Monitoring chemical pollution across UK waters

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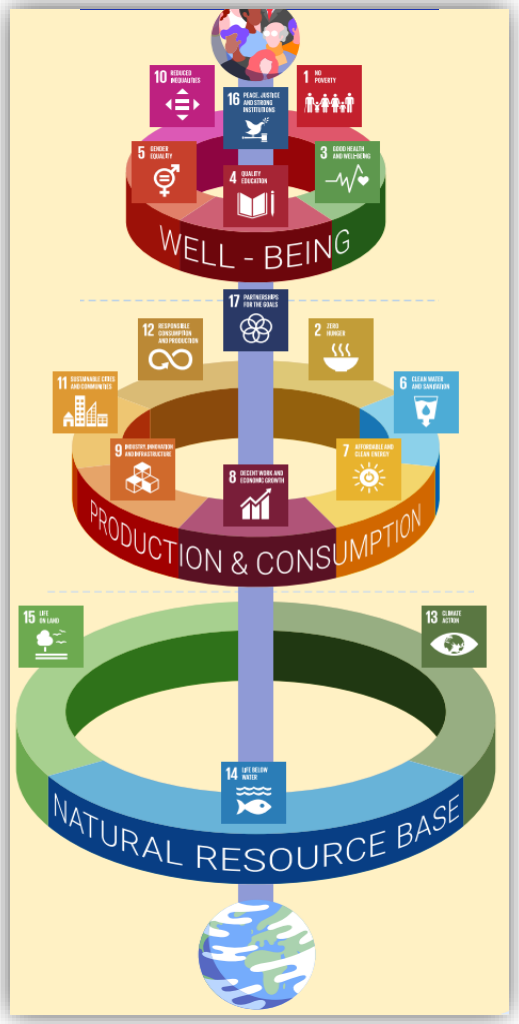
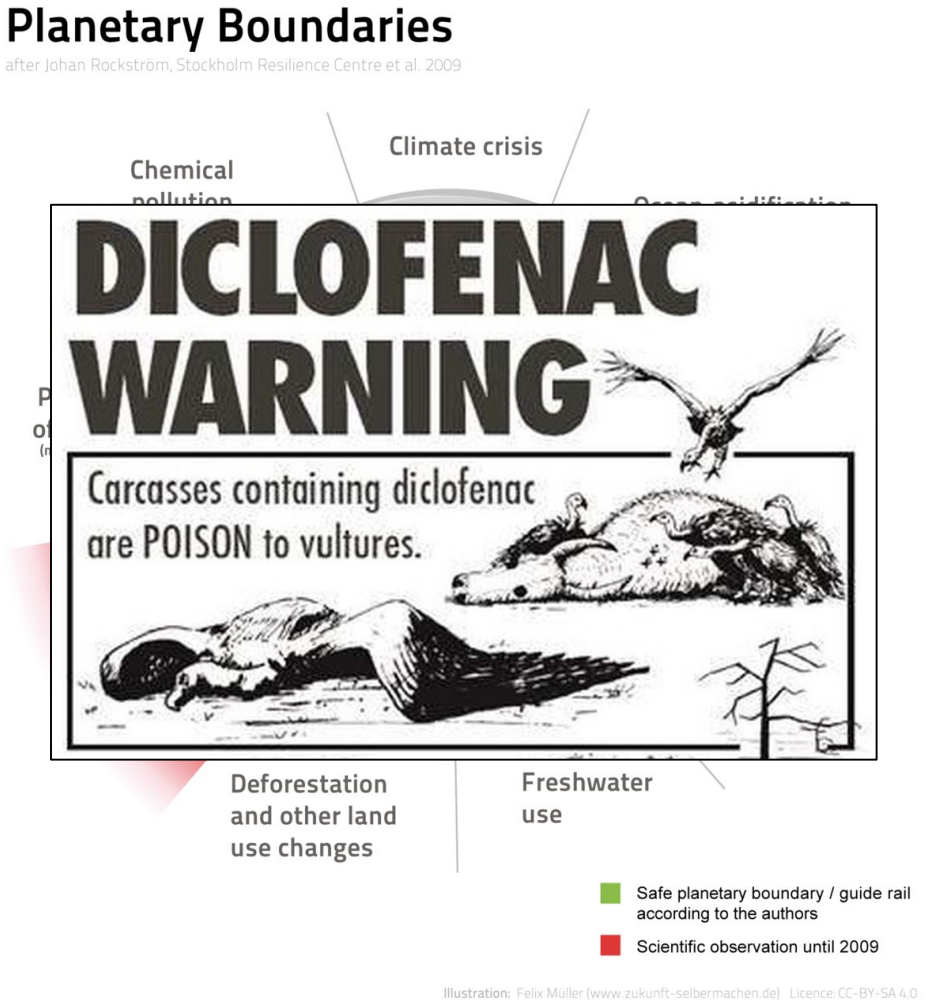
What are current global environmental emergencies?

"Humanity is waging war with nature" *António Guterres, UN Secretary General*

[Making Peace with Nature]





[Crossing the boundary for chemical pollution]

Why should we care about chemicals in the UK environment?

Ecological status for surface waters

Ecological status or potential	Bad	Poor	Moderate	Good	High	Total
Number of water bodies	137	794	2962	754	4	4651
Number of water body elements	637	2505	5019	5650	27150	40961

Chemical status for surface waters

Chemical status	Fail	Good	Total
Number of water bodies	4649	0	4649
Number of water body elements	10668	54540	65208

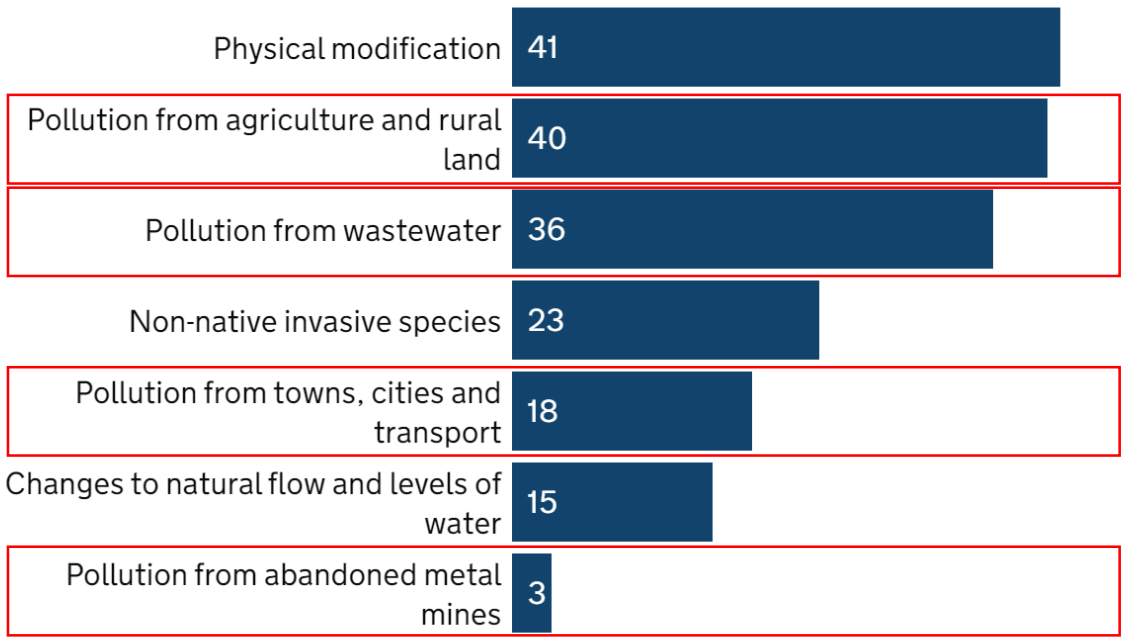
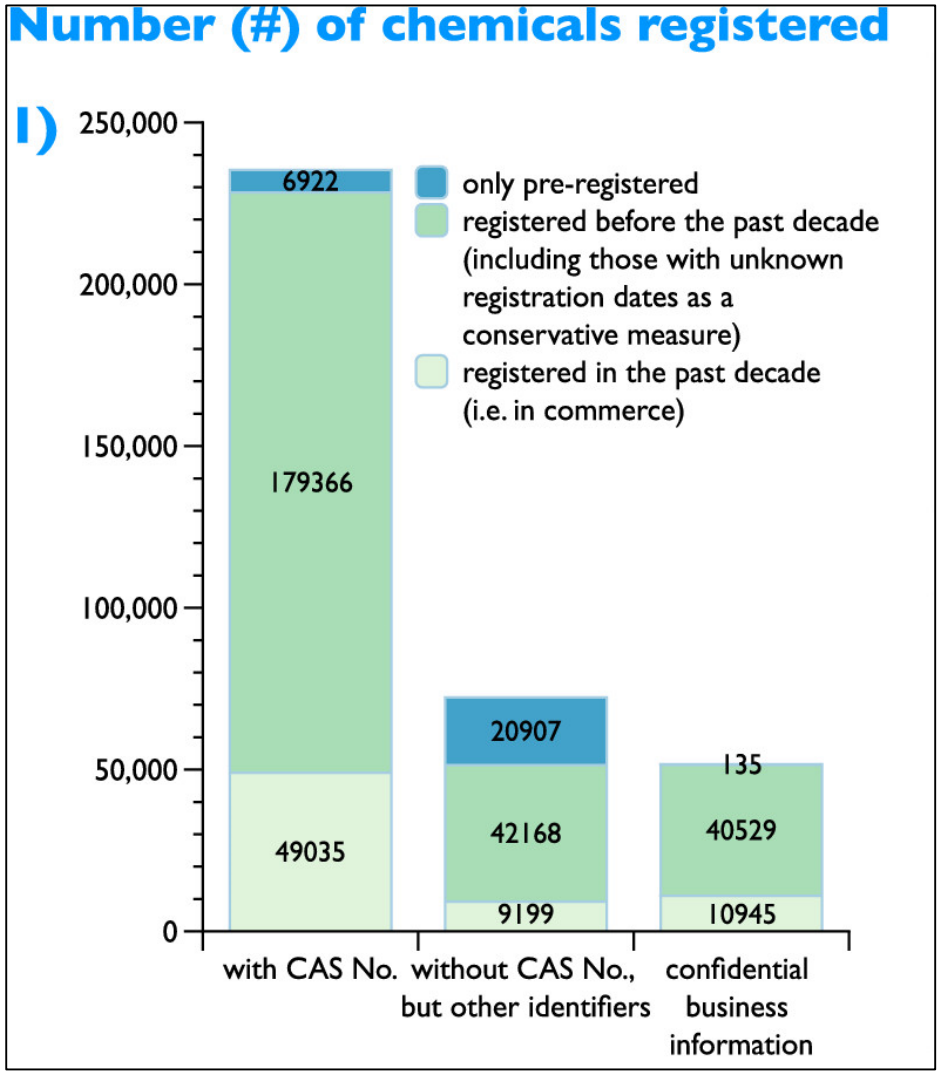
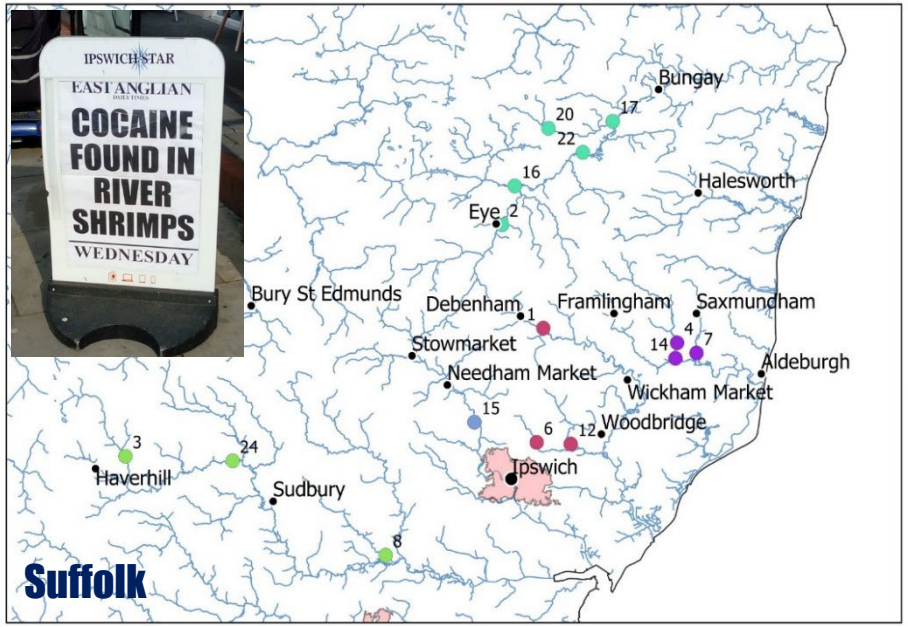


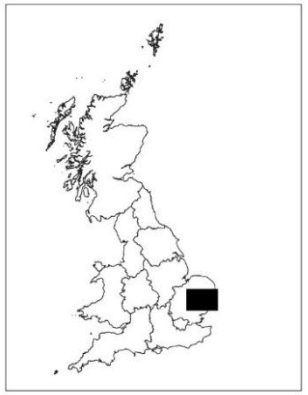
Figure 1: Top pressures impacting water bodies in England. Water bodies are commonly impacted by more than one pressure, so the totals do not add up to 100%.



[>350,000 Chemicals on the Global Market]

Monitoring of Chemicals in the UK





Catchments
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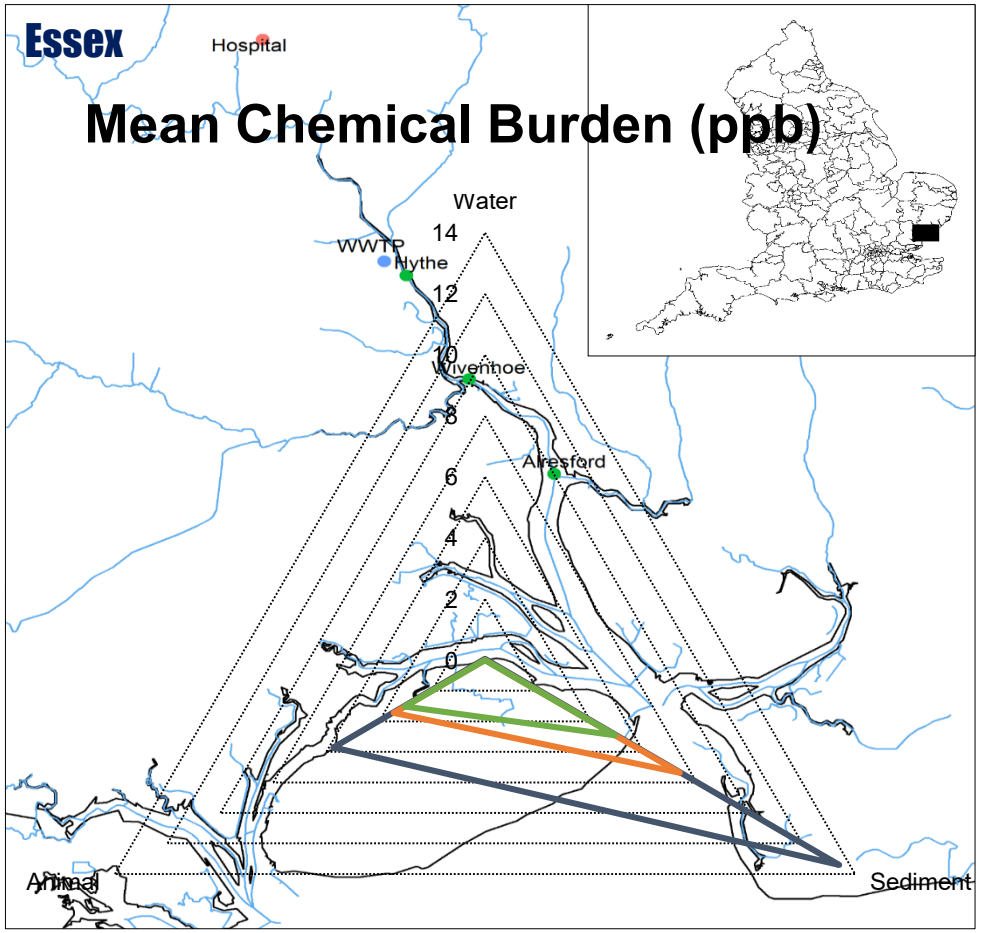
- Deben
- Gipping
- Stour
- Waveney



Monitoring of Chemicals in the UK








Mean Total Body Burden (ppb), Site: Hythe


Recommendations

- Our monitoring across the UK has revealed widespread chemical contamination for both legacy and emerging contaminants in water, sediment and wildlife.
  - Direct consequences for achieving Goal 1, 3 & 4 of the 25YEP

- UK is now an independent state and opportunities exist to smarten our water quality and biodiversity monitoring & assessment

- **Improve Monitoring**:
  - Increase routine monitoring across different compartments (esp. biomonitoring)
  - Expand lists of chemical targets for monitoring e.g. non-target screening (PEWS)
  - Coordinating with researchers involved in monitoring (data/knowledge exchange: B1, B3, H4 indicators)

- **Improve Ecological Assessments**
  - Increase our understanding of biological effects in rivers (PEWS)
  - Develop and invest in new tools & technologies (AI/ML, NAMs)

- **Address Training & Skills Gap**s:
  - Support training to future-proof skills in the UK

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Thank You

SCIEX The Power of Precision

CLEAN HARBOURS PARTNERSHIP

WATERSHED

BBSRC bioscience for the future