals (R-2.1.12) had already been forwarded to ICES to be discussed under the Working Group on Harp and Hooded Seals (WGHARP).

6. ENVIRONMENTAL AND ECOSYSTEM ISSUES

6.1 MULTI-SPECIES APPROACHES TO MANAGEMENT AND MODELLING

R-1.2.1 (ongoing): *To consider whether multispecies models for management purposes can be established for the North Atlantic ecosystems and whether such models could include the marine mammal compartment. If such models and the required data are not available, then identify the knowledge lacking for such an enterprise to be beneficial to proper scientific management and suggest scientific projects which would be required for obtaining this knowledge.*

At SC/31, an extended SC discussion or workshop on the topic of multi-species models was suggested. While it appears that there is little ongoing work on the subject in the Faroe Islands, considerable effort in complete ecosystem modelling comes from Norway (IMR and WGNOR, see also Planque et al. 2024), wherein it is possible to investigate in detail specific components, e.g., marine mammals, as well as the entire ecosystem being modelled. Guðjón Már Sigurðsson informed of a recently obtained AG-Fisk grant to collate existing information on modelling approaches, involving researchers from Iceland, Norway, Denmark, and Canada, and with an aim to investigate species interactions such as predation, depredation, by-catch, and even parasite loads (NAMMCO/SC/32/FI47). In light of this collaboration, it was decided to devote a half-day discussion session to this topic during SC/33. During this discussion, one representative from each Party will present updates on ongoing work therein; these were duly appointed as follows: Bjarni Mikkelsen for the Faroe Islands, Fernando Ugarte for Greenland, Sigurðsson for Iceland, and Frie for Norway. At that time, it will be decided whether a longer workshop session should be organised in 2027, to fully respond to this request.

6.2 ENVIRONMENTAL ISSUES

R-1.5.3 (standing): *To monitor the development of the Mary River Project and assess qualitatively or if possible quantitatively the likely impact and consequences on marine mammals in the area.*

No updates on the Mary River Project were provided at this time, as there has not been a meeting with Canada for several years. However, this will be added as an agenda item at the next Joint WG meeting with the JCNB.

Mikkelsen raised a point regarding the standing Term of Reference (ToR) for all assessment WGs to include “Other anthropogenic stressors”, i.e., besides removals, on their agenda. Due to the lack of relevant expertise within the SC, this point is rarely discussed in any detail. As such, it would perhaps be helpful to form a technical WG on the impacts of pollutants on marine mammals; this WG could operate similarly to the WG on Genetics, in that the SC could request reviews of existing information for a species that is due for assessment. Christian Lydersen agreed that pollution should be considered as one of the main stressors for marine mammals, as discussed at older SC meetings. However, it was noted that AMAP, OSPAR, and others already investigate pollution levels in marine mammals, albeit not to the level of quantifying population effects (which would directly inform population assessment models). AMAP has already been approached by the Secretariat with a proposal to collaborate on this subject. The SC **tasked** the Secretariat with further exploring the potential for cooperation with AMAP and OSPAR, with the guidance of Katrin Hoydal, if possible, and bringing a proposal with ways forward to SC/33. It was also suggested that the SC consider the possibility of putting the standing WG ToR on hold, until such time as sufficiently detailed information to incorporate in assessment models becomes available on a regular basis.

6.3 MARINE MAMMAL / FISHERIES INTERACTIONS

6.3.1 Review and status of active requests

R-1.1.5 (1997, standing): *To periodically review and update available knowledge related to the understanding of interactions between marine mammals and commercially exploited marine resources.*

The Working Group on By-catch (BYCWG) is working towards improving the available knowledge on interactions between marine mammals and fishing gear. A progress update on their recent efforts is given under 6.3.2.

Sigurðsson informed of a recent report that is part of the EU-funded CIBBRiNA project (NAMMCO/SC/32/FI25), led by researchers at the MFRI in Iceland, which reviews available mitigation measures for most common fisheries in Europe, such as gillnets, trawls, and longlines. The report covers both gear-specific mitigation options, and generic ones applicable to most gears.

He also pointed out the ICES advice on by-catch (NAMMCO/SC/32/FI24). There have been great leaps in the work of the ICES Working group on by-catch (WGBYC), and they now provide by-catch estimates for around 40 species/ecoregion/metier combinations that are on EU priority lists, and by-catch rates for around 200 species combinations. The data product is publicly available, and can be accessed here: <https://bycatch.ices.dk/bycatchAdvice>, where you can search by species, fishing gear or region. Last year, all European ICES countries submitted data, with two exceptions, Norway and Romania. Sigurðsson encouraged Norway to participate in this work in the future, as they partially did in the past.

A consumption estimate of 22 million tons fish/year by marine mammals has been reported from the Norwegian and Barents Seas by Ecosystem Modelling Studies (NAMMCO/SC/31/FI24). A later paper (NAMMCO/SC/32/FI40) further supported the causal relationship between marine mammal consumption and fish abundance in the Barents and Norwegian Seas.

R-1.1.10 (standing): *In the light of the distributional shifts seen under T-NASS 2007 and later surveys, the SC should investigate dynamic changes in spatial distribution due to ecosystem changes and functional responses.*

Abundance trends and distributional shifts are discussed in greater detail under section 7, where spatial modelling of NASS data is proposed.

6.3.2 Working Group on By-catch

Bengtsson presented an overview of his work exploring the exposure of marine mammals to the risk of becoming by-caught, under an AG-Fisk grant.

Summary

The BYCWG has received fishing effort data from the fishery authorities of each NAMMCO Party. The BYCWG has approached standardisation issues caused by different reported spatial resolutions between countries by calculating haul density in each area (per grouping of métier, quarter, etc.) and reprojecting to a grid with cell size corresponding to the size of ICES rectangles. This grid can then be divided by country based on the 200-nm exclusive economic zone (EEZ).

The BYCWG has obtained distribution/density estimates for the following species, during the specified time periods, calculated from NASS/NILS/SCANS survey data: pilot whale (whole Northeast Atlantic), summer (June–August); humpback whale (whole Northeast Atlantic), Q2 (May–June), Q3 (July–September), Q4 (October); harbour porpoise, minke whale, white-beaked dolphin (south Northeast Atlantic), summer (June–August). Distributions for remaining seasons, parts of the study area, and, of course, other species are needed.

The BYCWG has the analytical framework (R code) to perform risk evaluations. Final evaluations will include a confidence metric to account for discrepancies and biases in the data. The BYCWG will continue to work on sourcing distribution/density data and is grateful for contributions. The BYCWG are awaiting responses from fishery authorities about some issue in effort data (e.g., vessel size classifications and potentially inflated fishing effort numbers for some métiers). The BYCWG will meet online in February and in person in April, to assess the results.

The BYCWG has submitted an abstract of the project to the annual conference of the European Cetacean Society (April 2026). The BYCWG aims to submit a manuscript of the project by the end of Bengtsson's contract (July 2026).

Discussion

It was emphasised that, at the present time, the aim of this work is not to directly estimate by-catch rates, but to inform the Parties on how best to allocate monitoring efforts and thus improve by-catch rate estimation.

Granquist noted that, for several species of interest, seals in particular, the available distribution data is either available from seasons outside those in which by-catch is observed or does not accurately reflect the actual distributional range (e.g., using haul-out site numbers as proxies for density at sea). She highlighted, therefore, that any results must be presented along with detailed caveats, so they are not taken at face value by stakeholders.

7. MONITORING MARINE MAMMAL STOCK LEVELS AND TRENDS

7.1 ABUNDANCE ESTIMATES WG REPORT

Daniel Pike presented the work of the Abundance Estimates Working Group (NAMMCO/SC/32/06), which he currently chairs.

Summary

The NAMMCO Working Group on Abundance Estimates (AEWG) held several meetings over the course of 2025, all chaired by Daniel Pike. At an online meeting that took place during SC/31, the timeframe

for processing of NASS 2024 data and generation of abundance estimates for target species was discussed, and an in-person meeting was scheduled for early September 2024, at which the estimates for target species would be reviewed. At that point, estimates from the Greenland aerial surveys had already been produced. Subsequent meetings and communications revolved around getting the Icelandic/Faroese ship survey data processed and prepared for analysis, but this was not completed until early September, leaving little time for analyses to be completed before the meeting. In addition, the submitted data were still plagued with formatting issues and difficulties in determining duplicate sightings. As a result, only preliminary, uncorrected estimates for pilot, fin, and minke whales from the Icelandic/Faroese surveys were available to the meeting, in addition to the fully completed analyses from the Greenlandic component of the survey. Pilot whale estimates were later produced under contract and reviewed by correspondence after the meeting. Preliminary estimates for fin and minke whales were also reviewed, but these could not be accepted as they were uncorrected and incomplete.

Aerial surveys in Greenland: Waters up to 100 km from the West Greenland coast and up to 50 km from the East Greenland coast were surveyed using aerial line transect methods during August–September 2024 (Figure 1). A total of 291 sightings, representing 11 cetacean species, were recorded. Abundance estimates were corrected for perception and availability bias where possible; different options for corrections were explored. Estimates endorsed by the AEWG are summarised in Table 1.

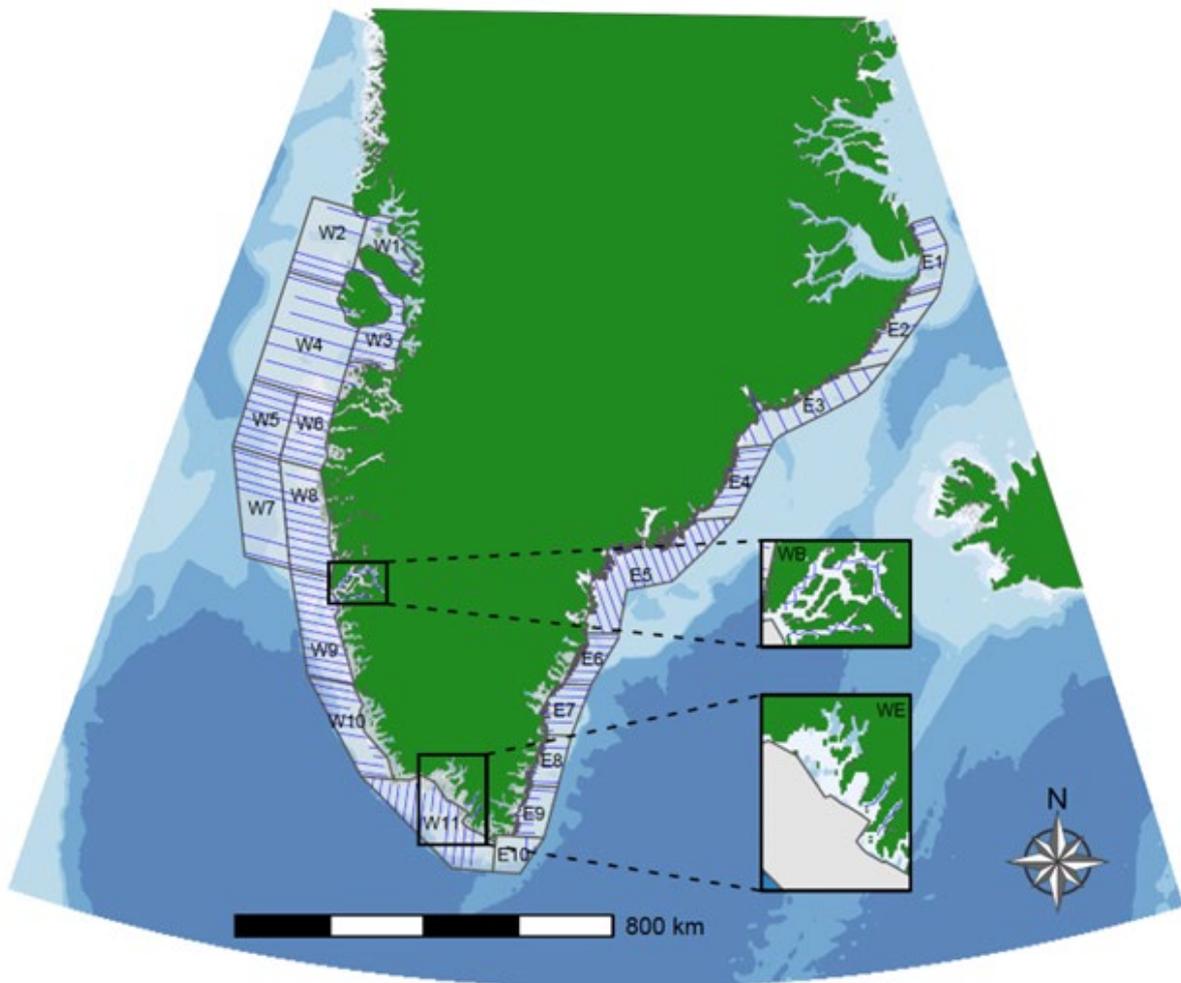


Figure 1. Survey effort in sea state <5 in East and West Greenland with delineation of strata and depth contours indicated (2,000m.; 1,000 m.; 200 m; 100 m). No sightings were recorded in stratum WE and it was not included in the analysis.

For pilot whales, the WG requested the author to: i) conduct a sensitivity analysis for availability bias based on different numbers of animals diving synchronously ii) to calculate abundance for groups of

more than 20 animals using a strip census method, rather than distance sampling. These analyses were completed subsequent to the meeting and the original estimates were accepted by the WG.

The availability corrected estimate for white beaked dolphins was not accepted because of insufficient information on the diving patterns of this species. Similarly, the availability corrected estimate for harbour porpoises was not accepted, as data on the time-in-view of these animals to observers were not included in the analysis.

Table 1. Fully corrected abundance estimates generated from the Greenlandic aerial surveys in 2024, as endorsed by the AEWG.

Species	West Greenland			East Greenland		
	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI
Minke whale	2,415	1,266	4,606	6,370	3,490	11,626
Fin whale	1,376	512	3,699	5,155	2,540	10,462
Humpback whale	1,041	438	2,470	3,898	2,096	7,247
Pilot whale	7,595	3,084	18,707	2,025	585	7,012

Shipboard surveys in Faroe Islands and Iceland: The waters around the Faroe Islands and Iceland were surveyed using dedicated vessels, as well as by placing marine mammal observers on board fishery surveys. Double-platform sampling was conducted (with a few exceptions) throughout the surveys. Due to adverse weather and ice conditions, large parts of the original survey design could not be completed and, therefore, some post-stratification was required. Unfortunately, the unsurveyed area to the west of Iceland includes a known high-density area for baleen and pilot whales (Figure 2).

The analyses presented to the AEWG in September for fin and minke whales were preliminary and could not be fully reviewed. Updates were presented to the WG in December, but some issues were identified, including the potential inclusion of effort and sightings not made on the designed transects in the calculation of abundance. The AEWG requested more detailed documentation of the analysis, and suggested alternative approaches to incorporating the observations of unidentified “large baleen whales”. This work had not yet been completed by the time of the SC meeting.

The increased number of minke whale sightings in coastal waters around Iceland compared to post-2001 surveys was noted, as was the apparent increase in total sightings since NASS 2015. This may indicate a recovery in minke whale numbers in coastal Icelandic waters, which declined after the 2001 survey.

It was noted that the lack of effort in the northern part of IR, as well as the paucity of effort off East Greenland, will likely lead to a relatively low estimate for fin whales and some other species compared to previous surveys, as this has historically been an area of high density. It was also noted that the extensive ice cover off East Greenland during the survey means that the aerial and ship surveys will not be additive, despite their survey areas not overlapping, as the ice had cleared by the time the Greenlandic survey was carried out, allowing whales to move into the area.

The estimation of pilot whale abundance was reviewed at the November meeting of the AEWG. An additional investigation of the estimates’ sensitivity to different choices of data used for duplicate sighting pairs was requested. Following this, the AEWG endorsed the perception-corrected estimate of 262,387 (CV = 0.339, 95% CI: 134,027–513,681) pilot whales.

Shipboard surveys in Norway: Data from the dedicated component of the Norwegian survey effort in 2024 are still being processed and could not be discussed by the AEWG. Co-platform surveys of cetaceans were conducted using a mackerel survey vessel—due to personnel limitations, double-platform methods were not possible for most of the survey. As with the Icelandic surveys, the AEWG

recommended post-stratification to better fit the realised effort. Additionally, a perception bias could be calculated using the initial survey effort that was conducted in double-platform mode.

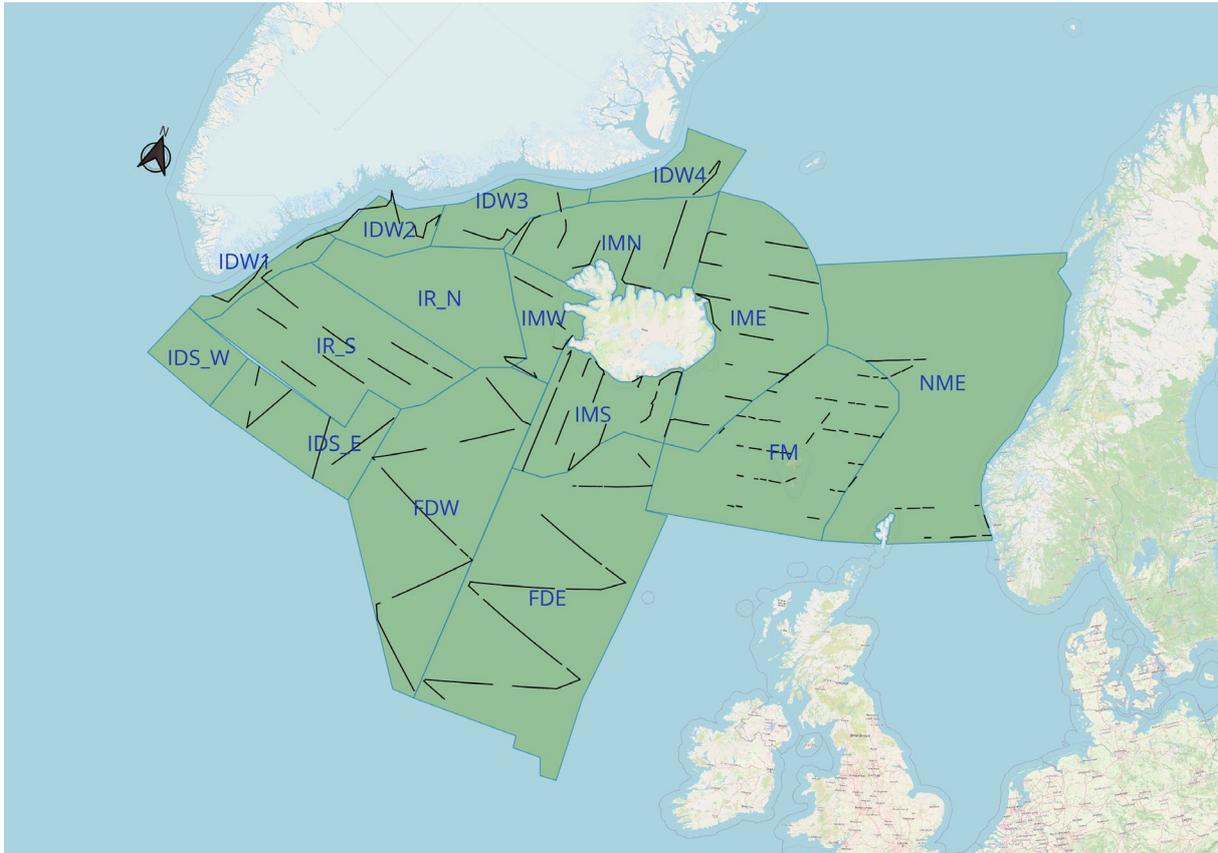


Figure 2. Map of NASS 2024 survey blocks covered by Faroese and Icelandic vessels. Black lines denote achieved cetacean observation effort. Note: Block NME was primarily surveyed by a Norwegian vessel, but the Faroese mackerel survey covered the transect lines shown here. Blocks IR and IDS were re-stratified post survey into IR_N and IR_S, and IDS_E and IDS_W, respectively.

Future meetings and plans for publication of results: Abundance estimates for non-target species will be reviewed in late 2026 at an in-person meeting of the AEWG. The analyses for all or most non-target species will be outsourced, using the allocated budget from Norway's voluntary contribution to the NASS 2024 project. Any final points of relevance to NASS 2024 will also be discussed at that meeting. The WG will also be tasked with producing guidelines for standardised data input, cleanup protocols, and formats between countries; this should include a data validation protocol (and software if needed). The WG recommended that results from NASS 2024 be published as soon as possible in a themed issue of NAMMCO Scientific Publications, and that the Scientific Committee should appoint a coordinator for this effort.

WS on alternative methods for cetacean surveys: The Scientific Committee had previously recommended a workshop to explore alternative approaches for field data collection and analytical methods for generating absolute abundance estimates of cetaceans. The AEWG discussed the outline of such a workshop, as instructed, and defined the workshop objective and desired outcomes (see also 9.3). A Steering Committee will be responsible for further development of the workshop structure, the agenda, and the choice of experts that should be invited to present different methods. The AEWG proposed a list of topics to be explored, as well as potential invitees.

Discussion

The SC **endorsed** the abundance estimates that were deemed completed and endorsed by the AEWG, as well as all the recommendations put forward by the group. Furthermore, the SC **recommended** that the AEWG should provide concrete protocols for standardised data collection and validation well

ahead of the next survey, to avoid delays occurring in future, as these tend to snowball and impact the feasibility of conducting stock assessments as scheduled by the SC.

With regards to the analyses for non-target species, the Faroese dataset has already been validated and combed for duplicate identification; the Icelandic dataset has also been processed, but likely still contains some errors. Abundance estimates and trend analyses for non-target species should be outsourced as soon as possible, incorporating data from the Norwegian survey components as well. Trend analyses for the target species will be conducted by each Party individually. It was highlighted that spatial modelling estimates may be more appropriate than design-based estimates, considering the inter-survey differences in coverage; this approach would also maximise the usefulness of sightings recorded off effort (see also 9.2). The SC **recommended** that model-based analysis of all datasets should be conducted, and that the relevant scientists of each Party should coordinate efforts pertaining to trends analyses.

SC/32 Recommendations for Research

- Model-based analysis of all datasets should be conducted, with the relevant scientists of each Party coordinating efforts pertaining to trends analyses.

SC/32 Recommendations to the AEWG

- Provide concrete protocols for standardised data collection and validation well ahead of the next survey, to avoid delays occurring in future

SC/32 Recommendations for future ship-based surveys

- Development of rapid, automated duplicate identification methods;
- Standardised data input, cleanup protocols, and formats between countries; this should include a data validation protocol (and software if needed). Equipment, such as that for GPS logging and the app developed by Iceland for NASS 2024 should be standardised to ensure consistency in collected data;
- Early and frequent communication, especially in the case of co-platform surveys, to ensure that the minimum requirements are met to obtain a robust estimate;
- Ensuring that protocols are thoroughly understood by both cruise leaders and observers, and plans are already in place in case of unexpected scenarios (e.g., ice cover, observer illness); this could be achieved by having a pilot survey and/or pre-survey meeting involving cruise leaders and available observers.
- Plans regarding the data analysis must be in place before the survey itself. This includes determining the personnel and time required to complete analyses and allocating funding a priori if necessary.
- At a reasonably short time after the survey is completed (e.g., 3 or 4 months), the data handlers and analysts should confer (via correspondence or meetings) to agree that the data have been appropriately handled and formatted, and that the initial analysis is progressing correctly.
- Strict adherence to document submission deadlines is necessary to optimise meeting productivity.

7.2 SPATIO-TEMPORAL MODELLING WORKSHOP REPORT

Martin Biuw presented the report of the workshop on spatial and space-time models for whale surveys (NAMMCO/SC/32/19).

Summary

During NASS 2024, some pre-determined survey blocks and transect lines were not covered, due to consistently poor weather conditions in key regions. Additionally, while some vessels made use of the independent observation (IO) protocol by using two observation platforms, and followed a transect design optimised for whale surveys, others used a single platform and followed fixed transects not designed for cetacean surveys. For geopolitical reasons, key regions in the eastern part of the Barents Sea could not be covered during the NILS 2020-2024 survey cycle. Discussions about these issues within the Abundance Estimation Working Group (AEWG), and during SC/31 led to the organisation of a workshop on spatial and space-time models for whale surveys with complex and non-systematic designs. This workshop was held from 13 to 15 November 2025 in Tromsø, Norway. The workshop was led by co-convenors Martin Biuw, Hans Skaug, and Hiroko Solvang, and included 13 other participants. The aim was to explore different approaches to model-based abundance (and distribution) estimation. Three different methods (including case studies) were presented, namely: i) density surface modelling (DSM), a well-established spatial approach for cetacean (and other) survey data, ii) integrated nested Laplace approximation (INLA), a Bayesian approach to spatial modelling implemented in the R package *inlabru*, and iii) multiple scale line transect analysis (MSLT) using Template Model Builder (TMB), a more recently developed method than the other two. Methodological considerations for species density modelling were also presented, particularly with regard to the environmental covariates used. The need to clearly define the objectives of a given modelling project before choosing the methods was emphasised. Finally, participants tested the ease of use and robustness of the presented methods with hands-on case studies of recent datasets (including NASS and NILS). The results of the hands-on work appeared quite promising for the most part, while several topics were raised that require further discussions, e.g., around the caveats and applicability of different methods for various data types.

Discussion

Solvang informed that the results of the extrapolation of data into the Eastern Barents Sea block for the previous NILS cycle using DSM showed consistent results as the design-based survey. The attempt with *inlabru* was less satisfactory and needs to be refined. She also wishes to continue this exploration by applying the MSLT method to the same dataset.

Biuw reiterated the importance of incorporating relevant parameters into such models, as environmental covariates may not be the actual drivers behind marine mammal distribution; ecosystem data, e.g., prey field, may be much more informative. Solvang is applying spatial modelling methods to NILS data, including pelagic fish, mesozooplankton, and static covariates, with promising results. If cetacean survey methods are to rely more and more on fishery survey vessels, the potential for collecting entirely contemporaneous in situ data along with cetacean sightings offers a wealth of modelling opportunities.

7.3 PLANS FOR WORKSHOP ON ALTERNATIVE METHODS TO CETACEAN SURVEYS

The AEWG put forward a detailed suggestion regarding the objectives, potential structure, and topics to be explored in a workshop on alternatives to design-based cetacean surveys (Appendix 1 of NAMMCO/SC/32/06). The SC **agreed** that this workshop should be held in 2026, following the structure proposed. The aim of the workshop is to:

Assess the status of current development and practicality of novel methods for obtaining robust abundance estimates of cetaceans in the North Atlantic.

Desired outcomes are to:

- i) Examine the different methods (including both sampling and analysis) and assess the extent to which each method fulfils the needs described and is sufficiently developed to be implemented.

ii) Collate information on projects that are being developed in different places and propose lines of cooperation between groups to streamline testing efforts and more rapid development and deployment of the methods that were seen as the most promising.

iii) Define requirements for method calibration and validation compared to traditional visual methods

The list of potential methods to be evaluated, individually and in combination with each other, was added to by the SC, as follows:

- Genetic methods: Close kin mark recapture (CKMR), eDNA
- Co-platform with fishery surveys
- Passive acoustic monitoring using fixed stations or mobile platforms
- Camera systems (using ferries, shipping, uncrewed vehicles)
- Use of high-resolution satellite images
- Mark-recapture using photo-id or genetic markers

It was emphasised that modelling/statistical experts must be included in this workshop, to provide robust criteria regarding sample size and analytical methods.

The SC appointed Biuw and Sigurðsson to the Steering Committee and provided a list of other researchers to invite thereto. The Steering Committee will appoint a Chair (or co-Chairs) for the workshop, and identify a suitable location and dates, as well as develop the agenda. Overlap with similar work conducted by the IWC should also be investigated, to coordinate efforts and avoid duplication.

8. SEALS AND WALRUS STOCKS – STATUS AND ADVICE TO COUNCIL

8.1 HARP AND HOODED SEALS

8.1.1 Review and status of active requests

R-2.1.4 (Renewed 2024, standing): *To regularly update the stock status of North Atlantic harp and hooded seals as new information becomes available.*

R-2.1.9 (Rephrased 2022, ongoing): *To investigate possible reasons for the apparent decline of Greenland Sea stock of hooded seals and assess the status of the stock.*

R-2.1.10 (Rephrased 2019, standing): *To provide advice on the total allowable catches for the management of harp seals.*

R-2.1.12 (New 2025, ongoing): *To investigate whether and to what extent the coastal hooded seal hunt in East Greenland will be affected if the decline in the Greenland Sea and west Atlantic populations continues.*

The SC could not provide a reply to R-2.1.4, R-2.1.9, R-2.1.10, or R-2.1.12 due to the impossibility of conducting a robust assessment of either species at present. R-2.1.12 will be addressed at SC/33 in 2027 (see item 8.1.3).

8.1.2 WG on Harp and Hooded Seals Report

Biuw presented the summary of the short online meeting of the Working Group on Harp and Hooded Seals (WG HARP, NAMMCO/SC/32/05), which held an interim meeting online in September 2025, to discuss the status of data and modelling methods for population assessments. The meeting was co-chaired by Biuw and Sophie Smout.

Summary

North East Atlantic Seal Populations: For both harp and hooded seals, available data include fecundity estimates, age structure from tooth aging and (for harp seals) catch at age data, biomass time series

for cod and capelin, and population estimates from the 1950s and 1960s. Aerial surveys for pup production in the East Ice were last conducted in 2013; recent data from drone surveys are not shared with the WGHARP. For the West Ice, no new surveys have been conducted since 2023. The semi-Bayesian model structures do not perform well, despite several modifications, due to data gaps and uncertainties about the initial population size.

Northwest Atlantic Seal Populations: The latest survey for Northwest Atlantic harp seal pup production estimated 614,100 pups in 2022, a decline from 746,500 in 2017. Changes in ice conditions have shifted whelping distributions, complicating survey efforts. Population assessments utilise age-structured models that account for environmental variability affecting pup survival and reproductive rates. Hooded seal pup production has not been surveyed since 2005, but using aerial photos from harp seal surveys shows a significant decline from 116,900 pups in 2005 to 41,129 in 2012 and 39,021 in 2017. Limited data hinder population modelling for hooded seals, making it impossible to calculate Potential Biological Removal.

Methodological developments for which support and funding need to be sought include i) development of drone technology to improve range and optimise deployments to overcome difficulties with survey methodology in current and future ice conditions with more mobile ice, and more pupping occurring offshore, ii) development of close kin mark-recapture methodology for population assessment, and iii) use of automated methods for counting seals and pups from survey photographs.

Discussion

When asked whether any information was available on Russian quotas in the East Ice, Biuw replied that the quota was in the order of a couple of thousand seals. However, there is currently no active hunt, with possibly only a few individuals being taken.

Aqqalu Rosing-Asvid inquired about the status of the West Atlantic population, to which Biuw responded that no new information was available at the time of the WGHARP online meeting.

The SC expressed great concern that the Norwegian scientists appointed to the SC, who work in particular with seals, are currently unable to prioritise NAMMCO-related tasks, including participation in SC meetings. This situation was noted as challenging for the work and progress of the Committee. Frie acknowledged these concerns and explained that they have been raised repeatedly with both the administration and leadership at IMR. She emphasised that, under current circumstances, resource and time support for the preparation and participation required for NAMMCO Committee work is insufficient. As a result, seal-related projects at IMR have been considerably scaled back, with resources concentrated on core tasks rather than meeting participation. Consequently, IMR scientists are not currently in a position to contribute more actively to NAMMCO's work.

In the context of WGHARP, Biuw indicated that he and Sophie Smout, the current Chairs of the WGHARP, have requested to step down from their roles.

8.1.3 Updates

Greenland

Rosing-Asvid presented three papers that to some extent change the status of West Atlantic harp and hooded seals (NAMMCO/SC/32/FI44, NAMMCO/SC/32/FI45, and NAMMCO/SC/32/FI46).

Summary

FI44 (Goulet et al. 2025) describes the result of the 2022 pup-survey in the west Atlantic, which showed that the latest harp seal survey estimate (614,100), was the lowest estimate since 1994.

FI46 (Van de Walle et al. 2025) uses available data, including the new pup estimate to run a Bayesian Integrated Population Model (IPM). This reveals that the population was rapidly increasing during the 1970s through the 1990s, peaking at an estimated abundance of 7.5 million seals (95% Credible Interval, CrI: 6.75–8.42) in 1998. The population declined over 1998–2024, with the exception of a

period of relative stability between 2009 and 2019. The estimated 2024 total abundance was 4.4 million seals (95% CrI: 3.65–5.35). This represents a decline in abundance from 2019 (5.6 million, 95% CrI: 4.78–6.63) at a rate of 4.7% (95% CrI: 2.14–7.45%) per year.

The Atlantic Seal Management Strategy uses Reference Points (the first is 70% of the largest population observed or estimated). If the population comes below this reference point, catches should be reduced to a level that allows the population to grow again. The paper discusses various possibilities for future sealing on the Northwest Atlantic harp seal stock.

FI45 (Hamilton et al. 2024) processes the hooded seal data collected during the harp seal surveys in 2012 and 2017. Nearly all breeding hooded seals are included in these surveys. These two new estimates show that pup production in 2012 and 2017 was only about 1/3 of the numbers in 2004 and 2005. (Point estimates: 123,862 (2004); 107,013 (2005); 41,129 (2012); 39,021 (2017)).

Although the cause of the decline in the Northwest Atlantic of hooded seals is unknown, it is possible that negative impacts of ecosystem change on female fecundity and juvenile survival, as documented for harp seals in the Northwest Atlantic, are also impacting hooded seals.

Discussion

Rosing-Asvid was asked about the reasons for the rapid population decline of West Atlantic harp seals and whether it could be explained solely by harvest levels. While hunting obviously has some influence, the decline is likely driven by several factors: some of the most important are years with low reproduction rates or poor ice conditions, which increase pup mortality. Such changes appear linked to environmental and ecosystem changes.

In the absence of a planned WGHARP meeting in 2026, due to limitations in the current models and a lack of new data, Rosing-Asvid indicated that, in order to address R 2.1.12, he would compile the relevant information on the potential impacts of the decline in hooded seals on the hooded seal hunt to inform a response to the request. This information will be presented at the SC/33 meeting in 2027.

Norway

Lydersen presented new research on the relationship between hooded seals and climate change in Svalbard (NAMMCO/SC/32/FI22).

Summary

A recently published article on hooded seals from the Northeast Atlantic stock (Vacqu  -Garcia et al. 2025) compared foraging behaviour and diet, based on satellite tracking and stable isotopes in blood samples, between two datasets (1992–1993 and 2007–2008). Tracking shows that both breeding and moulting areas have moved north during this period, while the foraging areas have moved to the east. The diet, however, has not changed, but the animals have to move further away to find their apparently preferred food. Projected future suitable foraging habitat was modelled as continuing to shift eastward. This pattern is unexpected for an ice-associated Arctic species, and contrasts with projections for the Northwest Atlantic stock. Although it is uncertain whether hooded seals possess sufficient behavioural or physiological plasticity to cope with future climate-driven changes, these findings underscore the importance of considering population-level behavioural heterogeneity when assessing species-wide responses to environmental change.

8.1.4 Plans for the Seal Abundance Modelling WS

A workshop to improve population models for harp and hooded seals had been discussed at previous meetings. At the time of SC/32, there were no plans to organise this workshop in the foreseeable future. Consequently, the proposal was not discussed further.

8.2 HARBOUR AND GREY SEALS

8.2.1 Review and status of active requests

R-2.4.2 (Renewed 2019, ongoing): To provide a new assessment of grey seal stocks in all NAMMCO areas.

R-2.5.2 (2007, ongoing): To conduct a formal assessment of the status of harbour seals in all NAMMCO areas as soon as feasible.

R-2.5.3 (2025, ongoing): To investigate alternatives to traditional crewed aerial and boat-based surveys as methods for estimating coastal seal abundance.

The CSWG has been postponed to 2027; however, an online meeting will be held in autumn 2026 to touch base on these requests. Further details are provided under item 8.2.3.

8.2.2 Updates

Faroe Islands

Bjarni Mikkelsen updated the SC with information on Faroese grey seals.

Summary

The grey seal has not been counted since 2021, but the plan is to update the counts in 2026 and 2027. The censuses cover the entire shoreline of the archipelago in summer, where seals that are hauled out or close to the shoreline are counted from boat and by drone, in good weather conditions. A ban to cull grey seals around fish farms has existed since 2021, and some worries are expressed from fishers and fish farmers about the impact of a likely growing seal population. A management plan to stipulate the future management of the population is in the works. Two seals were tagged with GPS trackers in summer in 2025, as part of an impact study of a tidal current power plant installation on seals. The plan is to tag more seals in 2026, both with GPS and ARGOS tags.

Discussion

Mikkelsen was asked whether there were any indications of seals avoiding the turbines and clarified that the tagged seals generally continued using the adjacent area, but that the available data are currently insufficient to draw firm conclusions about avoidance behaviour.

Greenland

Rosing-Asvid had no updates for Greenland, but noted that his team had received funding for tagging harbour seals in 2027.

Iceland

Granquist presented coastal seal updates for Iceland.

Summary

Harbour seals: No new harbour seal census has been conducted in Iceland since 2020. Iceland has updated the survey methodology and will base the census survey on drone photography instead of the traditional method using crewed single-engine airplanes, since such surveys pose a large risk under Icelandic conditions (harsh weather, narrow bays, steep mountains, and open waters). The census survey planned for both 2024 and 2025 had to be postpone due to malfunction and delays with equipment. A partial population estimate is planned by MFRI for 2026.

In addition, important harbour seal haul-out sites are monitored throughout the year, using direct observations and trail cameras. Specific efforts have been on monitoring the breeding period (timing of pupping period and local pup production), haul-out behaviour, and effects of tourism.

Grey seals: The latest census of the Icelandic grey seal population was carried out in 2022. A partial grey seal survey is planned for 2026. As for the harbour seal, the grey seal census will in the future be based on drone photography instead of airplanes.

In 2025, the first range- and genome-wide population genomic analysis of grey seals was published. Among other things, the study indicates some genetic sub-structure within the Icelandic population (McCarthy, et al 2025; NAMMCO/SC/32/FI41).

Sigurðsson presented the Icelandic online platform for by-catch data, which is now published alongside annual advice on fish stocks in Icelandic waters. The summarised by-catch data can be found here: https://www.hafogvatn.is/static/files/bycatchoverview_en-1-.html and covers estimated by-catch in all fisheries where by-catch is recorded, along with by-catch records in logbooks and population status of by-caught species.

Discussion

During the subsequent discussion, Sigurðsson was asked whether by-catch of harbour seals appeared to be declining and confirmed that by-catch levels have decreased, but noted that this trend coincides with a reduction in overall fishing effort. The lumpsucker fishery remains the primary concern with regard to seal by-catch.

When asked about how species identification is addressed within the by-catch data, Sigurðsson explained that inspectors, covering approximately 5% of the fishery, are relied upon for species identification. Granquist cautioned, however, that misidentifications have occurred in the past, including instances where ringed seals were recorded as harbour seals due to their similar appearance when observed in the water. By-caught seals that have drowned often fall out of the nets and are not taken on board, which complicates proper identification. She further noted that juvenile seals entangled in fishing gear frequently manage to escape and seals with fishing nets around their necks are commonly observed in haul-outs, often with severely infected wounds, indicating that not all escapees survive. Frie added that a similar situation is observed in Norway, where by-catch predominantly involves juvenile animals, potentially affecting long-term population recruitment. This may result in “ghost” bycatch, referring to mortality that is neither observed nor reported. Consequently, the by-catch estimates reported in the portal are likely to represent minimum values.

Granquist further explained that many seal haul-outs and breeding areas in Iceland are extremely remote, requiring drones with extended flight ranges and high-capacity batteries to survey. The principal limitation, therefore, relates to the logistical reach of the equipment, rather than the imaging technology itself.

Norway

Lydersen informed of a cooperation with Japanese colleagues, where harbour seals are instrumented with multisensory loggers to study in detail where, in 3D space and time, these animals are foraging. He further presented an ongoing study in Kongsfjorden, Svalbard, on the foraging behaviour of harbour seals (NAMMCO/SC/32/FI19).

Summary

FI19 is a newly published study by Mikkelsen et al. (2025), investigating space use patterns of two Arctic endemic pinnipeds living in Kongsfjorden (ringed seals and bearded seals) and the temperate harbour seal, which became resident in Kongsfjorden recently. Using high-resolution GPS tracking and dive data from 22 harbour seals, 7 ringed seals, and 3 bearded seals, we determined that harbour seals overlapped 55.8% of ringed seal core diving areas and 69.5% of bearded seal core diving areas. However, fine-scale analyses revealed habitat and behavioural segregation between the species. Diving, likely associated with foraging, by ringed and bearded seals was tightly associated with tidal glacier fronts (> 300 m distance), while harbour seals used central fjord areas, which were often shallow and near shore. Use of the water column also differed: most ringed seal dives were pelagic (62.3% pelagic, 37.7% benthic dives >5 m), whereas most harbour and bearded seals dives were benthic (69.7–75.6%). Our findings suggest that these three species are currently not in direct competition; however, continued warming will likely favour the expansion of the temperate harbour seal at the expense of the Arctic endemic seals.

Frie presented population status updates on Norwegian coastal seals with particular emphasis on grey seals.

Summary

Norwegian grey seals are managed as different management units in Southern, Central, and Northern Norway. Due to the 50% reduction in pup production observed in Central Norway over the past two counting cycles, no hunting quotas have been set for this area in the last 10 years. There is also no allocated quota for this area in 2026.

In the southernmost management area, the numbers of grey seal pups recorded over the last two counting cycles have been around 17% lower than the target level. Previous hunting quotas for this grey seal population have relied on the assumption that most of the hunted animals are temporary migrants from Great Britain. Stable pup counts in the southern management area since 2001–2003 support this assumption. Due to the small size of the breeding population and the general reduction in total grey seal pup production in Norway, the IMR and the Norwegian Marine Mammal Advisory Board (MMAB) has nevertheless recommended to stop the hunt in 2026.

For the Northern management area, the pup counts have been considerably above the set target level since systematic monitoring began in 2001–2003. An annual quota of 60 grey seals was allocated for this area in 2025 (all 60 for the Finnmark region). This is also the suggested quota for 2026. Since 2018, the average reported annual take in this area has been 38 animals.

The reduced grey seal pup production in Central Norway has been a cause for concern for the past 10 years. This concern has been voiced both nationally by IMR and MMAB experts and internationally by the NAMMCO coastal seal working group and Scientific Committee. The reduction in grey seal pup production overlaps in time and space with the onset of gillnet fisheries for monkfish. This fishery is believed to have significant by-catches of young grey seals and is the main suspected culprit for the decline in grey seal pup production. This is corroborated by the fact that five grey seal pups tagged with GSM tags in 2012 were all by-caught in monkfish gillnets within two months after tagging. These pups were, however, all tagged within a small area and the results are therefore not necessarily representative of the entire management unit.

Unfortunately, the general monitoring of by-catches in the Norwegian gillnet fisheries is insufficient to evaluate the total impact of by-catches on grey seal abundance. There are problems with the coverage of monitoring efforts, species identifications of young animals, and potential drop-out before detection. In the coming years, several new research projects will include camera surveillance of gillnet fishing operations, with the aim of improving estimation of marine mammal by-catch rates. The main target species for these projects is harbour porpoises, but the efforts are also expected to be of value for grey seals, although the monkfish fishery is not the main focus. During the last meeting of the MMAB (2025), the Norwegian Directorate of Fisheries announced that it would initiate and finance a dedicated project to identify the causes of the reduction in grey seal pup production in central Norway. Funding should be sought from several sources, including the Norwegian Ministry of Trade, Industry and Fisheries. This suggestion was strongly supported by the rest of MMAB, which also underlined that the project should investigate broadly and not focus solely on by-catches.

Discussion

Desportes asked Frie for an update on recommendations made by the CSWG to revise management areas so that they reflect biologically meaningful regions rather than administrative boundaries. Frie explained that progress on this matter has been limited, due to insufficient funding for coastal seal work, among other things. While the current coastal seal management plans are being updated with new abundance estimates, they are not reported to present substantial reviews or revisions of the foundations for the suggested management areas and target levels. Genetic analyses are, however, ongoing and may yet be taken into account before finalising the revision of the management plans.

Careful consideration of management areas and target levels would be particularly important for grey seals as this species is now the most pressing concern in light of the substantial decline observed in

central Norway. Norwegian scientists have reiterated the need to initiate dedicated monitoring of coastal seal by-catch. There is a strong suspicion that the decline is related to by-catch, likely in monkfish fisheries, although concrete evidence establishing a direct link is still lacking. The Directorate of Fisheries has nonetheless been urged to take appropriate measures, especially since the recommendations from SC/28, SC/30, and SC/31 to collect jaw samples from by-caught seals for reliable species identification are not currently being implemented. The SC expressed serious concern about the declining trends in grey seal populations across Norway and the slow pace of progress under the present constraints on resources and time allocation to seal-related projects.

The SC therefore strongly reiterates the recommendations made at SC/31 for coastal seals in Norway and Iceland, and in particular that the jaws of by-caught seals be collected by the coastal reference fleet and in Iceland to allow a reliable species identification.

8.2.3 Plans for Coastal Seals WG meeting

The CSWG, which had already been postponed by one year, was originally planned to take place in 2026. However, due to the current situation at the IMR, Norwegian participation in 2026 is considered very unlikely.

In light of this, and in response to R-2.4.2 and R-2.5.2, the SC **agreed** that postponing the meeting by a further year, to 2027, would be acceptable. In the meantime, the SC **agreed** that a short online meeting should be held in the autumn to provide a status update and to ensure clarity on the needs in preparation for the 2027 meeting. It was noted that Norway should be able to participate in such an online meeting.

The SC discussed whether to address R-2.5.3 by incorporating it into the Terms of Reference of the CSWG or by organising a back-to-back workshop with the WG, potentially with the more limited objective of conducting a review of alternative survey methods for coastal seals. The SC **agreed** that this issue should be revisited at the CSWG online meeting in the autumn.

In addition, the SC **recommended** that the coming management plans for Norwegian and Icelandic coastal seals be reviewed by the CSWG.

The SC also **recommended** that the Genetics WG prepare review new and existing genetic data on grey and harbour seals for presentation at that meeting and that a representative of the group participate in the autumn CSWG meeting.

SC/32 recommendation to Norway & Iceland

- *(reiterated from SC/28, SC/30, and SC/31)* Improve knowledge on by-catches with proper species identification, and data on genetics and age, by collecting jaws from by-caught seals.

SC/32 recommendation to CSWG

- To review the coming Norwegian and Icelandic coastal seal management plans.

SC/32 task for Genetics WG

- To prepare a review of grey and harbour seal genetics for CSWG.

8.3 BEARDED SEALS

8.3.1 Review and status of active requests

R-2.7.1 (Rephrased 2024, ongoing): *To complete its review and assessment of bearded seals when the necessary data become available, and collect and analyse existing information.*

The SC provided a response to this request under item 8.3.2.

8.3.2 Updates

Greenland

Rosing-Asvid informed that his team had received funding for tagging bearded seals in 2027.

At SC/31, the SC recommended Greenland to analyse previous surveys conducted in Melville Bay and the North Water Polynya to provide estimates of bearded seal abundance. Rosing-Asvid reported that there has been no progress on Melville Bay to date; however, a new survey targeting walrus is scheduled to take place in 2026, which will also collect data on bearded seals—the data from this survey will be analysed together with data from previous surveys to improve the overall assessment.

Rosing-Asvid highlighted that Melville Bay continues to be particularly important for bearded seals, noting that genetic analyses indicate the population there may be distinct from other bearded seal groups. Evidence suggests a group of bearded seals remains in the area year-round, maintaining access to breathing holes in the ice.

Norway

Lydersen presented updates on bearded seals in Svalbard under item 8.2 (NAMMCO/SC/32/FI19), as well as genetic findings of fine-scale substructure of the species (NAMMCO/SC/32/FI18). FI/18 indicates at least three differentiated populations within the Atlantic: Northeast Atlantic (Svalbard–East Greenland–South Greenland), Northwest Atlantic (Davis Strait–Hudson Bay–Foxe Basin), and the High Arctic (Melville Bay).

Discussion

Lydersen was asked whether the management areas used in last NAMMCO bearded seal assessment align with the new genetic results. He replied that the current management areas broadly correspond to the genetic structure, although the new genetic findings will allow for a more refined delineation of boundaries.

In response to R-2.7.1, the SC **agreed** to revisit the status of knowledge on bearded seals in 2027, when all the survey data from Greenland will have been analysed.

8.4 RINGED SEALS

8.4.1 Review and status of active requests

R-2.3.3 (Rephrased 2024, ongoing): *To complete its review and assessment of ringed seals when the necessary data become available, and collect and analyse existing information.*

The SC provided a response to this request under item 8.4.2.

8.4.2 Updates

Greenland

Rosing-Asvid presented updates on Kangia ringed seals in Ilulissat Icefjord.

Summary

Ilulissat Icefjord is approximately 60 km in length, and the management of ringed seals in this area was described as particularly complex. Historically, hunting activity was largely happening in the side fjords. However, environmental changes have, in some periods, facilitated hunters' access to the main fjord, where available studies indicate that the majority of seals are distributed.

Results from an aerial survey in Ilulissat Icefjord conducted in May 2025 indicated a 24% decline in the point estimates of seals hauling out on the ice, when compared with an identical survey in May 2018 (from 1,641 (95% CI: 1,030–2,616) in 2018 to 1,253 (95% CI: 761–2,063)). The survey was conducted during the moulting period, during which the number of ringed seals not hauling out is often found to be roughly the same order of magnitude as those hauling out.

Further work in this study includes a drone-based estimate and a close-kin mark-recapture estimate. The results from these studies will hopefully give a good indication of the best way to continue estimating ringed seal abundance in this and similar areas.

Discussion

While management approaches in comparable areas have typically focused on limiting catches through numerical quotas, the SC discussed the possibility of recommending spatial catch restrictions instead, for example, limiting hunting in the main fjord while allowing it to continue in the side fjords where it has traditionally occurred (seemingly in a likely sustainable manner).

Desportes emphasised the importance of applying the precautionary approach adopted by NAMMCO in 2023, suggesting that temporary precautionary measures could be considered while additional data are being collected.

The SC **agreed** to conduct a formal assessment of ringed seals in Kangia fjord at SC/33, given the uniqueness of this group and the urgency of this matter. This assessment would be held during a dedicated session, incorporating the results of the aforementioned studies if they are completed in time.

Frie asked whether biological samples are collected from all harvested seals. Rosing-Asvid replied that they are not, noting that samples have been obtained from approximately 120 seals to date. Rosing-Asvid highlighted challenges in Greenland related to reporting and underreporting, noting that catch statistics suffer from significant data quality issues and that implementing a system similar to Norway's may not be feasible under current conditions.

The SC **reiterated** its previous recommendation to identify fjord systems similar to Kangia where ringed seals are hunted, to investigate whether other distinct ringed seal ecotypes exist.

Norway

Lydersen reported surveys of ringed seals hauled out during the moulting period in selected fjords in Svalbard to assess ringed seal abundance (NAMMCO/SC/32/FI42).

Summary

Surveys were conducted using drones and have been conducted in 2023, 2024, and 2025. Results from 2023 are now published (Rams i Ríos et al. 2025) and resulted in an estimate of 1,486 (\pm 339) ringed seals being present in this area during the survey. Pictures from all three years were further used in a master's thesis where over 32,000 aerial images were collected and used to train and validate a state-of-the-art optimised Computer Vision model to streamline image processing (Sastre 2025). After refining the training process over several iterations, the final model detected 96% of the seals in the test dataset and reduced the human workload for post-processing image analyses by 99.7%.

Discussion

Lydersen was asked whether the detection model trained on drone imagery presented could distinguish between different seal species. Lydersen replied that reliable species identification would require a dedicated recognition algorithm. At present, such drone surveys are conducted only in areas known to be dominated by ringed seals, and the approach has therefore not yet been developed or tested as a multispecies survey method. When bearded seals occur in the surveyed areas, their substantially larger size allows them to be filtered out based on size alone.

SC/32 recommendation to Greenland

- *(reiterated from SC/31)* Determine whether there are isolated ringed seal stocks in different fjord systems.

8.5 WALRUS

8.5.1 Updates

Greenland

Mads Peter Heide-Jørgensen reported that the survey originally planned for 2025 could not be carried out due to funding arriving too late; as a result, the survey has been rescheduled and will take place in 2026, with data expected to be available for assessment in 2027.

Norway

Lydersen reported on the first documented case of bird flu in a walrus from Svalbard. (NAMMCO/SC/32/FI21). He further informed that an aerial survey is planned for walrus in the Svalbard area during summer 2026. If possible, it will be conducted in a period where the area also can be covered by images from remote sensing to compare these two methods for surveying this species.

Discussion

Heide-Jørgensen noted that while surveys are conducted every ten years, assessment work has been scheduled every five, which creates challenges for timely advice.

The SC highlighted the growing importance of remote sensing approaches for monitoring walrus populations, as Lydersen's satellite imagery from 2023 revealed three to four walrus haulout sites of which they were previously unaware. The SC noted that remote sensing is likely to play an increasingly important role in population monitoring, as it allows for more accurate counts, particularly if access to high-resolution military satellite imagery can be obtained. However, it was also emphasised that such imagery is extremely costly, which presents a significant limitation, and at present satellite imagery is best suited for counting walrus at haul-out sites.

8.5.2 Plans for Walrus WG

The need for a new assessment and updated sustainable catch limit recommendation for walrus in Greenland was discussed, with a general preference expressed for postponing this work until late 2027, due to the expectation of new survey data becoming available in the interim. The SC therefore **agreed** to postpone the Walrus WG to late 2027.

The SC **reiterated** the interim advice issued in 2024, to continue using the existing management advice from 2018 until updated advice becomes available.

SC/32 recommendation to Greenland

- *(reiterated from SC/30)* to continue using the existing management advice from 2018 until updated advice becomes available.

9. CETACEAN STOCKS – STATUS AND ADVICE TO COUNCIL

9.1 NARWHAL AND BELUGA

9.1.1 Review and status of active requests

R-3.4.11 (Rephrased 2024, standing): *To update the assessment of both narwhal and beluga, when new data warrant such an exercise.*

R-3.4.15 (2024, ongoing): *To prioritise investigating alternative survey methods and survey frequency for small stocks, with a focus on beluga and narwhal in East Greenland"*

R-3.4.16 (2024, ongoing): *To prioritise the collection and analysis of information to improve the understanding of stock structure of beluga whales in East Greenland, which may allow future assessments for this species in this area.*

Regarding R-3.4.11, a new assessment of narwhal in West Greenland (and Canada) should be conducted (see following sections). There is no new abundance information for narwhal in East Greenland, but should the need arise, an assessment based on the latest catch history could be carried out by the SC at its next meeting.

In response to R-3.4.15, methods such as eDNA and passive acoustic monitoring could be explored. The planned workshop on alternative methods to conventional cetacean surveys will include this as an agenda item (see item 7).

With regard to R-3.4.16, current knowledge suggests that belugas in East Greenland are vagrants from other areas, and as such no stock or population has been identified in this area—consequently, there is no stock to assess. No new samples are available to further investigate this, as there have been no catches in the past three years. Genetic analysis of previous samples is still ongoing. The SC reiterates its earlier recommendation for zero beluga catches in East Greenland.

9.1.2 Updates

Greenland

Heide-Jørgensen presented new information on beluga abundance in West Greenland (NAMMCO/SC/32/21).

Summary

The wintering aggregation of belugas in West Greenland is presumed to support the local hunt, and aerial surveys have been conducted intermittently since 1981 to estimate their abundance. In 2022, the presumed wintering area (~35,000 km²) was surveyed with 3,742 km of transect effort, yielding a fully corrected abundance estimate of 3,567 belugas (CV = 0.36). This estimate is substantially lower than those from 2006 and 2012, both of which covered much larger areas. When earlier surveys (1998–2016) are recalculated to match the spatial extent of the 2022 survey, the abundance appears relatively stable across years. A longer time series of at-surface abundance indices, extending back to 1981, shows a decline from the 1980s into the 1990s, followed by a modest increase through 2012 and a subsequent decline in 2022. Previous studies have shown that winter sea-ice extent influences the offshore distribution of belugas, with reduced ice associated with westward shifts in occurrence. However, the relatively low abundance observed in 2022 does not appear to be attributable to sea-ice conditions, which were near the long-term average for 1979–2023.

Heide-Jørgensen then presented information on narwhal (NAMMCO/SC/32/22).

Summary

A visual aerial line transect survey of narwhals was conducted from 26 August to 1 September 2023 covering Melville Bay and Inglefield Bredning. A total of 3,032 km was flown over 123 transects in eight strata, covering a total surveyed area of 17,289 km². Narwhals were observed in six of the strata and most sightings were collected in the eastern part of Inglefield Bredning. Two strata with low survey coverage in Melville Bay had no sightings. The fully corrected estimates of abundance in Inglefield Bredning was 3,183 narwhals (CV = 0.30, 95% CI: 1,799–5,631) and the estimate for Melville Bay was 661 (CV = 0.46, 95% CI: 282–1,550) narwhals. Reanalysis of historical surveys in the same areas showed a linearly declining trend since 1985 in Inglefield Bredning when applying similar correction factors to all surveys and excluding some low abundance estimates from photographic surveys in 2000 and 2001. The fully corrected abundance of narwhals in Melville Bay in 2023 is the lowest of five similar surveys in the bay and it indicates a decline in abundance.

Discussion

The SC considered that there is enough new information on West Greenland belugas to conduct a new assessment. It was **agreed** that the Joint NAMMCO-JCNB WG (JWG) would be requested to meet in fall 2026.

The SC noted with concern that both these narwhal stocks showed declining trends in abundance in recent surveys, with the Melville Bay stock below 1,000 animals (thus falling under the critical Small stock category). There is sufficient new—and concerning—information to call for a new narwhal assessment by the JWG in 2026.

The SC discussed again the critical situation of narwhal in the East Greenland Management Areas. Acknowledging the recommendation that was forwarded to Greenland by NAMMCO 31 (2024) to aim at zero quotas, which was welcomed as a significant step in the right direction, the SC notes that the current quotas and catches in East Greenland are ongoing. Therefore, following precautionary principles agreed upon by the Council, and in the face of a large body of supporting evidence, the SC **reiterates** its often-repeated recommendation for zero catches. With the deepest respect and consideration for the food security issues surrounding this hunt, the SC wishes to stress that there will be no possibility for continued narwhal hunts in the very near future (as is already seen during summer in Management Area 3, south of Kangerlussuaq) if action is not taken now.

Norway

A noteworthy update was that two belugas were sighted along the coast of southern Norway, near Oslofjord, Kristiansand, and Bergen during the summer months of 2025.

Due to weather conditions, Norway was only able to collect two biopsy samples from narwhal in Svalbard. Impressively, fibroblasts from these samples were successfully propagated and their reactions to different pollutants are being tested in vitro.

Passive acoustic monitoring on the East Greenland shelf indicates a continuous distribution of narwhal from there to the west of Svalbard, while narwhal—including multiple mother-calf pairs—are consistently sighted during aerial surveys along the northern East Greenland coast. Acoustic monitoring has also revealed an unexpectedly continuous ice-associated presence of narwhal north of Svalbard.

9.1.3 Plans for Joint NAMMCO-JCNB WG

A meeting of the JWG should be scheduled for autumn 2026, with NAMMCO taking the lead on organisation. The Terms of Reference for this meeting should be repeated from the previous assessment; the new data presented here and information from the Disturbance Workshop held in 2022 will be included in the deliberations.

SC/32 recommendation to Greenland

- *(reiterated from SC/30)* Zero catches of narwhals in all three East Greenland Management Areas
- *(reiterated from SC/31)* Zero catches of belugas in East Greenland

9.2 PILOT WHALE

9.2.1 Review and status of active requests

R-3.8.6 (2011, ongoing): *To continue work to complete a full assessment of pilot whales in the North Atlantic and provide advice on the sustainability of catches, as soon as necessary further information becomes available, with particular emphasis on the Faroese area and East and West Greenland.*

The requested assessment has been completed. The SC propose that R-3.8.6 be changed to a standing request, whereby the frequency of future assessments can be decided by the Committee as needed.

9.2.2 Genetics WG Report

Morten Tange Olsen presented the report of the technical Working Group on Genetics (NAMMCO/SC/32/07).

Summary

The Working Group on Genetics (Genetics WG) met online on 28 October 2025. The meeting was chaired by Morten Tange Olsen. The aim of the meeting was to review new information on pilot whale genetic structure in the North Atlantic and compare it with existing literature on the subject, to inform the stock assessment conducted by the Pilot Whale Working Group (PWWG).

The DolphinUnit project (funded by the Research Council of the Faroes Islands under the MARiNAO call) is a comprehensive population genomic study of pilot whales, white-beaked dolphins, and white-sided dolphins spanning the entire North Atlantic. The presented information was based on preliminary results from an analysis of whole-genome sequence data from 172 long-finned pilot whales sampled across the North Atlantic and Mediterranean Sea.

The analyses presented at the Genetics WG meeting concur with the previous conclusion that pilot whales in the Mediterranean are genetically distinct from the Atlantic, although there is evidence of some admixture (gene flow between populations) with animals sampled in France. This admixture could potentially explain the previous indications of a north–south differentiation, as the relevant studies did not include animals from the Mediterranean (that is, the differentiation of more southerly animals would not have seemed strong if the truly distinct Mediterranean animals had also been included).

As the DolphinUnit project is very much a work in progress, the preliminary results presented at Genetics WG meeting were inconclusive regarding additional population structure within the Atlantic. However, there are now subtle genetic signatures of population structure along a longitudinal east–west gradient with possible distinct genetic populations in France, Norway, central North Atlantic (Ireland, Faroes, Iceland, Greenland), and Canada-USA, respectively. The detection of subtle structure in the North Atlantic somewhat agrees with a west–east differentiation that was inferred from previous microsatellite and mitochondrial DNA analyses covering part of the species’ range (Fullard et al 2001; Monteiro et al 2015), as well as patterns of north–south genetic differentiation in the Northeast Atlantic inferred from mitochondrial DNA (Ball et al. 2021). However, these patterns need to be explored further.

The Genetics WG made a series of recommendations for further analyses, namely to:

- Test for selection and genomic islands of divergence within the North Atlantic dataset;
- Examine relatedness between different geographical regions, compared to intra-locality relatedness levels;
- Investigate the higher levels of heterozygosity in Irish and Canadian samples, which might be due to degradation of the DNA (in progress);
- Test for isolation by distance using approximate locations;
- Investigate the divergence history (demographic history, inbreeding, divergence time, migration rates, putative selection) of the Mediterranean and North Atlantic populations (in progress);
- Compare the current dataset with samples from the Southern Hemisphere and with short-finned pilot whales.

Discussion

It was highlighted that the sample size analysed here is large enough and representative enough of the areas of particular interest for the NAMMCO assessment of pilot whales for the results to be considered robust. Sampling from other areas in Norway would likely contribute to completing a gradient pattern, rather than distinct clusters in that region. Further investigation of the mitochondrial remnants of “Southern Hemisphere” signals, and comparison with samples from Macaronesia, would be more out of academic interest than for management needs.

The SC **supports** the further analyses recommended by the Genetics WG, and **strongly encourages** the analysis of relatedness within and between family units.

When asked about the status of other genetic studies that would pertain to species that will be assessed in the upcoming months, Olsen informed that results will be ready in time for assessments of coastal seals, harbour porpoises, and white-beaked and white-sided dolphins, should those be necessary. He also noted with gratitude the support from the Faroese Research Council towards the DolphinUnit project.

Finally, the WG Chair conveyed the eagerness of the WG members to be given the opportunity to discuss new information that can directly inform management needs.

9.2.3 PWWG Report

Philip Hammond presented the report of the Pilot Whale Working Group (NAMMCO/SC/32/08), which he chaired in November 2025. The aim of the meeting was to conduct an assessment of long-finned pilot whales in the North Atlantic, with a focus on the Faroe Islands and Greenland.

Summary

Stock definition: Comprehensive genomic analyses of 172 pilot whales sampled across the North Atlantic and Spanish Mediterranean show the Mediterranean population as genetically distinct from animals in the North Atlantic. Within the North Atlantic, there is no evidence of genetic population structure, only a subtle differentiation of pilot whales in the Bay of Biscay and North America from the rest of the region.

Satellite telemetry data from 83 pilot whales tagged primarily in the Faroe Islands, but also East Greenland, Iceland, and Norway, show a distribution continuum across the eastern North Atlantic. Temporal and geographic limitations of most tag deployments precludes any robust inference on sub-structuring and seasonal movements of pilot whales in the North Atlantic.

With the exception of the Mediterranean and Bay of Biscay, neither the genetic nor the telemetry evidence support the existence of differentiated pilot whale stocks in the central and eastern North Atlantic. As such, it was decided to assess pilot whales as a single unit in the region of interest (central and eastern North Atlantic).

Biological parameters: Information on age, growth, maturation, and pregnancy rates was collected from pilot whales taken in the drive hunt in the Faroe Islands over two time periods, 1986–1988 and 2011–2023. The maximum ages were estimated in the early samples, at 59 years for females and 46 for males, while maximum body size was 554 cm for females and 635 cm for males. Females were estimated to reach sexual maturity at 7.1 years, corresponding to a body length of 395.7 cm. Ovulation rate was estimated at 0.4 year⁻¹, annual pregnancy rate at 0.36, and mean calving interval at 2.8 years, in the recent time period. Survivorship analysis of the demographic parameters from the Faroese datasets resulted in similar estimates of biological parameters to those agreed as input to the assessment model. Sampling biases and methodological issues with ageing and allocating females to reproductive states were discussed; techniques should be standardised to prevent similar issues in future.

Distribution and abundance: Abundance estimates derived from the 2024 North Atlantic Sightings Survey (NASS) had previously been endorsed by the Working Group on Abundance Estimates. Aerial surveys in East and West Greenland resulted in estimates of 2,025 (95% CI: 585–7,012) and 7,595 (95% CI: 3,084–18,707) pilot whales, respectively. Shipboard surveys around the Faroe Islands and Iceland resulted in a bias-corrected estimate of 262,387 (95% CI: 134,027–513,681) pilot whales; this estimate is likely to be negatively biased because of poor coverage of previous high-density areas for this species. Estimates from 2015 and 2024 were agreed as input to the assessment model. Trend information from a commonly surveyed area in all NASS from 1987 to 2015 was also incorporated in the assessment model.

Direct and indirect removals: Catch statistics for the Faroese drive hunt are available unbroken from 1709 onwards. On average, catch was 831 pilot whales taken in 6.3 drives annually. Short- and long-term fluctuations in catch levels reflect both the availability of animals for the hunt and the demand

for whale meat and blubber. Catch ranged from 1 to 1,200 animals per drive, with 52% of the drives taking fewer than 100 animals. Most drives took place (and highest catch numbers were recorded) in July, August, and September.

Catch records for pilot whales taken in East and West Greenland are available from 1923. For West Greenland, annual catches have been reported since 1996, often from drive hunts, ranging from 2 to 272 individuals. In East Greenland, reduced summer sea ice has coincided with increasing catches since 2001, through targeted, open water rifle hunts. Catches in both regions were primarily taken from July to October. Based on anecdotal evidence, it was agreed to adjust the catches in East Greenland by 10% to account for struck and lost animals. Such an adjustment was not applicable to drive hunts in West Greenland.

Catch histories for Iceland, Norway, and the UK and Ireland compiled by ICES varied considerably by year, but all ended before 1975. These data were included in the assessment model covering this period (see below).

Estimates of by-catch rates by the ICES WG on By-catch (WGBYC) for 2017–2024, as well as sporadic records from various countries, suggest low by-catches of pilot whales in European waters. No estimates were included in the assessment model.

Other anthropogenic stressors: Contaminant levels in pilot whales in the Faroe Islands have been monitored regularly since 1997 under the Arctic Monitoring and Assessment Programme (AMAP). Pilot whale tissues have been analysed for heavy metals (mercury, cadmium, selenium) and various persistent organic pollutants (such as organochlorinated pesticides). Mercury levels in adult muscle tissue have increased significantly since 1997 and are considered above the threshold for negative effects. Persistent organic pollutants that have been regulated for several decades are starting to decrease in pilot whale tissues, but this is not clearly evidenced for more recently emerged pollutant compounds. The effects of these various contaminants on hormone, vitamin, and enzyme levels in pilot whales are being investigated, but this is difficult to achieve without uncontaminated “control” specimens.

Little to no information about the impacts of climate change, underwater noise, and other anthropogenic stressors on pilot whales was available to the WG.

Population modelling and assessment: As supported by the genetic and telemetry evidence, pilot whales from Norway to West Greenland were assessed as a single unit. Bayesian age-structured population models were constructed to estimate the production in the population from 1985 to 2025—including catches from the Faroe Islands and Greenland—using estimates of fecundity and age at maturity from the 1986–1988 and 2011–2023 data, corrected abundance estimates from 2015 and 2024 and relative estimates from 1987 to 2015 as a trend, and age data from 1986–1988 with different likelihood weightings. The three agreed most suitable models estimated a slowly increasing population, with an overall annual production of 2.0% (90% CI: 0.4%–3.8%) and an abundance of 320,000 (90% CI: 196,000–530,000) pilot whales in 2025.

Depletion levels in the current population were explored with two density regulated models, which included the same biological and abundance data as above: the first model began in 1700 from a population presumed to be at carrying capacity (including catch data from Iceland, Norway, and the UK and Ireland); the second model began in 1985 from a population presumed to be below carrying capacity. The two models estimated an average depletion level of 91% (90% CI: 69%–98%).

Discussion

The SC thanked Hammond, both for his efficient presentation and for chairing the detailed stock assessment of pilot whales in the North Atlantic, the first one since 1992. All recommendations pertaining to removals were **endorsed**, as were those for research, conservation, and management.

No further updates on pilot whales were given.

SC/32 Recommendations regarding removals

The data-based production estimates of the agreed models show that an annual total removal of 1,570 pilot whales across the central and eastern North Atlantic allows the population to increase with 70% probability (the probability level applied in previous NAMMCO assessments). The current removals in all three hunts (average total of 956 animals in Faroe Islands, West and East Greenland, see below) are sustainable.

In relation to sustainability and to reduce the risk of local depletion, the WG recommends allocating future removals among the three hunting areas of West Greenland, East Greenland, and the Faroe Islands according to the average annual removals of the hunts during the last 10 years (i.e., from 2016 to 2025 for the Faroe Islands, and from 2015 to 2024 for Greenland). These average estimates are 679 for the Faroe Islands, 197 for West Greenland, and 80 for East Greenland (72 landed plus 10% struck and lost). With the overall summed annual removal being 956 animals, this implies a ratio of $1570/956 = 1.6$ between the estimated maximum sustainable removals and the current takes in each area.

Owing to the opportunistic nature of all three hunts, the advice is best implemented as a five-year limit that should not exceed $5 \times 1.6 \times 679 = 5432$ removals over five years in the Faroe Islands, $5 \times 1.6 \times 197 = 1576$ removals over five years in West Greenland, and $5 \times 1.6 \times 80 = 640$ removals over five years in East Greenland (corresponding to 1576 and 576 landings for West and East Greenland, respectively). These recommendations assume no by-catch in the central and eastern North Atlantic. The advice should be reconsidered by the Scientific Committee, ideally within five years and no later than 10 years in the absence of new information.

SC/32 Recommendations for conservation and management

To all Parties

- A survey to provide new information on abundance should be conducted within the next 10 years.
- More telemetry data should be collected from the Faroe Islands and additional areas across the North Atlantic to provide more representative geographical coverage. Tagging should aim to provide a more representative coverage of the whole year.

To the Faroe Islands

- Sampling and ageing of pilot whales should be conducted to provide a representative sample of the entire catch.

To Greenland

- Undertake sampling for biological parameters from the drive hunts in West Greenland.
- Collect and analyse more genetic samples from West Greenland.
- Collect samples and conduct analyses to better inform stock definition in East and West Greenland (e.g., long-term telemetry, stable isotopes, contaminant levels).

To Iceland

- Age existing tooth samples and collect data to inform biological parameters whenever possible.

SC/32 Recommendations for research

To all Parties

- *(Reiterated from the WG on Genetics 2024)* Initiate a dedicated genetic monitoring programme based on archival and newly collected samples from harvested groups in Greenland and the Faroe Islands, as well as in mass stranding events wherever they occur, to determine:
 - i. family groupings and social structure,
 - ii. putative population of origin,
 - iii. the influence of removing entire family units during pilot whale hunts, for instance in terms of genetic diversity, inbreeding levels, mutation load, and standing genetic variation.
- Review and standardise the techniques used for ageing and obtaining reproductive parameters and determine whether there may be a common methodological bias in existing data.
- Collect information on body condition (e.g., blubber thickness) to monitor the effects of environmental changes.

9.3 DOLPHINS

9.3.1 Review and status of active requests

R-3.9.6 (Renewed 2019, pending): *To carry out assessments of [dolphin] species undergoing removals.*

White-beaked dolphins, partially assessed in 2023 using Potential Biological Removal, cannot be fully assessed until new information on stock structure, catches, and struck and lost rates in West Greenland is obtained. The SC will revisit this topic at its next meeting, when new information will likely be available (see below).

9.3.2 Updates

Mikkelsen informed on research on white-sided dolphins for the Faroe Islands. Most of the research progress on white-sided dolphins in the Faroe Islands was presented to the Dolphin Working Group in 2023, including life history and tracking data—the latter was published in 2025 (NAMMCO/SC/32/FI39). There have been a couple of drives since 2021, and new samples were collected, including eye lenses to explore the feasibility of racemisation as an alternative ageing method. No new tagging has occurred since 2023.

Frie asked whether they have noted changes in the occurrence of common dolphins in Faroese waters, as there has been several sightings recorded in Norwegian waters in 2025. Looking at older news headlines and the records of the Norwegian Biodiversity Information Centre, it appears that such sightings—including likely mother-calf pairs—are not as rare as generally thought. Mikkelsen responded that, while common dolphins have regularly been sighted in the Faroese component of NASS, this has always been in the southernmost parts of the survey (near Irish waters), where common dolphin abundance is quite high. Sigurðsson informed that both Risso's and common dolphins had been sighted again in Icelandic waters in the summer of 2023 and 2025 respectively.

The DolphinUnit project aims to have results of the genomic analysis of white-beaked and white-sided dolphins sampled around the North Atlantic during 2026. The genetic results could inform a more thorough assessment of white-beaked dolphins in the near future, if sufficiently representative samples from West Greenland are included. Further information on catch rates (including struck and lost estimates) in West Greenland would ideally also be available for such an assessment, but insufficient progress has been made with regard to validating catch data.

9.4 HARBOUR PORPOISE

9.4.1 Review and status of active requests

R-3.10.1 (Renewed 2019, ongoing): *To undertake a comprehensive assessment of the species throughout its range.*

A meeting of the Harbour Porpoise WG (HPWG) is scheduled for autumn 2026, with an aim to provide an updated assessment for as many areas as possible.

9.4.2 Updates

Faroe Islands

Mikkelsen pointed out that, as harbour porpoises are not protected in the Faroe Islands, they may occasionally be hunted; however, the plan to develop a reporting app in order to improve catch data has not yet materialised.

Iceland

Sigurðsson presented updated information from Iceland (NAMMCO/SC/32/FI31).

Summary

In this paper we used a combination of old records on blubber thickness from strandings and drone imagery to investigate strategies that whales use to maintain body heat. Harbour porpoises, white-beaked dolphins, minke whales, humpback whales, and blue whales were studied. From stranding records, we saw that larger whales had thicker blubber than smaller whales of the same species. When we compared different species, the porpoises and dolphins had relatively thicker blubber for their size than their larger counterparts. Using a drone, we videoed free-swimming whales, dolphins, and porpoises to measure their body size. We then measured how long and wide the whales were, but could only measure their height if the whales turned onto their side while swimming. Fortunately, at least one individual of each species gave the information needed. From this information, we could calculate the volume of each whale and how much of the whale's body was in contact with the cold water compared with its volume. If the whales have a higher ratio of surface area to volume, they should lose heat more quickly. As expected, blue whales had much lower surface area to volume ratios because of their huge size, while harbour porpoises had high ratios. This suggests that blue whales would lose body heat slowly in cool waters, while the smaller porpoises would lose heat rather quickly. So, the way that the bigger whales stay warm is simply by being gigantic. When we took the animals' size into account, the white-beaked dolphins and harbour porpoises lost the most body heat to the water, while blue whales lost the least, suggesting that dolphins and porpoises need to expend more energy on keeping themselves warm than the larger whales do.

Sigurðsson then presented NAMMCO/SC/32/FI43.

Summary

This study investigates the evolution and organisation of MHC class II genes in harbour porpoises. The Major Histocompatibility Complex (MHC) plays a key role in vertebrate immune function, yet characterising MHC diversity in cetaceans has traditionally been difficult due to challenges in amplifying locus specific alleles—particularly in endangered or isolated populations. We manually annotated all MHC II genes in the harbour porpoise genome and genotyped exon 2 across individuals from six geographic regions, including two critically threatened groups, the Black Sea subspecies (*P. p. relicta*), and the Baltic proper population of the North Atlantic subspecies. We found reduced MHC II diversity in the endangered Black Sea population and to lesser extent in the Baltic proper population, highlighting potential vulnerabilities due to limited immunogenetic variation.

Norway

Frie informed of a new project funded by the Norwegian Research Council for 2026–2029 with partners from Norway, Iceland, Denmark, and Sweden, focusing on monitoring harbour porpoise by-catch at a fine spatio-temporal scale and measuring the effects of pingers. This project includes substantial stakeholder involvement. She also noted that there is an ongoing project on estimating by-catch rates for harbour porpoises in Norwegian waters, which is somewhat hampered by the scarcity of reliable abundance estimates with inconsistency in survey methodology and coverage of different surveys.

Lydersen informed of some harbour porpoise sightings recorded around Svalbard in recent years, some of which were observed alongside beluga. The self-reporting system does not contain many harbour porpoise records that far north. However, Frie noted, some porpoises had been sighted in the central Barents Sea over the past dedicated minke whale survey cycles and in the 2025 Ecosystem Survey.

9.4.3 Plans for Harbour porpoise WG

A meeting of the HPWG is currently planned for the last quarter of 2026 and will be chaired by Mikkelsen. The only new abundance data will likely be from the Greenlandic aerial surveys in 2024, so the previous assessment for that area can be updated. However, updated catch and by-catch records may be incorporated in assessments of other regions as well. The SC was reminded that, in previous assessments, harbour porpoise catch and by-catch rates had been deemed unsustainable in Greenland and Norway, respectively. Therefore, the SC **agreed** that it would be best to hold the meeting as planned, rather than postponing it to 2027. The Terms of Reference for the meeting are:

- i) Update the assessment of the sustainability of the removals of harbour porpoises in West Greenland and in Norway;
- ii) Identify knowledge gaps and needs for further research in these two areas;
- iii) Identify progress, knowledge gaps and needs for further research in Iceland and the Faroe Islands in order to complete an assessment in these areas;
- iv) Assess impacts from non-hunting related anthropogenic stresses (pollution, climate change, noise, etc.) in all areas.

9.5 NORTHERN BOTTLENOSE WHALE

Mikkelsen informed that, historically, this species has stranded relatively regularly in the Faroe Islands, especially in two localities on the southernmost island. Stranding numbers have been consistently low, on average about one animal per year, and especially in the three most recent years. The NASS 2024 data for this species have not yet been analysed, but the sightings indicate these whales are relatively abundant along the Faroese continental slope. Based on abundance estimates from NASS 2015, it does not appear that the number of strandings recorded could impact the stock.

Iceland also reported a small number of bottlenose whale strandings in 2025, as in previous years.

9.6 BEAKED WHALES

The Faroe Islands has NASS 2015 and 2024 data for Sowerby's and Cuvier's beaked whales—the latter is generally found too far south to be of interest to NAMMCO.

Occasional sightings and strandings of Sowerby's beaked whale are recorded in Norway. The IMR has set up an online portal for the reporting of stranded marine mammals (Dugnad for Havet) where these can be reported. It is suspected that beaked whale strandings could be related to military naval exercises, as these have been correlated to in other areas.

9.7 BLUE WHALE

No updates were provided on blue whales (but see papers NAMMCO/SC/32/FI28, FI31, and FI37 presented elsewhere, which also include research on blue whales).

9.8 BOWHEAD WHALE

Greenland informed of some field activity relating to bowhead whales in Disko Bay, which was not directly management related. They reminded that the last aerial survey in 2022 resulted in an abundance estimate of 600–700 whales in West Greenland and an estimate of approximately 300 whales in East Greenland.

Norway reported that acoustic monitoring supports the results of a satellite tracking survey, namely, that the Fram Strait and the East Ice of Svalbard serve as a movement corridor between the areas east and west of Svalbard, and that bowhead whales have a strong affiliation for sea ice (NAMMCO/SC/32/FI23).

9.9 COMMON MINKE WHALE

Sigurðsson presented NAMMCO/SC/32/09, the draft Report of the Working Group on Large Whale Assessments (LWAWG), which had met the previous week (14–16 January 2026) in Tórshavn, chaired by Greg Donovan. For convenience's sake, discussions and recommendations pertaining to this report are presented together for both minke and fin whales.

Summary

The LWAWG meeting objective was to provide updated advice on catch limits for potential hunts of common minke and fin whales off Iceland for the consideration of the SC, and to assist that Committee to provide management advice to the NAMMCO Council. Advice on sustainable catch limits for large whales by the NAMMCO SC is based on the approach developed by the IWC SC under its Revised Management Procedure (RMP). New advice is required for the 2026 summer season.

For each species, the LWAWG reviewed relevant topics with a focus on (a) whether any new information had become available since the previous Implementation Reviews held by the IWC SC that would require the development of new Implementation Simulation Trials to investigate robustness of advice provided by the Catch Limit Algorithm (CLA) and (b) future work. This was then used to provide management advice using the CLA with tuning levels of 0.6 and 0.72. The CLA itself requires regular approved estimates of abundance and removal history (catches, by-catches, and vessel strikes).

For both the common minke whales and the fin whales, there was little new information on population structure, biological parameters, or impacts from non-direct anthropogenic stressors. The LWAWG agreed therefore that no new Implementation Simulation Trials were required. However, the WG made several recommendations for future work (see below). Although the CLA has been shown to be robust to changes in carrying capacity and biological parameters as proxies for environmental change, there are no data available to formally incorporate these effects specifically in the assessment.

The LWAWG received and reviewed preliminary abundance estimates for the two species from surveys in 2024. In addition to noting that poor weather affected several important parts of the survey area, the focus of the discussion was on the issue of assigning abundance estimates to Small Areas, given the mismatch with NASS survey blocks and management areas. The LWAWG identified problems with past approaches and recommends that the AEWG define a standard protocol for allocating abundance estimates for use in assessments and ensure that these are used. It also recommended that the AEWG also examine carefully the CV estimates provided. It agreed that, until this was finalised, the 2024 estimates could not be used in the CLA.

The LWAWG received the updated catch statistics for both species and agreed that these were acceptable for use in the CLA. Whilst noting the difficulties of obtaining reliable information on vessel strikes and by-catches, it agreed that the information available suggested that these were not at levels of any conservation concern, but recommended further work to address this in future assessments.

The LWAWG agreed that until the 2024 abundance estimates are approved by the Scientific Committee for use in the CLA, the phase-out rule should be applied for the 2026 (and, if necessary, following

seasons), i.e., a 20% reduction in the catch limits calculated using the updated catch data but excluding the 2024 estimates.

With increasing reliance on fisheries survey vessels for cetacean sightings activities, and a heightened focus on the role of cetaceans in ecosystems, even more comprehensive coordination between national surveys across the Northeast Atlantic should be considered. By having cetacean observer teams on all IESSNS vessels, annual abundance estimates could be obtained for a range of relevant species across the majority of the Northeast Atlantic. Ideally, coverage can be extended through collaboration with other efforts in adjacent waters, such as the annual Barents Sea Ecosystem Surveys (BESS) in the Norwegian sector of the Barents Sea. The LWAWG recommended that the NAMMCO SC raises this as a priority, and advises the Parties regarding the allocation of funds to support these efforts.

Discussion

The SC noted that, if a carry-over system is too liberal, this can result in cumulative catch limits well above the regular quota. The Norwegian Marine Mammal Advisory Board has recently criticised this with respect to Norway's minke whale quota and advised against this level of carry-over.

Regarding the potential joint workshop with the IWC, the SC **agreed** on the usefulness of such an endeavour, given how much relevant information is shared between the two organisations for the purposes of stock assessments. It was further emphasised that participants from around the North Atlantic should be included, to ensure a more complete overview of fin and minke whale stock structure in the region, in light of their variable migration patterns.

The SC added a Term of Reference for the next meeting of the AEWG, to provide advice on appropriate methods of allocating abundance estimates from survey blocks to management areas. They noted that, when the AEWG has approved the corrected abundance estimates for fin and minke whales, the LWAWG could hold an online meeting to update the advice on catch limits provided here.

The SC appreciated the overview of the management advice process provided by the LWAWG, as it clarifies the approach for future assessments.

With regard to improving data on by-catch, it was noted that the BYCWG's current risk mapping project will serve to better target monitoring efforts, leading to more robust by-catch rate estimation. Frie informed of a mandatory regulation implemented by the UK, whereby fishing vessels in UK waters must use a camera to monitor the nets as they are hauled. Something similar could be suggested to the NAMMCO Parties as well and, indeed, is already being trialled on a voluntary basis for research on some Norwegian vessels; cameras have already been deployed on at least one fishing vessel in 2025 and more deployments are planned in 2026.

No further research updates were given for minke whales.

The SC **endorsed** all the recommendations of the LWAWG, with some textual additions for clarity.

SC/32 Recommendations regarding removals

These catch limits were obtained by applying the *CLA* based on the abundance time series (minus the preliminary NASS 2024 estimate), and incorporating the RMP phase out rule. In the absence of updated advice, the current advice can continue to be extended following the 20% phase-out per year.

For minke whales:

Treating CIC as the appropriate *Small Area*, the recommended catch limits for 2026 are 134 whales (tuning level 0.6) or 86 whales (tuning level 0.72). These are **recommended** as interim catch limits until the NASS 2024 abundance estimates are finalised and incorporated into a full recalculation using the *CLA*.

For fin whales:

Both V3 and the sum of V7-WI and V7-EI/F yielded the same total catches:

- V3 catch limits 150 (0.6 tuning); 90 (0.72 tuning)
- V7 catch limits WI 116 EI/F 34 (0.6 tuning); WI 70 EI/F 21 (0.72 tuning).

The SC **recommends** either of these interim catch limits for 2026 until the NASS 2024 abundance estimates are finalised and incorporated into a full recalculation using the *CLA*.

SC/32 Recommendations for conservation and management

- Recognising the commonalities in the work of both the IWC and NAMMCO Scientific Committees, it is **recommended** that NAMMCO approaches the IWC with a view to holding a joint workshop on common minke whale and fin whale population structure and movements some time in 2028 and holds a small scoping workshop in 2026 that discusses available data, analyses, and a workplan to ensure that the necessary information is available for the 2028 joint workshop.
- For both minke and fin whales, the SC **encourages** the analyses of existing and new material with respect to age, sex, reproductive status, and health be undertaken by 2028, noting that such information assists in the *Implementation Review* process.
- The SC notes the difficulty in obtaining reliable data on by-catches and vessel strikes and **encourages** further efforts to investigate this prior to the next large whale assessment. The Parties should implement systematic data collection and reporting schemes.
- The SC **recommends** that the NAMMCO Parties prioritise the allocation of funds in support of coordinated efforts to place cetacean observers on fishery vessels on an annual basis.

SC/32 Recommendations for further work

- Noting that several total abundance estimates had much lower CVs than the estimates for individual survey blocks, the SC **recommends** that the AEWG reexamine the CV values associated with fin and minke whale abundance estimates calculated from NASS 2024 (including aerial component) and older surveys, if needed.
- The SC **recommends** that the AEWG define a standard protocol for allocating abundance estimates from survey blocks to management areas for use in assessments.
- Future consideration will be given to revising the guidelines for large whale assessments in light of the suggestions to improve the process given by the LWAAG.

9.10 FIN WHALE

The outcomes of the LWAWG meeting pertaining to fin whales, as well as recommendations, are given in section 9.9. Research updates are discussed below.

Updates

Greenland

Heide-Jørgensen presented findings on feeding frenzies of baleen whales along East Greenland (NAMMCO/SC/32/24).

Summary

Changes in sea temperature and sea-ice regimes over the past two decades have driven profound ecological changes along the coast of East Greenland. One of the most conspicuous developments is the recent and widespread occurrence of boreal baleen whale species in coastal waters. In particular, fin whale, humpback whale, and minke whale are now regularly feeding along the East Greenland coast, at least as far north as 70 °N and likely beyond. Historically, these species were only rarely observed in coastal East Greenland. In contrast, systematic surveys conducted after 2015 and again in 2024 indicate abundances of approximately 4,000 humpback whales, 6,000 fin whales, and 4,500 minke whales in the region. These baleen whales forage in areas that overlap with other predators of capelin, and capelin have been identified in stomach contents of minke whales. The combined prey consumption of these baleen whales during their approximately four-month seasonal residency in East Greenland is estimated to exceed one million tonnes annually, a substantial proportion of which can reasonably be assumed to consist of capelin. Concurrently, recent observations indicate a summer redistribution of capelin from Icelandic waters toward East Greenland, consistent with rising sea temperatures both around Iceland and along the East Greenland shelf. Oceanographic records reveal a clear change point in East Greenland sea surface temperatures in the late 1990s, followed by an increase of approximately 1°C. In addition, the summer sea-ice regime shifted markedly after 2000, reducing the extent of pack ice along the coast. Together, these physical changes have facilitated access of baleen whales to coastal East Greenland waters and enabled exploitation of newly established capelin resources.

Iceland

Sigurðsson presented updates for fin whales in Iceland (NAMMCO/SC/32/FI27, NAMMCO/SC/32/FI28, NAMMCO/SC/32/FI29, and NAMMCO/SC/32/FI30).

Summary

FI28 looks into the relationship between baleen whales and capelin of the east coast of Greenland in autumn during an era of change in the ecosystem. In recent years the distribution of capelin has shifted northwards, and recent studies from Greenland have reported changes in the distribution of marine mammals over the same period, with Arctic species retreating north and Atlantic species moving in. We measured capelin density with acoustics, while whales were counted by whale observers. Correlation between baleen whale abundance and measured capelin density (with acoustics) by statistical square was explored. Spatial overlap was observed between the whale and capelin abundance, and the relationship was strongest for humpbacks and minke whales. For those two species, up to 50% of the explained variance in distribution of the whales was explained by capelin.

FI27 researched the potential impact of baleen whales on primary production through space and time. Nutrients from urine and faeces from hunted animals in Norway (minke whales) and Iceland (fin whales) were measured, and then the measured values were added to an ecosystem model along with information on what we know about abundance and distribution of baleen whales in the North Atlantic. That way the impact of the whales on primary productivity could be estimated. The results suggest that, overall, the impact is rather limited (less than 2% increase in primary productivity), but can have substantial impact at certain areas and times (up to 10% increase), in areas far from shore during summer or in areas where there is substantial stratification in the summer.

FI29 describes a trematode parasite found in a stranded fin whale; the parasite has mainly been found in southern fin whales, and this is the northernmost occurrence ever recorded.

FI30 identifies exactly where the most recently formed baleen tissue is located in fin whales—a key unknown that until now has limited the accurate interpretation of baleen stable isotope records. We used a mother–foetus pair from the Icelandic hunt, and compared isotopes in foetal baleen (formed just before capture) with those along the mother’s baleen plate. After correcting for foetal–maternal isotope differences, $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ values matched maternal segments located 2–4 cm below the gingiva, showing that this region represents the newest baleen growth and the whale’s most recent diet and habitat use. Sulphur isotopes ($\delta^{34}\text{S}$) did not match reliably, likely due to slower incorporation and tissue specific differences. The maternal baleen showed annual oscillations in nitrogen and carbon, confirming a growth rate of 18 cm/year, while the foetal baleen showed no oscillations because it formed over a short, stable feeding period late in gestation. To correctly capture the most contemporary ecological information, baleen plates must be sampled from the very base, beneath the gumline. This finding will improve the accuracy of all chronological studies using baleen, including diet, migration, hormone, and pollutant analyses.

Discussion

In conjunction with the decline in capelins around Iceland, the move of baleen whales to East Greenland suggest that capelin is the primary prey item in this area and that the consumption of baleen whales may be at the magnitude of 1 million tons per year.

9.11 HUMPBACK WHALE

Greenland

Heide-Jørgensen informed that there are no new updates on humpback whale research in Greenland, other than a confirmation of spatial overlap with capelin in East Greenland.

Iceland

Sigurðsson presented NAMMCO/SC/32/FI32.

Summary

This paper describes ocean-wide movements of humpbacks in the North Atlantic using photo-ID data, including from Iceland, Norway, and Greenland, and shows connections between feeding and breeding grounds. Photo-ID records from collections contributed to the North Atlantic Humpback Whale Catalogue, a dataset of 38,319 records of 9,977 individuals documented between 1980 and 2015, were analysed. Based on the matches between the records in feeding and breeding areas, transition probabilities were estimated between all five primary feeding grounds and three breeding/calving areas. Breeding-to-feeding area transition probabilities were highest from the Greater Antilles to western feeding grounds (the Gulf of Maine, Atlantic Canada, and West Greenland), from the Lesser Antilles to eastern feeding grounds (Norway and Iceland), and from Cape Verde Islands to eastern feeding grounds. The difference in migratory patterns of humpback whales using the Greater Antilles and Lesser Antilles regions within the West Indies indicates that they are behaviourally distinct and may be best managed as separate breeding populations.

Discussion

It was noted that this paper fails to identify an important feeding ground for which two estimates of humpback whales have been endorsed within the NAMMCO framework.

Sigurðsson also informed that the IWC is holding a workshop to advance the In-Depth Assessment of North Atlantic humpback whales, to be held 17–19 March 2026 with the goal to conduct a comprehensive assessment of North Atlantic humpback whales. The 3-day, in-person meeting is now planned to evaluate available information in preparation for assessment, with the following objectives: i) Review available information identified by the Steering Group and others intersessionally in the context of in-depth assessment modelling; ii) Identify data gaps and mechanisms and priorities for

obtaining additional information within the time frame of the in-depth assessment (i.e., around 2 years) or longer term work that might be suitable for a future in-depth assessment; iii) Develop preliminary stock structure/movement hypotheses and identify data sources needed to (a) parameterise them in a modelling context and (b) breakdown key information (e.g. removals and abundance) in accordance with those hypotheses, and; iv) Develop a work plan that will allow at least some preliminary modelling to be undertaken before the next SC meeting to identify potential issues.

9.12 KILLER WHALE

Frie informed that testing of acoustic startle devices for killer whales (and humpback whales) to prevent entanglement in purse seines were continuing from the previous year, with some promising results. She highlighted that this is primarily intended as an aid to fishers, who may suffer losses when whales enter their nets; the number of killer whales by-caught annually is not thought to pose a threat to the Norwegian population. The risk of entanglements associated with whale proximity to fishing operations is, however, considered an animal welfare issue by the Norwegian authorities and is also one of the motivations for the work with “whale scarers”.

Greenland reported no catches of killer whales in 2025.

9.13 SEI WHALE

No updates were provided regarding sei whales, although they were included in the models described in NAMMCO/SC/32/FI27.

9.14 SPERM WHALE

Lydersen noted that the information presented at SC/31 on sperm whale migration had now been published (NAMMCO/SC/32/FI17).

10. NAMMCO SCIENTIFIC PUBLICATIONS

10.1 VOLUME 14

El bani Altuna presented the contributions to Volume 14 of the North Atlantic Marine Mammal Commission Scientific Publications (NSP), titled “Anthropogenic Impacts on Marine Mammals”. The volume comprises five peer-reviewed research articles. Expert volume editors were appointed to facilitate the review process, including the identification of suitable reviewers and the evaluation of reviews. El bani Altuna noted, however, that the process had again met with significant challenges, particularly getting timely responses and identifying appropriate and willing reviewers, which led to substantial delays in the publication of some manuscripts.

NSP is indexed in the Directory of Open Access Journals (DOAJ), which enhances its visibility, accessibility, and potential impact of the publications. However, to be included in DOAJ there are a set of requirements, one of which is the publication of at least five peer reviewed research articles per year. In the past six years, the low number of contributions received are not enough to fulfil the criteria to remain in DOAJ. El bani Altuna further highlighted the decreased participation of SC members as authors over the past volumes, which may be a sign of the lack of interest of the SC in NSP.

In light of these observations, the SC, which recently assumed the role of Editorial Board of NSP, was invited to discuss the future direction and scope of the journal.

10.2 EDITORIAL BOARD

In 2025, the SC assumed the role of the Editorial Board of NSP. Garagouni reminded the SC members of the responsibilities of the Editorial Board, with reference to established guidance on editorial board roles (<https://www.oajournals-toolkit.org/staffing/building-an-editorial-board>).

10.3 NEXT VOLUME

Granquist noted that running the NSP journal requires a substantial amount of time and effort from the Secretariat and opened the floor for discussion on the future of the journal. Heide-Jørgensen emphasised that there are only a limited number of journals worldwide that focus specifically on marine mammals, and that for many NAMMCO-related topics, such as survey results and catch data and statistics, there are often no suitable alternative outlets within the marine mammal field. In this context, NSP is often the most fitting publication option. It was further suggested that documents arising from workshops and meetings could also be published through NSP. The SC strongly supported the continuation of NSP.

In light of this positive support, El bani Altuna proposed a publication plan whereby the 2026 volume would include one general issue welcoming a broad range of marine mammal-related topics, including the submission of preliminary results from the MINTAG StG, and one issue focused on abundance estimates and surveys, with the aim of initiating the collection of contributions stemming from NASS and outputs from the AEWG. The SC further **recommended** that promotion of NSP be strengthened through more active and targeted announcements on the MARMAM mailing list and other relevant communication channels, members' professional networks, and potential connection of the journal to open peer-reviewing platforms for preprints.

To further strengthen collaboration with Japan, the SC **recommended** the inclusion of a member of the Japanese marine mammal scientific community on the NSP Editorial Board.

SC/32 Recommendation for NSP

- Strengthen promotion of the journal in relevant venues and networks.
- Include Japanese marine mammal scientists in the NSP Editorial Board.

11. WORK PROCEDURES

11.1 CATEGORISING ABUNDANCE ESTIMATES

The AEWG suggested adopting a similar approach to that of IWC ASI group, that classifies abundance estimates according to their suitability for different purposes. However, the SC cautioned against introducing a fixed classification system, noting that abundance estimates may need to be assessed in many complex and context specific ways. The SC **recommended** instead that any remarks on abundance estimates should be descriptive, as it is currently done at NAMMCO, and clearly summarised in the reports.

11.2 DEALING WITH STALLED REQUESTS

A recurring challenge for the SC is how to respond to requests from the Council when the requested outputs are not realistically achievable in the short-term. This issue was not fully discussed last year, but has become pressing in light of recent requests to assess species such as bearded, ringed, harp, and hooded seals, where it is not currently possible to conduct full stock assessments or gather sufficient data to produce reliable abundance estimates.

Desportes emphasised that the requests from the Council remain valid and should not be removed from the list of requests. The intention is that these requests will be addressed as soon as the necessary data and capacity become available. The SC **agreed** that stalled requests should be retained but rephrased to reflect their conditional and longer-term nature. As such, the SC **requested** the MCs that the wording of such requests could be revised to better reflect their status, to explicitly indicate that they will be undertaken "as soon as possible" or "when data allow". This would acknowledge current limitations without implying inaction.

11.3 AMENDMENTS TO RULES OF PROCEDURE

The Secretariat has been working to update and standardise the Rules of Procedure (RoP) for all NAMMCO bodies, including the SC. Desportes presented the updates and introduced the proposed changes.

The SC **agreed** with the proposed revisions and made the following key remarks:

- Access level to meeting documents for meeting participants and external users: The categorisation of meeting documents clarifies the availability and level of open access for each document type (see Figure 3). Under the current proposal, the SC **agreed** that “Restricted Working Document” category should be designated as the default for all working documents, with the exception of the Agenda, List of Documents, and List of Participants. The SC also **agreed** that each NAMMCO WG should have access to previous WG meeting documentation through the NAMMCO archive, and emphasised that no document used in a WG should be lost or permanently deleted.
- Definition of “Primary Meeting Documents”: The Secretariat identified the definition of a “Primary meeting document” as requiring further clarification from the SC. The SC **agreed** that “Primary Meeting Documents” are those listed in the List of Documents and categorised either as Working Documents or For Information. “Secondary Meeting Documents” are materials introduced during the meeting (e.g., model outputs, calculations, maps) that may be included as appendices, and therefore be made public. The SC **agreed** that “Secondary Meeting Documents” presented during the meeting may be elevated to “Primary Meeting Documents”, subject to agreement by WG members, and added to the List of Documents instead of being included as appendices.
- Archiving of assessment data: The SC **recommended** that data used in assessments and analyses (e.g., shapefiles, CSV files) should be submitted to and archived by the Secretariat.

Meeting Documents (Primary Documents)

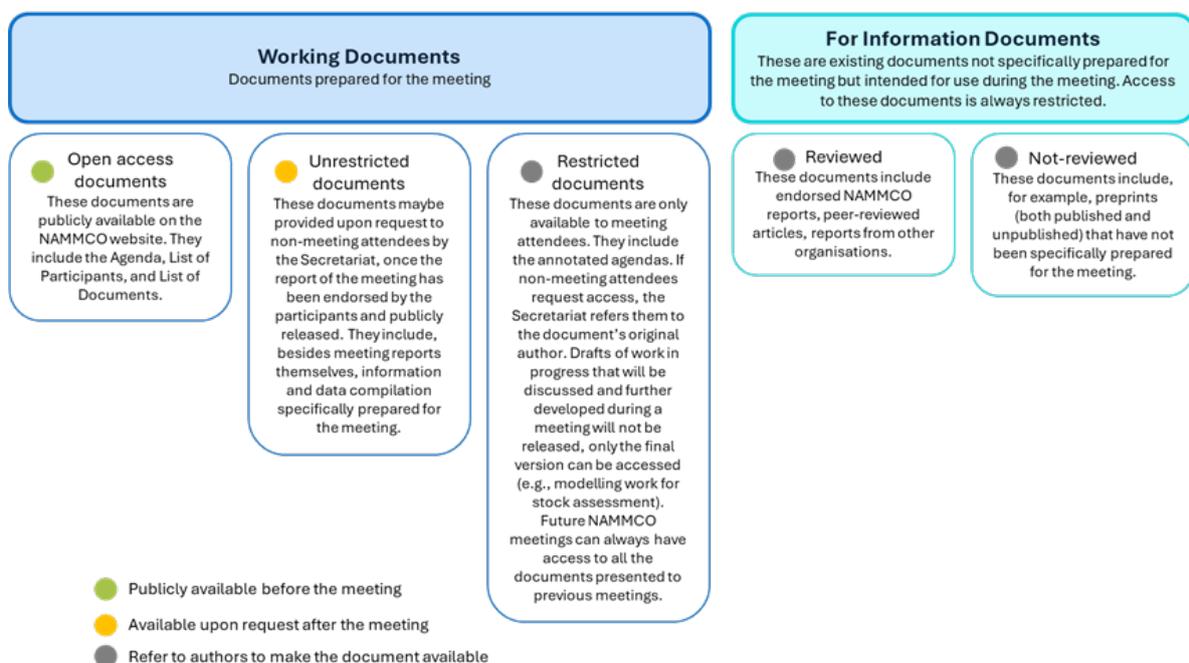


Figure 3. Classification of meeting documents submitted to the NAMMCO SC and subsidiary bodies

SC/32 Recommendations on Work procedures

- Any remarks on abundance estimates should be descriptive (i.e., not a fixed categorisation) and clearly summarised in reports
- Data used in assessments and analyses (e.g., shapefiles, spreadsheets) should be submitted to and archived by the Secretariat.

12. MANAGEMENT PROCEDURES

R-1.6.8 (2023, ongoing): *To prepare a tentative long-term plan (10-15 years) for the assessments of all the stocks within the remit of NAMMCO. The SC should also propose a system for categorizing the status of these stocks reflecting abundance, status of knowledge, and levels of removals.*

Responses to this request are provided under items 12.1 and 12.2.

12.1 LONG-TERM PLAN FOR STOCK ASSESSMENTS

The long-term plan proposed by SC/30 was revised and updated as necessary, depending on changes in data availability and concerns for different stocks. The updated long-term plan can be found under item 16.

12.2 STOCK CATEGORISATION SYSTEM

In response to R 1.6.8, and in particular the request to “also propose a system for categorising the status of these stocks reflecting abundance, status of knowledge, and levels of removals”, the SC discussed the complexity and implications of developing simplified stock categorisation systems.

The SC noted that preparing simplified stock status categories, especially in cases where data are limited or where full stock assessments and abundance estimates are not possible, risks moving beyond the Committee’s core mandate, which is to provide scientifically robust advice rather than generalised dissemination. Given the complexities inherent in stock assessment, the use of overly simplified indicators to signify stock status could be scientifically misleading. Experience from other fora (e.g., IWC) further shows that producing even one or two such syntheses can require weeks of intensive work by scientists.

The SC therefore **agreed** that developing a new, NAMMCO-specific stock categorisation system would face significant scientific and practical limitations. Delegations will also raise these concerns with their respective Heads of Delegation to highlight the challenges associated with producing such categorisation systems.

As a way forward, the SC **recommended** making better use of existing information already developed, reviewed, and available through the species pages on the NAMMCO website. Rather than creating new assessment deliverables, the Secretariat could highlight this existing information and present it in a clearer and more accessible format (e.g., through boxed summaries), without undertaking new assessments. To illustrate this approach, the SC suggested that the Secretariat prepare and present one or two example products at SC/33, demonstrating how existing information and recognised categorisation systems could be synthesised and communicated effectively.

In addition, the SC **recommended** that the Secretariat present to the Council an overview of existing categorisation frameworks, including those used by CAFF, IUCN, OSPAR, and national Red Lists. These systems could be compared and presented as alternative sources of status-related information, thereby avoiding the need to develop a NAMMCO-specific stock classification system.

13. COLLABORATIVE PROJECTS

13.1 MINTAG PROJECT

Heide-Jørgensen presented the progress of the MINTAG project in 2025 (NAMMCO/SC/32/10, NAMMCO/SC/32/FI08, NAMMCO/SC/32/FI09, NAMMCO/SC/32/FI10, and NAMMCO/SC/32/FI11).

Summary

Field activities undertaken in 2025: In the Faroe Islands, tagging was planned to target pilot whales encountered close to shore and not subject to drive hunts. However, no pilot whale pods suitable for tagging were encountered during 2025. No attempts were made to tag minke or fin whales.

In Greenland, three tagging surveys were conducted. In West Greenland, between Maniitsoq and Sisimiut, only one minke whale was observed during three to four days of survey effort in July. In East Greenland (Tasiilaq), a survey conducted in August did not result in any fin whale deployments, due to difficulties in approaching the animals. Instead, one tag was deployed on a sperm whale, but the signal was lost after approximately five hours of transmission. A third survey in September in the Qaqortoq area involved four days of sailing, during which four minke whales approached within 20–30 m. Two shots missed due to long distance or unfavourable angles, one tag was lost, three shots failed due to carrier malfunction, and one tag struck the whale but was positioned too low.

In Iceland, fieldwork was originally planned for August–September but was postponed to October–November due to adverse weather conditions, a period characterised by short daylight hours. Despite these challenges, one minke whale was successfully tagged in late September. The tag was placed lower than intended, and no uplinks were received, possibly due to the low placement.

Japan conducted three surveys in 2025. During a spring survey off eastern Japan, five tags were successfully deployed on fin whales, while two additional deployments failed due to non-penetration. During an autumn survey in the western North Pacific, five tags were deployed on sei whales and one on a fin whale; two tags were lost. A supplementary survey aimed at assessing tag performance resulted in three deployments on humpback whales, two of which were lost. No Argos locations were obtained from the remaining tag. Based on the Japanese results, petal-type tags showed substantially longer transmission durations (33–40 days) than cone-type tags (3–6 days) on large baleen whales.

In Norway, fieldwork was conducted during a dedicated research cruise in July in Andfjorden and Vestfjorden, during opportunistic tagging in November in the Kvænangen fjord system, and during a multipurpose cruise in the same area in November–December. Across these efforts, 15 tags were successfully deployed and 11 were lost. Deployments included four humpback whales, five fin whales, one minke whale, and five pilot whales. One pilot whale was tracked for 48 days, travelling south from Lofoten along the Norwegian coast to the Orkney Islands. Two other tags deployed on whales from the same pod transmitted for identical durations (34 days) and ceased transmissions at the same location. Planned deployment of MINTAG tags in Svalbard in August was cancelled due to external logistical constraints related to gas delivery.

In addition, as part of a collaborative effort, five V0c-P tags were deployed on sei whales in Argentina in May 2025. Mean tag duration was 42 days (range 8.5–67), with a mean of 5,680 transmissions (range 312–9,440) and a mean end voltage of 3.22 V (range 2.5–3.3).

Overall performance in 2025: In total, the StG used 53 of the 75 tags available in 2025. Twenty-one tags (40%) were lost, and 26 were successfully deployed, of which 13 transmitted data for more than 10 days. Five more tags were shot but did not send any data, despite hitting the whale, and another tag was used for testing in the field. As of 18 January 2026, 22 tags remained undeployed: five in the Faroe Islands, seven in Iceland, four in Japan, and six in Norway.

The longest deployment in 2025 was PTT 187157, deployed on a fin whale in Norway, which transmitted for 53 days and was still active on 21 January. By comparison, the longest deployment in 2024 lasted 231 days, with two additional tags exceeding 100 days. The StG and WC noted that the

exceptionally long durations observed in 2024 were partly attributable to irregular tag behaviour, including extended periods without uplinking that reduced power consumption.

Carrier performance and retention issues: A major challenge during the 2025 field season was carrier performance, which contributed to a high number of tag losses. Although land-based testing met performance expectations, at-sea trials revealed unstable trajectories. This indicates that controlled land-based testing does not adequately replicate marine conditions and that the 2025 carrier design was suboptimal, particularly at deployment distances greater than ~15 m.

At least six different carrier types were used across tagging teams in 2025, complicating performance comparisons. To address this, a joint carrier-testing session was conducted on 17–18 January 2026 prior to the StG meeting. It was agreed that all teams should standardise on carrier #1 developed by Biuw for MINTAG deployments. Following advice from Biuw regarding production costs and timelines, NAMMCO will place a central order for carriers for use in the 2026 season.

Variability in tag duration likely reflects a combination of stochastic factors and differences in platforms, timing, environmental conditions, carrier design, and tagging experience. WC emphasised that no substantial changes were made to the tags themselves between 2024 and 2025, aside from carrier design, and expressed confidence that tag hardware was not the limiting factor in 2025.

Analyses of transmission counts relative to battery voltage highlighted retention issues. Many tags showed increasing transmission counts concurrent with declining battery voltage, suggesting outward migration of the tag within the tissue (see MINTAG/11). While the current duty cycle (11 h on / 22 h off) limits detailed examination of hourly transmission patterns, these observations reinforce the need to improve tag retention.

Based on information available at the time of the meeting, no definitive conclusions could be drawn regarding whether petal-based retention performs better or worse than cone-based configurations.

Plans for 2026 (Phase 3): The StG agreed on a robust deployment strategy for 2026, including contingency options (Plans A, B, and C). The project will enter its final phase (Phase 3) with large-scale deployment of final MINTAG prototypes: the SPOT-415 (including two V0c variants) and the two-battery SPOT-416. The SPOT-416 will be available in both petal and cone configurations, the latter with a bushing tip allowing attachment of either cutting or broadhead tips.

A total of 102 new tags (62 V0c/SPOT-415 and 40 SPOT-416) have been ordered and paid for, along with deployment equipment. Combined with the 22 remaining tags from 2025, a total of 124 tags will be available for deployment in 2026.

SPOT-416 tags will be prioritised for large whales (fin, blue, and sei whales), while V0c/SPOT-415 tags will primarily be used on smaller whales (pilot and minke whales), with flexibility if SPOT-416 tags are unavailable.

Planned field activities include:

- Faroe Islands: Opportunistic tagging of pilot and minke whales using an offshore-capable vessel.
- Greenland: Focus on minke whales, with activities planned for September in Southwest Greenland.
- Iceland: Priority on minke whales, with possible deployments on fin whales or other species if encountered.
- Japan: Two cruises planned—opportunistic tagging of fin whales during the August sighting survey, and a dedicated autumn tagging survey focusing on fin whales, with possible encounters of minke whales.
- Norway: A September Svalbard cruise with helicopter support, offering high-quality but weather-dependent opportunities for fin whale tagging, followed by vessel-based operations

in subsequent summer months. Additional plans for southern Norway are under development, with allocations for fin, minke, and pilot whales.

Funding optimisation and collaboration: The StG discussed options for optimising remaining project funds, including potential support for tagging platforms. A joint tagging cruise was proposed to enhance collaboration, provide hands-on training, and enable coordinated testing and internal calibration. Southeast Greenland in July–August was identified as a potential location due to high whale densities, although earlier opportunities in May–June (e.g., Svalbard or Japan) may offer more favourable experimental conditions. These options require internal discussion and approval and funding from the NAMMCO Finance and Administration Committee (FAC) and the Japan Fisheries Agency (FAJ). The Secretariat will assess budget availability and consult with FAC and FAJ before convening an online StG meeting to evaluate options.

Dissemination and Outreach: The StG agreed that MINTAG results should be disseminated through a two-step publication strategy:

1. A paper presenting the MINTAG concept, collaborative framework, preliminary results, and design and development process.
2. A comprehensive paper presenting full project results once data collection and analyses are complete.

The first paper will demonstrate project potential, highlight promising early results, and ensure that MINTAG becomes citable and visible. NAMMCO Scientific Publications was identified as a suitable outlet, and Heide-Jørgensen will lead the effort.

The Heads of Delegation have requested that a workshop in cooperation with Japan be held back-to-back with the 2027 Council meeting, combining scientific discussions with sessions for managers and a broader audience. Presentation of MINTAG and discussion of a potential follow-up MINTAG2 project were proposed. The StG supported the idea in principle, although noting that 2027 was too early and suggesting 2028 as a suitable timeframe, and agreed to forward the proposal to the HoDs.

For the 26th Biennial Conference on the Biology of Marine Mammals (Puerto Rico, October 2026), the StG agreed to submit an abstract for an oral presentation based on draft MINTAG/15/12. A final decision on participation will be taken later in accordance with guidance from the NAMMCO Parties and Japan.

Finally, the StG revisited the agreement from the January 2025 meeting (MINTAG/11) to explore co-development of a workshop on transdermal tags during the SMM conference. Although some members were recently invited to contribute to a workshop on this topic, the StG concluded that, as MINTAG was not involved in the organisation and the focus appeared to be on U.S. permitting processes, participation would not be of direct relevance to the project.

Discussion

Pastene asked for clarification regarding the main reasons for the high number of tags lost in 2025, and whether this was solely due to poor performance of the carrier. In response, it was explained that while carrier performance was a major factor, available platforms and experience of taggers also contributed to the losses. With regard to tag retention, changes to the MINTAG prototypes could not be made at this stage, but Heide-Jørgensen noted that the StG had engaged in extensive discussions aimed at improving deployment performance in the coming field season. He further highlighted that despite the poor performance of the tag, the novelty of MINTAG has enabled the development of the smallest possible transdermal tag suitable for deployment on larger whales and noted that preliminary results are encouraging.

It was proposed that the MINTAG End-project Symposium could be held in Japan. The SC **agreed** that Japan would be a suitable place.

The SC and Japan observers **agreed** that postponing the MINTAG end of project symposium to 2028 would be appropriate. Japan added that, subject to confirmation from the FAJ, and the NAMMCO FAC, this postponement might also facilitate hosting the meeting in Japan.

The SC expressed its anticipation of positive and promising MINTAG results in 2026.

13.2 COLLABORATION WITH JAPAN: NORTHEAST ATLANTIC–NORTHWEST PACIFIC ECOSYSTEM

Solvang presented NAMMCO/SC/32/23, which summarised the results of preliminary analysis to elucidate the annual variation factors in the distribution and feeding ecology of North Pacific common minke whales in Sendai Bay, in the western coast of Japan.

Summary

Document 23 noted that the analyses were focused on Sendai Bay this time as a first step; subsequent analyses will be focused on offshore waters of the western North Pacific. Analyses in Sendai Bay were based on data obtained from catches in 2003, 2005–2010, and 2012–2023. The data included the recorded catch date, catch position, body length, blubber thickness, sex, sexual maturity, and prey species identified from stomach contents. The main outputs of the analyses were the following: 1) Statistical analysis revealed a positive correlation between body length and blubber thickness in O-stock females and weak negative correlation in O-stock males, however, no significant trend in blubber thickness was observed; 2) Ordinary Linear Regression Model (OLM) showed significant effects of some coefficients, but no spatial relationship was observed; 3) In OLM incorporating stock effects, sex and stock effects were estimated for body length, supporting the previously identified correlation between body length and blubber thickness in the O-stock; 4) Correct-catdap analysis demonstrated that stock is associated with individual maturity, supporting the results of the OLM. The following limitations were noted: 1) No significant trend in blubber thickness was observed; the data points were distributed within a narrow range, making it impossible to apply a model accounting for spatial effects; 2) Sendai Bay corresponds to a migratory corridor and therefore it is not a place where blubber thickness maximises. The following steps are proposed: 1) spatial modelling analyses in the western North Pacific based on sighting data and incorporating environmental covariates, as well as 2) analyses of offshore minke whales based on analytical procedures implemented in Norway on North Atlantic minke whales.

Discussion

Biuw highlighted that many of the Japanese samples were collected along migration routes rather than on breeding or feeding grounds and noted that assessments of body condition should ideally compare similar life cycle periods, and not combine whales migrating to and from feeding areas that are in a different phase. Biuw therefore suggested that seasonality be included as an explanatory variable in the models. He further pointed out that Norwegian samples were collected primarily during summer on feeding grounds, whereas Japanese samples were obtained from migration corridors, reinforcing the importance of explicitly accounting for seasonal effects.

Pastene agreed that incorporating seasonality would be scientifically valuable, while cautioning that subdividing the data by season could result in reduced sample sizes. Mikkelsen observed that the results indicate differences in body condition between females and males and asked whether these patterns could be related to sex-specific migratory behaviour.

The SC noted with interest the results of the collaboration and looks forward to future outcomes.

13.3 OTHER COLLABORATIONS

No other collaborations were presented.

14. INTERACTIONS WITH OTHER ORGANISATIONS

14.1 ASCOBANS

Garagouni mentioned relevant updates from the ASCOBANS 29th Advisory Committee meeting (NAMMCO/SC/32/FI12), including the publication of an EIA report on by-catch impacts and legislation in EU waters, and the review of white-beaked and white-sided dolphin information, to which the Secretariat had substantially contributed. She also informed that two ASCOBANS workshops will be held at the 2026 ECS meeting, one on Risso's dolphins and one on white-beaked and white-sided dolphins.

14.2 ARCTIC COUNCIL

Desportes summarised NAMMCO's interactions with the Arctic Council and its Working Groups, and specifically CAFF, AMAP, and PAME.

Summary

Although the Secretariat is in contact with the Arctic Council and most of its Working Groups, and participate in their annual meetings, it is with CAFF and AMAP that the Secretariat interacts the most.

As are several SC members, Desportes is a member of the Circumpolar Biodiversity Monitoring Program (CBMP)-Marine and its Marine Mammal Expert Network (MENN) and presently participates in the update of the State of the Arctic Marine Biodiversity Report (SAMBR).

NAMMCO's internationally based scientific assessments of marine mammal stocks and species in the Arctic needs in the coming future to put an emphasis on taking into account environmental factors, such as contaminants, disturbances, and other human impacts. This can both inform and be informed by the monitoring and assessment work of AMAP and PAME. NAMMCO therefore intend to develop its cooperation with these two working groups, to profit from their expertise regarding the effect of non hunting-related anthropogenic stressors on the marine environment and subsequently on marine mammal populations, including the cumulative impacts of global warming, by-catch, pollution, and disturbances.

NAMMCO and the Arctic Council share the common goal of promoting cooperation and coordination of stakeholders on issues related to sustainable development and sustainable utilisation, including the incorporation of Indigenous and local knowledge. Marine mammals are important resources for the peoples of the Arctic and will continue to be a significant element in future discussions on conservation and development of the Arctic. Collaboration between NAMMCO and the Arctic Council provides opportunities to explore these issues in synergy.

CAFF and AMAP are regular observers to the meetings of the Management Committees and the Council.

14.3 ICES

Sigurðsson summarised ICES' work in 2025 relevant to NAMMCO (NAMMCO/SC/32/25).

Summary

This summary reviews the 2025 activities in ICES which had some relevance to the work in NAMMCO SC. This included work in the ICES Working Group on Marine Mammal Ecology (WGMME), and the Working Group on Bycatch of Protected Species (WGBYC). The ICES Annual Science Conference (ASC) generally includes sessions with marine mammals included as an integral part, occasionally also sessions entirely devoted to marine mammals. Last year the ASC had a session on long-term time-series, and the human dimension in marine management, which might have been of interest to NAMMCO.

ICES WGMME The ICES Working Group on Marine Mammal Ecology (WGMME) had a hybrid meeting in Copenhagen during 12–16 February 2025 to address six terms of reference. Under the first of these,

ToR A, new information on cetacean and seal population abundance, distribution, population/stock structure, was reviewed, including information on vagrant marine mammal species. For cetaceans, results of the large-scale SCANS-IV survey undertaken in summer 2022 are summarised. For seals, latest monitoring results are given for harbour, grey, and Baltic ringed seals. In addition, where possible, local long-term abundance trends are illustrated for those species, based on earlier WGMME efforts to assemble these data into the WGMME seal database. For both species' groups, new records of vagrant species are provided. Under ToR B, cetacean and seal management frameworks in the North Atlantic were discussed and reviewed. The report included a summary of current or forthcoming management measures for a number of countries, and the intention is to complete the process in 2025. ToR C provides an overview of newly published information with regards to anthropogenic threats to marine mammal populations, following on from the review by WGMME in 2015 and subsequent updates. These are considered under the following headings: cumulative effects, fishery interactions, chemical pollution, marine debris, underwater noise, ship strikes and other physical trauma, tourism, climate change, pathogens, and cumulative effects. ToR D focused upon by-catch. In support of WGBYC, this ToR aimed to contribute to the Roadmap for ICES PETS by-catch advice. The group was tasked with reviewing the general methodological approaches proposed by WGBYC in 2023 regarding Qualitative Bycatch Risk estimation and the building of Metadata Tables, for which information on by-catch rates is lacking. The methodology was tested on four species/populations identified by DG MARE as high priority: Baltic harbour porpoise, Iberian harbour porpoise, Black Sea harbour porpoise, and Mediterranean monk seal, and three more widely distributed species from distinctly different taxa: striped dolphin, long-finned pilot whale, and minke whale. For each population, by-catch risk for specific gear types was assessed along with the level of confidence in the information available. ToR E reviewed strandings records from the member countries. Five case studies were reviewed: the stranding schemes of the United Kingdom, France, Belgium, the Netherlands, and Denmark, with some additional information from Sweden and Latvia. In each case, available trends in stranding frequency and causes of death for the targeted species were presented and assessed. ToR F addressed interactions between the offshore renewable energy industry and marine mammals, in coordination with developments of the ICES Roadmap for Offshore Renewable Energy (ORE). ICES plans to hold workshops on ORE and the working group decided to compile a brief overview of the impacts upon marine mammals that have already been established (mainly underwater noise during the pile driving phase), and potential impacts in the future, such as disturbance, local climate, and oceanographic effects upon the prey resource base, if the industry is developed widely.

ICES WGBYC The Working Group on Bycatch of Protected Species (WGBYC) had a hybrid meeting (Rostock, Germany and by correspondence) on 23–30 September 2025. The Working Group on Bycatch of Protected Species (WGBYC) was established in 2007 and collates and analyses information from across the Northeast Atlantic and adjacent sea areas (Baltic, Mediterranean and Black Seas) related to the bycatch in commercial fishing operations of protected and sensitive species including marine mammals, seabirds, turtles and sensitive fish species. WGBYC seeks to describe and improve understanding of the likely impacts of fishing activities on affected populations, to inform on the suitability of existing at sea monitoring programmes for assessing sensitive species bycatch, and to collate information on by-catch mitigation efforts. In 2025, the WGBYC hybrid meeting addressed seven Terms of Reference (ToR). The group report provides an overview of data collection activities during 2024 including details of reported monitoring and fishing effort data, and bycatch records that were submitted to the WGBYC database in 2025 following a formal data call. Data were requested from 17 of the 20 ICES countries, six EU Mediterranean countries and two EU Black Sea countries. 22 of the 25 contacted countries submitted data, where only Norway, Romania, and Malta did not submit data. Normally two NAMMCO nations, Iceland and Norway have submitted some data to the working group, but this time around Norway did not submit data. We encourage NAMMCO countries to submit their by-catch datasets and contribute to the work of this group in the future. WGBYC further expanded the BEAM approach, which was first developed in 2022 and is designed for evaluating and quantitatively assessing population impacts of by-catch across the full range of relevant taxa by

considering various criteria, including data availability, quality, and representativeness, within group expertise, and the existence of management/conservation thresholds or reference points. The BEAM approach (which was benchmarked in 2025) underpins the requirement of the agreement between ICES and DG MARE for the provision of annual advice on by-catch. Estimated by-catch mortality ranges, by ecoregion and gear type, were produced for multiple mammals, seabird, turtle and fish species listed on the EU priority species list and the ICES Roadmap for Bycatch Advice ecoregion species list. This year, WGBYC was able to provide total by-catch estimates at the ecoregion scale for more species than ever before, however, population impact assessments continue to be limited by a lack of species abundance estimates at the ecoregion scale and By-catch Reference Points. The semi-quantitative methodology for evaluating by-catch risk for high priority data-limited species first developed in 2023 was further developed in 2025. This methodology is for species for which reliable quantitative assessments cannot currently be carried out using the BEAM approach (ToR D). WGBYC made recommendations on how to further progress the development of the methodology. A risk-based approach to highlight potential monitoring gaps and inform coordinated sampling designs was further expanded to include all ecoregions, including the Mediterranean, and provides useful insights into which métiers may currently be undersampled by existing at-sea data collection programmes with respect to PET species by-catch (ToR E). This is of particular relevance to the NAMMCO By-catch Working Group, that is doing similar work at the moment. A new ToR (ToR F) was established for WGBYC in 2024 to examine data deficient species and to propose measures to obtain the required information to improve the data situation in these cases. This work highlighted the barriers to achieving by-catch rates and total by-catch estimates and identified where clarification on data collections protocols and improved data reporting would be beneficial.

ICES ASC The 2024 ICES Annual Science Conference (ASC) was held as a hybrid conference 15–18 September 2025 in Klaipeda, Lithuania. The conference included a theme session devoted to long-term time series, and the human dimension in management, which is of relevance NAMMCO countries. The ASC in 2026 will be held in Brest, France 15–18 September 2026. The call for abstracts is now open (closes February 26th) and while there is not a session entirely dedicated to marine mammals, there are sessions on by-catch reduction technologies, and how to integrate ecosystem aspects with single-species fisheries management advice (see <https://www.ices.dk/events/asc/2026/Pages/theme-sessions.aspx>).

14.4 IWC

Sigurðsson presented IWC's work relevant to NAMMCO (NAMMCO/SC/32/26).

Summary

During the last meeting of the IWC SC, a major change in the workings of the committee was introduced, as this was the last annual meeting of the SC—it has now moved to a biannual meeting schedule, with the next SC meeting taking place in April 2026. Due to that change, there is much less to report on from the IWC than in previous years.

There was one workshop and an online meeting covering topics of interest for NAMMCO, an online meeting of the ASI sub-committee, and workshop for Intersessional work of the IST and IA sub-committees that took place in November 2025 and was attended by some NAMMCO SC members. In the online meeting, the ASI committee reviewed and approved new abundance estimates for Greenlandic stocks subject to Aboriginal Subsistence Whaling, while during the workshop, an Implementation Review for eastern North Pacific gray whale and an in-depth assessment of North Pacific minke whales were worked on, both topics important for use in SC work in 2026.

14.5 FAO

NAMMCO was invited to participate in the international FAO workshop “Mainstreaming climate change into international fisheries governance – The case of regional fisheries bodies in the Atlantic

region” that took place in Cape Town, South Africa, on 21 and 22 October 2025. Desportes presented the workshop and the presentation given to summarise how NAMMCO deals with climate change (CC).

Summary

The workshop aimed to facilitate the exchanges among Regional Fisheries Bodies (RFBs) from the Atlantic region about how they are integrating climate change in fisheries management advice, discuss responses and opportunities to address the impacts of climate change on relevant fish stocks and ecosystems, and propose actionable recommendations for future efforts.

The different participating RFBs presented their challenges and opportunities in integrating CC in management. NAMMCO was the only organisation dealing with marine mammals (IWC was also invited but did not participate). Desportes summarised the effect of CC on marine mammals, what is done in NAMMCO to start dealing with the changes seen and try to predict future changes and effect on the resource and hunters’ access to the resource.

The gaps for developing climate resilient management of marine mammal hunts were presented as being: a) still limited data and understanding of CC impact, b) lack of prediction of population trajectories taking into account CC, c) lack of transectoriality & still limited transdisciplinarity, d) lack of expertise for including socio-economics & modelling population consequences of disturbance.

The challenges were presented as the high number of, often highly mobile and migratory, species, the multiplicity of stressors and the complexity of interactions, the cumulative, synergistic, and cascading effects, as well as the different species-specific responses to the same stressors. Added to this were the high cost and difficult logistics of monitoring, the reduced accessibility and unpredictable and tough environmental conditions, the limited research budget and time, and the difficulty of including User Knowledge. The hope was being able to develop both a predictive and adaptative management framework, allowing to assess potential vulnerability, as well as a reliable framework for evaluating success.

The workshop was interesting, but dealt mainly with fisheries management. Good contacts were, however, established. A report should become available in the coming months.

15. NAMMCO WEBSITE: SPECIES PAGES

15.1 FINALISE PENDING REVIEWS FROM SC/31

Garagouni reminded SC members of the need to finalise the species page reviews assigned at SC/31 (harbour porpoises, and harp and hooded seals are still pending, NAMMCO/SC/32/11). Members who were assigned these reviews at SC/31 indicated that they would complete them very soon after the SC meeting.

15.2 REVIEW FOUR NEW PAGES

In fulfilment of standing request R 1.8.3 (2022), which asks the Scientific Committee to “continue its regular review of these [species] pages” on the NAMMCO website, updated species pages are included in the document list as NAMMCO/SC/32/12 (sperm whale), NAMMCO/SC/32/13 (sei whale), NAMMCO/SC/32/14 (killer whale), and NAMMCO/SC/32/15 (blue whale).

Mikkelsen will review the sperm whale page, Sigurðsson the sei whale page, Fernando Ugarte the killer whale page, and Lydersen the blue whale page.

Four beaked whale species pages are scheduled for review by SC/33. As usual, the Secretariat will prepare a preliminary update before circulating the drafts to the Scientific Committee for review.

16. FUTURE WORKPLANS

Desportes informed the SC that the HoDs had asked the Secretariat to organise a back to back workshop with the Council, in collaboration with Japan. The intended audience for this workshop would primarily be scientists and managers, and the workshop should be of relevance to both NAMMCO Parties and Japan. One potential theme suggested for the workshop prior to this discussion was “The role of marine mammals in the ecosystem, both as prey and as a resource.” Desportes invited the Scientific Committee to propose additional themes, should the HoDs decide not to hold the MINTAG end of project workshop back to back to the Council meeting, as that the MINTAG workshop is scheduled for 2028 rather than 2027.

Given that the 2027 Annual Meeting will be held in Tromsø, the SC suggested that a broader local audience might also be interested in learning more about ecosystem interactions and multispecies modelling, both in terms of the current state of scientific knowledge and its implications for management.

The workplan recommended by the SC for 2026 is presented in Table 2, together with a provisional schedule for 2027 and 2028. The proposed workplan is in line with the long-term assessment plan that has also been updated (Table 3).

The 33rd SC meeting will be hosted by Greenland. The precise location and meeting dates (week 3 or 4 in 2027) will be decided shortly.

Table 2. Future workplan recommended by SC/32. Meetings in bold should not be moved to other years. The LWAWG has already met in person in 2026, but may meet again online.

	2026	2027	2028
WG and WS meetings	<ul style="list-style-type: none"> • <i>Large whale Assessment WG</i> • By-catch WG • Abundance Estimates WG • WS on cetacean survey alternatives • JWG NAMMCO-JCNB • Harbour porpoise WG • NAMMCO-IWC WS on minke whale and fin whale (scoping WS) 	<ul style="list-style-type: none"> • Harp and hooded seals WG • Coastal seals WG • WS on age estimation • Walrus WG 	<ul style="list-style-type: none"> • Killer whale assessment • Dolphin WG • NAMMCO-IWC WS on minke whale and fin whale • WS for MINTAG end
Other	<ul style="list-style-type: none"> • MINTAG StG: online and physical meetings • MINTAG: deployment fieldwork and analysis 	<ul style="list-style-type: none"> • MINTAG StG: online and physical meetings • MINTAG: analysis • (maybe) SC-related Council workshop 	
External events	<ul style="list-style-type: none"> • MINTAG StG in SMM workshop on tagging 		

Table 3. Long-term assessment plan for harvested stocks as proposed by SC/30 and updated by SC/32, showing the next three assessment years and recommended assessment frequency for each species. Species subjected to removals but not included in the schedule will be assessed by the SC or are outside the remit of NAMMCO (such as bowhead whales and humpback whales, assessed by the IWC). Completed assessments are given in blue. The original plan can be found in document NAMMCO/SC/32/16.

Species	Frequency (years)	Assessment year		
Walrus	5	2027	2032	2037
Ringed Seal and Bearded Seal	5	2029	2034	2039
Beluga and Narwhal (West Greenland)	5	2026	2031	2036
Narwhal (East Greenland)	3	2027 (SC)	2032	2037
Pilot Whale	5	2025	2030	2035
Dolphins	5	2028	2033	2038
Harbour Porpoise	7	2026	2033	2040
Large Whales (Fin and Minke)	7	2026	2032	2039
Harp and Hooded Seals	2	2025	2027	2029
Coastal Seals	6	2027	2033	2039
Killer Whale	9	2028	2037	2046

17. BUDGET

Desportes presented the anticipated results for 2025, as well as the budget adopted by the Council for 2026, the draft budget for 2027, and the forecast budget for 2028 (see Appendix 4).

The budget and accounting for the NASS/AEWG-related activities and MINTAG projects are kept separate from those of the SC. They are therefore not included in the amounts above.

Therefore, the only WG that was held in 2025 in the remit of SC budget was the Pilot Whale WG. The allocated funding for the SC in 2025 was NOK 215,000, but only NOK 51,999 was used, which left NOK 163,000 not spent.

The budget for the SC in 2026 is NOK 260,000, with 5 WGs and a WS, while the forecast budget for 2027 is NOK 240,000 with two WGs, two WSs, and an extra lump sum.

The SC budgets for 2026, draft budget for 2027, and forecast budget 2028 were adjusted in line with the revised workplan (item 16), and are presented in Appendix 5.

The SC discussed the use of the remaining funds in 2025 and **recommended** that any unspent funds be allocated for the following initiatives:

- Building a centralised NAMMCO data repository. The SC highlighted the need for a centralised data repository for all NAMMCO data (catches, surveys, tagging projects, shapefiles of relevant areas), both raw and processed; this would be accessible to NAMMCO scientists. The SC **proposed** the establishment of a small, dedicated project to design, retrieve, structure, and input data in such a database, including the temporary hiring of staff within the Secretariat to carry out this work.
- Providing travel support for SC members, with the aim of continuing to promote and strengthen scientific collaboration between NAMMCO and Japan. Such support would facilitate participation in joint projects, such as the Northeast Atlantic–Northwest Pacific Ecosystem project among others.

SC/32 Recommendations for data archiving

- Build a centralised NAMMCO data repository for all pertinent data (catches, survey effort and outputs, tagging projects, shapefiles), both raw and processed, that will be accessible to NAMMCO scientists.
- Establish a dedicated project to design, retrieve, structure, and input data to such a database (hiring temporary staff within the Secretariat).

18. OTHER BUSINESS

The SC discussed how to address requests for access to NASS data. It was recalled that at its previous meeting (SC/31), the Committee had noted the need for NAMMCO to provide a common and coordinated response to external data requests related to NAMMCO projects, while also bearing in mind obligations related to open access data. The SC therefore **requested** clearer guidance from the Council on how such requests should be handled, especially in light of the current geopolitical situation. In addition, the SC **recommended** that any external collaborators receiving NAMMCO-related data should be required to return processed datasets in a usable and standardised format (e.g. shapefiles, CSV files). These datasets should be archived centrally at the Secretariat and made available to the Parties as needed.

19. MEETING CLOSE

The Chair, echoed by the SC, thanked the Secretariat for their hard work before and during the meeting, particularly the rapporteurs. She also thanked the Faroe Marine Research Institute for hosting the meeting, and Mikkelsen, Sara De Clerck, and Rúni Akralíð for ensuring that participants had everything they needed.

The SC congratulated Granquist on so capably chairing her first SC meeting. They also thanked Japan for observing, and guest speaker Prof. Bogi Hansen for his informative presentation “Faroese waters in a global perspective”.

20. REVIEW OF THE REPORT

The draft report was accepted at 15:34 on 22 January 2026. Following some editorial changes, the final report was accepted by correspondence on 5 February 2026.

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APPENDIX 2: AGENDA

- 1 Welcome from the Chair & Opening remarks**
- 2 Adoption of agenda**
- 3 Appointment of rapporteurs**
- 4 Review of available documents and reports**
 - 4.1 National and annual progress reports
 - 4.1.1 Updates from Parties
 - 4.1.2 Updates from Observers
 - 4.2 Working group reports
 - 4.3 Other reports and documents
- 5 Updates from Council**
 - 5.1 General comments
 - 5.2 SC Proposals and Recommendations forwarded/not forwarded to Parties
 - 5.3 New Requests to SC
 - 5.4 Endorsed SC workplan
- 6 Multi-species approaches to management and modelling (R-1.2.1)**
- 7 Environmental issues (R-1.5.3)**
- 8 Marine Mammal / Fisheries Interactions**
 - 8.1 Review and status of active requests (R-1.1.5, R-1.1.10)
 - 8.2 By-Catch Working Group
- 9 Monitoring marine mammal stock levels and trends (R-1.7.11)**
 - 9.1 AEWG Reports
 - 9.2 Spatio-temporal modelling Workshop Report
 - 9.3 Plans for Workshop on alternative survey methods for cetaceans
- 10 Seals & Walrus stocks – Status and advice to Council**
 - 10.1 Harp and Hooded seals
 - 10.1.1 Review and status of active requests (R-2.1.4, 2.1.9, 2.1.10, 2.1.12)
 - 10.1.2 WGHARP Report
 - 10.1.3 Updates
 - 10.1.4 Plans for abundance modelling WS
 - 10.2 Harbour and Grey seals
 - 10.2.1 Review and status of active requests (R-2.4.2, R-2.5.2)
 - 10.2.2 Updates
 - 10.2.3 Plans for CSWG meeting
 - 10.3 Bearded seal
 - 10.3.1 Review and status of active requests (R-2.7.1)

- 10.3.2 Updates
- 10.4 Ringed seal
 - 10.4.1 Review and status of active requests (R-2.3.3)
 - 10.4.2 Updates
- 10.5 Walrus
 - 10.5.1 Updates
 - 10.5.2 Plans for Walrus WG

11 Cetacean stocks – Status and advice to Council

- 11.1 Narwhal and Beluga
 - 11.1.1 Review and status of active requests (R-3.4.11, R-3.4.15, R-3.4.16)
 - 11.1.2 Updates
 - 11.1.3 Plans for JWG meeting
- 11.2 Pilot whale (R-3.8.6)
 - 11.2.1 Review and status of active requests (R-3.8.6)
 - 11.2.2 Genetics WG Report
 - 11.2.3 PWWG Report
 - 11.2.4 Updates
- 11.3 Dolphins
 - 11.3.1 Review and status of active requests (R-3.9.6)
 - 11.3.2 Updates
- 11.4 Harbour porpoise (R-3.10.1)
 - 11.4.1 Updates
 - 11.4.2 Plans for HPWG
- 11.5 Northern bottlenose whale – Updates
- 11.6 Beaked whales – Updates
- 11.7 Blue whale – Updates
- 11.8 Bowhead whale – Updates
- 11.9 Common minke whale
 - 11.9.1 LWA WG Report
 - 11.9.2 Updates
- 11.10 Fin whale
 - 11.10.1 LWA WG Report
 - 11.10.2 Updates
- 11.11 Humpback whale – Updates
- 11.12 Killer whale – Updates
- 11.13 Sei whale – Updates
- 11.14 Sperm whale – Updates

12 NAMMCO Scientific Publications

- 12.1 Volume 14
- 12.2 Editorial Board

12.3 Next volumes

13 Work procedures

13.1 Categorising abundance estimates

13.2 Dealing with stalled requests

13.3 RoP amendments

14 Management procedures (R-1.6.8)

14.1 Long-term plan for stock assessments

14.2 Stock status categorisation system

15 Collaborative projects

15.1 MINTAG project

15.2 Collaboration with Japan: Northeast Atlantic–Northwest Pacific Ecosystems

15.3 Other collaborations

16 Interactions with other organisations

16.1 ASCOBANS

16.2 Arctic Council, AMAP, PAME

16.3 ICES

16.4 IWC

16.5 FAO

17 NAMMCO Website: Species pages (R-1.8.3)

17.1 Finalise pending reviews from SC/31

17.2 Review four new pages

18 Future workplans

19 Budget

20 Any other business

21 Review of Report

22 Meeting Close

APPENDIX 3: LIST OF DOCUMENTS

Document Reference	Title	Agenda Item
Working Documents		
SC/32/01a	Draft Agenda	All
SC/32/01b	Draft Annotated Agenda	All
SC/32/02	Draft List of Participants	1
SC/32/03	Draft List of Documents	4
SC/32/04	List of Active and All Requests from Council to SC	5
SC/32/05	Report of the WG on Harp and Hooded Seals	10.1
SC/32/06	Report of the Abundance Estimates WG	9, 11
SC/32/07	Report of the Genetics WG	11.2
SC/32/08	Report of the Pilot Whale WG	11.2
SC/32/09	Report of the Large Whale Assessment WG	11.9, 11.10
SC/32/10a	Report of MINTAG Steering group – preliminary report	15.1
SC/32/10b	Report of MINTAG Steering group – full report	15.1
SC/32/11a	NAMMCO website species pages for review 2025: Harbour porpoise	17.1
SC/32/11b	NAMMCO website species pages for review 2025: Harp seal	17.1
SC/32/11c	NAMMCO website species pages for review 2025: Hooded seal	17.1
SC/32/12	NAMMCO website species pages for review 2026: Sperm whale	17.2
SC/32/13	NAMMCO website species pages for review 2026: Sei whale	17.2
SC/32/14	NAMMCO website species pages for review 2026: Killer whale	17.2
SC/32/15	NAMMCO website species pages for review 2026: Blue whale	17.2
SC/32/16	Long-term assessments and short-term SC workplans	18
SC/32/17	Update on SC Working Group Budget	19
SC/32/18	Proposed amendments to SC Rules of Procedure	13.3
SC/32/19	Report of the Spatial Modelling WS for Cetacean Surveys	9
SC/32/20	Updates from the 32 nd NAMMCO Council Meeting	5

SC/32/21	Status for belugas wintering in West Greenland	11.1
SC/32/22	Status for narwhals in Inglefield Bredning and Melville Bay	11.1
SC/32/23	North Pacific minke whale distribution and feeding ecology – preliminary analysis	15.2
SC/32/24	Feeding frenzies of baleen whales along East Greenland	11.9, 11.10, 11.11
SC/32/25	ICES activities in 2025 pertinent to NAMMCO	16.3
SC/32/26	IWC activities in 2025 pertinent to NAMMCO	16.4
For information documents		
SC/32/FI01	ICES Meeting Etiquette (2022)	All
SC/32/FI02	National Progress Report 2024 – Faroe Islands (NAMMCO/32/NPR/FO-2024)	4.1.1
SC/32/FI03	National Progress Report 2024 – Greenland (NAMMCO/32/NPR/GL-2024)	4.1.1
SC/32/FI04	National Progress Report 2024 – Iceland (NAMMCO/32/NPR/IS-2024)	4.1.1
SC/32/FI05	National Progress Report 2024 – Norway (NAMMCO/32/NPR/NO-2024)	4.1.1
SC/32/FI06a	Small Cetaceans Progress Report 2023 – Japan	4.1.2
SC/32/FI06b	Large Cetaceans Progress Report 2024 – Japan	4.1.2
SC/32/FI07	Report on satellite tracking in 2025 – Japan	4.1.2
SC/32/FI08	MINTAG Report April 2025	15.1
SC/32/FI09	MINTAG Report September 2025	15.1
SC/32/FI10	MINTAG Report November 2025	15.1
SC/32/FI11	MINTAG Report January 2026	15.1
SC/32/FI12	ASCOBANS AC29 Report	16.1
SC/32/FI13	Takahashi et al., 2024 – Geographical distribution of close kin in southern right whales on feeding grounds	11
SC/32/FI14	Lopes et al., 2025 – Population structure and divergence time among East Greenland and West Greenland/Eastern Canadian Arctic narwhals, <i>Monodon monoceros</i>	11.1
SC/32/FI15	Louis et al, 2025 – Impact of tusk anomalies on the long-term foraging ecology of narwhals	11.1
SC/32/FI16	Delbosc et al., 2025 – Development of a conservative automated tonal detector with high performance at a large temporal scale	10.3

SC/32/FI17	Lydersen et al., 2025 – Migration to breeding areas by male sperm whales <i>Physeter macrocephalus</i> from the Northeast Atlantic Arctic	11.14
SC/32/FI18	McCarthy et al., 2025 – Circumpolar population structure, diversity and recent evolutionary history of the bearded seal in relation to past and present icescapes	10.3
SC/32/FI19	Mikkelsen et al., 2025 – Spatial overlap among harbour, ringed and bearded seals in Kongsfjorden, Svalbard, during the post-moulting foraging period	10.2, 10.3, 10.4
SC/32/FI20	Tange Olsen et al., 2025 – Complex origins and history of the relict Fennoscandian ringed seals	10.4
SC/32/FI21	Postel et al., 2025 – Highly pathogenic avian influenza virus (H5N5) detected in an Atlantic walrus (<i>Odobenus rosmarus rosmarus</i>) in the Svalbard Archipelago, Norway, 2023	10.5
SC/32/FI22	Vacquié-Garcia et al. 2025 – Intra-species differences in impacts of climate change: A case study of the hooded seal (<i>Cystophora cristata</i>)	10.1
SC/32/FI23	Wams et al., 2025 – Singers of the high Arctic; Seasonal acoustic presence of bowhead whales (<i>Balaena mysticetus</i>) around Svalbard, Norway	11.8
SC/32/FI24	ICES Advice on by-catch 2025	8
SC/32/FI25	Stock et al., 2025 – By-catch mitigation measures	8
SC/32/FI26	Petitguyot et al., 2025 – European stranding networks as a tool for monitoring marine mammal populations (Part I): towards optimising the functioning of networks	8
SC/32/FI27	Freitas et al., 2025 – Impact of baleen whales on ocean primary production across space and time	11.7, 11.8, 11.9, 11.10, 11.11
SC/32/FI28	Sigurðsson et al., 2025 – Spatiotemporal co-occurrence of whales and capelin on the east Greenland shelf during autumn	11.9, 11.10, 11.11
SC/32/FI29	Chosson et al., 2025 – First record of <i>Ogmogaster antarctica</i> Johnston, 1931 (Trematoda: Notocotylidae) on the edge of the Arctic ocean	11.10
SC/32/FI30	Ruiz-Sagalés et al., 2025 – Multielement stable isotope ratios in the baleen of maternal and fetal fin whales provide evidence for the most recently formed segment of balaenopterid baleen	11.10
SC/32/FI31	Glarou et al., 2025 – Size-specific strategies of sympatric cetaceans to reduce heat loss	11.3, 11.4, 11.7, 11.9, 11.11
SC/32/FI32	Jones et al., 2025 – Ocean basin wide movement patterns of North Atlantic humpback whales	11.11

SC/32/FI33	Førland et al., 2025 – Close-Kin Mark-Recapture without age information: application to southern right whales	11
SC/32/FI34	Igarashi et al., 2024 – Application of DNA methylation-based age estimation to construct an age structure of humpback whales in a newly emerged wintering ground around Hachijojima Island, Tokyo Metropolis, Japan	11.11
SC/32/FI35	JASS-A mid-term review Workshop Report	4.1.2
SC/32/FI36	Konishi et al., 2024 – Annual phenology and migration routes to breeding grounds in western-central North Pacific sei whales	11.13
SC/32/FI37	Olson et al., 2024 – Capture-recapture estimates of Antarctic blue whale abundance and population growth rate	11.7
SC/32/FI38	Report of the 31 st NAMMCO Scientific Committee Meeting (NAMMCO/32/08)	All
SC/32/FI39	De Clerck et al., 2025 – Trans-Atlantic movements of white-sided dolphins	11.3
SC/32/FI40	Planque et al., In Press – From trophic flows to causal effects: marine mammal–fish interactions in the Norwegian and Barents Seas	8
SC/32/FI41	McCarthy et al., 2025 – Meta-population dynamics of decline and recovery in the grey seal	10.2
SC/32/FI42	Ramos i Ríos et al., 2025 – Ringed Seal (<i>Pusa hispida</i>) abundance in Isfjorden, Svalbard, after 20 years of climate change and a concomitant survey hiatus	10.4
SC/32/FI43	Celemín et al., 2025 – Evolution and organisation of MHC II genes in harbour porpoises: insights from long-read cetacean genome assemblies, whole genome re-sequencing and locus-specific genotyping	11.4
SC/32/FI44	Goulet et al., 2025 – Pup Production of Northwest Atlantic Harp Seals, <i>Pagophilus groenlandicus</i> , in 2022	10.1
SC/32/FI45	Hamilton et al., 2024 – Large decline in hooded seal (<i>Cystophora cristata</i>) pup production off of northeastern Newfoundland in 2012 and 2017	11.1
SC/32/FI46	Van de Walle et al., 2025 – Abundance estimate of Northwest Atlantic harp Seals, <i>Pagophilus groenlandicus</i> , and harvest advice for 2025-2029	10.1
SC/32/FI47	Project description: Marine mammals and fisheries in the Nordic Seas	8

APPENDIX 4: UPDATE FROM COUNCIL 32 AND MANAGEMENT COMMITTEES 2025 OF RELEVANCE TO THE SC

GENERAL HIGHLIGHTS

- At the close of the meeting, Aqqalu’s term as SC Chair ended and he handed over the reins to Sandra. A round of virtual applause for them both!
- All SC Proposals and Recommendations were forwarded to the Parties.
- There was strong encouragement from the MCs to scientists to compile all necessary data for the pilot whale and harbour porpoise assessments, and to provide the Secretariat with regular updates.

NEW REQUESTS TO THE SC

- There were two **new requests** to SC—it would be good to start thinking about ways to tackle them already, whether with workshops or adding new Terms of Reference to WGs, etc.:
 - **R-2.5.3:** *To investigate alternatives to traditional crewed aerial and boat-based surveys as methods for estimating coastal seal abundance.*
 - **R-2.1.12:** *To investigate whether and to what extent the coastal hooded seal hunt in East Greenland will be affected if the decline in the Greenland Sea and west Atlantic populations continues.*

SC WORKPLAN 2025–2027

Following extensive discussion around each Party’s needs for management advice and the optimal timing thereof, the workplan shown in Table A was adopted for 2025–2027. Items listed in the same cell could be organised back-to-back, reducing travel costs for participants.

The SC was urged to be “rational” in the way it works so as not to drain the budget. As it’s going to be a rather busy couple of years, the Secretariat needs to get started on planning and organising immediately.

Table A. SC workplan adopted by the Council for the period 2025-2027. Activities in italics were already held. Hollow bullet points denote that the meeting may be moved to a different year or not held at all. Items in bold denote preferably in-person meetings.

	2025	2026	2027	
WG and WS meetings	<ul style="list-style-type: none"> ▪ Abundance Estimates WG ▪ WS on spatial modelling for cetacean surveys 	<ul style="list-style-type: none"> ▪ Large whale Assessment WG ▪ WS on seal modelling ▪ Coastal seals WG 	<ul style="list-style-type: none"> ▪ Walrus WG ▪ Harp and hooded seals WG 	
	<ul style="list-style-type: none"> ▪ WS on alternative cetacean survey methods 	<ul style="list-style-type: none"> ▪ Harbour porpoise WG 	<ul style="list-style-type: none"> ▪ Bearded seals WG 	
	<ul style="list-style-type: none"> ▪ By-catch WG 	<ul style="list-style-type: none"> ▪ By-catch WG 	<ul style="list-style-type: none"> ▪ WS on multispecies models 	
	<ul style="list-style-type: none"> ▪ Pilot whale WG 	<ul style="list-style-type: none"> ○ JWG NAMMCO-JCNB 	<ul style="list-style-type: none"> ▪ WS on age estimation 	
			<ul style="list-style-type: none"> ○ Abundance Estimates WG 	<ul style="list-style-type: none"> ▪ MINTAG end workshop
Other	<ul style="list-style-type: none"> ▪ MINTAG StG: online and physical meetings ▪ MINTAG: deployment fieldwork and analysis 	<ul style="list-style-type: none"> ▪ MINTAG StG: online and physical meetings ▪ MINTAG: deployment fieldwork and analysis 	<ul style="list-style-type: none"> ▪ MINTAG StG: online and physical meetings ▪ MINTAG: analysis • 	
Participation of SC members in external events	<ul style="list-style-type: none"> ▪ <i>North Atlantic Killer Whale WS during V Orca Symposium</i> ▪ ECS pilot whale WS & trans-Atlantic tagging initiative 	<ul style="list-style-type: none"> ▪ MINTAG StG in SMM workshop on tagging 	TBD	

FINANCE ISSUES

Council 32 adopted the following financial recommendations from the FAC:

- That the necessity for physical meetings contra virtual meetings continue to be carefully weighed by committees and subsidiary bodies, both from a financial and an environmental perspective
- Following this line, that the number of in-person working groups and workshops organised by the Scientific Committee continues being limited to four per year
- That the expenses for inviting external experts to meetings organised by the SC be, as a rule, capped at NOK 50,000
- That external funding be sought to cover meetings for which expenses would be higher.

The budget was adopted by Council 32 for the SC is as follows. The anticipated, and close to final, SC results for 2025 can be found in Document SC/32/17.

SCIENTIFIC COMMITTEE	Budget 2025	Anticipated results 2025	Draft budget 2026	Budget 2026	Draft budget 2027
WG By-Catch	Online		Online	Online	
WG Coastal Seals			35,000	35,000	
WG Pilot Whale	80,000	50,000			
JCNB Joint WG	30,000			30,000	
SCWG Ringed Seals					
SCWG Bearded Seals					50,000
SCWG Harbour Porpoise			45,000	45,000	
WG Harp and Hooded Seals &	40,000	50,000			40,000
WG East Greenland Narwhal			Online	Online	
SCWG Large Whale Assessment	65,000		50,000	50,000	
WG Walrus			75,000	50,000	
WG Dolphins					
Genetic WG					
WG Abundance Estimates	Paid by MFA	Paid by MFA	Paid by MFA	Paid by MFA	
Lump sum					50,000
NAMMCO Hosted Workshop(s)		50,000	50,000	50,000	
WSs Age Estimation + Multi-Species Model		50,000			100,000
Total	215,000	200,000	255,000	260,000	240,000

MANAGEMENT COMMITTEES

The MCs reached consensus on all of the SC's

- proposals for conservation and management
- recommendations for new research with implications for the Parties, NAMMCO, or involving shared stocks with non-NAMMCO countries
- proposals for new and modified requests for Advice from the SC

Proposals for conservation and management

All Parties

All species

- Facilitate access to marine mammal density estimates or abundances within the NAMMCO area, in a format suited to the type of risk mapping described in BYCWG report.

Greenland

Dolphins

- *(reiterated from SC/30)* Validate the Greenlandic removals with a special focus on minimising underreporting and estimating struck-and-lost rates, thus facilitating a full assessment of white-beaked dolphins as soon as possible.

Killer whale

- Validate all killer whale catches every year to ensure accuracy of reporting.

Recommendations for scientific research with implications for the Parties or NAMMCO

All Parties

Harbour porpoise

- Focus efforts on collecting the necessary data for a full assessment of harbour porpoise stocks in all NAMMCO areas.

Greenland

Ringed seal

- Determine whether there are isolated ringed seal stocks in different fjord systems.

Narwhal

- *(reiterated from SC/30)* Collect biological samples when available from narwhals in East Greenland, including areas north of Scoresby Sound, to explore genetic connectivity of different stocks.

Iceland and Norway

Coastal seals

- *(reiterated from SC/28 and SC/30)* Improve knowledge on by-catches with data on species, genetics, and age, by collecting jaws from by-caught seals.

NAMMCO

WG/WS meetings

- Hold a discussion or workshop on alternative survey methods for cetaceans, such as drones, acoustics, genetics, and opportunistic surveys.

Non-NAMMCO countries: *Canada*

Bearded seal

- Investigate bearded seal movements between West Greenland and Canada to determine if there is a shared stock between the two areas.

Requests for advice from the Scientific Committee

The following request regarding multispecies management and modelling approaches was considered sufficiently answered by the Management Committees and was closed Council 32.

- ***R-1.2.3 (2022, ongoing but not prioritised)*** *In addressing the standing requests on ecosystem modelling and marine mammal fisheries interaction, to extend the focus to include all areas under NAMMCO jurisdiction.*

Two **new requests** for advice were endorsed by Council 32.

Hooded seal

- ***R-2.1.12:*** *Investigate whether and to what extent the coastal hooded seal hunt in East Greenland will be affected if the decline in the Greenland Sea and west Atlantic populations continues.*

Harbour and grey seals

- ***R-2.5.3:*** *To investigate alternatives to traditional crewed aerial and boat-based surveys as methods for estimating coastal seal abundance.*

APPENDIX 5: PROPOSED ALLOCATION OF FUNDS FOR UPCOMING SC ACTIVITIES

SCIENTIFIC COMMITTEE	Notes	Budget 2025 (CL31)	Reallocation 2025 (CL32)	Accounts 2025	Budget 2026	Anticipated Results 2026	Draft Budget 2027	Anticipated Results 2027	Forecast Budget 2028	Provisional Budget 2029
WG By-Catch		Online			Online	50,000				
WG Coastal Seals					35,000	0		50,000		
WG Pilot Whale		80,000	50,000	51,399						
JCNB Joint WG		30,000			30,000	50,000				
SCWG Ringed Seals										50,000
SCWG Bearded Seals							50,000	0		50,000
SCWG Harbour Porpoise					45,000	50,000				
WG Harp and Hooded Seals		40,000	50,000				20,000	50,000		
WG East Greenland Narwhal					Online					
SCWG Large Whale Assessment		65,000		19,298	50,000	30,702				
WG Walrus					50,000	0		50,000		
WG Dolphins									50,000	
Genetic WG						online		50,000		
Killer Whales									50,000	
Sustainable archiving of NAMMCO data (SAND)	1					165,000				
Lump sum	2					10,000	50,000		100,000	150,000
NAMMCO WS - Age estimation			50,000	0	50,000	50,000	50,000	50,000		
NAMMCO WS - Multi-Species Model			50,000				50,000		50,000	
NAMMCO WS - Seal Modelling							20,000	0		
Total		215,000	200,000	70,697	260,000	405,702	240,000	250,000	250,000	250,000
Difference Results - Budget/reallocation				144,303		-145,702		-10,000		
Paid by external funding (NOMFA)										
				Funding	Used 2025	Remain 2026-2027				
Abundance Estimate of Non-Target Species, and review by the AEWG				600,000	150,415	449,585				
Abundance Estimate Related Ad hoc WGs/WSs	Modelling approach for combined dataset			412,850	149,550	263,300				
	Alternative survey methods									
New activities proposed by SC32										
Postponed activities										
NAMMCO hosted WSs or Ad hoc WGs										
Not attributed yet to a specific activity										

APPENDIX 6 : SC/32 PROPOSALS AND RECOMMENDATIONS

Below are Proposals and Recommendations put forward, endorsed, or reiterated by SC/32, grouped by the category, and then by the Parties or bodies to which they apply.

PROPOSALS CONCERNING REMOVALS

Faroe Islands and Greenland

Pilot whale

The data-based production estimates of the agreed models show that an annual total removal of 1,570 pilot whales across the central and eastern North Atlantic allows the population to increase with 70% probability (the probability level applied in previous NAMMCO assessments). The current removals in all three hunts (average total of 956 animals in Faroe Islands, West and East Greenland, see below) are sustainable.

In relation to sustainability and to reduce the risk of local depletion, the WG recommends allocating future removals among the three hunting areas of West Greenland, East Greenland, and the Faroe Islands according to the average annual removals of the hunts during the last 10 years (i.e., from 2016 to 2025 for the Faroe Islands, and from 2015 to 2024 for Greenland). These average estimates are 679 for the Faroe Islands, 197 for West Greenland, and 80 for East Greenland (72 landed plus 10% struck and lost). With the overall summed annual removal being 956 animals, this implies a ratio of $1570/956 = 1.6$ between the estimated maximum sustainable removals and the current takes in each area.

Owing to the opportunistic nature of all three hunts, the advice is best implemented as a five-year limit that should not exceed $5 \times 1.6 \times 679 = 5432$ removals over five years in the Faroe Islands, $5 \times 1.6 \times 197 = 1576$ removals over five years in West Greenland, and $5 \times 1.6 \times 80 = 640$ removals over five years in East Greenland (corresponding to 1576 and 576 landings for West and East Greenland, respectively). These recommendations assume no by-catch in the central and eastern North Atlantic. The advice should be reconsidered by the Scientific Committee, ideally within five years and no later than 10 years in the absence of new information.

Greenland

Narwhal

- (reiterated from SC/28 to SC/30) Zero catches of narwhals in all three East Greenland Management Areas.

Beluga

- (reiterated from SC/31) Zero catches of belugas in East Greenland.

Iceland

These catch limits were obtained by applying the *CLA* based on the abundance time series (minus the preliminary NASS 2024 estimate), and incorporating the RMP phase out rule. In the absence of updated advice, the current advice can continue to be extended following the 20% phase-out per year.

Minke whale

Treating CIC as the appropriate *Small Area*, the recommended catch limits for 2026 are 134 whales (tuning level 0.6) or 86 whales (tuning level 0.72). These are recommended as interim catch limits until the NASS 2024 abundance estimates are finalised and incorporated into a full recalculation using the *CLA*.

Fin whale

Both V3 and the sum of V7-WI and V7-EI/F yielded the same total catches:

- V3 catch limits 150 (0.6 tuning); 90 (0.72 tuning)

- V7 catch limits WI 116 EI/F 34 (0.6 tuning); WI 70 EI/F 21 (0.72 tuning).

The SC **recommends** either of these interim catch limits for 2026 until the NASS 2024 abundance estimates are finalised and incorporated into a full recalculation using the *CLA*.

PROPOSALS FOR CONSERVATION AND MANAGEMENT

All Parties

Fin and minke whale

- Analyses of existing and new material with respect to age, sex, reproductive status, and health be undertaken by 2028, to assist in the *Implementation Review* process.
- The SC notes the difficulty in obtaining reliable data on by-catches and vessel strikes and **encourages** further efforts to investigate this prior to the next large whale assessment. The Parties should implement systematic data collection and reporting schemes.
- NAMMCO Parties should prioritise the allocation of funds in support of coordinated efforts to place cetacean observers on fishery vessels on an annual basis.

Pilot whale

- A survey to provide new information on abundance should be conducted within the next 10 years.
- More telemetry data should be collected from the Faroe Islands and additional areas across the North Atlantic to provide more representative geographical coverage. Tagging should aim to provide a more representative coverage of the whole year.

Norway & Iceland

Coastal seals

- (*reiterated from SC/28, SC/30, and SC/31*) Improve knowledge on by-catches with proper species identification, and data on genetics and age, by collecting jaws from by-caught seals.

Faroe Islands

Pilot whale

- Sampling and ageing of pilot whales should be conducted to provide a representative sample of the entire catch.

Greenland

Pilot whale

- Undertake sampling for biological parameters from the drive hunts in West Greenland.
- Collect and analyse more genetic samples from West Greenland.
- Collect samples and conduct analyses to better inform stock definition in East and West Greenland (e.g., long-term telemetry, stable isotopes, contaminant levels).

Walrus

- (*reiterated from SC/30*) continue using the existing management advice from 2018 until updated advice becomes available.

Iceland

Pilot whale

- Age existing tooth samples and collect data to inform biological parameters whenever possible.

RECOMMENDATIONS WITH IMPLICATIONS FOR THE PARTIES OR NAMMCO

All Parties

- Model-based analysis of all NASS datasets should be conducted, with the relevant scientists of each Party coordinating efforts pertaining to trends analyses.

Pilot whale

- *(Reiterated from the WG on Genetics 2024)* Initiate a dedicated genetic monitoring programme based on archival and newly collected samples from harvested groups in Greenland and the Faroe Islands, as well as in mass stranding events wherever they occur, to determine:
 - i. family groupings and social structure,
 - ii. putative population of origin,
 - iii. the influence of removing entire family units during pilot whale hunts, for instance in terms of genetic diversity, inbreeding levels, mutation load, and standing genetic variation.
- Review and standardise the techniques used for ageing and obtaining reproductive parameters and determine whether there may be a common methodological bias in existing data.
- Collect information on body condition (e.g., blubber thickness) to monitor the effects of environmental changes.

Fin and minke whale

- Recognising the commonalities in the work of both the IWC and NAMMCO Scientific Committees, NAMMCO should approach the IWC with a view to holding a joint workshop on common minke whale and fin whale population structure and movements some time in 2028 and hold a small scoping workshop in 2026 that discusses available data, analyses, and a workplan to ensure that the necessary information is available for the 2028 joint workshop.

Greenland

- *(reiterated from SC/31)* Determine whether there are isolated ringed seal stocks in different fjord systems.

NAMMCO

- Build a centralised NAMMCO data repository for all pertinent data (catches, survey effort and outputs, tagging projects, shapefiles), both raw and processed, that will be accessible to NAMMCO scientists.
- Establish a dedicated project to design, retrieve, structure, and input data to such a database (hiring temporary staff within the Secretariat).
- Provide travel support for SC members, with the aim of continuing to promote and strengthen scientific collaboration between NAMMCO and Japan. Such support would facilitate participation in joint projects, such as the Northeast Atlantic–Northwest Pacific Ecosystem project, among others.

RECOMMENDATIONS INVOLVING SHARED STOCKS WITH NON-NAMMCO COUNTRIES

None.

RECOMMENDATIONS FOR RESEARCH TO SCIENTISTS

Recommendations for future ship-based surveys

- Development of rapid, automated duplicate identification methods;

- Standardised data input, cleanup protocols, and formats between countries; this should include a data validation protocol (and software if needed). Equipment, such as that for GPS logging and the app developed by Iceland for NASS 2024 should be standardised to ensure consistency in collected data;
- Early and frequent communication, especially in the case of co-platform surveys, to ensure that the minimum requirements are met to obtain a robust estimate;
- Ensuring that protocols are thoroughly understood by both cruise leaders and observers, and plans are already in place in case of unexpected scenarios (e.g., ice cover, observer illness); this could be achieved by having a pilot survey and/or pre-survey meeting involving cruise leaders and available observers.
- Plans regarding the data analysis must be in place before the survey itself. This includes determining the personnel and time required to complete analyses and allocating funding a priori if necessary.
- At a reasonably short time after the survey is completed (e.g., 3 or 4 months), the data handlers and analysts should confer (via correspondence or meetings) to agree that the data have been appropriately handled and formatted, and that the initial analysis is progressing correctly.
- Strict adherence to document submission deadlines is necessary to optimise meeting productivity.

RECOMMENDATIONS PERTAINING TO STOCKS OUTSIDE THE REMIT OF NAMMCO

None.

PROCEDURAL RECOMMENDATIONS

To Secretariat/SC

- Strengthen promotion of the journal in relevant venues and networks.
- Include Japanese marine mammal scientists in the NSP Editorial Board.
- Future consideration should be given to revising the guidelines for large whale assessments in light of the suggestions to improve the process given by the LWA WG.
- Data used in assessments and analyses (e.g., shapefiles, spreadsheets) should be submitted to and archived by the Secretariat.
- Any external collaborators receiving NAMMCO-related data should be required to return processed datasets in a usable and standardised format. These datasets should be archived centrally at the Secretariat and made available to the Parties as needed.

To AEWG

- Provide concrete protocols for standardised data collection and validation well ahead of the next survey, to avoid delays occurring in future
- Provide advice on appropriate methods of allocating abundance estimates from survey blocks to management areas, for the purposes of stock assessments.
- Noting that several total abundance estimates had much lower CVs than the estimates for individual survey blocks, to reexamine the CV values associated with fin and minke whale abundance estimates calculated from NASS 2024 (including aerial component) and older surveys, if needed.
- Any remarks on abundance estimates should be descriptive (as is currently done in NAMMCO) and clearly summarised in the reports.

To CSWG

- Review the coming Norwegian and Icelandic coastal seal management plans.

To Genetics WG

- Prepare a review of grey and harbour seal genetics for the CSWG.