The National Emission Ceilings Directive

Monitoring air pollution impacts

NEC Directive

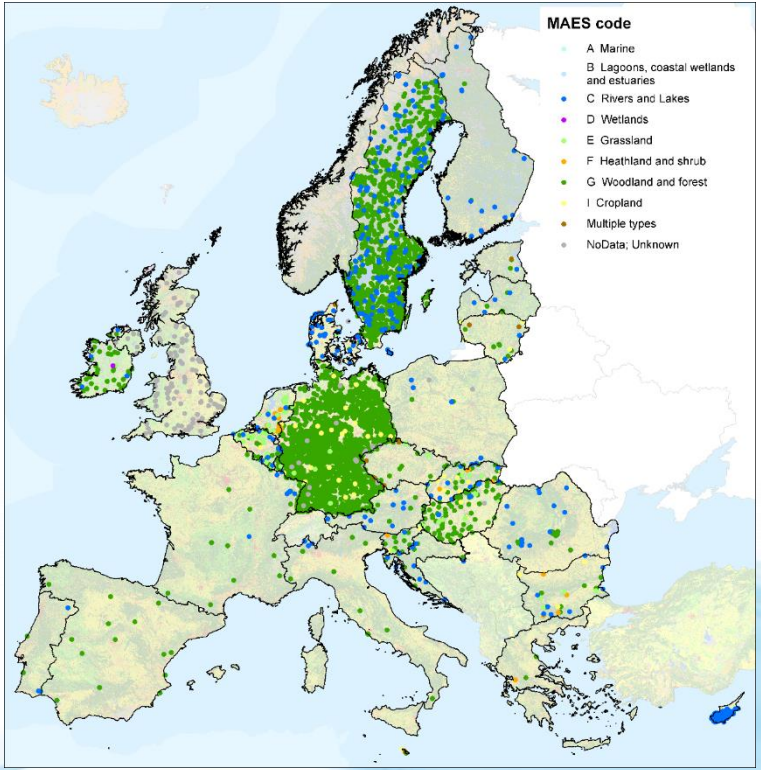
- Article 9: Monitoring
  - “monitoring of negative impacts of air pollution (…) network of monitoring sites that is representative”
  - “coordinate with other monitoring programmes” (WFD, CLRTAP)
  - Referring to ICP manuals
- Article 10: Reporting
  - “by 1 July 2018 and every four years thereafter, the location of the monitoring sites and the associated indicators ”
  - “by 1 July 2019 and every four years thereafter, the monitoring data”
- Annex V: Optional indicators

Guidance to the Member States

- Guidance document (ICPs involved)
  - Commission notice 2019/C 92/01
  - Recommendations for site selection
  - Recommendations for monitoring
    - Parameters, methods, frequency
- Reporting templates with specifications
- Ecosystem monitoring subgroup (ICPs involved)
  - Information exchange and advice

Reported monitoring sites 2018

- “For many countries, the number of monitoring sites does not well represent the area of the MAES ecosystems in the country. Especially ecosystem types that are sensitive to air pollution are underrepresented in the monitoring sites: heathlands, bogs and acid-sensitive grasslands.”
- Mainly sites from existing monitoring programmes



FIRST ANALYSIS OF ECOSYSTEM MONITORING AS REQUIRED UNDER ART 9 OF THE NECD, Wageningen Environmental Research, draft final report

Data reporting 2019

Guidance document

Rivers and lakes: Recommended additional parameters, biology under the ICP Waters

Details and further explanation can be found in the ICP Waters manual. The references are to chapters in the manual.

Measurement	Parameters	Frequency	Method	Data to be reported
Biological indicators of air pollution (acidification). Benthic invertebrates in rivers and lakes.	Presence/absence or relative abundances of particular groups/species	Seasonal to annual	Kick samples, littoral sampling or core samples. See Chapter 4. WFD methods are based on CEN and ISO-standards, and these are adequate.	Qualitative or quantitative data. http://www.icp-waters.no/data/submit-data/

Other groups such as fish, diatoms and periphyton can also be used as bio-indicators of acidification.

Reporting specifications

Biological parameters	Acidification index	
	Eutrophication index	
	Species diversity	
	Species abundance	
	Acidification invertebrates	Chapter 4., table 8 and table 9: http://www.icp-waters.no/publications/#icpwmanual
	Acidification diatoms	Chapter 5., table 11: http://www.icp-waters.no/publications/#icpwmanual
	Acidification fish	Chapter 6: http://www.icp-waters.no/publications/#icpwmanual
	Comments including deviations from WFD or ICP water protocol	WFD guidelines http://ec.europa.eu/environment/water/water-framework/facts_figures/guidance_docs_en.htm and ICP water http://www.icp-waters.no/publications/#icpwmanual

- ICP W manual
  - Sampling procedures – collecting raw data
  - Invertebrates: Some literature, Raddum I example
  - Diatoms: Some literature, inferred pH example
  - Fish: No suggestions for assessing acidification status based on fish

Discussion

- Which recommendations can we give?
  - How can we contribute to a further extension of the monitoring network?
  - How can we ensure better data reporting? Is there a need for a targeted revision of the manuals? Can the reporting templates be changed? Or is it all too late?
- How can we make use of the reported data?
  - The first evaluation will be done under an EEA Framework Contract
- Experiences from reporting under the NECD?