Decision aid for marine munitions

→ The project partners will support maritime, defence and environmental administrations in making decisions on management strategies for dumped chemical and conventional warfare in the Baltic Sea and the Skagerrak to assess the risk associated with corroding warfare objects, such as dumped containers filled with munitions.

Priority area	Natural resources
Specific objective	Clear waters
Project acronym	DAIMON
Lead Partner	Institute of Oceanology Polish Academy of Sciences (IOPAN), Poland
Project partners	3 DE, 3 PL, 2 FI, 1 LT, 1 NL, 1 NO, 1 SE
Project budget*	Total EUR 4,7 MM

*preliminary figures before contract signature

Summary

Chemical and conventional ammunition dumped in the Baltic Sea and in the Skagerrak contains a wide range of hazardous substances. Considering the growing use of the seabed for economic purposes, such as offshore wind farms and pipelines, the likelihood of disturbing dumped containers with chemical warfare agents (CWA), causing direct emissions to the surrounding environment and risk of human and wildlife exposure, is increasing.

In addition, the containers are deteriorating due to e.g. corrosion. For these reasons there is an ongoing discussion on how to assess and manage the environmental risk of dumped ammunition, especially in areas where their location is likely to cause a conflict with maritime activities. DAIMON aims to increase the knowledge base on how to evaluate the risks and benefits of various management options.

The environmental effects of some of these substances, such as arsenic compounds, are well known, while in other cases the knowledge is insufficient to make proper risk assessments. DAIMON will develop techniques for the assessment of impacts of the dumped ammunition on ecosystem, maritime activities and humans as seafood consumers. This will be done by performing laboratory and studies in both shallow and

deep waters for chemical and conventional munitions, and development of biological and chemical assessment methods.

During case studies the risk associated with selected corroding warfare objects (individual and wrecks filled with munitions) will be closely examined. Management scenarios will then be developed for each object, and assessed regarding their possible impact on environment, and cost vs. cost of no-action.
Also the cost of lost environmental services will be estimated, which in the case of some methods will be higher than the short term savings.

On the basis of all this information an intelligent decision aid software will be created for, and in consultation with the relevant maritime authorities, which will be at all stages involved in project activities. This tool will propose and describe a management strategy most feasible for the given case and framework conditions. It will be tested on all six DAIMON case study areas in order to create a best practice collection on the management of marine ammunitions in the Baltic Sea Region and beyond.