



Baltic Marine Environment Protection Commission

# HELCOM Data and Data services

Regional data collection, synthesis and sharing to serve multiple purposes



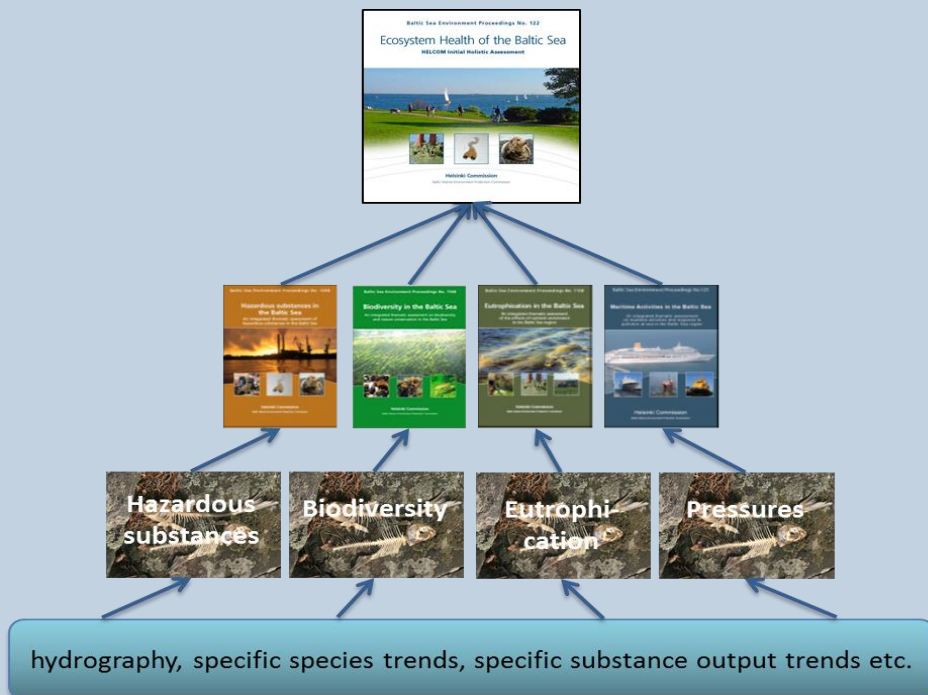
Baltic Sea Region  
MSP Data Expert Sub-Group  
1<sup>st</sup> meeting

# Content

1. Basis of HELCOM data activities
2. Data
  1. Regular data collection
  2. Second holistic assessment
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# Basis of HELCOM data activities

- HELCOM Monitoring and assessment strategy (2013)



## Holistic Assessments

- periodical
- using assessment tools

## Thematic Assessments

- periodical
- using assessment tools

## Core indicators

- updated regularly
- measure distance to GES

## Supplementary Indicators & Supporting parameters

- Updated as needed
- Linked to specific core indicators



HELCOM

# Basis of HELCOM data activities

- HELCOM Monitoring and assessment strategy
  - Data and Information strategy:

“The HELCOM data and information activities should facilitate access of the general public to environmental information and this is done e.g. by making spatial data and information available in the HELCOM Map and Data Service on the HELCOM web page.”

” All HELCOM monitoring data should be openly accessible online via web services or downloading functionality using common standards and ensuring that relevant quality control and validation procedures are implemented. ”

# Regular data collection

- Based on commitments and recommendations
- Responsibility of Expert Groups with support from Secretariat / Data consultant
- Relies on national data providers
- Applies HELCOM Data policy (free)

# Regular data collection

- Centralized approach: Environmental focal point of the Baltic
- National data reported to thematic HELCOM databases hosted by data consultant/secretariat
- Indicator driven approach
- Reporting formats defined in guideline/recommendation, e.g.:
  - Oceanographic data: ICES Format (csv), experimenting with data harvesting (XML)
  - Dredged material (xls + shp)

# Regular data collection

- Requirements for operationalizing core indicators
  - Reliable quality assured data
  - Comparable data (sampled and analyzed in a harmonized way)
  - Sufficient spatial and temporal coverage (based on regular monitoring)
  - Functional reporting of national data to a common database
  - Quality assurance of data collection, reporting, hosting, access, assessments etc.
  - Easy access to data and preferably semi-automated updating of data products for indicator assessments using jointly agreed assessment tools

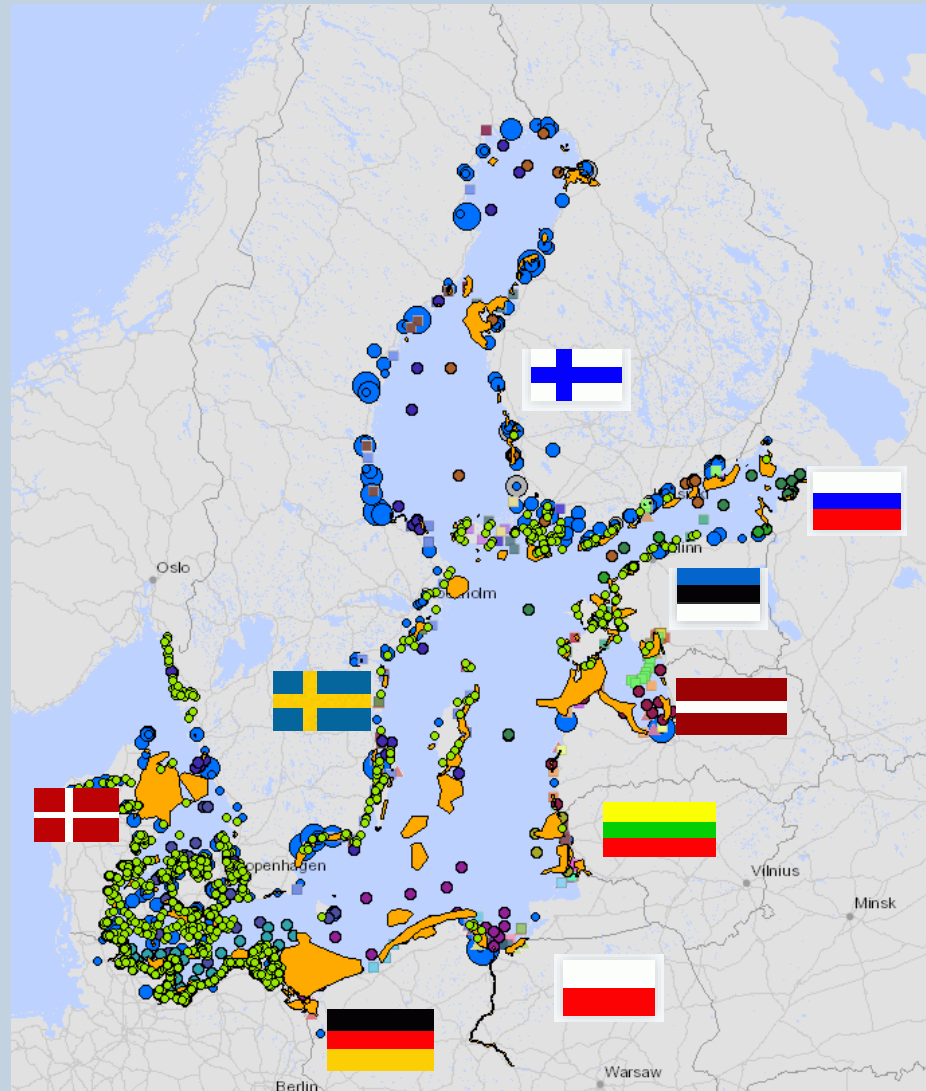


# The Data Challenge

"we sample dioxin in herring muscles every second autumn"

"we measure the concentration of heavy metals in sediment at random stations"

"we monitor the state of soft-bottom macrozoobenthos with box-core sampling every 3 months"



"we sample dioxin in whole sprat every summer"

"we measure the concentration of heavy metals in blue mussel tissue"

"we monitor the state of soft-bottom macrozoobenthos with van-veen grabs once every year"



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# Regular data collection

- Regular data collection activities with relevance to MSP:
  - COMBINE: oceanographic, haz. sub, biota
  - PLC: Pollution load compilation
  - HELCOM Marine Protected Areas
  - Shipping (AIS)
  - Management of dredged material
  - Fisheries (HELCOM-ICES VMS Data call)
  - Nuclear facilities (discharges of radionuclides)
  - Shipping accidents
  - Illegal oil discharges

# HELCOM MPAs

- Updated database to be published online in 30 Oct 2015
- GIS data (boundaries) and tabular information

Sites tabs lists the main information of all sites (country, status, area...)

Other tabs contain general information about MPA features (Pressures, Activities, Biotopes)

The screenshot displays the HELCOM MPAs website. The top navigation bar includes 'Home', 'Sites', 'Species', 'Biotopes', 'Biotope complexes', 'Pressures', 'Activities', and 'Map'. The 'Sites' tab is active, showing a table of MPA sites. Below the table is a search bar and a 'Go' button. To the right, there are links for 'Query Sites by biotopes / biotope complexes', 'Query Sites by Nature 2000 Status', and 'Query Sites by national protection status'. On the right side of the page, there is a 'HELCOM MPAs map service' section showing a map of the Baltic Sea region with MPA boundaries highlighted in green. A pop-up window displays details for a selected site, including its name, location, and status.

ID	HELCOM MPA name	Map view	Country	Subbasin	Status	Coverage	Location
166	<a href="#">Курганский Kurga'sky Peninsula</a>	<a href="#">map</a>	Russia	Gulf of Finland	-	Marine and terrestrial	Territorial waters
298	<a href="#">Vanta Litets Grund</a>	<a href="#">map</a>	Sweden	Bothnian Sea	Designated and managed	Marine	Both territorial waters and Exclusive Economic Zone
163	<a href="#">Curonian Spit State National Park (southern part)</a>	<a href="#">map</a>	Russia	Eastern Gotland Basin	Designated	Terrestrial	Territorial waters
294	<a href="#">Vyborgski</a>	<a href="#">map</a>	Russia	Gulf of Finland	-	Marine and terrestrial	Territorial waters
197	<a href="#">Lebyazhy Nature Reserve</a>	<a href="#">map</a>	Russia	Gulf of Finland	-	Marine and terrestrial	Territorial waters
196	<a href="#">Berezowye Islands</a>	<a href="#">map</a>	Russia	Gulf of Finland	-	Marine and terrestrial	Territorial waters
105	<a href="#">Gräsö/Sinqö Archipelago</a>	<a href="#">map</a>	Sweden	Bothnian Sea, Aland Sea	Designated and managed	Marine and terrestrial	Territorial waters
104	<a href="#">High Coast</a>	<a href="#">map</a>	Sweden	Bothnian Sea	Designated and managed	Marine and terrestrial	Territorial waters

**HELCOM MPAs map service**  
Provided by HELCOM

**HELCOM MPAs**


- HELCOM MPAs
- Designated MPA
- Managed MPA
- Natura 2000 sites
- Biodiversity
- Sea environmental status
- Sea environmental monitoring
- Land-based pollution
- Maritime & Response
- Maritime Spatial Planning
- Background

**Identify**  
Results Found: 1

HELCOM MPAs  
BSPALink: [http://mpas.helcom.fi/apex?i7p=1001220485841729723.NO\\_F12\\_ID\\_305](http://mpas.helcom.fi/apex?i7p=1001220485841729723.NO_F12_ID_305)  
Shape: Polygon  
AreaTot\_Ha: 58600  
OBJECTID: 195  
Location\_S: Territorial Water (TW)  
Name: Selga uz netumiens no Iujas  
Shape.area: 586484512.412959  
Country: Latvia  
N2K\_Site: LV09005000  
AreaMar\_Ha: 58600  
BSPA\_ID: 305  
MPA\_Status: Designated  
Shape.len: 117201.367764

# HELCOM MPAs



Management of site contains information on the management plans:

Management plan name	Status	Link to the management plan	Regulated activities	Map view	Implementation date of first management plan	Implementation date of current management plan
 Hallands Väderö	Implemented	<a href="#">the plan</a>	<a href="#">activities</a>		11.11.1999	11.11.1999
	Intended revision date of current management plan	Body(ies) responsible for management	Contact details	Implemented monitoring programs	Coverage of management plan	
		County Administrative Board of Skåne/Länsstyrelsen Skåne	010-224 10 00	not reported	Marine and terrestrial	

# HELCOM MPAs

... and on the activities regulated within the site.

Management of site [Hallands Väderö, Sweden](#)

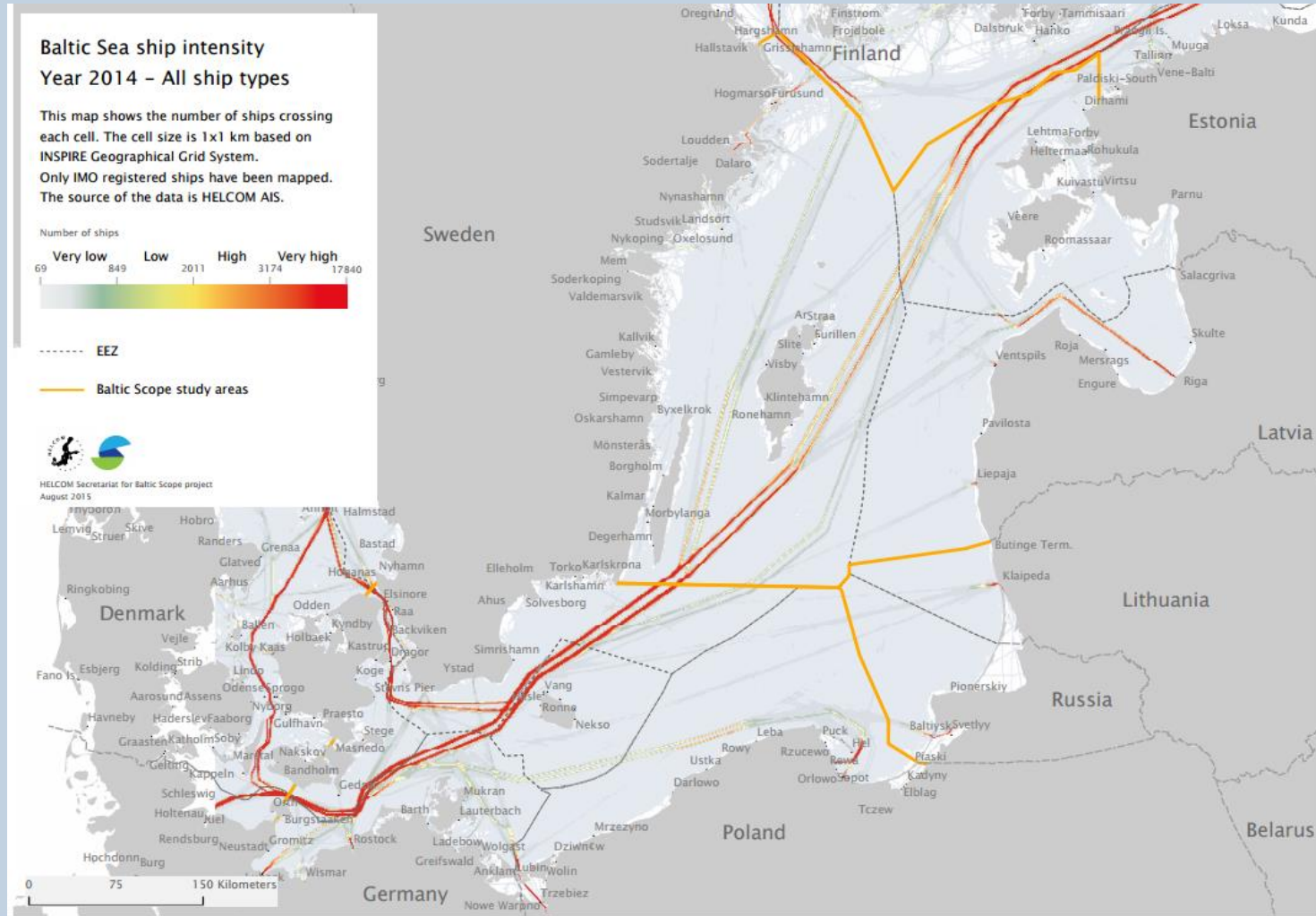
Edit	Management plan name	Status	Link to the management plan	Regulated activities	Map view
	Hallands Väderö	Implemented	<a href="#">the plan</a>	<a href="#">activities</a>	
	Hallands Väderö	Implemented	<a href="#">the plan</a>	<a href="#">activities</a>	

Regulated activities for management plan/ site: [Hallands Väderö / Hallands Väderö\\_](#)

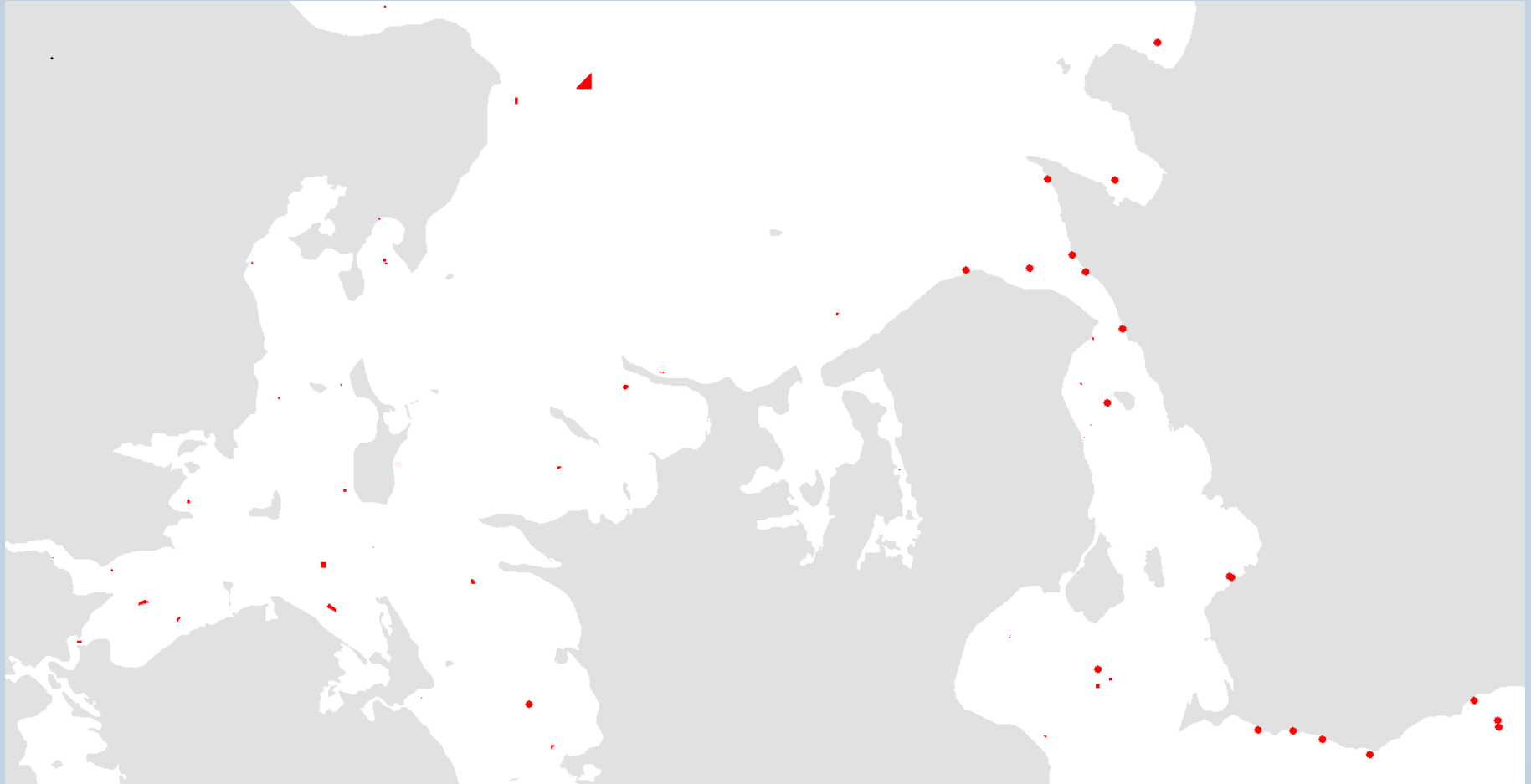
Q Go Actions ▾

Regulated activity	Regulation type	Regulation frequency	Regulation effectiveness
Semi-permanent restructuring of seabed morphology	prohibited	not reported	yes
Ports and other coastal constructions	prohibited	not reported	yes
Extraction of sand and gravel	prohibited	not reported	yes
Extraction of rock & minerals	prohibited	not reported	yes
Marine plant harvesting	prohibited	not reported	yes
Forestry	regulated	not reported	yes
Tourism, recreation and sports	regulated	not reported	yes
Waste and material disposal	prohibited	not reported	yes

# Shipping (AIS)



# Dredged material



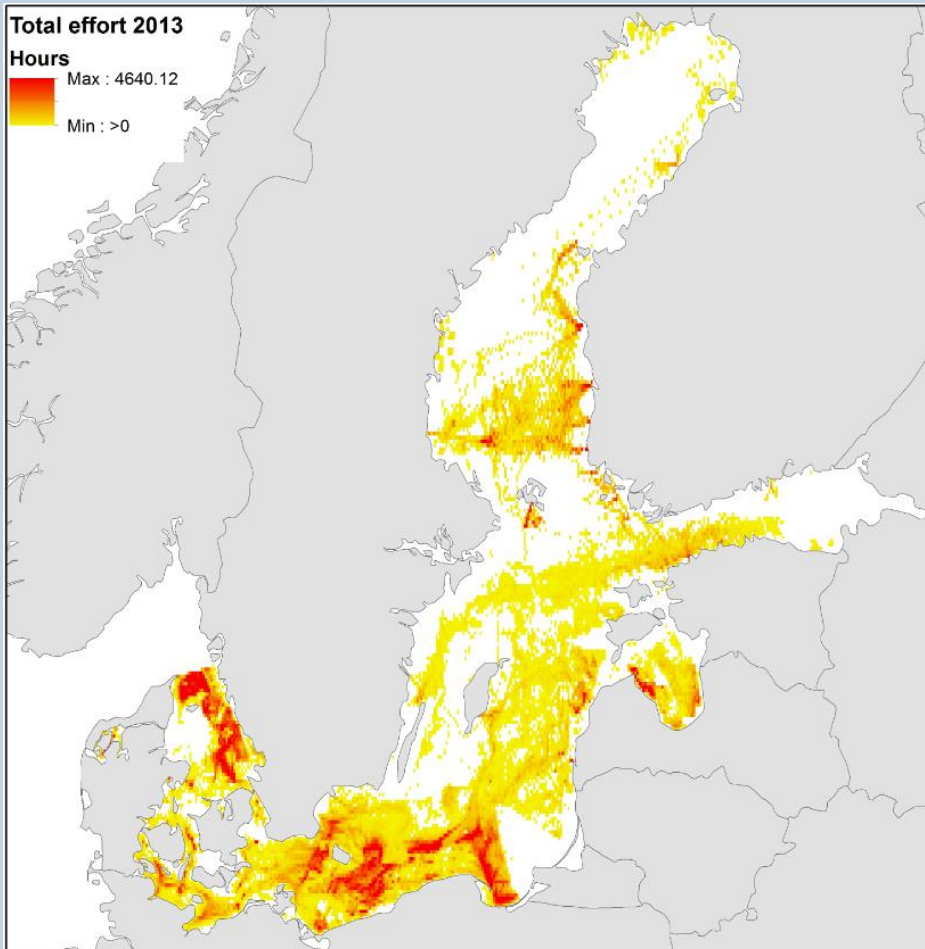


# Fisheries (VMS)

Total effort 2013

Hours

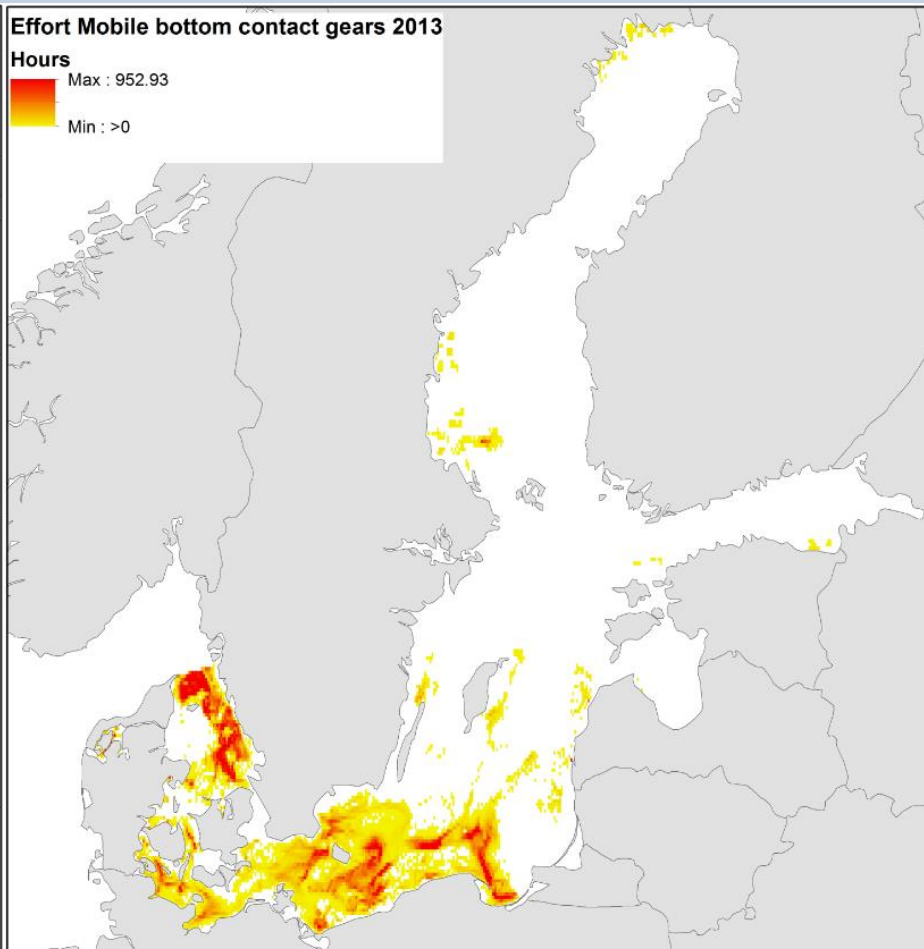
Max : 4640.12  
Min : >0



Effort Mobile bottom contact gears 2013

Hours

Max : 952.93  
Min : >0





# Second Holistic assessment

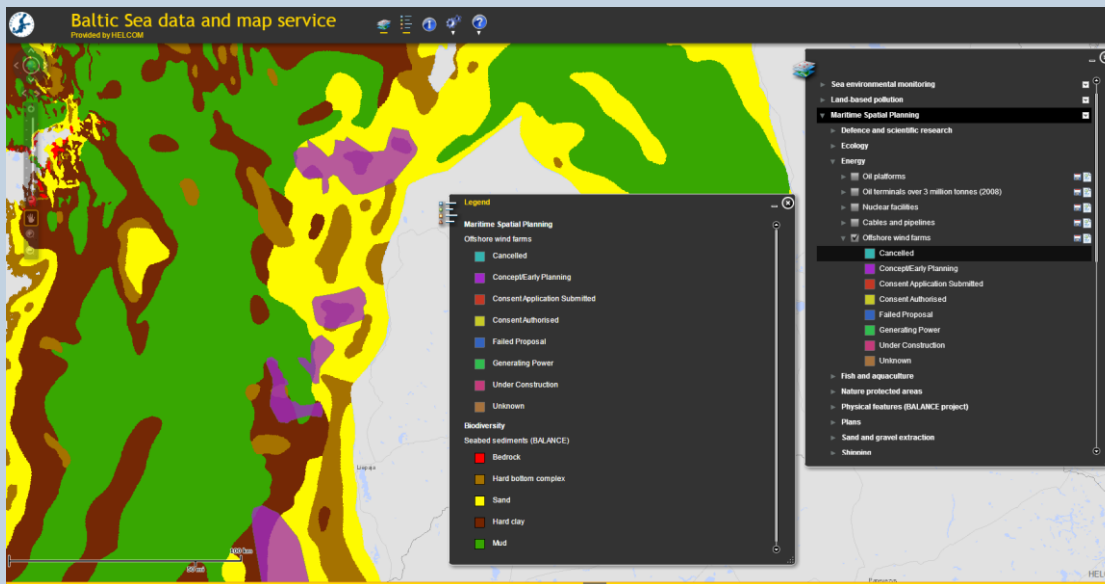
- Second holistic assessment of the ecosystem health (HOLAS II)
  - First go in mid-2017 and second in mid-2018
  - to establish a regional Baltic list of relevant human activities and pressures on the marine environment (HELCOM-VASAB MSP document 4-2) based on MSFD Annex III
  - → What is needed in HOLAS II Assessment
- Builds on existing regular data collection...
- ...but needs also data outside the scope of regular data collection
- Catalysed by projects:
  - HASPS
  - BalticScope
  - BalticBoost

# Second Holistic assessment

- Datasets to be updated/collected within 2015-2017
  - Distribution of biotopes and species
  - Wind farms
  - Cables and pipelines
  - Shipping / AIS (Baltic Scope)
  - Other datasets on human activities and pressures (Based on revised MSFD Annex III Table applied in regional context as agreed in HOLAS project)

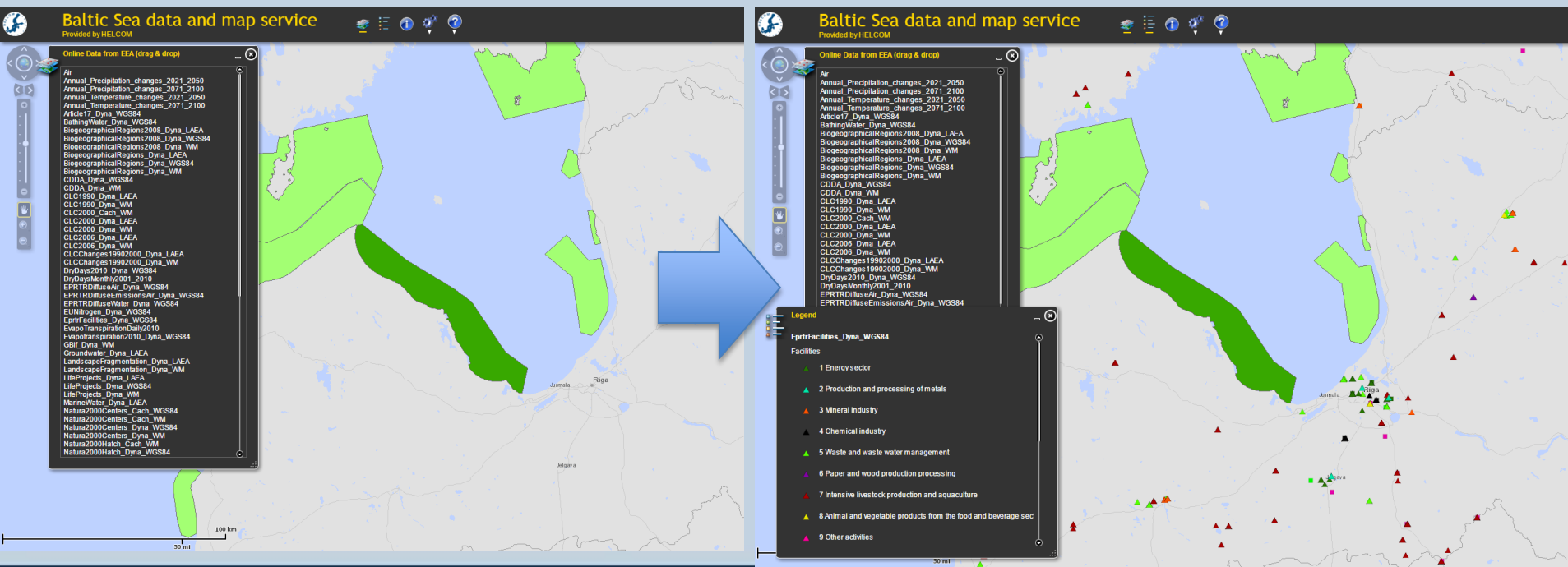
# Data services

- HELCOM Data and Map service
  - To visualize, catalogue and make data available
  - Metadata view (following INSPIRE style sheet)
  - Download functionality (shapefile)



# Data services

- The current user interface allows inclusion of other datasets from ArcGIS server interface or from shapefile
- E.g. All EEA spatial datasets can be overlaid on top of HELCOM data
- Other data could also be included



# Data services

- All datasets are available also via service interfaces to be used in desktop application or in a web map portal
  - ArcGIS Rest
  - OGC WMS(WFS)
- Already utilized in some national portals (Länsstyrelsen VISS, Finnish National Land Survey, Finnish Environment Institute BORIS system)

← → ↻ 62.236.121.188/arcgis/rest/services/DataAndMaps/Shipping/MapServer

ArcGIS REST Services Directory

[Home](#) > [services](#) > [DataAndMaps](#) > [Shipping \(MapServer\)](#)

[JSON](#) | [SOAP](#) | [WMS](#)

### DataAndMaps/Shipping (MapServer)

View In: [ArcGIS JavaScript](#) [ArcGIS.com Map](#) [Google Earth](#) [ArcMap](#) [ArcGIS Explorer](#)

View Footprint In: [ArcGIS.com Map](#)

Service Description:

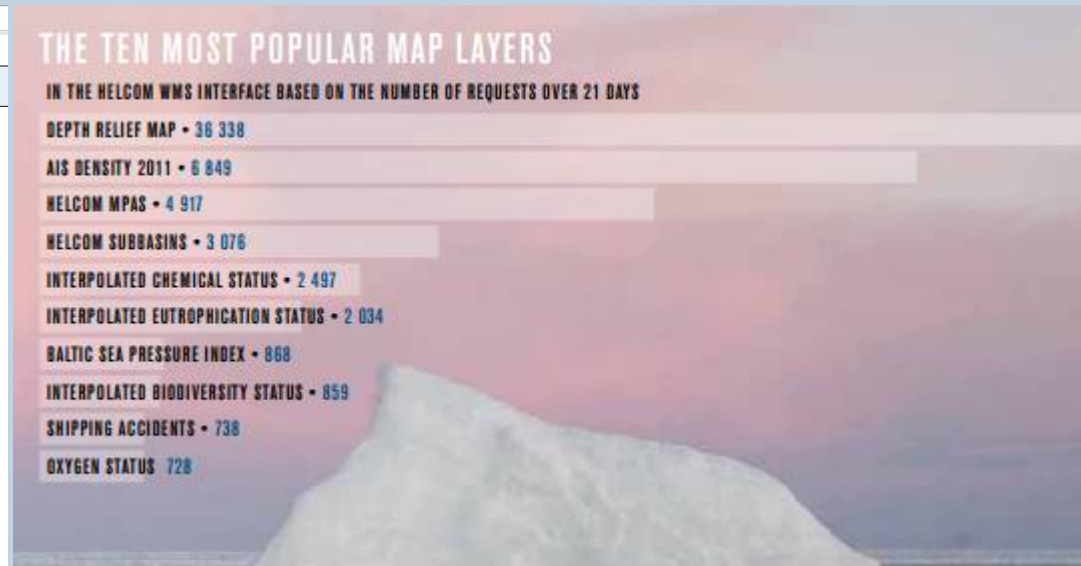
Map Name: Layers

[Legend](#)

[All Layers and Tables](#)

Layers:

- [Emergency capacity](#) (0)
  - [Aircrafts](#) (1)
  - [Fire fighters](#) (2)
  - [Response vessels](#) (3)
  - [Response storage capacity](#) (4)
  - [Towing capacity](#) (5)
  - [Places of refuge designated](#) (6)
  - [Places of refuge areas](#) (7)
- [Emissions](#) (8)
  - [NOx emissions from all ships 2008](#) (9)
  - [NOx emissions from all ships 2009](#) (10)



# Future developments

- Centralized approach extended with decentralized data hosting when applicable
- "Spirit of MSDI" applied in regional context
  - EEA example extended to national data providers
    - Agreement on data provision: Service level agreement
    - Data ownership: Data providers agreeing to release data to a common regional pool
    - Using common standards regional/INSPIRE
- Next steps:
  - Projects: e.g, BalticBOOST
  - Piloting with WMS services with external data providers
  - Actions within this group 😊