



Baltic Marine Environment Protection Commission

Working Group on the State of the Environment and Nature
Conservation

STATE & CONSERVATION
15-2021

Online, 4-8 October 2021

Document title	Proposal to align the Western boundary of Bornholm Basin with the national MSFD and WFD reporting units in German coastal waters
Code	3J-35
Category	DEC
Agenda Item	3J - Progress of relevant HELCOM expert groups and projects
Submission date	20.9.2021
Submitted by	Germany

Note that this document was submitted to the Secretariat on time and the late submission is the responsibility of the Secretariat. It will be decided by the Meeting whether the document can be discussed or is postponed to the next meeting.

Background

This document contains a German proposal for a minor change in the western basin boundary of the Bornholm Basin in the coastal area in order to align the HELCOM assessment units with the national MSFD and WFD reporting units.

Action requested

The Meeting is invited to

- discuss and agree on the proposed change and its implementation in the HELCOM Map and Data Service, as well as in the maps of the HELCOM Monitoring and Assessment Strategy for use in HOLAS III and beyond
- submit the proposal to HOD-61 for final approval.

Proposal to align the Western boundary of the Bornholm Basin with the national MSFD and WFD reporting units in German coastal waters

The HELCOM Monitoring and Assessment Strategy defines four levels of assessment units. Level 1 comprises the whole Baltic Sea, Level 2 divides the Baltic into 17 sub-basins and Level 3 differentiates between coastal and open sea areas within these sub-basins as shown in Fig. 1a-c. Level 4 further differentiates between the open sea area and the individual coastal water bodies or types in the coastal area within each sub-basin. The divisions follow a nested approach, i.e. the smaller divisions fit smoothly into the larger divisions.

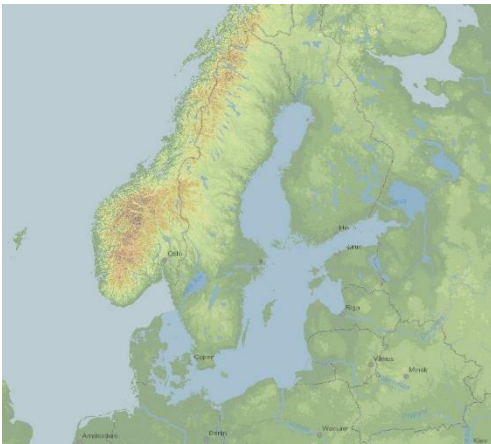


Fig 1a: Assessment units, Level 1



Fig. 1b: Assessment units, Level2

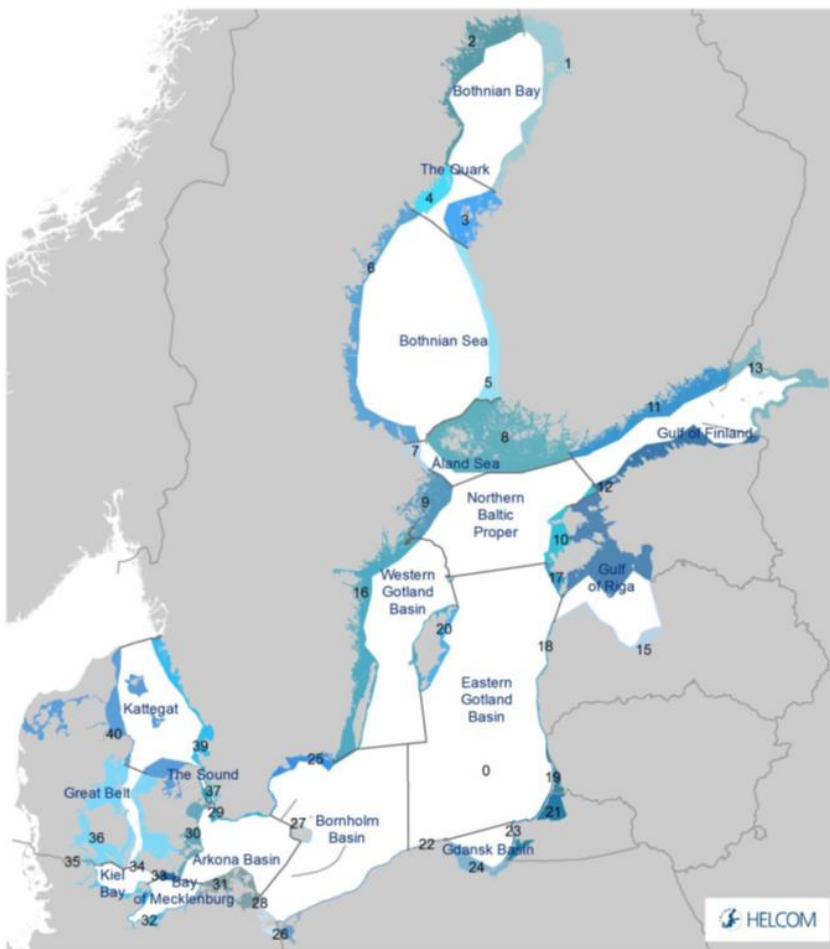


Figure 1c: Assessment units, Level 3 - Map of the Baltic Sea presenting the HELCOM sub-division into 17 open sea sub-basins and 40 coastal areas

When zooming further into the map at Levels 3 and 4 in the Southwestern Baltic (Fig. 2a), it becomes obvious that the Western boundary of Bornholm Basin cuts two German WFD waterbodies into pieces (Fig. 2b), thus spoiling the nested approach in this area and producing a mismatch with the WFD waterbodies reported to the EU and used as MSFD marine reporting units.

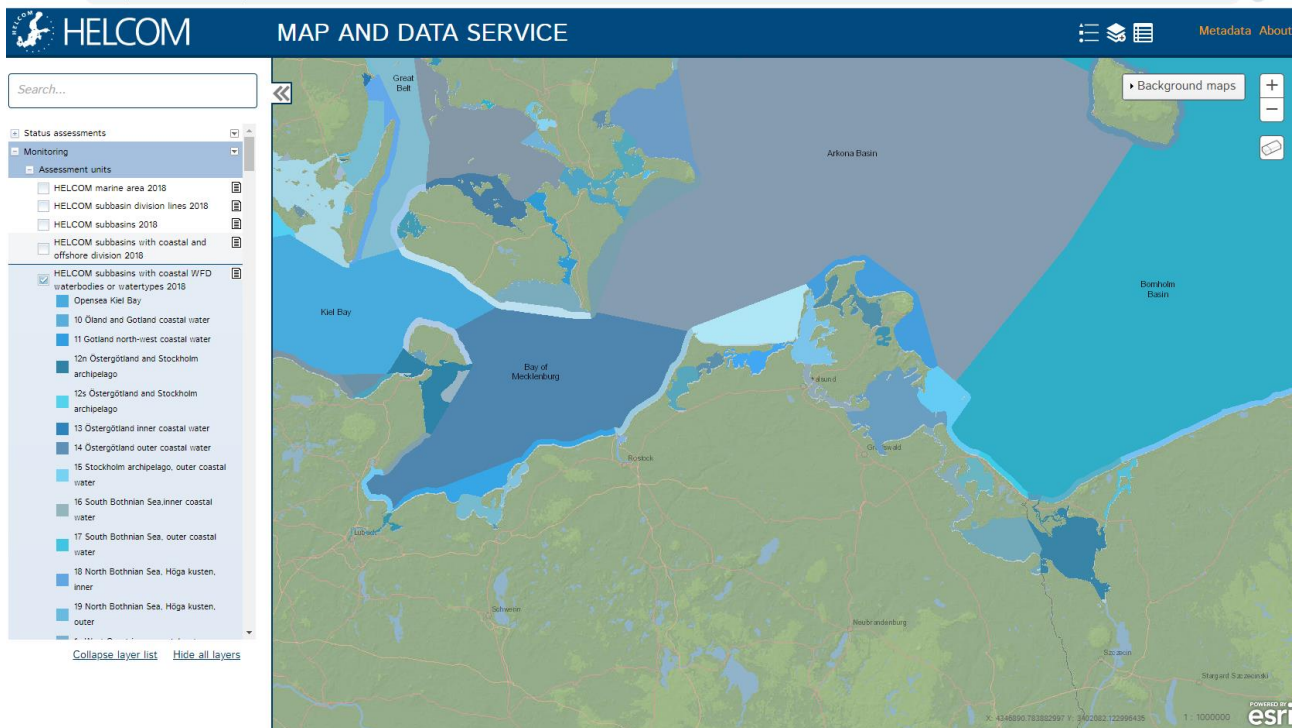


Fig. 2a: Assessment units, Level 4, zoomed into the southwestern Baltic to show the division of the coastal area into WFD waterbodies

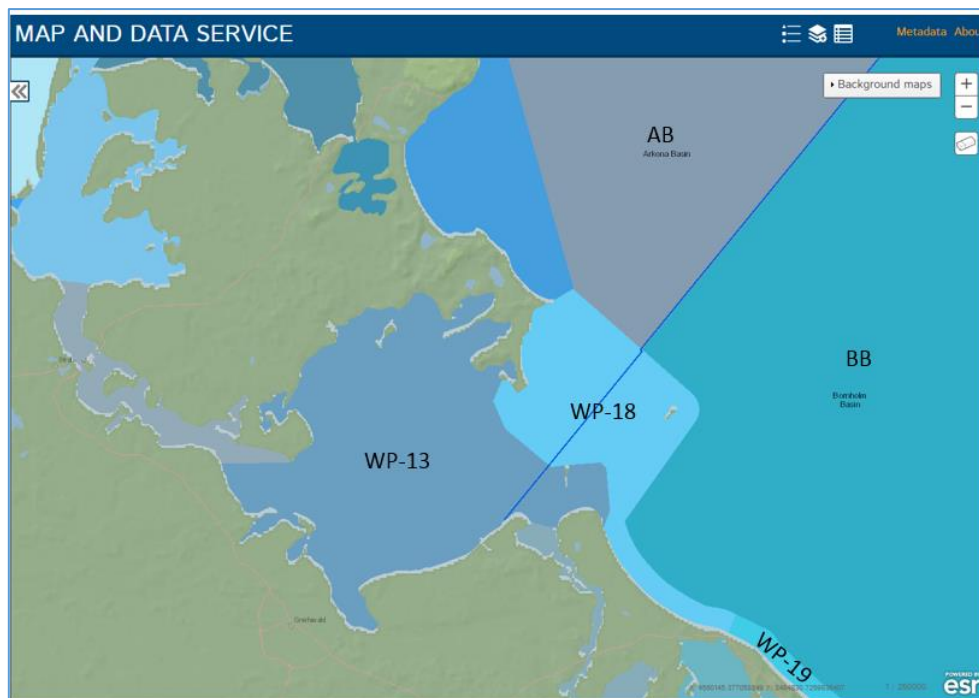


Fig. 2b: In the German coastal area, the boundary of Bornholm Basin (blue line) is cutting waterbody WP-13 (Greifswalder Bodden) and WP-18 into pieces. AB = Arkona basin open sea, BB = Bornholm Basin open sea

The Secretariat kindly looked into the matter and confirmed that there is no offset in HELCOM MADS and that the boundary is situated correctly.

We discussed the problem with our colleagues responsible for WFD implementation in the River Basin District Warnow/Peene and came to the conclusion that it would be unfortunate to adjust the waterbodies to the HELCOM basin boundary in this case. The WFD waterbodies were defined based on similar characteristics including e.g. salinity, depth and exposure, and the Greifswalder Bodden (WP-13) and the outer, more exposed waterbody WP-18 should neither be merged nor assigned to different basins. Thus, we concluded to propose a change in boundary between the Arkona and the Bornholm Basin.

In order to affect the existing HELCOM units as little as possible, we propose not to change the angle of the basin boundary to make it meet the coast at the right place, but to restrict the change to the coastal area as shown in Fig. 3.

We are planning to adjust the German MSFD reporting units and the WFD water bodies as follows: The Greifswalder Bodden (WP-13) stays as it is and is assigned in full to the Arkona Basin. The northern and middle parts (a and b in Fig. 3) of waterbody WP-18 will be assigned to the Arkona Basin as well. As a compromise solution agreed with our WFD colleagues, the southern part (WP-18c in Fig. 3) will be cut off, assigned to the Bornholm Basin and merged with WP-19. The Bornholm basin boundary should thus stay as it is until it meets the boundary of waterbody WP-18 and then follow the red line in Fig. 3.



Fig. 3: Proposal for a change in boundary (thick red line) in line with an adjustment of the German MSFD reporting units and WFD waterbodies. The southern part (c) of WP-18 will be merged with WP-19.

Consequently, there will be a minor decrease in size of the Bornholm Basin at assessment unit levels 2 and 3 and a corresponding increase in size of Arkona Basin (Fig. 4), but on a basin-wide scale this is negligible (concerning an area of 123 km² which is about 0.3 % of the total Bornholm Basin area). At assessment unit level 4, waterbodies WP-18a and WP-18b (Fig. 3) will both be assigned to the Arkona Basin (now Bornholm Basin) in line with a corresponding change in our MSFD marine reporting units.

The reward of these changes is a well-matching set of HELCOM, MSFD and WFD assessment and reporting units in our area in line with the nested approach.

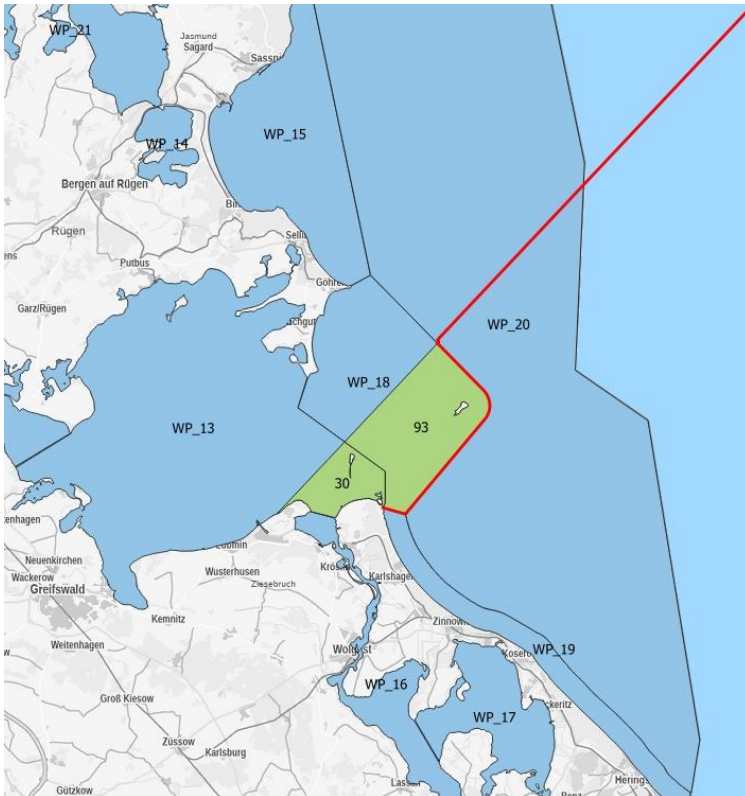


Fig. 4: Assessment unit Levels 2 and 3: the green-coloured parts of coastal waterbody WP_13 with an area of 30 km² and of WP_18 with an area of 93 km² will be assigned to the Arkona Basin. Thus the area of the Bornholm Basin will shrink and the area of the Arkona Basin will grow by approx. 0.3 %.

The WFD status assessment of the newly designed waterbody WP-18 will not change whether assigned to the Arkona or to the Bornholm Basin, while the former southern part (WP-18c) will be assessed based on and as part of WP-19. In the HEAT assessment, the open sea monitoring station OM O133 which is situated very close to the boundary of waterbody WP-18 and thus to the proposed boundary of the Bornholm Basin will be used as before to assess the eutrophication status of the Bornholm Basin or the new assessment unit 'Pomeranian Bay' open waters, respectively (see STATE 14-2021, Doc. 4J-82-rev1 Proposal for a new assessment unit for eutrophication – Pomeranian Bay).

The meeting is invited to discuss and agree the proposed change and its implementation in the HELCOM Map and Data Service as well as in the maps of the HELCOM Monitoring and Assessment Strategy for use in HOLAS III and beyond.