



OUTCOME OF THE EIGHTH MEETING OF AD HOC SEAL EXPERT GROUP (HELCOM SEAL)

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Introduction

0.1 In accordance with the Outcome of HELCOM SEAL 7-2013 (paragraph 8.3) the Eighth Meeting of ad hoc SEAL Expert Group (HELCOM SEAL 8-2014) was held in Turku, Finland, at the premises of Ruissalo Hotel on 21-23 October 2014.

0.2 The Meeting was attended by delegations from Denmark, Estonia, Germany, Finland, Poland, Russia and Sweden and observers from Nordic Hunter's Cooperation and WWF as well as Invited Guests from University of Helsinki and Estonian Fund for Nature. The List of Participants is attached as **Annex 1**.

0.3 The Meeting was chaired by Mr. Anders Galatius, Denmark, Chair of the SEAL Group and Ms. Petra Kääriä, Assisting Professional Secretary and Ms. Lena Avellan, Project Manager of CORESET II, acted as secretaries of the Meeting.

0.4 Mr. Markus Ahola, Finland, welcomed the participants to Turku and introduced the practicalities for the Meeting.

Agenda Item 1 Adoption of the Agenda

Documents: 1-1

1.1 The Meeting adopted the Agenda as contained in document 1-1.

Agenda Item 2 Information by the Chair, HELCOM Secretariat and Contracting Parties

Documents: 2-1, 2-2, 2-3

2.1 The Meeting took note of the outcome of HELCOM streamlining as well as the renewed working structure and Terms of Reference for the new HELCOM groups, as presented by Ms. Petra Kääriä, Assisting Professional Secretary (document 2-2).

2.2 The Meeting further took note of extracts from recent HELCOM meetings of relevance for SEAL (document 2-1) as well as the HELCOM priorities during the Estonian Chairmanship period (1 July – 30 June 2016) (document 2-3), as presented by Ms. Petra Kääriä.

2.3 The Meeting took note of the following reports by the Contracting Parties on project results and other issues of relevance to the activities of the group:

- Denmark presenting a molecular diet analysis of grey and harbour seals (**Presentation 1**), which has its background in the seals-fisheries conflict, especially grey seals feeding from fishing gear. In its future work the study aims to build up a reference database, establish year-round sampling and analyses and diet identification to species level.
- Estonia and Russia have started a tagging study on Gulf of Finland ringed seals.
- Germany: an underwater noise cluster funded by the German Federal Agency of Nature Conservation will be finished this year and results on the impacts of underwater noise on marine mammals in the Baltic Sea are soon to be released. The activity of tagging with D-tags has been postponed and results are expected during spring-summer 2015.
- Finland: the MSFD Programme of Measures is in preparation including some proposals concerning ringed seals

Finland has been involved in the ECOSEAL project together with Sweden and Estonia and presented results of the demographic structure and body condition of Baltic grey seals (**Presentation 2**).

- Sweden informed that the number of seals studied within ECOSEAL was rather small as the project only lasted for two years, thus the ECOSEAL samples have been added to previously obtained samples to get a larger dataset. Analyses are currently being carried out and a number of publications are expected to be published in the near future.
- Sweden further informed on the decreasing seal numbers in the beginning of the 1920 and that fishermen didn't observe changes to the damages caused by seals when the grey seal numbers had been decreased from 90 000 to approximately 20 000 in the 1940s.
- Sweden is also running a 3-year project which started in 2014 and is looking into the condition of harbour seal pups being the most vulnerable part of the seal population. The interim results indicate that the size of the pups has decreased since 1988. Sweden has also additional research data on harbour seal pups extending from 1985 until 1996.
- Poland informed about the results of a satellite tagging project which were presented at the 5th biologging conference.

2.8 The Meeting stressed the critical status of the Gulf of Finland ringed seals. The whole abundance of the entire area is currently only approximately 100 seals for all the three surrounding countries together.

2.9 The Meeting noted the concern of the fisheries sector in Latvia on seals-fisheries interactions, as discussed by the HELCOM FISH-ENV Forum 10-2014.

Agenda Item 3 Progress with National Management Plans

Documents: 3-1, 3-1-Rev.1, 3-2, 3-2-Rev.1

3.1 The Meeting took note of the status of seal management plans and updated the information as included in document 3-2-Rev.1.

3.2 The Meeting welcomed the summary report on seal management plans provided by the sub-group established by SEAL 7-2013 and presented by Mr. Morten Olsen, Denmark, member of the sub-group and noted the conclusions by the group that

- a) the review does not provide a complete picture of the state of the national management plans, as the summaries are not sufficient to make a thorough assessment. A review based on the plans in their entirety would require a considerable effort. Alternatively, summaries of the plans, with emphasis on items related to Recommendation 27/28-2 could be prepared.
- b) A future revision/evaluation should be based on more comprehensive summaries or the full management plans, and should await the publication of management plans currently in progress (Poland and Estonia).

3.3 The Meeting noted the comment by Finland that the English summaries for the Finnish seal management plans are very brief and do not fully reflect the contents and extent of the management plans and revised the document as included in document 3-1-Rev.1.

3.4 The Meeting agreed to define a number of items that should be addressed in the management plans based on the Recommendation 27-28/2 and was of the opinion that the management plans should in the future include an English summary addressing the main points raised in document 3-1. The Meeting agreed to develop guidelines for seal management plans with the intention to enable harmonization of management plans in the HELCOM countries.

3.5 The Meeting established a drafting group for the development of the guidelines including representatives from Estonia, Denmark, Finland, Germany, Poland and Sweden and agreed on the finalised guidelines produced by the group as included in **Annex 2**. The Meeting clarified that the

intention is to address in the future management plans whether the listed issues mentioned in the guidelines are performed.

3.6 The Meeting was of the opinion that the 10 000 limit reference level does not apply to harbour seals because of the more complicated population structure compared to other seal species as well as influx migration from other areas. The Meeting therefore agreed that work should be started to define a different LRL for harbour seals as compared to the other Baltic seal species.

Agenda Item 4 Monitoring of seals

Documents: 4-1, 4-2

4.1 The Meeting took note of the general description and latest developments of the HELCOM coordinated Baltic Sea Pilot Project (BALSAM) (October 2013 – March 2015) regarding Work Package 3 on marine mammals, as presented by Ms. Johanna Karhu, Project Coordinator of BALSAM (**Presentation 3**).

4.2 The Meeting noted that the HELCOM Monitoring Manual, to which BALSAM has contributed to, was published on 15 October 2014 and that it will be updated annually, but that its update procedure has not yet been agreed on.

4.3 The Meeting considered the seal monitoring guidelines prepared within WP3 of BALSAM (document 4-1), as presented by Mr. Anders Galatius, Chair of SEAL Expert Group and BALSAM WP3 Leader.

4.4 The Meeting noted the comment by Finland that in addition to the surveys carried out in Gulf of Riga mentioned in the document, also Gulf of Finland and Finnish Southwestern archipelago ringed seal surveys are performed only depending on the ice condition, which should be included into the monitoring guidelines. The Meeting noted that due to poor ice conditions during the optimal time for surveys, the surveys are forced to be carried out earlier in April.

4.5 The Meeting further noted the comment by the Secretariat that calculations and methods should preferably be included in the guidance document so that all necessary information would be available within the document for the guideline users.

4.6 The Meeting took note of the answer by the authors of the guidelines that describing the used methods and calculations regarding data processing in detail would be laborious and would lead into a very lengthy and different type of documentation. The Meeting proposed to include links to the original articles that provide details on the used methods and calculations.

4.7 The Meeting noted that in Estonia a new method is being developed to measure seal abundance at alternative times and habitats, which can be included in the future challenges/solutions for monitoring documentation prepared in BALSAM.

4.8 The Meeting agreed to include in the guidelines document (document 4-1) a notion regarding the quality of digital cameras stating that the quality of equipment should be sufficient to secure the quality of the photographs and to enable distinguishing between grey, ringed and harbour seals.

4.9 The Meeting took note of the comment by Poland and Germany emphasizing that BALSAM project does not cover the entire HELCOM area and that areas from the southern Baltic should also be included.

4.10 Based on the above mentioned comments and the Meeting agreed to amend the document and thereafter submit the document for endorsement by the HELCOM WG STATE¹.

¹ Study reservation on the name by Germany

- 4.11 The Meeting took note of the status of development of abundance databases for the three seal species as presented by Mr. Anders Galatius for harbour seals, Mr. Olle Karlsson, Sweden, for grey seals, and Markus Ahola, Finland, for ringed seals (document 4-2).
- 4.12 The Meeting was of the opinion that it could be relevant in some cases to also include data from before year 2000 to the abundance databases.
- 4.13 The Meeting noted that the database format for each seal species differs to some extent due to the different time span, areas covered and counts vs. point estimates.
- 4.14 The Meeting highlighted that it will be important to specify that the databases can serve to follow the population trends and not abundance as such.
- 4.15 The Meeting welcomed the fact that the databases are close to be finalized and that they can be submitted as interim results in the next BALSAM progress report to the European Commission in November 2014.
- 4.16 The Meeting agreed that the HELCOM Secretariat should host the abundance databases and decided that the data can be publically available on the HELCOM website in pdf/access format. GIS maps could also be developed outside of the BALSAM project.
- 4.17 The Meeting agreed that the abundance data should be updated by the HELCOM SEAL group annually as new results become available.
- 4.18 The Meeting noted that the database formats have been made compatible with the OSPAR/ICES database and took note of the information that Finnish Environment Institute is taking part in the EU RSC Marine Wise project and that they are looking at making data formats compatible with European formats (Seadatanet/Emodnet).
- 4.19 The Meeting agreed that the abundance databases can be made available for Finnish Environment Institute in order for them to provide recommendations on how to make the seal databases compatible with European databases and data formats.
- 4.20 The Meeting took note of the information from Estonian Fund for Nature on the integrated seal distribution database within BALSAM. The following categories were suggested to be included into the database: species, sex, age, month (seasonal differences) and location (2 points/day in mid-day and mid-night) with a 5x5km grid to enable filtering/searching for targeted information.
- 4.21 The Meeting welcomed the idea that the database can be useful in determining which areas are important for seals and that it can be used as background information in spatial planning. The Meeting agreed that it will be a good step forward to have the data visualized and published, but also noted that explanations of data gaps will need to be made evident, since seals are not tagged in all areas of the Baltic, and therefore the data could also give misleading information.
- 4.22 The Meeting took note of the information by Mr. Martin Silts, Estonian Fund for Nature, presenting Estonian data to be included to the distribution database including a specific R-script for the data i.a. a text file including metadata to be used by data holders.
- 4.23 The Meeting agreed that all telemetry data from finished projects will be run through with the R-script by the HELCOM SEAL experts according to instructions that will be provided by Mr. Martin Silts after the HELCOM SEAL meeting. The Meeting invited experts to submit the text files to the HELCOM Data Administrator Mr. Joni Kaitaranta (joni.kaitaranta@helcom.fi) so that they can be pooled in the Secretariat **by the end of 2014**.
- 4.24 The Meeting decided that the database consisting of the pooled files can be made publically available on the HELCOM website and that filters/searches/GIS files could be made available by the Secretariat upon request.
- 4.25 The Meeting invited Estonia to provide examples from the Estonian data how the data could be visualized in GIS programme/search engine and invited the Secretariat to provide examples

Meeting specifically noted that the issue with sea ice availability and use by seals and the effect this may have on breeding success must be further considered.

5.11 The Meeting considered the opportunities available to develop the '**Harbour porpoise**'-population-indicator, and agreed that the exact scope and specific parameters the indicator should be built on will be elaborated on by the Task Managers, and that the Task Managers will ensure communications with the JASTARNIA group and the ASCOBANS Secretariat, so that all relevant knowledge can be made use of in developing the indicator. The Meeting furthermore noted that background data will become available from the SAMBAH project within the coming year, and that especially recommendations to monitoring strategies will be relevant and that there is current work on Bayesian-models for population size estimation being developed in Denmark and more than 10 years data-collection within monitoring programs for German and parts of Danish waters. The Meeting concluded that this indicator will most likely not be operational by the end of CORESET II.

5.12 The Meeting took note of the presentation on the indicators '**Reproductive status of marine mammals**' and '**Nutritional status of seals**' as presented by Ms. Charlotta Moraues, Task Manager in Lead for the indicators (**Presentations 6 and 7**). The Meeting noted that so far, data has mainly been included from Finland and Sweden, and that data from all Contracting Parties should be considered and evaluated for inclusion.

5.13 The Meeting noted for the indicator '**Reproductive status of marine mammals**' that data for harbour porpoise has so far not been considered by the TM, but that data from all Contracting Parties will now be considered.

5.14 The Meeting further noted that power analyses are needed to establish how many data points are needed to make an assessment with an attempt to make these analyses by the end of the year.

5.15 In relation to GES-concepts and boundaries, the Meeting furthermore noted that there are still uncertainties about how the boundary should be developed for populations in relation to density dependence. The Meeting noted that data should be used from all areas around the Baltic Sea as much as possible, and agreed that the methodologies for selecting appropriate measurements from appropriate animals need to be further developed, possibly including a de-selection criteria based on cause of death, and that there is now a need to consider the quality of the available data in all Contracting Parties based on the methodology to be specified by the Task Managers. The Meeting noted that the indicator for seals is currently mainly developed around the reproductive status of females, however for harbour porpoise the state of males might need to be considered as a supporting parameter.

5.16 The Meeting noted that the indicator '**Nutritional status of seals**' should also include harbour porpoise as it is of relevance for the overall assessment of GES in the Baltic Sea and agreed to re-name the indicator '**Nutritional status of marine mammals**' noting that available data for harbour porpoise should be collated and some hundreds of data points from the southern areas will now be analyzed. The Meeting emphasized that the indicator is based on the parameter blubber thickness, and that this parameter is indicative of a nutritional status trend in a population, and that this is to be described in the general concept of the indicator.

5.17 The Meeting noted in relation to both the '**Nutritional status of marine mammals**' and '**Reproductive status of marine mammals**' that by-caught or stranded animals are to be considered as valuable data that should be fed into the indicators once the health status and cause of death have been considered as they affect the suitability of the data. Poland and Germany will analyze their annually collected datasets from strandings and by-catch and assess potential suitability of the data points for the indicators.

5.18 The Meeting agreed that a relevant indicator to consider in the future would be '**Seal pup weight at weaning**' as a proxy for assessing the overall health of the breeding females in the seal populations. The Meeting noted that the countries where seals breed i.e. Sweden, Finland and Estonia currently have not included this parameter in their monitoring programmes, however it could be

included in the future as a cost efficient parameter that would provide data from live animals. The Meeting further noted that experts are able to sufficiently age-determine pups to take the relevant weight measures of weaners and that sufficient historical data should be available to develop a GES-concept and boundary.

5.19 The Meeting noted the suggestion by the health group to develop health indicators and that concrete suggestions will be put forward once the group has discussed different options, furthermore underlining that the indicators '**Nutritional state of marine mammals**' and '**Reproductive status of marine mammals**' should not be referred to as health indicators, instead they are referred to as indicators for population condition.

5.20 The Meeting discussed in which HELCOM Assessment Units the above mentioned indicators are applicable, and agreed that the applicability should be considered based on the marine mammal species as follows:

- ringed seal: Bothnian Bay, the Quark, Bothnian Sea, Åland Sea, Gulf of Finland, Northern Baltic Proper, Gulf of Riga
- grey seal: all assessment units except for Kattegat
- harbour seal: Western Gotland Basin, Bornholm Basin, Arkona Basin, Bay of Mecklenburg, Great Belt, The Sound, Kattegat (incl. Limfjorden)
- harbour porpoise: GES-boundaries need to be set separately for the Western and the Baltic Proper populations as follows:
 - o Western: Kattegat, Great Belt, The Sound, Kiel Bay, Bay of Mecklenburg, Arkona Basin
 - o Baltic Proper: Arkona Basin, Bornholm Basin, Gdansk Basin, Eastern Gotland Basin, Western Gotland Basin, Northern Baltic Proper, Åland Sea, Gulf of Finland, Gulf of Riga

5.21 The Meeting recalled the SEAL 7-2013 meeting description of the long-term data-management of the indicators could be handled through the SEAL group so that all Contracting Parties report their most recent data annually to the team leader of the three sub-groups by March, the groups then analyze and process the data as needed by the end of August, whereafter the products are delivered by mid-September to the SEAL group for consideration and agreement to publish by the meeting usually held in October.

Agenda Item 6 Human induced pressures and management of marine mammals

Documents: 6-1, 6-1-Rev.1

6.1 The Meeting took note of the human induced seal mortality compilation tables from years 2008-2012, as presented by Mr. Anders Galatius, Chair of the Group (document 6-1) and agreed to change the name to 'registered seal mortality tables' and updated the numbers mainly for year 2013 as contained in document 6-1-Rev.1

6.2 The Meeting recalled that SEAL 7-2013 stated that the figures on by-catch included in the human induced mortality tables are far smaller than the actual numbers and expressed doubt as to the usefulness of compiling information on by-catch in the way it is currently done. SEAL 7-2013 was of the opinion that the Group should step up its work on the issue of by-catch and formed a by-catch sub-group for marine mammals.

6.3 The Meeting took note of the report by the by-catch sub-group as presented by Mr. Karl Lundström (**Presentation 8**).

6.4 The Meeting was of the opinion that observer schemes and camera surveillance are currently the only efficient methods to properly monitor by-catch of marine mammals.

6.5 The Meeting noted that the real numbers of by-caught marine mammals in the Baltic Sea are unknown and the situation of by-catch monitoring needs to be improved and encouraged the

Contracting Parties to allocate resources to obtain more reliable estimates of by-catch of marine mammals.

6.6 The Meeting noted that SEAL Expert Group members are represented in the by-catch work of CORESET II and ASCOBANS as well as ICES EGBYC.

6.7 The Meeting agreed that the next activities for the by-catch sub-group are to:

- establish communication/cooperation with the HELCOM group on ecosystem-based sustainable fisheries; and
- produce a report on the current state of knowledge and possible actions to obtain further information on by-catch, including ongoing and future initiatives in different countries.

6.8 The Meeting welcomed the willingness of Mr. Tero Härkönen, Sweden and Ms. Ursula Siebert, Germany to contribute to the sub-group activities.

6.9 The Meeting requested the new HELCOM Ecosystem-based sustainable fisheries group to take up by-catch of marine mammals and birds on the agenda of its future meetings.

6.10 The Meeting further took note of the following information/initiatives regarding by-catch in the Baltic Sea:

- Sweden: in Sweden fishermen and hunters are paid to deliver samples of by-caught seals. It is however not compulsory to report on by-caught seals and in general hunters would prefer not to take samples as it is perceived as time-consuming
- Denmark: DTU-Aqua has initiated a by-catch study including static cameras
- Poland: NMFRI is starting a pilot by-catch monitoring project on wintering seabirds also taking into account marine mammals starting this autumn
- Germany: static cameras were also tested in German fisheries over the last years

6.11 The Meeting agreed that the Contracting Parties are to report the results of by-catch related projects/initiatives to the SEAL Group as soon as they become available.

6.12 The Meeting took note of the presentation on the results of the work within WP4: ecological role of Baltic grey seals of the ECOSEAL project as well as on a project on the competition for fish by marine mammals, birds, fisheries and fish and a study on seals and fisheries interactions as presented by Mr. Karl Lundström, Sweden (**Presentation 9**).

6.13 The Meeting welcomed the presentation by Mr. Jarno Vanhatalo, University of Helsinki (**Presentation 10**), on the results on modelling grey-seal by-catch in the Baltic Sea as a continuation of the ECOSEAL project.

Agenda Item 7

Work on Baltic Sea harbour porpoise

Documents: 7-1

7.1 The Meeting recalled that HELCOM SEAL 4-2010 agreed to review the status of the HELCOM-ASCOBANS harbour porpoise database in each future meeting of HELCOM SEAL and agreed to include static acoustic monitoring data and other observations of harbour porpoises as that data is made available to the Secretariat. SEAL 4-2010 also agreed that any updates to the harbour porpoise database should be reported to the Secretariat.

7.2 The Meeting further recalled the suggestion by SEAL 7-2013 not to include incidental sighting from the high density areas for harbour porpoise when reporting to the database.

7.3 The Meeting noted that new acoustic data can be expected to be included to the database from the SAMBAH project.

7.4 The Meeting noted that last updates to the [HELCOM-ASCOBANS harbour porpoise database](#) have been received by the secretariat in November 2013 from Sweden and encouraged the

Agenda Item 9

Outcome of the Meeting

Documents: [9-1]

8.6 The Meeting adopted the draft outcome of the Meeting as contained in document 9-1. The Outcome of the Meeting, together with the documents and presentations considered by the Meeting are available in the HELCOM Meeting Portal.

ANNEX 1. LIST OF PARTICIPANTS.

Representing	Name	Organisation	E-mail address
Chair			
Chair	Anders Galatius	Aarhus University	agj@bios.au.dk
Contracting Parties			
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ANNEX 2. GUIDELINES FOR NATIONAL SEAL MANAGEMENT PLANS

By: Morten Tange Olsen, Tero Härkönen, Iwona Pawliczka, Ursula Siebert and Penina Blankett

1. Introduction

The purpose of these guidelines is to harmonize the content of the seal management plans produced by the contracting parties. The guidelines are not a list of requirements, but a list of topics that should be addressed in the English summaries of national management plans in order to facilitate transparency and coordination of the management effort. For example, the management plan does not need to have e.g. monitoring of diet as an objective, but the management plan need to state whether monitoring of diet is an objective or not.

2. List of topics that should be addressed (in English) by the national management plans

- 1) A description of the seal species present, including their national abundance, distribution, population structure, biology, and health
- 2) A description of national strategies and legislation for seal management, including definitions of population status on a national and regional level, establishment of seal reserves, and opportunities to utilize seals.
- 3) A definition of overall population status, acknowledging that populations are shared among countries and should be evaluated as a whole;
 - a. Population size according to the **Specific Reference Levels** listed in HELCOM 2006 Seal Recommendation (27-28/2)
 - a. **Limit Reference Level** (the Safe Biological Level): the Minimum Viable Population Size, which is to be defined for each of the management units. For isolated populations of ringed seals and grey seals the LRL is 10,000 animals. Good environmental status (GES) is achieved when populations are above this size and maintain positive population growth. The LRL for harbour seals have not been defined yet.
 - b. **Target Reference Level**: the level where the growth rate starts to level off and the population asymptotically approaches the current carrying capacity level. GES is achieved when there is no decline exceeding 10% over a period of 10 years;
- 4) A description of current and potential threats and pressures, including diseases and parasites, climate change, environmental contaminants, algae blooms, eutrophication, oil and chemical spills, predators, hunting and illegal killings, fishing, and disturbance by maritime traffic, yachting and other recreational activities, as well as other threats.
- 5) A description of objectives and measures
- 6) A description of monitoring efforts, including
 - a. Abundance, growth and estimates of minimal viable population size (MVP)
 - b. Distribution
 - c. Dispersal and habitat use
 - d. Population structure
 - e. Diet
 - f. Life history parameters, including age, reproduction and mortality rates
 - g. Health, including impacts of contaminants, marine litter and underwater noise
 - h. Fisheries conflicts, including by-catch and damage to catch and gear

- i. Deliberate killings, including hunting, protective hunting, scientific killing and illegal killing
- 7) A description of research needs
 - 8) A description of efforts to mitigate fisheries conflicts, including
 - a. Documentation of damage to fisheries
 - b. Development and implementation of modified fishing gear
 - c. Economic compensation
 - d. Regular and protective hunting
 - e. Evaluation of mitigation measures
 - 9) A description of animal welfare and rights ethics associated with e.g. hunting and research
 - 10) A description of rehabilitation efforts
 - 11) A description of exceptions to the management plan, due to e.g. fisheries conflicts, disease outbreaks and scientific projects
 - 12) A description of institutes / organizations responsible for implementing and evaluating the management plan
 - 13) A description of planned evaluations and revisions of the plan