

SUMMARY OF REQUESTS FROM THE NAMMCO COUNCIL TO THE SC & THE RESPONSES FROM THE SC TO THESE REQUESTS

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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; 3 – relevant to whales.				
Green boxes contain new requests.				
Orange boxes contain new responses from SC/25 2018				
Blue boxes indicate active ongoing requests that are more than 10 years old				
Yellow boxes contain a proposed change of status to completed				
Code	Council Meeting	Request to SC	Response of the SC (in parenthesis SC meeting)	Status
1	ALL MCs // GENERAL & ALL MARINE MAMMALS			
1.1.0	MARINE MAMMAL – FISHERIES INTERACTIONS:			
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) SC/25 mentioned that the work on-going under BYCWG provides some answers to this request (SC/25, 2018)	Standing
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) This request should be kept as ongoing until the results expected from Iceland are presented in the SC. (SC/21, 2014) SC/25 noted that the joint analyses of the data gathered through the whole NASS series are in progress (SC/25, 2018)	Ongoing
1.2.0	MULTISPECIES APPROACHES TO MANAGEMENT:			
1.2.1	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) <i>A large-scale ecosystem modelling project (MAREFRAME) is underway which includes marine mammals in Icelandic and adjacent waters. (SC/21, 2014)</i> SC/25 noted that the outputs of the recently finished MareFrame project, and similar projects, represent an important milestone towards answering this request. However the SC also agreed that further work is needed to refine and update the currently available models if they are to provide advice on marine mammal interactions with fisheries, both direct and indirect. (SC/25, 2018)	Ongoing
1.2.2	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) SC/25 noted that the analyses of the data gathered through the whole NASS series is close to completion, included analysis of trends. (SC/25, 2018)	Standing

1.4.0	ECONOMIC ASPECTS OF MARINE MAMMAL-FISHERIES INTERACTIONS:			
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)	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). SC/24 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) SC/25 considers that the request to review the results of the MareFrame project has now been met (SC/25, 2018).	Completed?
1.5.0	ENVIRONMENTAL ISSUES:			
1.5.3	NAMMCO/24 04-2016	SC/25 received an update regarding the plan to build a railway to increase shipments from the mine to Milne Inlet and to increase shipping from Milne Inlet to Europe. The SC reiterated its recommendation that all information on the Mary River Project be presented to the next meeting of the NAMMCO-JCNB JWG in 2020	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) SC/25 received an update regarding the plan to build a railway to increase shipments from the mine to Milne Inlet and to increase shipping from Milne Inlet to Europe. The SC reiterated its recommendation that all information on the Mary River Project be presented to the next meeting of the NAMMCO-JCNB JWG in 2020 (SC/25, 2018)	Ongoing
1.5.4	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) SC/25 recommended that as part of the ongoing efforts to address this request, the Secretariat conduct a review of pollutants in all marine mammals relevant for NAMMCO (SC/25, 2018).	Ongoing
1.6.0	MANAGEMENT PROCEDURES:			
1.6.4	NAMMCO/24 03-2016	[SC and CHM are requested] 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.	SC/25 noted that this request is in the process of being answered through different working groups. The issue was specifically addressed within the walrus working group and is reflected in the recommendations (SC/25, 2018)	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.	SC/25 noted that this had been done within the walrus working group (SC/25, 2018).	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.	SC/25 recommended that an <i>ad hoc</i> working group containing a mix of expertise on large and small cetaceans and seals be established to provide an overview of working procedures in the SC, including the rationale behind specific decisions. This group will work together with the Secretariat to develop a draft document providing such a review (SC/25, 2018).	NEW

1.7.0	MONITORING MARINE MAMMAL STOCK LEVELS AND TRENDS IN STOCKS /NORTH ATLANTIC SIGHTINGS SURVEYS (NASS):			
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). Estimates of abundance for some key species are available and referred to in the SC report. (SC/17)</p> <p>SC/25 noted that although this work is still in progress, Table 7 of the SC/25 report presents an overview of the abundance estimates that were reviewed in 2018 and Appendix 6 of the report provides an overview of the status of the abundance estimates from the 2015-2016 NASS/NILS surveys. Not presented to the 2018 AEWG were abundance estimates for sei whale, bottlenose whale and killer whales for some areas. Minor work was still required for the minke whale in Iceland/Faroes and CM1a+CM3, further work required for Minke whale in Iceland coastal, Fin whale in CM1a+CM3, Humpback whale in CM1a+CM3, Sperm whale in CM1a+CM3, White-beaked dolphin in Iceland coastal and harbour porpoise in Iceland coastal (SC/25, 2018)</p>	Ongoing
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).	<p>The SC noted this new request, and will consider this again after T-NASS2015. (SC/21, 2014)</p> <p>SC/25 noted that this work remains to be done for fin whales (SC/25, 2018)</p>	Ongoing
2	SEALS AND WALRUS			
2.1.0	HARP AND HOODED SEALS			
2.1.4	NAMMCO/12 03-2003	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>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. 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) Updates on harp & hooded seals from WGHARP were presented at (SC/20, 2013) Updates on harp & hooded seals from WGHARP were presented at (SC/24, 2017). Most important information necessary to answer these requests will be the new survey in 2018. (SC/24, 2017)</p> <p>SC/25 noted that this will be addressed through the work of WGHARP in 2019 (SC/25, 2018).</p>	Standing
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.	<p>This request was forwarded to the ICES-NAFO WG, which dealt with this request at its meeting in Tromsø in 2008. (SC/15, 2008).</p> <p>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)</p>	Ongoing
	NAMMCO/21 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.	<p>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).</p> <p>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)</p> <p>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)</p> <p>SC/25 noted that this work on this is ongoing and will likely be at least partly answered by the WGHARP at its 2019 meeting (SC/25, 2018).</p>	

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). SC/25 noted that the second part of this request is dealt with by the Joint Norwegian – Russian Fisheries Commission and proposed that request 2.1.10 be rephrased as provide advice on Total Allowable Catches for the management of harp seals (SC/25, 2018).	
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.	...still not enough information...The SC recommended research (genetics, surveys) that will help towards responding to R-2.3.1 (SC/22, 2015). 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) SC/25 noted that this will be addressed through the planned Ringed Seal Working Group (SC/25, 2018).	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.	
	NAMMCO/22 02-2014	See 2.3.1 for update from NAMMCO 22.	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). 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) SC/25 suggested that it would need to know more about differentiation between hunts to address this and noted that there are now plans to prioritise this. Additional factors to examine would include: standard estimates of abundance, productivity, age distribution of the catch, and changes in necessary environmental parameters such as stable ice, snow conditions and glacial fronts. However, the SC also noted that assessing the status of ringed seals and the effects of harvests is difficult due to simultaneous changes in sea ice conditions, marine productivity and polar bear predation and that it would be challenging to produce estimates of sustainable catches without a significant investment of resources. (SC/25, 2018)	Standing

2.4.0	GREY SEALS:			
2.4.2	NAMMCO/11 02-2002	<p>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 recommended that the SC provide a new assessment of grey seal stocks throughout the North Atlantic.</p>	<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"> •Establishment and/or continuation of standardised and regular monitoring programmes for seal abundance in all countries, including the development of appropriate survey methods. •Securing catch records and associated data from hunted seals. •Quantification and standardisation of methods to estimate struck and lost and by-catch. •Population assessment of both species in Russia. •Survey of harbour seals along the coast of Iceland. •Studies to identify the population structure of Norwegian harbour seals. •Exploration of the south-eastern Greenland coast for the presence of harbour and grey seals. •Estimation of the stock identity, size, distribution and structure of the Faroese population of grey seals. •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 •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. •Compilation of a database of samples stored in the NAMMCO countries. (SC/18, 2011) <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). 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> <p>SC/25 noted that this work remains ongoing in the lead up to the CSWG in 2020 (SC/25, 2018).</p>	Ongoing
2.5.0	HARBOUR SEAL			
2.5.2	NAMMCO/16 02-2007	<p>To conduct a formal assessment of the status of harbour seals around Iceland and Norway as soon as feasible.</p>	<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>	
	NAMMCO/19 09-2010	<p>The geographical focus of this request is changed to entail ALL areas.</p>	<p>The SC recommends:</p> <ul style="list-style-type: none"> •Establishment and/or continuation of standardised and regular monitoring programmes for seal abundance in all countries, including the development of appropriate survey methods. •Securing catch records and associated data from hunted seals. •Quantification and standardisation of methods to estimate struck and lost and by-catch. •Population assessment of both species in Russia. •Survey of harbour seals along the coast of Iceland. •Studies to identify the population structure of Norwegian harbour seals. •Exploration of the south-eastern Greenland coast for the presence of harbour and grey seals. •Estimation of the stock identity, size, distribution and structure of the Faroese population of grey seals. •Completion of the ongoing genetic analyses of grey seal population structures for the north Atlantic including new samples from the Faroe Islands. 	Ongoing

			<p>The SC furthermore recommends</p> <ul style="list-style-type: none"> •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. •Compilation of a database of samples stored in the NAMMCO countries. (SC/18, 2011) 	
	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). 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> <p>SC/25 noted that this request has been completed for Norway and is ongoing for Iceland (SC/25, 2018)</p>	
2.6.0	ATLANTIC WALRUS:			
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] walruses, 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> <p>SC/25 highlighted that since this request was made in 2006, scallop fisheries may be less of an issue now, while fishing and shipping activities are still relevant, and tourism, hydrocarbon exploration and mineral extraction may be new stressors for walruses. It therefore proposed that the MC may wish to consider rephrasing the request to reflect these changes (SC/25, 2018).</p>	
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.	<p>SC/25 noted that this request has been addressed by the walrus working group (WWG). The SC endorsed all of the recommendations of the WWG and the recommended annual landed catch (with carry over permitted) was: for Baffin Bay a maximum of 84 animals, with 79 being caught in Greenland; for West Greenland-Southeast Baffin Island a maximum of 86 animals, with 74 in Greenland; and for East Greenland no more than 17 animals. (SC/25, 2018)</p>	Completed?

3.2.0	HUMPBACK WHALE:			
3.2.4	NAMMCO/15 03-2006 AMENDED NAMMCO/24 2016	<p>To conduct a formal assessment following the completion of the T-NASS.</p> <p>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.</p> <p>It is recommended that the Large Whale Assessment WG should not consider humpback whales at the upcoming meeting in Fall 2014 (NAMMCO 22).</p> <p>MCC 26 noted that the SC had used SLA to come with its management advice in relation to this request and emphasised that the use of 'needs statements' in this approach meant it was inappropriate for NAMMCO.</p>	<p>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).</p> <p>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.</p> <p>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).</p> <p>SC/24 reported that the large whale assessment working group had provided advice on sustainable yields of West Greenland humpback whales. Based on the work of that WG, the SC endorsed the advice of ten strikes per year based on the humpback SLA, and noted that a higher number may also be sustainable (because the SLA calculations were based on a maximum of the ten annual strikes that had been requested by Greenland to the IWC). Based on the simulation tested humpback SLA, the WG recommended that annual strikes of no more than 25 humpback whales off West Greenland are sustainable for 2019 to 2024 and allow for an increase if the population is depleted. This result is shown to be robust by the fact that two additional approaches (the IWC CLA and an assessment method) produce similar results. The SC also noted that the LWVG recommended that the SLAs developed in the IWC be used for Greenland (SC/24, 2017).</p> <p>SC/25 noted a potential miscommunication and emphasised that although the use of SLAs in the IWC requires needs statements, the advice from the SC was based on the humpback SLA without any use of such a statement. The SC/25 report details the difference between the SLA and RMP methods and why the SC reiterated its recommendation that SLAs provide the best scientific basis for advice on sustainable takes of large whales in Greenland, as long as they are applied without the use of need statements (SC/25, 2018).</p>	Pending
3.4.0	NARWHAL AND BELUGA:			
3.4.9	<p>NAMMCO/14 03-2005</p> <p>NAMMCO 22 02- 2014</p>	<p>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> <p>To continue planning of the disturbance workshop for beluga and narwhal, and also recommends including walrus.</p>	<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 recommends 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 recommends 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 Request 3.4.9: In 2011, the SC proposed a symposium on beluga and narwhals in relation to disturbance and industrial activities. The SC recommends this symposium to be held in 2015 and awaits further guidance from Council before proceeding with the planning (SC/20, 2013).</p> <p>The SC recommended 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, 2017)</p> <p>SC/25 noted that there is an ongoing study in Greenland that should inform this request (SC/25, 2018)</p>	Ongoing

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 recommends 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 an 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)</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.</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)</p> <p>SC/25 noted that this is done regularly by the NAMMCO-JCNB joint working group and that it remains a standing request (SC/25, 2018).</p>	Standing
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 materials 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> <p>SC/25 noted there is currently no data on strandings, by-catch or catch in East Greenland and sightings have been rare. The SC concluded that there is not enough data to carry out an assessment or provide advice for beluga in East Greenland and considers this request answered (SC/25, 2018).</p>	Completed?
<p>3.5.0 SEI WHALES:</p>				
3.5.3 amended	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> <p>SC/25 noted that this has not been done as there are no recent abundance estimates available. The recent surveys have not specifically targeted sei whales and were too early in the season to generate a meaningful abundance estimate (SC/25, 2018).</p>	Ongoing

3.7.0	KILLER WHALES			
3.7.2	NAMMCO/13 03-2004	<p>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>	<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> <p>SC/25 noted that this review was now complete and resulted in the recommendations that reporting on killer whale removals be improved, sampling enhanced, and genetic analyses performed (SC/25, 2018).</p>	Completed?
3.8.0	LONG-FINNED PILOT WHALES:			
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 R-3.8.6 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> <p>SC/25 noted that this work is ongoing and will be specifically addressed under the pilot whale WG planned in 2020 (SC/25, 2018).</p>	Ongoing

3.9.0	DOLPHIN SPECIES (<i>Tursiops</i> and <i>Lagenoryhncus</i> spp.):			
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 recommended 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 noted that the data on life history and abundance for any of the three species is still not sufficient for an assessment and recommended 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>SC/25 noted that there are abundance estimates and catch data available however it does not consider performing assessments for dolphin species a priority since assessments of other species are deemed more urgent. The SC recommended that Council consider whether this request remains valid (SC/25, 2018).</p>	Pending
3.10.0	HARBOUR PORPOISES:			
3.10.1	NAMMCO/07 05-1997	<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>	

The Management Committee recommends that total removal estimates are made for all areas, and that abundance estimates from the 2007 survey in Iceland and the 2010 survey in the Faroe Islands are available before a WG meeting. (NAMMCO 19).

The MC **endorses** the recommendations of the SC (NAMMCO 22).

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)* reviewing the by-catch estimates *ii)* examining the relevant abundance estimates *iii)* assessing the need for coastal surveys of harbour porpoises in Norway *iv)* investigating the use of satellite tracking for stock delineation, and *v)* evaluating the use of acoustic deterrents (pingers) in the gillnet fishery in order to reduce the by-catch.

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)

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.

Greenland

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.

Taking into consideration the work of the HP WG, the SC/21 recommends the following:

Greenland

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.
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

Norway

1. That Norway expand the information about by-catch giving the next priority to the lumpfish fishery by-catch.
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)
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.
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.

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)

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)

SC/25 noted that this work is ongoing and will be addressed during both the upcoming WS and WG (SC/25, 2018).

Ongoing