



Step 1b – Socio-Economic (SE) Feature Selection



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Objectives

- Select important SE features based on official reports :
OSPAR, IMO res 949, Blue-Growth
- Identify sensitive features (historic incidents, literature)
- Select best practices within BONN CP
 - Norway (DNV-MRDB)
 - France (CEDRE)
 - UK (Mehra's)
- Align with BRISK





Literature References

- The OSPAR 'Regional Economic and Social Analysis' Draft Final Report, and other documents of the MSFD Working Group on Economic and Social Analysis for the initial assessment of the Marine Strategy Framework Directive
- IMO Resolution A949(23)
- BLUE GROWTH – Scenario and drivers for Sustainable Growth from the Oceans, Seas and Coasts
- IMO IPIECA – Sensitivity Mapping for Oil Spill Response
- ITOPF – Effects of oil pollution on social and economic activities
- ITOPF – Effects of oil pollution on Fisheries and Mariculture
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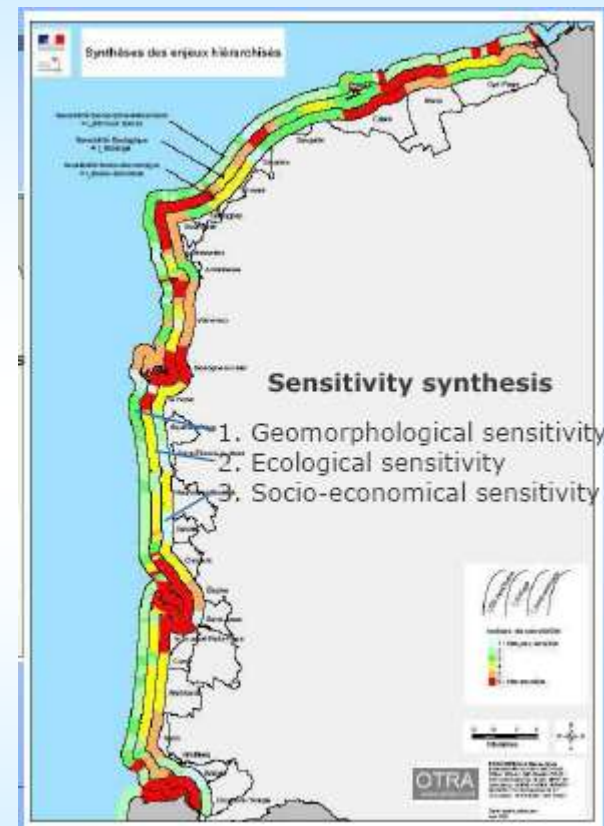
OSPAR Regional ESA overview

Sector	Turnover	GVA	Employment	Notes on Data
Commercial Sea Fisheries	€4 bn	€558 m	75,000	Data from 11 countries, range of years and definitions
Tourism and Recreation	€21 bn		1.3 m	Incomplete data from 11 countries
Ports and Shipping	€69 bn	€29 bn	306,000	Incomplete data from 10 countries, range of definitions
Aquaculture	€3 bn	€706 m	42,200	Incomplete data from 9 countries, range of definitions (some include aquaculture)
Oil and Gas	€174 bn		717,000	Incomplete data from 9 countries
Renewable Energy	€83 bn	€4.6 bn	14,200	Incomplete data from 9 countries
Aggregate Extraction	€1.1 bn	€330 m	6,050	Incomplete data from 6 countries
Summary	€355 bn	€36 bn	2,460,000	Incomplete data and a range of definitions lie behind the data.



Best practice examples: France (CEDRE index)

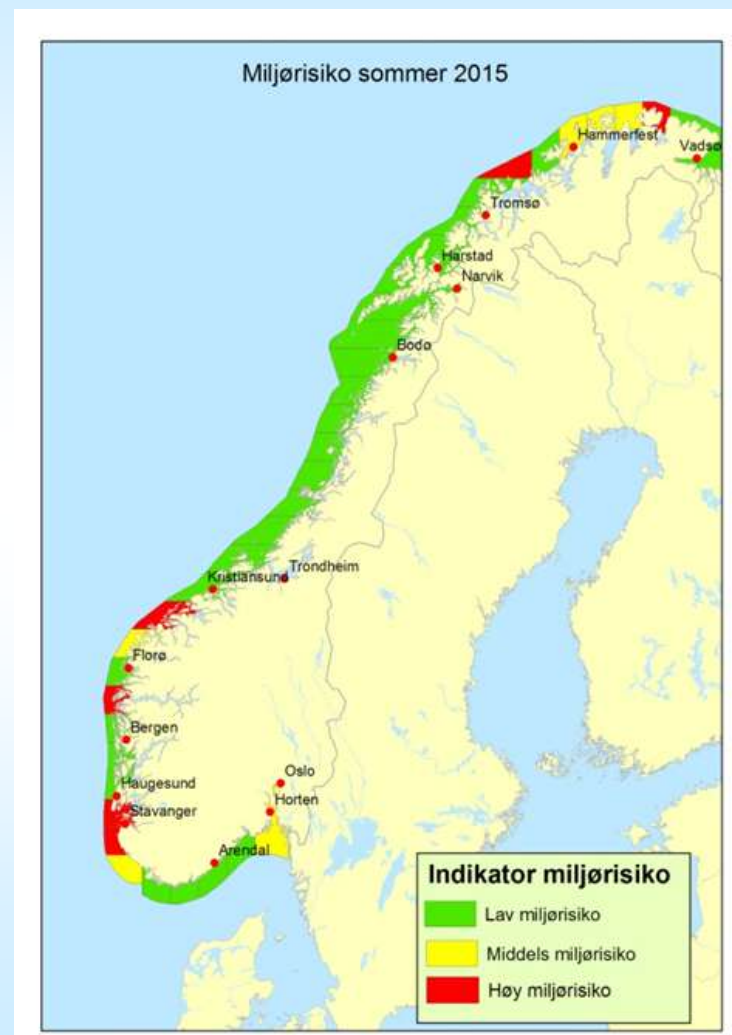
- 3 levels of vulnerability
 - Geomorphological
 - Ecological
 - Socio-economical
- 4 categories SE features
 - Fishing and aquaculture activities
 - Recreational activities
 - Industry and transport
 - Commercial and artisan activities
- 1 ranking criteria: Interruption (5 levels)





Best practice examples: Norway (DNV-MRDB)

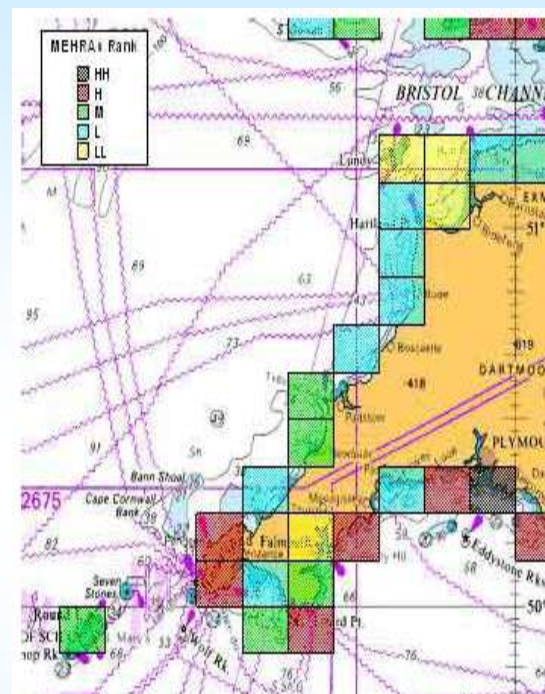
- Integrated
- 5 SE feature categories
 - Aquaculture installations
 - Commercial fisheries
 - Fish resources
 - Recreational resources
 - Human settlements
- 4 ranking criteria (3 ranks)
 - I - Natural occurrence
 - II – Compensation
 - III - Conservation Value
 - IV - Sensitivity





Best practice examples: UK (MEHRA's)

- Limited list of special sensitive areas
- 4 SE feature categories
 - Fishing and aquaculture
 - Amenity/Economy,
 - Landscape (incl. National Parks)
 - Geological (incl. World Heritage Sites)
- SE ranking (5 ranks)
 - Ecological features (1-5)
 - Fishery and amenity (1-5)
 - Landscape (1-4)
 - Geological (1-3)





Best practice examples: DE + HELCOM (BRISK)

- Focus on ecological sensitivity
- 2 SE features
 - Amenity beaches
 - Fish farms
- 2 ranking criteria (5 ranks)
 - Fate of oil
 - Potential impacts on the organisms in the ecosystem
 - Effects of oil on different organisms
 - Population and life cycle considerations for species encountered in the particular habitat.





Proposed Features

- Focus on socio-economical importance and sensitivity
- 18 features divided over 7 categories :
 - Fisheries
 - Aquaculture
 - Tourism and recreation
 - Coastal communities and heritage sites
 - Coastal facilities with sea water inlet
 - Ports
 - Mining (Mineral extraction)





A. Fisheries

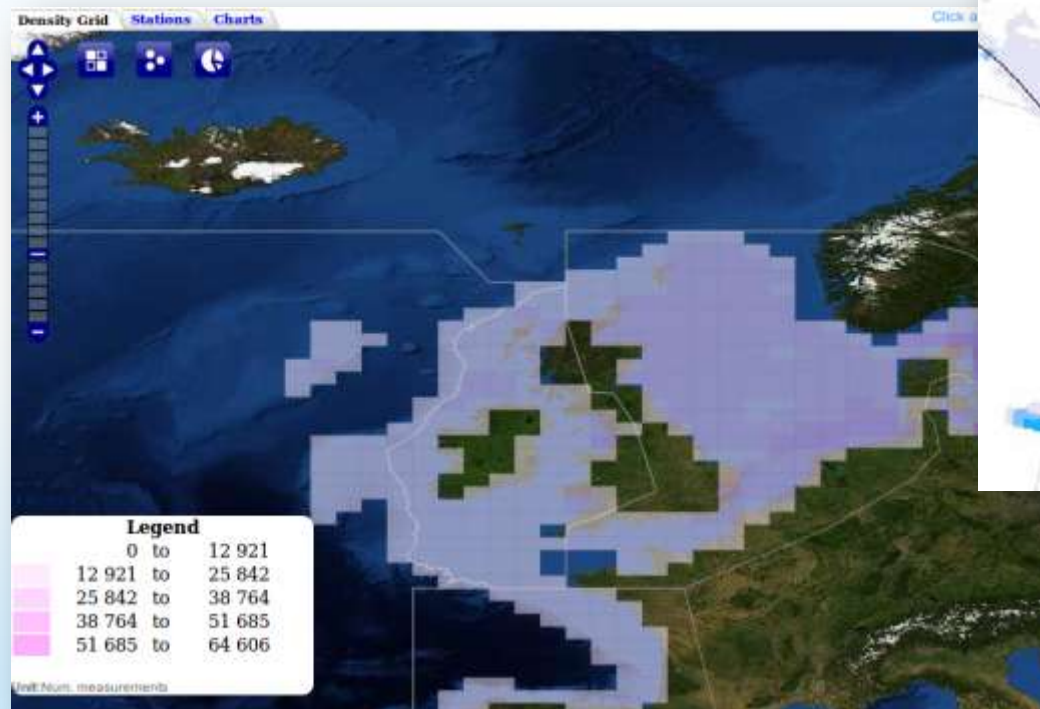
- Important socio-economic sector (local)
- Impact
 - Regulatory measures
 - Fishery exclusion zones (health protection)
 - Prohibition of sales
 - Seizure or destruction of contaminated catches
 - Contamination of fishery vessels (clean up costs)
 - Instant mortality of target species
 - Tainting
 - Lower consumer confidence
 - ...



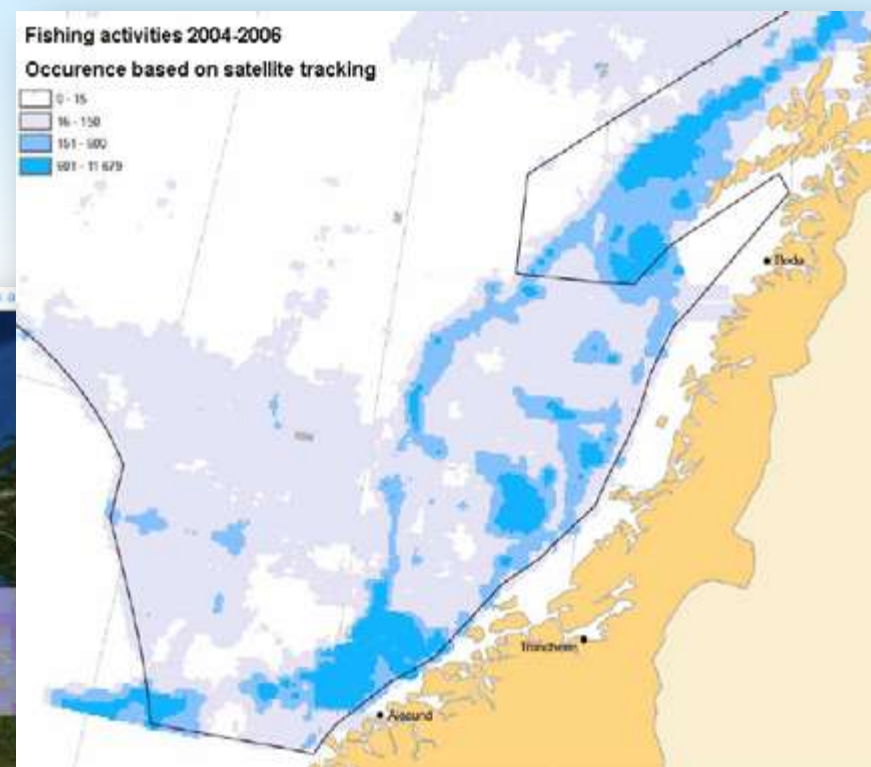


Feature 1. Offshore Fisheries

- Mapping
ICES maps (commercial species)
⇔ VMS data



ICES fish maps



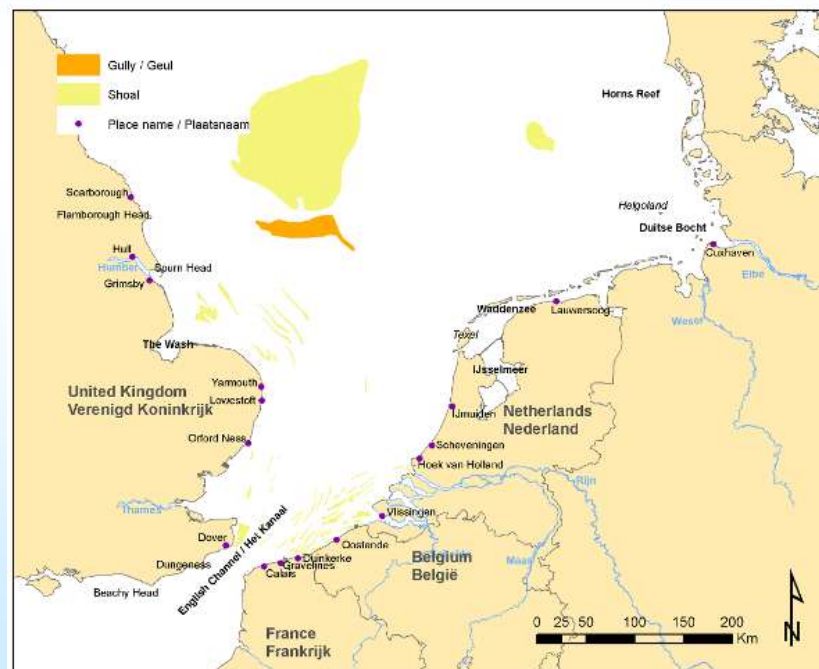
OSPAR Region ESA Data Overview





Feature 2: Coastal Fisheries

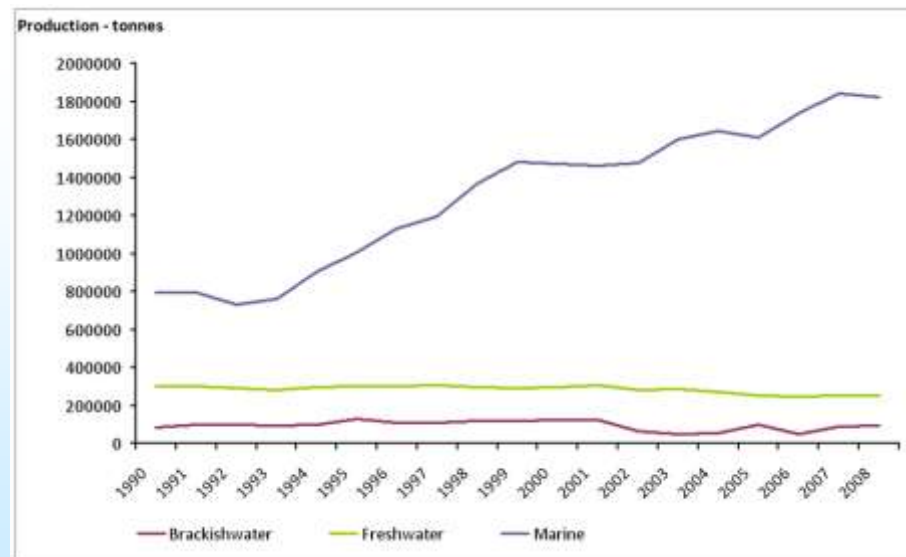
- Small scale fisheries, recreational fisheries (social)
- No displacement
- Important spawning and nursing areas
- Mapping
 - Fishery harbors (12 nm)
 - and/or VMS data





B. Aquaculture

- Increasing importance
 - 37% world sea food production (FAO)
- Impact
 - Mortality, necrosis, diseases, ...
 - Regulatory actions (destruction or prohibition of sales)
 - Contamination of substrate and material
 - Loss of consumer confidence
- 3 Features
 - Feature 4: Fish Farms
 - Feature 5: Shellfish cultures
 - Feature 6: Algae culture





Feature 3: Fish farms

- BRISK
- Displacement (if possible)
- Mapping
 - Response Perimeter



EEA (2011)





Feature 4: Shellfish sites

- Substrate (cleaning ⇔ replacement)
- Displacement (costs, losses)
- Mapping
 - Small locations (perimeter)
 - Areas

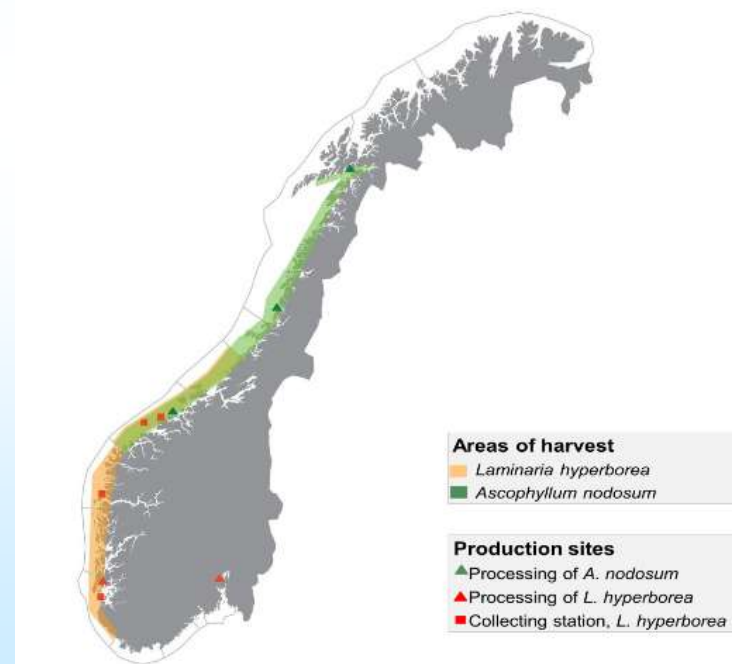




Feature 5: Algae culture



- Limited in Europe (4.6% of world production)
- Sea-weed, Kelp
- Food, fertilizer, fodder, chemical industry, ...
- Cultivated on anchored ropes or harvested in the wild (natural or mechanical)
- No displacement
- Impact
 - Necrosis
 - Shift of species (pests)
- Mapping:
 - Algae cultivation (perimeter)
 - Harvesting areas





c. Tourism and recreation

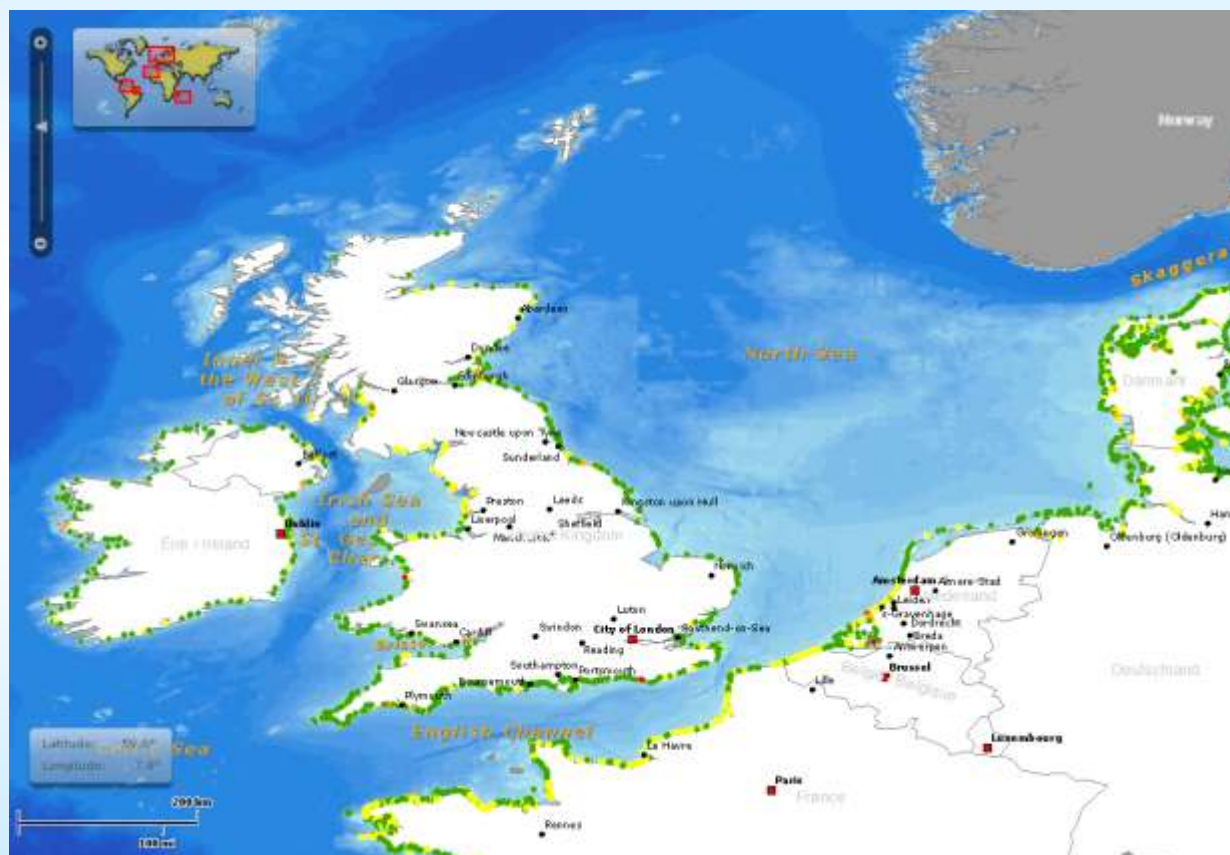
- Most important economic activity (OSPAR, Blue growth)
- Socially very important
- Impact
 - Tourism (holiday season) ⇔ recreation (all year long)
 - Economical Impact
 - Amoco Cadiz (1978)
 - Estimated direct economic losses of 57.2 million €
 - Indirect economic losses of 85.5 million € (2001)
 - Erika (1999)
 - 35% losses of overnight stays, and total economic loss of 400 million € (2000) according to IGF
 - Social impact
 - Nuisance and social resentment
 - Health issues





Feature 6: Amenity beaches

- Mapping : areas with perimeter (e.g. 2 nm)





Feature 7: Marinas

- Oiled hulls → cleaning
- Secondary pollution
- Mapping
 - Perimeter (e.g. 12nm)



ITOPF (technical information papers)



www.transeuropemarinas.com



Feature 8: Hot spots for tourism and leisure

- Le Havre (ca. 20 hotels, 250.000 inhabitants)
 - ⇔ Honfleur (ca. 60 hotels, 8.500 inhabitants)
- Selection of alternative hot spots
- Mapping based on input from CP
 - Areas and locations with perimeter





D. Coastal communities and heritage sites

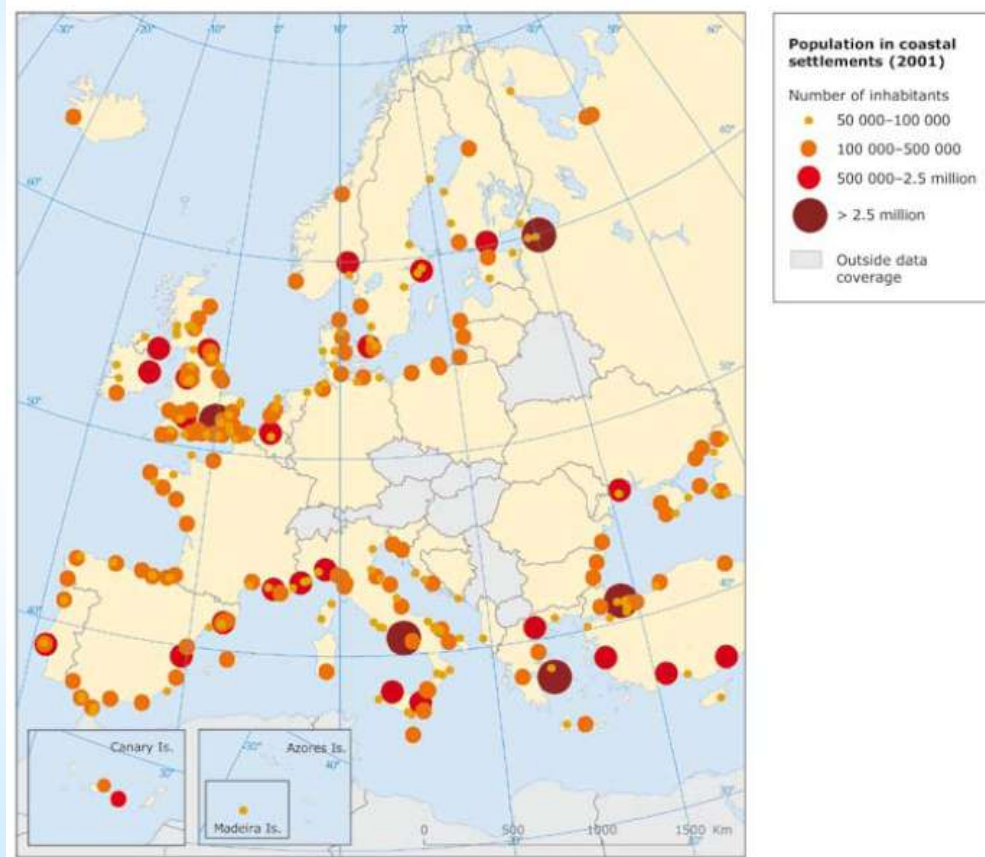
- **Impact**
 - Social nuisance and resentment
 - Health (settlements)
 - Anxiety
 - Depression
 - Post traumatic stress disorder
 - Other health related problems (headache, throat, ...)
- Also important as tourism and recreation features





Feature 9: Densely Populated Towns

- Mapping
 - Min 10.000 inhab.
 - City surface
 - Perimeter
 - Size?



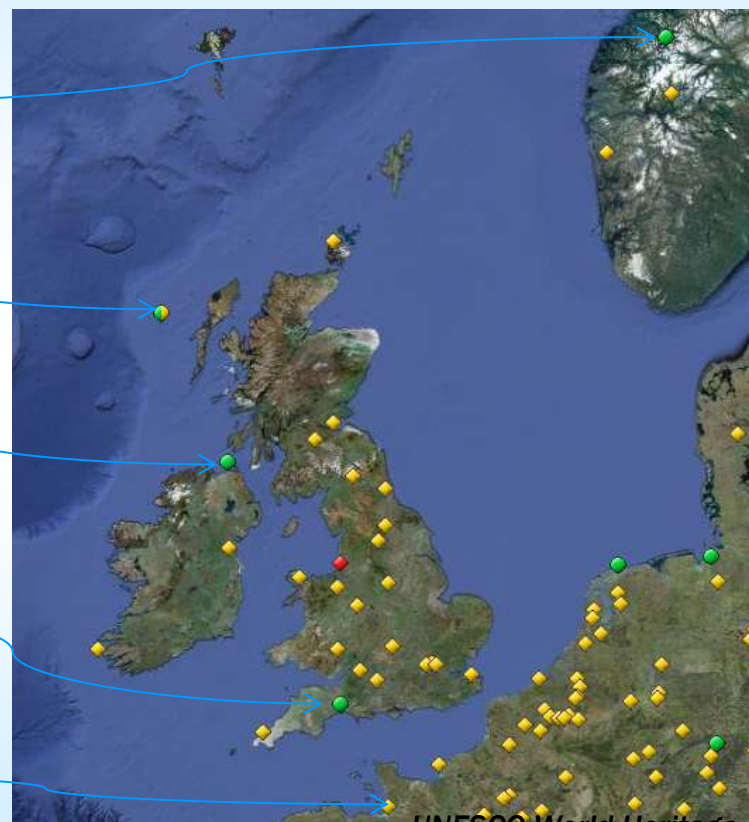
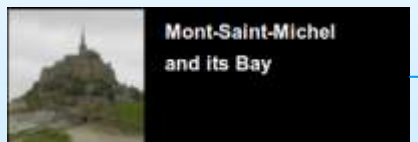
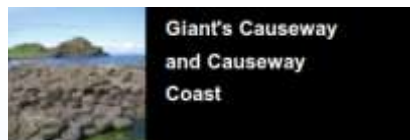
Source: EEA, 2005, based on GISCO, 2000.





Feature 10: Cultural, historical and geological heritage sites

- World heritage + local heritage



UNESCO World Heritage



E. Coastal facilities with sea-water inlet

- Impact:
 - Slow down or shut down, cleaning
 - Place of intake, oil type, weather
- 3 Features
 - **Feature 11: Energy plants**
 - **Feature 12: Onshore aquaculture**
 - **Feature 13: Other industrial activities (incl. oil & gas)**
- Perimeter based on the response strategy



ITOPF (technical information papers)

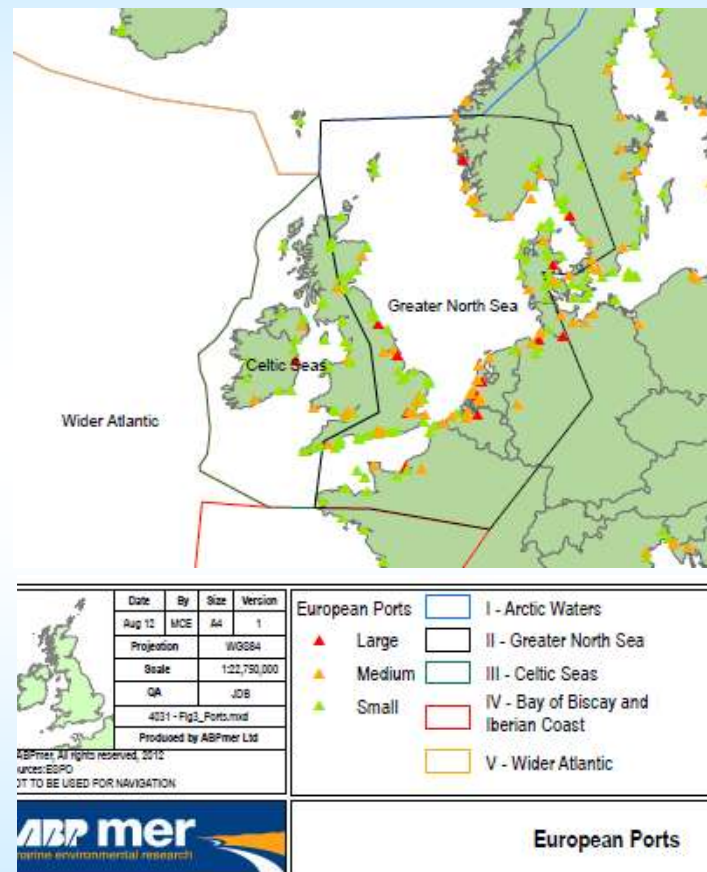


Feature 14: Ports

- Very important economic activity
- Relative low vulnerable
- Impact:
 - Slow down of operations
 - Cleaning operations



ITOPF (technical information papers)

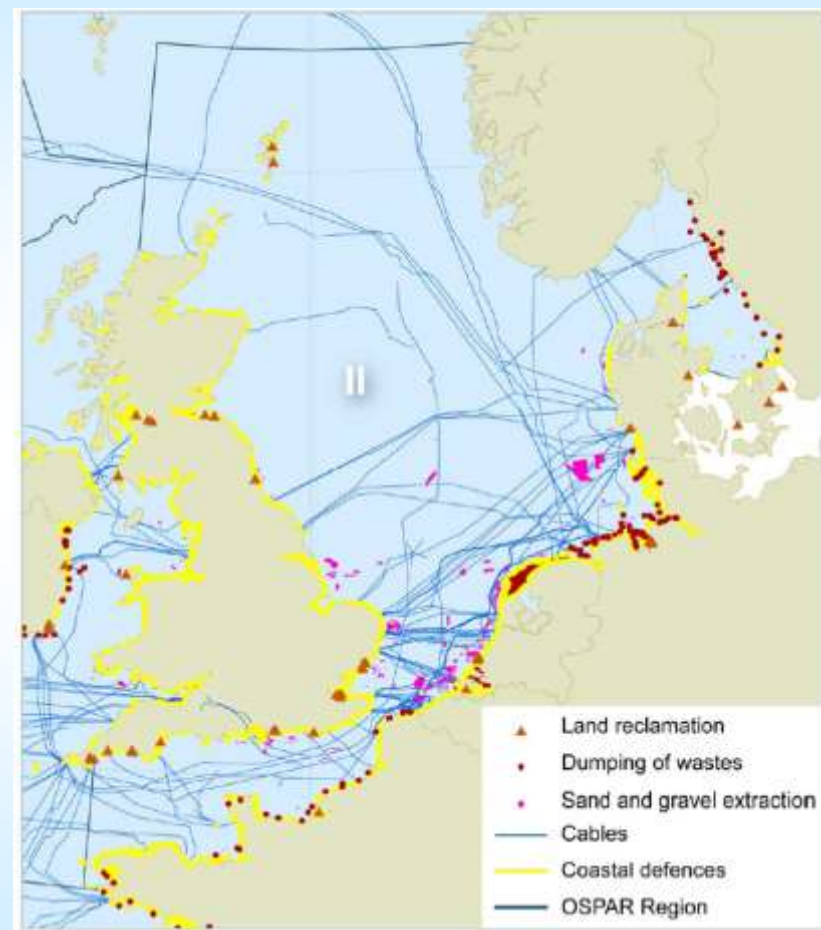


OSPAR Region ESA Data Overview



Feature 15: Extraction zones

- Important economic activity
- Impact
 - Relative low vulnerability
 - Accessibility working area's
 - Clean, response, ...
- Mapping:
 - Extraction area's (aggregate, Calcium carbonate, Marl, shells)



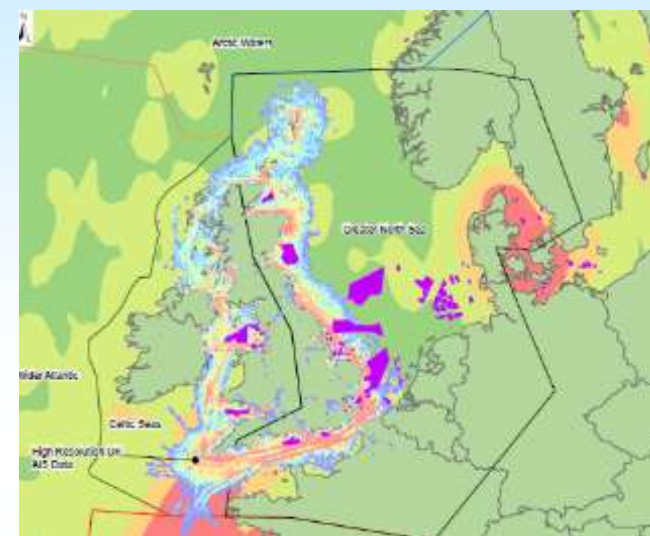
OSPAR commission (2009)





Doubtful features

- Renewable energy
 - Shipping
 - Oil & Gas
- RISK mapping





Rejected features

- Dredging
- Constructions at sea
- Agriculture (pasture areas)
- Military and Maritime control
- Waste disposal
- Science and education
- Other industrial activities (without water intake)
- Other touristic and recreational activities (e.g. aquaria, ...)





Time for discussion

