

Background information

Anthropogenic noise has potentially harmful effects on the marine environment and the species therein.

Pressure on the marine environment from anthropogenic noise in the Baltic Sea Area needs to be addressed.

Presently piling (impulsive noise) and shipping (continuous noise) are considered to constitute the two major sources of underwater noise in the Baltic Sea, and more evidence is needed to adequately reflect the scale of the problem in the Baltic Sea.

The 2013 HELCOM Copenhagen Ministerial Declaration commits the Contracting Parties to take further measures, initiatives or efforts to reach a healthy marine ecosystem supporting a prosperous Baltic Sea region, including addressing pollution of the marine environment by litter, as well as impacts on marine organisms from underwater impulsive and continuous noise.

In the 2013 HELCOM Copenhagen Ministerial Declaration it has been agreed that the level of ambient and distribution of impulsive sounds in the Baltic Sea should not have negative impact on marine life and that human activities that are assessed to result in negative impacts on marine life should be carried out only if relevant mitigation measures are in place, and accordingly as soon as possible and by the end of 2016, using mainly already on-going activities, to

- establish a set of indicators including technical standards which may be used for monitoring ambient and impulsive underwater noise in the Baltic Sea;
- encourage research on the cause and effects of underwater noise on biota;
- map the levels of ambient underwater noise across the Baltic Sea;
- set up a register of the occurrence of impulsive sounds;
- consider regular monitoring on ambient and impulsive underwater noise as well as possible options for mitigation measures related to noise taking into account the ongoing work in IMO on non-mandatory draft guidelines for reducing underwater noise from commercial ships and in CBD context;

This roadmap will support the achievement of the commitments acquired in 2013.

There is a potential need for future revisions of the timetable indicated in this roadmap due to ongoing international, regional and European processes.

Goal

To make every effort to prepare a knowledge base towards a regional action plan on underwater noise in 2017/2018 to meet the objectives of the 2013 Ministerial Meeting, and of the EU MSFD for HELCOM countries being EU members.

Necessary steps

The following steps are perceived as necessary:

1. Knowledge gathering

- 1.1. Compile and review the available knowledge on impact of anthropogenic noise in the Baltic Sea;
- 1.2. Identify and map human activities that are the [main] sources of anthropogenic noise in the Baltic Sea;

- 1.3. Investigate and assess the significance of the sources of anthropogenic noise in the Baltic Sea from e.g. shipping, recreational vessels, ice-breaker vessels, low-frequency sonar, acoustic devices, acoustic experiments, as well as offshore construction, sand and gravel extraction, drilling, intense low or mid-frequency (Naval) sonar, underwater explosions, seismic surveys.
- 1.4. Investigate and identify sound sensitive species in the Baltic Sea in order to prioritize needed protection measures.
- 1.5. Compile information on measures to manage emissions and mitigate relevant impacts of anthropogenic underwater noise proposed and/or implemented internationally including with regard to ambient noise under the International Maritime Organisation¹.

2. Indicators

- 2.1 Support Lead Countries in the further development of the pre-core indicator 'Continuous low frequency anthropogenic sound' towards its operationalization by taking the following necessary steps:
 - propose a concept for a regional monitoring network and propose HELCOM common monitoring guidelines based on the BIAS standards
 - develop the assessment protocol based on experiences and information available;
 - identify spatial and temporal distribution of sound sensitive species and habitats in the Baltic Sea including sensitive biological areas (spawning, nursery areas);
 - develop a concept for the GES-boundary based on the available data.
- 2.2 Support the Lead Countries in the further development of the candidate indicator 'Distribution in time and place of loud low and mid frequency anthropogenic impulsive sounds' towards its operationalization by taking the following necessary steps:
 - cooperate with OSPAR and ICES on the establishment of a joint regional registry of impulsive sound;
 - define the elements and mechanisms required for a joint regional registry of impulsive sound activities, including reporting requirements;
 - coordinate testing of the regional registry of impulsive sound activities;
 - propose a concept for determining sustainable levels of impulsive sound.

3. Explore possibility to determine acceptable levels of underwater noise for marine species

- 3.1 Based on the compilation of information on impacts of noise (1.1), investigate the possibility to use species specific tolerance to define Good Environmental Status / develop environmental targets based on common principles.

4. Evaluation and follow-up

- 4.1. Carry out a workshop with all HELCOM members to discuss the Roadmap.
- 4.2. Update the Roadmap, if necessary, in 2016 e.g. based on applicability of the measures identified under section 1.5 in the Baltic Sea area and the knowledge gathered to be a starting point for initial considerations on suitable measures to be implemented, including a cost effectiveness analysis.
- 4.3 Assess the implementation of this Roadmap in 2017.

¹ Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts of marine life (MEPC. 1/Circ. 833).

5. Updated working timetable

Milestone	Date
Cooperate with ICES and OSPAR on the establishment of a regional registry of sound	Joint HELCOM EN NOISE, ICG Noise-HELCOM EN Noise - EU TG NOISE in September 2015
Further work on the "Distribution in time and place of loud low and mid frequency anthropogenic impulsive sounds" candidate indicator aiming at its shift to pre-core indicator and subsequently, core indicator	FI and SE informed in PRESSURE 3-2015
Further work on the "Continuous low frequency anthropogenic sound" pre-core indicator aiming at its shift to core indicator	PRESSURE 3-2015 considered
Establish a joint regional registry of impulsive noise	By Mid-2016
Workshop with all HELCOM members to discuss the Roadmap	September 2016
<ul style="list-style-type: none"> – Develop assessment protocol for ambient noise based on experiences and information available – Test the regional registry using initial data – Identify and map human activities that are the [main] sources of anthropogenic noise in the Baltic Sea 	By the end of 2016
<ul style="list-style-type: none"> – Identify spatial and temporal distribution and subsequent mapping of sound sensitive species and habitats in the Baltic Sea including sensitive biological areas (spawning, nursery areas) – Explore possibility to use species specific tolerance of underwater noise for defining GES and/or environmental targets 	Progress by September 2016, work continued into 2017
Update the Roadmap, if necessary	In 2016
Assess the implementation of this Roadmap	In 2017