BSAP Fund

PreEMPT Project: Pre-empting pollution by screening for possible risks

Baltic Marine Environment Protection Commission

Helsinki Commission - HELCOM

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Executive summary of the project

This project report is provided by the HELCOM Secretariat to provide an overview of the completed work in the PreEMPT project. Further regionally relevant and reviewed products are also under development.

The PreEMPT project has succeeded in creating significant advances in two particular areas. Firstly, significant progress has been made in filling the knowledge gap between the 'known few' hazardous substances in the Baltic Sea marine environment (i.e., the circa 14 substances or substance groups currently addressed by HELCOM indicators) and the real perspective where in more recent times the potential pool of contaminants has boomed. Secondly, the project has achieved, in cooperation with other regional organisations carrying out similar work in the North East Atlantic and Arctic (and other projects), the first release of a documented and publicly available assessment tool for evaluating hazardous substances indicators against defined good environmental status threshold values. Both of these achievements are anticipated to have significant regional (and beyond) impact as they will provide the basis or further investigation or even measures (on identified substances) and provide countries (national organisations and research institutions) with an advances statistical tool for the assessment of hazardous substances, respectively.

The screening for circa 2,500 targeted substances and predictive evaluation of circa 95,000 non-target substances will provide key input to other Baltic Sea Action Plan (BSAP 2021) actions, such as re evaluating lists of priority substances and developing an improved management framework and action plan. Thus the work is anticipated to provides a strong foundation for setting clear actions towards the BSAP goal, for example a Baltic Sea unaffected by hazardous substances. While the approach applied is relatively novel and there is scope for further development and improvements in the future (e.g., improved derivation of threshold values or Probable No-Effect Concentrations applied in risk ranking) the screening study has made significant steps by identifying a number of substances that are either clearly of concern in the marine environment or warrant further investigation – many of which are ubiquitous across the region (found in all or many samples for example). These substances were commonly identified originating from pharmaceuticals, industrial chemicals, or personal care products, emerging substances that vastly increase the pool of substances in the environment and add new complications for management. Other substances included tobacco and coffee related compounds as well as some of the more classically monitored persistent chemicals (e.g., PAHs, PFOS and PCBs for which there are HELCOM indicators).

In close cooperation with other major regional organisations for the North East Atlantic/North Sea (OSPAR) and Arctic (AMAP), and through pooled resources, this project also initiated development work on a common tool to carry out the analysis of substance or substance group indicators. This work has resulted in the release of a first public version of the HARSAT assessment tool (Harmonised Regional Seas Assessment Tool). The release offers access to the analytical and statistical tool through which evaluations can be applied (including against commonly agreed regional threshold values indicative of good environmental status). The tool is publicly available and contains documentation (a type of user manual) to allow countries (Contracting Parties) to utilise it in national work, or research related activities, and will through experience of its application allow new recommendations for future enhancement to be gathered.

The report sets out some recommendations for future developments that could be considered at the regional level, including two aspect on which work has been initiated: i) a more extensive regional overview in which contaminants within food webs and source-sea linkages can be explored and ii) the development of a surveillance indicator to support the aim of pre-emptive management through early warning of risk. The project data and outputs also provide the foundations for a number of key work strands regionally, such as BSAP action HL1 on a strategic approach and other work to review priority substances and address emerging substances of concern, as well as

establishing a baseline from which more development can take place (e.g., future regular screening campaigns and future indicator evaluations).