

Admiral Danish Fleet HQ,
National Operations, Maritime Environment

Sub-regional risk of spill of oil and hazardous substances in the Baltic Sea (BRISK)

Introduction to modelling reports

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1 Introduction

1.1 BRISK Project setup

The project is defined in response to an increased concern about accidents and environmental damage in the Baltic Sea due to the significant increase of ship traffic, particularly the oil tanker traffic. Major oil spills can affect the economy of several countries and are hence a trans-national problem. The increased risk of oil spills is of great concern in the whole Baltic Sea region.

The objective of the project is to identify specific proposals for increased co-operation. The project will result in increased preparedness of authorities to respond to medium size oil spills and enhanced sub-regional co-operation. The network of responsible persons will be further developed. The project will promote building partnerships and co-operations among trans-national, national and regional authorities that are responsible for emergency and response operations in the Baltic Sea.

The BRISK project is partly financed by EU's Baltic Sea Regional Programme 2007-2011 with 3.3 million EUR for the period 2009 to 2012. The co-financing varies between 15 % and 25 %, depending on the home country of Project Partner.

The project partnership consists of the national authorities responsible for oil spill preparedness around the Baltic Sea together with HELCOM. The countries involved are: DK, SE, FI, EE, LT, LV, PL, DE, plus HELCOM. Russia is involved indirectly through the BRISK-RU project, which is financed by the Nordic Council of Ministers with 200.000 EUR. A list of the contracting authorities and the contact persons involved is given in the appendix.

The project activities are divided into the following 6 Work Packages (WP):
WP1: Management, responsible: LP (Lead Partner, Denmark)

WP2: Communication and information, responsible HELCOM

WP3: Risk assessment: Common methodology, unified data collection, common risk model, common assessment of risk of pollution and impact, Identification of additional response resources needed, resp. LP

WP4: Agreements: Development of proposals to remove administrative obstacles to the efficient response, resp.: LP

WP5: Investment plans: Preparation of integral and comparable investment plans for response resources, resp.: LP.

The structure of the project reports is given in below

Table 1-1 Document list of the BRISK project

Document number	Document Title
70618 3.1.1	Method Note
70618 3.1.2.1	Data Collection Note
70618-3.1.2.2	Data Collection Report
70618-3.1.3.0	Model Note,0- Introduction
70618-3.1.3.1	Model Note,1-Traffic
70618-3.1.3.2	Model Note,2- Transport
70618-3.1.3.3	Model Note,3- Vulnerability
70618-3.1.3.4	Model Note,4- Frequency
70618-3.1.3.5	Model Note,5- Spreading
<i>70618-3.1.3.6</i>	<i>Model Note,6- Numerical calculations</i>
70618-3.1.3.7	Model Note,7-Model modification
70618-3.2.1	Model scenarios
70618-3.2.2	Model results
70618-3.3	Response Resources
70618-4	Agreements
70618-5	Investment plans

1.2 System of modules

Motivation

The present method note is part of the Project on sub-regional risk of spill of oil and hazardous substances in the Baltic Sea (BRISK). In this project, it serves as a documentation of work step 1 (method definition). The note is based on the methods that have been successfully applied during the recent Risk analysis of oil and chemicals pollution in Danish waters /Oil spill DK, 2007/ and includes the adaptations that are necessary in order to model the entire Baltic Sea.

Scope

Work step 1 prepares the grounds for the remaining work steps. Consequently, its purposes are

- the basic definition of key issues, such as the area to be covered, the division into sub-areas, the substances and scenarios to be dealt with
- the basic principles of how ship traffic, accidents, oil weathering and fate, emergency response and environmental sensitivity are represented in the model

Model architecture

The data and calculation flow of the model is illustrated in Figure 1-1.

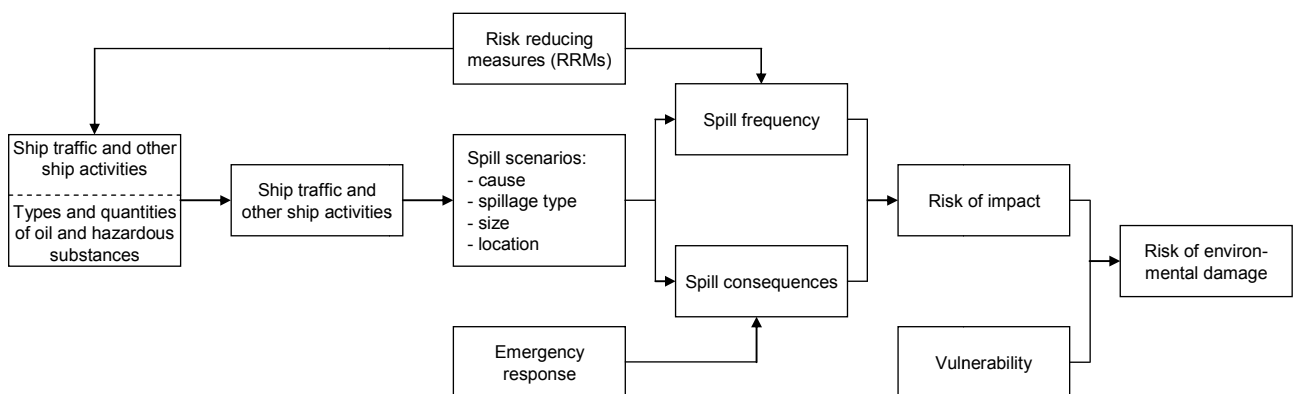


Figure 1-1 Data and calculation flow of the model

1.3 Model reports

The different modules are preliminary described in the Method Note, report nr 3.1.1, that describes the understanding of the method to be applied in the BRISK project in the initial phase of the project.

During the discussion with the Project Partners the understanding of the modelling has changed and adapted to the specific condition for the Baltic Sea and its characteristics.

1 Traffic

- 2 Transport
- 3 Vulnerability
- 4 Frequency
- 5 Spreading
- 6 Numerical calculations
- 7 Model modifications