Oil and other hazardous and noxious substances seaborne trade pollution risks: A pilot study in Italian ports

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A pilot study was carried out in two Italian harbours, Porto Torres (NW Sardinia) and La Spezia (SE Liguria), with the aims to analyse data collection forms and existing databases used by the Italian Guardia Costiera (GC), to asses the existing bias, to suggest solution and/or strategy to minimize the bias and to propose a quantitative risk analysis using the available data. Authors have chosen Porto Torres and La Spezia because both are in the Tyrrhenian Sea, in the Cetacean Sanctuary protected area PELAGOS and have medium/small volume of HNS traded but show very different situations: Porto Torres is close to an Italian Marine Protected Area (Asinara Island) and seaborne traffic is mostly represented by HNS traded in bulk. La Spezia is near Cinque Terre National Park and intensive shellfish cultivations are very close to the harbour; HNS, in and out from La Spezia, are principally traded in containers. Data collection about vessels traffic, daily done by the GC, is very sophisticated, detailed and on time but shows some lacks with respect to the possibility of carrying out risk analysis. In a quantitative risk analysis, historical data on ships traffic, ships accidents and marine pollutions are crucial information required. An exhaustive number of information is collected from the GC but no standard data entry is available (i.e. no standard list of name of traded goods or ship type). Italian GC local offices register only the number of ship accident divided in three categories, (i.e. vessel traffic, fishing boats and other boats) and the number of marine pollution accidents occurred are grouped into small/medium and large categories. No electronic database with detailed information on ship accidents and marine pollutions is today available. The pilot project results suggest how to implement and standardize the existing Italian data collection forms and databases in order to be in condition of utilising them for risk analysis and to fit EMSA SaveSeaNet standard. With the available data, collected from year 2000 to 2007, we propose an evaluation on the accident risk through a Harbour Risk Factor and a Harbour Marine Pollution Index.