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This document was submitted after the established deadline for decision documents due to the fact that EG MAMA 15-2021 only concluded on 16 September.

Background

This document contains a summary of information to explain the proposed change to the management unit structure for harbour seals. The changes proposed have relevance to ongoing monitoring in that four management areas are defined to supersede the current management areas applied (although does not required changes to the monitoring and data collection itself) and as a consequence will also be reflected in the relevant HELCOM indicators that address this species (Distribution of Baltic Seals, Trends and abundance of seals, Nutritional status of seals, and Reproductive stats of seals – possible relevance to bycatch work also). In these indicators the harbour seal will be assessed and presented in four management units in HOLAS III.

With regard to the indicator evaluation for HOLAS III and the implications of this change, in particular related to threshold values, then there is no significant impact foreseen in so much as the threshold values already agreed on and approved for the indicator will be applied to the new management units. Since the threshold values applied are per management area then the same threshold value will be applied and the indicator will simply be assessed in four management areas rather than the two applied under HOLAS II. The appropriate application of the Limit Reference Level (LRL) in the indicator would be clarified once the HOLAS III data is available and the indicator evaluation is carried out, as applied in HOLAS II.

Action requested

The Meeting is invited to endorse the proposed change to the management unit structure for harbour seals and implement the changes for the relevant HELCOM indicators.

Proposed change of management unit structure for harbour seals

HELCOM EG MAMA 15-2021 reviewed the HELCOM management unit structure of harbour seals. HELCOM Recommendation 27-28/2 notes two harbour seal management units, namely the Kalmarsund Region and the Southwestern (SW) Baltic and Kattegat harbour seals.

Since the Limfjord is also part of the HELCOM area, the meeting recommended that the harbour seal population resident in the fjord should be added as a separate management unit. A previous study on population genetics (Olsen et al. 2014) provided strong support for the Limfjord seals being genetically independent from seals in Kattegat, and new data with nuclear genome data (Liu et al. in prep) provide further support for such a division.

The meeting further considered the potential separation of the Kattegat-SW Baltic management unit. The abovementioned studies both supported that harbour seals in Kattegat and the SW Baltic should be considered largely genetically independent with limited gene flow between these two areas. Further support for such a conclusion was provided from other sources of information, as outlined below.

Firstly, of 50 harbour seals tagged with satellite transmitters by Aarhus University/NERI in Kattegat 2005-2016, none entered the SW Baltic. Further, of 16 harbour seals tagged with satellite transmitters by Aarhus University/NERI in the SW Baltic 2009-2012, only two juvenile seals visited Kattegat during winter, but both returned to the SW Baltic. So based on 66 tagged seals, there is no evidence of gene flow between Kattegat and SW Baltic.

Secondly, the two areas are demographically independent in that they have different developments in population abundance, with growth in the Kattegat area levelling off since 2010, while the seals in SW Baltic still show exponential growth (ICES 2021).

Thirdly, an investigation of perfluorinated contaminants in harbour seals showed considerable differences in the profiles between seals in the two areas (Dietz et al. 2012).

Finally, the influenza A epidemic among harbour seals in 2014, which originated in Kattegat, spread to all neighbouring areas including Skagerrak, Limfjord and Wadden Sea (Bodewes et al. 2014; Zohari et al. 2014). However, no elevated mortality rates were observed in the SW Baltic suggesting no contact (i.e. disease spreading) between seals in Kattegat and SW Baltic.

In conclusion, the meeting found that this combined weight of evidence supported that very little gene flow and movements occurs between the two areas and recommended that the two areas should be considered as separate management units. Thus, the meeting recommends expanding the number of HELCOM harbour seal management units from two to four, namely Kalmarsund, SW Baltic, Kattegat and the Limfjord. The divisions between the latter three new separate units are shown in Figure 1.

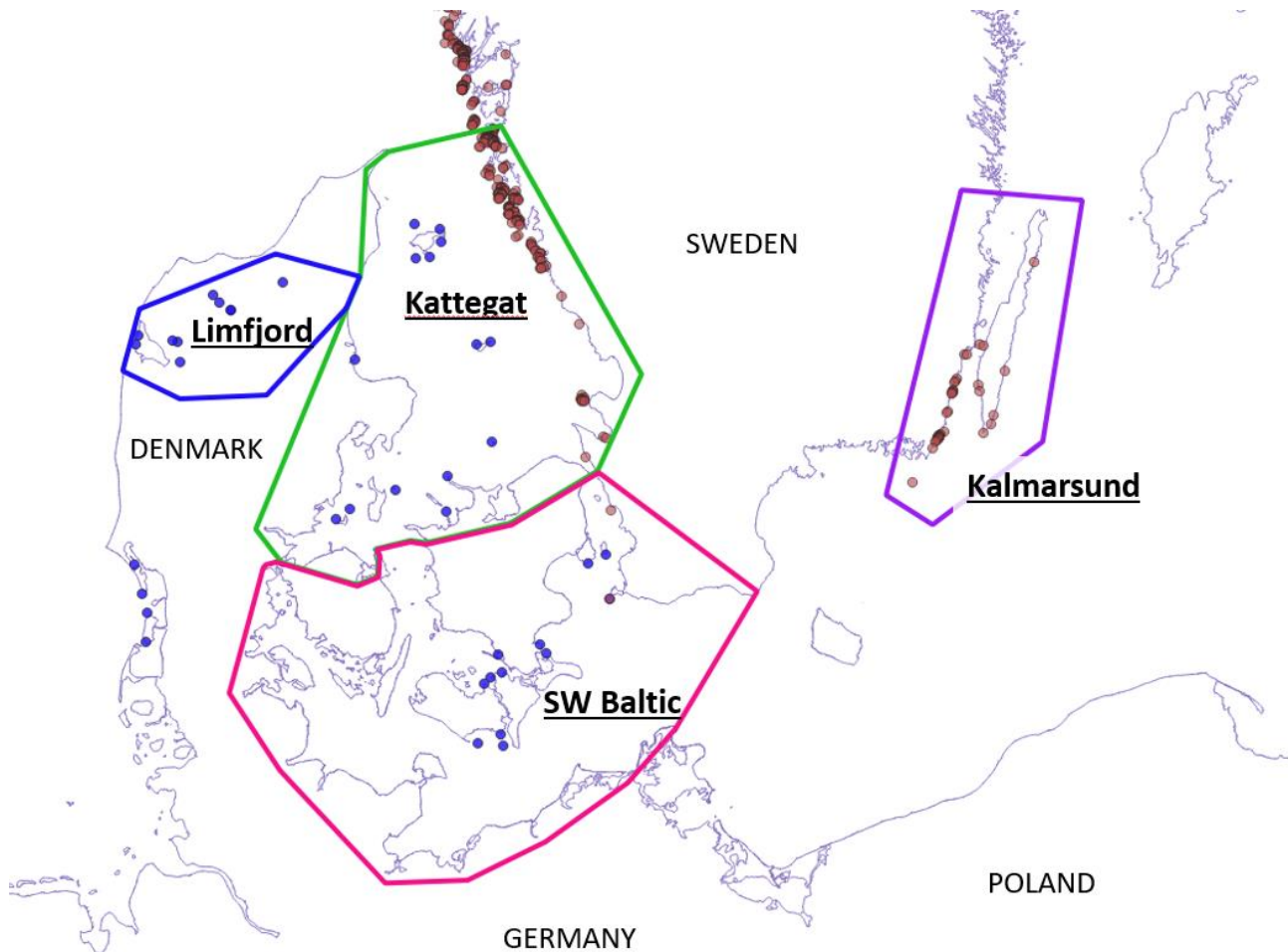


Figure 1. Map showing the proposed new management units for the harbour seal in the HELCOM area. In the western part of the range only one management unit is currently acknowledged.

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