

## SUMMARY OF REQUESTS BY NAMMCO COUNCIL TO THE SC, AND RESPONSES BY THE SC

Last updated after SC24 and Council 26 - GD 130718

This table provides the list of requests by the NAMMCO Council to the Scientific Committee (SC), and the response of the SC to these requests.

Codes beginning with: 1 – relevant to all Management Committees; 2 – relevant to seals and walrus; 3 – relevant to cetaceans.				
Green boxes contain new requests.				
Grey boxes are completed / outdated requests				
Code	Council Meeting	Request to SC	Response of the SC (in parenthesis SC meeting)	Status
<b>1 ALL MCs // GENERAL &amp; ALL MARINE MAMMALS</b>				
<b>1.1.0 MARINE MAMMAL – FISHERIES INTERACTIONS:</b>				
1.1.1	NAMMCO/01 09-1992	To provide an overview of the current state of knowledge of the dependence of marine mammals on the fish and shrimp stocks and the interrelations between these compartments.		Replaced by 1.1.3
1.1.2	NAMMCO/01 09-1992	In the multispecies context ... to address specific questions related to the Davis Strait ecosystem such as:  - the apparent increase in harp seal stocks; - its influence on the economically important shrimp and cod stocks; - the impact of the fisheries on marine mammals, particularly harp seals; - the southward shift of minke whale distribution in recent years, and - observed changes in oceanographical conditions after the 1970s; - and to the East Greenland-Iceland-Jan Mayen area interactions between capelin stocks, fishery and marine mammals.	Questions related to harp and hooded seals were forwarded to the ICES/NAFO Joint WG on Harp and Hooded Seals. Specific questions related to the Davis Strait ecosystem were not addressed. (SC/2, 1993)	Outdated (SC/21, 2014)
1.1.3	NAMMCO/02 01-1993	To assess the impact of marine mammals on the marine ecosystem, with special emphasis on the availability of economically important fish species.		Replaced by 1.1.5 (SC/21, 2014)
1.1.4	NAMMCO/06 05 1996	To focus its attention on the food consumption of three predators in the North Atlantic: the minke whale, the harp seal and the hooded seal, with a particular emphasis on the study of the potential implications for commercially important fish stocks.	SC/7 established a WG on the Role of Minke Whales, Harp Seals and Hooded Seals in the North Atlantic. The SC used the report of this WG to provide advice to Council, and to recommend further research. (SC/5, 1997) Many of the papers presented have been published in Volume 2 of NAMMCO Scientific Publications. (SC/7, 1999)	Completed
1.1.5	NAMMCO/07 05-1997	To periodically review and update available knowledge related to the understanding of interactions between marine mammals and commercially exploited marine resources.	SC/21 recommends this request remains as standing request and also takes the place of R-1.1.3. (SC/21, 2014)	Standing

1.1.6	NAMMCO/16 02-2007	To review the results of the Icelandic programme on the feeding ecology of minke whales and multi-species modelling as soon as these become available.	SC/15 considered that new development in ecosystem modelling warranted a new meeting of the WG on Marine Mammal Fishery Interactions. The WG would then be in charge of reviewing the results from the Icelandic Programme and advances in Ecosystem Modelling. The SC recommended that the WG expands its terms of reference to include all areas under NAMMCO jurisdiction and investigate dynamic changes in spatial distribution due to ecosystem changes and functional responses. (SC/15, 2008)	Completed (2013)
			SC/16 forwarded this task to the WG on Marine Mammal Fisheries Interaction (MMFI) convened in 2009. Only preliminary results were presented and it was still too early to undertake a general review of the results. (SC/16, 2009)  Vikingsson presented a short overview of the results from the Icelandic common minke whale research program conducted according to the Special Permit rules of the IWC. These results had been presented and reviewed at an Expert Panel workshop held in Reykjavik. The SC notes ... that the quality of the research will be further determined through the peer-review publication process. The SC also acknowledged that the IWC review is set according to guidelines set by the IWC for the reviewers — for example, reviewers focused on whether this research can be done using non-lethal means, and how these data can be used in assessments. These are not necessarily same criteria that NAMMCO might use.	
	NAMMCO/22 02-2014	The SC does not need to do any further review of the Icelandic minke whale program in addition to the work already completed by the IWC Expert Panel.	SC/20 draws the attention of the MC to the results from the IWC Expert Panel review process and the abovementioned papers and reports detailing the results from the program. The SC awaits guidance from the council concerning potential further review of the results within NAMMCO. (SC/20, 2013)	
1.1.7	NAMMCO/16 02-2007	To take into consideration the drafted text (NAMMCO/16/6) provided by the former By-catch WG in formulating how to handle by-catch issues in the future.	SC/15 recommended the organization of a workshop to review the use and applicability of the by-catch monitoring systems in use in different organizations, and suggested to seek contact with other organizations dealing with by-catch monitoring in view of initiating collaboration on this matter (SC/15, 2008).	Completed (2010)
			Steps were taken towards the organisation of the workshop. (SC/16, 2009)	
1.1.8	NAMMCO/17 09-2008	In addressing the standing requests on ecosystem modelling and marine mammal fisheries interaction, to extend the focus to include all areas under NAMMCO jurisdiction. In the light of the distributional shifts seen under T-NASS 2007, the SC should investigate dynamic changes in spatial distribution due to ecosystem changes and functional responses. See also 1.1.6 and 1.4.6.	The SC convened in 2009 the WG on Marine Mammal Fisheries Interaction (MMFI) because it judged at its last meeting that the developments in modelling and other progress which had occurred in Norway, Canada and Japan warranted their review. SC has reviewed progress made in all areas and for all species. (SC/16, 2009)	Ongoing
			This request should be kept as ongoing until the results expected from Iceland are presented in the SC. (SC/21, 2014)	

<b>1.2.0</b>	<b>MULTISPECIES APPROACHES TO MANAGEMENT:</b>			
<b>1.2.1</b>	NAMMCO/01 09-1992	To consider whether multispecies models for management purposes can be established for the North Atlantic ecosystems and whether such models could include the marine mammals 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. See related request (R 1.4.7)	Vikingsson updated the SC on the Ecosystem Modelling project for which funding was being sought. The initial NAMMCO research program has developed into a much broader project with modelling at the core, including more general fisheries management considerations and a socioeconomic component. The project has now been funded for 6 million Euros for the next 4 years. The funded project has been adapted for the call for research proposals from the EU, and now includes 29 institutes from 16 countries. It still contains parts of the original marine mammal components. Iceland is still a core area, and the project has been expanded to include many other areas, however multispecies modelling in the Barents Sea has been removed. The SC noted that the original NAMMCO project (coordinated by Lars Walløe) has been changed but the Icelandic component is still included. (SC/20, 2013)  A large-scale ecosystem modelling project (MAREFRAME) is underway, which includes marine mammals in Icelandic and adjacent waters. (SC/21, 2014) B13 See R-1.4.7 (SC/22, 2015)	Ongoing
<b>1.2.2</b>	NAMMCO/05 02-1995	In relation to the importance of the further development of multispecies approaches to the management of marine resources, to monitor stock levels and trends in stocks of all marine mammals in the North Atlantic.	It was clarified that the purpose of this request was to ensure that data on marine mammals was available for input into multi-species models for management. The Committee agreed that updated information on abundance and indications of trends in abundance of stocks of marine mammals in the North Atlantic should be clearly described in a new document for the internal reference of the Council, to replace the List of Priority Species. This document would be entitled Status of Marine Mammals in the North Atlantic and should include those cetacean and pinniped species already contained in the List of Priority Species, as well as other common cetacean species in the NAMMCO area for which distribution and abundance data is also available (fin, sei, humpback, blue, and sperm whales). (SC/5, 1997)	Standing
<b>1.3.0</b>	<b>SEALWORM INFESTATION:</b>			
<b>1.3.1</b>	NAMMCO/06 05-1996	Aware that the population dynamics of the sealworm ( <i>Pseudoterranova decipiens</i> ) may be influenced by sea temperature, bathymetry, invertebrate and fish fauna, to review the current state of knowledge with respect to sealworm infestation and to consider the need for comparative studies in the western, central and eastern North Atlantic coastal areas, taking into account the priority topics recommended by the SC and its ad hoc WG on grey seals.	The SC established a WG on Sealworm Infection to address this question. The SC used their report as the basis for providing advice to Council, and developing recommendations for further research. (SC/5, 1997) Many of the papers considered by the WG are published in NAMMCO Scientific Publications Vol. 3, Sealworms in the North Atlantic: Ecology and population dynamics. (SC/7, 1999)	Completed

1.4.0	ECONOMIC ASPECTS OF MARINE MAMMAL-FISHERIES INTERACTIONS:			
1.4.1	NAMMCO/07 05-1997	To pay special attention to studies related to competition and the economic aspects of marine mammal-fisheries interactions.	The SC established a WG on Economic Aspects of Marine Mammal-Fisheries Interactions. The SC concluded that inclusion of economic considerations is a valuable addition to multispecies models of interactions between marine mammals and fisheries. The work presented at the WG was considered the first step towards more complete analyses of these interactions and it was recommended, in light of the economic impacts, that more complete models should be developed and presented. The SC showed a continued interest in the development of the models and it was decided to maintain the WG and seek further guidance from the Council on matters of particular interest. (SC/6, 1998)	Outdated (SC21)
1.4.2	NAMMCO/08 09-1998	<p>To investigate the following economic aspects of marine mammal – fisheries interactions:</p> <ul style="list-style-type: none"> <li>- to identify the most important sources of uncertainty and gaps in knowledge with respect to the economic evaluation of harvesting marine mammals in the different areas;</li> <li>- to advise on research required to fill such gaps both in terms of refinement of ecological and economical models and collection of basic biological and economical data required as input parameters for the models;</li> <li>- to advise on research required to fill such gaps both in terms of refinement of ecological and economical models and collection of basic biological and economical data required as input parameters for the models;</li> <li>- to discuss specific cases where the state of knowledge may allow quantification of the economic aspects of marine mammal/fisheries interactions:</li> </ul> <p>a) what could be the economic consequences of a total stop in harp seal exploitation versus different levels of continued sustainable harvest?</p> <p>b) what could be the economic consequences of different levels of sustainable harvest vs. no exploitation of minke whales?</p>	<p>The WG On The Economic Aspects Of Marine Mammal - Fisheries Interactions was reactivated to meet this request. It was agreed to separate the request into two sections. At the first WG meeting the first two items in the request were addressed. The WG used available information to derive estimates of consumption of cod, herring, capelin and shrimp by harp seals, minke whales and Lagenorhynchus spp. and bottlenose dolphins in some areas. Multispecies models presently in use or under development in Norway and Iceland offer a means of assessing the impact of marine mammal predation on fish stocks. The SC therefore recommended that the next logical step in addressing the request should be for NAMMCO to lead or assist in the development of a multispecies-economic model for a candidate area. However, the SC reiterated that the estimation and model uncertainties are such that definitive quantification of the economic aspects of marine mammal-fisheries interactions in candidate areas cannot be expected in the near term. (SC/8, 2000)</p> <hr/> <p>See under 1.1.6. (SC/15, 2008)</p>	Outdated (SC21)
1.4.3	NAMMCO/10 09-2000	Noting the requests for advice from NAMMCO/08 (see Annual Report 1998 page 23), to continue the assessment of the economic aspects of fishery - marine mammal interactions in the two areas (Barents Sea and Iceland) and with the two species (minke whales and harp seals) that have been identified as feasible for this assessment.	SC/09 convened a workshop, under the theme "Marine mammals: From feeding behaviour or stomach contents to annual consumption – what are the main uncertainties?", to further investigate the methodological and analytical problems in estimating consumption by marine mammals. (SC/9, 2001)	Outdated (SC21)
1.4.4	Can't find a reference to a request with this code - Prewitt May 2014			
1.4.5	NAMMCO/11 02-2002	To hold a workshop on ecosystem models aiming for a better understanding of the ecological role of minke whales and harp and hooded seals in the North Atlantic, as proposed in the SC report, as the SC concluded that the estimation and model uncertainties are such that the economic aspects of marine mammal-fishery interactions in candidate areas cannot be quantified without further work	<p>The SC convened a workshop, under the theme "Modelling Marine Mammal – Fisheries Interactions in the North Atlantic", to investigate how presently available ecosystem models can be adapted for quantifying marine mammal - fishery interactions. (SC/10, 2002)</p> <hr/> <p>See under 1.1.6. (SC/15, 2008)</p>	Outdated (SC21)

1.4.6	NAMMCO/12 03-2003	To monitor progress made in multispecies modelling and in the collection of input data and decide when enough progress has been made to warrant further efforts in this area. Future meetings should focus on assessing modelling results from the Scenario Barents Sea model and possibly the GADGET-based template models for other areas, if they are developed. The SC should also consider the feasibility of connecting the multi-species models with simple economic models at that time.	<p>The SC convened in 2009 the WG on Marine Mammal Fisheries Interaction (MMFI) because it judged at its last meeting that the developments in modelling and other progress which had occurred in Norway, Canada and Japan warranted their review.</p> <p>The degree of progress in the quantitative description of marine mammal diets is in general not extensive and a considerable amount of work still remains. Some new approaches to estimating diet appear promising but still required verification.</p> <p>Multi-species modelling is a valid approach for a better understanding of the ecological relations between species. However, the multi-species modelling required in order to address management questions is quite complex and the current multi-species models are not, at this time, sufficient to provide quantitative management advice, which is presently provided. Additional research is required in order to develop ecosystem models to a point where it may become possible, although with no guarantee, to use them to provide quantitative management advice.</p> <p>Therefore the SC recommends, as the best way forward, carrying out the modelling exercise suggested by the WG on MMFI for comparing the results of different models on the same ecosystem(s) using a common dataset. (SC/16, 2009)</p> <p>See 1.2.1</p>	Outdated (SC21)
1.4.7	NAMMCO/23 02- 2015	To review the results of the MAREFARAME ecosystem management project when these become available. In particular, the results should be reviewed with respect to the ongoing and standing requests on marine mammal interactions (R1.1.0) and multispecies approaches to management (R 1.2.0)	<p>The MAREFRAME project is scheduled to be concluded in 2017, after which the SC will review the result as requested by the Council (SC/22, 2015).</p> <p>The SC expressed interest in the potential of developing the modelling effort from the Icelandic case study further by extending the study to the Barents Sea ecosystem. (SC/24, 2017)</p>	Ongoing

<b>1.5.0</b>	<b>ENVIRONMENTAL ISSUES:</b>			
<b>1.5.1</b>	NAMMCO/01 09-1992	To describe the possible pathways of radioactive material from blowouts and leakage in existing nuclear power plants, leakage from dumped material and possible accidents in planned recycling plants in the northern part of Scotland into the food web of the North Atlantic and hence into the top predators like marine mammals.	Forwarded to ICES.	Pending
<b>1.5.2</b>	NAMMCO/01 09-1992	To review the contaminant burden (especially organochlorines) in marine mammals in the North Atlantic and evaluate the possible sources of these contaminants.	No response from the SC. In 1995, NAMMCO hosted the International Conference on Marine Mammals and the Marine Environment. The Conference covered the following themes: Marine mammals and the marine environment-impacts and management approaches; Contaminants in marine mammals – sources, levels and effects; Coastal communities and marine pollution – social, economic and health considerations; Addressing the questions – problems and future needs. The proceedings were published as a special issue of The Science of the Total Environment (186, 1, 2)	Completed
<b>1.5.3</b>	NAMMCO/24 04-2016	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.	SC/24 recommended that the issues regarding belugas and narwhals be discussed further at the JCNB-NAMMCO JWG... [additionally] the JWG meetings routinely include information sharing between Canada and Greenland on new human activities that are occurring in either country that could affect narwhals and belugas. (SC/24, 2017)	Ongoing
<b>1.5.4</b>	NAMMCO/25 03-2017	Committed to furthering its ecosystem approach to the management of marine mammals, and recognising the range of anthropogenic pressures facing North Atlantic marine mammals associated with the climate and environmental changes taking place, the Council requests the SC to advise on the best process to investigate the effects of non-hunting related anthropogenic stressors on marine mammal populations, including the cumulative impacts of global warming, by-catch, pollution and disturbance.	SC/24 recommended that upcoming/future WGs consider request R-1.5.4, for example by adding non-hunting impacts to their agendas. (SC/24, 2017)	Ongoing

1.6.0	<b>MANAGEMENT PROCEDURES:</b>			
1.6.1	NAMMCO/02 01-1993	To review the basis for, and develop assessments necessary to provide the scientific foundation for conservation and management of the stocks relevant for management under NAMMCO.	SC/2 established a WG on Management Procedures to consider this matter. SC/2 noted that there were many different management needs requiring different management procedures. It was agreed that there was need for more guidance on management objectives before any concrete work can be started on developing appropriate management procedures, and in turn this was likely to be case- (species and/or area) specific. Related to this it was also noted that NAMMCO may prefer to assume an advisory and evaluative role in developing its management. (SC/2, 1993)	Completed
1.6.2	NAMMCO/04 02-1994	To further develop RMP-like procedures.	SC/3 decided to develop management procedures on a case-by-case basis: "a more pragmatic approach on an area and species/case-specific basis would be desirable for the development of specific management procedures. It was therefore decided to suggest that requests for advice from the Council be accompanied by specific objectives defined for the case in question".(SC/3, 1995)	Completed
1.6.3	NAMMCO/17 09-2008	To study general models for conservation and management of baleen whales, inter alia based on Norwegian studies presented to the SC of the IWC (in 2008).	SC/16 strongly recommended using an "RMP implementation simulation process (IST)-like approach" as a general model for conservation and management of baleen whales in NAMMCO, but advising that implementation will have cost implications. (SC/16, 2009)	Completed
1.6.4	NAMMCO/24 03-2016	<b>[SC and CHM are requested]</b> to provide advice on the best methods for collection of the desired statistics on losses, as SC recommended that catch statistics include correction for struck but lost animals for different seasons, areas, and catch operations.		NEW
1.6.5	NAMMCO/25 03-2017	Struck and loss rates should be subtracted from future advice on sustainable removals in Greenland, with the advice being given as total allowable landings.		NEW// Standing
1.6.6	NAMMCO/26 03-2018	To conduct a review of the management procedures used by the Committee for generating management advice (RMP, AWMP, Bayesian assessment, Hitter Fitter, etc). The Committee should advise on which procedure is the most suitable for each species (or category of species) with the data that is currently available, while also meeting the management principles of NAMMCO. The Committee should further advise where additional data could allow for more suitable management procedure(s) to be implemented.		NEW

1.7.0	MONITORING MARINE MAMMAL STOCK LEVELS AND TRENDS IN STOCKS /NORTH ATLANTIC SIGHTINGS SURVEYS (NASS):			
1.7.1	NAMMCO/03 07-1993	To plan joint cetacean sighting surveys in the North Atlantic by co-ordinating national research programmes.	SC/2 agreed to establish a WG to plan the sighting survey for the summer of 1995. (SC/2, 1993).	Completed
1.7.2	NAMMCO/05 02-1995	To review results in the light of recent assessments of North Atlantic whale stocks, as the 1995 North Atlantic Sightings Survey (NASS-95) would provide updated abundance estimates for a number of whale species in the North Atlantic, and the SC is requested	SC/4 agreed to establish a WG on Abundance Estimates. The task of the WG would be to review analyses and where relevant also analyse data from NASS-95 to ensure its compatibility, both between NASS-95 survey areas, as well as with data from other sightings surveys, in order to provide a basis for calculating abundance estimates for the relevant cetacean stocks in the North Atlantic. (SC/4, 1996).	Completed
1.7.3	NAMMCO/06 05-1996	<p>The successful completion of the North Atlantic Sightings Survey in 1995 was noted, and the process initiated by the SC to conclude the analysis of NASS-95 data commended. Results on abundance are expected to be dealt with by the newly established SC WG on Abundance Estimates and be presented at the next annual meeting. The WG would at least to some extent address last year's request from the Council regarding monitoring of stock levels and trends in stocks. However, it was also noted that one outstanding matter from last year is the request to the SC to review results of NASS-95 in the light of recent assessments of North Atlantic whale stocks.</p> <p>Council draw attention of the SC to secure a follow-up to last year's request.</p>	To address this request, a WG on Abundance Estimates had been established with the task of reviewing the analyses, and where relevant, also to analyse data from NASS-95 to provide a basis for calculating abundance estimates for the relevant cetacean stocks in the North Atlantic. The WG focused on describing synoptic distributions of the cetacean species encountered during NASS-95, and abundance estimates for minke, fin, sei and pilot whales, which were the target species of the survey. SC/5 concluded that the updated abundance estimates for the target species as reviewed by the WG on Abundance Estimates represented the best available estimates for the stocks concerned, and used them as a basis to provide advice to Council. The SC/5 also recommended that the results of NASS-95 be compiled to a future volume of NAMMCO Scientific Publications (SC/5, 1997).	Completed
1.7.4	NAMMCO/07 05-1997	To continue its work to monitor stock levels and trends in all stocks of marine mammals in the North Atlantic in accordance with previous recommendations (see NAMMCO Annual Report 1996:131-132). In this context the SC was encouraged to prioritise calculation of the abundance of species covered by NASS-95, in particular those species presently harvested and species considered to be important with respect to interactions with fisheries.		Completed
1.7.5	NAMMCO/09 10-1999	To complete abundance estimates for all species, as part of its efforts to monitor the abundance of all species in the North Atlantic, as the abundance estimates from NASS-95 have not been completed for some species.	<p>SC/8 noted that abundance estimates for the main target species of NASS-95 (minke whale, fin whale, sei whale, pilot whale) had been completed and accepted by them, however most had not yet been published in the primary scientific literature. SC/8 agreed that further analyses of the abundance of non-target species from the NASS-95 survey should be conducted if they are warranted. However, as the survey was not optimised for these species, it was recognised that the design and conduct of the survey would make this possible to a varying degree, depending on both the species and area in question. In some cases, a general description of the spatial distribution of sightings may be the only analysis warranted. SC/8 agreed to pursue these analyses in the coming year. (SC/8, 2000)</p> <p>SC/9 considered new information on the NASS-95 Icelandic aerial and shipboard surveys for minke whales, and a new abundance estimate for humpback whales from the NASS-95 Icelandic shipboard survey. (SC/9, 2001).</p>	Completed
1.7.6	NAMMCO/09 10-1999	To continue its efforts to coordinate future sightings surveys and analyses of the results from such surveys in the North Atlantic. Priority species should be minke whales and fin whales, and it was <b>recommended</b> that that the survey design be optimized for these species. The survey should also be optimized to cover those areas where abundance estimates are most urgently required.	The WG on Abundance Estimates met in November 2000 to plan for NASS-2001. The survey was conducted in June/July 2001. (SC/9, 2001).	Completed
1.7.7	NAMMCO/11 02-2002	To develop as soon as feasible the remaining abundance estimates from the NASS-95 and new estimates from the NASS-2001 surveys, with the target species of the surveys being of highest priority. It is emphasised that this work should be published in a timely manner.	<p>The WG on Abundance Estimates met in March 2002 and developed preliminary abundance estimates for fin whales, minke whales, humpback whales, sperm whales and dolphins. In addition a full evaluation of the 2001 survey was conducted, and recommendations for future surveys were made. (SC/10, 2002)</p> <p>The SC has now completed estimates for most species for which estimates are feasible. A new volume of NAMMCO Scientific Publications is presently in progress which will integrate results from all NASS. (SC/11, 2003).</p>	Completed
1.7.8	NAMMCO/14 03-2004	To co-ordinate the efforts of member countries in planning and conducting a large-scale sightings survey in 2006. In order to ensure as broad a coverage as possible, this should include co-ordination with planned surveys by non-member countries, and inviting other jurisdictions, particularly in the Western Atlantic, to participate in the surveys.	<p>After consultations with various other jurisdictions, the SC recommended that 2007 would be the optimal year to carry out the next NASS. (SC/12, 2004)</p> <p>See under 1.7.10. (SC/15, 2008)</p>	Completed



1.7.9	NAMMCO/14 03-2005	To continue the efforts to expand the NASS to include involvement from countries in the Western and Eastern Atlantic should be continued. For various reasons, 2007 will be the optimal year to carry out the next NASS, rather than 2006 as originally planned.	<p>The SC concluded that there is a perhaps unique opportunity to conduct a very wide ranging synoptic cetacean survey, covering areas of the eastern and western Atlantic that have never been covered simultaneously in previous surveys. The Committee <b>strongly recommended</b> that the Council and individual member countries encourage other jurisdictions to become involved in the NASS project for 2007.</p> <p>To take advantage of this opportunity, it was decided to establish a steering group to begin planning NASS and its coordination with other surveys. It is anticipated that a planning meeting, involving participation from all relevant jurisdictions, should be held sometime in 2006 (SC/13, 2005).</p> <p>Two meetings were held in 2006 to plan the Trans NASS (TNASS), including its coordination with US and European surveys and the use of platforms of opportunity in adjacent areas (SC/14, 2006)</p> <p>See under 1.7.10. (SC/15, 2008).</p>	Completed
1.7.10	NAMMCO/16 02-2007	To continue their diligent planning of T-NASS, taking care to ensure that the coverage of the survey and the methodology would be adequate for obtaining reliable data for the main target species - fin, minke and pilot whales - while accommodating at the same time the need for estimates for the harbour porpoise.	<p>The SC convened 3 meetings of the WG on T-NASS to insure a smooth planning of the meeting (April 2007) and a general evaluation of the survey (Nov. 2007 and April 2008). The SC concluded that coordination of surveys under the T-NASS banner had been successful and productive and will allowed reliable estimate for the target species. (SC/15, 2008)</p> <p>The modifications implemented in the Icelandic coastal aerial survey for encompassing harbour porpoises had been successful and will lead to the first reliable harbour porpoise abundance in this area. (SC/15, 2008)</p>	Completed
1.7.11	NAMMCO/16 02-2007	To develop estimates of abundance and trends as soon as possible once the survey has been completed, with the primary target species (fin, minke and pilot whales) as a first priority, and secondary target species as a second priority.	<p>This request is being addressed with the near completion of most of the analyses of T-NASS minke whale survey data. Abundance estimates for fin whales have been finalized (Icelandic-Faroese shipboard and Greenland aerial T-NASS surveys) or are on their way (Norway shipboard T-NASS survey). Some progress has been made in the analyses of pilot whale data, although further analyses are warranted, which will be presented to the next AE WG in October 2009. (SC/16, 2009).</p> <p>Estimates of abundance for some key species are available and referred to in the SC report. (SC/17)</p>	Completed (NAMMCO/25)
1.7.12	NAMMCO/22 02-2014	To give information on sustainable yield based on new abundance estimates expected from TNASS2015 for all large baleen whales in West Greenland waters (NAMMCO 22).	The SC noted this new request, and will consider this again after T-NASS2015. (SC/21, 2014)	Ongoing

1.8.0	OTHER:			
1.8.1	NAMMCO/08 09-1998	Greenland noted the need for greater input from hunters and users in the work of the SC. While noting the need for scientists to be able to conduct their work on their own scientific terms in the context of their Committee meetings, it was suggested that scientists and users of marine mammal resources which are the subject of examination by the SC could, for example, meet prior to meetings of the SC in order to exchange information relevant to the work planned by the SC. With these ideas in mind, NAMMCO/08 recommended that the SC takes concrete steps to provide for a more active dialogue between scientists and resource users.	<p>The SC agreed to a proposal put forward by the Secretariat, to use the "Status of Marine Mammals in the North Atlantic" stock status reports as a means of incorporating the knowledge of marine mammal users. This proposal was presented to NAMMCO Council for approval. (SC/7, 1999)</p> <hr/> <p>The SC WG on the Population Status of Narwhal and Beluga in the North Atlantic met jointly with the Scientific WG of the Joint Commission on the Conservation and Management of Narwhal and Beluga (JCNB) in May 2001. Prior to the main meeting, the Joint WG met with hunters from Greenland and Canada, and Canadian hunters participated throughout the meeting. (SC/9, 2001)</p>	Outdated (SC21)
1.8.2	NAMMCO/09 10-1999	The language used in the Report of the SC must be kept precise and simple.	No response.	Outdated (SC21)

**2 SEALS AND WALRUS**

**2.1.0 HARP AND HOODED SEALS:**

2.1.1	NAMMCO/02 01-1993	<p>- to assess the stock size, distribution and pup production of harp seals in the Barents Sea and White Sea, and of harp and hooded seals in the Greenland Sea and the Northwest Atlantic;</p> <p>- to assess sustainable yields at present stock sizes and in the long term under varying options of age composition in the catch;</p> <p>- to provide advice on catch options in the White Sea/Barents Sea/Greenland Sea and NAFO areas;</p> <p>- to assess effects of recent environmental changes or changes in the food supply and possible interaction with other living marine resources in the areas.</p>	<p>These requests forwarded to Joint ICES/NAFO WG on Harp and Hooded Seals. A partial assessment was completed, but more work was required. (SC/2, 1993)</p> <p>The SC considered the report of the Joint ICES/NAFO WG on Harp and Hooded Seals which had met in Dartmouth, Canada, 5-9 June 1995. The SC endorsed the recommendations in the report and identified further research needs. However the required assessments had not yet been completed. (SC/4, 1996)</p> <p>The SC considered the report of the Joint ICES/NAFO WG on Harp and Hooded Seals which had met in Copenhagen in 1997. The SC used this report as the basis for its advice to Council, while noting that catch options had not been completed for Greenland Sea harp and hooded seals, and White Sea and Barents Sea harp seals. (SC/6, 1998)</p> <p>The Joint ICES/NAFO WG on Harp and Hooded Seals met in 1998 to complete the assessments for Greenland Sea harp and hooded seals, and White Sea and Barents Sea harp seals. The SC used their report as the basis of its advice to Council, and noted that the required assessments had now been completed. Assessment of the effects of recent environmental changes or changes in the food supply and possible interaction with other living marine resources in the areas is ongoing. (SC/7, 1999)</p>	Completed
2.1.2	NAMMCO/08 09-1998	To co-ordinate joint feeding studies of harp and hooded seals in the Nordic Seas (Iceland, Greenland and Norwegian Seas) and off West Greenland.	The SC noted that preparations to coordinate such studies between member countries were already under way, outside of the NAMMCO SC. The SC therefore emphasized its support for such joint studies and urged member countries to participate. (SC/7, 1999)	Completed
2.1.3	NAMMCO/11 02-2002	To regularly update the stock status of North Atlantic harp and hooded seal stocks as new information becomes available.	Ongoing as new information becomes available.	Replaced by 2.1.4
2.1.4	NAMMCO/12 03-2003	<p>It was noted that new information recently had become available on the abundance of harp seals in the Greenland Sea and the Northwest Atlantic. In addition new information is available on movements and stock delineation of harp seals in the Greenland, Barents and White seas. Therefore, request 2.1.3 was reiterated - to regularly update the stock status of North Atlantic harp and hooded seals as new information becomes available. The Management Committee noted the likely impact of increasing abundance of these species on fish stocks. For harp seals in the Northwest Atlantic, the immediate management objective is to maintain the stocks at their present levels of abundance.</p>	<p>An update of the stock status of North Atlantic hooded seals had been made by the WGHARP at its 2008 meeting, which in turn had been endorsed by the Committee. The SC notes that this is a standing request that will be taken up again when new data become available.</p> <p>Considering that the population in the Greenland Sea in 2007 is still well below Nlim, and the results of the 2007 survey were similar to those in 2005, the SC reiterates its recommendation from SC 14 that the catches in the Greenland Sea be restricted to necessary scientific catches and to satisfy local needs at roughly current levels. (SC/16, 2009)</p> <p>Updates on harp &amp; hooded seals from WGHARP were presented at (SC/20, 2013)</p> <p>Updates on harp &amp; hooded seals from WGHARP were presented at SC/24. Most important information necessary to answer these requests will be the new survey in 2018. (SC/24, 2017)</p>	Standing
2.1.5	NAMMCO/13 03-2004	<p>To annually discuss the scientific information available on harp and hooded seals and advice on catch quotas for these species given by the ICES/NAFO WG on Harp and Hooded Seals. The advice by the SC on catch quotas should not only be given as advice on replacement yields, but also levels of harvest that would be helpful in light of ecosystem management requirements.</p> <p>For the Barents/White Sea and Greenland Sea stocks, in addition to the advice on replacement yields, advice should be provided on the levels of harvest that would result in varying degrees of stock reduction over a 10 year period.</p> <p>Noting that Canada has instituted a multi-year management plan with a 3- year allowable catch of harp seals totalling 975,000 (not including the catch by Greenland), the Management Committee requested the SC to provide advice on the likely impact on stock size, age composition, and catches in West Greenland and Canada under the conditions of this plan.</p>	<p>With regard to the Canadian Management Plan, the SC concluded that the likely effect of the harvest levels outlined in Plan was a slight drop in total abundance in the short term (3-5 years), and an accelerating decline if these harvest levels are maintained over a longer period (ca. 10 years), and that the availability of seals to Greenlandic hunters would likely decrease as the total population decreased. (SC/12, 2004)</p> <p>The SC recommended that catches of hooded seals in the Greenland Sea be restricted to necessary scientific catches and to satisfy local needs at roughly current levels. This should be accompanied by a careful monitoring. (SC/14, 2006)</p>	Completed

2.1.6	NAMMCO/14 03-2005	To evaluate how a projected decrease in the total population of Northwest Atlantic harp seals might affect the proportion of animals summering in Greenland.	With regard to this request, the SC/16 notes that it had recommended several times (SC 13; 14, 15) that this question be referred to the ICES-NAFO WG. However, since this has not been done by Greenland, the SC tasked the MMFI WG to deal with the request. The conclusion of the WG is reported in document.  The SC/16 concludes that there were clear positive correlations between catches of harp seals off northwest and southwest Greenland and abundance estimates of these seals off Canada. Hence a decrease in the numbers of seals in Canada is likely to cause a decrease of the catches in Greenland. This relationship might not be linear, but is difficult to quantify. As suggested by the WG, one way to proceed would be to attempt multi-linear regression analysis, which takes account of any information available on annual hunting effort and periods for which the seals stay off Greenland, as well as the Canadian abundance estimates. This would also allow the calculation of confidence limits associated with any estimate of a decrease in catch. (SC/16, 2009)	Completed (SC21)
	NAMMCO/22 02- 2014	Greenland agreed to send a new request to ICES in order to finalise the assessment on the Northwest Atlantic stock because the results from the last surveys in 2013 had not been ready, and therefore not been dealt with at the last WGHARP meeting in August 2013.	New requests to ICES from individual countries would be needed for a new meeting to finish assessments of Barents Sea and Northwest Atlantic harp seals. Preferably such requests should come from Russia and Greenland, respectively. (SC/20, 2013)	
2.1.7	NAMMCO/14 03-2005	To specify harvest levels for these 2 stocks that would result in a population reduction of 20% over a period of 20 years.	New modelling results were considered which provided target catch levels for both the Barents/White Sea and Greenland Sea stocks. (SC/14, 2006)	Completed
2.1.8	NAMMCO/15 03-2006	NAMMCO should explore the possibility with ICES and NAFO of assuming a formal joint role in the WG on Harp and Hooded Seals. The Secretariat should contact ICES and NAFO in this regard. As a starting point, the WG, jointly with the NAMMCO SC, should be asked to provide advice on outstanding requests (MC/4, 4.9.6 and 4.9.7, also NAMMCO 2005 p. 25).	Not successful in assuming joint role in the WG.	Completed
2.1.9	NAMMCO/16 02-2007	To investigate possible reasons for the apparent decline of Greenland Sea stock of hooded seals; and assess the status of the stock on basis of the results from the planned survey in 2007.	This request was forwarded to the ICES-NAFO WG, which dealt with this request at its meeting in Tromsø in 2008. (SC/15, 2008).  On the basis of the conclusion of this group, the SC concludes that the reasons for the decline of the stock are still not understood. A reduction in extent and concentration of drift ice has occurred in the Greenland Sea between Greenland and the Jan Mayen Island. These changes must have resulted in substantial changes in breeding habitat for the Greenland Sea populations of harp and hooded seals. ...The SC appreciates the efforts made by Norwegian and cooperating scientists to address the questions related to the apparent decline of hooded seals in the Greenland Sea. It strongly recommends that these activities are given high priority in the coming years. (SC/16, 2009)	Ongoing
	NAMMCO/21 09- 2012	NAMMCO should review its cooperation with ICES in light of the SC work on harp and hooded seals. It further underlined the importance in getting answers to request R 2.1.9.	The SC advises the Council that a more formal cooperation between ICES and NAMMCO on harp and hooded seals such as through the ICES WGHARP would be desirable, and that a formal request to ICES for such cooperation could be sent (SC/20, 2013).  The SC was informed that ICES and the North Atlantic Fisheries Organization (NAFO) have accepted NAMMCO's request to join the WGHARP (SC/22, 2015)	
			SC/24 (2017): data analysis is ongoing and several publications will come out soon on these data. The most important information necessary to answer [this] request will be the new survey in 2018. (SC/24, 2017)	
2.1.10	NAMMCO/17 09-2008	To provide advice on Total Allowable Catches for the management of harp seals and the establishment of a quota system for the common stocks between Norway and the Russian Federation, leaving full freedom to the Committee to decide on the best methods to determine this parameter based on an ecosystem approach.	The Committee notes that in October 2008, ICES provided advice that was used to set the 2009 quotas for northeast Atlantic harp seals by the Joint Norwegian Russian Fisheries Commission. The SC endorses at its present meeting the advice provided. Dividing the total removals for each population into national allocations is traditionally carried out through bilateral negotiations in the Joint Norwegian Russian Fisheries Commission. Therefore the SC feels it needs clarification from the Council on the request of the establishment of a quota system. The SC also wishes a clarification from Council about the definition of "ecosystem approach" in the establishment of a quota system as stated in the request R-2.1.10. (SC/16, 2009)	Standing
	NAMMCO/18 09- 2009	For clarification, the Management Committee for Seals and Walrus wished to specify to the SC that the "ecosystem approach" to management for one species involves the use of information about predation from or on other species when quotas are set, but multi-species modelling is not yet at a stage where this can be effected. The TAC are estimated by the SC whereas quotas are traditionally set bilaterally by hunting nations.	Updates on harp & hooded seals from WGHARP were presented at (SC/24, 2017).	
2.1.11	NAMMCO/ 18 09-2009	To evaluate how a projected increase in the total population of Northwest Atlantic harp seals might affect the proportion of animals summering in Greenland.	As the NAMMCO SC has no tradition of establishing WGs on harp seals, the SC recommended that Greenland forward the request to ICES/NAFO so that it can be considered by the WGHARP.	Completed (SC21)
			The request has been forwarded to ICES by Greenland and is on the agenda of the ICES NAFO WG on harps and hoods meeting in August 2011.  (WGHARP 2011) New estimates of abundance need to be developed to discriminate between actual and perceived changes in abundance. The population is believed to approach carrying capacity and this is normally associated with new factors becoming important for a continued growth of the population. It is therefore uncertain whether the distribution of the seals in the years to come is predictable based on hind-cast analysis. Such analyses will, however, be important to describe how distribution patterns change as the population and the environment change. Historically the abundance of seals in Greenland waters was positively associated with increases in the harp seal population. Since 2000, it appears that ecological and hydrographical changes have changed the relationship, and possibly led to decreases in harp seals. However, there are insufficient data available to adequately analyse the latter. (SC/19, 2012)	

2.3.0	RINGED SEALS:			
2.3.1	NAMMCO/05 02-1995	To advise on stock identity of ringed seals for management purposes and to assess abundance in each stock area, long-term effects on stocks by present removals in each stock area, effects of recent environmental changes (i.e. disturbance, pollution) and changes in the food supply, and interactions with other marine living resources.	The SC established a WG on Ringed Seals. The SC considered the report of the WG and provided advice to Council. They also provided recommendations for future research. (SC/5, 1997).	Ongoing
	NAMMCO/19 09/2010	Request 2.3.1 is endorsed again as a standing request.	The SC noted that there is currently very little information on stock structure and stock size to consider in relation to both requests (2.3.1 and 2.3.2). Some movement information exists, but these do not give enough information to have understanding of population structure. The SC suggested that a WG be considered in the next few years (2015 or later). The WG could look into movements (from the available satellite tagging data) versus where catches are occurring in relation to stock structure. It may also be important to assess this species in light of climate change and changing ice conditions. The SC notes that it is very difficult to obtain the desired information on this species. The Arctic Council recently held a meeting on ringed seals, and it was suggested that the SC considers, at its next meeting, the report from that meeting, and data availability, and considers then the need for a WG (SC/20, 2013).	Standing
	NAMMCO/22 02-2014	The report from the SC is noted and the idea of a WG in 2015 or later when enough information is available is endorsed.	<p>...still not enough information...The SC recommended research (genetics, surveys) that will help towards responding to R-2.3.1 (SC/22, 2015).</p> <p>The SC does not have the information to answer this request. If more information becomes available to answer R-2.3.1, then this would also help in answering R-2.3.2. The SC considers new abundance estimates and information on stock structure that have been previously recommended would be the most helpful in answering these requests. (SC/24, 2017)</p>	Standing
2.3.2	NAMMCO/07 05-1997	To advise on what scientific studies need to be completed to evaluate the effects of changed levels of removals of ringed seals in West and East Greenland.	It was noted that the exploitation level of ringed seals in Greenland has shown considerable variability over decades in this century. The SC chose to focus on scenarios where exploitation is raised by more than twice the level reported in recent years. The SC then identified the main gaps in knowledge, and recommended research required to address them. (SC/6, 1998).	Ongoing
	NAMMCO/19 09/2010	Request 2.3.2 is reiterated as a standing request.	See 2.3.1 for update from SC/20, 2013.	Standing
	NAMMCO/22 02-2014	See 2.3.1 for update from NAMMCO 22.	<p>The SC reiterated that data on this species is sparse and a full assessment is not possible. The SC recommends that a future WG should await results of ongoing tagging studies in central West Greenland, and future genetics studies to elucidate information on population structure (SC/21, 2014).</p> <p>The SC does not have the information to answer this request. If more information becomes available to answer R-2.3.1, then this would also help in answering R-2.3.2. The SC considers new abundance estimates and information on stock structure that have been previously recommended would be the most helpful in answering these requests. (SC/24, 2017)</p>	Standing

2.4.0	<b>GREY SEALS:</b>		
2.4.1	NAMMCO/05 02-1995	To review and assess abundance and stock levels of grey seals ( <i>Halichoerus grypus</i> ) in the North Atlantic, with an emphasis on their role in the marine ecosystem in general, and their significance as a source of nematodal infestations in fish in particular.	The SC established a WG on Grey Seals. The SC considered the report of the WG and provided advice to Council, including recommendations for further research. (SC/4, 1996).
2.4.2	NAMMCO/11 02-2002	To provide a new assessment of grey seal stocks throughout the North Atlantic. -- It is noted that there has been a decline in the numbers of grey seals around Iceland, possibly due to harvesting at rates that are not sustainable. The SC had previously provided advice in response to a request to review and assess abundance and stock levels of grey seals in the North Atlantic, with an emphasis on their role in the marine ecosystem in general, and their significance as a source of nematodal infestations in fish in particular (NAMMCO 1995). Given the apparent stock decline in Iceland, an apparent increase in Southwest Norway and in the United Kingdom, and the fact that this species interact with fisheries in three NAMMCO member countries, it is <b>recommended</b> that the SC provide a new assessment of grey seal stocks throughout the North Atlantic.	<p>The WG on Grey Seals met in April 2003 and completed an initial assessment of stocks around Norway, Iceland, Great Britain and the Baltic. (SC/11, 2003)</p> <p>The SC recommends:</p> <ul style="list-style-type: none"> <li>•Establishment and/or continuation of standardised and regular monitoring programmes for seal abundance in all countries, including the development of appropriate survey methods.</li> <li>•Securing catch records and associated data from hunted seals.</li> <li>•Quantification and standardisation of methods to estimate struck and lost and by-catch.</li> <li>•Population assessment of both species in Russia.</li> <li>•Survey of harbour seals along the coast of Iceland.</li> <li>•Studies to identify the population structure of Norwegian harbour seals.</li> <li>•Exploration of the south-eastern Greenland coast for the presence of harbour and grey seals.</li> <li>•Estimation of the stock identity, size, distribution and structure of the Faroese population of grey seals.</li> <li>•Completion of the ongoing genetic analyses of grey seal population structures for the north Atlantic including new samples from the Faroe Islands. The SC furthermore recommends</li> <li>•Development of common sampling protocols for all areas in the North Atlantic in preparation for epidemic disease outbreaks, including establishment of blood serum stores for seals sampled.</li> <li>•Compilation of a database of samples stored in the NAMMCO countries. (SC/18, 2011)</li> </ul> <p>The SC recommended that the Grey and Harbour Seals WG meet in 2014, reflecting the recommendations to finalise the request 2.4.2. (SC/19, 2012 and reiterated at SC/20, 2013)</p> <p>A Coastal Seals WG meeting has been tentatively scheduled for February 2016 to address R-2.4.2 and R-2.5.2. By February 2016, the CSWG will likely have bycatch estimates and a new complete grey seal estimate in Norway for consideration at the meeting (SC/21, 2014).</p> <p>The SC recommended that all of the available grey seal data from the Faroes is presented to the CSWG for review. The SC recommends that the CSWG develops specific plans for monitoring grey seals in the Faroes, e.g., obtaining a relative series of abundance (if a full abundance estimate is not possible at this time).</p> <p>The 2015 abundance estimates from Norway will be available at CSWG. (SC/22-2015)</p> <p>The CSWG met in March 2016, and the SC/24 endorsed the conclusions and recommendations (SC/23-2016)</p>

2.5.0	HARBOUR SEAL:			
2.5.1	NAMMCO/14 03-2005	<p>Harbour seal abundance has fluctuated in the Northeast Atlantic in recent years due to local outbreaks of viral distemper. Usually these outbreaks have been followed by rapid recoveries, and harbour seal abundance may have increased in many areas. In some areas, harbour seals are harvested and/or taken incidentally by fisheries and aquaculture operations (e.g. Greenland, Norway and Iceland). They also have significant direct and indirect interactions with fisheries in many areas. For these reasons,</p> <p>to:</p> <ul style="list-style-type: none"> <li>- Review and assess the status of harbour seals throughout the North Atlantic;</li> <li>- Review and evaluate the applied survey methods;</li> <li>- Assess stock delineation using available data on genetics, spatial and temporal distribution and other sources;</li> <li>- Review available information about harbour seal ecology;</li> <li>- Identify interactions with fisheries and aquaculture.</li> </ul>	<p>A WG on Harbour Seals was convened in October 2006 to deal with this request. The WG completed assessments of harbour seals in all areas of the North Atlantic and the Baltic.</p> <p>Missing SC</p>	Completed
2.5.2	NAMMCO/16 02-2007	To conduct a formal assessment of the status of harbour seals around Iceland and Norway as soon as feasible.	<p>At its meeting 2007 (SC/15, 2008), the SC recommended that an assessment be conducted in 2010 after the third Norwegian survey, leaving Iceland time for developing a management plan. However, the Norwegian survey will take place in mid-summer 2010, and the results of the survey will probably not be available before early 2011, therefore the SC recommends that an assessment be conducted early 2011. Data on removals are still needed both for Iceland and Norway. (SC/16, 2009).</p> <p>The SC reiterated the recommendation that a formal assessment of harbour seals in all areas be carried out by a WG meeting on coastal seals in 2011. SC recommended that a WG on coastal seals be held to review the Norwegian management plan for grey and harbour seals, to perform assessments for grey and harbour seals in all areas, and to develop a common management model for both species in all areas. The WG should also consider whether the age data from the catch of grey and harbour seals in Iceland would improve the assessment. If a meeting is planned for early 2011, another meeting is likely required to fulfill the task. (SC/17, 2010)</p>	Ongoing
	NAMMCO/19 09-2010	The geographical focus of this request is changed to entail ALL areas.	<p>The SC recommends:</p> <ul style="list-style-type: none"> <li>•Establishment and/or continuation of standardised and regular monitoring programmes for seal abundance in all countries, including the development of appropriate survey methods.</li> <li>•Securing catch records and associated data from hunted seals.</li> <li>•Quantification and standardisation of methods to estimate struck and lost and by-catch.</li> <li>•Population assessment of both species in Russia.</li> <li>•Survey of harbour seals along the coast of Iceland.</li> <li>•Studies to identify the population structure of Norwegian harbour seals.</li> <li>•Exploration of the south-eastern Greenland coast for the presence of harbour and grey seals.</li> <li>•Estimation of the stock identity, size, distribution and structure of the Faroese population of grey seals.</li> <li>•Completion of the ongoing genetic analyses of grey seal population structures for the north Atlantic including new samples from the Faroe Islands.</li> </ul> <p>The SC furthermore recommends</p> <ul style="list-style-type: none"> <li>•Development of common sampling protocols for all areas in the North Atlantic in preparation for epidemic disease outbreaks, including establishment of blood serum stores for seals sampled.</li> <li>•Compilation of a database of samples stored in the NAMMCO countries. (SC/18, 2011)</li> </ul>	
	NAMMCO/22 02-2014	See 2.4.2 for update from NAMMCO 22.	<p>The SC recommended that all of the available grey seal data from the Faroes is presented to the CSWG for review. The SC recommends that the CSWG develops specific plans for monitoring grey seals in the Faroes, e.g., obtaining a relative series of abundance (if a full abundance estimate is not possible at this time).</p> <p>The 2015 abundance estimates from Norway will be available at CSWG. (SC/22, 2015)</p> <p>The CSWG met in March 2016, and the SC/24 endorsed the conclusions and recommendations (SC/24, 2017)</p>	

2.6.0	ATLANTIC WALRUS:			
2.6.1	NAMMCO/02-01-1993	To advise on stock identity for management purposes; to assess abundance in each stock area; to assess long-term effects on stocks by present removals in each stock area; to assess effects of recent environmental changes (i.e. disturbance, pollution) and changes in the food supply.	<p>The assessment was postponed pending report of Walrus International Technical and SC (WITS). (SC/2, 1993)</p> <p>It was decided in late 1994 to request Erik Born of the Greenland Fisheries Research Institute in Copenhagen to coordinate the compilation of a status report on the Atlantic walrus in time for the SC meeting. The result of this collaboration was the report, E.W. Born, I. Gjertz and R.R. Reeves, "Population assessment of Atlantic walrus (Odobenus rosmarus rosmarus)" This report was used by the SC as the basis of its management and research recommendations to Council. (SC/3, 1995).</p>	Completed
2.6.2	NAMMCO/13-03-2004	Provide an updated assessment of walrus, to include stock delineation, abundance, harvest, stock status and priorities for research. [taking into account the considerable new information that have become available since the last assessment in 1994]	<p>The SC provided assessment advice for East Greenland, West Greenland and North Water stocks of walrus, but noted that the assessments were incomplete due to insufficient information on stock delineation and abundance. It was anticipated that the assessment for West Greenland could be completed within the next 2 years (SC/13, 2005).</p> <p>The SC considered that sufficient new information would be available to provide new assessments for the West Greenland and North Water stocks in 2008 (SC/14, 2006).</p>	Replaced by 2.6.5
2.6.3	NAMMCO/15-03-2006	Provide advice on the effects of human disturbance, including fishing and shipping activities, in particular scallop fishing, on the distribution, behaviour and conservation status of walrus in West Greenland.	<p>With the current actual state of knowledge, the SC is unable to answer this question. The walrus disturbance study on Svalbard will help only in answering the problem of disturbance by tourists. The SC referred, however, to the answer to request 3.4.9. (SC/16, 2009).</p> <p>Owing to a lack of explicit studies, the SC is not in a strong position to provide advice on the effects of human disturbance on walrus. (SC/17, 2010)</p> <p>With regard to R-2.6.3, the SC noted that there is no new information available to consider this request (SC/20, 2013).</p>	Ongoing
	NAMMCO 22-02-2014	To continue planning the disturbance workshop for beluga and narwhal is supported, and it is also recommended to include walrus (see also R-3.4.9).	<p>Concerns were raised at both the [Disturbance] Symposium and the SC meeting about a Canadian mining project currently under development in the Canadian Arctic, the Mary River Project operated by Baffinland Iron Mines Corp... It will have severe consequences for the large numbers of marine mammals [including] walrus, with unpredictable consequences for the populations themselves but also for the accessibility to hunting and/or its sustainability. Other industrial activities that were addressed at the symposium as being particularly important as disturbance factors for marine mammals were seismic exploration in Canada, and West and East Greenland. The SC draws the attention of the NAMMCO Council to the potentially severe consequences of these projects. The SC noted that these industrial activities will also likely have impacts on the hunting of these species, and could affect the advice that is given by this SC. (SC/22, 2015)</p> <p>Answered as far as is possible with the information that is currently available. However, this request remains ongoing, and should be considered again when additional specific information is available. (SC/24, 2017)</p>	
2.6.4	NAMMCO/16-02-2007	Provide a formal assessment of the Davis Strait stock as soon as finalization of the catch series is complete and the results from the planned 2007 survey are available.	<p>See item 2.6.5 (SC/16, 2009).</p> <p>A full assessment of all walrus stocks in this request was carried out and presented at (SC/17, 2010).</p>	Completed
2.6.5	NAMMCO/17-09-2008	To provide a full assessment of North Water, West Greenland-Eastern Baffin Island and East Greenland stocks.	<p>Pending the walrus assessment WG meeting in November 2009. The SC reiterates its recommendation that Greenland makes progress on the old catch series, as well as provides the results of the 2009 surveys and tagging experiments, before the next assessment meeting in November 2009. (SC/16, 2009).</p> <p>A full assessment of all walrus stocks in this request was carried out and presented at (SC/17, 2010).</p>	Completed
2.6.6	NAMMCO/21-09-2012	To investigate the possibility to include a carryover for quotas in order to include this possibility in the next hearing for the new quota block period.	The SC concluded that there is no biological argument against carryover of unused quotas. A problem arises if carryovers accumulate over time and/or across assessments (SC/20, 2013).	Completed 2013
	NAMMCO/22-02-2014	The SC had given their advice on request R 2.6.6 and that this request was now finalised.		
2.6.7	NAMMCO/25-04-2017	To provide assessments of, and advice on sustainable removals from, all stocks of walrus in Greenland covering the period from 2019 to 2023, with the advice for Qaanaaq starting in 2021.		NEW



3 CETACEANS				
3.1.0	FIN WHALE:			
3.1.1	NAMMCO/08 09-1998	To undertake an assessment of the status of fin whales in the North Atlantic based on all available data. (This request was later elaborated as follows: "Acknowledging the large amount of work involved in such a comprehensive assessment of all possible fin whale stocks in the North Atlantic, the Council requests the SC, when conducting such comprehensive assessment, particularly to  i. assess the stock structure of fin whales in the whole North Atlantic.  ii. assess the long-term effects of annual removal of 50, 100 and 200 fin whales in the stock area traditionally assumed to have a main concentration off East Greenland and Iceland (EGI stock area),  iii. identify MSY exploitation levels for that stock area."	The SC established a WG on Fin Whales to deal with this request. The WG met in April 1999. Their report dealt with the stock structure of fin whales throughout the North Atlantic, and with assessment of the EGI stock. The SC used the report of the WG to formulate advice and research recommendations to NAMMCO Council. Detailed assessment of other fin whale stocks was not carried out, but will be if further requests from Council are forthcoming.	Completed
3.1.2	NAMMCO/09 10-1999	To continue its assessment of fin whale stocks in the North Atlantic, focussing in the near term on the status of fin whales in Faroese territorial waters. The SC should focus particularly on the following issues:  i. Assess the long-term effects of annual removals of 5, 10 and 20 fin whales in Faroese waters;  ii. Information gaps that may need to be filled in order to complete a full assessment in this area.	The SC reactivated the WG on North Atlantic Fin Whales and used their report as the basis for their advice to the Council. The results of the assessments indicated that fin whales in the area have likely been substantially depleted by past harvests, but there was great uncertainty in the results. The SC noted that in attempting to respond to the Council's request for advice on the long-term effect of various catch levels in the Faroese area, it had immediately become apparent that there is insufficient information on stock identity to carry out a reliable assessment of the status of fin whales in Faroese waters, and thus provide reliable advice on the effects of various catches. The SC therefore recommended a research program primarily geared to understanding the stock relationships of fin whales around the Faroes.	Completed
3.1.3	NAMMCO/10 09-2000	It is noted that the requested assessment (4.31) had not been fully completed and awaited in particular the provision of more information on stock delineation. The should continue its assessment, as new data become available.	To be addressed as new information becomes available.	Replaced by 3.1.4
3.1.4	NAMMCO/11 02-2002	The previous request for advice on fin whales is clarified, and it is asked that the SC continue with its assessments of fin whale stocks in the areas of interest to NAMMCO countries with existing and new information on abundance and stock delineation as it becomes available.	The SC completed assessments on EGI and Faroese fin whales based on new abundance data. Future effort will be concentrated on Northeast Atlantic fin whales. (SC/11, 2003)	Replaced by 3.1.5
			The SC convened a WG on Fin Whales in October 2005 to update information relating to stock delineation, abundance and catch in all areas of the North Atlantic (SC/13, 2005)	
			The SCs of the IWC and NAMMCO convened a Joint WG on the Catch History, Stock Structure and Abundance of North Atlantic Fin Whales in March 2006 (SC/14, 2006)	
3.1.5	NAMMCO/13 03-2004	The SC was previously asked to continue with its assessments of fin whale stocks in the areas of interest to NAMMCO countries with existing and new information on abundance and stock delineation as it becomes available, and endorsed the plan of the SC to complete an assessment for the Northeast Atlantic stocks and update assessments for other areas, probably in 2005.	The SC convened a WG on Fin Whales in October 2005 to update information relating to stock delineation, abundance and catch in all areas of the North Atlantic. (SC/13, 2005)	Replaced by 3.1.6
			The SCs of the IWC and NAMMCO convened a Joint WG on the Catch History, Stock Structure and Abundance of North Atlantic Fin Whales in March 2006. (SC/14, 2006)	
3.1.6	NAMMCO/16 02-2007	To complete an assessment for the Northeast Atlantic stocks as a next step in the process of assessing fin whale stocks in the areas of interest to NAMMCO countries.	An assessment can be initiated for the North east Atlantic Stocks when the estimate for the 2007 estimate will be made available. This could be made in conjunction with a new assessment of the central stock subsequent to the new 2007 abundance estimate. The SC recommended that this be done before the next SC meeting. (SC/15, 2008).	Replaced by 3.1.7

3.1.7 amended	NAMMCO 17 09 2008 / amended NAMMCO/23 2015 /Amended NAMMCO/24 2016	To complete an assessment of fin whales in the North Atlantic and also to include an estimation of sustainable catch levels in the Central North Atlantic. This work should be initiated as soon as all estimates become available and before the meeting of the SC in 2009.	The fin whale assessment has been postponed to after the completion of the RMP Implementation Assessment of North Atlantic fin whales scheduled for June 2009. The WG on Large Whale Assessment is scheduled to meet 26-28 January 2010 in Copenhagen with fin whales on its agenda. (SC/16, 2009).	Ongoing
		This recommendation is endorsed for a Large Whale Assessment WG to convene in Fall 2014 (NAMMCO 22).	SC 17 completed an assessment of North Atlantic fin whales at its 2010 meeting. The SC considers that an annual strike of up to 154 fin whales from the WI sub-area is sustainable at least for the immediate 5-year period. It noted that the RMP-variant with a 60% tuning level has yet to be simulation-tested for trials involving stock structure uncertainty in the long term, thus it recommends that simulation trials be carried out as soon as possible and the long-term sustainability of the advice be reconsidered in the light of these results. (SC/17, 2010)	
		Iceland noted that it is very important for the LWAWG to occur this autumn and proposed that the MC amend request R-3.1.7 to include the following additional text: "While long-term advice based on the outcome of the RMP Implementation Reviews (with 0.60 tuning level) is desirable, shorter term, interim advice may be necessary, depending on the progress within the IWC. This work should be completed before the annual meeting of the SC in 2015." The MC endorsed the amendment of R-3.1.7 to include this text (NAMMCO 23).	As the present advice expires in 2015, the NAMMCO SC recommended convening a meeting of the WG on large whale assessments in the autumn of 2014 to provide further management advice on fin whales off Iceland (SC/20, 2013).  A Large Whale Assessment meeting was previously planned for Fall 2014. This was postponed to Fall 2015, awaiting work to be completed by the IWC on the fin and minke whale RMP Implementation Reviews. The IWC SC has proposed a workshop in January 2015, and plans to complete this work by the IWC SC 66a meeting in June. Therefore, the NAMMCO LWAWG will plan on meeting in the Fall of 2015 in hopes that the work on the IWC SC will be complete (SC/21, 2014).	

<b>3.2.0</b>	<b>HUMPBACK WHALE:</b>			
<b>3.2.1</b>	NAMMCO/11 02-2002	To complete abundance estimates for this species as a high priority, as the conclusions of the SC was that there was evidence of a rapidly increasing abundance of humpback whales around Iceland is noted, and it is recommended that the SC. The SC should also consider the results of the "Years of the North Atlantic Humpback" (YoNAH) project as it pertains to member countries in providing advice for this species.	The SC has noted previously (SC/9, 2001) that abundance estimates from the NASS-95 survey appear to conflict with the results of the YoNAH project, and comparison with the estimates from NASS-2001 should be of great interest. (SC/10, 2002).  The SC concluded that the discrepancy between the NASS and YoNAH estimates suggests that the North Atlantic population of humpback whales is likely considerably larger than estimated in the YoNAH study. Further studies are needed to resolve these differences more fully. (SC/11, 2003).	Completed
<b>3.2.2</b>	NAMMCO/13 03-2004	The conclusion of the SC that there is evidence from the NASS of a rapidly increasing abundance of humpback whales in the Central North Atlantic is noted. The SC was requested to assess the sustainable yield levels for humpback whales, particularly those feeding in West Greenlandic waters. The management objective in this case would be to maintain the stock at a stable level.	Mainly because of a lack of current information on abundance, the SC was unable to complete the Assessment for West Greenland. The SC noted that they would be able to estimate sustainable yield levels for humpback whales in the Northeast Atlantic. (SC/12, 2004).	Replaced by 3.2.3.
<b>3.2.3</b>	NAMMCO/14 04-2005	To continue its assessment of humpback whale stocks in the North Atlantic. For West Greenland, the SC should assess the long-term effects of annual removals of 0, 2, 5, 10 and 20 whales. For the Northeast Atlantic the SC should provide estimates of sustainable yield for the stocks. In all cases the management objective would be to maintain the stocks at a stable level. The SC should identify information gaps that must be filled in order to complete the assessments.	The Committee decided to postpone the provision of advice for West Greenland until a new abundance estimate is available, probably in 2006. Sufficient information on historical catch, abundance and stock structure is available at present to conduct assessments for the Icelandic and Norwegian stocks. However, given other priorities, the Committee considered it advisable to delay this assessment until after the completion of the NASS-2007 survey, when an additional estimate of abundance should become available (SC/13, 2005).  The SC reviewed new information on the abundance of humpback whales off West Greenland from surveys conducted in 2005, and provided interim advice on safe removal levels for the area. Further information will be available after the TNASS in 2007 to complete assessments in all areas (SC/14, 2006).	Replaced by 3.2.5.
<b>3.2.4</b>	NAMMCO/15 03-2006 AMENDED NAMMCO/24 2016	To conduct a formal assessment following the completion of the T-NASS.  In addition to investigate the relationship between the humpback whales summering in West Greenland and other areas and incorporate this knowledge into their estimate of sustainable yields of West Greenland humpback whales.  It is recommended that the Large Whale Assessment WG should not consider humpback whales at the upcoming meeting in Fall 2014 (NAMMCO 22).  At NAMMCO/24, Council amended this request: "The SC is asked to provide advice on future catch levels of humpback whales in West Greenland at different probability levels for a non-declining population evaluated over a 5 year period, similar to the procedure for the advice generated for beluga, narwhal and walrus. The advice should include the latest abundance estimate."	The SC recommended that the preliminary work to conclude such assessment be made in connection with the fin whale assessment meeting and that abundance estimate from all the surveys be made available to that meeting. (SC/15, 2008).  With reference to the pending request from NAMMCO 15 (R-3.2.4) to conduct a formal assessment of humpback whales following the completion of T-NASS 2007, the SC noted that it had completed the assessment for West Greenlandic waters. The SC has not yet initiated assessment in other areas and agreed to seek further guidance from the Council regarding that aspect of the request.  If the Commission considers request 3.2.4 a priority, the SC will consider this request in conjunction with the fin whale meeting (SC/20, 2013).	Pending
<b>[1] R.3.2.5 as from NAMMCO/17 was replaced by the present abridged version at NAMMCO/18 (see NAMMCO Annual Report 2009 pp:101-102).</b>				
<b>3.2.5</b>	NAMMCO/18 09- 2009	To assess the sustainability of yearly catches of 5, 10, 20 humpback whales off West Greenland.	The SC found that the AWMP-C procedure (Witting 2008; IWC 2009) would be appropriate for providing management advice for West Greenland humpback whales. For a need of up to 20 humpback whales, this procedure sets the yearly strike limit for a five year period equal to 2% of the lower 5th percentile of the most recent abundance estimate. Using the fully corrected 2007 estimate of 3,270 (CV 0.50) humpback whales off West Greenland, the SC concluded that strikes of up to 20 humpback whales per year from 2010 to 2015 would be safe. This number is not to be compared directly with the lower 90% credibility estimate of the replacement yield (72-96 whales per year). The estimate of replacement yield is based not only on the current abundance but also on the estimated increase in abundance, while the AWMP-C procedure was constructed to ensure safe long-term catches for humpback whales given a need of up to 20 humpback whales per year. The SC noted that the assessment conclude that the probability that humpback whales off West Greenland will continue to increase is larger than 0.99, even with a total annual removal of 20 whales over a 5-year period. (SC/17)	Completed

<b>3.3.0</b>	<b>MINKE WHALE:</b>			
<b>3.3.1</b>	NAMMCO/7 05-1997	In the light of the new survey abundance results the SC is requested to undertake an assessment of the status of the Central North Atlantic minke whale stock, including to evaluate the long term effects of past and present removal levels on the stock.	<p>The SC agreed to assign the task of assessing the status of the stock to the WG on Management Procedures. The Council had requested the SC to provide its advice on this matter prior to the next meeting of the Council, however it was the general view of the Committee that it was unlikely that this work could be completed within this time frame. (SC/5, 1997).</p> <p>The SC used the report of the WG on Management Procedures as the basis for providing advice and research recommendations to Council. The Committee agreed that catches of 292 per year (the mean of the catch between 1980-84) are sustainable for the Central stock, and that catches of 185 whales per year are sustainable for the Coastal Icelandic Area. (SC/6, 1998).</p>	Completed
<b>3.3.2</b>	NAMMCO/8 09-1998	In order to ascertain the stock structure of minke whales in the North Atlantic, the SC is requested to investigate the possibility of supplementing present sampling with existing older material from NAMMCO countries and other countries in joint genetic analyses. If possible, such analyses should be undertaken.	It was noted that such exchanges of samples are ongoing between Norway and Greenland. Samples collected in the past from Iceland and Norway have already been analyzed concurrently, and there are no recent samples from Iceland. The SC concluded that available samples are being utilized effectively. (SC/7, 1999).	Completed
<b>3.3.3</b>	NAMMCO/11 02-2002	To complete an assessment of Central Atlantic minke whales once new abundance estimates from NASS-2001 become available.	The SC completed the assessment and provided advice on sustainable catches to the Council. (SC/11, 2003).	Completed
<b>3.3.4 amended</b>	NAMMCO/17 09-2008 / Amended NAMMCO/24	To conduct a full assessment, including long-term sustainability of catches, of common minke whales in the Central North Atlantic once results from the 2009 survey become available. In the meantime the SC is requested to assess the short-term (2-5 year) effects of the following total annual catches: 0, 100, 200 and 400.	The Assessment WG was convened to help answer with temporary advice. The SC <b>recommends</b> that 200 minke whales per year be considered as the largest short-term catch that should be contemplated over the short-term, 2-5 years. This catch level refers to total removals from the CIC or Central Medium areas, both Icelandic and others.	Ongoing
		The MC noted that there was no new information regarding this request, and reiterates that the SC should address this request when new information becomes available. (NAMMCO/22)	A full assessment, including the 2009 estimate, will be conducted at the next meeting of the Assessment WG in January 2010. (SC/16, 2009).	
	NAMMCO/24 02-2016	At NAMMCO/24, the request was amended to read: The SC is requested to complete assessments of common minke whales in the North Atlantic and include estimation of sustainable catch levels in the Central North Atlantic. (NAMMCO/24)	The SC considered that annual removals of up to 216 minke whales from the CIC area are safe and precautionary. The advice is conservative in the sense that it is based on the uncorrected, downward biased 2009 abundance estimate as well as the lower of the two accepted abundance estimates from 2007. Similarly, an annual removal of 121 minke whales from the CM area is a safe and precautionary management advice. (SC/17, 2010)	
			Response to this request is awaiting the conclusion of IWC Implementation Review (see above), and will be considered at the LWAWG planned for Fall 2015 (SC/21, 2014).	
			The SC <b>endorsed</b> the advice provided by the WG that a catch limit of 224 common minke whales in the CIC sub-area is safe and precautionary, and that this advice should be considered valid for a maximum of 3 years (2016 – 2018). This is interim advice because the most recent abundance estimate is from 2009, which will then be approaching 10 years old. (SC/22, 2013)	

3.4.0	NARWHAL AND BELUGA:			
3.4.1	NAMMCO/7 05-1997	To examine the population status of narwhal and beluga (white whales) throughout the North Atlantic.	The SC established a WG on the Population Status of Narwhal and Beluga in the North Atlantic, which met in March 1999. The SC used the report of the WG to evaluate the stock status of the various narwhal and beluga aggregations, and provided recommendations to Council. (SC/7, 1999)	Completed
3.4.2	NAMMCO/8 09-1998	To advice on the level of sustainable utilization of West Greenland beluga in different areas and under different management objectives.	The SC reactivated the WG on the Population Status of Narwhal and Beluga and used its report as the basis of its recommendations to the Council. The SC concluded that the stock is substantially depleted and that present harvests are several times the sustainable yield, and, if continued, will likely lead to stock extinction within 20 years. The Committee assessed a range of harvest options with the overall objective of arresting the decline of West Greenland Beluga, and provided prioritized research recommendations. (SC/8, 2000)	Completed
		For narwhal, to identify the information which is lacking in order to answer the same question proposed in respect to beluga.	The SC noted that developing recommendations on the sustainable harvest of narwhal in Greenland will require significant additional research and cannot be done at present. To this end, the SC provided research recommendations to answer questions about catch statistics, stock identity and abundance. (SC/8, 2000)	
3.4.3	NAMMCO/10 09-2000	To continue its assessment of West Greenland beluga with reference to the short-term research goals identified. It is anticipated that a joint meeting of the Scientific WG of the JCNB and the NAMMCO Scientific WG on the Population Status of Narwhal and Beluga in the North Atlantic can be held in spring 2001.	The SC WG on the Population Status of Narwhal and Beluga in the North Atlantic met jointly with the Scientific WG of the Joint Commission on the Conservation and Management of Narwhal and Beluga (JCNB) to deal with these requests. The SC used their report to provide catch options for West Greenland Beluga and research recommendations for West Greenland beluga and narwhal. (SC/9, 2001)	Completed
3.4.4	NAMMCO/10 09-2000	To complete an assessment of narwhal in West Greenland when the necessary data are available.	The SC used evidence from genetic and contaminant analysis, satellite tagging and hunter knowledge to evaluate the extent of movement between Greenland and Canada. (SC/9, 2001)	Replaced by 3.4.11
		Specifically, to evaluate the extent of movements of narwhal between Canada and Greenland.		
3.4.5	NAMMCO/11 02-2002	To concentrate its assessment efforts on the West Greenland narwhal in the near term.	For the Inglefield Breeding, Uummannaq, and Disko Bay areas most stock scenarios examined indicate that an annual removal of 135 narwhals for the entire area should result in a probability of 0.7 for some increase within ten years. The SC also recommended a cessation of narwhal hunting in the Melville Bay area. (SC/12, 2004)	Completed
			The SC considered that there were enough data to warrant an update on the assessment of belugas and narwhal and recommended that the JCNB/NAMMCO Joint WG meet before March 2009. (SC/15, 2008)	
3.4.6	NAMMCO/12 03-2003	It is noted that a new survey of West Greenland beluga will be conducted in 2004. The SC is requested to update the assessment of West Greenland Beluga in light of the new survey results and any other new information. The main management objective is to halt the decline of this stock.	The SC considered that there were enough data to warrant an update on the assessment of belugas and narwhal and recommended that the JCNB/NAMMCO Joint WG meet before March 2009. (SC/15, 2008)	Replaced by 3.4.7
3.4.7	NAMMCO/13 03-2004	It is noted that a new survey will be carried out in the over-wintering area of the West Greenland beluga in March 2004. If the survey is successful, it will provide an abundance estimate with which to update the assessment of this stock. The Management Committee therefore endorsed the plan of the SC to update this assessment in 2005, jointly with the Scientific WG of the JCNB.	The survey was not successful in 2004, and may be attempted again in 2005.	Completed
		The SC agreed that the recommendation provided in 2004, that the total removal in West Greenland should be reduced to no more than 135 individuals, should be provided again and with greater emphasis. (SC/13, 2005)		
3.4.8	NAMMCO/14 03-2005	To carry out an assessment of East Greenland narwhal, and provide an estimate of sustainable yield for the stock. The management objective in this case is to maintain the stock at a stable level. If the assessment cannot be completed with available information, the SC should provide a list of research that would be required to complete the assessment.	Given that almost nothing is known about the stock structure and seasonal migrations of East Greenland narwhal, and that the abundance estimate for Scoresbysund is more than 20 years old, a reliable assessment is not possible without new information. Research recommendations are provided (SC/13, 2005).	Replaced by 3.4.11
			The SC considered that there were enough data to warrant an update on the assessment of belugas and narwhal and recommended that the JCNB/NAMMCO Joint WG meet before March 2009. (SC/15, 2008)	

3.4.9	NAMMCO/14 03-2005	To provide advice on the effects of human disturbance, including noise and shipping activities, on the distribution, behaviour and conservation status of belugas, particularly in West Greenland.	<p>The SC conveyed this request to the JCNB/NAMMCO Joint WG to consider at their next meeting, probably in late 2007 or 2008 (SC/14, 2006).</p> <p>The SC recommended that this item be on the agenda of the meeting of the JCNB/NAMMCO Joint WG, recommended to meet before March 2009. (SC/15, 2008).</p> <p>The SC is not in the position to progress on this issue at this point and <b>recommends</b> that habitat-related concerns becomes a standing item on the JCNB/NAMMCO JWG agenda. It may be difficult, if not impossible, to answer the specific request for beluga for several years to come. The SC notes that many of the habitat concerns apply to other marine mammals besides beluga and therefore it may be appropriate to treat all species together in addressing this topic. As a way forward, the SC <b>recommends</b> that the Council consider extending the scope for a more general request with the SC establishing a WG on the impacts of human activities other than hunting on marine mammals in the North Atlantic. Ugarte is suggested as Chair. Terms of Reference for the first meeting would be the evaluation of impact of seismic, shipping and tourist activities on the distribution, behaviour and conservation of marine mammals. (SC/16, 2009).</p> <p>The JWG and the SC (SC/19) recommended holding an international symposium on the effect of seismic and other development activities on arctic marine mammals with a focus on beluga and narwhal. (SC/19, 2012)</p> <p>Relating to <b>Request 3.4.9</b>: In 2011, the SC proposed a symposium on beluga and narwhals in relation to disturbance and industrial activities. The SC <b>recommends</b> this symposium to be held in 2015 and awaits further guidance from Council before proceeding with the planning (SC/20, 2013).</p>	Ongoing
	NAMMCO 22 02-2014	To continue planning of the disturbance workshop for beluga and narwhal, and also recommends including walrus.	<p>The SC <b>recommended</b> broadening the scope of the Symposium and include presentations from other species/research. A number of external experts will be required for this meeting (SC/21, 2014).</p> <p>Answered as far as is possible with the information that is currently available. However, this request remains ongoing, and should be considered again when additional specific information is available. (SC/24, 2016)</p>	
3.4.10	NAMMCO/14 03-2005	Surveys for estimating abundance and trends are an essential component of the assessment of the conservation status of all marine mammals. It is recognized that the planning, conduct and interpretation of surveys is a very contentious issue between hunters, managers and scientists in Greenland. Such surveys must be planned using the best available expertise, including input from hunters, so that all will have confidence in their results. It is therefore <b>recommended</b> that future surveys for beluga and narwhal should be planned using the international expertise available through the SC, and with input from hunters at the planning stage. In addition, if and when new survey methods are applied, they should be calibrated against previously used methods so that the validity of the survey series for determining trends in abundance is insured.	<p>The SC noted that that the survey carried out in 2006 had been planned with consideration of the recommendations of the Committee and with extensive consultations with local hunters. The SC recommended that the plans for the survey of Inglefield Bredning/Melville Bay scheduled for August 2007 be reviewed by the T-NASS Planning Committee at their next meeting (SC/14, 2006).</p> <p>The plans for the 2007 narwhal and beluga surveys were not presented to the T-NASS committee and therefore not reviewed by this committee. (SC/15, 2008)</p> <p>Advice from hunters was sought for organising the 2006 and 2007 aerial survey off West Greenland. However the SC regrets that the survey plans had never been submitted to the Abundance Estimates WG as indicated. (SC/16, 2009)</p> <p>An aerial survey of narwhals was conducted in the North Water in May 2009 and 2010 with the purpose of developing a fully corrected abundance estimate. The resulting abundance estimates were 10,677 narwhal (6,120-18,620) in 2009 and 4,775 narwhals (2,417-9,430) in 2010. The JWG and the SC (SC/19) approved that these abundance estimates can be used for assessment purposes of the Inglefield Bredning stock.</p> <p>Aerial surveys of belugas were conducted in the North Water in May 2009 and 2010 with the purpose of developing fully corrected abundance estimates. The resulting abundance estimates were 2,008 beluga (95% CI 1,050-3,850) in 2009 and 2,482 beluga (95% CI 1,439-4,282) in 2010. (SC/19, 2012)</p>	Completed (SC21)

3.4.11	NAMMCO/17 09-2008	To update the assessment of both narwhal and beluga, noting that new data warrant such an exercise.	<p>The SC/16 endorses the assessment performed by the JWG.</p> <p>Narwhal: noted that the conclusion reached differed from those reached in 2005. It <b>recommends</b> that catches be set so that there is at least a 70% probability that management objectives (population increase) will be met for West and East Greenland narwhals, i.e. maximum total removals of 310 and 85 narwhals in West and East Greenland respectively. (SC/16, 2009)</p> <p>Beluga: the catch of belugas in West Greenland has been reduced in response to previous advice. These reduced takes already seem to be having a positive effect on population size. The modelling for belugas rests on a more solid background than that of narwhals because of simpler stock structure, however since there is still uncertainty in the assessment, the SC strongly recommends that future catches be set according to the probability of population increase of at least 70%. Annual takes between 180 to 310 individuals over the next 5 years will leave the population at a 70% to 95% probability of a continued increase until 2014. (SC/16, 2009)</p> <p>Narwhal update: The JWG and the SC (SC/19) agreed that narwhals in Scoresby Sound (Ittoqqortormiit) and Kangerlussuaq-Sermilik (Tasiilaq) should be treated as two separate stocks. The age structure from animals collected between 2007 and 2010 in Ittoqqortormiit was applied to both areas, and the harvest was found to select older animals. It was estimated that narwhals in the Ittoqqortormiit area have increased slightly, while narwhals in the Tasiilaq/Kangerlussuaq area might be stable. The current growth rate in the absence of harvest was estimated to lie between 1.2% (95% CI:0-3.5) and 3.7% (95% CI:1.6-5.9), depending upon model and area. Proposed quotas ranged from 17-70% (Ittoqqortormiit) with probability of 95-70% increase in population and 0-18 (Tasiilaq) with probability of 95-70% increase. (SC/19, 2012)</p> <p>Beluga update: The JWG considered, and SC agreed (SC/19), that the revised assessment models, which incorporate the age structure data but no new abundance estimate, confirmed that the current removals based on the 2009 advice are sustainable. Based on a 70% probability of population increase, it is concluded that a total annual removal of 310 beluga in West Greenland (excluding Qaanaaq) is sustainable. A new and updated advice is expected at the next meeting based on a new abundance estimates from the spring survey in 2012, and the SC noted that new abundance estimates for assessments should be available at least every 10th year. (SC/19, 2012)</p> <p>No specific advice was given on the North Water (Qaanaaq), since the current removals remain at a low level relative to the population size. No advice was given for the harvest in Canada. (SC/19, 2012)</p> <p>Results from different scenarios of the age structured population dynamic model were presented, providing annual growth rate estimates from 3.2% to 5%, in the absence of harvest. The depletion ratio for 2012 was estimated to 44% (95% CI: 16%-88%), with a yearly replacement of 510 (95% CI:170-780) individuals. (SC/19, 2012)</p>	Standing
3.4.12	NAMMCO/19 09 2010	To provide advice on sustainable takes of narwhal from the Kane Basin in spring, summer and fall.	<p>The request is part of the ToR for the NAMMCO/JCNB JWG meeting scheduled for 12 – 18 February 2012. (SC/18, 2011)</p> <p>The JWG and the SC agreed that the models explored at the current meeting, incorporating recent abundance estimates, updated age distribution data and new movement information from satellite tracking, confirmed that the current quotas in Greenland, for each stock area (Table 1), are sustainable:</p> <p>Table 1.</p> <p><b>Area / Current Quotas</b></p> <p>Inglefield Bredning = 85  Melville Bay = 81  Uummannaq = 85  Disko Bay = 59  Total = 310</p> <p>A new and updated advice is expected from the next JWG meeting, based on the allocation method to be developed at the proposed intercessional meeting. (SC/19, 2012)</p>	Completed/Considered part of 3.4.11 (SC/21, 2014)
3.4.13	NAMMCO/19 09 2010	In view of recent dynamic changes in the environment the SC is requested to reconsider the temporal and geographical restrictions on the takes of beluga from West Greenland within the framework of the NAMMCO/JCNB JWG.	<p>The request is part of the ToR for the NAMMCO/JCNB JWG meeting scheduled for 12 – 18 February 2012. (SC/18, 2011)</p> <p>Beluga: The JWG and the SC (SC/19) reiterated the recommendations for seasonal closures:</p> <ul style="list-style-type: none"> <li>• Northern area (Uummannaq, Upernavik and Qaanaaq): June through August</li> <li>• Central area (Disko Bay): June through October</li> <li>• Southern area (south of Disko Bay to 65°N): May through October.</li> <li>• The area south of 65°N, closed for hunting.</li> </ul> <p>The purpose of these closures is to allow for the possibility of reestablishment of local aggregations of belugas in Greenland. (SC/19, 2012)</p> <p>Concerning R-3.4.13. Greenland reported that it was discussed thoroughly at last year's meeting but cannot see that it was reflected in last year's report. The MC views this request as completed (NAMMCO 22).</p> <p>There is no new information on R-3.4.13 (SC/20, 2013).</p>	Completed
3.4.14	NAMMCO/24 03-2016	To examine the data existing on beluga in East Greenland (sightings, strandings, bycatch, catch) and examine how these material can be used in an assessment process and advice on how this data can be improved.	<p>... there was one beluga sighting in East Greenland during NASS2015. The conclusion of the SC is that it is very unlikely that the SC would be able to conduct an assessment in the future (SC/23-2016)</p>	Ongoing

<b>3.5.0</b>	<b>SEI WHALES:</b>			
<b>3.5.1</b>	NAMMCO/16 02-2007	To investigate the status of sei whales in East and West Greenland waters, and provide estimates of sustainable yield.	The SC recommended that the assessment WG for fin and humpback whales should make a state of the art investigation about the possibility of providing a status for sei whales in East and West Greenland waters. (SC/15, 2008). See item 3.5.2.	Replaced by 3.5.3
<b>3.5.2</b>	NAMMCO/17 09-2008	To review the new data from T-NASS and associated surveys and report on the status of sei whales through the Fin Whale assessment WG.	The SC reiterates its recommendation that the WG on Large Whale Assessment makes a state of the art investigation about the possibility of providing a status assessment for sei whales in East and West Greenlandic waters. (SC/16, 2009).	Replaced by 3.5.3
<b>3.5.3</b>	NAMMCO/18 09/2009	To make a state of the art investigation about the possibility of providing a status assessment for sei whales in East and West Greenlandic waters and in waters West of Iceland.	Abundance estimates are available from the NASS surveys in the Central North Atlantic (1989 and 1995) and one more could be produced from the 2007 surveys. In addition, estimates for East and West Greenland area are available from the 2005 survey. These estimates are incomplete in temporal and spatial coverage and cannot be used for a formal assessment of the stock's maximum sustainable yield. The estimates, however, could be used as minimum estimates. The SC concluded that assessments with minimum estimate of sustainable yield rates should be feasible once a minimum abundance estimate from the 2007 surveys has been produced. (SC/17)	Completed
<b>3.5.3 amended</b>	NAMMCO/19 09-2010	To assess the status of sei whales in West Greenland waters and the Central North Atlantic and provide minimum estimates of sustainable yield...	<p>The SC notes that the RMP could be applied using existing data. The resulting catch limits would consequently be lower than the stock could sustain. A prerequisite for initial assessment work is the recalculation (including considerations of extrapolation) of abundance estimates for a comparable area and assessing the extent of negative bias for the reasons mentioned above. Advice based on an RMP approach would require an initial assessment and likely the development of implementation trials. (SC/18, 2011)</p> <p>There is no new information available with regards to this request.</p> <p>The SC noted that the SC of the IWC has initiated a review of available data on North Atlantic sei whales with the view conducting an RMP implementation. Given the busy schedule of the IWC RMP sub-committee, such an implementation is not expected to be completed until 2017 or later. To avoid double work, the NAMMCO SC agreed to monitor the outcome of the IWC SC review of available data scheduled in 2014 before proceeding with an assessment. (SC/20, 2013). This suggestion to wait for the outcome of the IWC SC review before conducting their own review was endorsed by the MCC (NAMMCO 22, 2014).</p> <p>Like in most previous surveys there were not enough sightings in NASS2015 to develop any abundance estimates. (SC/24, 2017)</p>	Ongoing



<b>3.6.0</b>	<b>NORTHERN BOTTLENOSE WHALES:</b>			
<b>3.6.1</b>	NAMMCO/02 01-1993	To undertake an assessment of the status of the northern bottlenose whale ( <i>Hyperoodon ampullatus</i> ) stock in the North Atlantic.	A WG on Northern Bottlenose and Killer Whales established, and provided a preliminary assessment which was used as the basis of advice and recommendations for further research given by the SC. (SC/2, 1993).	Completed
<b>3.6.2</b>	NAMMCO/04 02-1994	To undertake the necessary modelling of the species as suggested under ... items 9.2. and 10.2.2 of ...[the Report of the Third Meeting of the SC, 1993].	A joint session was held of the WG on Northern Bottlenose Whales and the WG on Management Procedures in order to consider the request from the Council to undertake the necessary modelling of the population using catch series and abundance estimates. Their report was used as the basis for advice and research recommendations conveyed by the SC. (SC/3, 1995).	Completed
<b>3.7.0</b>	<b>KILLER WHALES:</b>			
<b>3.7.1</b>	NAMMCO/02 01-1993	To advise on stock identity for management purposes; to assess abundance in each stock area; to assess effects of recent environmental changes, changes in the food supply and interactions with other marine living resources in each stock area.	A WG on Northern Bottlenose and Killer Whales established by the SC, and provided a preliminary assessment. This provided the basis for advice and research recommendations given by the SC. (SC/2, 1993). The Chairman noted that it had not yet been possible to complete a full assessment of the killer whale as requested by the Council. Few new data were available, other than recent sightings data from NASS-95 which had not been analysed. (SC/5, 1997).	Completed
<b>3.7.2</b>	NAMMCO/13 03-2004	To review the knowledge on the abundance, stock structure, migration and feeding ecology of killer whales in the North Atlantic, and to provide advice on research needs to improve this knowledge. Priority should be given to killer whales in the West Greenland – Eastern Canada area.	<p>The SC concluded that there was not enough information to carry out the assessment at this time, particularly for the West Greenland area. The SC will review new information on killer whales annually with the aim of completing the assessment once sufficient information becomes available for a particular area.</p> <p>Not enough information still. (SC/15, 2008)</p> <p>Situation unchanged. (SC/16, 2009)</p> <p>SC/20 again noted that there is not sufficient new information to answer this request at this time. (SC/20, 2013)</p> <p>SC/20 noted higher levels of annual catches (19 on average per year from 2010 and 2012) in West Greenland. The SC was then informed that the recent catch statistics on killer whales in West Greenland have not been validated, and at this meeting the SC noted that these catch statistics still have not been validated. The SC reiterates the recommendation that all catch data on killer whales are validated before the next SC meeting, so that it is possible for the SC to monitor the development of the hunt. (SC/20, 2013)</p> <p>There is still not enough information to answer the request. Unfortunately catch information in Greenland was not available for review by the SC at this meeting. (SC/21,2014)</p> <p>SC/22 noted that these catch statistics still have not been validated. The SC reiterates the recommendation that all catch data on killer whales are validated before the next SC meeting, so that it is possible for the SC to monitor the development of the hunt. (SC/22, 2015)</p> <p>Catches in Greenland have not been validated by the Ministry. The catches are now starting to be too old to be validated [and] the SC recommends that catch validation should be done on an annual basis... in answer to R-3.7.2, this is a species that is hunted in Greenland, with uncertain catch statistics, and no abundance estimate. Work is ongoing that will help in answering this request, and the SC recommends that this information is gathered with more speed in order for the SC to be able to monitor the hunt. (SC/23, 2016)</p> <p>SC/24 recommended the production of a status paper for NA killer whales (SC/24, 2017)</p>	Ongoing

3.8.0	LONG-FINNED PILOT WHALES:			
3.8.1	NAMMCO/01 09-1992	To provide an assessment of the state of the pilot whale stock in the north eastern Atlantic, based on the information sampled from the Faroese drive fishery and the NASS sighting surveys.	The SC decided to base its advice on the report of the ICES Study Group on Long-Finned Pilot whales. They concluded that an evaluation of status could not be provided without further work. (SC/2, 1993)	Completed
3.8.2	NAMMCO/2 01-1993	To analyse the effects of the pilot whale drive hunt in the Faroe Islands on North Atlantic pilot whales ( <i>Globicephala melas</i> ), especially whether the numbers taken are consistent with sustainable utilisation.	This matter was addressed by the SC, based on the findings of the ICES Study Group and the review of the results of NASS-95. The SC agreed to endorse the list of future research requirements listed by the ICES Study Group in its report, and provided advice on the sustainability of the Faroese catch. (SC/5, 1997)	Completed
3.8.3	NAMMCO/16 02-2007	<p>It is noted that it had been over 10 years since the SC concluded its assessment of pilot whales. It was recommended then that a monitoring programme for pilot whales caught in the Faroese drive hunt be implemented. The SC is requested to develop a proposal for the details of a cost-effective scientific monitoring programme for pilot whales in the Faroes.</p> <p>MC agrees with the SC that R-3.8.3 is completed (NAMMCO/24)</p>	<p>The SC convened a WG for developing such a proposal, under the chairmanship of C. Lockyer. The monitoring programme is under development. (SC/15, 2008)</p> <p>In 2008, the SC presented a detailed plan with options for different scales of monitoring relative to costs. In particular, the SC noted that it needed an intensive short-term catch sampling programme of sex and age distribution over a 3-year period to be implemented in order to assess the variability within- and between years and compare with the 1986-88 sampling programme, before it could identify a cost effective long-term monitoring plan. Such a short-term programme has not been implemented yet, so the SC has not considered this issue again for 2009. (SC/16, 2009)</p> <p>The Faroes have increased the efforts in the sampling program of harvested animals, prioritizing obtaining ages, skin samples, and reproductive parameters for each animal. A total of 270 animals were sampled in 2013. (SC/21, 2014)</p> <p>Regarding R-3.8.3, taking into account the recommendations made by the 2008 Pilot Whale WG (Qeqertarsuaq, Greenland) that were organized in response to this request, the Faroes has developed a scientific monitoring programme to update biological parameters. As reported in the NPR, a number of samples have been collected including samples for ageing, reproductive information, and stomach samples for diet. The plan is to continue to collect samples from every drive and deliver results to the next assessment meeting. Based on this information, the SC considers R-3.8.3 completed and awaits further guidance from Council. (SC/22, 2015)</p>	Completed (SC/22 and NAMMCO/24)
3.8.4	NAMMCO/16 02-2007	<p>Bearing in mind that T-NASS in 2007 was expected to provide a better basis for an updated abundance estimate for pilot whales in the North Atlantic, the SC to make sure that both the methodology and the coverage of T-NASS take into account the need for reliable estimates for pilot whales. In addition, priority should be given to the analysis of data on pilot whales after the completion of T-NASS.</p> <p>The MC commented on the wording of "concern for managers" in the SC report. Mikkelsen reported that the concern lies with the issue that it is unknown how the animals in the abundance estimates are related to the stocks that contribute to the hunt in the Faroes. Ongoing work will continue into abundance estimates and stock identity.</p> <p>The MC noted that a new abundance estimate is anticipated after TNASS2015 (NAMMCO 22).</p> <p>The MC agreed with the SC that R-3.8.3 is completed. (NAMMCO/24)</p>	<p>The T-NASS committee took pilot whale into consideration when designing the survey. The WG on Abundance Estimate reviewed the data collected and gave advice for analysis and recommended that these be initiated immediately. The Faroes took the lead in this. (SC/15, 2008)</p> <p>See item 1.7.11 (SC/16, 2009)</p> <p>The SC recommended in 2009 that an index of relative abundance be developed and applied to the area that is common to all surveys, with the aim of determining trends in abundance over the full period of the NASS. Pike et al. (SC/20/18) was presented at SC/20. CDS was used to develop indices of relative abundance. The results are suggestive of a decline in abundance over the past two decades, although no firm conclusions could be reached about the reality or causes of the apparent decline in the relative abundance of pilot whales in the index areas. The role of operational changes in the surveys is equivocal and could have led to either a reduction or exaggeration of the observed trend. If the trend is real, it may have been caused, enhanced or lessened by possible changes in the wider distribution of pilot whales in the area. Although it seems very unlikely that an annual harvest of around 1,000 whales could have caused the population to decline, the apparent reduction of pilot whale abundance in the index areas, which includes the hunting area around the Faroes, should be of concern for managers (SC/20, 2013).</p> <p><b>R-3.8.4</b> refers to T-NASS 2007, and the SC considers this request now <b>completed</b>.</p>	Completed (SC/22 and NAMMCO/24)
3.8.5	NAMMCO/19 09 2010	To assess the status of long-finned pilot whales in West Greenland waters and provide minimum estimates of sustainable yield.	<p>The <b>SC recommends</b> that a pilot whale WG meeting be held to perform assessments and aim at providing advice on sustainable removals for pilot whales around the Faroes Islands and West Greenland. This meeting awaits progress on abundance estimates and stock structure from the Faroes.(SC/18, 2011)</p> <p>Update: The average annual catch of long-finned pilot whales in West Greenland during 1993-2007 was 126 whales. An aerial survey conducted in 2007 with partial coverage of the potential pilot whale habitat (Figure 4, above) revealed an abundance of 7,440 animals (95% CI 3,014-18,367) which has been approved by the NAMMCO SC. Applying a PBR approach (rmax of 3% and recovery factor of 1), it is suggested that a sustainable harvest level of pilot whales taken from this abundance would be around 50 whales per year. An estimate based on the AWMPc procedure, suggests that an annual take 70 whale is sustainable. However, the survey did not cover the entire range of pilot whales in West Greenland and the summer aggregation in West Greenland cannot be considered an isolated stock. Instead, it is likely connected to pilot whales along Labrador and at Newfoundland, and the occurrence and abundance in West Greenland is probably influenced by the sea temperature regimes in the area (Fullard <i>et al.</i> 2000), although the extent of this is not known. (SC/19, 2012)</p>	Replaced by 3.8.6 (SC/22 and NAMMCO/23)

3.8.6	NAMMCO/20 09-2011	<p>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. In the short term, the SC was requested to provide a general indication of the level of abundance of pilot whales required to sustain an annual catch equivalent to the annual average of the Faroese catch in the years since 1997.</p>	<p>SC/19 agreed that it was unlikely that a full assessment could be attempted in the near future. Regarding a short term advice, the SC noted that both the AWMPc procedure (which has been used for preliminary advice for baleen whales in West Greenland by NAMMCO and the IWC), as well as the PBR approach, could be used for an inverse advice calculation of the minimum abundance required to sustain the average take by the Faroese. (SC/19, 2012)</p> <p>With the average annual catch by the Faroese since 1997 being 678, and the CV of the latest abundance estimate being 0.27, the AWMPc procedure estimates that an abundance estimate around 50,000 pilot whales and a similar precision is required to sustain the catch. In comparison, the PBR approach (rmax of 3% and recovery factor of 1) calculates an abundance estimate around 80,000 whales. These calculations reflect precautionary estimates of the minimum abundance estimates required to sustain the Faroese hunt. However, the geographical range of the stock(s) that supply the Faroese hunt is unknown, and it is unresolved how the calculated estimates compare with the accepted estimate of 128,000 (95% CI: 75,700-217,000) pilot whales from the Icelandic and Faroe Islands area of T-NASS.</p> <p>The next assessment will not occur until after the next sightings survey. (SC/21, 2014)</p> <p>The remaining unanswered portions of <b>R-3.8.6</b> awaits new data from NASS2015. The West Greenland part was dealt with during SC/19 and the SC refers Council to that report. (SC/22, 2015)</p>	Ongoing
-------	-------------------	---	---	---------

3.9.0	<b>DOLPHIN SPECIES (<i>Tursiops</i> and <i>Lagenorhynchus</i> spp.):</b>		
3.9.1	NAMMCO/07 05-1997	The Council <b>recommended</b> that NAMMCO member countries study the ecological interaction between dolphin species (e.g., <i>Lagenorhynchus</i> spp.) and fisheries, with the view to future assessments of such interactions.	Not addressed due to insufficient information.  Replaced by 3.9.6
3.9.2	NAMMCO/08 09-1998	Noting that ecological interactions between dolphin species of the <i>Lagenorhynchus</i> genus and fisheries have caused concern in NAMMCO countries, the SC is requested to perform an assessment of distribution, stock identity, abundance and ecological interactions of white-beaked and white-sided dolphins in the North Atlantic area.	The SC noted that the IWC SC had dealt with these species in 1996. Generally, it was considered that there is insufficient information on stock structure, abundance and feeding ecology to carry out a meaningful assessment of these species at this time. Some new information on abundance may become available from the NASS-95 survey, but these data have not yet been analyzed. The SC agreed to begin compiling available information on these species in member countries, with the objective of identifying knowledge gaps and creating a basis for assessment in the longer term. (SC/7, 1999)  Replaced by 3.9.6
3.9.3	NAMMCO/09 10-1999	<p>It is noted the conclusion of the SC that there is insufficient information on stock structure, abundance and feeding ecology to carry out a meaningful assessment of these species at this time.</p> <p>It is further noted that, in addition to the focus of the Management Committee's former request for advice on these species in relation to their ecological interactions with fisheries, these dolphin species are harvested in significant numbers in the Faroe Islands.</p> <p>The Management Committee therefore agreed to recommend that the SC be requested to facilitate the requested assessment of these species, with an emphasis on the following:</p> <ul style="list-style-type: none"> <li>- to analyse results from NASS 95 and other sightings surveys as a basis for establishing abundance estimates for the stocks;</li> <li>- to coordinate the efforts of member countries to conduct research to fill the noted information gaps, taking advantage in particular of the sampling opportunities provided by the Faroese catch, as well as dedicated samples in other areas.</li> </ul>	<p>The SC noted that the NASS surveys were optimised for species other than dolphins, and that in some cases, it was not possible to identify dolphins to species. In these cases, mapping of sightings may be the only analysis warranted. Further analyses may be feasible from the Faroese and Icelandic survey areas, and the SC made preparations to begin these analyses. (SC/8, 2000)</p> <p>These species are harvested sporadically in drive hunts in the Faroe Islands, and there is some by-catch in Iceland. They are rarely taken in Norway or Greenland. Scientific papers on feeding ecology and life history in Icelandic waters are expected to be published soon. The SC recommended that a sampling program be initiated in the Faroe Islands for white-sided, white-beaked and bottlenose dolphins, primarily to collect information on feeding ecology, life history and stock delineation. They also recommended that sampling should continue in Iceland and Norway on an opportunistic basis. (SC/8, 2000)</p> <p>Replaced by 3.9.6</p>
3.9.4	NAMMCO/09 10-1999	<p>It is noted that bottlenosed dolphins, like white-sided and white-beaked dolphins, are also harvested in the coastal drive fishery in the Faroe Islands.</p> <p>It is agreed to recommend that, in connection with the updated request for advice from the SC on white-sided and white-beaked dolphins, that bottlenosed dolphins also be included in this assessment.</p>	 <p>Replaced by 3.9.6</p>
3.9.5	NAMMCO/10 09-2000	It is noted that the requested assessments for these species could not at present be completed because of a lack of information on stock identity, distribution, abundance and biology. The Management Committee therefore recommended that the SC monitors developments in this area and continues its assessments, as new data become available.	The Committee noted that considerable progress has been made in the Faroes in describing the ecology and life history of white sided dolphins, but that some analytical work remains to be completed and sampling will continue. At this point the SC considered that there was still insufficient information on abundance, stock relationships, life history and feeding ecology to go forward with the requested assessments for these species. This may become feasible by 2007. (SC/11, 2003).  Replaced by 3.9.6
3.9.6	NAMMCO/13 03-2004	<p>The SC was asked to carry out assessments of these species, but to date insufficient information has been available on stock delineation, distribution, abundance and biological parameters to initiate the work. The Committee was pleased to note that considerable progress has been made in the Faroes in describing the ecology and life history of white-sided dolphins and that information on white-beaked dolphins should be available from Iceland and Norway in about 2 years time. Abundance estimates are lacking in all areas except Icelandic coastal waters, and no information on stock delineation or pod structure is yet available. The SCANS survey planned for 2005/6 and coastal surveys planned for Norway (see 9.3) should provide information on distribution and abundance in some areas. The Committee endorsed the plan of the SC to proceed with the assessments once the above-mentioned studies have been completed, probably by 2007.</p> <p>The MC notes the report of the SC, awaits the publication from the previous sampling. (NAMMCO/24, 2016)</p>	<p>There is still insufficient data on these species to conduct an assessment, but the SC <b>recommended</b> that abundance be estimated for white-sided and white-beaked dolphins from the 2007 T-NASS survey as soon as possible. An assessment of the species could be attempted in 2009 at the earliest. (SC/15, 2008)</p> <p>The Committee notes that there are still not enough data (life history and abundance) for any of the three species to complete an assessment. The Faroes have samples for diet and life history parameters from 350 white-sided dolphins, but the analysis is not completed yet. (SC/16, 2009)</p> <p>The SC <b>noted</b> that the data on life history and abundance for any of the three species is still not sufficient for an assessment and <b>recommended</b> that the Faroese samples for diet and life history parameters from 350 white-sided dolphins be finalised and at the same time that an abundance estimate from the 2007 survey be attempted. (SC/17, 2010)</p> <p>The SC noted that there is no new data available to answer this request. Mikkelsen informed that the data collected from the drive hunt of white sided dolphins in the Faroes will be published before the next SC meeting. (SC/20, 2013)</p> <p>SC/21 noted that there is no new information for bottlenose dolphins from the Faroes and the analysis from previous studies of white sided dolphins have not been completed. (SC/21, 2014)</p> <p>Some sampling has been occurring in the Faroes previously, however no new samples have been collected recently because there have been very few catches in recent years. The results from the previous sample collections have yet to be published. (SC/22, 2015)</p> <p>Pending</p>

3.10.0 HARBOUR PORPOISES:

<p>3.10.1</p>	<p>NAMMCO/07 05-1997</p>	<p>The Council noted that the harbour porpoise is common to all NAMMCO member countries, and that the extent of current research activities and expertise in member countries and elsewhere across the North Atlantic would provide an excellent basis for undertaking a comprehensive assessment of the species throughout its range. The Council therefore requested the SC to perform such an assessment, which might include distribution and abundance, stock identity, biological parameters, ecological interaction, pollutants, removals and sustainability of removals.</p>	<p>SC/06 decided that the matter could best be dealt with by convening an international workshop / symposium on harbour porpoises, which would involve experts working on this species throughout its North Atlantic range. The agenda would include the following themes: distribution, abundance and stock identity; biological parameters; ecological interactions; pollutants; removals and sustainability of removals. (SC/6, 1998)</p> <p>SC/08 utilised the report of the Symposium to develop its own assessment advice to the Council. Recent abundance estimates are available for only a few places in the North Atlantic. Directed harvesting occurs in some areas, but most removals are through by-catch. In some areas, present removals are not sustainable. The SC developed research recommendations to address some of the information needs for management of this species. (SC/8, 2000)</p> <p>The SC considered that formal assessments for this species were warranted for Greenland, Iceland and Norway, but that there was insufficient information on abundance in all areas and removals in Iceland and Norway to conduct assessment at this time. (SC/14, 2006)</p> <p>Estimates of abundance and removals are still needed in all areas. The T-NASS survey will provide an estimate for the coastal area around Iceland, and maybe Greenland but will not do so for other areas. (SC/15, 2008)</p> <p>Information was still lacking on abundance in all areas and removals in Faroes, Iceland and Norway in order to conduct an assessment. Such an assessment can be performed when the ongoing analyses cited above are completed, maybe end of 2010 or early 2011, providing that data on total removals are also available. (SC/16, 2009)</p> <p>The SC recommended that an assessment meeting for harbour porpoises in all areas be held during the winter 2011/12. The SC recommended that the Faroese authorities make sure that obligatory reporting of takes of harbour porpoises is effective. Total removal estimates should be obtained for all areas before the planned WG meeting. It also recommended that abundance estimates from the 2007 survey in Iceland and the 2010 survey in the Faroe Islands become available before the meeting. (SC/18, 2011)</p> <p>Update: A total annual by-catch estimate of 6,900 harbour porpoises in Norway was reported. This estimate is substantial, and it raises concerns that the by-catch of harbour porpoises in Norway may not be sustainable. Therefore the SC recommended initiating an assessment of harbour porpoises in Norway. This process should include <i>i</i>) reviewing the by-catch estimates <i>ii</i>) examining the relevant abundance estimates <i>iii</i>) assessing the need for coastal surveys of harbour porpoises in Norway <i>iv</i>) investigating the use of satellite tracking for stock delineation, and <i>v</i>) evaluating the use of acoustic deterrents (pingers) in the gillnet fishery in order to reduce the by-catch.</p> <p>Greenland reported that they had sufficient data for an assessment of harbour porpoises in West Greenland. A catch history is available, a recent abundance estimate, as well as two samples of the age structure (from 1995 and 2010). The SC also noted the existence of abundance estimates from both Iceland and the Faroe Islands, as well as some estimates of by-catch in Iceland. (SC/19, 2012)</p> <p>The NAMMCO WG on Harbour Porpoises met in Copenhagen 4-6 November 2013. This was the first meeting and terms of reference was to provide a full assessment for West Greenland, and to initiate the process for Norway, including a review of the method used for obtaining total by-catch estimates.</p> <p><i>Greenland</i></p> <p>Given the large degree of uncertainty in the abundance estimate and the catch history, and the effect of this on the results of the assessment models, the WG was unable to provide management advice for West Greenland at this time. Nevertheless, the WG noted that the average annual catches since 1993 in West Greenland were 2126 harbour porpoises and that a large abundance is needed to sustain such catches. Given the recent discovery of high uncertainty in catches, the WG strongly recommended that Greenland provides a complete catch history accounting for all types of underreporting of catches before any future attempts are made to conduct an assessment of harbour porpoises in West Greenland. The WG noted that T-NASS 2015 may provide a new abundance estimate for West Greenland and recommended that a new assessment not be considered until the outcome of this survey is known.</p> <p>Taking into consideration the work of the HP WG, the SC/21 recommends the following:</p> <p><i>Greenland</i></p> <ol style="list-style-type: none"> <li>1. Given the recent discovery of large uncertainty in catches, the SC strongly recommends that Greenland provides a complete catch history including all types of underreporting of catches before any future attempts are made to conduct an assessment of harbour porpoises in West Greenland.</li> <li>2. The SC noted that T-NASS 2015 may provide a new abundance estimate for West Greenland and recommended that a new assessment not be considered until the outcome of this survey is known</li> </ol> <p><i>Norway</i></p> <ol style="list-style-type: none"> <li>1. That Norway expand the information about by-catch giving the next priority to the lumpfish fishery by-catch.</li> <li>2. That surveys to estimate abundance in Norwegian coastal and fjord waters are carried out. These surveys should focus in the areas of highest by-catch (Vestfjorden). (SC/20, 2013)</li> <li>3. That both tracking and genetics studies be carried out to clarify stock delineation. Reliance on genetics data alone is not enough because movements are needed to inform on mixing and dispersion of the animals on a management time scale.</li> <li>4. That samples be collected from by-catches in Norway, to obtain data on sex ratio, reproductive status, age structure, diet, contaminants, etc. Again, the efforts should focus on the Vestfjord area, where most of the by-catches occur.</li> </ol> <p>A future harbour porpoise WG will be scheduled after a report from the Bycatch WG, new data from TNASS2015, and progress on research requests from the 2013 HPWG. (SC/21, 2014)</p> <p>The SC discussed a possible future HPWG. Norway and Iceland both stated that they will likely not have the information ready for a meeting until 2018 and Greenland is also fine with waiting until 2018 for the next HPWG. The SC also supported the idea that a future meeting should include participants from ASCOBANS and other EU scientists. (SC/23, 2016)</p>	<p>Ongoing</p>
---------------	------------------------------	--	--	----------------