

Dumping – whether is it the good way of the management of dredged material?

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Introduction: Generally dredging is a very important process. Dredging is necessary to prevent flooding, to facilitate sailing, to keep ports vital, to allow all the uses of a given water system. However some part of dredged material is contaminated by human activity that heavily that this material has to be treated before the products can safely be brought back into the environment [1]. It generates the problem of the management of contaminated dredging. Also clean sediments pose a problem with the management. The re-use of dredged material is not always possible. In many cases, the easier solution to port is dumping of sediments in the sea dumping sites than beneficial use. However, whether it is a good for the environment and all of us? What the impact on the environment can have the dumping process?

Methods: In the Baltic Sea Region is realized project ECODUMP (Application of ecosystem principles for the location and management of offshore dumping sites in SE Baltic region) conducting by Maritime Institute in Gdansk (Poland) and Klaipeda University Coastal Research and Planning Institute (Lithuania) in the framework of South Baltic Cross-border, Co-operation Program. Project ECODUMP among others tries to answer these questions. Within the framework of the project mapping in the Gdynia Dumping Site and surrounding area using multibeam echo sounder SeaBat 8101 (Reson) and Digital side sonar DF 1000 (EdgeTech) was performed. The scope of physical-chemical analysis included: grain size distribution, metals (Cu, Pb, Zn, Ni, Cr, Cd, Hg, As), mineral oil index (C₁₀-C₄₀), TBT, PAHs (16 congeners), PCBs (7 congeners)

Results: Preliminary results of the analysis of Gdynia Dumping Site allow us to assess the degree of contamination of stored sediments and their potential impact on the environment.

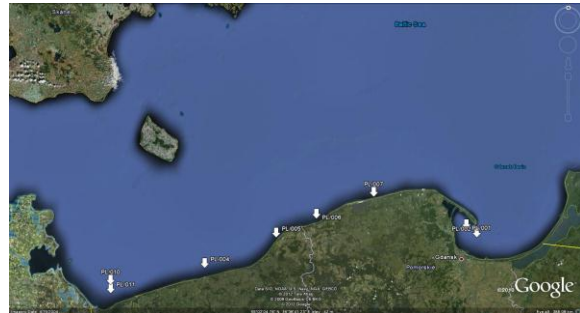


Fig. 1: Location of dumping sites in Polish part of the Baltic Sea.

In the Polish economic zone of the Baltic Sea, there are 7 dumping sites (Fig. 1), where since 1994 has been deposited dredged material mainly from port channels. Until now, none of the existing dumping sites in Polish economic zone of the Baltic Sea is not control of the impact of stored dredged material on the environment and the living organisms. Despite the fact that the guidelines of the Helsinki Commission (HELCOM) for the Baltic Sea Environment Protection Act 1993 recommends to monitor deposit sites in the sea [3].

References: [1] Brils J. (2004) *J Soils Sediments* 4(2):72-3; [2] HELCOM Guidelines for the Disposal of Dredged Material at Sea - Adopted in June 2007. (2007).