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State of the Ocean: NE Atlantic

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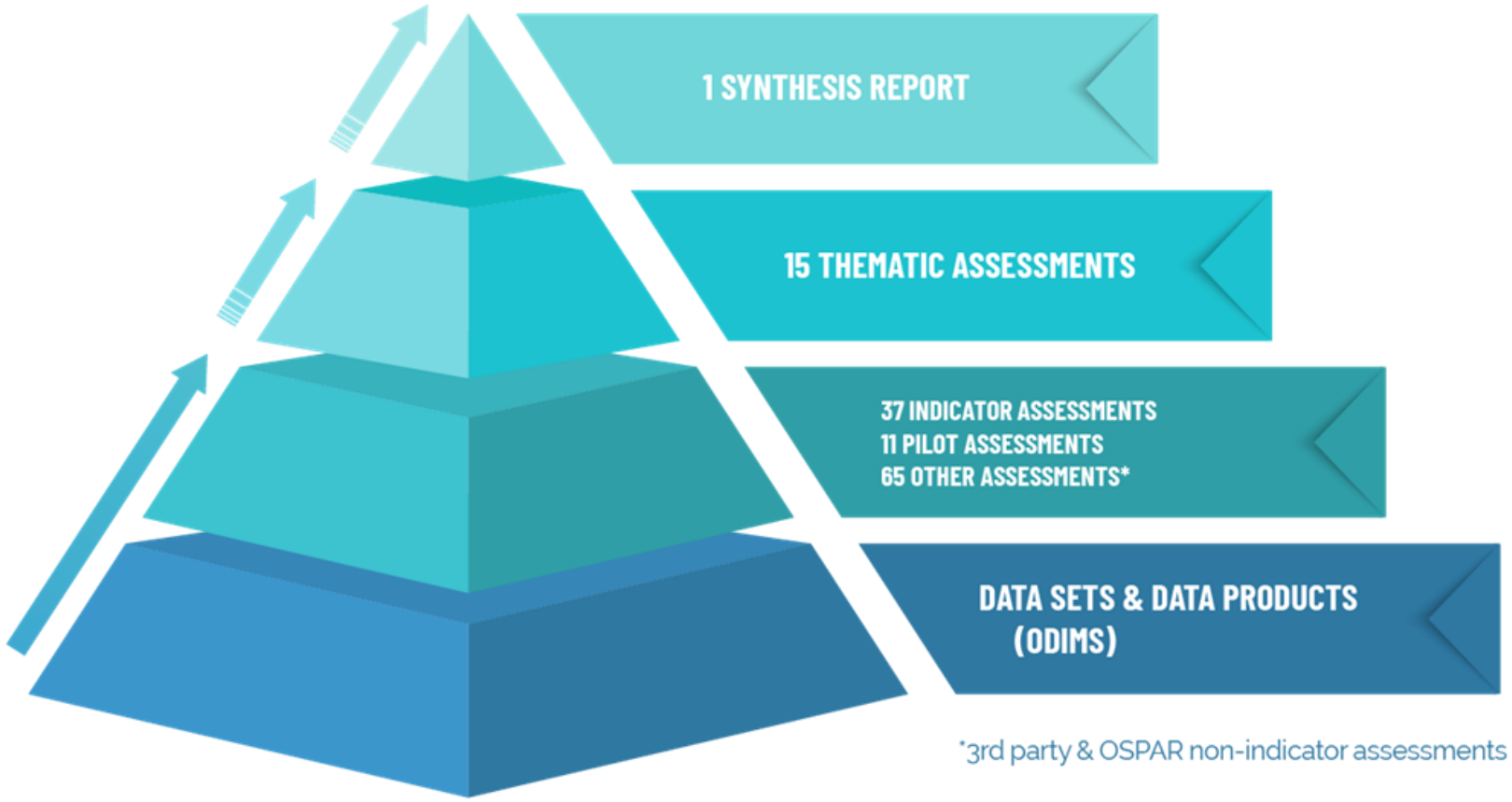
Assessing the State of the Ocean: OSPAR's Quality Status Report 2023



Health check for the marine environment of North-East Atlantic and the human activities that effect it

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Nutrient Pollution causes Eutrophication

WHAT IS EUTROPHICATION?

Eutrophication is the result of excessive enrichment of water with nutrients, which may accelerate the growth of algae (phytoplankton) in the water column. This may result in a range of undesirable disturbances in the marine ecosystem, including a shift in the composition of the flora and fauna, which in turn affects habitats and biodiversity, depletion of oxygen, changes in water clarity, and behavioural changes or even death of fish and other species.

OSPAR aims to limit nutrient and organic matter inputs to levels that do not harm the marine environment. Nutrient inputs come from agricultural runoff, atmospheric emissions, industrial discharges, and municipal wastewater. Shipping and industrial activities also contribute through atmospheric deposition. Aquaculture adds nutrients via fecal matter and uneaten feed, while dredging can release nutrients into the water column.

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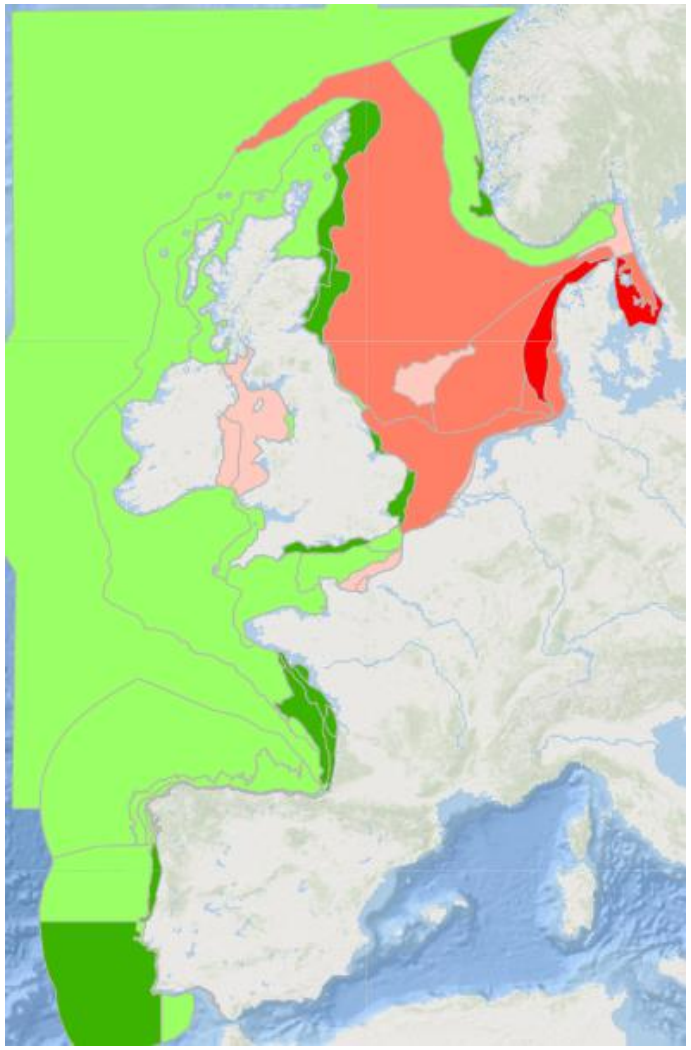
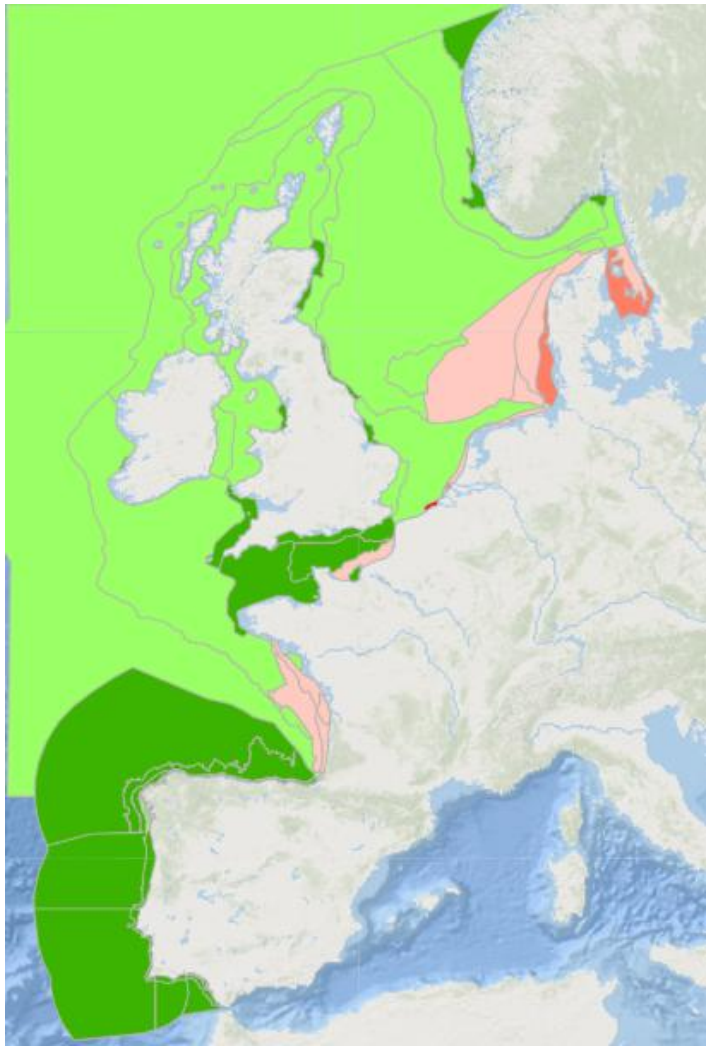
- State of the art monitoring and assessment is used to produce “regionally harmonised” assessment.
- We are making progress. Nutrient pollution has reduced
- Reduction is the result of both EU and OSPAR measures to tackle nutrient losses nutrient losses from agriculture.

Eutrophication status 1990-2000



Eutrophication status 2015-2020



Plastic pollution – What are the impacts?

Marine litter (including microplastics) has severe ecological impacts, such as:

- ingestion of plastic particles by marine life
- smothering of benthic habitats and generation of artificial hard substrate
- entanglement of animals
- vector for transport of contaminants and biota

Marine litter is also a pressure on ecosystem services, with important implications for economic and social aspects of human welfare: tourism, fisheries, aquaculture, attractiveness.

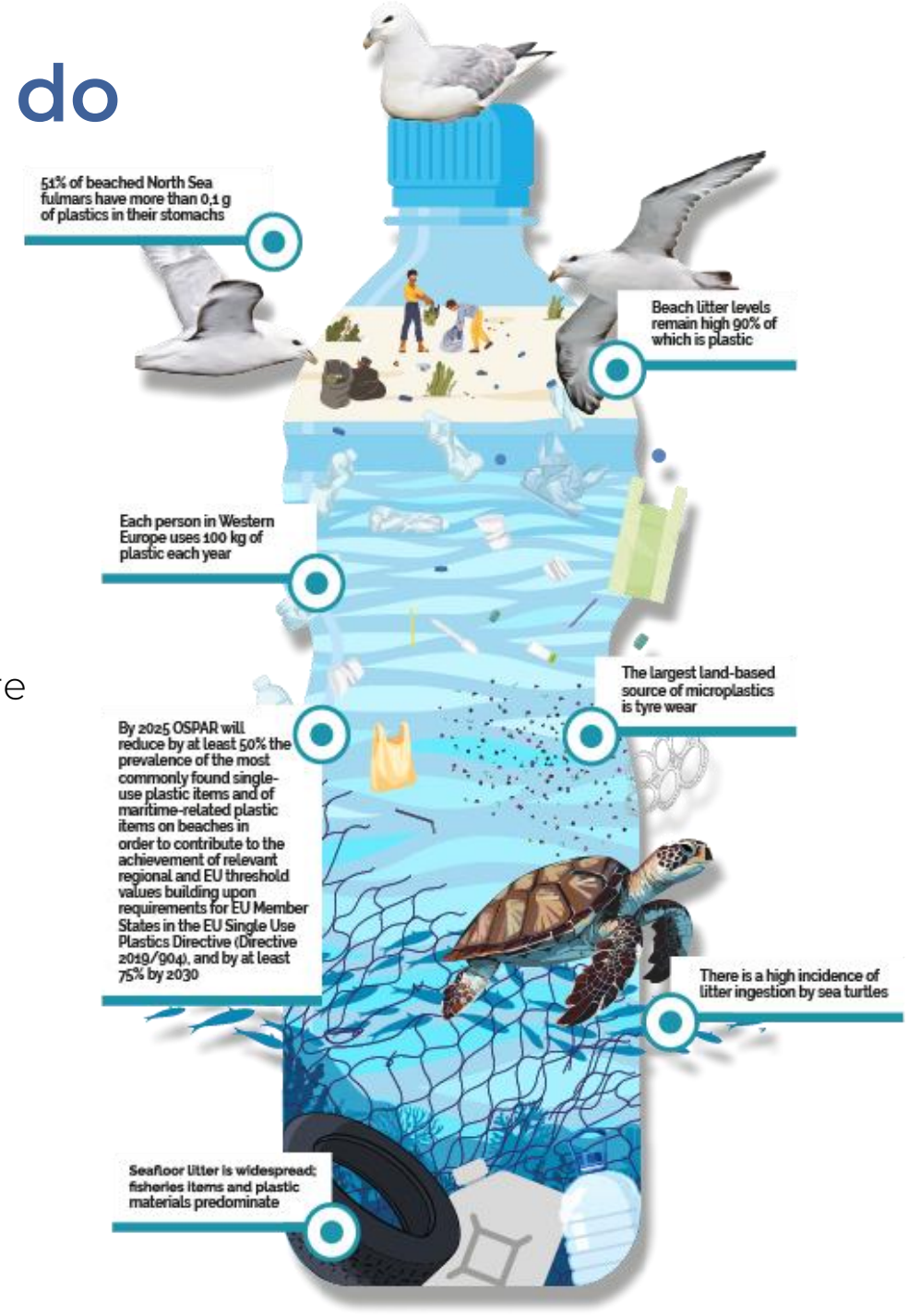
Plastic pollution – what do we know?

Marine litter levels are still high

There is a predominance of plastics among marine litter across all OSPAR Regions.

Single-use plastics and maritime-related litter are frequently found beach litter items.

Nonetheless, there are some positive signs: a decrease in the quantities of litter found on OSPAR beaches between 2015-2020 and in the floating litter in the North Sea between 2009-2018.



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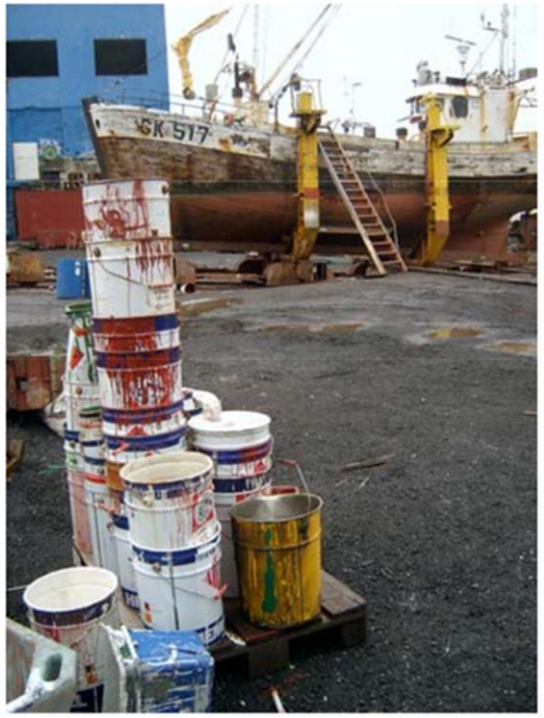
Heavy Metals



Heavy metals are hazardous because they can cause adverse biological effects on an organism's activity, growth, metabolism, reproduction, or survival. Three of the most toxic heavy metals – mercury, cadmium, and lead – are on OSPAR's List of Chemicals for Priority Action owing to their high toxicity and potential to cause harm to marine life.

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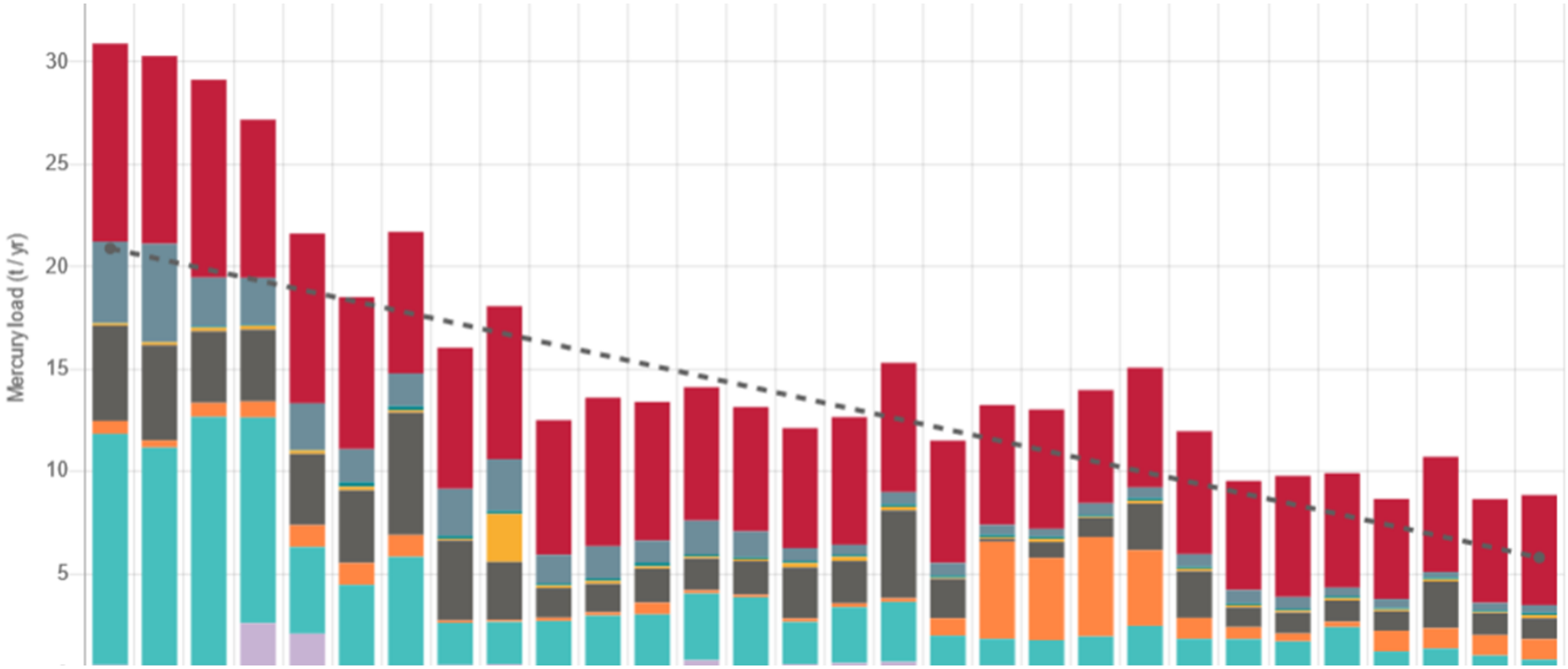


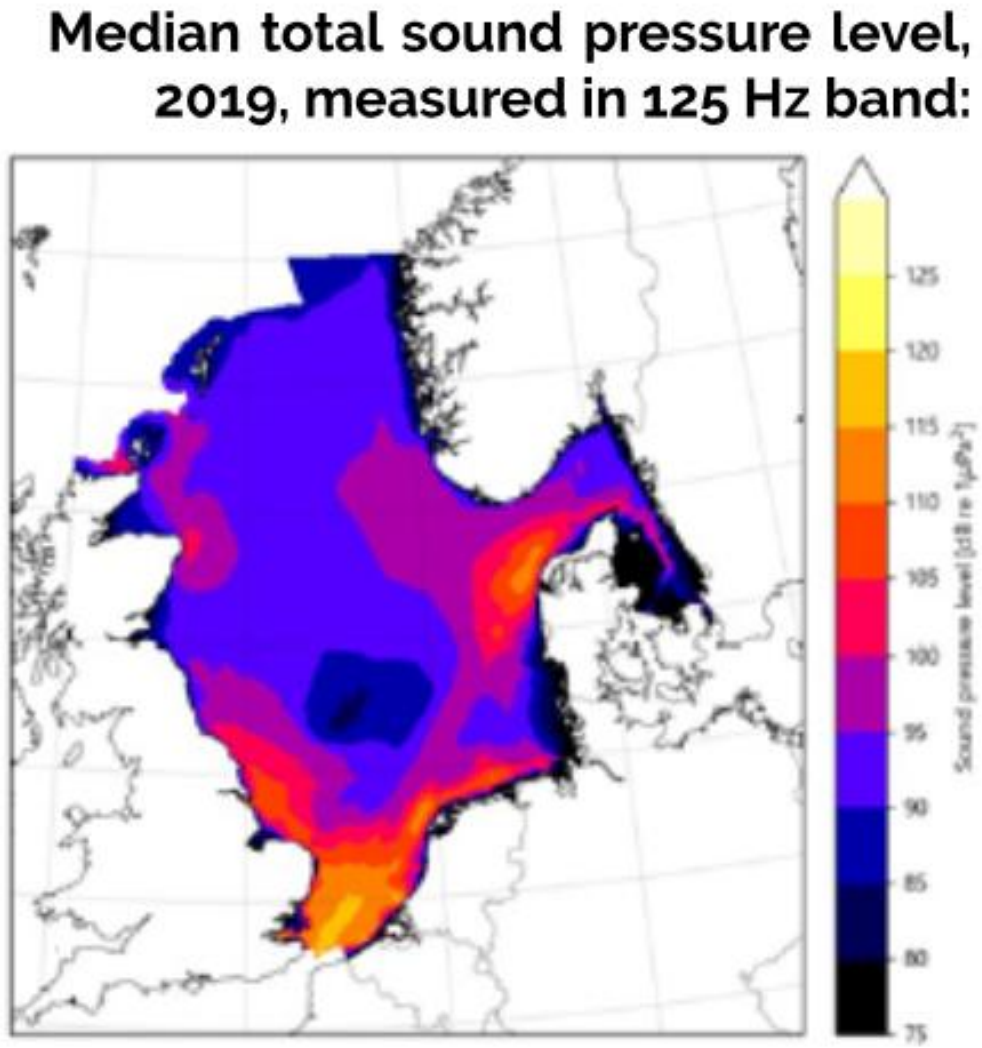
Bans on use and conventions restricting the use of certain metals (Minamata Convention on mercury) and organic persistent pollutants (Stockholm Convention), together with OSPAR initiatives and guidelines and both EU and national regulations of hazardous substances have all contributed to **declines in hazardous substances**, though they remain a cause of concern.

Noise pollution – What are the impacts?

Underwater noise is recognised as one of the main pressures in the marine environment.

Noise can affect marine animals by:

- interfering with their ability to communicate, navigate, find food, or detect threats
- provoking fleeing or distraction
- causing injury or death



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Noise pollution – what do we know?

Sound underwater can propagate over very large distances and many marine species have habitats that cross international boundaries.

In the OSPAR maritime area, the dominant source of continuous underwater noise is shipping; while impulsive noise is generated by activities such as by geosciences surveys, pile driving and military activities.

The incidence and intensity of noise pollution is expected to increase in the North-East Atlantic

Pile driving operation with bubble curtain. © Trianel/Lang

Not just the North-East Atlantic

BALTIC SEA HOLAS III:

- inputs of **nutrients** have reduced but eutrophication shows no signs of recovery;
- **Marine litter**: plastic items on beaches have but marine litter remains an issue;
- **Heavy metals**: many substances banned but they continue to have widespread impacts;
- **Underwater noise**: status was assessed as good for marine mammals but not good for fish

World Ocean Assessment II

- inputs of **nutrients** continue to rise despite improvements to better control their inputs;
- **plastic pollution** is by far the biggest contributor to marine litter pollution
- **hazardous substances** continued to increase rise
- **underwater noise** is highest in areas where there is significant industrial activity Understanding of the impacts of underwater noise continues increase

Key message

Collective trends point to declining biodiversity and continued habitat degradation across many parts of the OSPAR Maritime Area, even as measures to achieve clean, biodiverse and productive seas have been taken by the OSPAR Contracting Parties.

Two things are clear:

- additional measures are required to change a trajectory of nature decline to one of nature recovery, and
- the existing measures need to be more effective.