

Third HELCOM holistic assessment 2016–2021

State of the Baltic Sea 2023

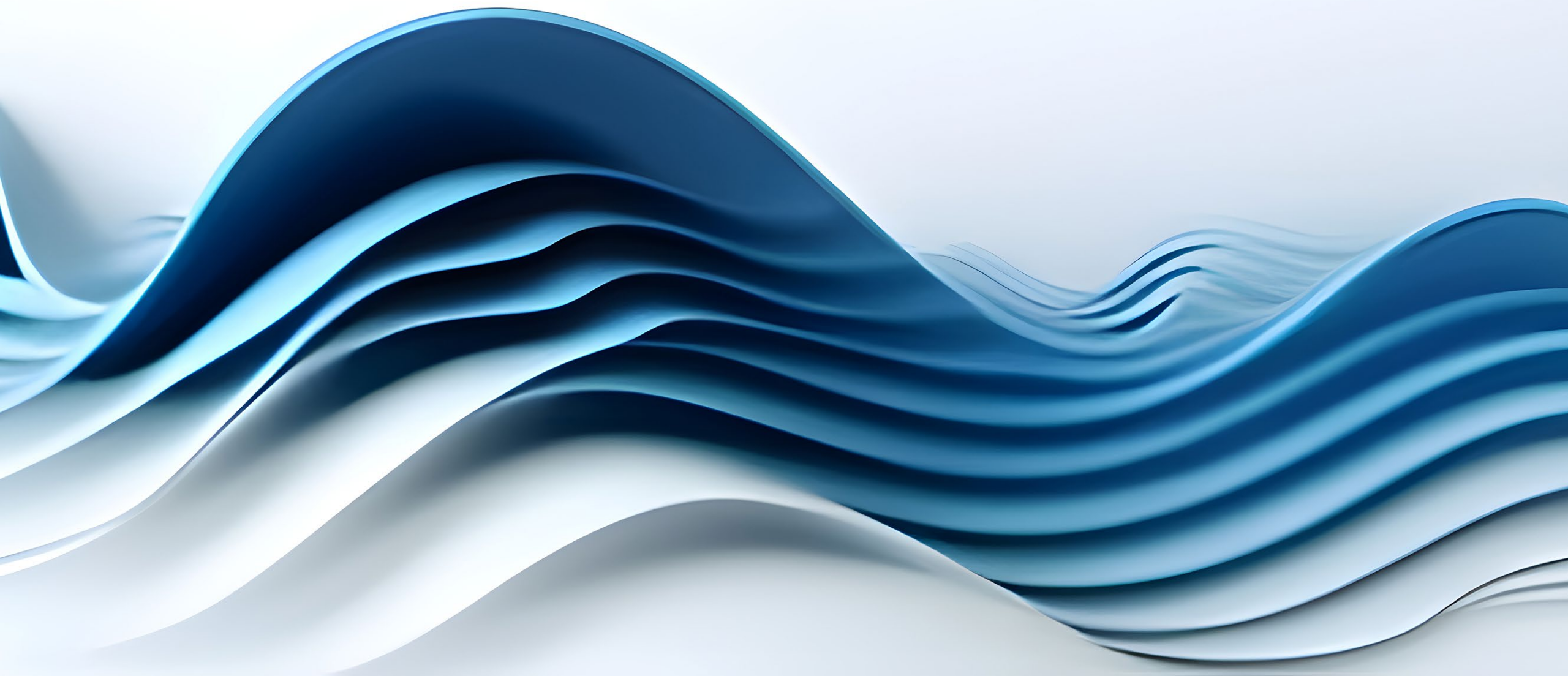


Running order

1. About HOLAS
2. Results summary
3. Next steps



About HOLAS



What is the State of the Baltic Sea report?



The 2021 HELCOM **Baltic Sea Action Plan** (BSAP) includes measures that HELCOM countries have agreed on to halt the deterioration of the Baltic Sea environment.

HELCOM carries out **holistic assessments** every six years to follow up on how well the measures are functioning.

The **third HELCOM holistic assessment** (HOLAS 3) focuses on the years 2016-2021.

The **State of the Baltic Sea** (2023) is synthesis report based on a wide range of assessment products produced within HOLAS 3.

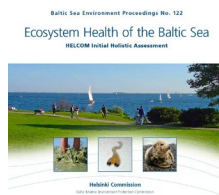


HOLAS timeline

Initial holistic
assessment
2003-2007



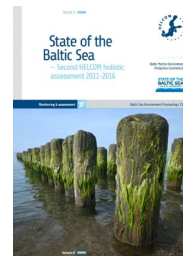
2010



Second HELCOM
holistic assessment
2011-2016
(HOLAS II)



2018



Third HELCOM
holistic assessment
2016-2021
(HOLAS 3)



2023





HOLAS provides decision-makers and authorities with...



Information on
the status of the
Baltic Sea
environment



Information on
the spatial
variation of
status



Information
trends in
development
over time



Informs on the
distribution of
pressures and
human activities



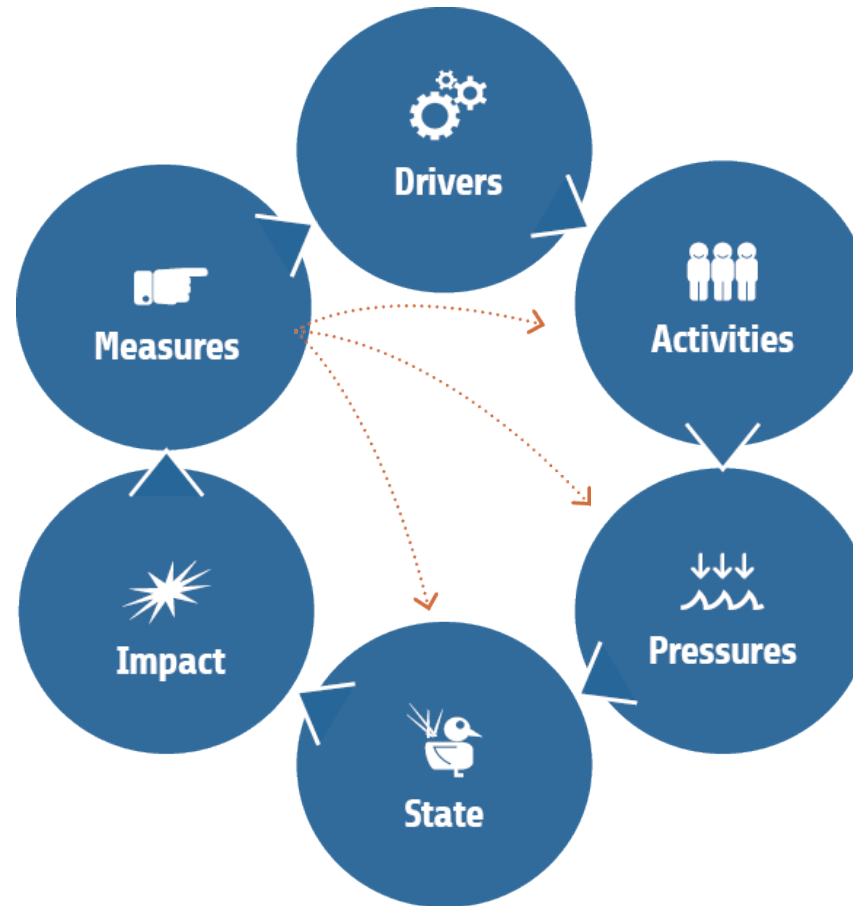
Follow up on
the effect of
our measures



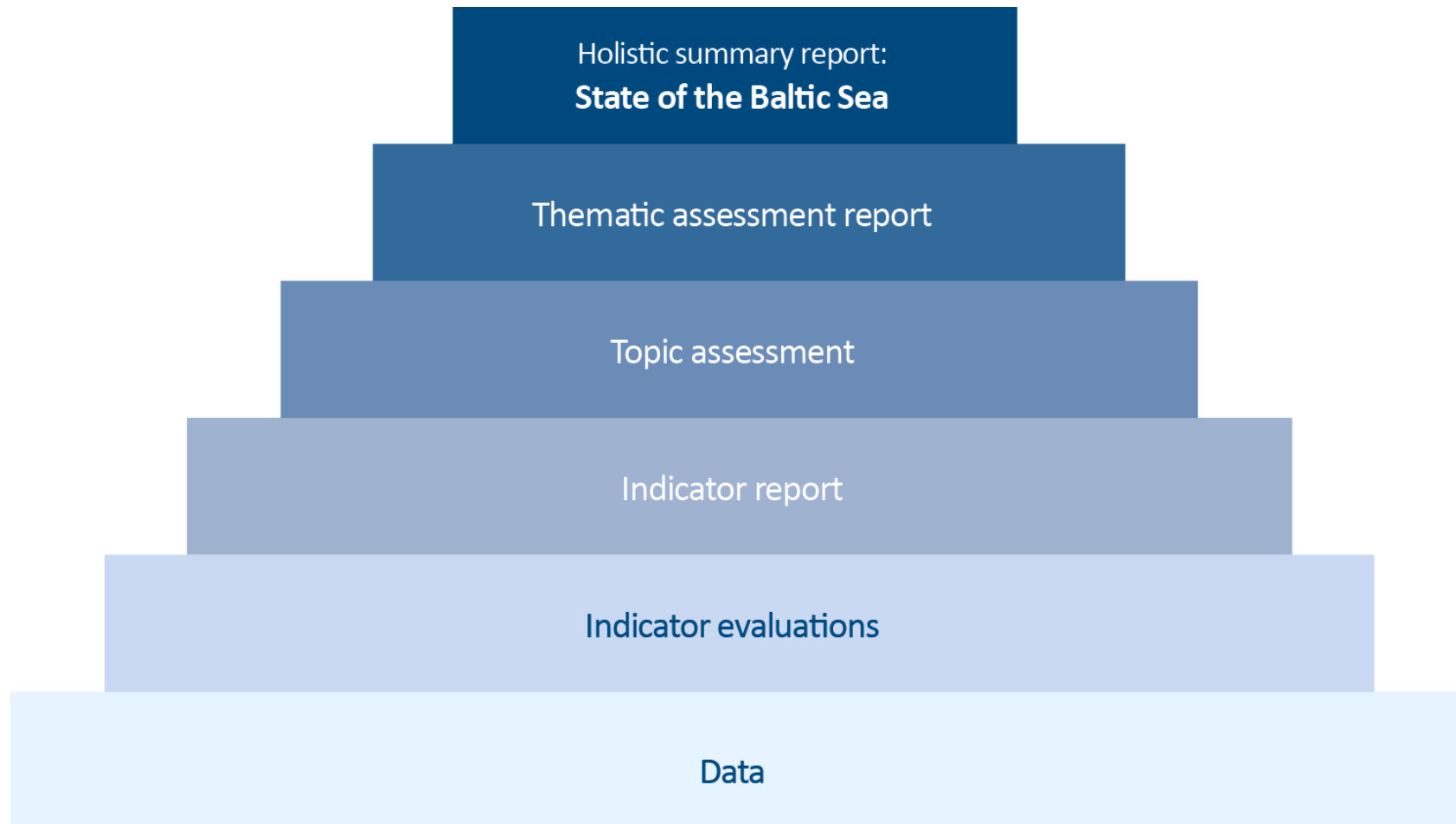
Data for EU
MSFD
reporting



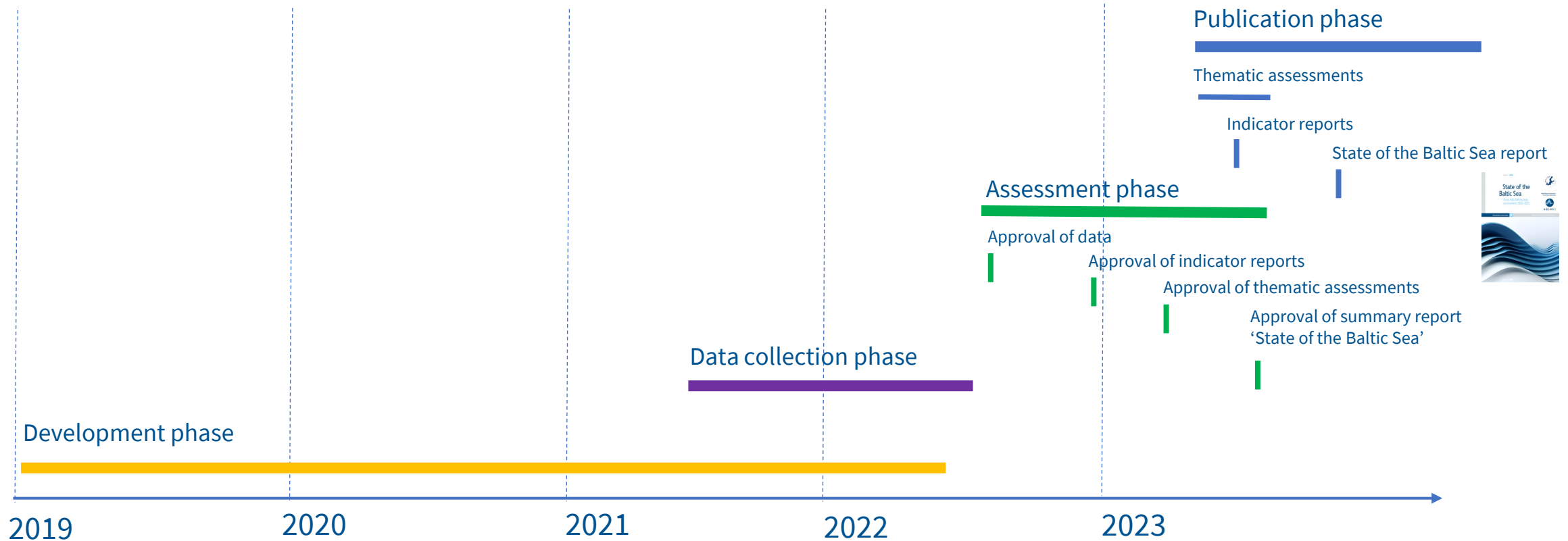
DAPSIM framework



HOLAS products



HOLAS 3 timeline



HOLAS in numbers

5

Thematic
assessments

59

Indicators

956

Experts invited
in the review
process

2956

Comments
addressed

290

New maps

3488

Pages of reports

156,940

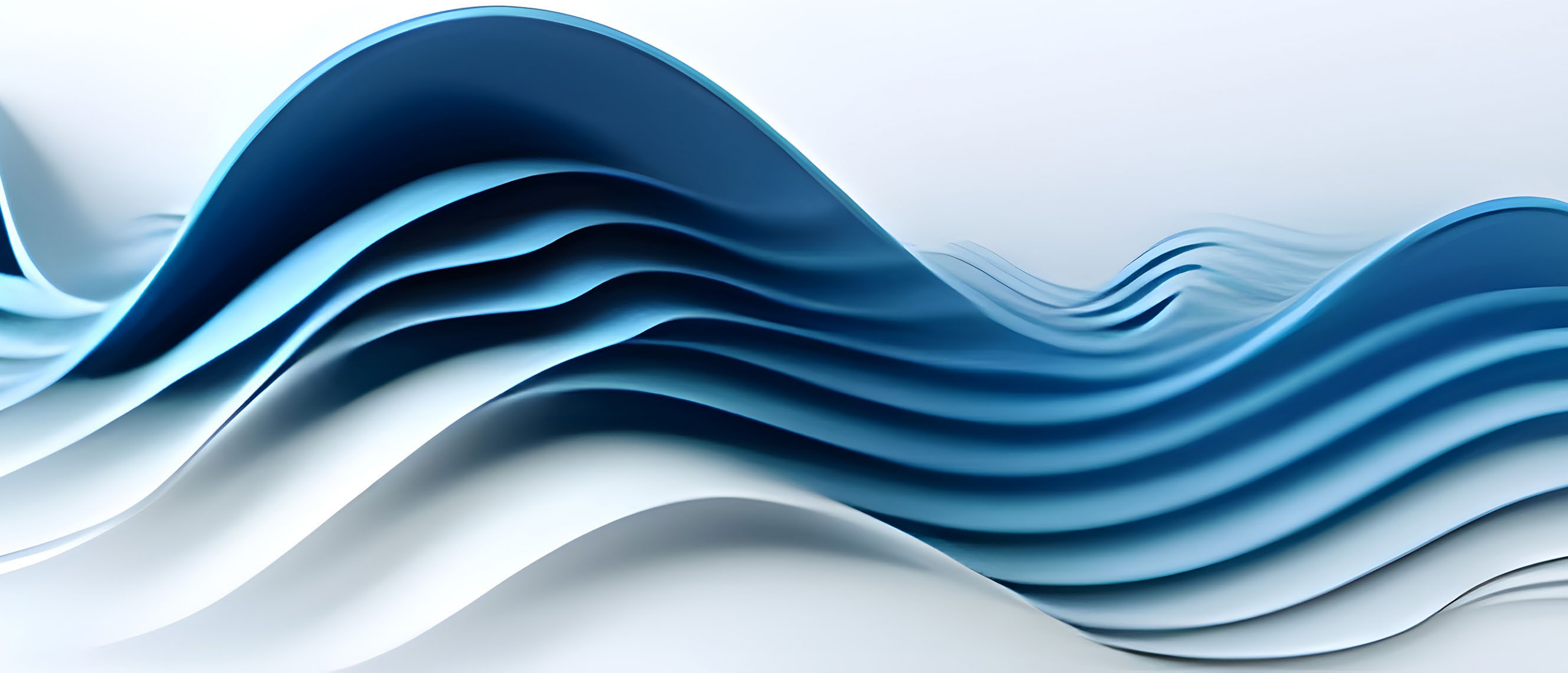
Cups of caffeinated beverages
consumed

2,000,000+

Data points



Results summary



Five themes of the assessments



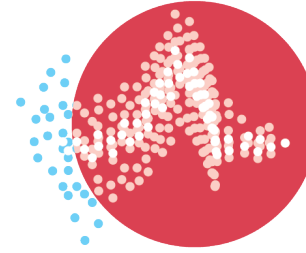
Biodiversity



Eutrophication



**Hazardous
substances, marine
litter, underwater
noise and non-
indigenous species**

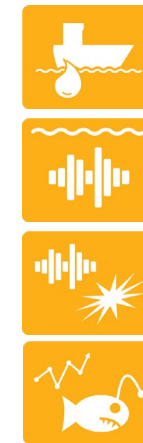
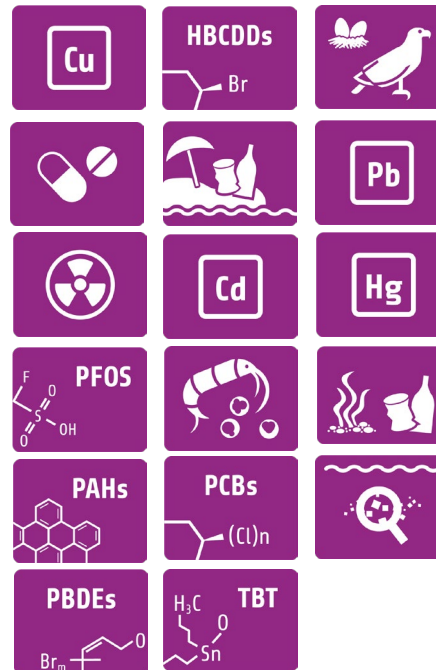


**Spatial pressures
and impacts**



**Economic and
social analyses**

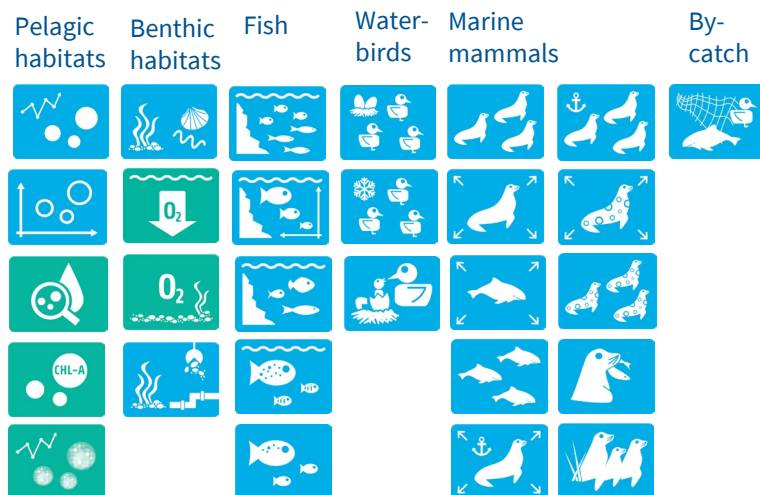
59 indicators (42 core, 11 pre-core, 1 supplementary, 1 element, 4 driver)



Thematic assessments by topic & sources of data



Biodiversity



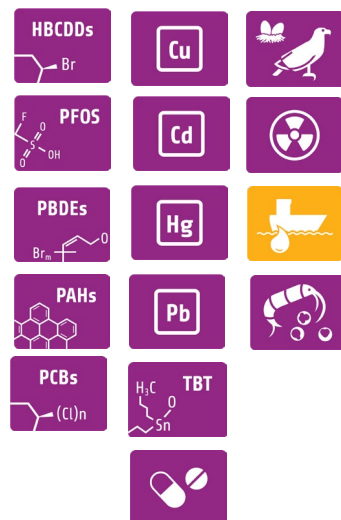
Other assessment methods used for:

Foodwebs
Threatened species
Threatened habitats & biotopes
Spatial protection
Restoration



Hazardous substances, marine litter, underwater noise and non-indigenous species

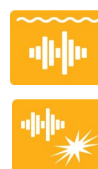
Hazardous substances



Marine litter



Underwater noise



NIS



Eutrophication

Nutrient levels



Direct effects



Indirect effects



Spatial pressures and impacts

- 28 Human activity datasets
- 17 Pressure layers
- 57 Ecosystem component layers



Economic and social analyses

- Use of marine waters
- Cost of degradation
- Ecosystem services
- Cost-benefit analysis
- Drivers

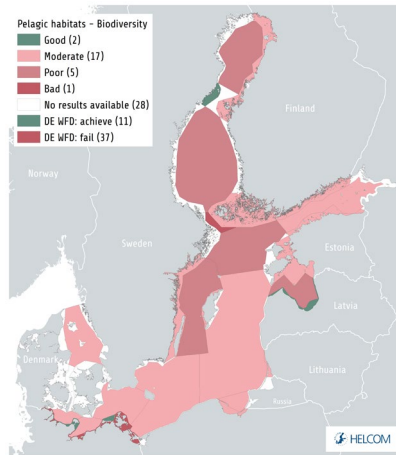


Biodiversity

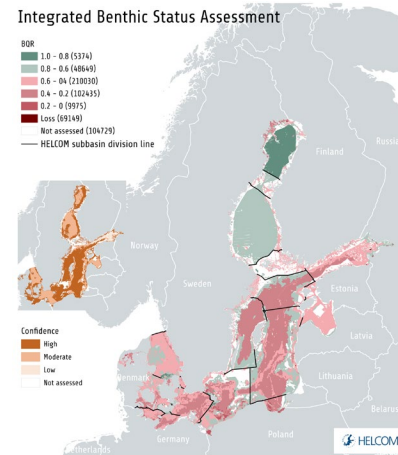
Biodiversity – Key takeaways



Pelagic habitats

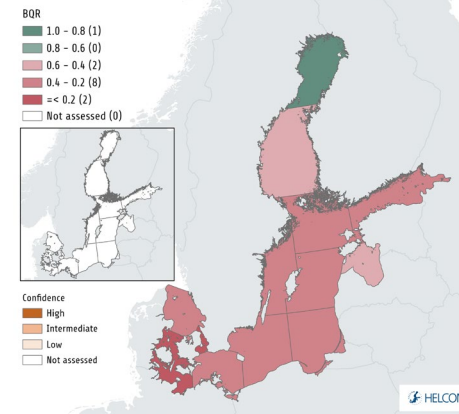


Benthic habitats

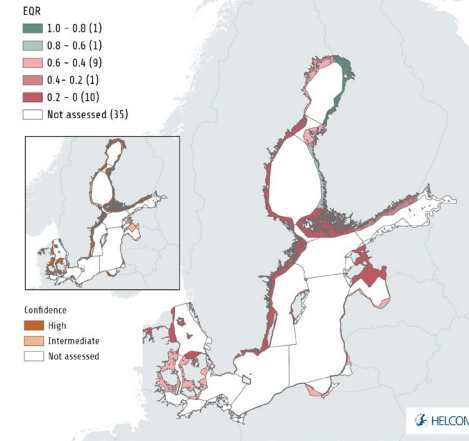


Fish

Commercial fish integrated assessment results

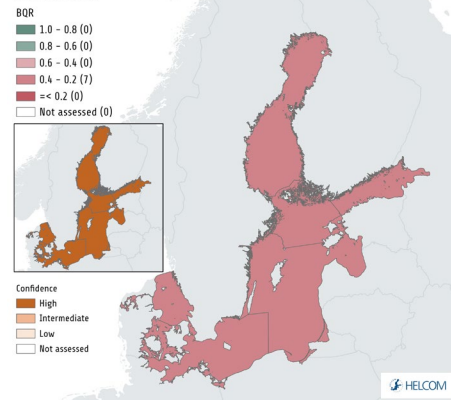


Coastal fish integrated assessment results



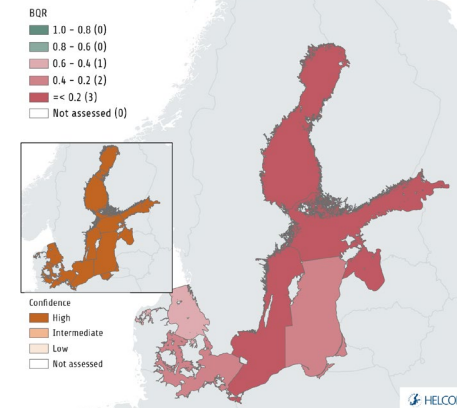
Waterbirds

Integrated Biodiversity Status Assessment – Waterbirds

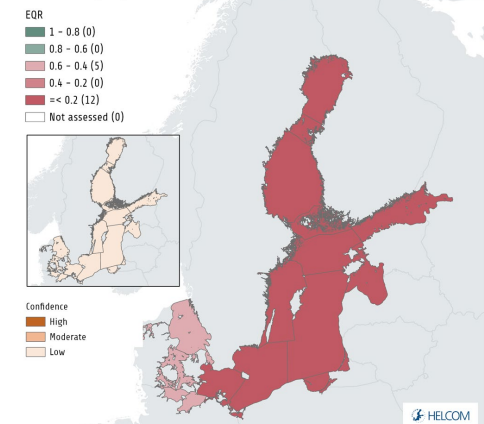


Marine mammals

Overall seal integrated result map



Harbour porpoise integrated results





Biodiversity – status by topic



Pelagic habitats
do **not** have **good**
status in any open
sea subbasin



Benthic habitats
generally do **not**
have **good** status
in the southern
Baltic Sea, while
their status is **good**
in open sea areas
in the
northernmost
subbasins.



For fish, only
4/15 assessed
commercial
stocks **have good**
status.



Waterbirds
generally do **not**
have **good** status.



Marine
mammals exhibit
not good status
in the
Baltic Sea.



Food webs:
Major changes in
the abundance
and biomass of
species, driven by
human pressures,
have been
associated with
changes in the
food webs of the
Baltic Sea.





Status of biodiversity core indicators by sub-basin



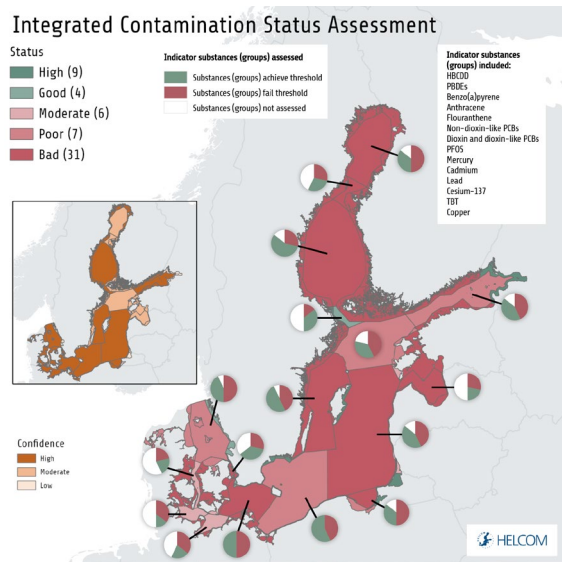
* Core indicator agreed to be tested in this assessment
** Pre-core indicator agreed to be tested in this assessment
*** The indicator 'Zooplankton size and stock' is under testing for the Gdansk Basin



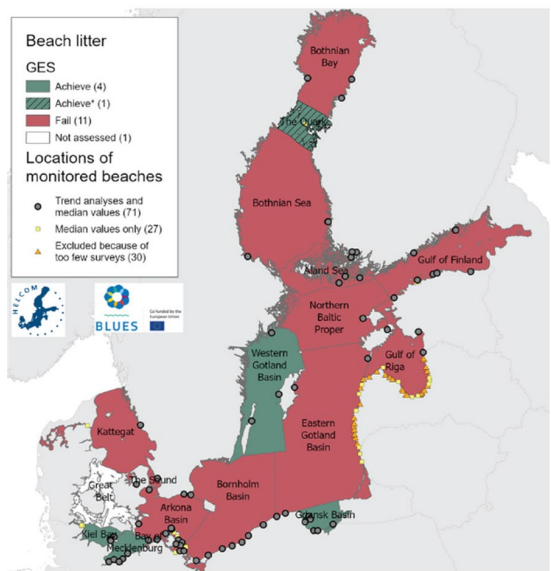
Hazardous substances, marine litter, underwater noise and non-indigenous species – Key takeaways



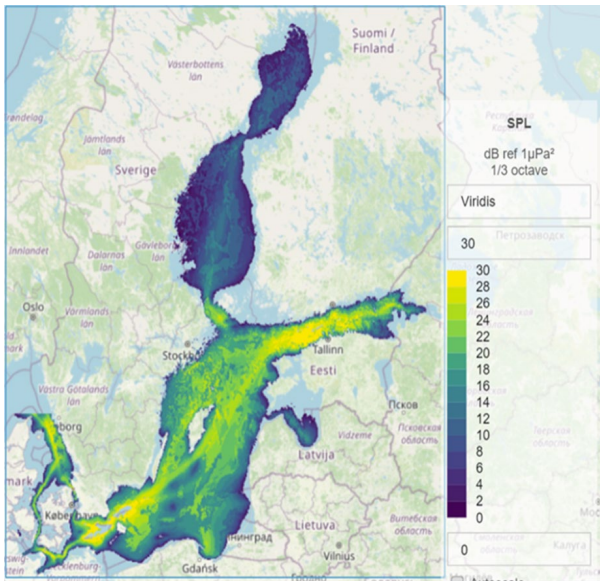
Hazardous substances



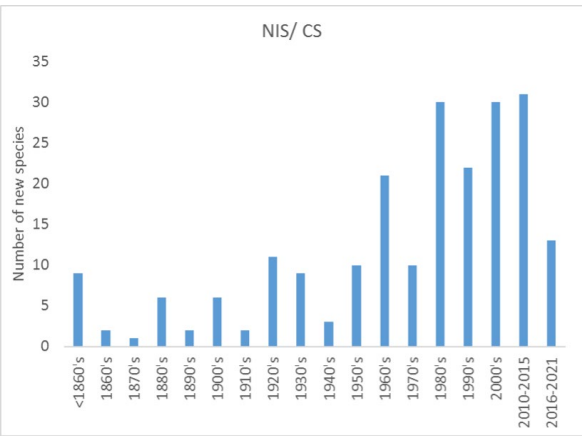
Marine litter



Underwater noise



Non-indigenous species





Hazardous substances, marine litter, underwater noise and non-indigenous species– status by topic



Hazardous substances

Majority of the Baltic Sea show **bad** or **poor status**.

However, there are decreasing trends in concentrations of several substances.

Marine litter

11/16 sub-basins show **not good status** for beach litter. Two sub-basins indicate improving environmental conditions. 1 sub-basin shows a deteriorating littering trend. “Other”, plastic and fisheries related litter on the seafloor increased significantly in the period from 2015 to 2021.

Underwater noise

below threshold for marine mammals but **exceeded threshold for masking for 9 out of 17 assessment units for fish**, although not for fish behavioural disturbance.

Non-indigenous species

Good status for non-indigenous species was **not achieved**.





Status of pressure-based core indicators by sub-basin (hazardous substances, NIS, beach litter, noise)



HELCOM



* Pre-core indicator agreed to be tested in this assessment

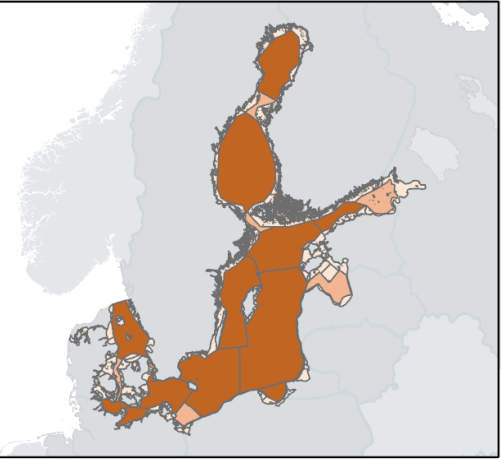
** Pre-core indicator agreed to be tested in this assessment, masking of fish communication

*** Pre-core indicator agreed to be tested in this assessment, fish behavioural disturbance

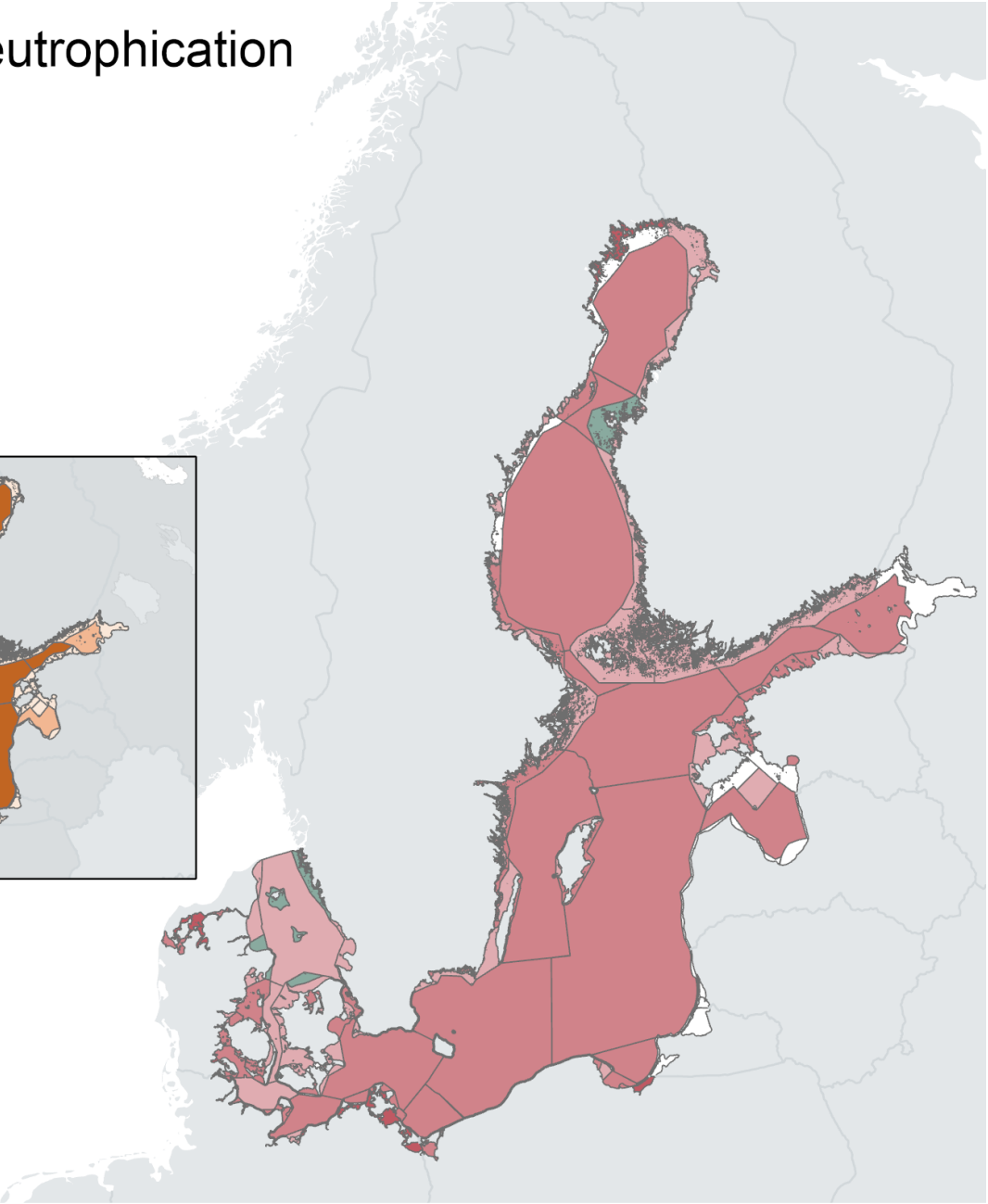
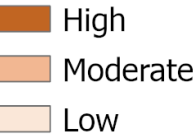


Eutrophication- Key takeaways

Integrated eutrophication status



Confidence

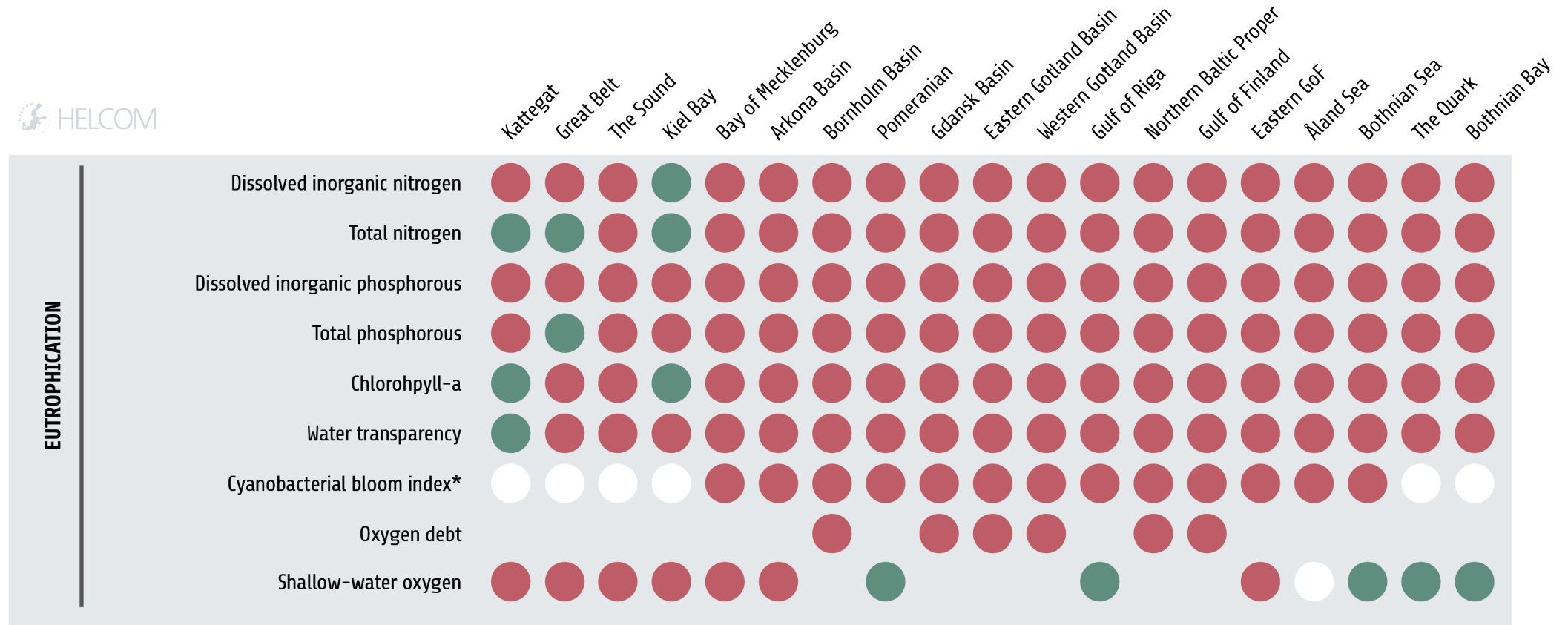


Eutrophication





Status of pressure-based core indicators by sub-basin (eutrophication)

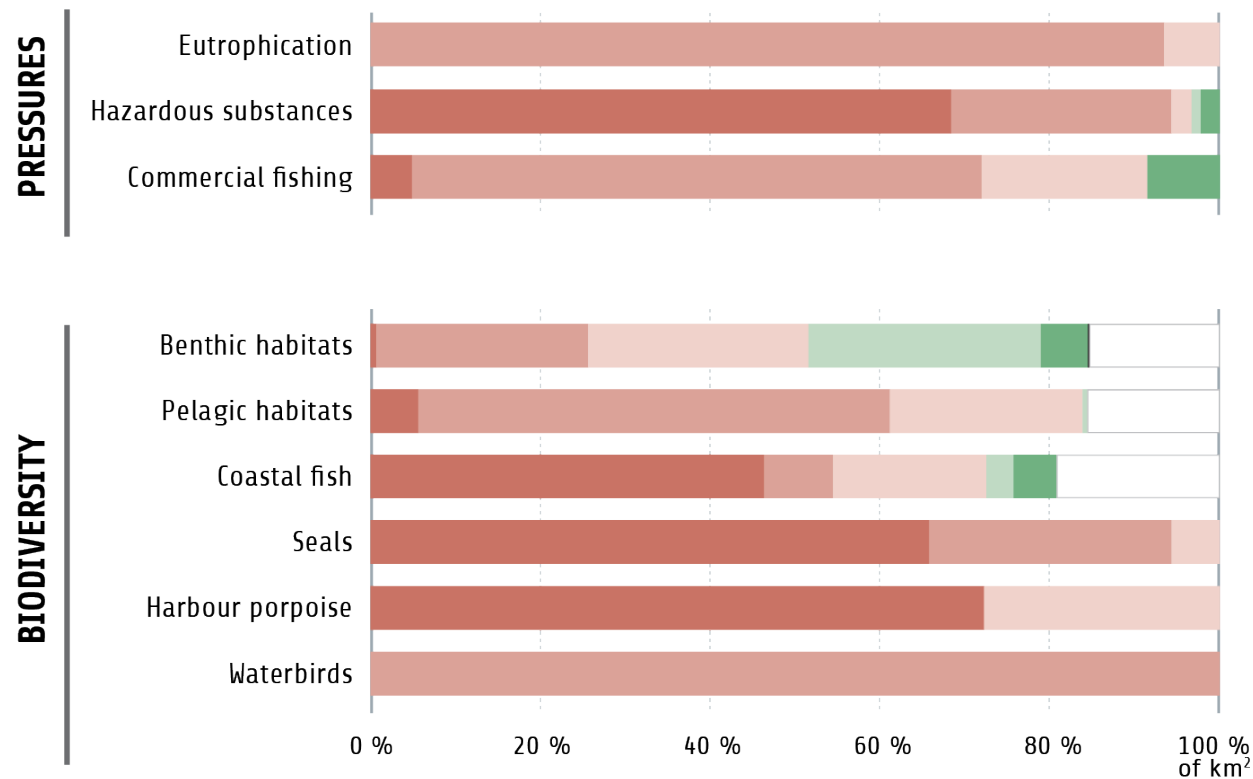


* Pre-core indicator agreed to be tested in this assessment



In summary: the state of the Baltic Sea ecosystem has not improved

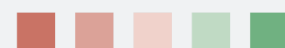
State of Baltic Sea pressures and biodiversity 2016–2021



INTEGRATED ASSESSMENTS

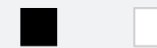
Not good

Good



Loss

Not assessed



For the following topics included in the holistic assessment no integrated assessment was done:

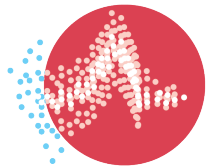
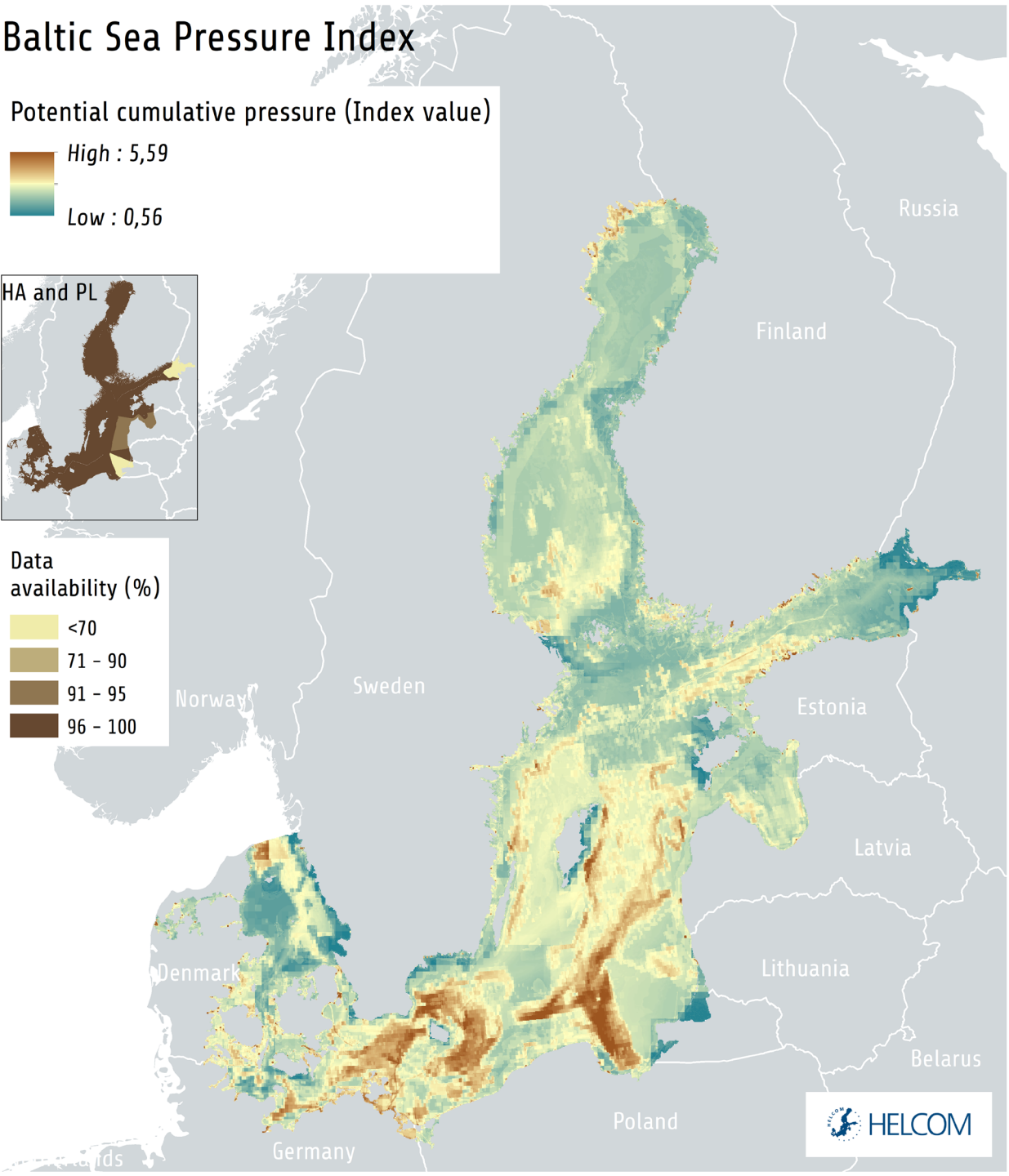
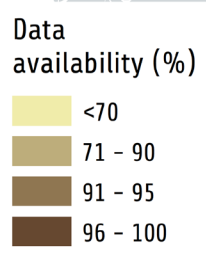
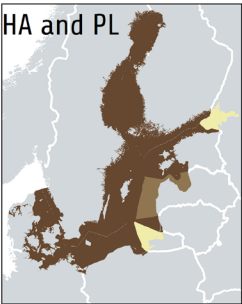
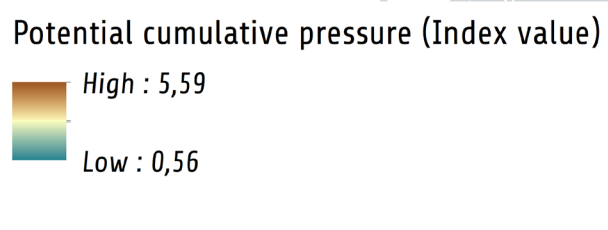
- Marine litter
- Underwater noise
- Non-indigenous species





Spatial Distribution of Pressure and Impact Assessment (SPIA)

Baltic Sea Pressure Index



Spatial pressures
and impacts

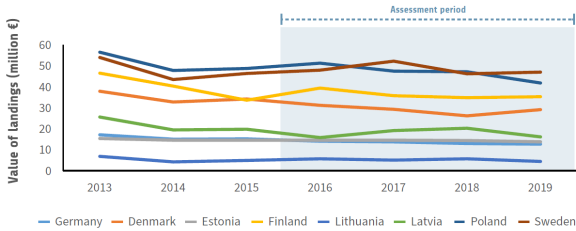




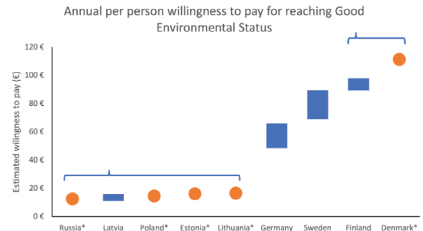
Economic and social analyses

Economic and social analyses

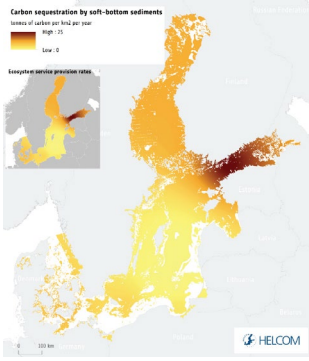
Economic and social analysis of the use of marine waters



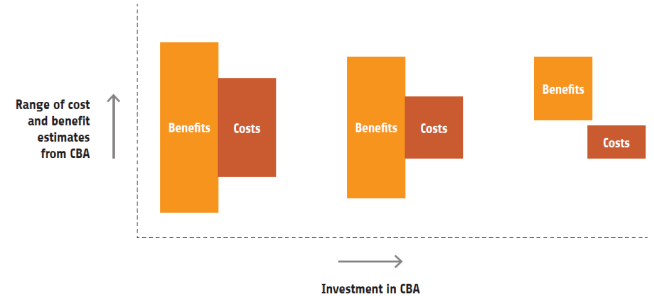
Cost of degradation analysis



Assessment of ecosystem services



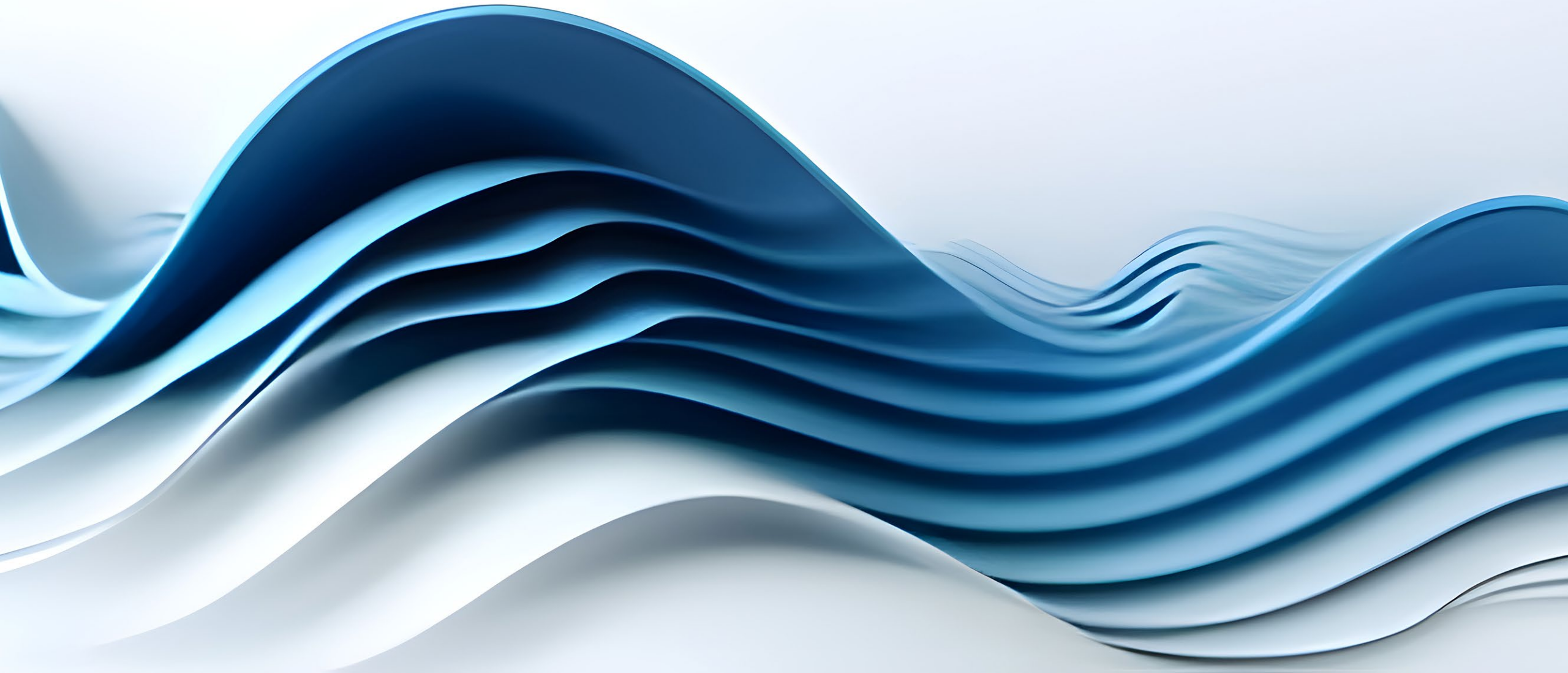
Cost-benefit analysis



Driver indicator assessments



Next steps



Key takeaways from HOLAS 3



The Baltic Sea is under increasing impacts from **climate change** and **biodiversity degradation** catalysed by eutrophication, pollution, land use and resource extraction.



Little to no improvement of the Baltic Sea environment occurred during the assessment period.



Measures to reduce pressures on the Baltic Sea **are working**, when they are implemented, and the agreements in the updated Baltic Sea Action Plan remain highly relevant.



The effects of **climate change** are expected to increase in the future, increasing the need for measures to enhance ecosystem resilience and mitigate their negative impacts.



Transformative changes are needed in all socioeconomic sectors interacting with or affecting the Baltic Sea environment. **Actions are needed** both to stop current negative trends and to protect and restore ecosystems.



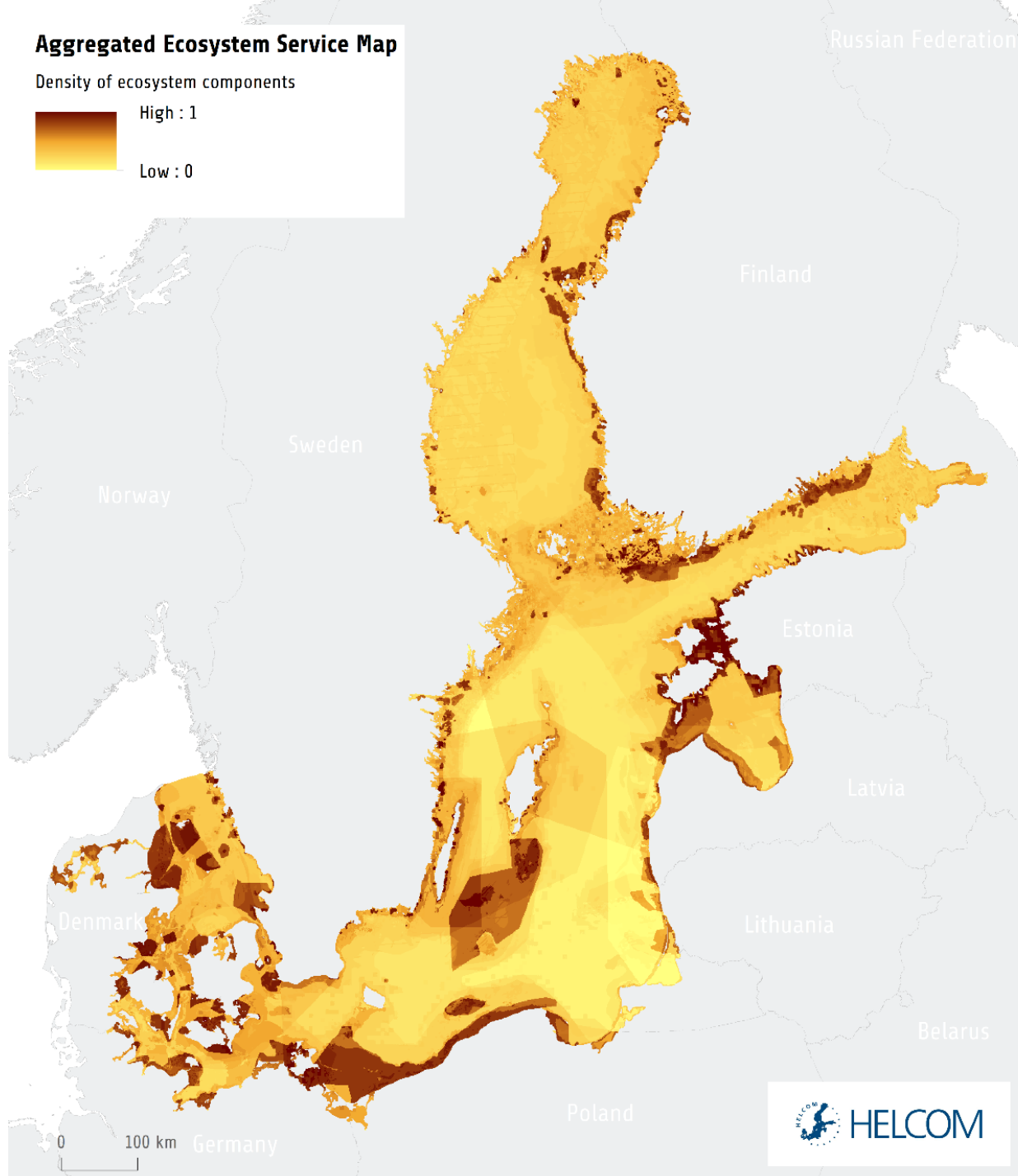
Ecosystem knowledge and **policies** for the Baltic Sea environment have developed substantially within the past six years.



Implementing the updated **BSAP**, facilitating ecosystem-based management and minimizing impacts from climate change are **focal areas for HELCOM** in the coming years.

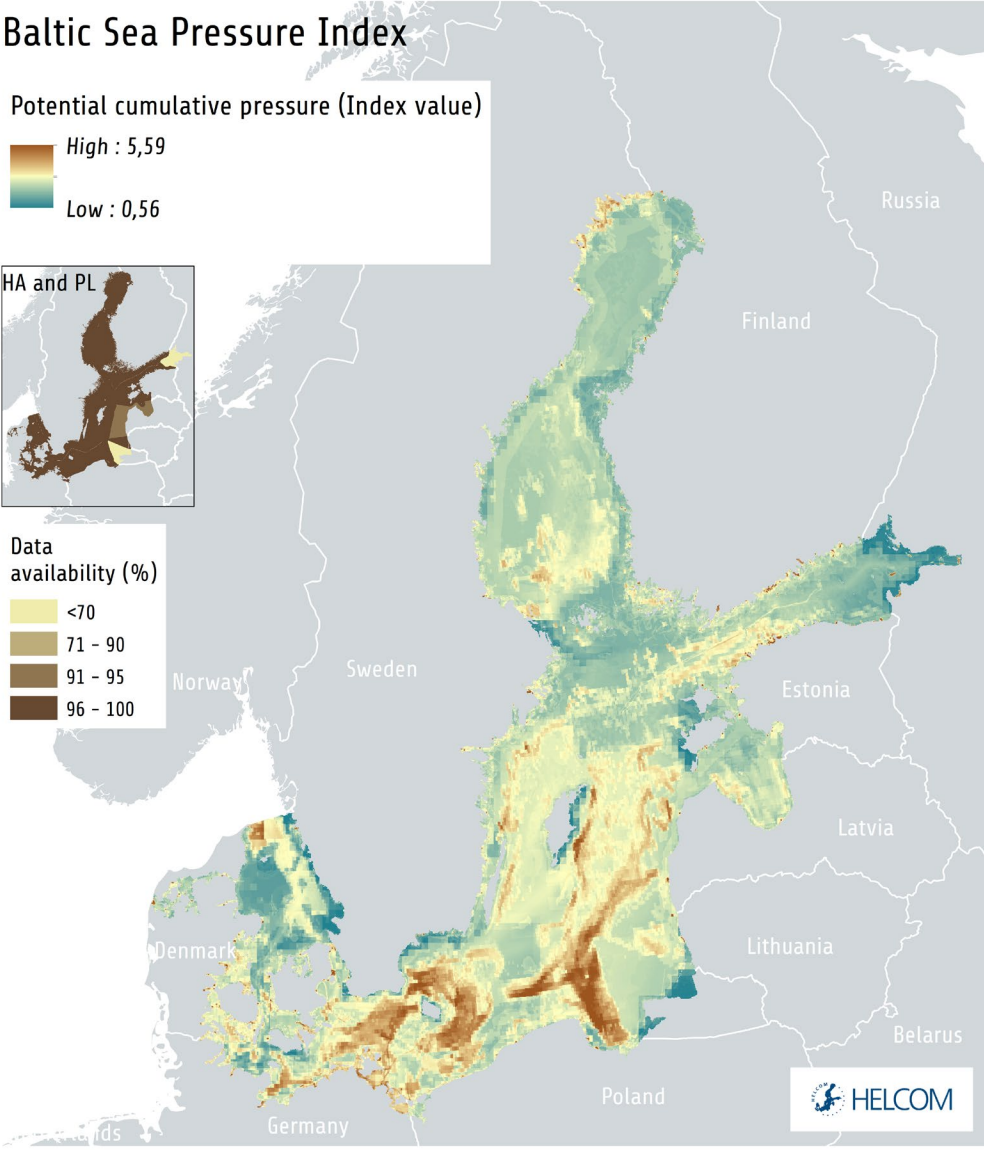
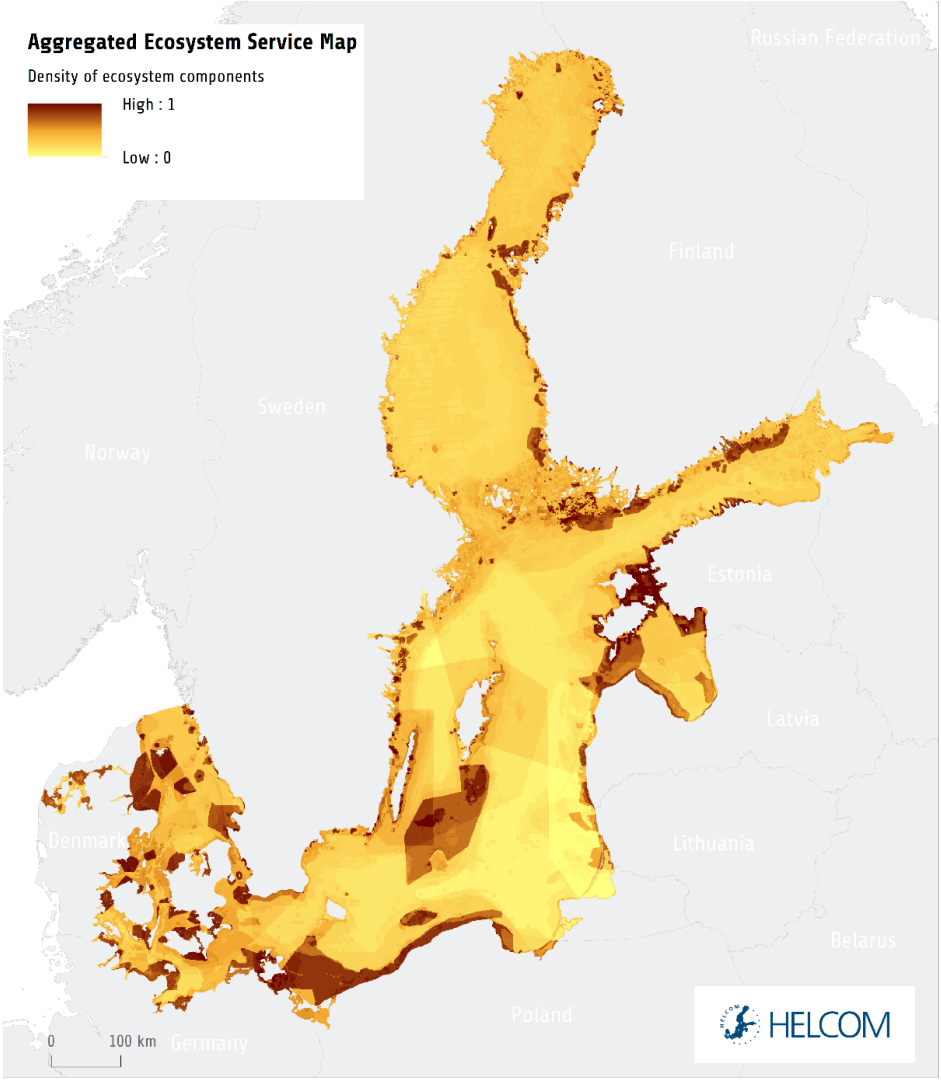


High cost of inaction



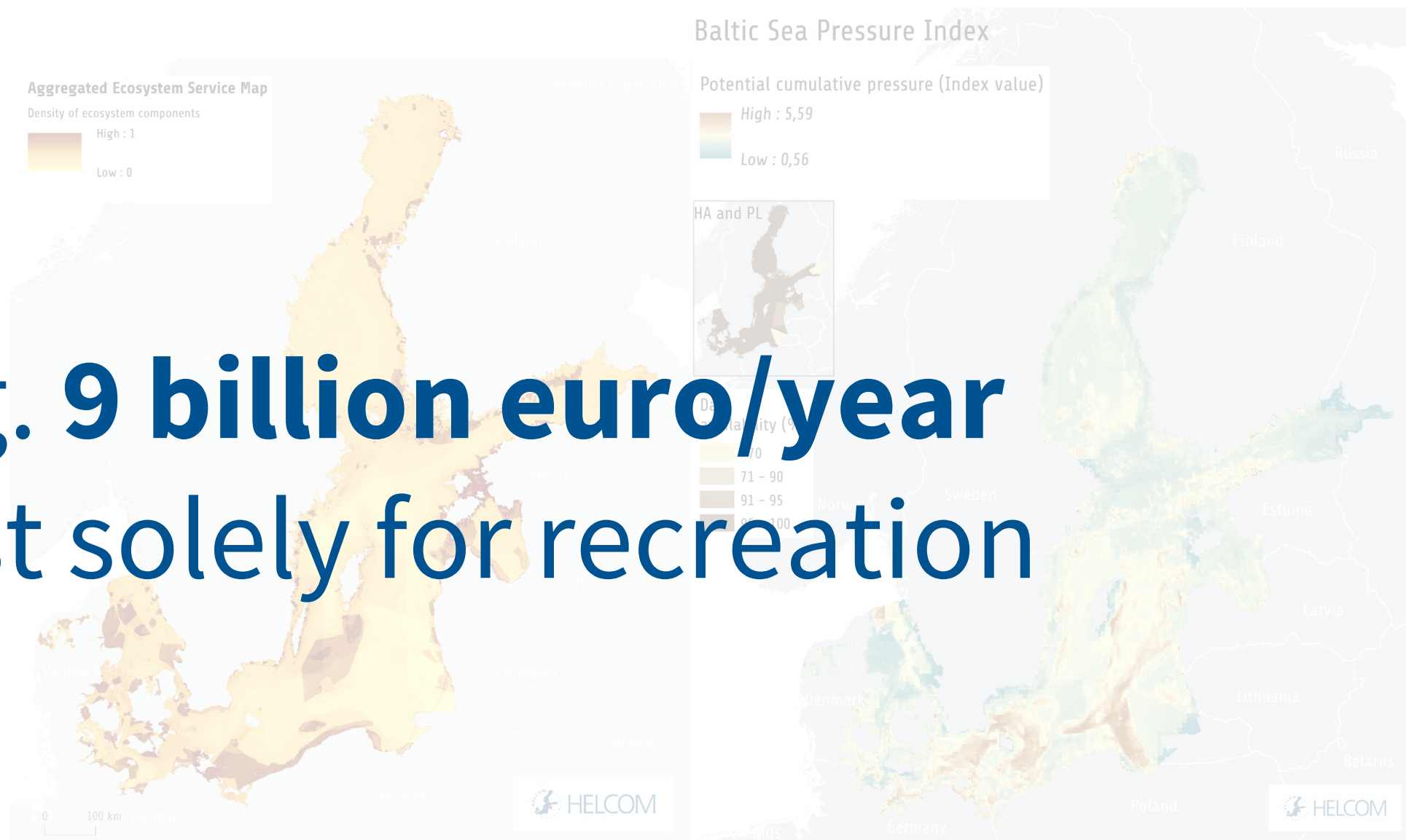


High cost of inaction

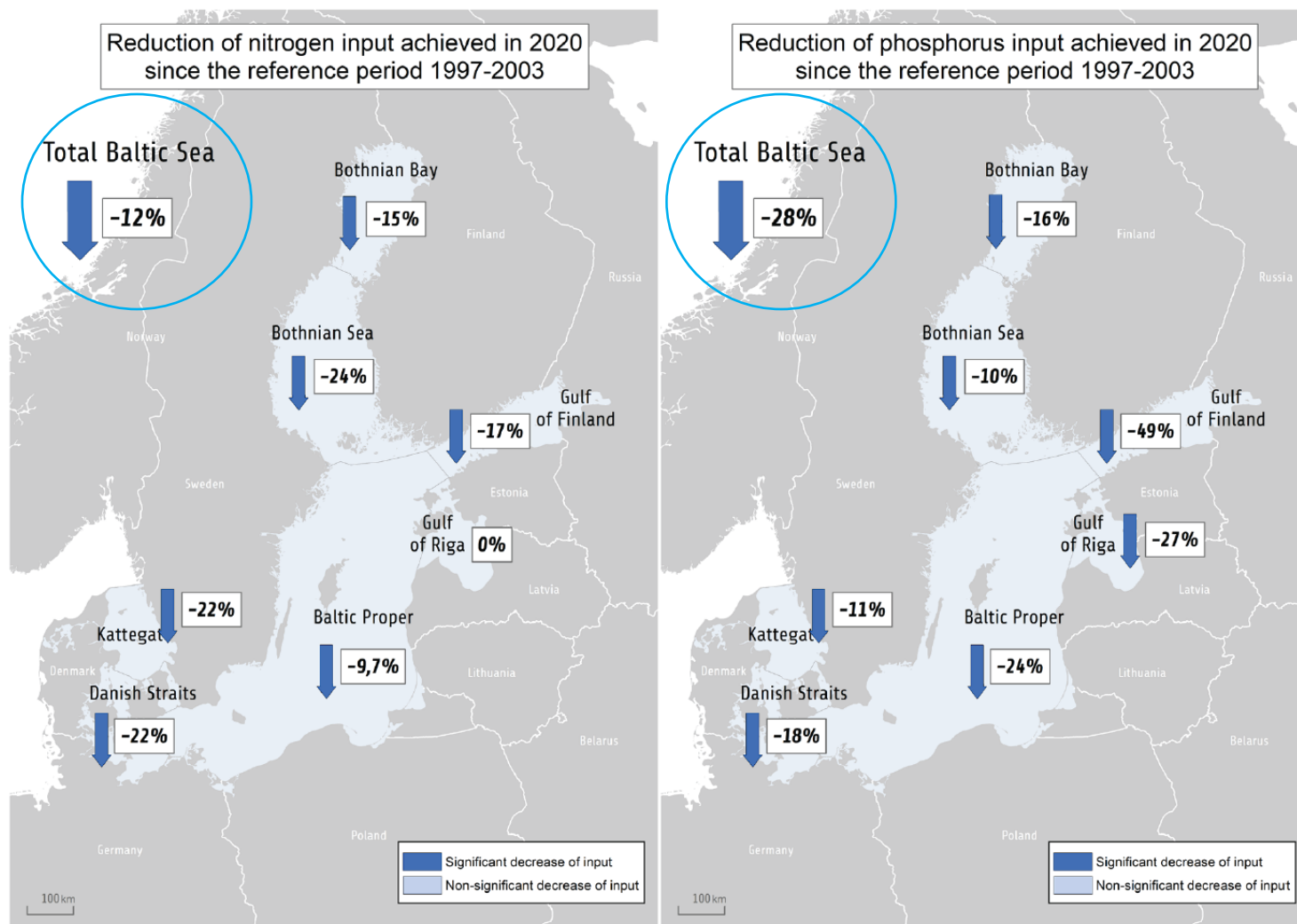


High cost of inaction

e.g. **9 billion euro/year**
lost solely for recreation

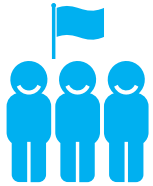


Regional measures are working





Now that we know, where do we go?



National work in HELCOM countries is at the core of implementing the Baltic Sea Action Plan and improving the health of the Baltic Sea.



The third HELCOM holistic assessment highlights the importance of measures to strengthen Baltic Sea biodiversity.



Achieving a healthy Baltic Sea ecosystem requires measures both to limit the extent and intensity of current human-induced pressures and to protect and restore species and habitats.

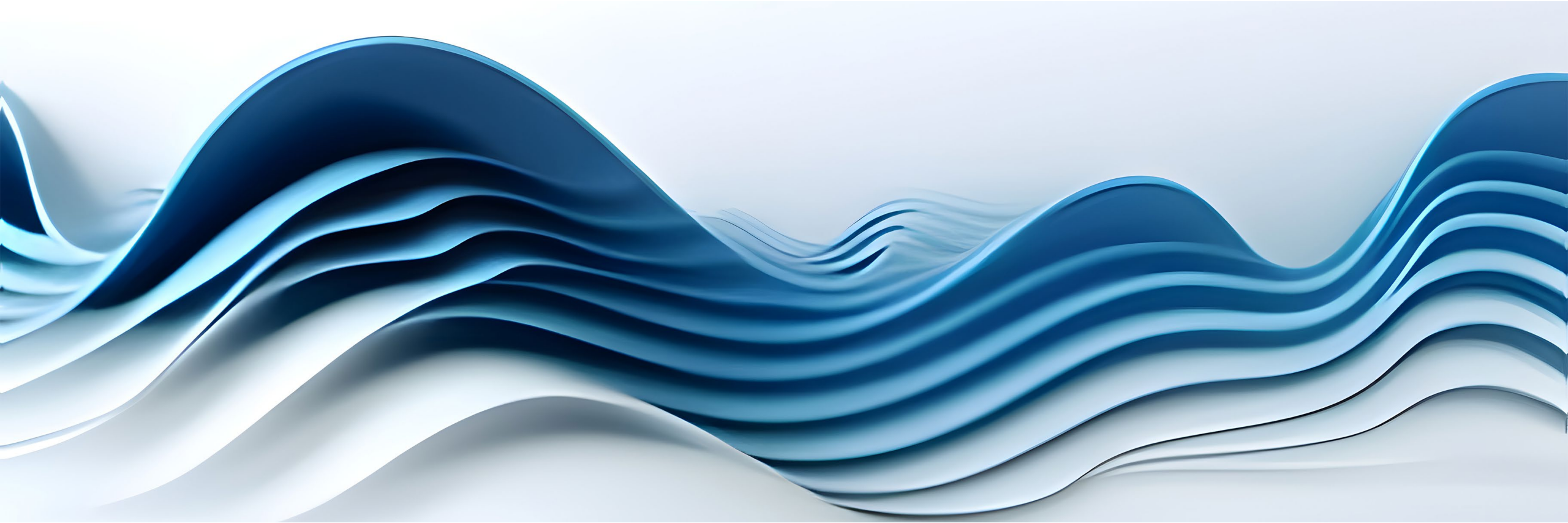


An urgent need is to equip our shared Baltic Sea ecosystem with the capacity to withstand the future effects of climate change.



A central task for HELCOM is to incorporate current knowledge developments in an ecosystem-based management framework that promotes the sustainability of the Baltic Sea region through cooperation at national, regional, and global levels.





Thank you!

<https://stateofthebalticsea.helcom.fi>

