



Document title	HELCOM candidate indicator on 'Distribution in time and space of loud low- and mid-frequency impulsive sounds'
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This document includes further refinement as provided by Denmark and Germany as follows:

- text improvement to the section on assessment protocol based on OSPAR experience (p. 7);
- addition of a reference on seals to the table on the section on effects of impulsive sound in the ecosystem (p. 10);
- text improvement to the section on current monitoring (p. 13) to include a reference to the possible existence of other on-going national monitoring activities other than those specifically mentioned in the section.

This document replaces document 4-3.

Background

Development work as needed for both the pre-core ambient and candidate impulsive noise indicators has in 2015 and 2016 been taken forward by Lead and co-Lead Countries and communicated to and reviewed by the Contracting Parties through the HELCOM Expert Network on Underwater Noise (HELCOM EN-Noise). Overall coordination taking place by the HELCOM Pressure Working Group.

For indicators to be included in the second holistic assessment (HOLAS II), GES boundaries and indicator concepts will be considered from a technical point of view and endorsement by relevant Working Groups and for adoption at HOD 51-2016 (14-15 December 2016). Since GES has not been defined for indicators on underwater noise, HOLAS II 5-2016 agreed that "to use a descriptive approach in the presentation of marine litter and underwater noise in the HOLAS II report due to the fragmented availability of data while also including a forward looking view on monitoring and ongoing knowledge building on these topics" (para 5.10).

Work on the distribution in time and space of loud low- and mid-frequency impulsive sounds candidate indicator has been led by Germany, with Denmark, Finland and Sweden as co-lead countries.

The HELCOM EN-Noise has held six on-line working meetings (16.11.2015, 16.03.2016, 20.05.2016, 23.06.2016, 01.07.2016 and 30.09.2016) addressing, among other issues, the improvement of the impulsive sounds indicator report¹. Memos of those working meetings are available in the meetings folder of the [underwater noise workspace](#).

The draft update of the impulsive noise candidate indicator report has been prepared by Germany. Contributions and feed-back has been received from Denmark, Lithuania and Sweden. Some further refinement is needed as indicated in the document to be provided by 7 October 2016:

- text improvement to the section on assessment protocol based on OSPAR experience (p. 7), to be provided by Germany;

¹ [Current version](#) as agreed by HOD 48-2015 to be kept as candidate indicator, para. 3.63 of the [Outcome of HOD 48-2015](#).

- text improvement to the section on effects of impulsive sound in the ecosystem related to fish to be provided by Sweden (p. 9);
- references on seals to be added to the table on the section on effects of impulsive sound in the ecosystem, to be provided by Denmark (p. 10);
- text improvement to the section on current monitoring (p. 13) to include a reference to the possible existence of other on-going national monitoring activities other than those specifically mentioned in the section, to be provided by Germany.

This document contains HELCOM candidate indicator 'Distribution in time and space of loud low- and mid-frequency impulsive sounds' as proposed by the HELCOM EN-Noise.

Action requested

The Meeting is invited to:

- take note of the progress of work;
- consider proposed shift of status of the indicator from candidate indicator on 'Distribution in time and space of loud low- and mid-frequency impulsive sounds' to pre-core indicator; Contracting Parties are invited to inform on the readiness to endorse the shift of the status for the indicator.

This indicator will also be brought forward for consideration at STATE & CONSERVATION 5-2016 (7-11 November). The Contracting Parties are invited to provide a consolidated final response at the State and Conservation meeting.