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<b>Document title</b>	Overview of HELCOM indicators towards HOLAS III
<b>Code</b>	3J-18
<b>Category</b>	INF
<b>Agenda Item</b>	3J – Progress of relevant HELCOM expert groups and projects
<b>Submission date</b>	13.9.2021
<b>Submitted by</b>	Secretariat

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### Background

This document aims to provide a dashboard overview of the indicators available, being adjusted, or under development. This dashboard overview builds on the more detailed information presented in the indicator progress reports submitted to this meeting and aims to summarise and give an overview of status and progress in relation to steps taken under the *Future work on HELCOM indicators process* (as summarised under [document 4-20](#) to HOD 57-2019, and the topic specific work plans developed within that process).

The document aims to provide an overview on key areas where work is underway or planned, what is expected by HOLAS III, and where proposals requiring endorsement are presented at this meeting (and in the case of threshold values also provided to HOD 61-2021 for approval in a consecutive process).

Where a document is presented at this meeting it is identified by the document number in bold text within the threshold values column. This does not denote that all address threshold values, just that there is a document.

### Action requested

The Meeting is invited to:

- take note of the information provided and use it as required to support discussion on the indicator specific documents provided to the meeting.
- consider taking lead on the indicators currently lacking and indicator lead.

## Summary overview of indicators towards HOLAS III

Summary table of all indicators available or under adjustment/development with a view to being utilised in HOLAS III (either as full indicator evaluations or to provide supporting contextual information). The purpose of this table is to provide a rapid overview of the ongoing work and proposals by indicator leads and relevant Expert Groups. All developments identified (e.g. threshold values, methodologies etc) in this table are pending approval at State and Conservation and/or HOD, as required, the details of which are provided under the separate documents that address each indicator also submitted to this meeting. The role of indicator leads (lead country approach) is not influenced by the information provided here as this table aims to summarise ongoing work towards operational indicators for HOLAS III and the update of indicators for HOLAS III will take place via the standard HELCOM procedure (i.e. leads, co-leads, and relevant Expert Groups).

The following codes are used in this summary table:

**Green fill** indicates expected in HOLAS III, but as applied in HOLAS II.

**Yellow fill** indicates improvement of existing indicator via ongoing development/adjustment work towards HOLAS III.

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Indicator names provided in **bold** indicate where there are known issues related to lead countries being in place. Summary information on the known issue(s):

- **Beach litter** – under development with identified leads currently being the HELCOM BLUES project and EN Litter.
- **Biological Effects** – no official lead (but also not an official indicator currently), but sub-group under EN-HZ (including FIN, DMK, EST, LAT, SWE) taking responsibility for the work.
- **Diclofenac** – no lead in place.
- **Shallow-water bottom oxygen** – possible co-lead as IN Eutrophication.

The final four columns indicate general areas under which the work currently being carried out is placed, including general categories such as threshold values or methodology development that require approval. Areas where developments are expected are highlighted in **light red**. The following codes provides some additional information on the scope of development:

<sup>1</sup>Possible, pending development work underway and the outcomes of it.

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<sup>5</sup>Two documents specific to changes in assessment units (Gulf of Finland and Bornholm Basin) also presented at State and Conservation 15-2021, and also on Beach Litter from State and Conservation 14-2021.

† Indicates that the threshold value content has also been submitted to HOD 61-2021 as part of the extended threshold value approval process.

Please note that more detailed information for each indicator can be found under the separate indicator progress reports provided to this meeting.

Indicator name	AUs	MRUS <sup>5</sup>	Adjustment/development expected by HOLAS III	Key areas	Other relevant information	Threshold value(s)	Methodology	Spatial extent and coverage	Assessment unit changes and/or new assessment
<i>Marine mammals</i>									
Distribution of Baltic seals	2	17 max	Not currently	As applied in HOLAS II.	Ongoing discussion related to Precautionary Approach Level (PAL) and threshold setting	NA	NA	NA	NA
Population trends and abundance of seals	2	17 max	Not currently	As applied in HOLAS II.		NA	NA	NA	NA
Nutritional status of marine mammals	2	17 max	Adjustment	Generally similar to HOLAS II – improved spatial coverage, species coverage, and inclusion of data from more Contracting Parties expected.	Longer-term development ongoing also.	NA <sup>1</sup> <b>3J-40</b>	X	X <sup>2</sup>	NA
Reproductive status of marine mammals	2	17 max	Adjustment			NA <sup>1</sup> <b>3J-41</b>	NA	X <sup>2</sup>	NA
Harbour porpoise distribution	2	17 max	Development	Qualitative assessment of absolute distribution for Baltic Proper.	Development under the HELCOM BLUES project, in association with EG MAMA.	NA <sup>1</sup> <b>3J-43</b>	X	X <sup>2</sup>	X <sup>2</sup>
Harbour porpoise abundance	2	17 max	Development	Qualitative assessment of absolute abundance for Baltic Proper. Possible indicator and trend assessment for Belt Sea.		NA <sup>1</sup> <b>3J-43</b>	X	X <sup>2</sup>	X <sup>2</sup>
<i>Waterbirds</i>									
Abundance of waterbirds in the breeding season	1/2	1-7	Not currently	As applied in HOLAS II.		NA	NA	NA	NA

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Abundance of waterbirds in the wintering season	1/2	1-7	Adjustment	Inclusion of offshore waterbird data.	Work carried out under or in direct cooperation with JWG BIRD.	X † <b>3J-36</b>	X	X <sup>2</sup>	NA
Breeding success of waterbirds	1/2	1-7	Development	Test cases of methodology.		X <sup>1</sup> † <b>3J-37</b>	X	NA	X
Waterbird habitat quality	1/2	1-7	Development	Development towards a possible indicator and/or possible contextual information in HOLAS III.		NA <sup>1</sup> <b>3J-39</b>	X	NA	X
<i>Bycatch</i>									
Number of drowned mammals and waterbirds in fishing gear  <i>Note: this indicator is of direct relevance to mammals and waterbirds sections.</i>	2	17 max	Adjustment	Implement pilot cases based on OSPAR-HELCOM joint workshop, further develop risk mapping approach.	Integrate work carried out under HELCOM ACTION project and also ongoing work under HELCOM BLUES. Cooperation with formation of data call for HOLAS III.	X † <b>3J-45</b>	X	X <sup>2</sup>	X <sup>2</sup>
<i>Fish – coastal (non-commercial)</i>									
Abundance of coastal fish key functional groups	3	40	Adjustment	Implementation of improved methodology (ASCETS) and improved spatial coverage if possible.	Development under HELCOM BLUES and in close cooperation with FISH-PRO III. Input to HELCOM ComFish WS related to methodologies also anticipated.	X † <b>3J-30</b>	X	X	NA
Abundance of key coastal fish species	3	40	Adjustment	Implementation of improved methodology (ASCETS)		X † <b>3J-28</b>	X	X	NA

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				and improved spatial coverage if possible.					
Size structure of coastal fish	3	40	Development	L90 methodology being developed for application under HELCOM BLUES project.		X † <b>3J-29</b>	X	X	X
<i>Fish – coastal/migratory</i>									
Abundance of salmon spawners and smolt	2	17	Not currently	As applied in HOLAS II.		NA	NA	NA	NA
Abundance of sea trout spawners and parr	3	40	Not currently	As applied in HOLAS II.		NA	NA	NA	NA
<i>Fish – commercial</i>									
Fishing mortality (F/FMSY)	2	17	Not currently	As applied in HOLAS II?	Pending planned work under the HELCOM ComFish WS, planned for autumn 2021.	Pending planned work under the HELCOM ComFish WS			
Stock size (spawning stock biomass)	2	17	Not currently	As applied in HOLAS II?					
Other?			Development						
<i>Fish – open sea non-commercial</i>									
Abundance of non-commercial offshore species (three-spined stickleback, flounder, brill and dab)	1/2	1-17	Development	Development ongoing under HELCOM BLUES and linked to Fish PRO III experts.	Cooperation with the ComFish WS also anticipated.	X <sup>1</sup> † <b>3J-88</b>	X	X	X
<i>Pelagic habitats</i>									
Zooplankton mean size and total stock	2	17	Adjustment	Improved data flows and spatial coverage	Work ongoing under the HELCOM BLUES and Baltic Data Flows projects	X † <b>3J-21</b>	NA	X	NA

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				(including threshold values)					
Seasonal succession of dominating phytoplankton groups	3	40	Adjustment	Improved data flows and spatial coverage (including threshold values)	Work ongoing under the HELCOM BLUES and Baltic Data Flows projects	X† <b>3J-20</b>	NA	X	X <sup>1</sup>
Diatom/Dinoflagellate index (Dia/Dino index) <i>Note: Inclusion for HOLAS III proposed to S&amp;C 15-2021.</i>	2	17	Adjustment	Further development from <a href="#">pre-core indicator tested in HOLAS II</a> . Focussing on selected areas to start.		X <sup>1</sup> † <b>3J-19</b>	X	X	NA
<b>Benthic habitats</b>									
State of the soft-bottom macrofauna community	4/2	40?	Adjustment	Improved data flows and spatial coverage (including threshold values). Clarity on application (e.g. in relation to halocline).	Work ongoing under the Baltic Data Flows project. Sub-group under EN Benthic formed to consider possible progress. However, this indicator falls under D6C5 therefore, process also tied to work in EU TG Seabed.	NA <sup>3</sup> <b>3J-24</b>	NA <sup>1</sup>	X	NA <sup>1</sup>
Cumulative impact on benthic biotopes (Cuml)	2	17	Development	Development ongoing under EN BENTHIC. Target to make a 'core' indicator for HOLAS III.	Cooperation underway to define/harmonise data needs for HOLAS III data call.	X† <b>3J-23</b>	X	NA	X
Condition of benthic habitats	2	17	Development	Sub-group under EN Benthic established to consider approach and	Possible test cases as contextual information at HOLAS III. Full assessment	NA <sup>3</sup> <b>3J-25</b>	X <sup>3</sup>	X <sup>2</sup>	X <sup>2</sup>

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Indicator name	AUs	MRUs <sup>1</sup>	Adjustment/development expected by HOLAS III	Key areas	Other relevant information	Threshold value(s)	Methodology	Spatial extent and coverage	Assessment unit changes and/or new assessment
				compatibility with other related assessment schematics.	process also tied to work in EU TG Seabed.				
Eutrophication									
Dissolved inorganic nitrogen (DIN)	4	320	Not currently			$\chi^5+$ <b>3J-87 and 3J-91</b>	NA	NA	NA
Dissolved inorganic phosphorus (DIP)	4	320	Not currently			$\chi^5+$ <b>3J-87 and 3J-91</b>	NA	NA	NA
Oxygen debt	4	320	Not currently	Possible increased spatial coverage and application of the indicator, where relevant.	Lead identified.	$\chi^5+$ <b>3J-87 and 3J-91</b>	NA	NA	NA
Water transparency	4	320	Not currently			$\chi^5+$ <b>3J-87 and 3J-91</b>	NA	NA	NA
Chlorophyll a	4	320	Adjustment	Final developments to include Ferry Box data.		$\chi^5+$	NA <sup>4</sup>	NA	NA

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						<b>3J-87 and 3J-91</b>			
Total nitrogen concentrations	4	320	Adjustment	Threshold values for basins where missing.		X + X <sup>5</sup> † <b>3J-49, 3J-87 and 3J-91</b>	NA	NA	NA
Total phosphorus concentrations	4	320	Adjustment	Threshold values for basins where missing.		X + X <sup>5</sup> † <b>3J-50, 3J-87 and 3J-91</b>	NA	NA	NA
Cyanobacterial bloom index	4	320	Adjustment	Target to make a 'core' indicator for HOLAS III. Way forward on study reservation.		X <b>3J-53</b>	NA	NA	NA
<b>Shallow-water bottom oxygen</b> (possible lead by IN Eutrophication)	4	320	Development	Develop approach and threshold values. Ongoing work.	IN Eutrophication ongoing work.	X † <b>3J-54</b>	X	X <sup>2</sup>	X <sup>2</sup>
Phytoplankton spring bloom intensity based on chl-a	4	320	Development	Approach and threshold values to be developed.	IN Eutrophication ongoing work.	X <b>3J-52</b>	X	X <sup>2</sup>	X <sup>2</sup>

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Baltic Sea acidification	4	320	Development	Ongoing work via associated project (OMA). Update to next IN Eutrophication meeting planned. Possible supporting contextual information in HOLAS III.		NA	X	X	X
Inputs of nitrogen and phosphorous to the sub-basins	2agr		Not currently	To be utilised based on developments taking place under PLC and PRESSURE (e.g. application of nutrient 'ceilings').		NA	NA	NA	NA
<i>Hazardous substances</i>									
Hexabromocyclododecane (HBCDD)	4	320	Possible minor adjustments			NA <b>3J-66</b>	X <sup>1</sup>	X <sup>2</sup>	NA
Metals	4	320	Adjustment	Division into three separate metals rather than amalgamated version currently used.		X <sup>†</sup> <b>3J-61</b>	X <sup>1</sup>	NA	NA
Polybrominated biphenyl ethers (PBDE)	4	320	Possible minor adjustments	Threshold values linked to EU processes.		X <sup>3†</sup> <b>3J-67</b>	X <sup>1</sup>	NA	NA
Perfluorooctane sulphonate (PFOS)	4	320	Possible minor adjustments			NA <b>3J-68</b>	NA	X <sup>2</sup>	NA

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Polychlorinated biphenyls (PCB) and dioxins and furans	4	320	Possible minor adjustments			NA <b>3J-69</b>	NA	X <sup>2</sup>	NA
TBT and imposex	4	320	Adjustment	Target to make a 'core' indicator for HOLAS III, pending study reservation on threshold value.		X † <b>3J-63</b>	NA	NA	NA
Polyaromatic hydrocarbons (PAH) and their metabolites	4	320	Adjustment	Aim to include metabolites aspect, pending study reservation on threshold value.		X † <b>3J-64</b>	X	NA	NA
White-tailed sea eagle productivity	3	40	Not currently			NA	NA	NA	NA
Reproductive disorders: Malformed amphipod embryos (supplementary, only FI&SE)	3	40	Adjustment	Possible request to make a 'core' indicator for HOLAS III based on increased spatial application. Option to include more species.		X † <b>3J-65</b>	NA	X <sup>1</sup>	X <sup>1</sup>
<b>Diclofenac</b>	x		Not currently		Threshold values linked to EU processes.	X <sup>3</sup> † <b>3J-60</b>	NA	NA	NA
<b>Biological Effects</b> (lead via EN-HZ topic team)	x		Development	Proof of concept under development to develop a broader overview or integrated	Sub-group in EN-HZ developing test cases and viable approach. Close alignment with OSPAR	NA <b>3J-70</b>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>

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				assessment of biological effect. Supporting contextual information in HOLAS III anticipated.	processes on the topic. Cooperation with HOLAS III data call.				
Radioactive substances: Cesium-137 in fish and surface waters	2	17	Adjustment	Dose based threshold values under development to update the indicator.		X † <b>3J-59</b>	NA	NA	NA
Oil-spills affecting the marine environment	2	17	Not currently			NA	NA	NA	NA
Copper	4	320	Development	Indicator development underway. Addresses offshore pollution/inputs. Sediment focus, but water and biota also addressed.	Cooperation with EN-HZ, EU groups/processes, and HOLAS III data call.	X † <b>3J-62</b>	X	X	X
Hazardous substances screening	x		Development	A 'surveillance indicator' for HOLAS III identifying key messages as an outcome of the HELCOM screening project and NEFCO funded Pre-EMPT project.	Cooperation with NORMAN anticipated.	NA	X	X	X

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<i>Litter</i>									
Beach litter (lead by EN Marine Litter)	3	40	Development	Development towards a 'core indicator' under HELCOM BLUES.		$\chi^5+$	X	X	X
Litter on the seafloor	2	17	Development	Development towards a 'core indicator'.	Development of threshold values tied to ongoing work in EU TG Marine Litter.	$\chi^3+$ <b>3J-72</b>	X	X	X
Microlitter in the watercolumn	x		Development	Development under HELCOM BLUES. Supporting contextual information for HOLAS III anticipated.		NA	NA	NA	NA
<i>Noise</i>									
Continuous low frequency anthropogenic sound	2	17	Development	Development towards a 'core indicator' under HELCOM BLUES.	Development of threshold values tied to ongoing work in EU TG Noise.	$\chi^3+$ <b>3J-74</b>	$\chi^3$	X	X
Distribution in time and space of loud low- and mid- frequency impulsive sounds	2	17	Development	Development towards a 'core indicator' under HELCOM BLUES.	Development of threshold values tied to ongoing work in EU TG Noise.	$\chi^3+$ <b>3J-73</b>	$\chi^3$	X	X
<i>Non-indigenous species</i>									
Trends in arrival of new non- indigenous species	1	1	Not currently	As applied in HOLAS II.		NA	NA	NA	NA

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