



Document title	Draft outline for the thematic assessment of long-term changes in radioactivity in the Baltic Sea covering the period 2011-2015
Code	6-1-Rev.1
Category	INF
Agenda Item	6 – Indicator reports and assessments
Submission date	20.05.2015
Submitted by	Secretariat
Reference	MORS EG 5-2015, document 6-1

Background

HELCOM MORS EG 4-2014 (cf. Paragraphs 6.7-6.9 of the Outcome) discussed the preparation of the next MORS thematic assessment for the next HELCOM holistic assessment on the ecosystem health of the Baltic Sea in 2016 and discussed the status of work on the basis of the draft outline for the thematic assessment of long-term changes in radioactivity in the Baltic Sea covering the period 2011-2013. During MORS EG 4-2014 sessional drafting groups discussed the status of work for the preparation of the assessment and agreed on the division of tasks and schedule for work in more detail (documents 6-1 and 6-1-Add.1).

In January 2015, the members of MORS EG were informed about the starting of HELCOM HOLAS II project that will develop a holistic assessment planned to be ready by mid-2018 (and not in 2016 as planned earlier), a draft of which needs to be ready by mid-2017. The data for the assessment should cover, if possible, the period 2011-2016. For a specific thematic assessment, including that of radionuclides as part of addressing hazardous substances, the best timing for finalization would be in late 2016. Therefore, the MORS EG members were requested (via e-mail correspondence) to consider the proposed plan for the HELCOM assessment work. According to the replies received (from all Contracting Parties, except Latvia) it is acceptable for MORS EG that the MORS assessment will be delivered at the end of 2016 (instead of 2015 as agreed earlier) and it will cover the period 2011-2015 (instead of 2011-2013 as agreed earlier), but it will not be possible to include MORS data from the year 2016 in the assessment.

Action required

The Meeting is invited to take note of the draft outline for the thematic assessment of long-term changes in radioactivity in the Baltic Sea covering the period 2011-2015, updated during MORS EG 5-2015 (cf. **Attachment** to this document).

Attachment

DRAFT OUTLINE

Thematic assessment of long-term changes in radioactivity in the Baltic Sea, 2011-2015

Chapter title	Responsible author(s)	Additional remarks	Proposed schedule
1. Introduction	Sven P. Nielsen		1 st draft ready before next MORS (April 2016)
2. Sources of radioactivity in the Baltic Sea	Vesa-Pekka Vartti, Maria Lüning, Charlotte Lager, Andrey Stepanov,	<ul style="list-style-type: none"> - update all figures and Table 2.1 - future plans re. facilities under construction - add Fukushima - check references for river discharges - dumping of radioactive wastes (Maria Lüning) - natural nuclides 	- Vesa-Pekka Vartti to make the first draft by Feb/March 2016 and send it to other members
2.1 Introduction			
2.2 Discharges from facilities in the Baltic Sea drainage area			
2.3 Discharges from facilities located outside the Baltic Sea			
2.4 Conclusions	All		

3. Radioactivity in the Baltic Sea (trends and regional distribution)	Tamara Zalewska, Stefanie Schmied, Eia Jakobson, Andrey Stepanov, Maria Suplinska, Marc-Oliver Aust,		
3.1 Radionuclides in seawater <ul style="list-style-type: none"> • Introduction • Distribution and temporal evolution • Effective half-lives, inventories • Other radionuclides • Conclusions • Gaps 	<u>Stefanie Schmied</u> , Tamara Zalewska, Eia Jakobson Stefanie Schmied Stefanie Schmied Stefanie Schmied Tamara Zalewska, Eia Jakobson All All	<u>Updating of figures/tables:</u> - Fig. 3a.2 (Tamara Zalewska) - Fig. 3a.3 (Stefanie Schmied) - Fig 3a.4 (Iisa Outola) - Fig. 3.1.1 (Joni Kaitaranta) - Table 3a.1 (Iisa Outola?) <u>New things:</u> - volume of Baltic Sea is small - add natural radionuclides - good/sub GES (Tamara Zalewska) - gaps - reaching target levels - mention Fukushima	1 st draft to be ready in April 2016
3.2 Radionuclides of the Baltic Sea sediments <ul style="list-style-type: none"> • Introduction • Material and methods • Results and discussion • Conclusions • Gaps 	<u>Stefanie Schmied</u> , Meerit Kämäräinen Stefanie Schmied Stefanie Schmied Stefanie Schmied Stefanie Schmied	<u>Updating of figures/tables:</u> - Fig. 3b.1 (Joni Kaitaranta) - Fig. 3b.2: update sub-base information and consider which station to choose (Stefanie Schmied) - Table 3b.1 (Iisa Outola) - Table 3b.2 (Iisa Outola) <u>[New things:</u> - soft vs hard sediments (define hard) - inventory (sediment vs seawater)]	1 st draft April 2016

<p>3.3 Radionuclides in biota</p> <ul style="list-style-type: none"> • Introduction • Material and methods • Results • Conclusions • Gaps 	<p><u>Marc-Oliver Aust</u>, Maria Suplinska /Tamara Zalewska Maria Suplinska /Tamara Zalewska Maria Suplinska /Tamara Zalewska Marc-Oliver Aust Marc-Oliver Aust All</p>	<p><u>Updating of figures/tables:</u> - Fig. 3c.1 (Joni Kaitaranta) - Fig. 3c.2 (Joni Kaitaranta) - Fig. 3c.3 (Joni Kaitaranta) (uncertainties missing) - Fig. 3c.4 (Maria Suplinska) - Table 3c.1 natural radionuclides (Marc-Oliver Aust) <u>[New things:</u> - new graph (showing the levels for different species: fish, seaweed, benthic animal in some sub-region) - concentration factors as an appendix]</p>	<p>1st draft April 2016</p>
<p>4. Modelling and Dose Calculations</p>	<p><u>Sven P. Nielsen</u>, Marc-Oliver Aust, Beata Vilimaite-Silobritiene, Iolanda Osvath (MODARIA),</p>		
<p>4.1 Model work and Dose calculations</p>	<p>Sven P. Nielsen, Marc-Oliver Aust</p>	<p>- update information presented in sub-chapters for the assessment period - check and correct consumption of fish in the Baltic Sea region for dose calculation - indicate in the title of sub-chapter what it is related to exposure of human being - add information with links to other modelling that were done in the Baltic Sea in global and local scale</p>	<p>1st draft April 2016</p>

4.2	Assessment of doses to biota	Beata Vilimaite-Silobritiene	- update references - correct figures presented in sub-chapter (not visible screening level, some corrections in legend) - add figure with dose assessment from the Southern Baltic Proper	1 st draft April 2016
5.	Radioactivity in the Baltic Sea compared to other marine regions (including impacts of Fukushima)	Iolanda Osvath		1 st draft April 2016
6.	Conclusions	Tarja Ikäheimonen		autumn 2016
7.	Recommendations	MORS EG		
8.	References	MORS EG		
9.	Acknowledgements	MORS EG		
10.	Appendixes 10.1. QA/QC	Tarja Ikäheimonen, Mai Khanh Pham		1 st draft April 2016

Deadlines:

Data will be ready for consideration and approval by MORS EG 6-2016 (data for 2015 will be ready during summer 2016).

Draft chapters should be submitted to MORS EG 6-2016 and the assessment should be updated afterwards with the latest data.

The assessment should be finalized in December 2016.