

## ABSTRACT

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INTERSPILL 2025 - Topic « Shipping risks – Sunken vessels »

Paper for the Conference

### **Environmental damage caused by potentially polluting wrecks**

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A 2012 resolution by the Parliamentary Assembly of the Council of Europe listed 8569 potentially polluting shipwrecks worldwide, including 1583 oil tankers. 75% of these wrecks sank during the Second World War. The age of these wrecks, combined with corrosion and climatic and oceanic conditions, means that their structures, already weakened by the act of war (torpedoing, bombing) that led to their immersion, can deteriorate and release their cargo and/or bunker fuel into the marine environment. The impact of such pollution can cause damage to marine and coastal fauna and ecosystems. What's more, some recently sunken wrecks need to be emptied of their pollutants, as public opinion is very vigilant about their potential to damage the marine environment, particularly when they are located close to the shoreline or in a Natura 2000 zone. The occasional leaks they generate, leading to sometimes excessive reactions from the general public and the media, can force state authorities to take measures to secure the wrecks in question, despite a net benefit for the environment that is sometimes difficult to establish, as the treatment of a wreck and its associated risks can indeed have a negative effect in the disadvantage/benefit balance of such an operation.

As part of its applied research dedicated to accidental pollution response, Cedre has been conducting studies for over thirty years to determine the environmental impact of potentially polluting wrecks. In 2000 and 2021, Cedre drew up an inventory of wrecks off the French coast, with a view to integrating them into a geographic information system for use by the French maritime authorities. This GIS includes details of potentially polluting wrecks and the risk associated with each, using a specific matrix, based on the DEEPP project, which combines objective elements such as the quantity and type of fuel used, the condition of the wreck, the distance separating it from the coast and ecologically sensitive sites, the presence of anthropic activities... These objective factors are combined with a weighting coefficient established by the French authorities to take into account subjective assessments of the consequences of releasing pollutants from a wreck. Finally, this GIS integrates all Pollution Reports (POLREP) drawn up since 2000 in maritime zones under French jurisdiction, in order to

correlate an abnormal number of POLREPs in a given zone with a wreck listed in the GIS, thus suggesting a probable leak from the wreck.

In 2023, Cedre carried out a bibliographic study to characterize the bunker fuels of these ships, in particular heavy fuels, diesels and synthetic oils, and to synthesize the available information on the impact of these products on the environment and marine organisms. Significant impacts on marine life and sediment have been underlined, with a specific acute toxicity from the synthetic oils, suggesting to classify WWII German wrecks as being more dangerous than the others. The next step should be to carry out a study aiming to compare synthetic oils with generic fuels implementing ecotoxicity tests, in collaboration with ECCC (Canada) and SINTEF (Norway).

Cedre will present an overview of the studies it has carried out to address this environmental issue.

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