Thematic Discussion:
Changing context for Environmental Risk Assessment
EEA activities

75th MEETING OF THE EFSA ADVISORY FORUM

Xenia Trier, Caroline Whalley, Andrus Meiner

European Environment Agency

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European Environment Agency

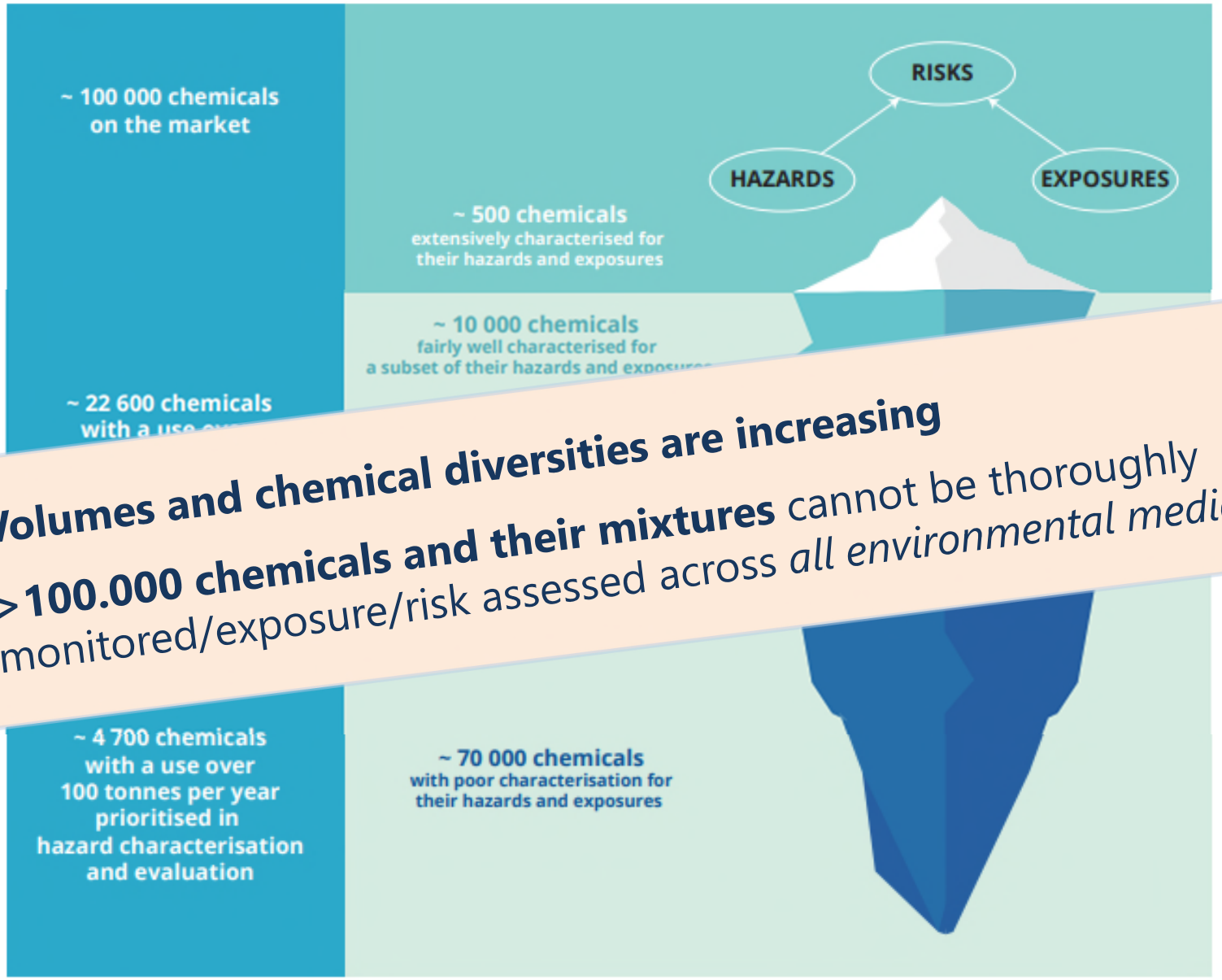
Systemic view on chemicals

- **Chemical pollution due to human activities** in the technosphere and ecosphere
- **Point/diffuse sources**
- Human and ecological **impacts caused by the total burden of chemical mixtures** from combined sources
- Emissions occur across chemical and product **lifecycles**

Read our Report [Europe's environment – State and Outlook](https://www.eea.europa.eu/publications/soer-2020/chapter-10_soer2020-chemical-pollution/)
https://www.eea.europa.eu/publications/soer-2020/chapter-10_soer2020-chemical-pollution/

#SOER2020

SOER2020: Part II, Chapter 10: Chemical pollution



- **Volumes and chemical diversities are increasing**
- **>100.000 chemicals and their mixtures** cannot be thoroughly monitored/exposure/risk assessed across *all environmental media*

Coherent chemical governance needed for > 40 legislations

Considering:

- **Total burden of chemicals/mixtures**: Legacy and current emissions
- **Circular economy** => changed exposure pathways
- Feasibility of implementation => pragmatic approaches for mixtures?
- **Upstream prevention most effective**: Safe-by-design, reduced uses

- **Emerging risk detection**: Focus on high risk chemicals, sampling near emission points, and for sensitive areas/species
- Increase knowledge on the **links between chemical pressures/states and environmental impact**?

Risk factors for environmental impact?

Chemicals with high risk characteristics

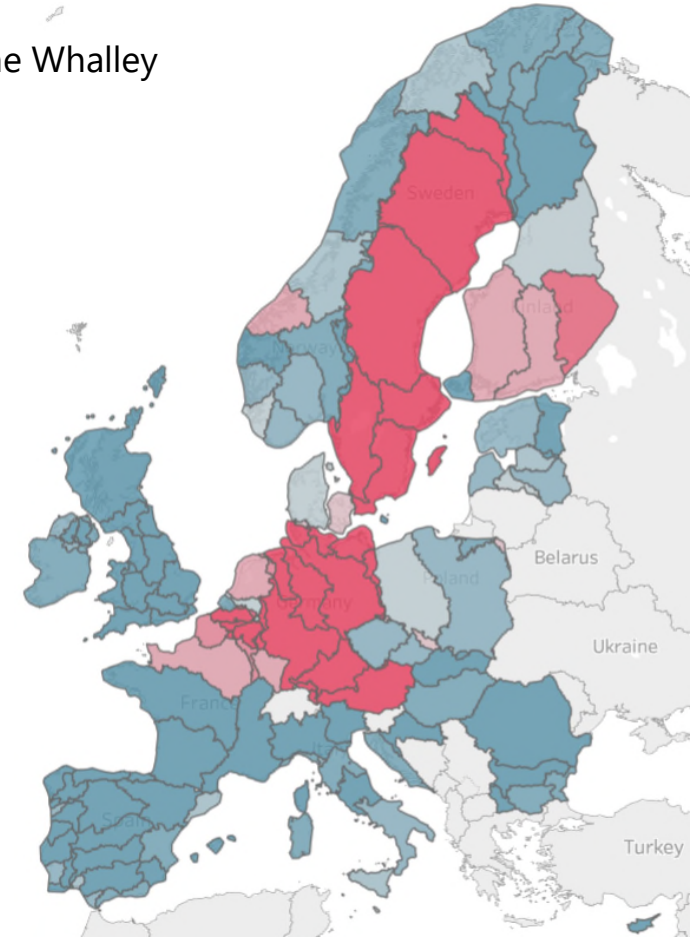
- continuous influx, e.g. fertilisers, pesticides
- toxic, persistent, bioaccumulative, mobile

Type of land where chemicals are applied

- **Sensitive areas**, e.g.
  - release from agricultural lands to rivers, fishing areas, near drinking water extraction
  - areas with aquatic/terrestrial endemic species
- **Sensitive soils**
  - limited retention capacity
  - continuous application of chemicals (=> accumulation)

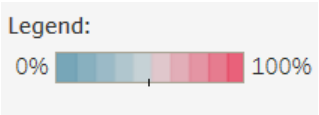
Caroline Whalley

Chemicals in water – Reporting to EEA



Chemical status 143,655 surface water bodies

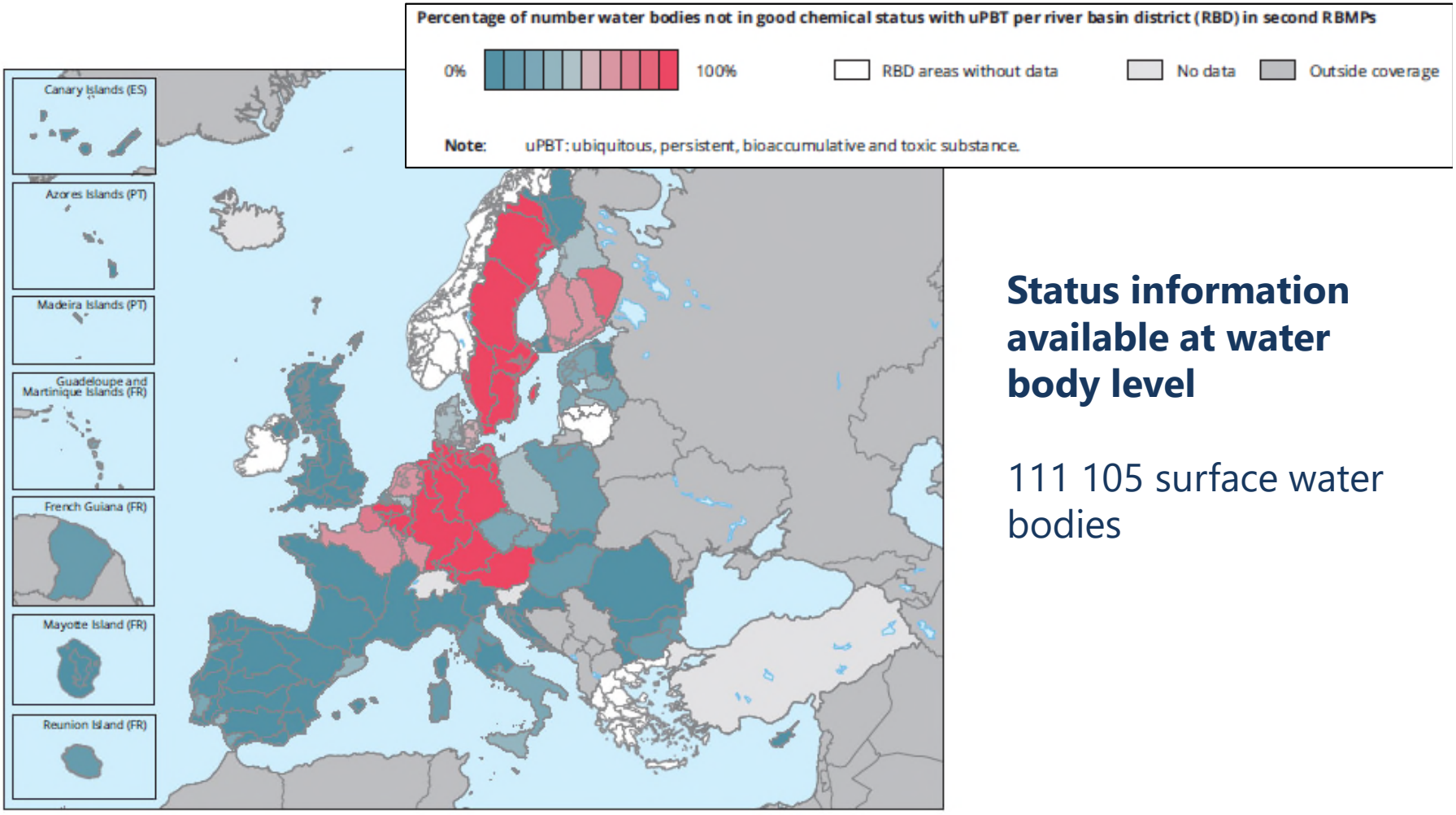
Proportion of Member States failing to achieve good chemical status, 2nd River Basin Management Plans, Water Framework Directive



Reporting on water to EEA

- **Water Framework Directive** – status information; watch list
- **Bathing Water Directive** – microbiological focus
- **Drinking Water Directive (old)** – concentrations at tap
- **Urban Waste Water Treatment Directive** – minimum treatment levels to protect human health and the environment
- **WISE-SoE** – concentrations: EEA countries; variable levels of reporting

Chemical status of surface water bodies in EU



Status information available at water body level

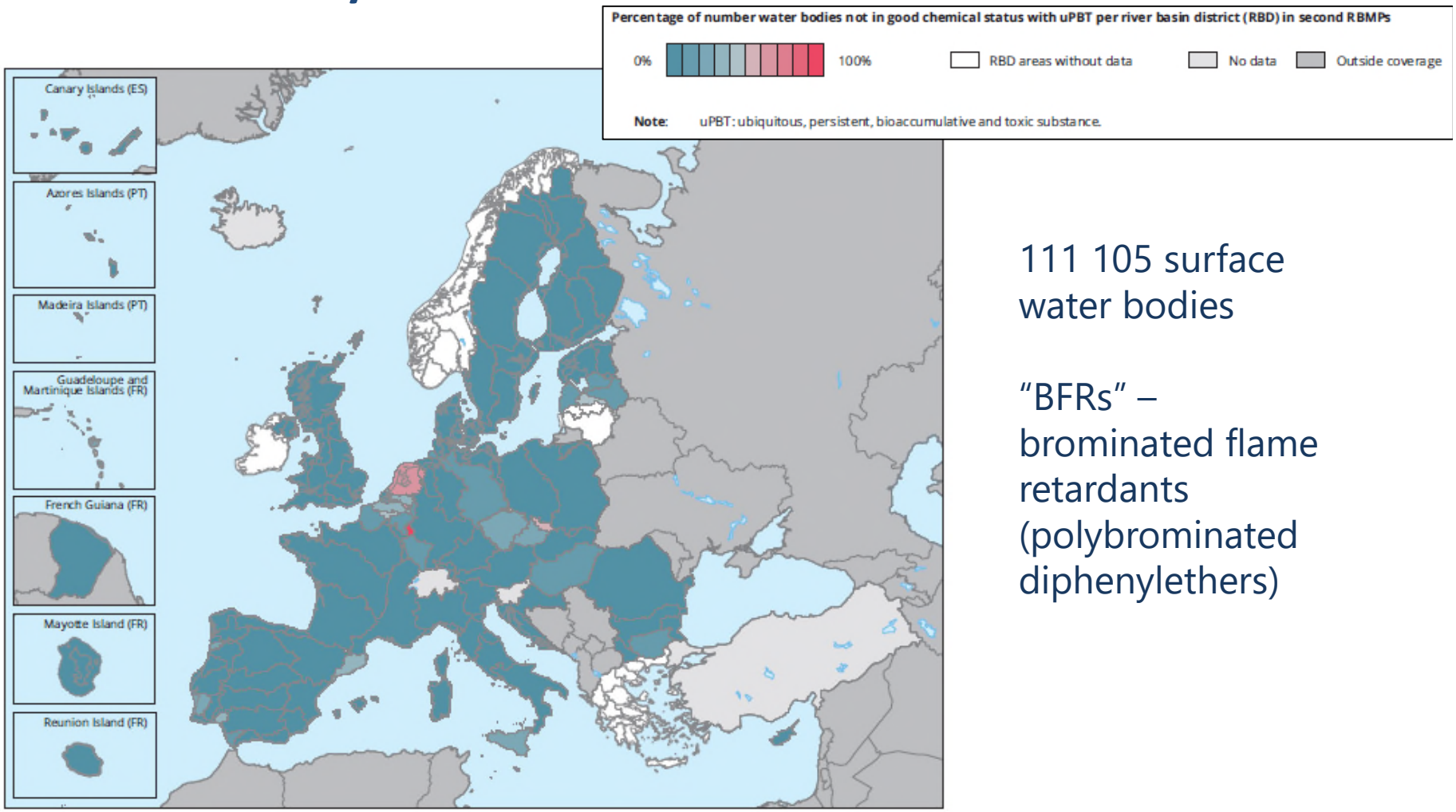
111 105 surface water bodies

Caution: There were different approaches towards the monitoring and reporting of mercury, which makes it difficult to compare results between countries

European Waters – assessment of status and pressures 2018, EEA

Chemical status of surface water bodies in EU –

without mercury or BFRs



111 105 surface water bodies

"BFRs" – brominated flame retardants (polybrominated diphenylethers)

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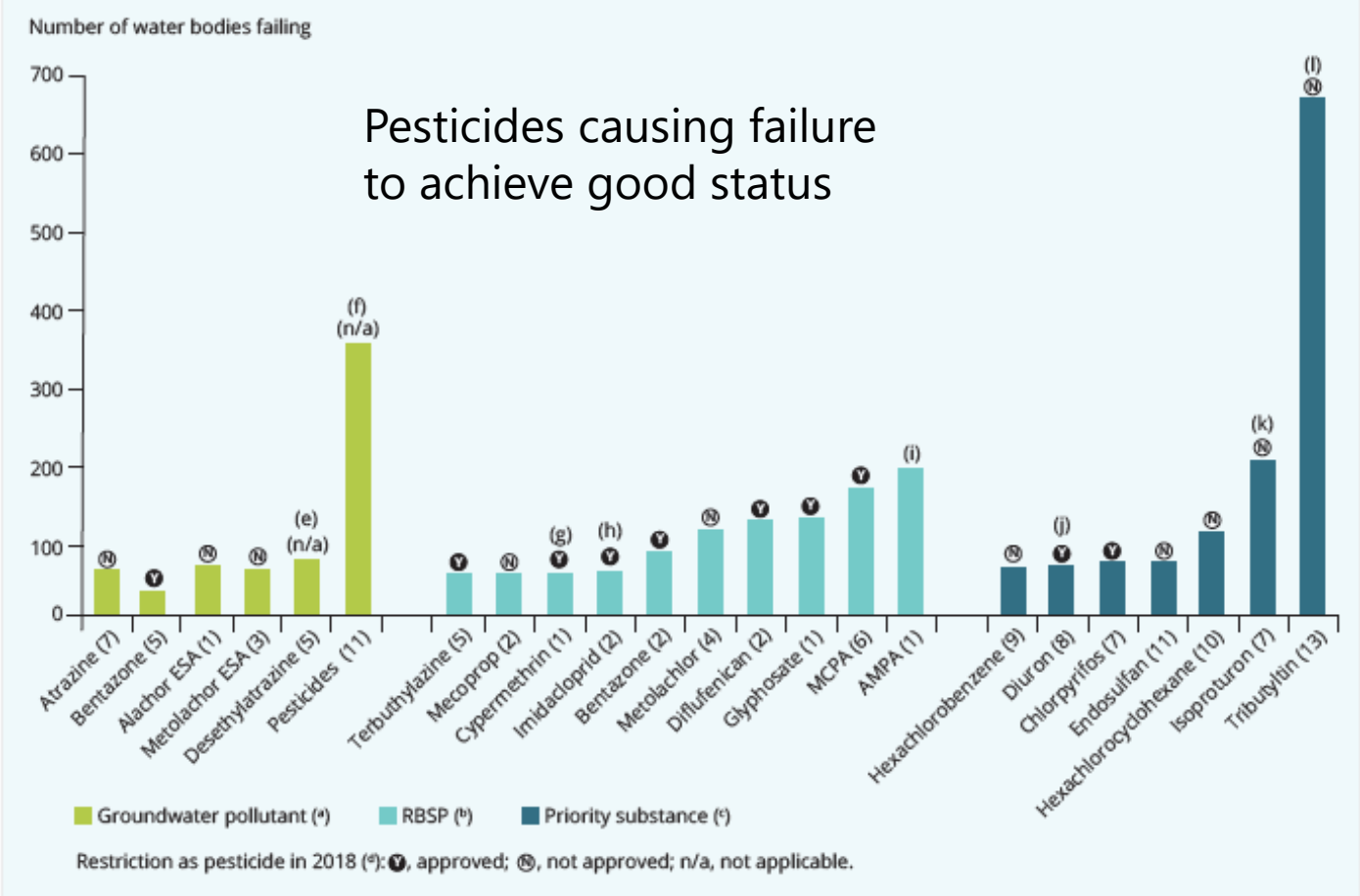
European Waters – assessment of status and pressures 2018, EEA

Pesticides and chemical status



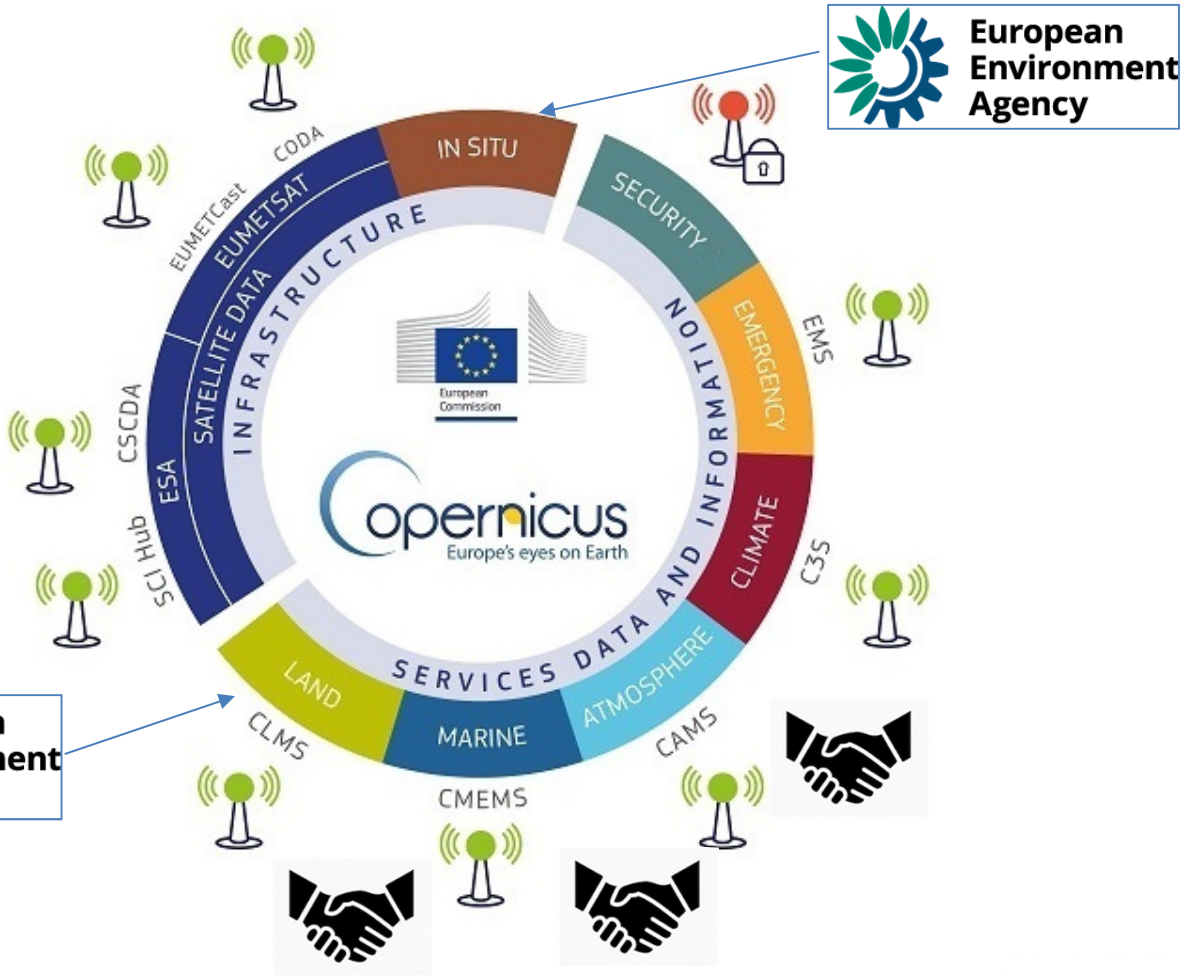
No. of water bodies

- Surface waters - out of 111 105 surface water bodies
- Groundwaters - out of 13 411 groundwater bodies.

2nd RBMPs, 25 Member States

https://www.eea.europa.eu/publications/chemicals-in-european-waters

Copernicus data infrastructure and role of EEA



[Copernicus land monitoring portal](https://land.copernicus.eu/)

European Environment Agency

https://land.copernicus.eu/

Example: Land data on sustainable urban environment

Recent EEA outputs involving land data

EEA assessments / indicators embedding land cover data and analysis

- Why does Europe need to limit climate change and adapt to its impacts? – regional analysis of impacts requires land data.
- EU launches new Forest Information System to improve knowledge on forests and woodlands – forest land cover in Europe.
- Protecting Europe's land and soil resources is fundamental for a sustainable future – key trends in land and soil resource management.
- How to measure the condition of Europe's ecosystems? – land cover is a key proxy data for assessing Europe's ecosystems.
- EEA indicator Landscape fragmentation – measuring impact on transport infrastructure and urbanisation on ecosystems.
- Better planning and methods needed to restore nature – territorial/land aspects of green infrastructure.

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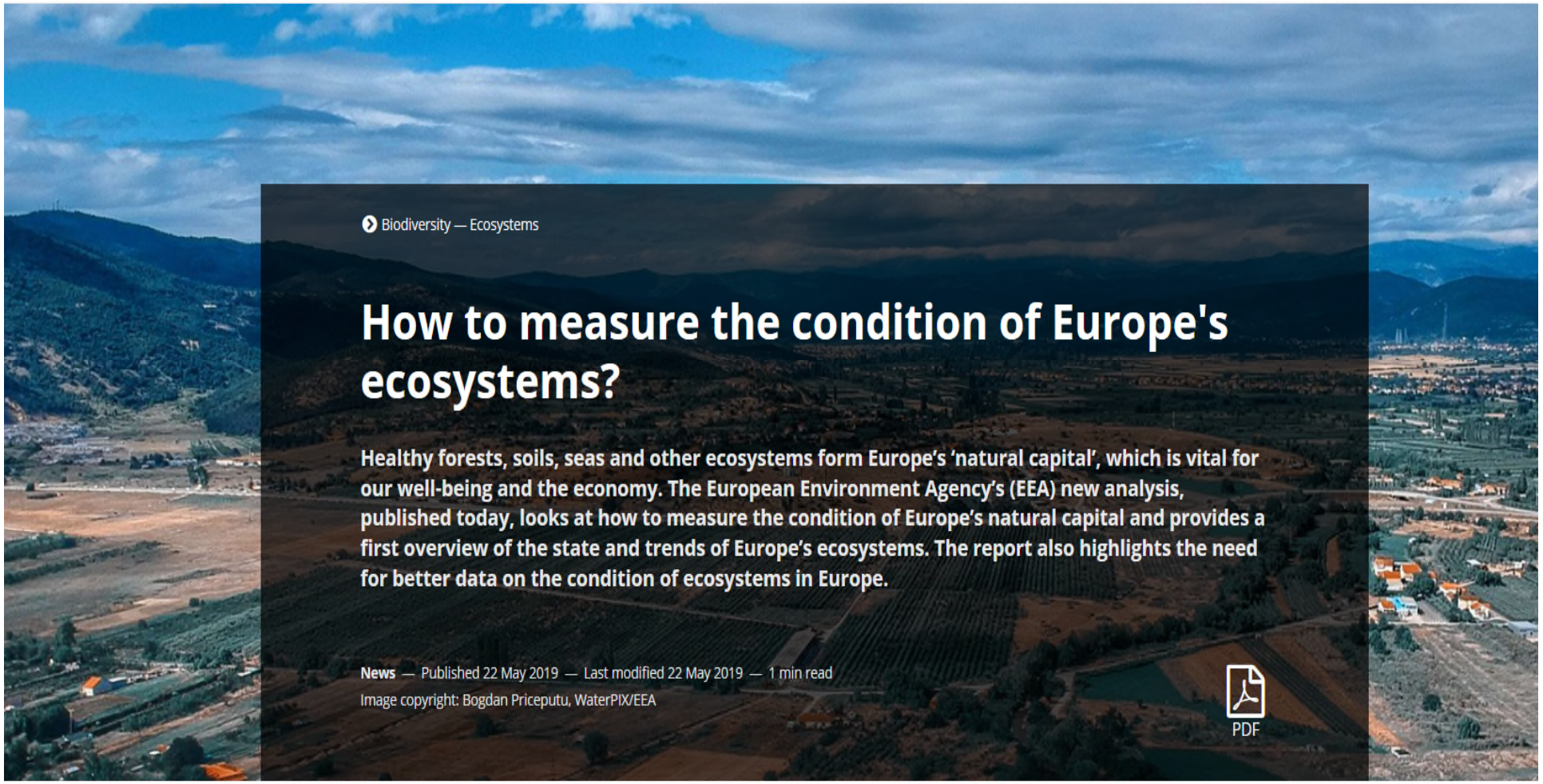

Biodiversity — Ecosystems

How to measure the condition of Europe's ecosystems?

Healthy forests, soils, seas and other ecosystems form Europe's 'natural capital', which is vital for our well-being and the economy. The European Environment Agency's (EEA) new analysis, published today, looks at how to measure the condition of Europe's natural capital and provides a first overview of the state and trends of Europe's ecosystems. The report also highlights the need for better data on the condition of ecosystems in Europe.

News — Published 22 May 2019 — Last modified 22 May 2019 — 1 min read

PDF

The EEA report 'Natural capital accounting in support of policymaking in Europe' presents the EEA's work on natural capital accounting and discusses the use of such analysis in support of policymaking. The accounting methodology

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Land information by EEA: indicators, data and maps, interactive dashboards

Time-series data: EU-27 land cover status and change 1990, 2000, 2006, 2012, 2018 (Corine LC)

Summary

- **Chemical pollution**: A stressor that weakens ecosystem resilience – total mixture of accumulated chemicals cause impact
- **Emerging risk detection**: Focus on high risk chemicals, sampling near emission points, and for sensitive areas/soils/species
- Increase knowledge on the **links between chemical pressures/states and environmental impact**?

- Most **water data** reported to EEA follow EU or national reporting requirements, so…
- Formal reporting on water to EEA likely to be of limited value for horizon-scanning. **Country level information of value for ERA?**

- **Land use** information scattered across various national approaches, and no EU reporting => **Copernicus *land cover* data useful**
- Land use/cover data: Feed into policy relevant assessments that form the **basis for place-based response actions**
- In addition Copernicus data are harmonized => **monitoring of change over time**, and **progress towards policy objectives**

Thank you!

Questions?

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Contact information:

- Chemicals: Xenia Trier
  xenia.trier@eea.europa.eu
- Water data: Caroline Whalley
  caroline.whalley@eea.europa.eu
- Landcover data: Andrus Meiner
  andrus.meiner@eea.europa.eu