

Bonn Agreement, Interspill 2015, Amsterdam

BE-AWARE I+II Projects



Assessing the Most Effective Future Oil
Pollution Risk Reduction and Response
Measures



Co-financed by the EU – Civil
Protection Financial Instrument

Why do we need a risk Assessment in the Greater North Sea?

- Increasing traffic and vessel size
- Significant transports of oil and HNS
- New maritime uses and demand for space
 - Energy generation
 - Marine protected areas
- Increased storminess

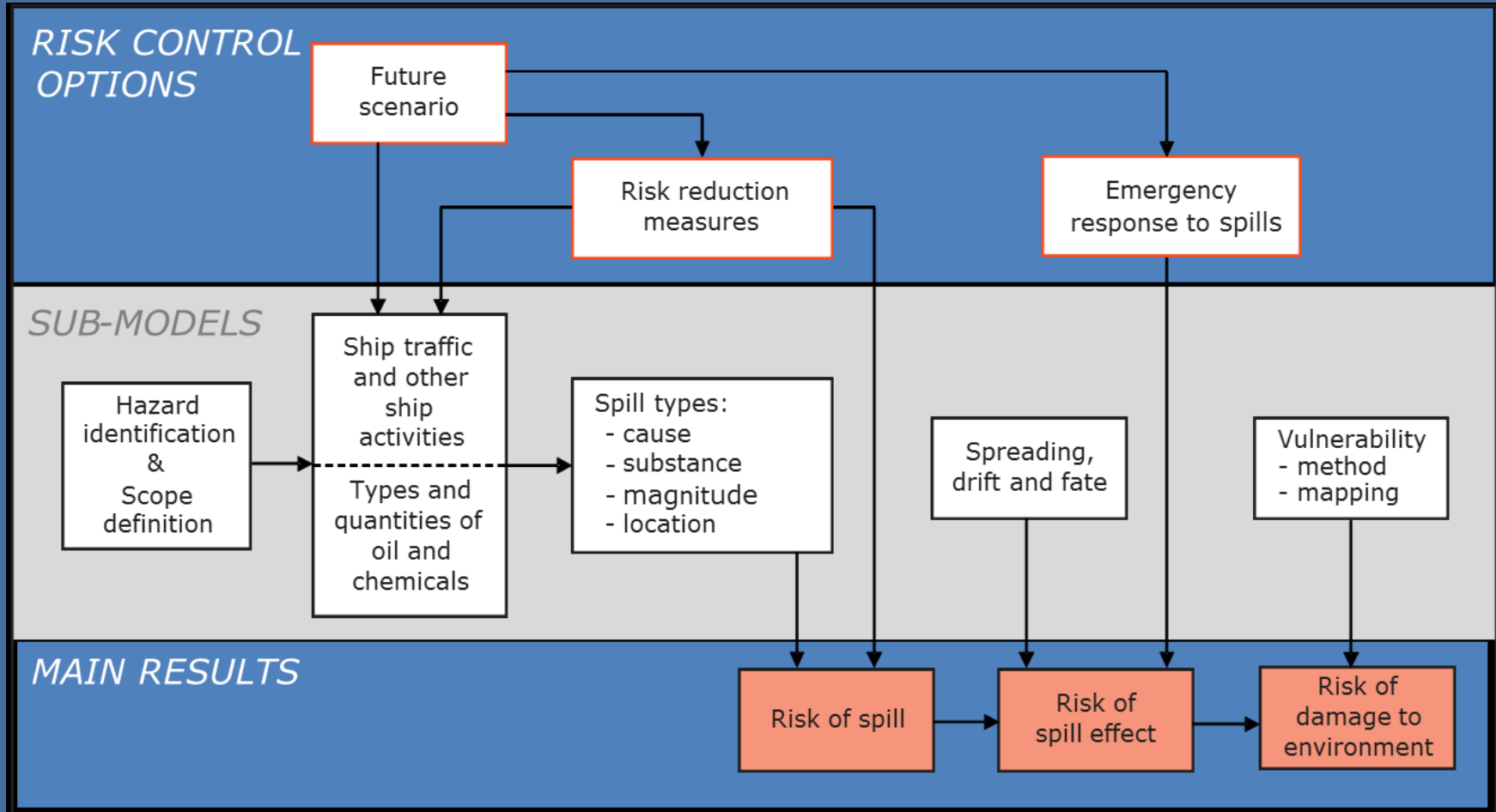


Project Development

- Discussion on balance of resources and risk assessment since 2006
- 2010 Ministerial Meeting
- Risk Analysis Workshop, May 2011
- Application to EU Civil Protection Financial Instrument
- BE-AWARE I: 2012-2014
- BE-AWARE II :2014-2015

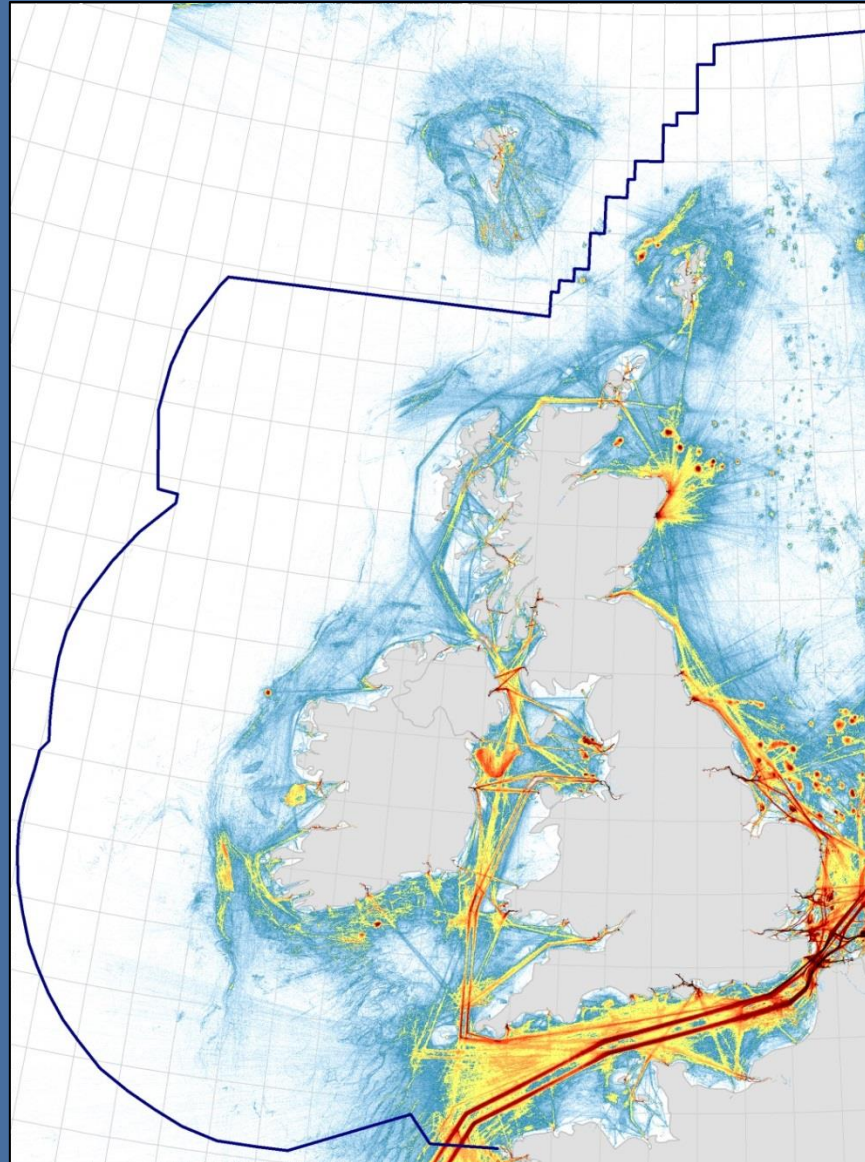


BE-AWARE: A project in two halves



BEAWARE I Objective

The overall objective of BE-AWARE I is to clearly understand the (sub) regional risk of marine pollution in the Greater North Sea and its approaches both now in 2011 and in 2020



Project Partners

Coordinating Beneficiary:

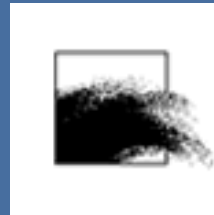


Bonn
Agreement
Secretariat

Associate Beneficiaries:



RWS
Noordzee



RBINS
MUMM



Admiral Danish
Fleet HQ

Co-Financiers:



Norwegian Coastal
Administration



Belgian Federal Public
Service: Marine
Environment Unit

Subcontractors:



Ship Collisions and Groundings



Ship Collisions with Platforms, Wind Farms and Fixed Objects



Analyse of the likelihood of different sized oil spills



Qualitative analysis of the likelihood of HNS spills

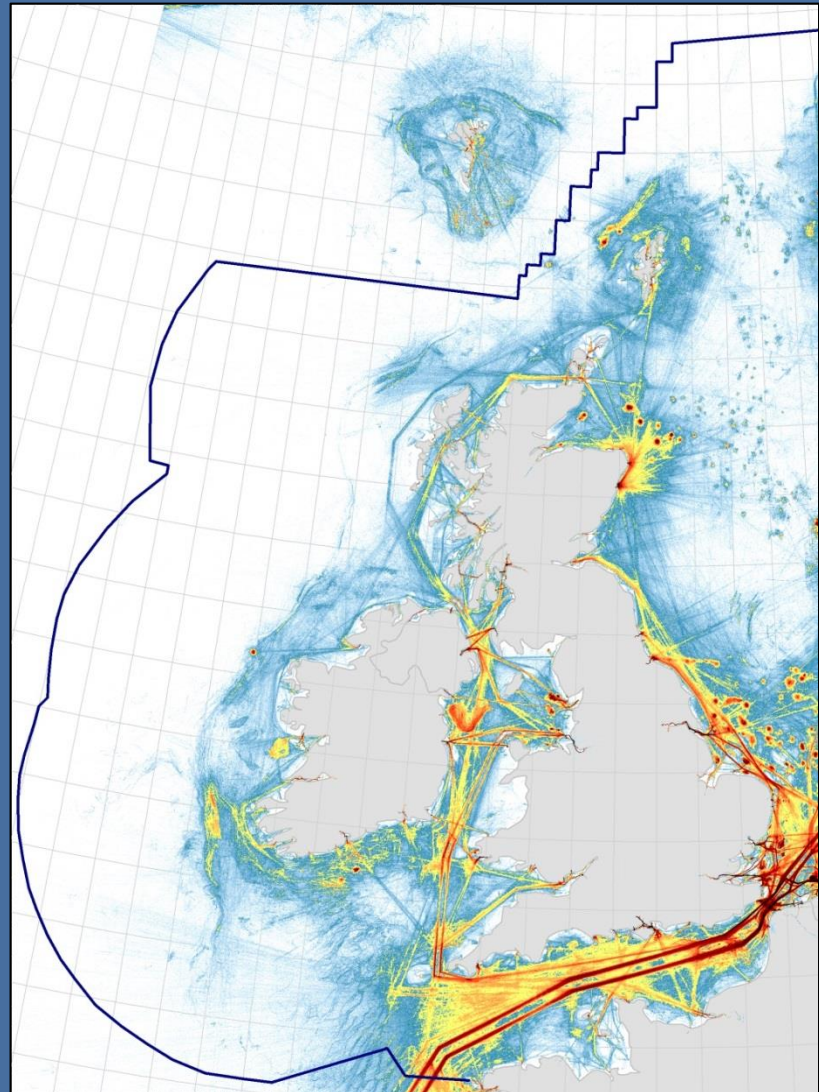


Environmental and Socioeconomic Sensitivity Methodology



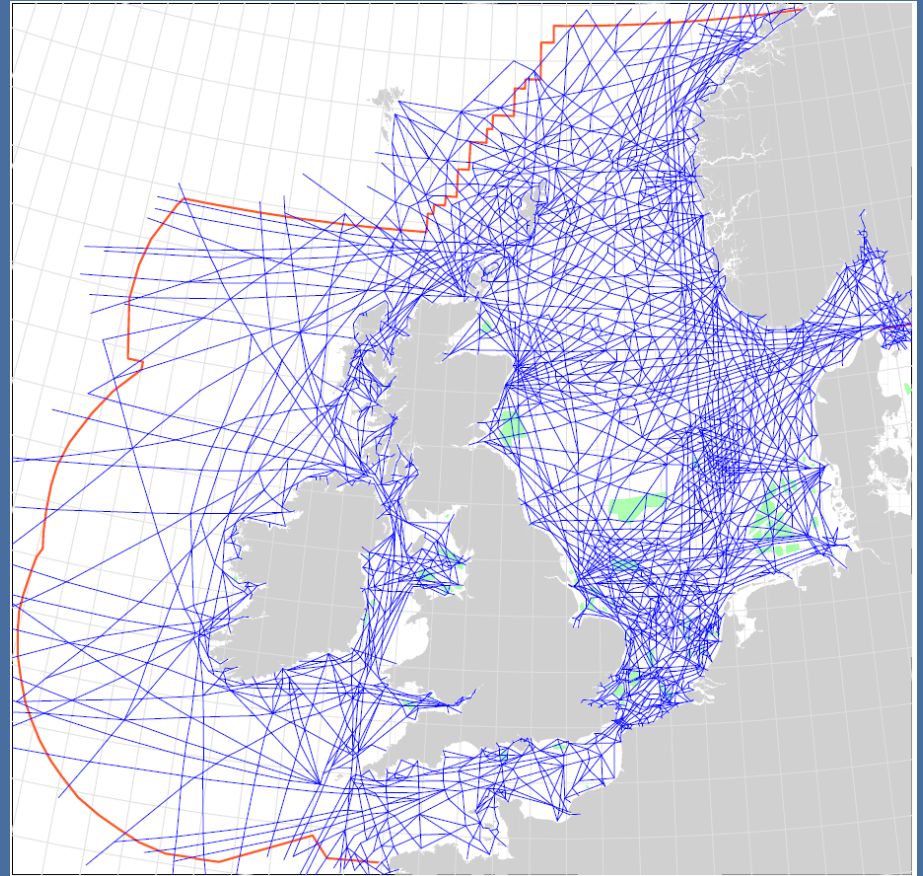
Methodology

- Traffic models
- Ship traffic model
 - AIS data for 1 full year
 - Coordination with IHS Fairplay
- Oil transport model (types and quantities)
- Future traffic model 2020

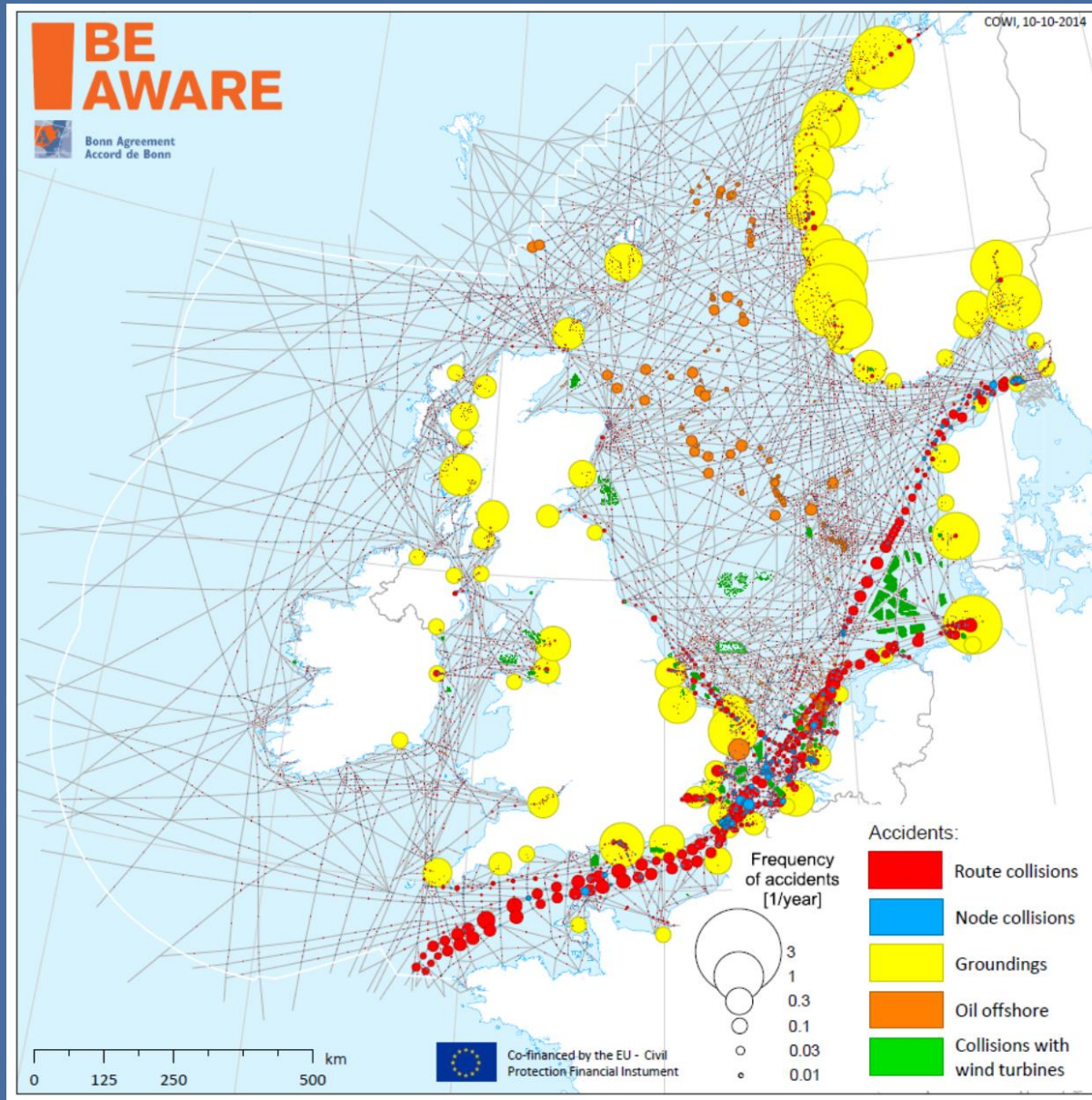


Methodology

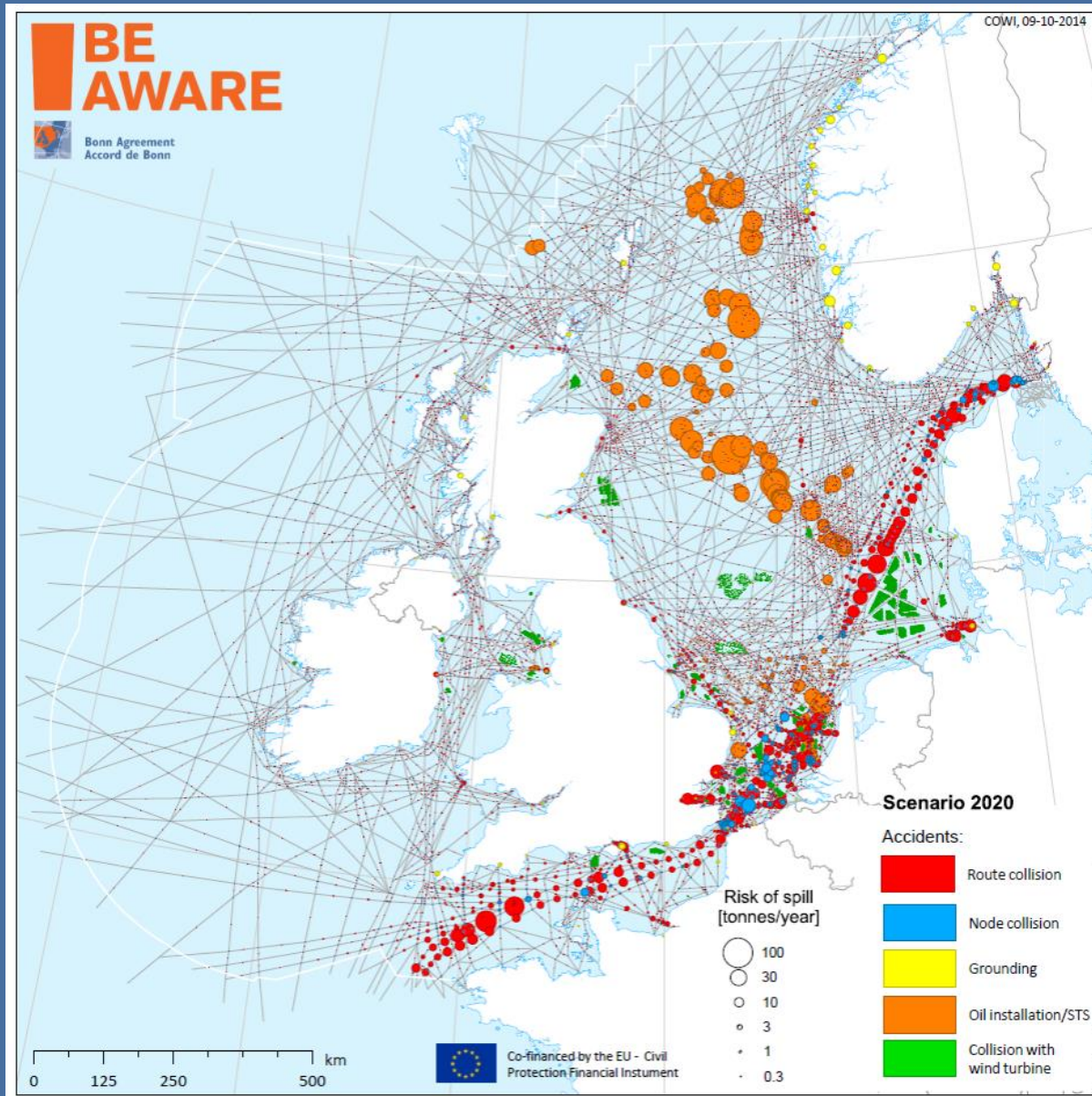
- Accident models
- Locations
 - Open seas and port approaches (not ports, channels and rivers)
 - Each nodal point and each route leg midpoint.
 - Platforms
 - Wind farms
 - Groundings (representative)



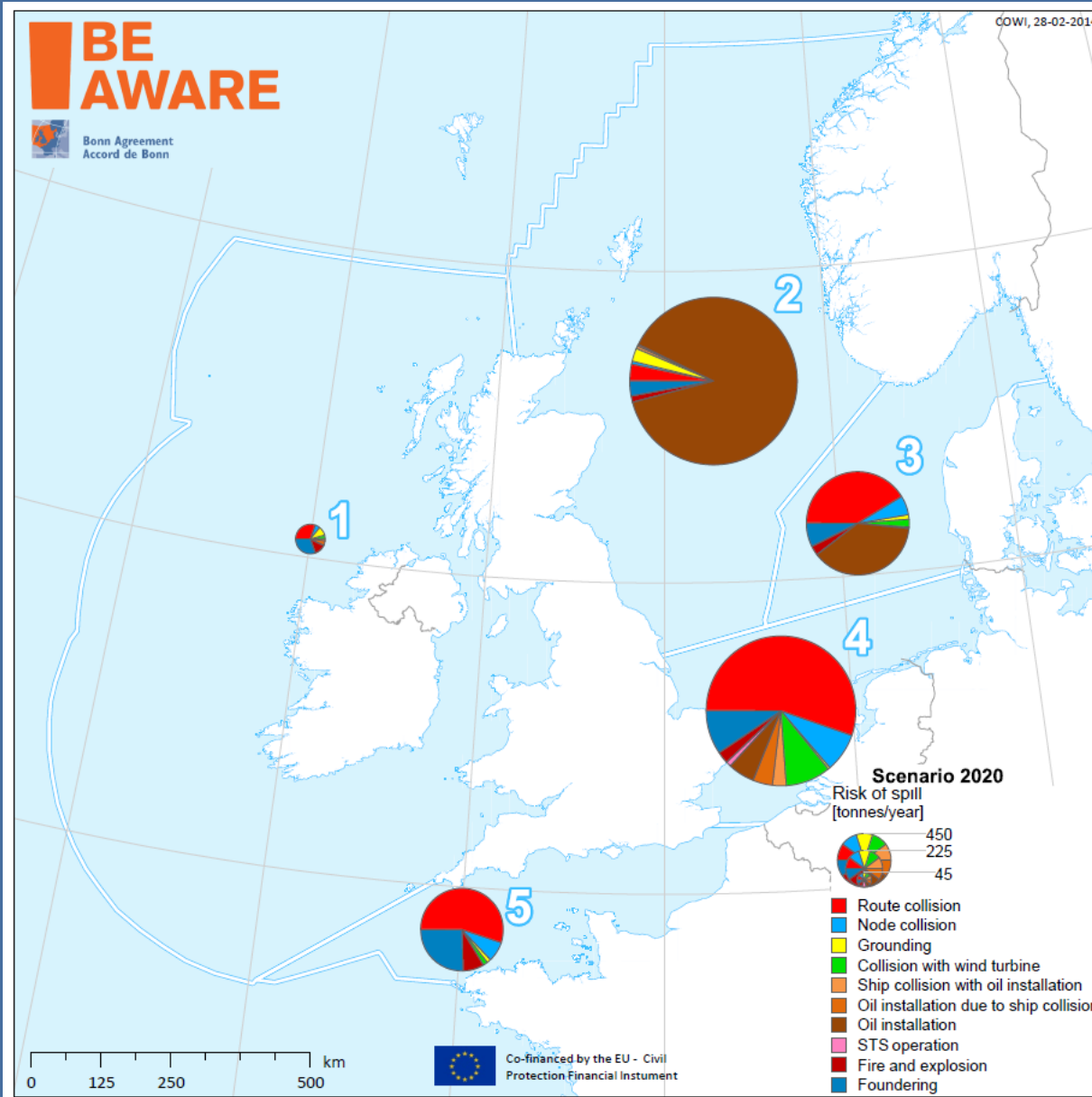
2020 Results: Frequency of Accidents



2020 Results: Risk of Spill, Tonnes per year

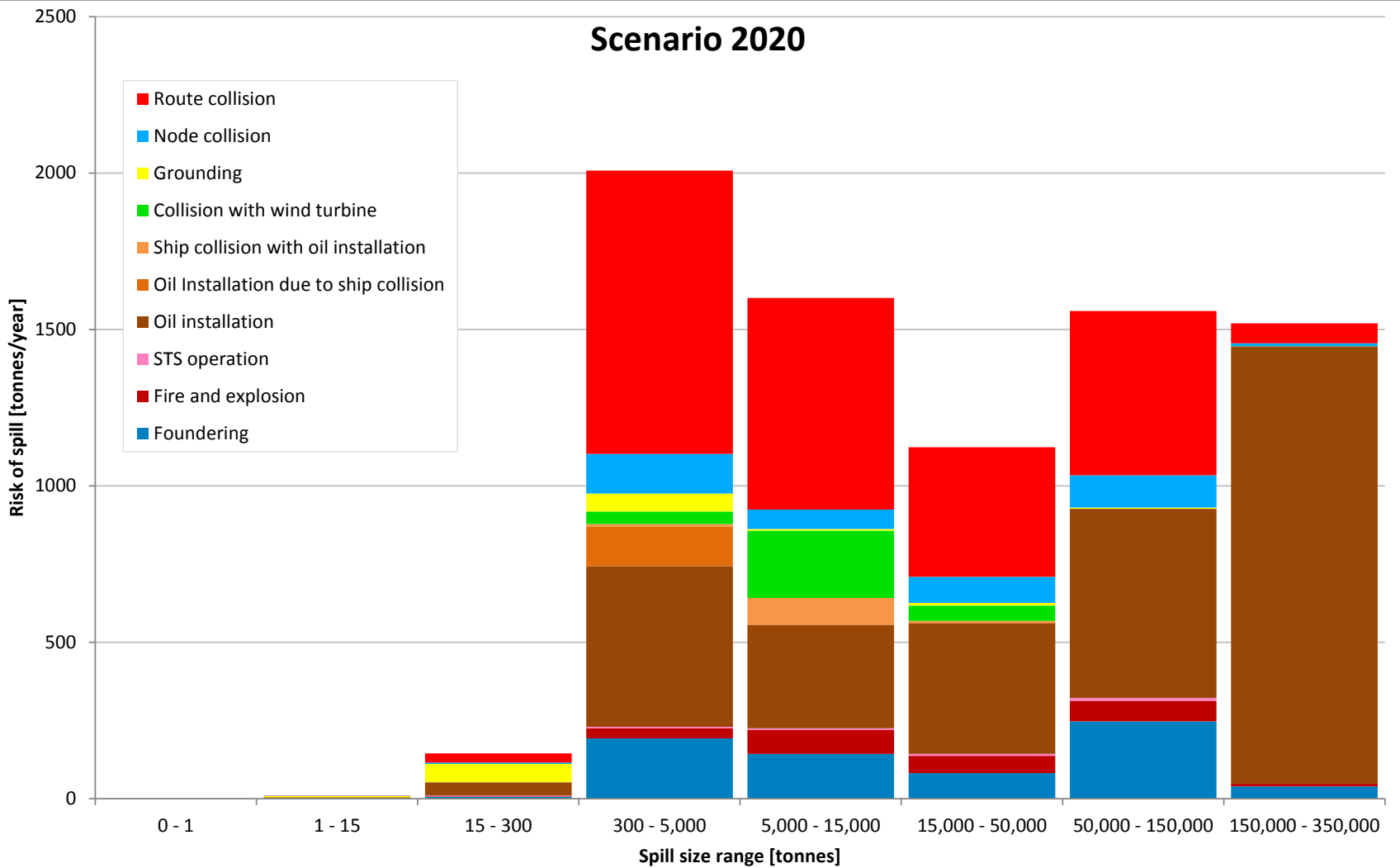


2020 Results: by Region



2020 Results: Risk of spill by spill size category

Scenario 2020



BE-AWARE II Objectives

The overall objective of BE-AWARE 2 is to identify the most effective future risk reduction and response measures for each sub region, by building directly upon the outcomes of the BE-AWARE project



Project Partners, Co-Financers & Subcontractor



How do we best manage the risk of spills?



Future scenarios

Reference Scenarios:

- Present Situation
- 2020 Situation

Response Scenarios:

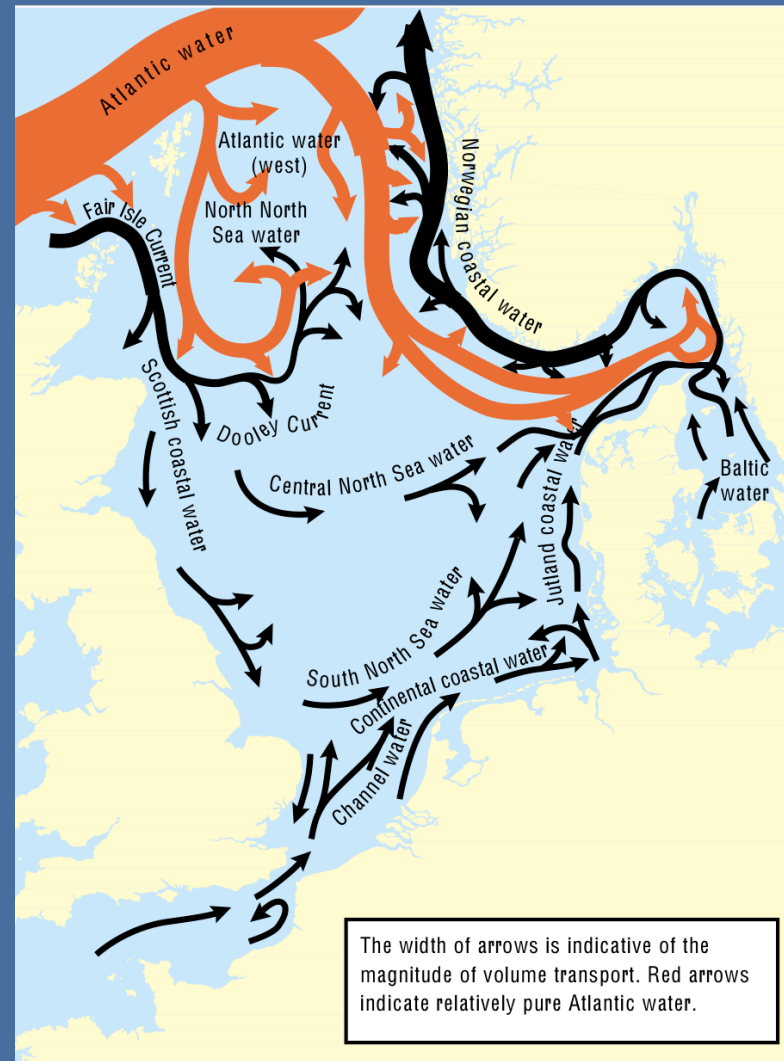
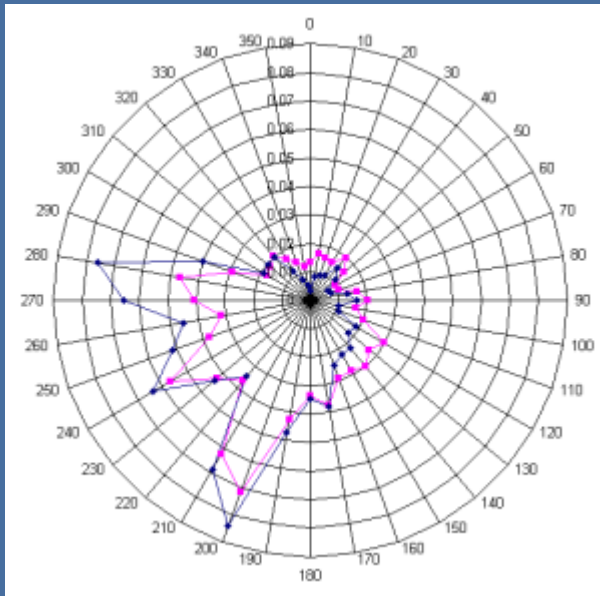
- Improved night detection
- Dispersant use
- 50% more equipment

Risk Reducing Scenarios:

- Vessel Traffic Services
- Traffic Separation Schemes
- AIS alarms
- E-navigation
- New Emergency Towing Vessels

Model the fate of oil based on BE-AWARE I

- Wind direction
- Currents

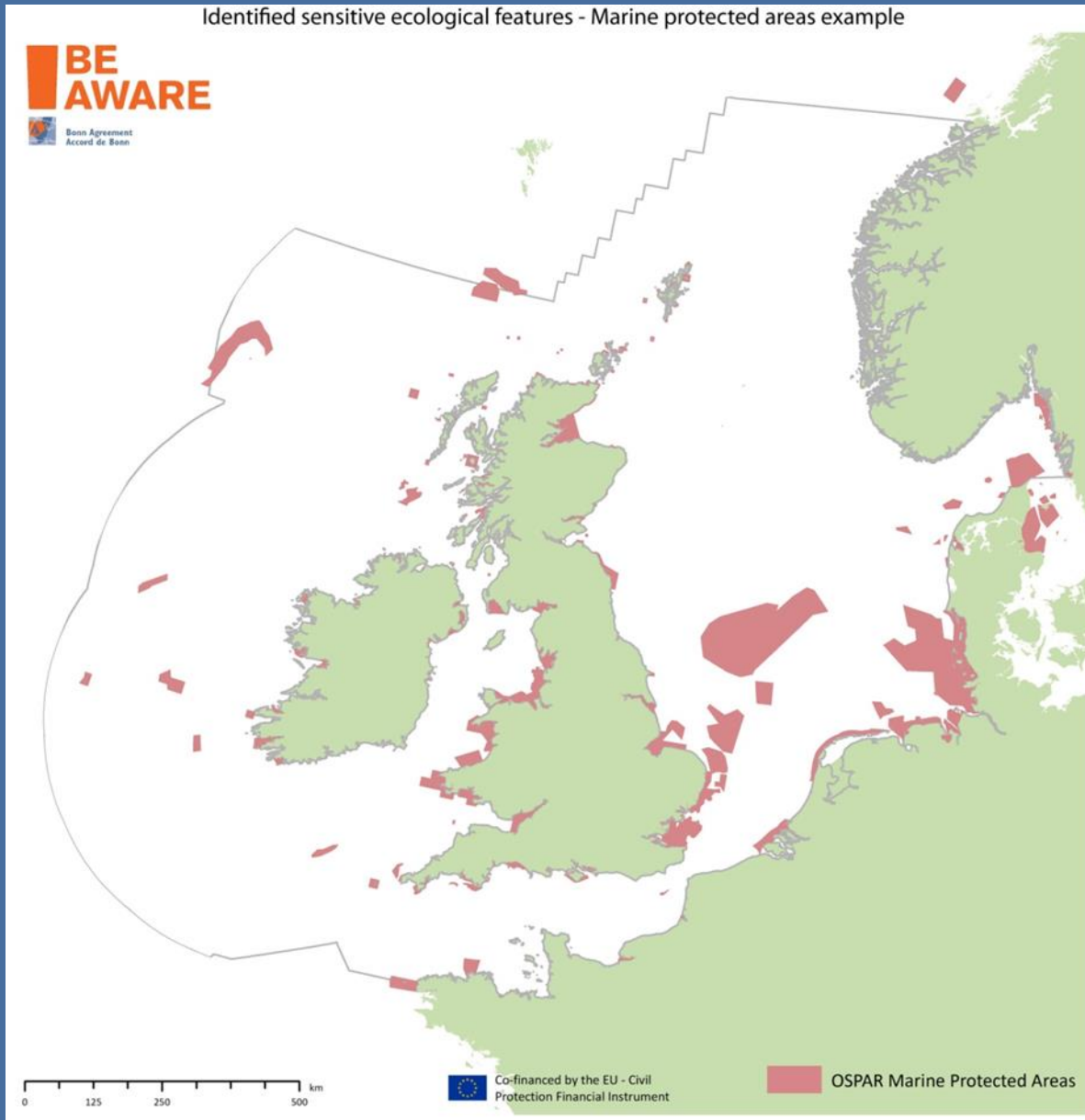


Model outflow

- Model outflow:
 - Different scenarios
 - Different weather conditions
 - Different oil types
- Model response
 - Ships, capacity, boom length
 - Visibility, wave height, daylight

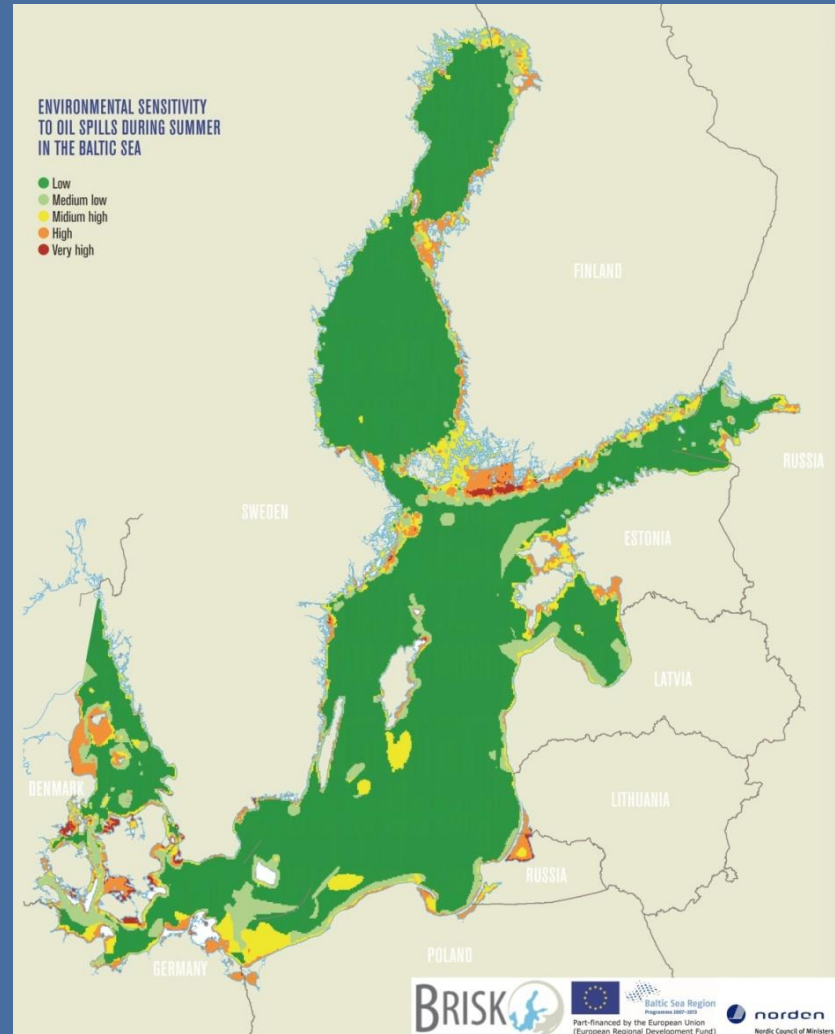
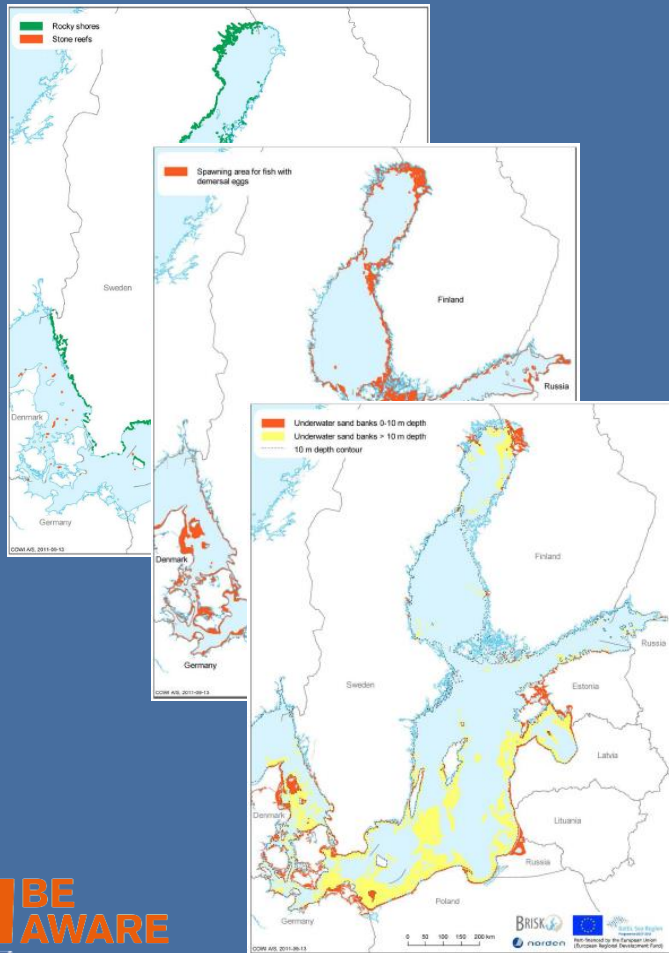


Environmental and Socioeconomic Vulnerability



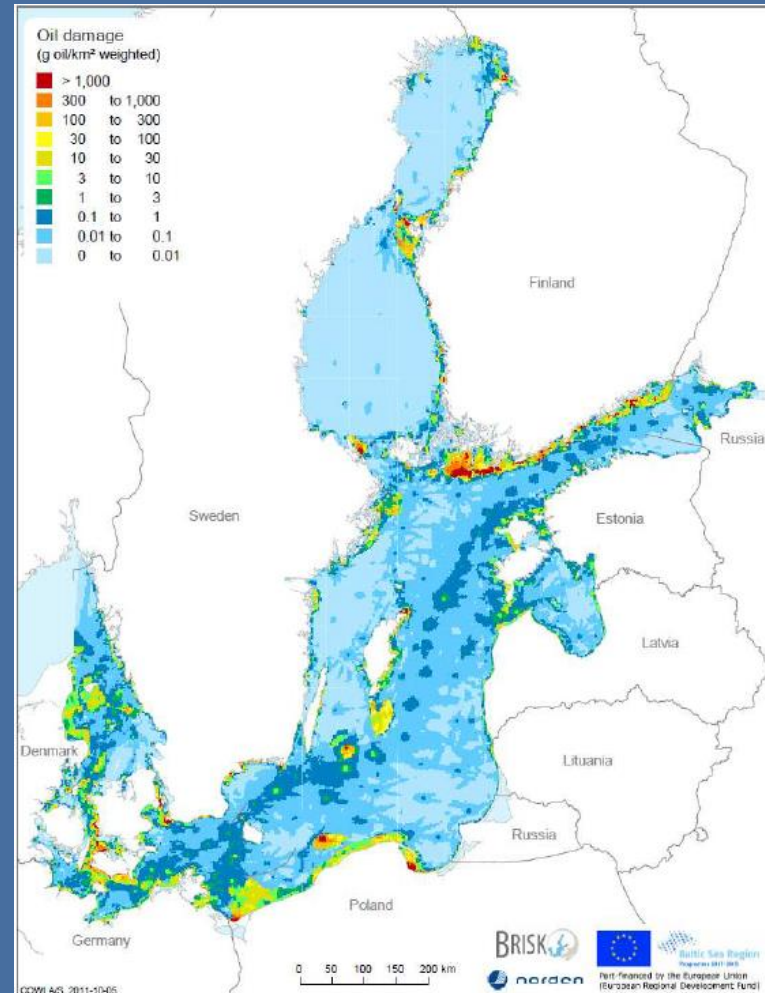
Examples of expected output

single-feature maps → Total (seasonal) Vulnerability Maps



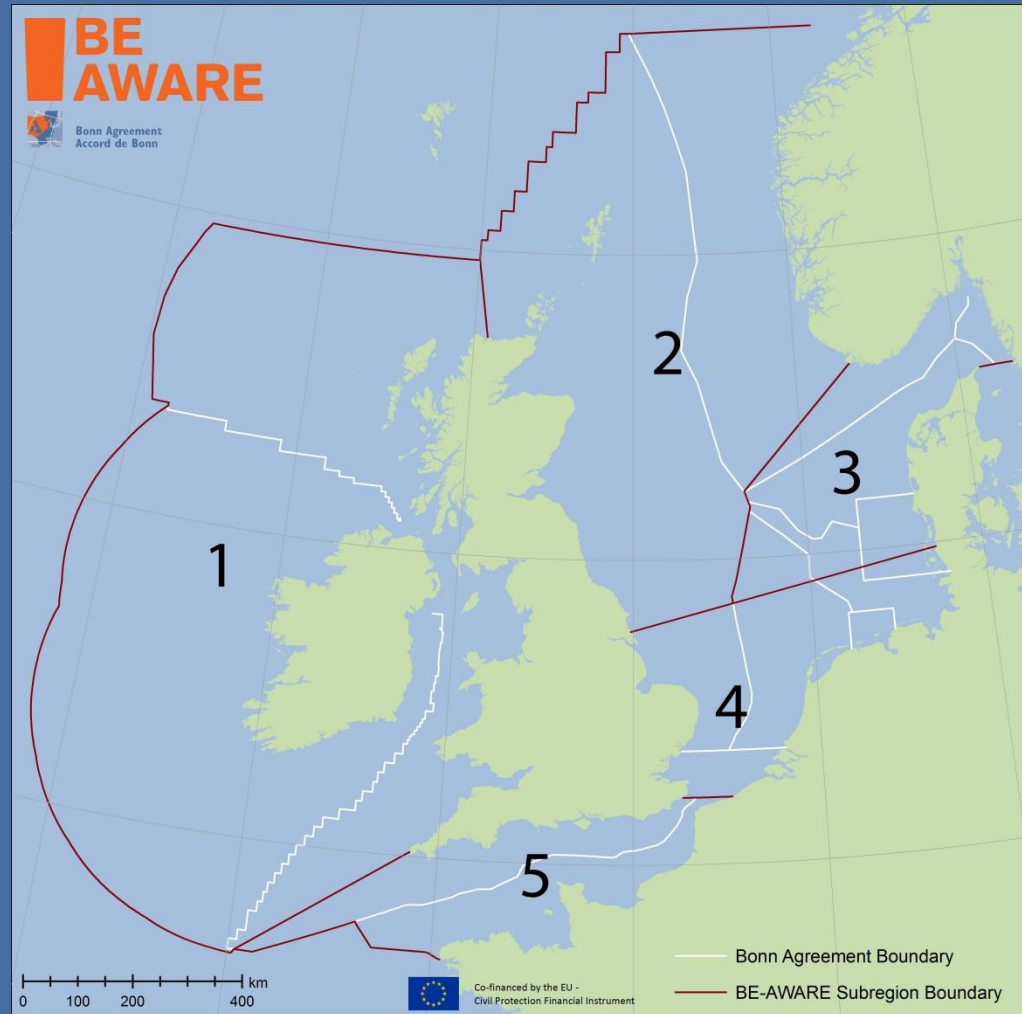
Impacts of oil spills

- Combine modelled spills and vulnerability
- Outline impact for different scenarios and spill sizes



Risk Management Conclusions

- Most effective sub regional scenarios
- Cost effectiveness of sub regional scenarios
- Risk management conclusions



Questions?



Thank you

beaware.bonnagreement.org

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