



Baltic Marine Environment Protection Commission

Ninth Meeting of the Working Group on Reduction of Pressures from the Baltic Sea Catchment Area

PRESSURE 9-2018

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Background

Action 6 in the Work Plan of the Pressure Working Group 2017-2018 refers to Pressure Working Group as lead of the work on underwater noise, in coordination with the State and Conservation and Maritime Working Groups. The work is conducted by the HELCOM expert network (EN-Noise) subordinated to Pressure WG.

This document contains a report on the activities of HELCOM EN-Noise since the last Pressure meeting (PRESSURE 8-2018, [document 4-1](#)).

Action requested

The Meeting is invited to take note of the information and make use of it as appropriate.

Report on current activities of the HELCOM EN-Noise

Noise in the 2018 HELCOM Ministerial Declaration

The [2018 HELCOM Ministerial Declaration](#) welcomed the progress made in the implementation of the Regional Baltic Underwater Noise Roadmap 2015-2017, including the establishment of a joint HELCOM/OSPAR registry of licenced impulsive sound events and on-going work for a regional monitoring programme and for monitoring guidelines for continuous noise, as well as new evidence regarding potential impact of underwater noise on species in the Baltic Sea and emphasized the need to further improve our understanding of the adverse impacts of underwater noise on those identified noise sensitive marine species and in particular the cumulative impacts of impulsive noise from multiple activities.

The Declaration also contains an agreement to develop an action plan, preferably by 2021, and regionally coordinated actions on underwater noise, aiming, in the long-term, at addressing adverse effects of underwater noise on marine species identified as sensitive to noise, whilst safeguarding the potential of the Baltic Sea for sustainable human activities. Finally a commitment is made to continuing fruitful cooperation between European Regional Seas Conventions, and in particular OSPAR, in order to exchange good practices and to fill knowledge gaps, and to continuing regional work in developing scientifically sound threshold values for underwater noise that are consistent with Good Environmental Status (GES) for species identified as sensitive to noise in the Baltic Sea, in close coordination with work undertaken by Contracting Parties in other relevant fora including UNEP Regional Seas Programme.

Monitoring of underwater noise

Two indicators, one on continuous and one on impulsive sound are under development to follow up anthropogenic sources of underwater noise.

Continuous sound

Work on the continuous sound pre-core indicator has been led by Poland, with Denmark, Finland, Germany and Sweden as co-lead countries. There has not been specific work on this indicator since 2016¹, although priorities for its further development were agreed by the HELCOM Expert Network on Underwater Noise (EN-Noise) in October 2017 ([Outcome of HELCOM EN-Noise 1-2017](#), para. 2.3). More recently the EN-Noise took note of the on-going process to develop future indicator work ([Outcome of HOD 54-2018](#), para. 4.25 and [document 4.5](#)), overseen by GEAR. The current focus will include core and pre-core indicators and those candidate indicators incorporated into the final HOLAS II State of the Baltic Sea report (e.g. litter and noise), as well as the main pressures preventing the Baltic Sea from achieving good status and those pertinent for threatened species or habitat types (e.g. harbour porpoise and benthic habitats). The EN-Noise welcomed the inclusion of noise indicators in the future indicators work. The EN-Noise was of the view that an update of the 2016 indicators reports would be appropriate and agreed to come back to this issue in the next meeting of the network ([Memo of the EN-Noise meeting held 16 August 2018](#)).

Work on continuous noise has focussed on the development of guidelines for monitoring as well as a monitoring sub-programme for continuous noise. As a result, there are currently available HELCOM Guidelines for monitoring continuous noise ([Outcome of STATE & CONSERVATION 8-2018](#) para. 3MA.21 and [document 3MA-7](#)) as well as a regional monitoring sub-program of continuous noise ([Outcome of HOD 54-2018](#), para. 4.11 and Appendix 1 to [document 4-19](#)). A relevant issue which is still pending decision is the hosting of indicator data for continuous noise. The EN-Noise, following the mandate from HODs, is working on the clarifications on hosting arrangements needs, and a document on such issue is envisaged to be submitted to the upcoming State and Conservation meeting for consideration prior to HOD 55-2018 which is to further deliberate on funding options from the Contracting Parties ([Outcome of HOD 54-2018](#), para. 4.29, [document 4-27](#) and [Presentation 3; Memo of the EN-Noise meeting held 16 August 2018](#)).

Finally, it is to point out the discussion on underwater noise recently held at MARITIME 18-2018: (i) Finland presented modelled underwater noise emissions from Baltic Sea shipping in 2017 and indicated their plan to

¹ Current version of the pre-core indicator can be found [here](#).

conduct this exercise on annual bases, including the reporting to Maritime meetings ([document 12-5](#) and [presentation 9](#)); (i) Finland also informed the meeting about the status of underwater noise discussions at IMO ([document 12-6](#)); (iii) the Secretariat informed on a project on anthropogenic underwater acoustic pollution from maritime transport ([document 12-3](#)), and the meeting agreed on the circulation of a quantitative survey to be developed as part of the project for compilation of information to contacts and observers of Maritime for their contribution on a voluntary basis ([Outcome of MARITIME 18-2018](#), paras. 12.3, 12.6 and 12.7).

Impulsive sound

Work on the impulsive sounds pre-core indicator has been led by Germany, with Denmark, Finland and Sweden as co-lead countries. There has not been specific work on this indicator since 2016², although likewise with the continuous noise indicator the EN-Noise agreed in October 2017 on priorities for its further development ([Outcome of HELCOM EN-Noise 1-2017](#), para. 2.3).

In relation to the [registry](#) of impulsive licenced events it currently contains data reported by Denmark (2015-2016), Estonia (2012-2016), Finland (2008, 2010-2011 and 2013-2016), Germany (2013-2016), Lithuania (2013 and 2016), Poland (2011-2016) and Sweden (2015-2016).

PRESSURE 4-2016 approved the reporting format to the OSPAR-HELCOM registry of underwater noise ([Outcome of PRESSURE 4-2016](#), para. 3.21 and Annex of [document 3-2](#)). HELCOM EN-Noise discussed and agreed on the need to update the reporting format to the registry after two years of experience in uploading data to the system and in view of the improvements of the tool conducted by ICES ([Memo of the online meeting 16 August 2018](#)). An updated reporting format to the OSPAR-HELCOM registry of underwater noise has been submitted for consideration to this Meeting ([document 5-2](#)).

PRESSURE 6-2017 ([Outcome of PRESURE 6-2017](#), para. 4.4) agreed on reporting annually to the registry of impulsive events, taking into account a later clarification by Russia.

Regarding the further improvements of the registry, the EN-Noise took note of the on-going work in TG Noise under the lead of Germany on how to calculate the hammer energy when mitigation measures are applied, and that it is envisaged that this work is finalised in November 2018. The EN-Noise was of the view that it was relevant to consider this study once available as well as further improvements of the registry according to the HELCOM needs that may arise ([Memo of the online meeting 16 August 2018](#)).

Assessment of underwater noise in the Baltic Sea

The 'Second HELCOM Holistic Assessment of Ecosystem Health in the Baltic Sea' that was carried out by HELCOM through the HELCOM [HOLAS II](#) project reflects the environmental situation in the Baltic Sea for the period 2011–2015. The assessment covers the whole Baltic Sea marine region and provides information on the overall environmental status of and pressures on the Baltic Sea as well as social and economic aspects that are linked to the status of the sea and the human activities impacting upon it. In June last year the assessment was published ('State of the Baltic Sea report, June 2017'), containing a descriptive section on underwater sound since there is no core underwater noise indicator. The [section on underwater sound](#) was updated as part of the update of the report conducted in June 2018 ('[State of the Baltic Sea – Second HELCOM holistic assessment 2011-2016](#)'), to mainly: (i) improve the maps showing the sound pressure level of underwater continuous sound at different frequency bands in the Baltic Sea; (ii) include a table compiling impulsive event days in the Baltic Sea as reported by countries to the regional registry (by April 2018); (iii) improve the figure showing the auditory range of some marine species present in the Baltic Sea and sound frequencies generated by human activities; and (iv) improve the map containing an example of how information on the distribution of sound can be compared with important areas for species that are sensitive to sound. In addition to the specific section on underwater sound, the 'Input of continuous anthropogenic sound' layer (used in the Baltic Sea Pressure Index-BSPI) was improved based on data from the BIAS project.

² Current version of the pre-core indicator can be found [here](#).

Also the data layer 'Input of continuous anthropogenic sound', which is used in the Baltic Sea Pressure and Impact Indices, was further refined by the EN-Noise under the leadership of Sweden ([document 4-13](#) to HOLAS II 9-2018).

HELCOM input to the process of establishing environmental targets for underwater noise

Effects of noise on the level of population are still very poorly understood, and good status for populations has therefore not yet been defined in relation to underwater noise. To guide further work, HOD 52-2017 agreed on the "HELCOM input to the process of establishing environmental targets for underwater noise" ([Outcome of HOD 52-2017](#), para. 3.18-3.19 and [document 3-6](#)) pending the clarification of the study reservation by Germany and Russia, to be clarified through written procedure by 21 July 2017, and that it could serve as regional input to other fora, including other Regional Sea Conventions as well as European processes. Subsequently, Germany ([Outcome of HOD 52A-2017](#), para. 3.1 and [document 3-1](#)) lifted their study reservation. More recently, HODs reconsidered the document taking into account proposals by Russia on potential biological indicator methods to be considered in future work ([document 4-29](#)) and agreed on the final version of the document ([Outcome of HOD 54-2018](#), para. 4.30 and [document 4-12-Rev.1](#)).

Following HODs decision on sharing the document as regional input to other fora, including other Regional Sea Conventions as well as European processes, the document is to be submitted to the upcoming 12th meeting of the EU Technical Group on Underwater Noise (TG Noise) to be held on 6-8 November 2018, in Brussels.

EN-Noise

Operational since PRESSURE 2-2015 ([Outcome of PRESSURE 2-2015](#), para. 4.27), the call for establishing the EN-Noise was raised through the need to develop a roadmap for the HELCOM work on underwater noise with the understanding that it is to build a knowledge base towards a regional action plan on underwater noise. HELCOM 37-2016 adopted the Regional Baltic Underwater Noise Roadmap 2015-2017 ([Outcome of HELCOM 37-2016](#), para. 4.10) in which implementation the network has been working with.

Recently, the EN-Noise was of the view that considering the latest HELCOM activities and decisions on underwater noise the network would benefit from having Terms of Reference (ToR) to guide its upcoming work and agreed to submit a proposal of ToR for the network to PRESSURE 9-2018 for consideration ([Memo of the online meeting 16 August 2018](#), [document 4-2](#)).