

STATE OF THE AFFAIRS OF RISK ANALYSIS OF THE DUTCH PART OF THE NORTH SEA

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Background

In order to make a proper risk analysis of the transport of hazardous substances on the North Sea, a good overview is needed of the hazardous substances transported and the sensitive coastal areas possibly under threat. In the Netherlands, this process received input a number of years ago by a detailed inventory study of hazardous substances transported to and from the major Dutch sea ports (including Rotterdam) in the year 2000. This study revealed that the larger proportion of such transport comprised crude oil and heavy fuel oil. Also, it became apparent that the transport of hazardous substances in ships only passing (but not calling at) Dutch ports was an unknown factor. For this reason, the Ministry of Transport, Public Works and Water Management decided to join the Safety at Sea project in the Interreg IIIB Program (North Sea region). In this presentation, the preliminary results of this on-going project will be discussed.

Inventory of oil transport streams

In Safety at Sea, partners from public and private organisations in Belgium, Denmark, the Netherlands, Norway (Lead Partner), Sweden and the UK join forces to work on different safety aspects related to maritime activities. The Netherlands together with Norway are making an inventory of oil transport and sensitive areas in order to improve the risk analysis of oil transport on the Dutch part of the North Sea. Information on oil transport has been collected for the year 2004, not only from the major Dutch ports but also from oil ports in the other participating Interreg countries. Importantly, Norway and the UK as major oil producers and exporters are part of the study. This inventory has led to a much improved picture of oil transport on the Dutch part of the North Sea. This will be illustrated by a number of transport maps.

Risk analysis

These basic transport data are currently being processed in order to calculate the risk of outflow of oil due to collisions, grounding etc. of oil transporting ships. This work is being carried out by MARIN, using the SAMSON-model (Safety Assessment Model for Shipping and Off-Shore North Sea). The first results will be presented. A comparison will be made to the results obtained earlier based on the year 2000 data (see above).

Sensitive areas

A lot of effort has gone to defining ecologically sensitive areas off the Dutch coast. In turn, these areas are based on a tool to discern the sensitivity of various species and habitats and distribution maps during different seasons (Fig. 1).

An example of a relative sensitivity map for heavy fuel oil, based on the presence of 34 species (fish, benthos, avifauna and mammals) and their sensitivity values is given in Fig. 1. Other

example maps of sensitive areas will be shown and the process to create these maps will be explained during the presentation.

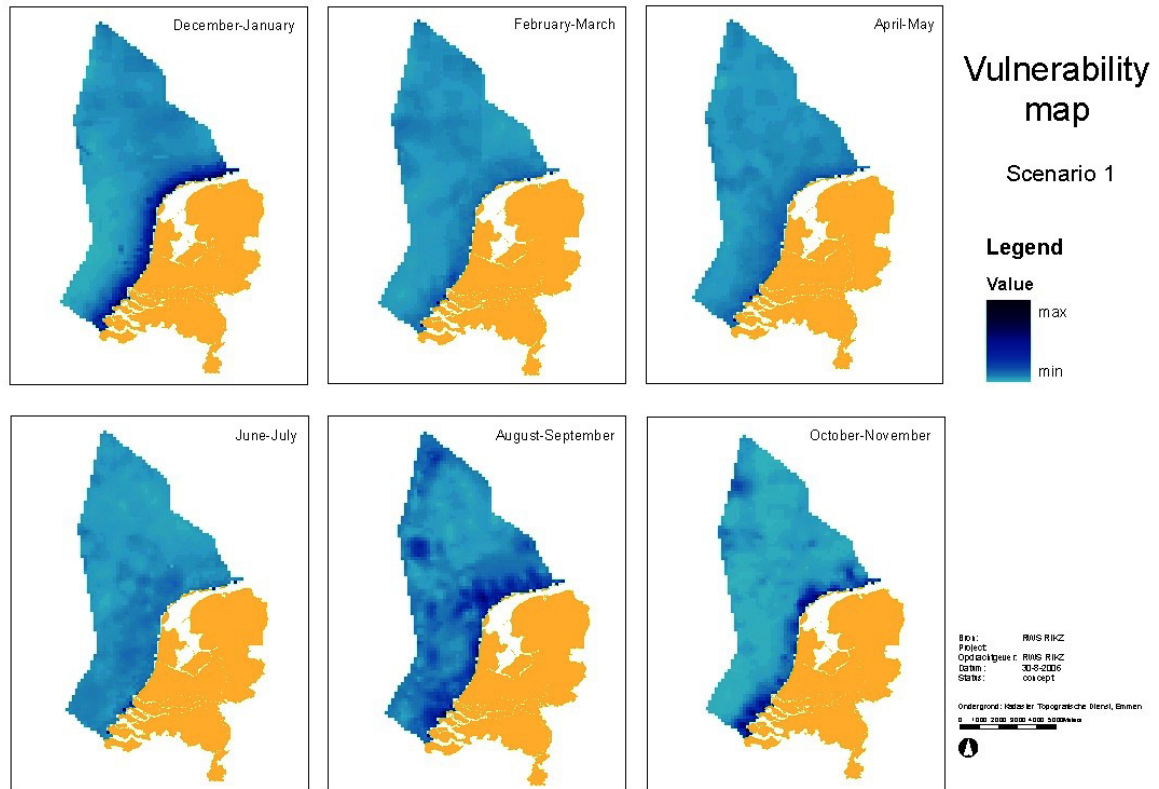


Fig. 1. Relative sensitivity map for heavy fuel oil.

The last challenge in the project is to combine the results of the risk assessment with these sensitivity maps, in order to arrive at an equivalent of the Marine Environmental High Risk Areas, a concept developed previously in the UK.