

Zero Pollution Monitoring Assessment 2022

Pollution and Ecosystems

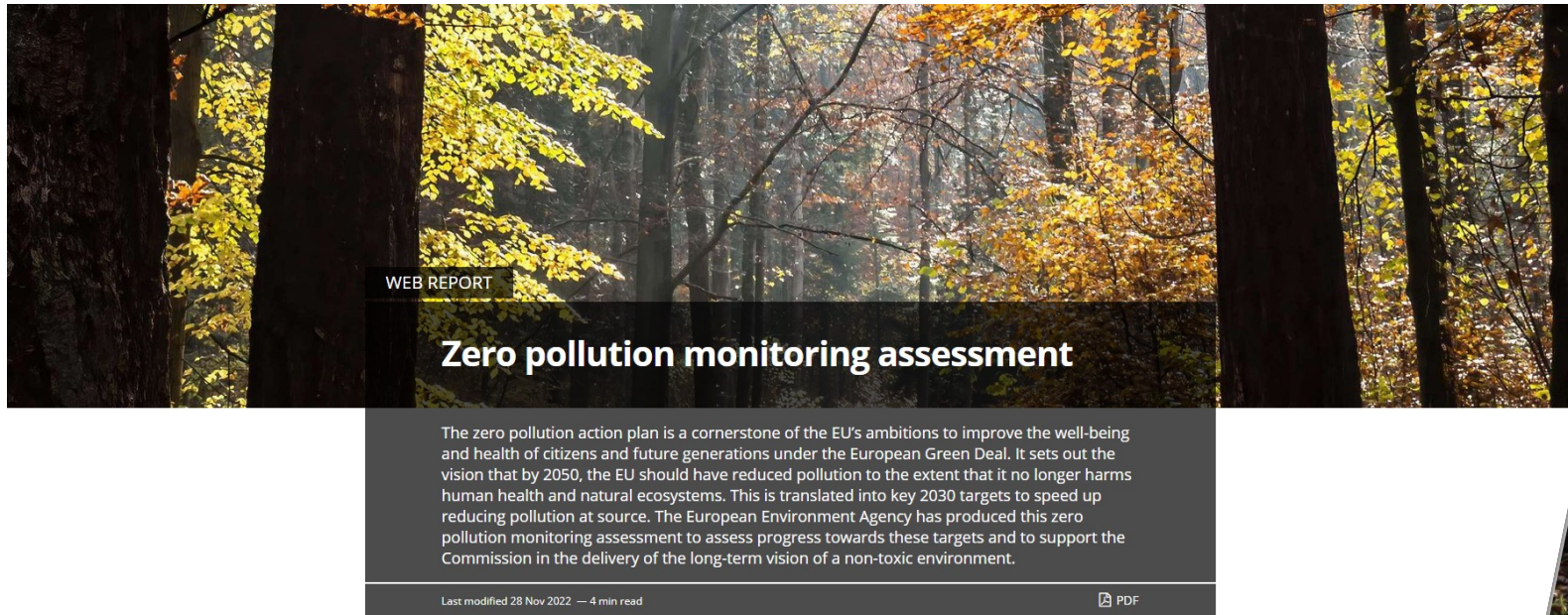
Zero Pollution Stakeholder Conference / 14 December 2022

European Environment Agency



Overview of the EEA Zero Pollution Monitoring Assessment

Web report: <https://www.eea.europa.eu/publications/zero-pollution>



Summary
For policymakers - PDF






Structure of the report

Chapters of the zero pollution monitoring assessment 2022:

- Production and consumption chapter and associated signals
- Ecosystems chapter and associated signals
- Health chapter and associated signals
- Zero pollution cross-cutting stories



Sections of the **ecosystems** assessment:

-  Freshwater pollution and ecosystems
-  Marine pollution and ecosystems
-  Air pollution and ecosystems
-  Soil pollution and ecosystems
-  Ecosystem signals



Air -75% of ecosystems remain at risk from air pollution

TARGET 3 Reduce EU ecosystem area where air pollution threatens biodiversity by 25%

Current

Exceedance of atmospheric

- **Ozone damages agricultural crops and reduces yields**

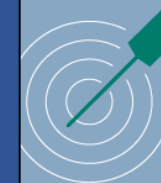
- 6% of agricultural land was exposed to ozone levels above the target value in 2020

- In 2019, losses to wheat yields due to ozone reached **EUR 1.4 billion across 35 European countries**

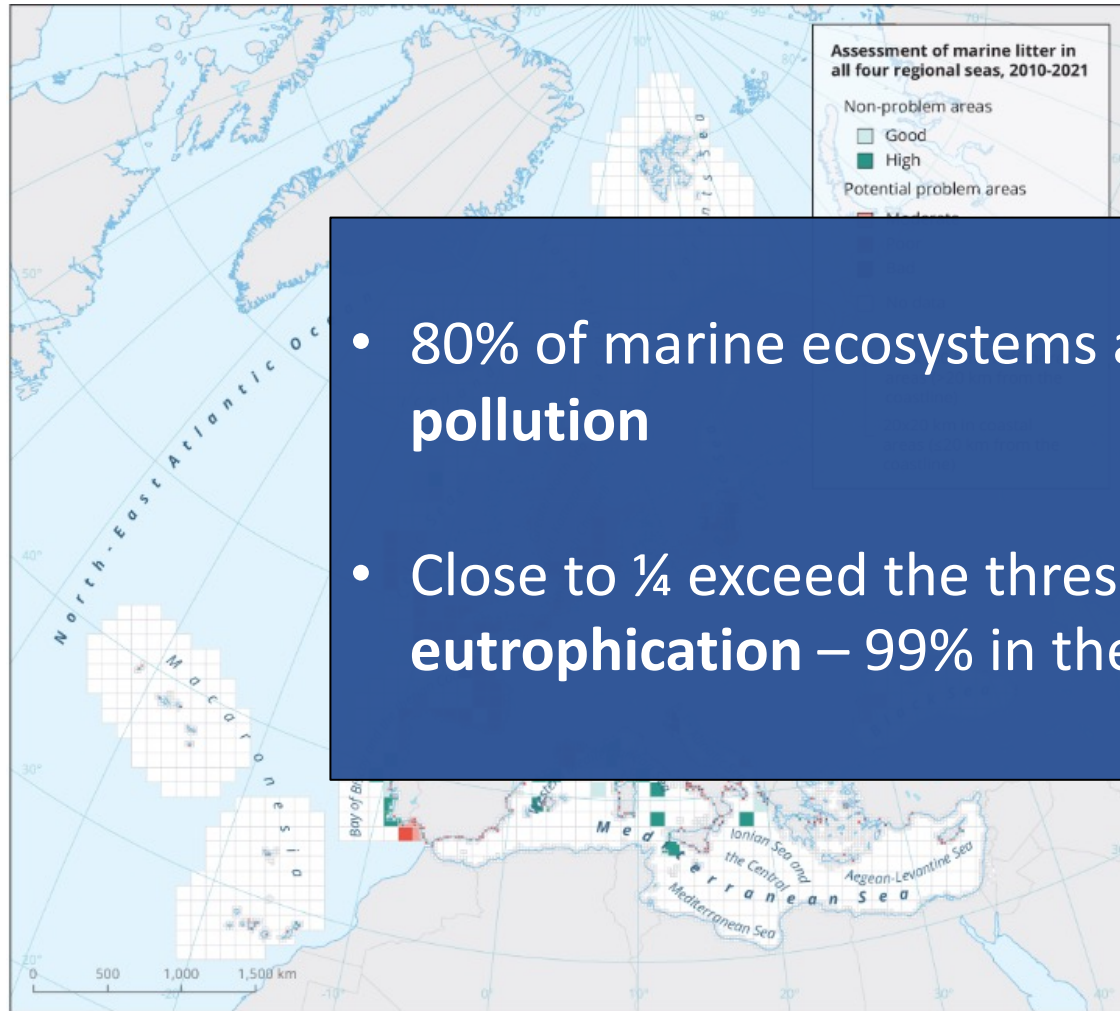
- **Progress in reducing acidification** - thresholds for acidification of ecosystems were exceeded in only 4% of the European ecosystem in 2020



5%



Marine - plastic pollution in Europe's seas



Assessment of marine litter in all four regional seas, 2010-2021

- 80% of marine ecosystems are problem areas due to **chemical pollution**
- Close to $\frac{1}{4}$ exceed the threshold for **nutrient enrichment and eutrophication** – 99% in the Baltic Sea

75% of European marine areas are potential problem areas due to marine litter

85% of the Baltic sea
78% of the North-East Atlantic Ocean

- 43% of the Mediterranean Sea
- 98% of the Black Sea

TARGET 5

Reduce plastic litter at sea by 50% and microplastics released into the environment by 30%

Current position/trend:
reducing trend for plastic litter at sea

No data for microplastic releases



-30%
-50%

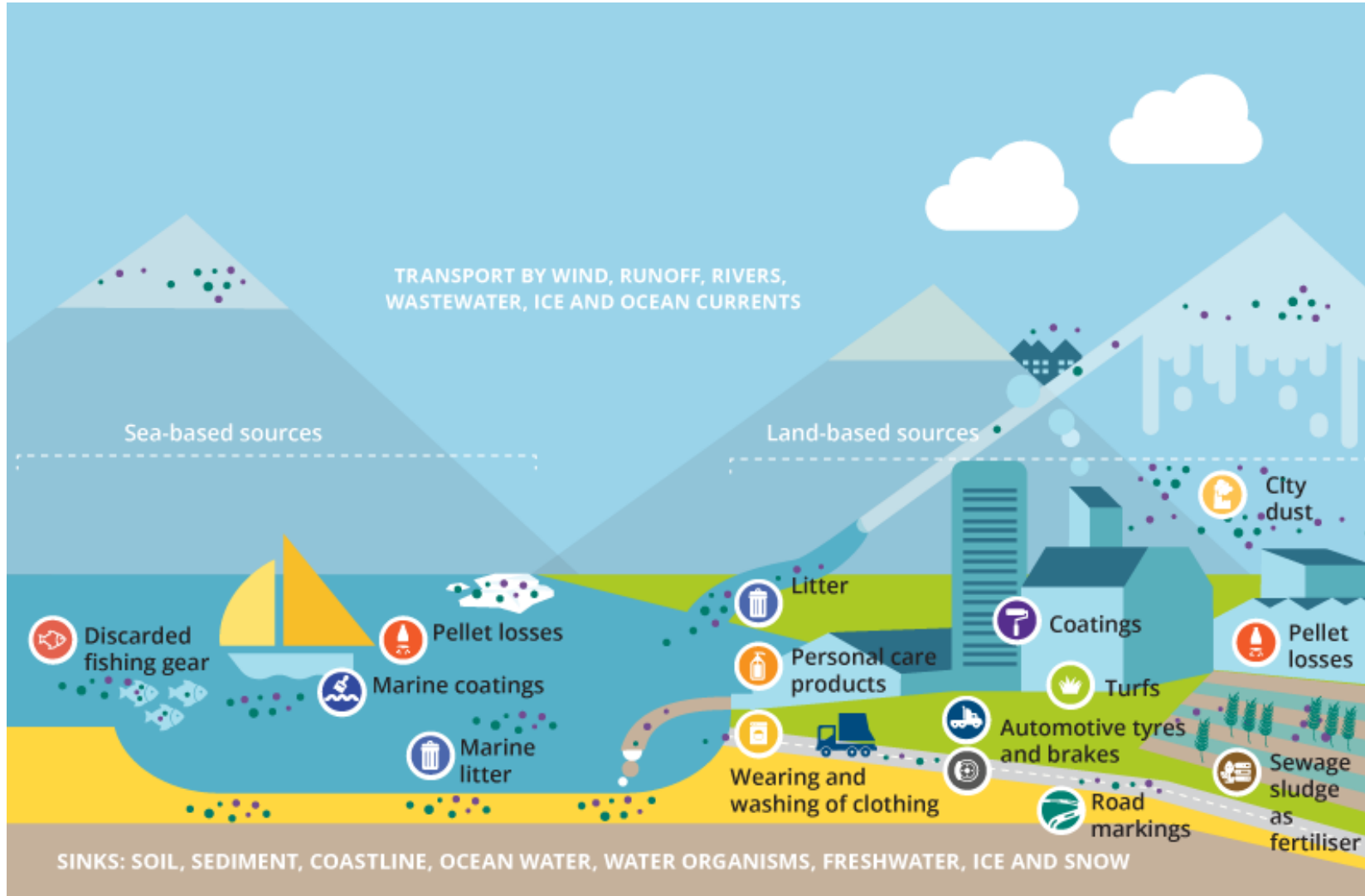
Uncertain



plastic pollution



Marine - sources and sinks of microplastics



TARGET 5 Reduce plastic litter at sea by 50% and microplastics released into the environment by 30%

Current position/trend: reducing trend for plastic litter at sea
No data for microplastic releases



Distance to target: uncertain
Baseline year: 2016

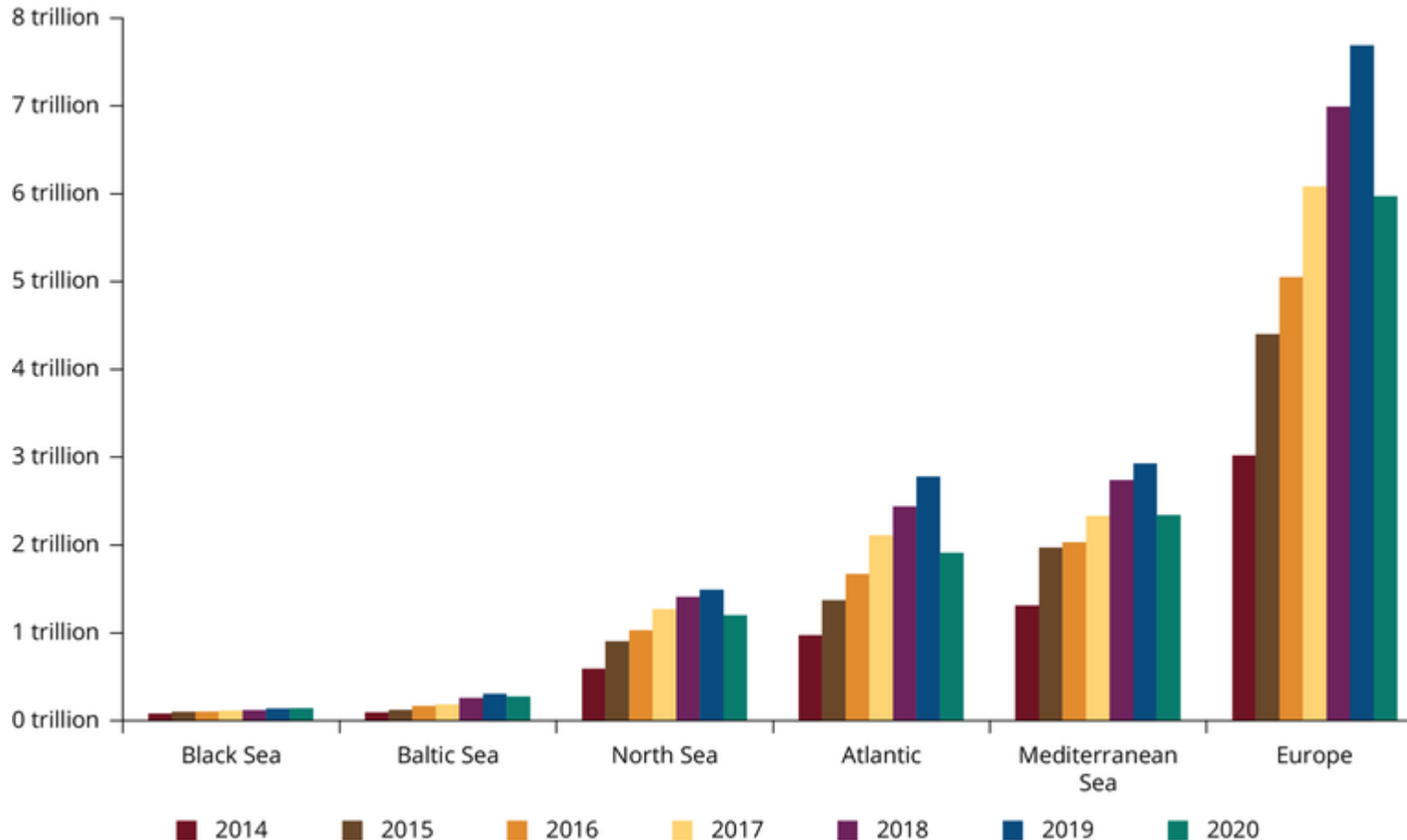
[Link to analysis on plastic pollution](#)



Marine - underwater noise pollution in Europe's seas

EU underwater noise energy by sea, 2014-2020

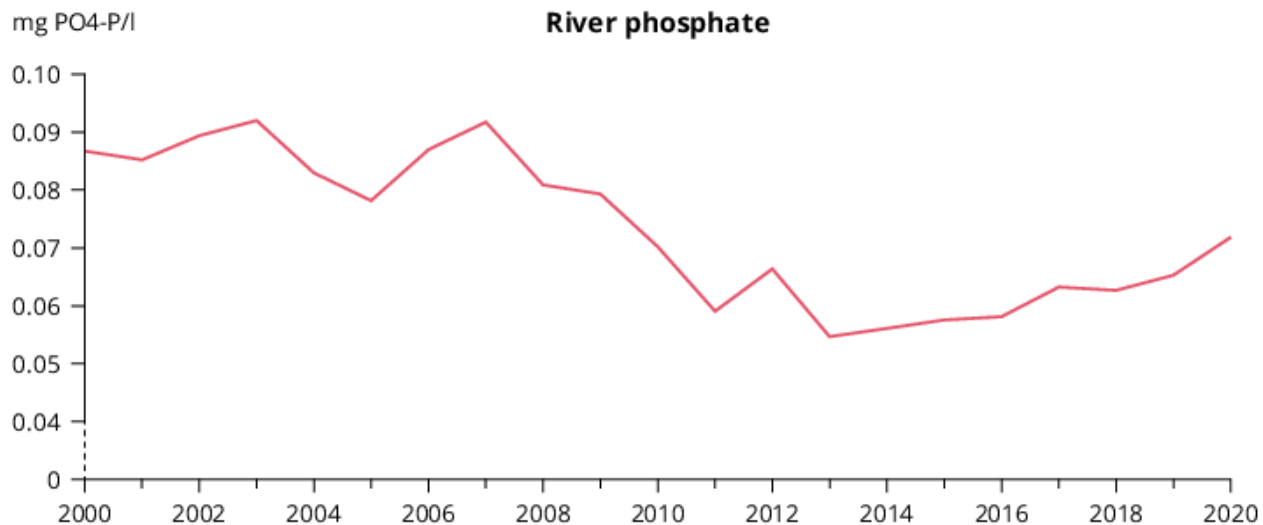
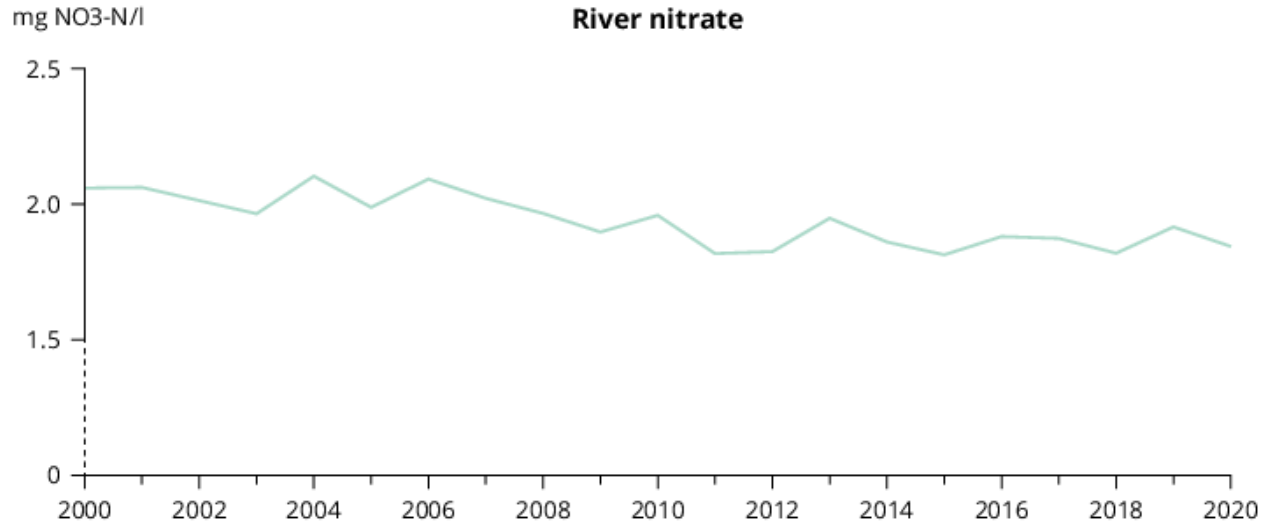
J/year (measured at 125 Hz)



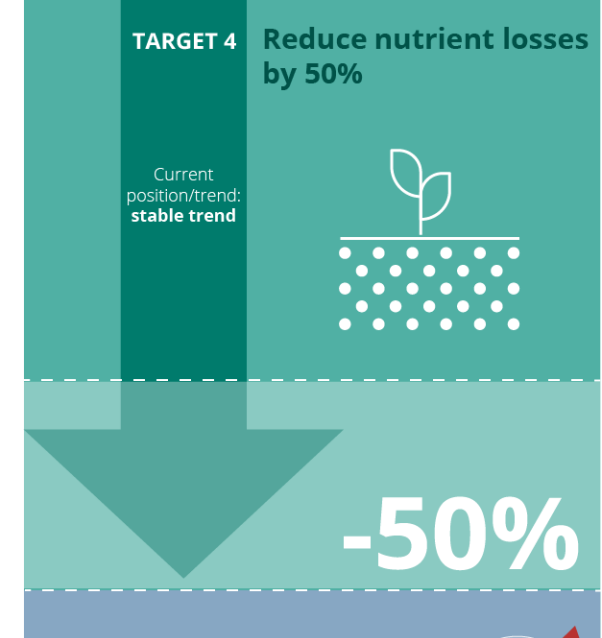
- Increasing levels of noise - ships are the main source
- 2020 drop due to reduced maritime traffic during the pandemic
- 91% of Europe's seas exposed to continuous shipping noise
- 10% exposed to high density shipping
- Affects marine species, especially cetacean mammals



Freshwater - nutrients in rivers in the EU27



[EEA, 2022](#)



- Nitrate levelling off over the past decade
- Phosphates in rivers **on the rise**
- Key sources **agriculture and effluent discharges**



Freshwater - exceedances of the drinking water standard for nitrates in groundwater

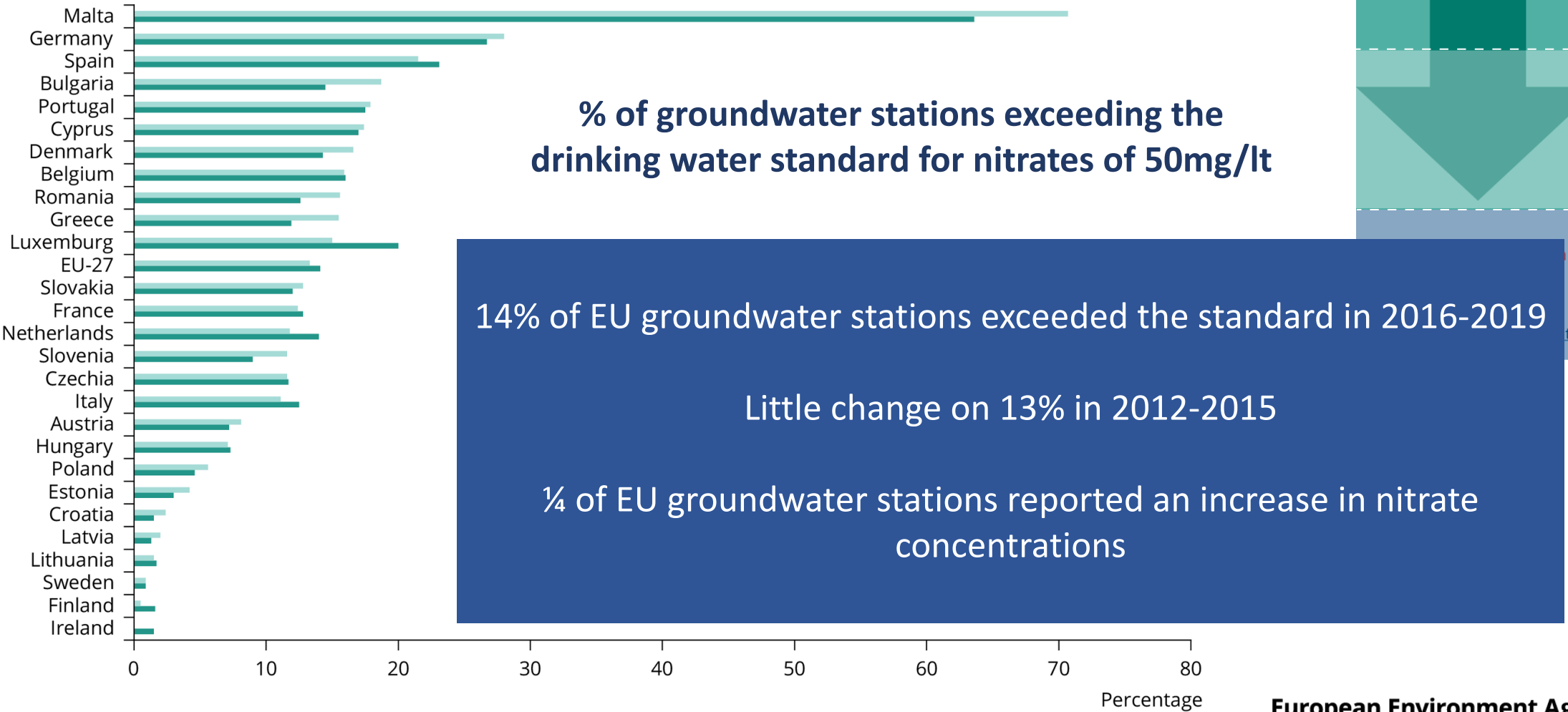
TARGET 4 Reduce nutrient losses by 50%

Current position/trend: **stable trend**

-50%

on track

at losses



Surface water bodies failing to achieve good chemical status by river basin district

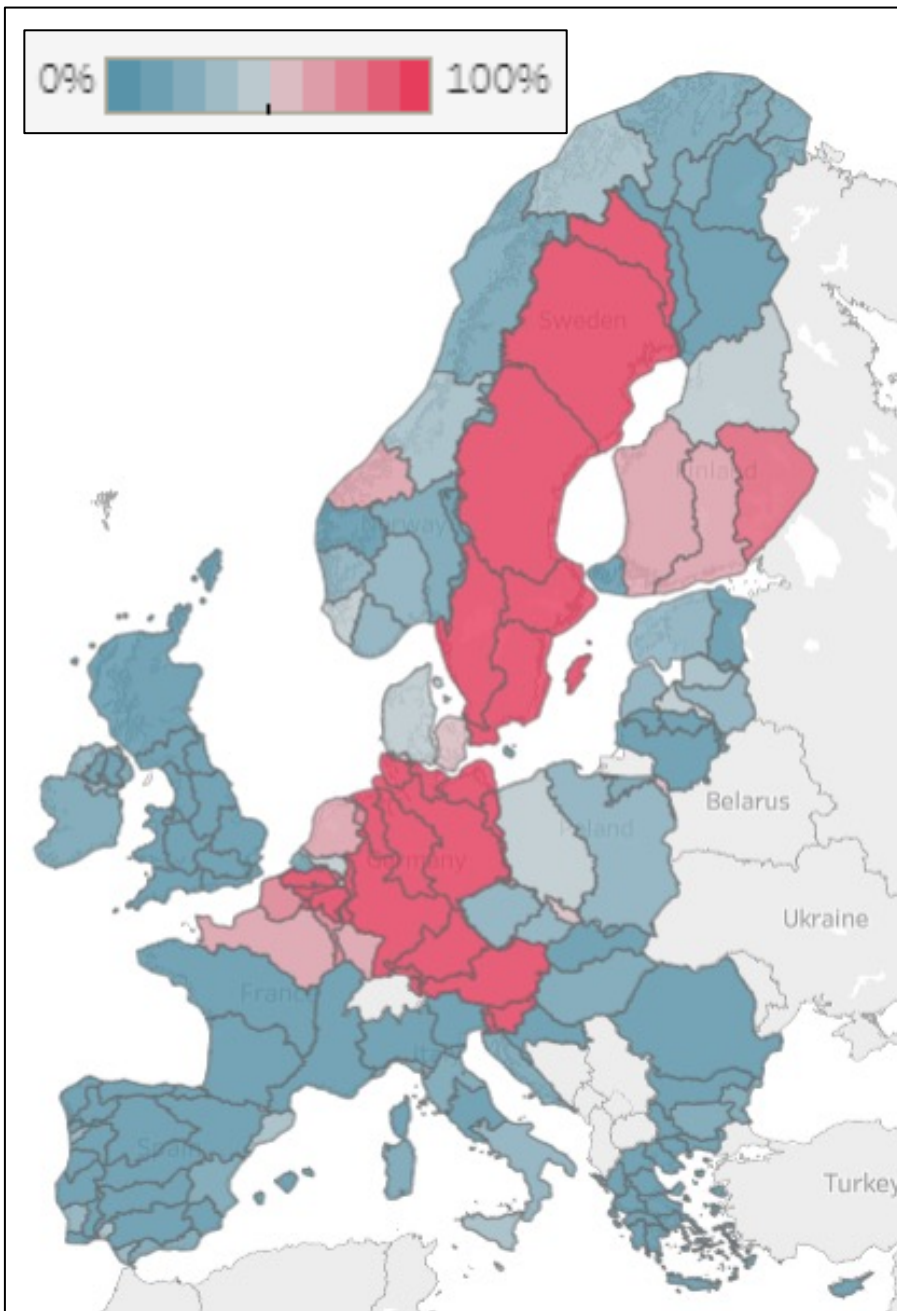
2nd river basin management plans

42% of water bodies have achieved good chemical status

- Mainly due to a few ubiquitous, persistent, bioaccumulative and toxic substances
- If excluded, only 3% of sites non-compliant

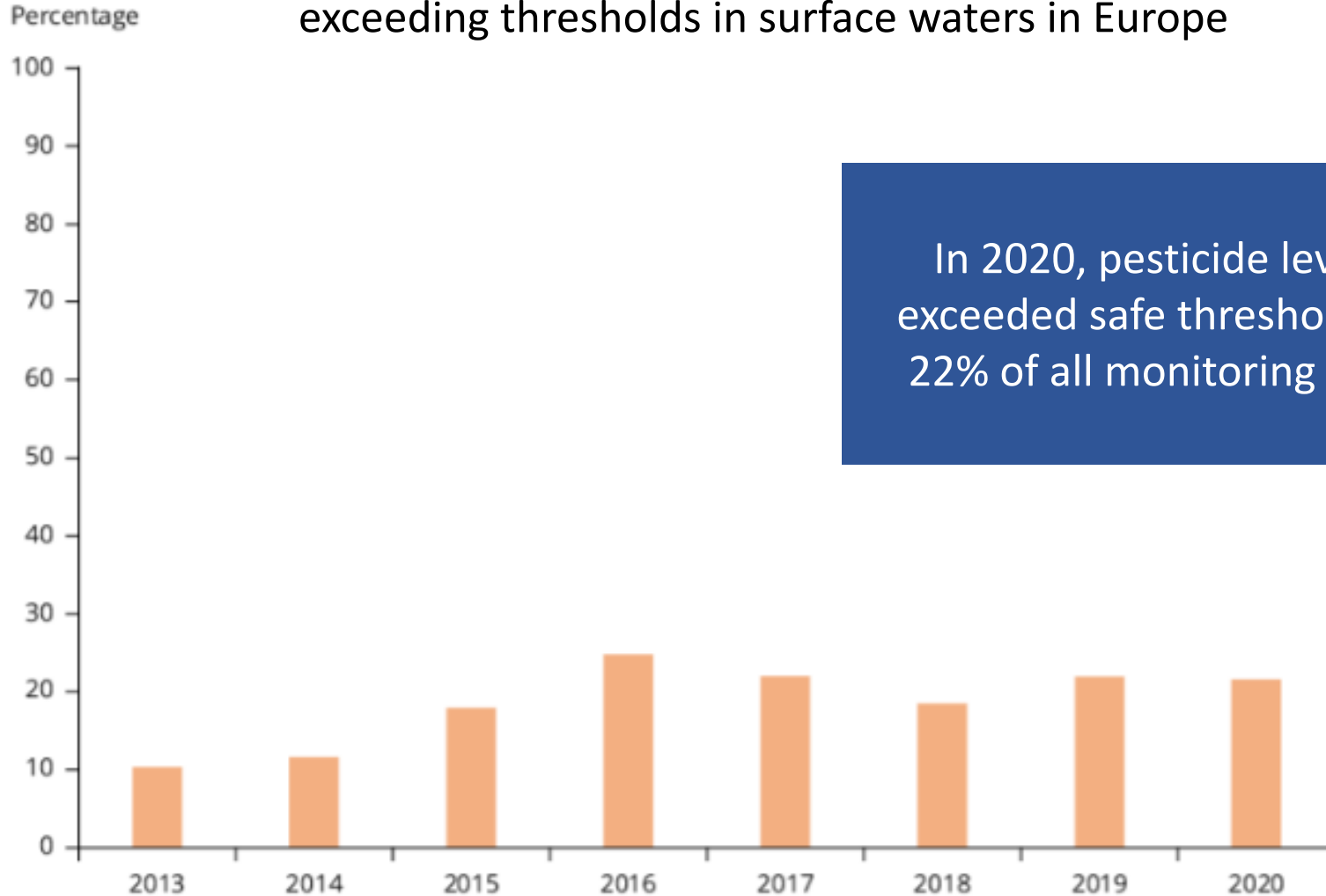
Groundwater:

- 23% by area of groundwater bodies in the EU27 have poor chemical status
- Agriculture is the most common source — affecting 19% of the total EU groundwater area



Pesticides in surface waters in Europe

Percentage of reported monitoring sites with pesticides exceeding thresholds in surface waters in Europe



In 2020, pesticide levels exceeded safe thresholds in 22% of all monitoring sites

[EEA, 2022](#)

TARGET 4

Reduce the use and risk of chemical pesticides by 50%

Current position/trend: (2020 data)

-14%
reduction



-50%

Distance to target: **on track**
Baseline year: 2015-2017

[Link to analysis in production section](#)

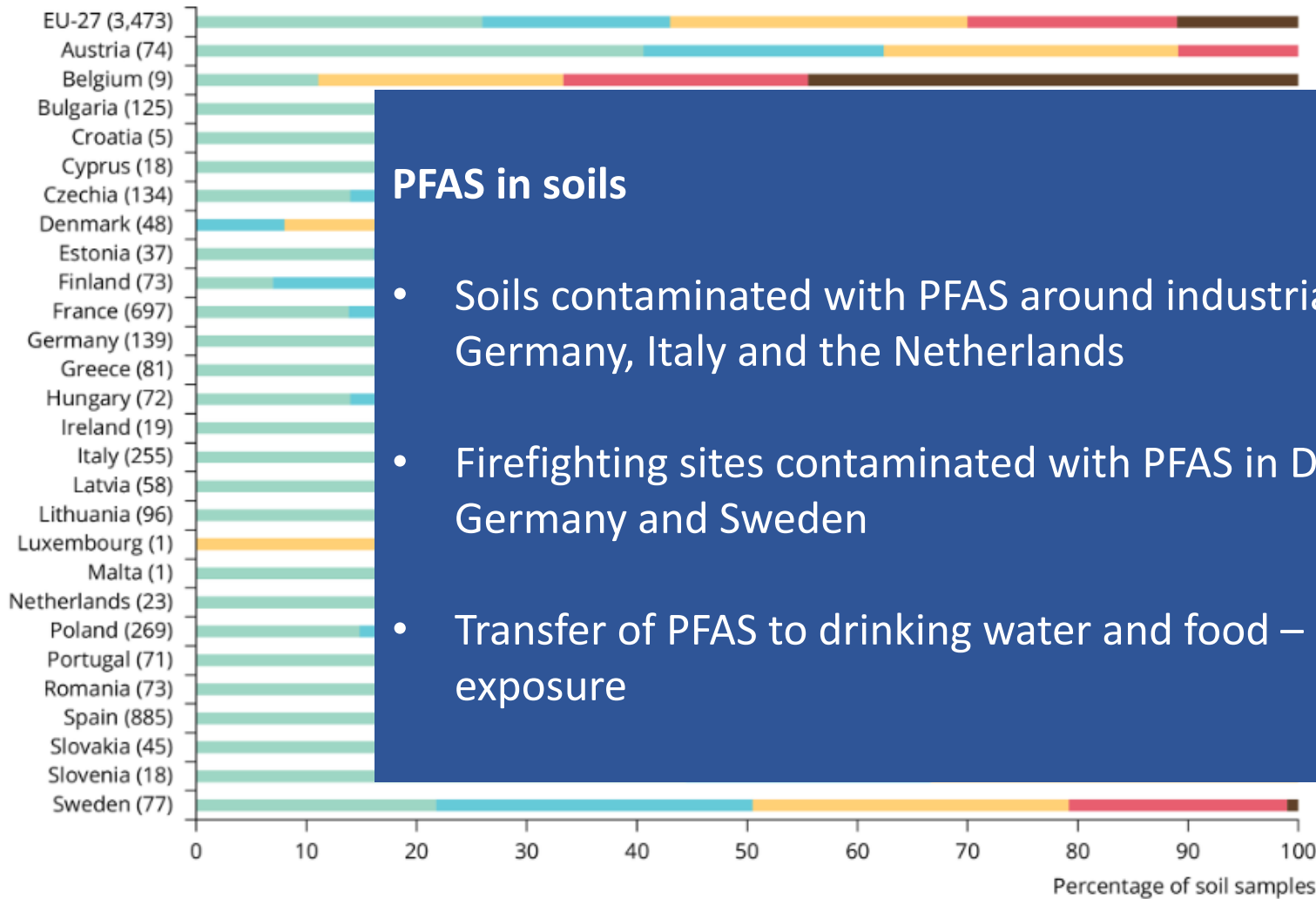


European Environment Agency



Soils - pesticides in soils

Pesticide incidence by country



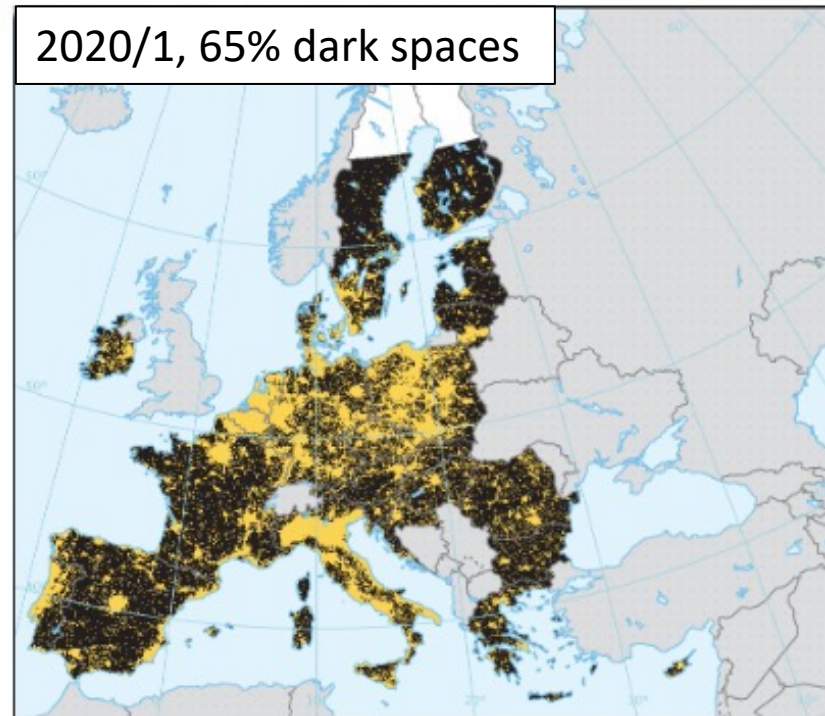
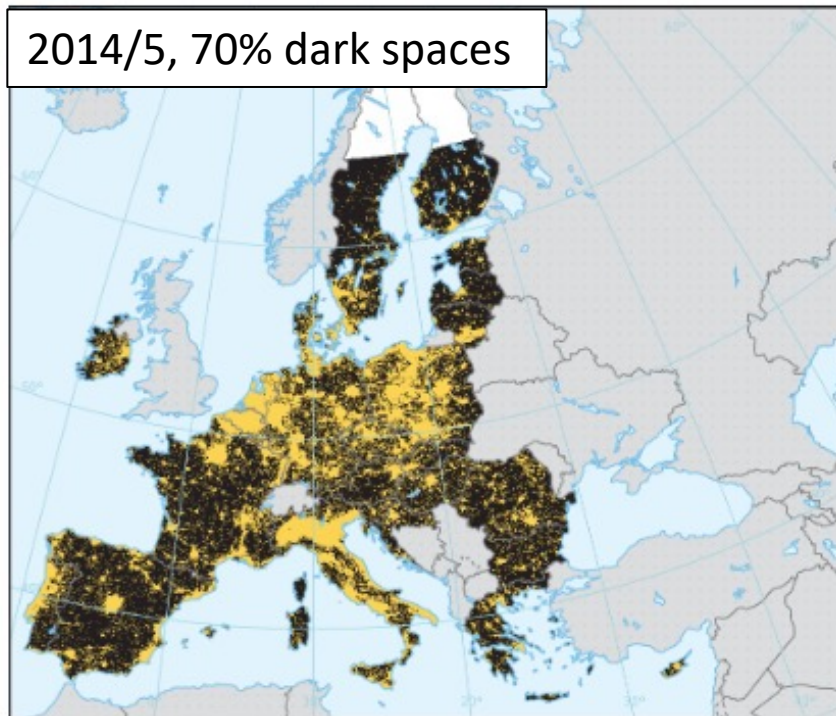
PFAS in soils

- Soils contaminated with PFAS around industrial sites in Belgium, Germany, Italy and the Netherlands
- Firefighting sites contaminated with PFAS in Denmark, Finland, Germany and Sweden
- Transfer of PFAS to drinking water and food – leading to human exposure

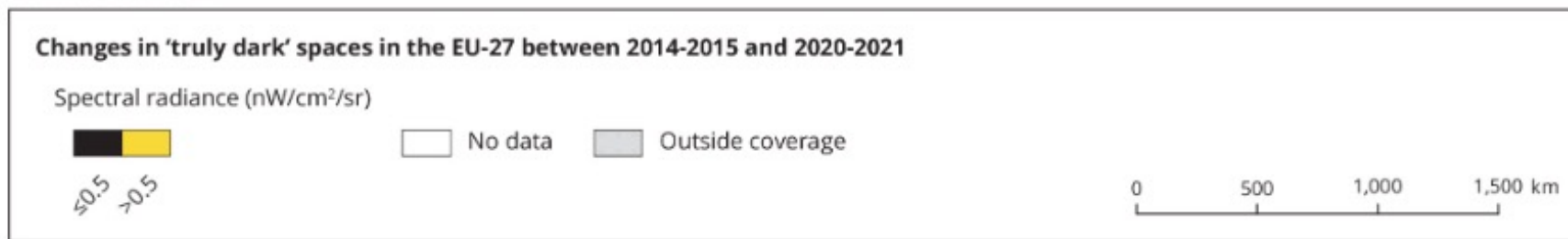
...d from across EU
 ...ntained
 ...esticide
 ...res of two or
 ...s

■ No incidence: 0 plant protection products (PPPs)
 ■ Low incidence: 1 PPP
 ■ Medium incidence: 2-5 PPPs
■ High incidence: 6-10 PPPs
 ■ Extreme incidence: >10 PPPs
 () Number of samples

Light pollution – impacts on wildlife and human health



Reference data: ©ESRI



Changes in 'truly dark' spaces in the EU-27 between 2014-2015 and 2020-2021

- Light pollution can have a significant impact on ecosystems and human health
- Truly dark spaces shrank by 5% between 2014-2015 and 2020-2021

Final reflections

- Majority of **marine ecosystems contaminated** with chemical pollution and plastic litter
- **Slow progress to reduce impacts of air pollution** - 75% of ecosystems at risk of eutrophication
- Reducing water pollution has slowed – **chemical pollution of surface waters** remains a concern while majority of groundwater in good status
- **Agriculture** accounts for 48% of pollution-related pressure on ecosystems
- **Climate change** interacts with pollution to impact biodiversity
-and is putting pressure on agriculture - increased demand for fertiliser and pesticides
- **Persistent pollutants contaminate soils**, further monitoring is needed to support risk management





Thank you

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