

Stéphane Isoard

Water and Marine – Head of Group

Stephane.Isoard@eea.europa.eu

The state of and threats to European waters

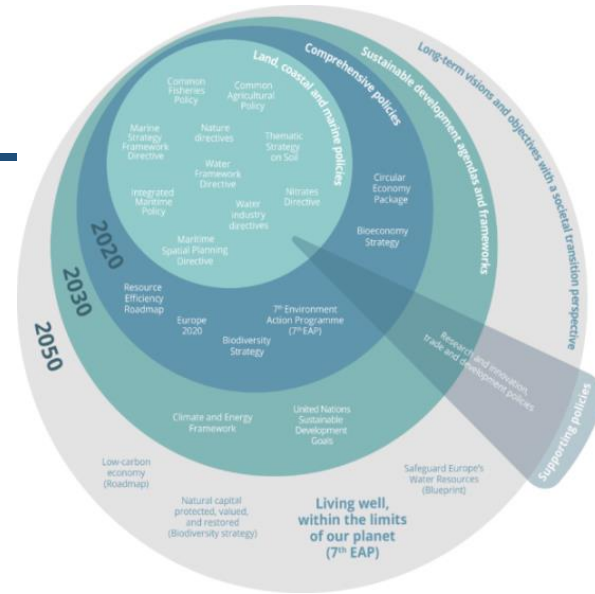
Aquacross Final Conference

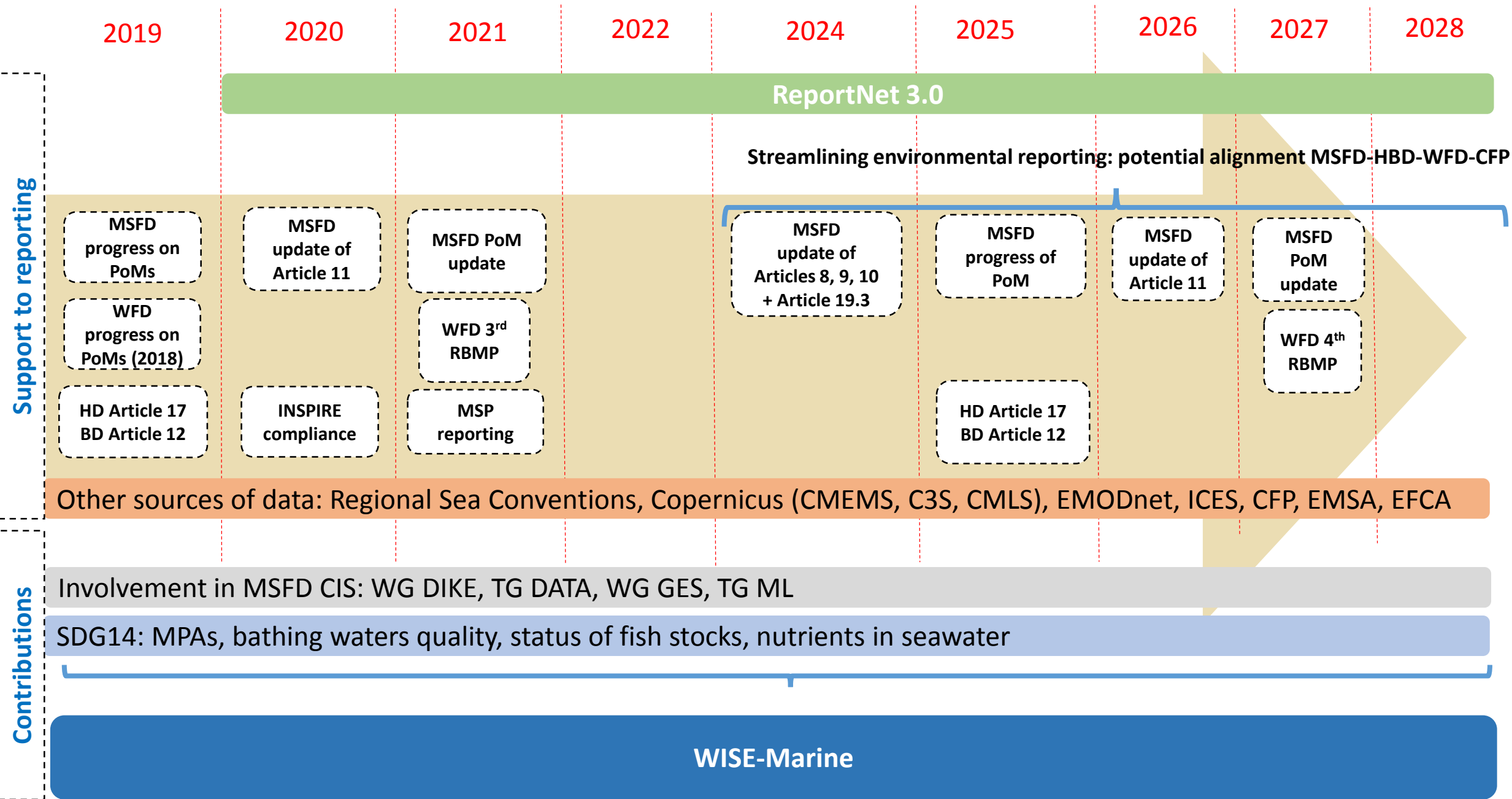
10 October 2018, Brussels



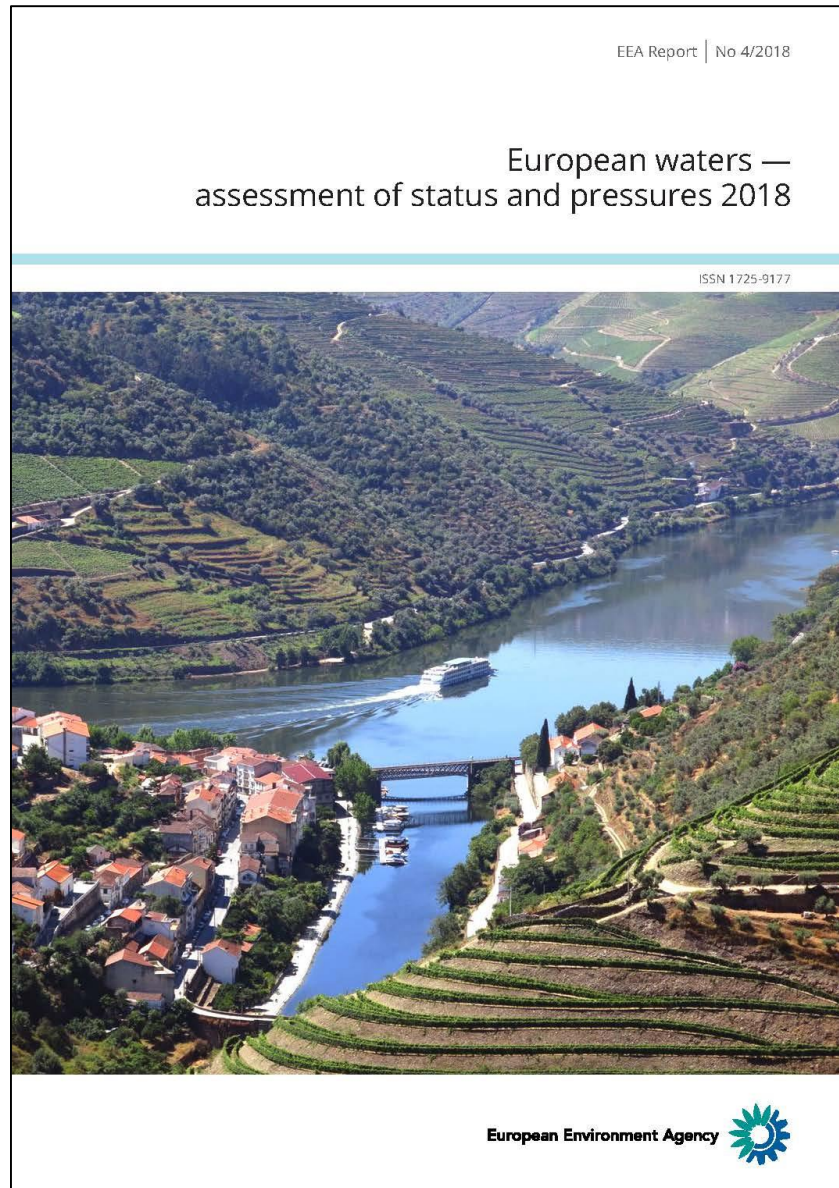
EU policy context

- 7th EAP (Priority Objectives 1, 2, 3)
- Water Framework Directive
- Floods Directive
- Water Industry Directives
- Nitrates Directive
- WS&D strategy
- Marine Strategy Framework Directive
- Integrated Maritime Policy / Maritime Spatial Planning Directive
- Common Fisheries Policy
- 2020 EU Biodiversity Strategy (e.g. Target 2/Action 5)
- Nature Directives
- Common Agricultural Policy





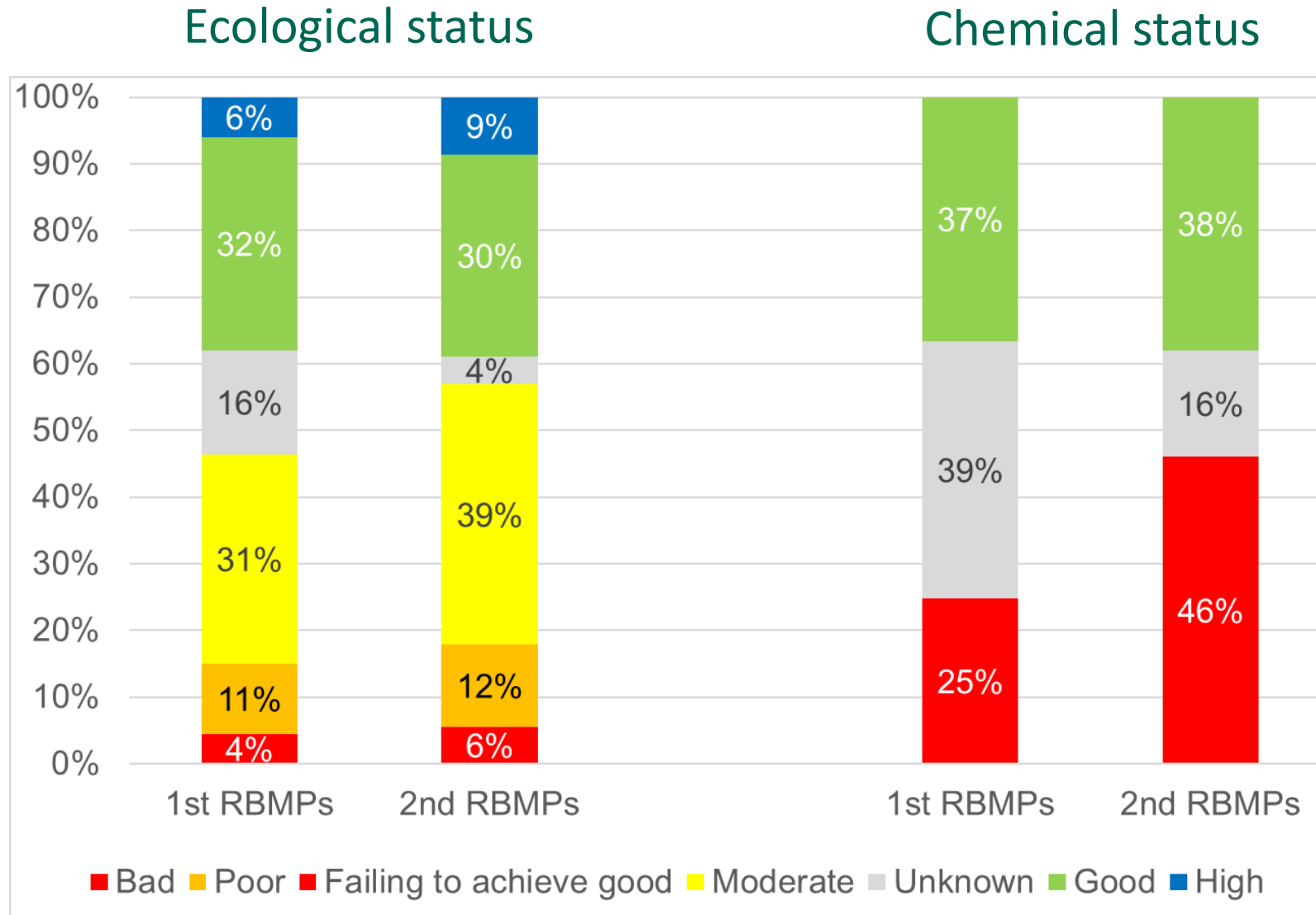
European waters — Assessment of status and pressures 2018



Key messages

- This report presents results on the status of EU waters based on the second River Basin Management Plans (RBMPs, 2010-2015).
- Since the first RBMPs our knowledge of Europe's waters has grown significantly, providing a better understanding of the status and the pressures causing failure to achieve good status.
- Nevertheless European waters remain under pressure from water pollution, over-abstraction and structural change from a range of human activities.

Status of surface water 1st and 2nd RBMPs

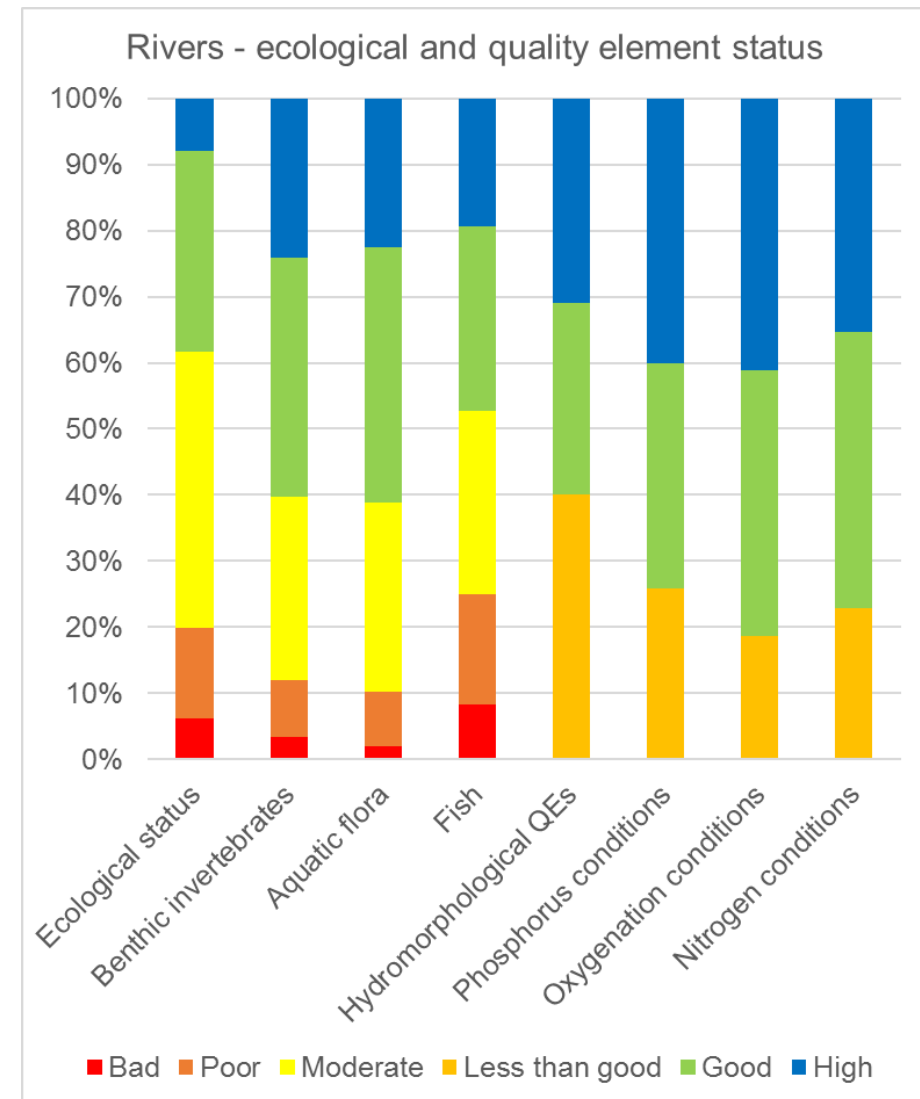
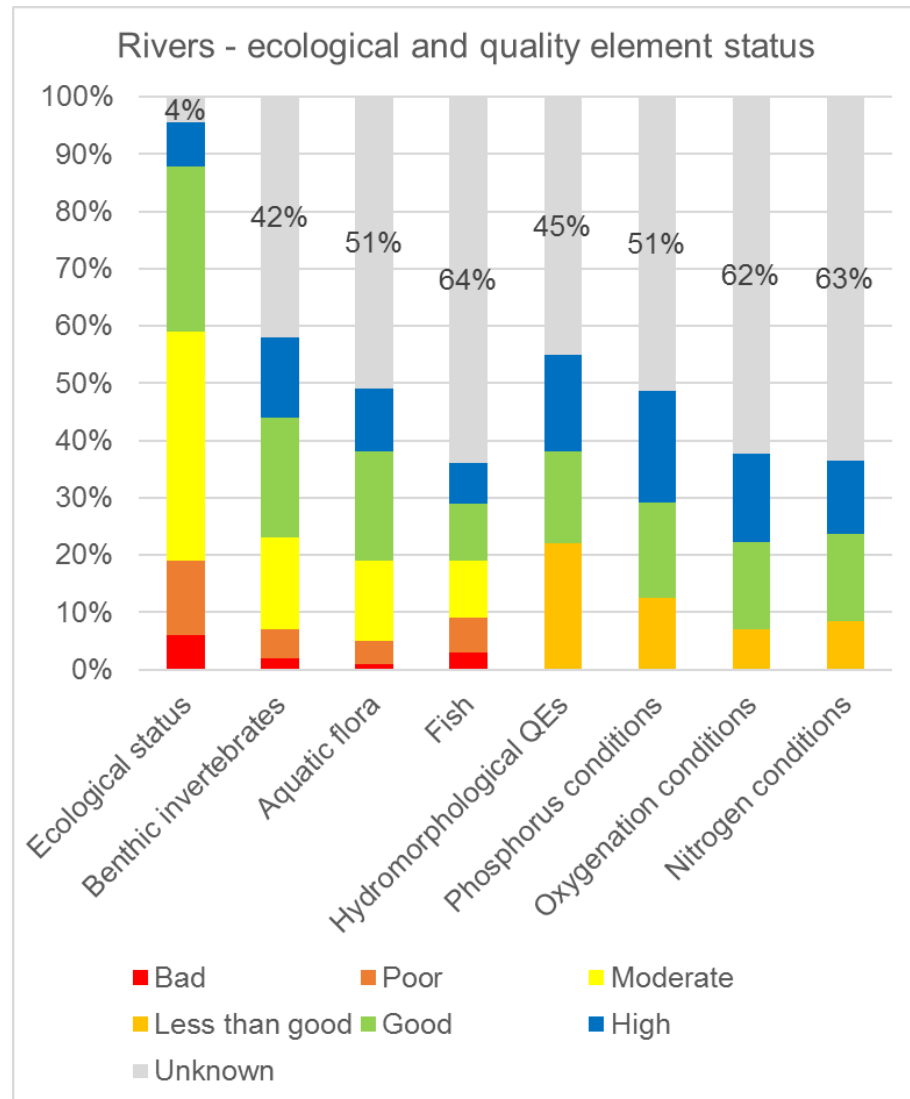


Source: Results from WFD first River Basin Management Plans (2009) and second River Basin Management Plans (2010-2015)

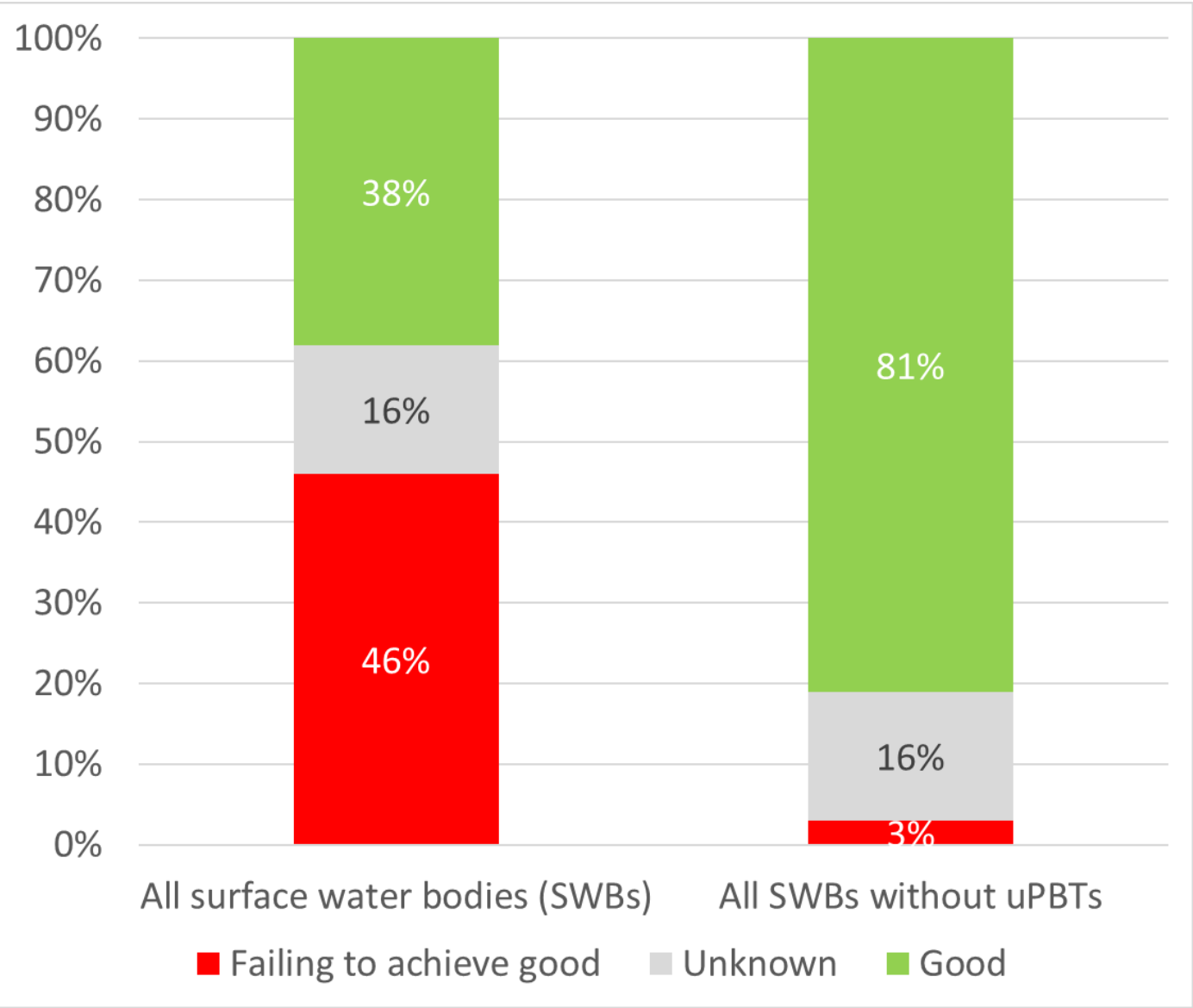
European Environment Agency



Ecological and quality element status of European rivers

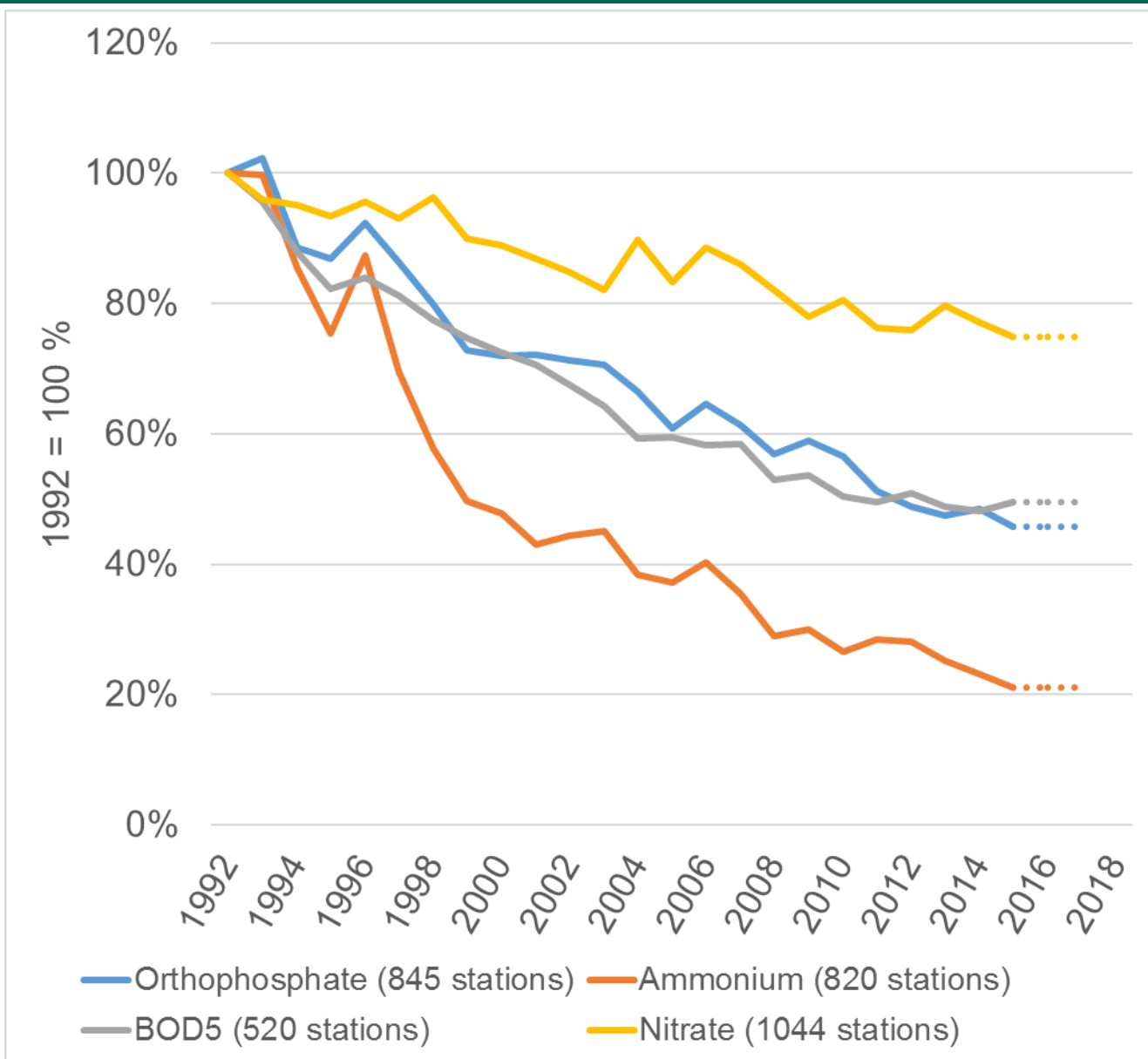


Surface water chemical status with and without uPBTs*



* Subset of 'ubiquitous, persistent, bioaccumulative and toxic' priority substances, mainly mercury

Trends in European river water quality



Nitrate
(from agriculture)
BOD5*
Orthophosphate
Ammonium
(from waste water)

*5-day biochemical oxygen demand

Source: EEA data reported by countries to WISE04 Water quality, 2016

Surface waters main pressures — 2nd RBMPs



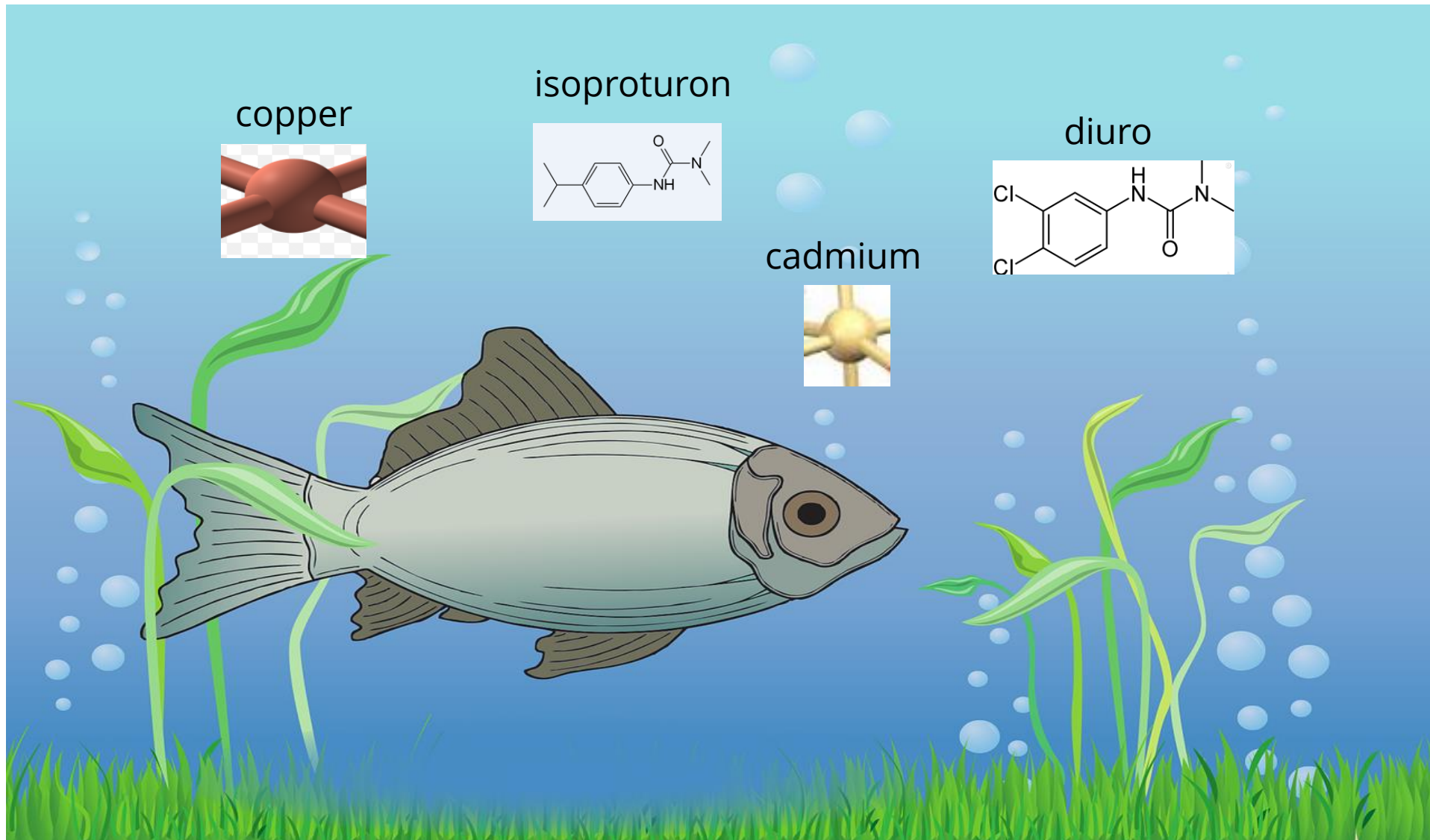
Can emissions data inform about status / legacy?

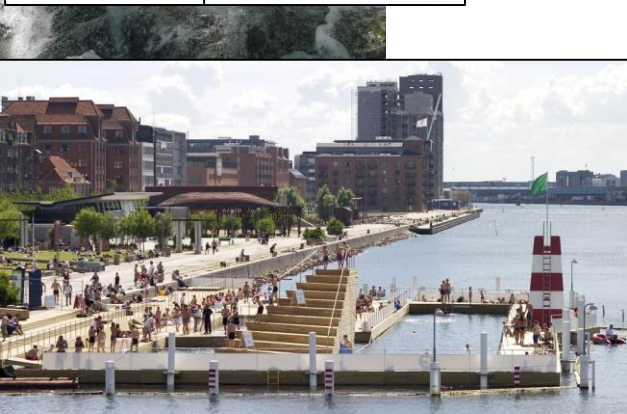
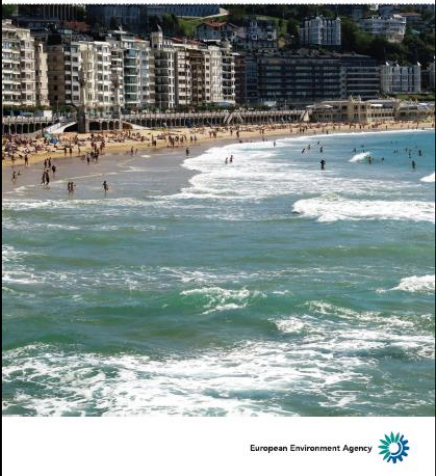
- Emissions reporting can provide information on trends in releases
- Draft results – limited help and little reporting of diffuse emissions
- Need for robust, streamlined approach for reporting of emissions to water

Pollutant	Industry	UWWTP	Diffuse sources
Cadmium	24	22	8
Lead	26	22	9
Mercury	22	23	8
Nickel	26	26	9
Anthracene	9	9	7
Benzo(a)pyrene	5	4	5
Benzo(b)fluoranthene	5	2	3
Benzo(k)fluoranthene	5	2	3
Indeno(1,2,3-cd)pyrene	5	2	3
Benzo(g,h,i)perylene	9	7	2
Fluoranthene	14	11	6
4-Nonylphenol	11	16	5
DEHP	14	17	5
Brominated diphenylethers	3	3	4
Tributyltin-cation	5	3	2
isoproturon	7	3	5
Hexachlorocyclohexane	6	4	3

14 or more MS reporting	>= 14
between 7 and 14 MS reporting	14 < >= 7
less than 7 MS reporting	< 7

Mixtures

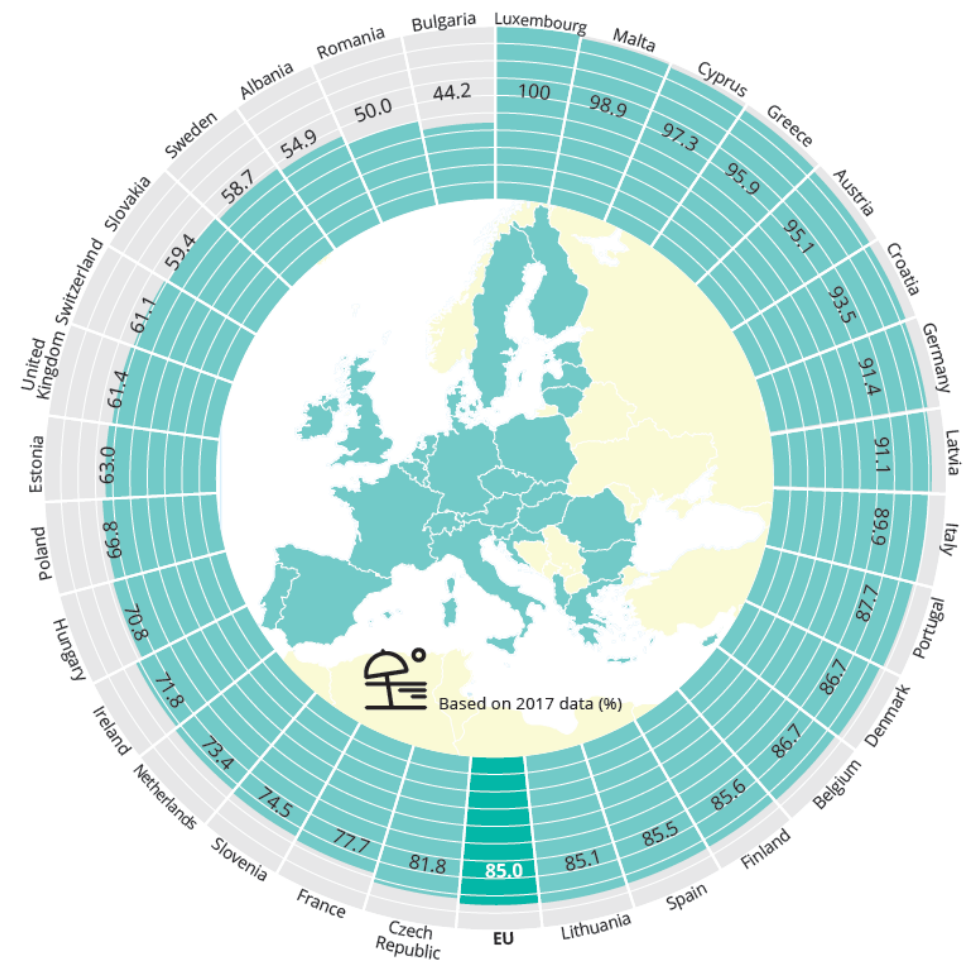




European Bathing Water Quality in 2017

- 10th Annual EEA report
- Based on member countries annual reporting
- Launched on 29 May jointly with the European Commission
- Key results:
 - Nearly all 21.801 bathing water sites monitored last year across Europe.
 - 'Excellent' quality standards across Europe dropped marginally from 85.5% in 2016 to 85% last year.

The reason for the slight drop was due mostly to the effect of summer rain as well as changes in methodology in Romania and Sweden.



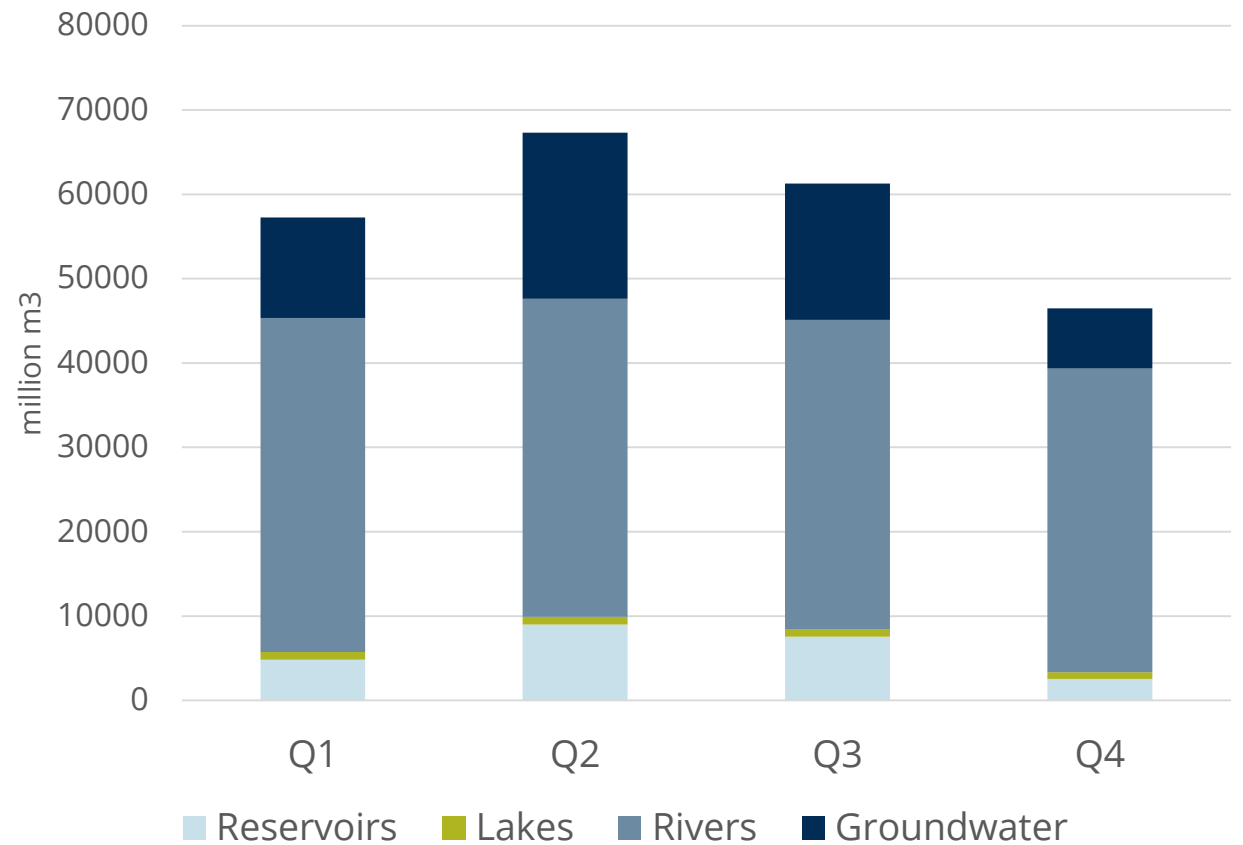
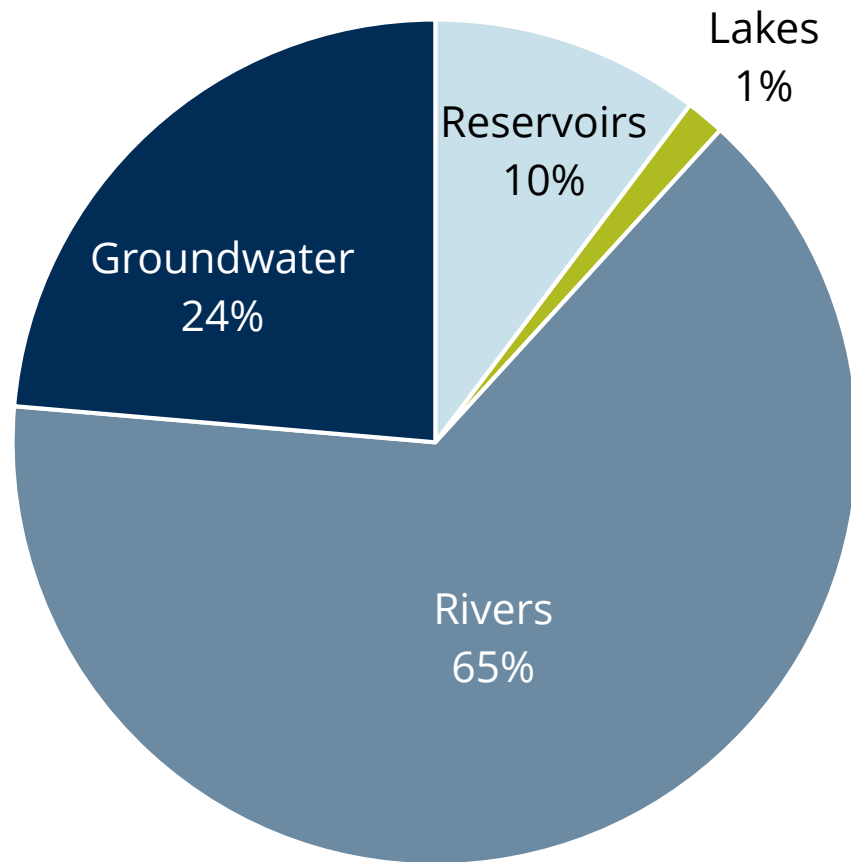
Proportion of bathing water sites with excellent water quality in European countries

CSI 018- Use of freshwater resources

Water abstraction by source in Europe (2015)

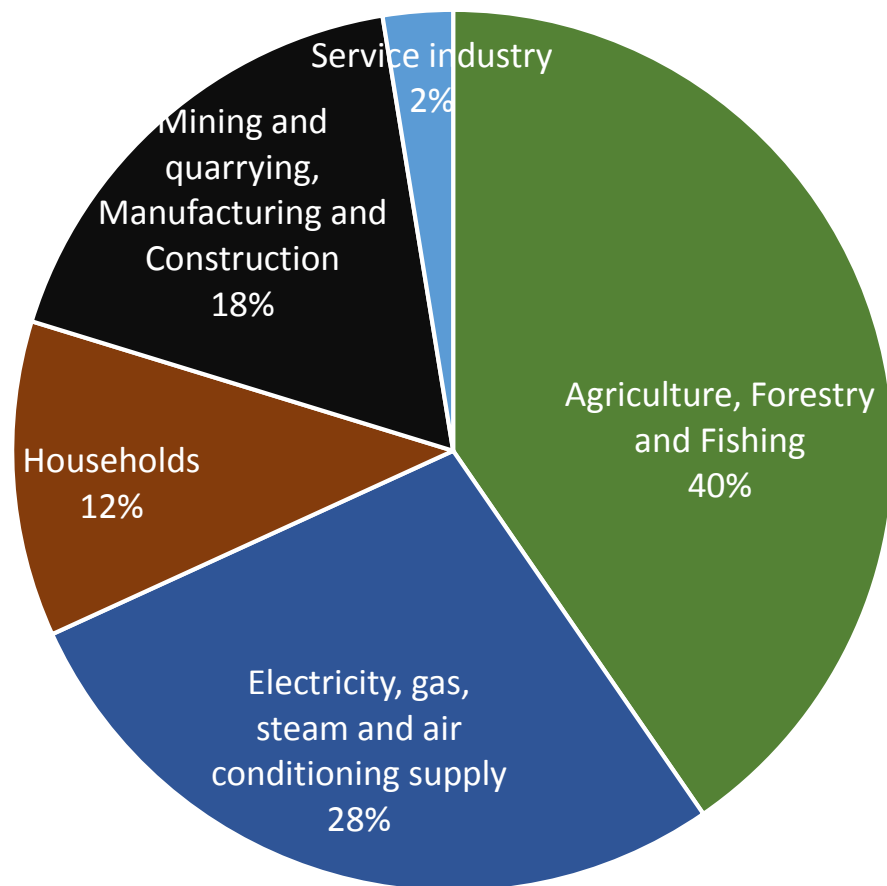
Annual

Seasonal

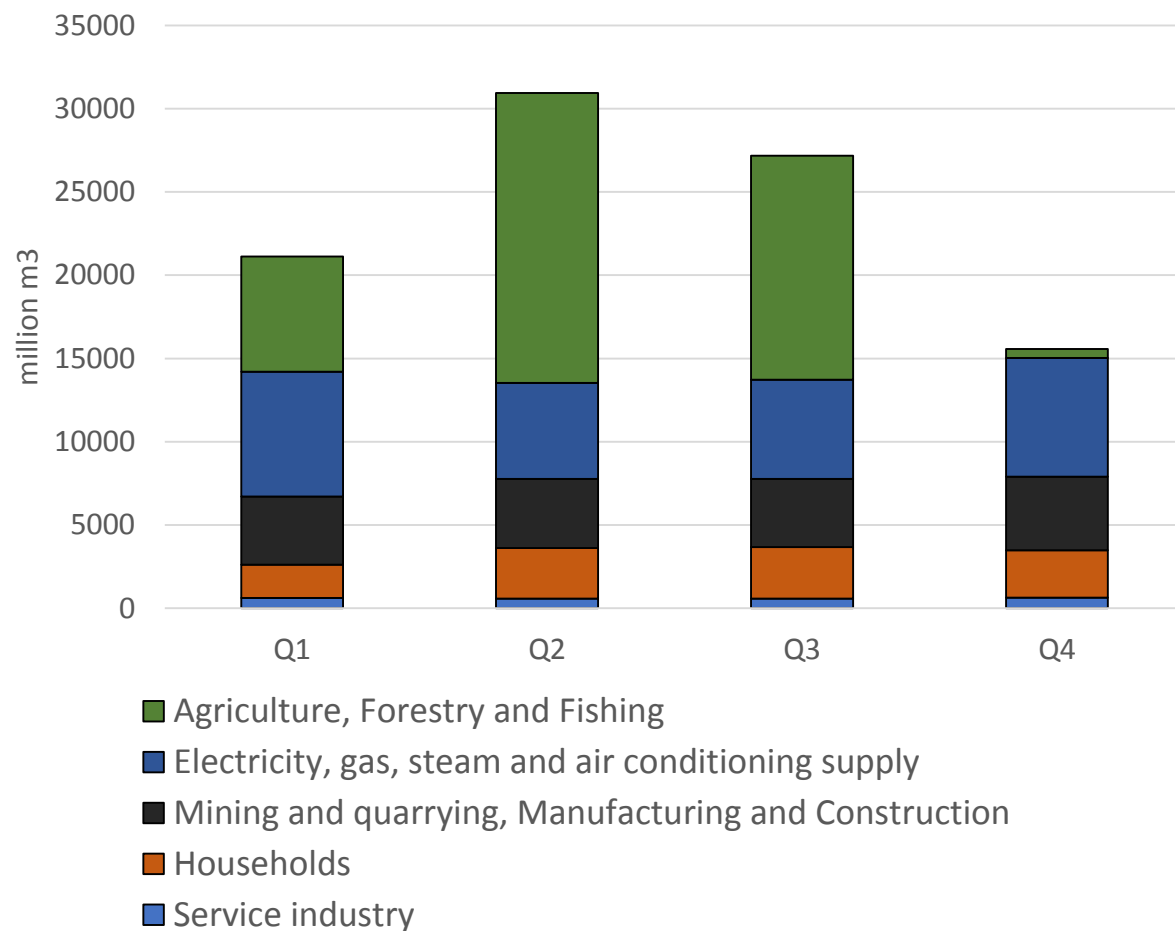


Water use by sectors in Europe (2015)

Annual



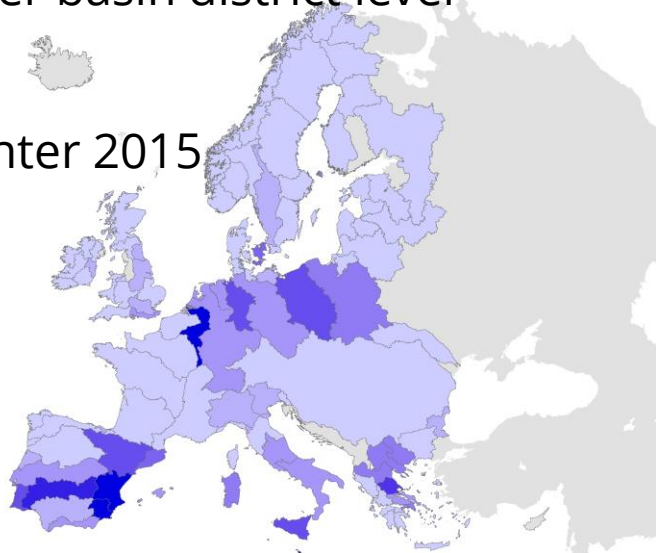
Seasonal



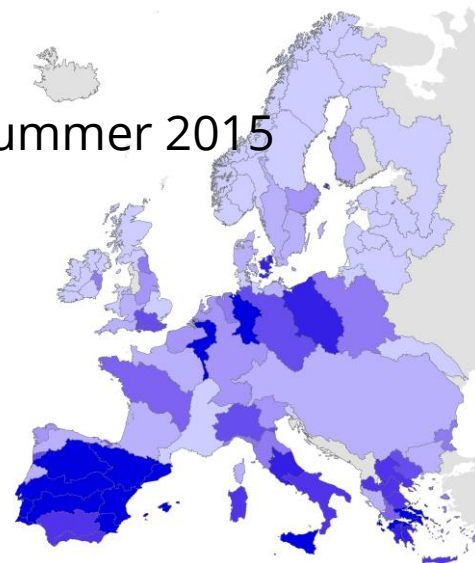
Water scarcity in Europe (winter and summer-2015)

River basin district level

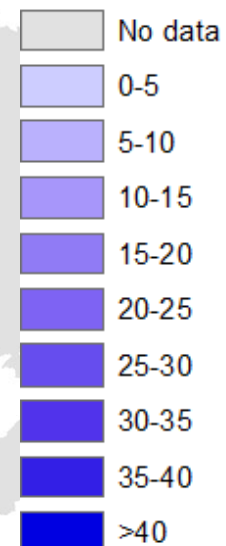
Winter 2015



Summer 2015

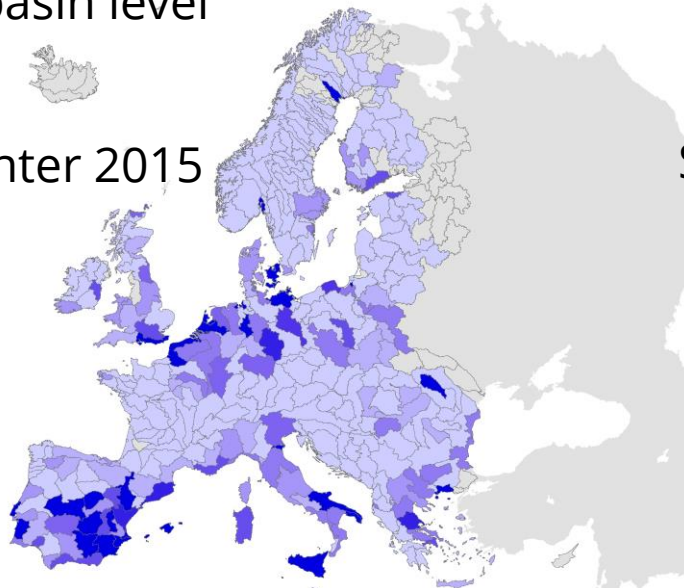


Water exploitation index plus (WEI+)

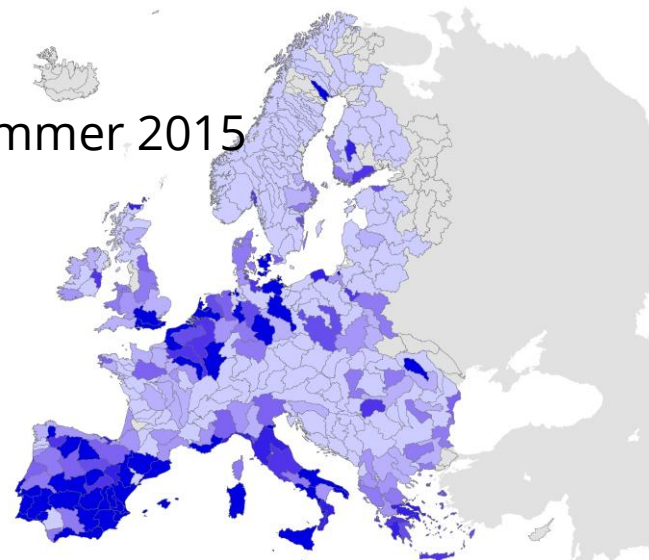


Sub basin level

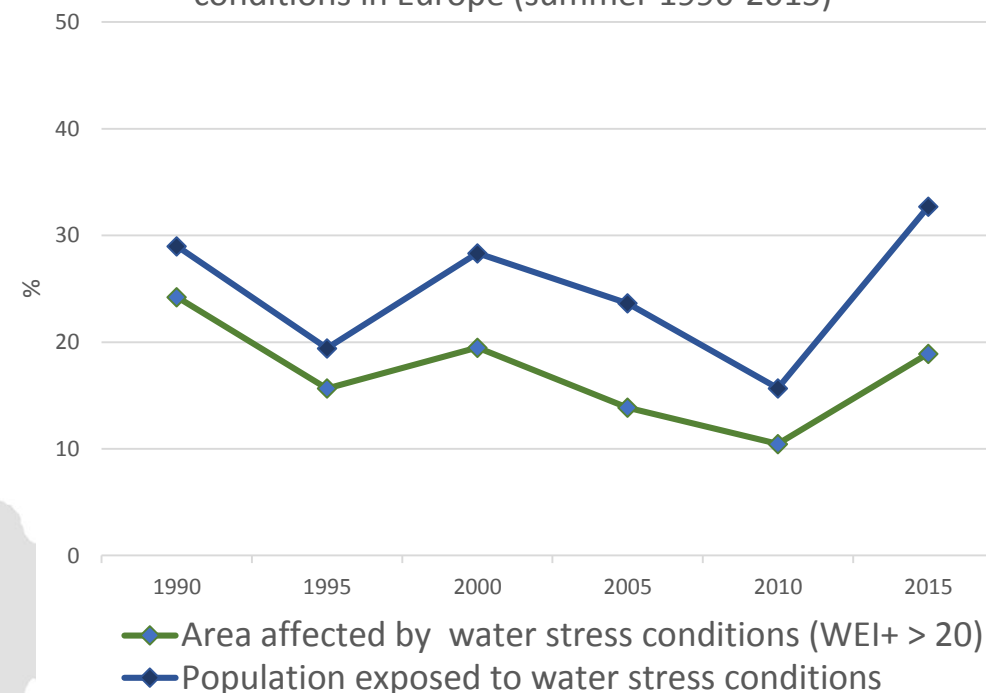
Winter 2015



Summer 2015



Population and area exposed to water scarcity conditions in Europe (summer 1990-2015)



[Visualisation of the water scarcity; WEI+ interactive map](#)



EEA thematic marine assessments

Contaminants in
Europe's seas

Eutrophication in
Europe's seas

Pressures and
their effects

Biodiversity in
Europe's seas

Marine protected
area networks

Sustainable use

Aim:

- Providing a harmonised assessment of contaminants across Europe's seas

Methodology:

- Application of existing multi-metric indicator-based classification tool
- Trends where available

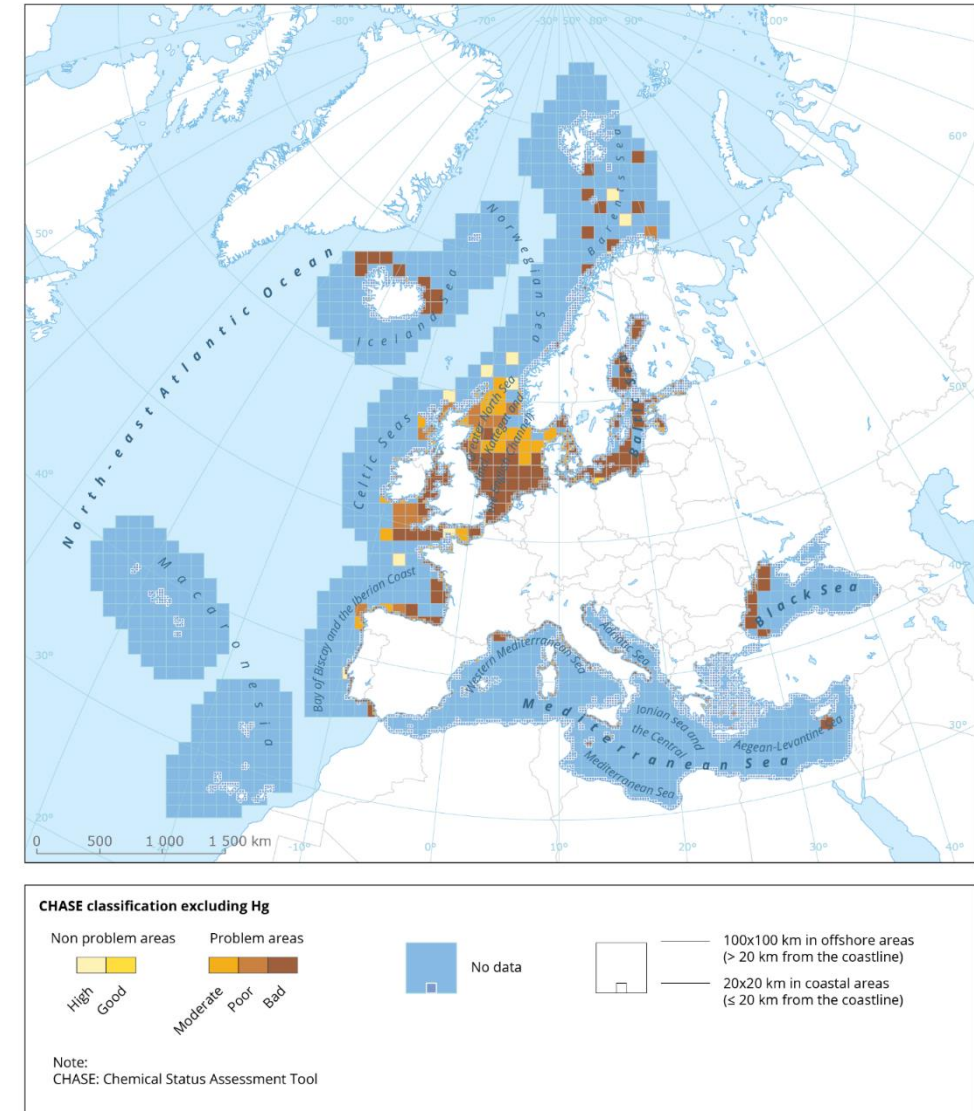
Data and information sources:

- ICES' DOME data portal, primarily HELCOM & OSPAR monitoring data
- Data delivered through the EIONET Central Data Repository
- Direct data delivery from France and Portugal
- EMODnet Chemistry (Baltic Sea and Black Sea)
- EMBLAS project (Black Sea)
- Only approved and published threshold values (all taken from EU directives or OSPAR (+1 from HELCOM and +1 from ICES))
- Assessment grid 20-100 km INSPIRE compliant

Contaminants

Key messages:

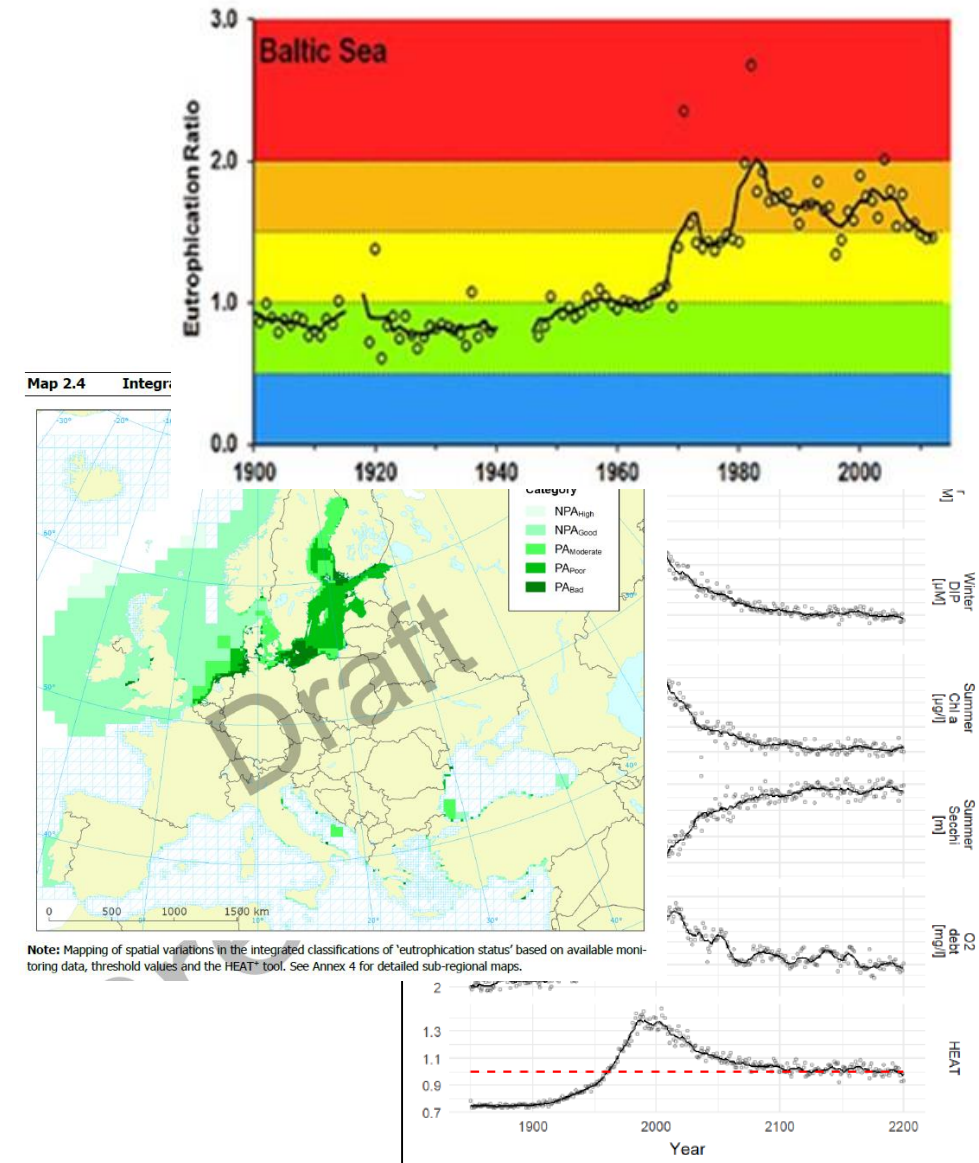
- Contamination of Europe's regional seas continues to be a large-scale challenge, though progress is observed
- Concentrations of some well-known contaminants appears to be declining though not all do yet meet agreed thresholds.
- Positive effects of the significant efforts to reduce input to the marine environment are observed for some ecosystem features.
- Key politically agreed targets will not be achieved on time e.g. the Generation target and the targets for a good environmental status set out in the MSFD will not be met by 2020.
- Full transparency on data and methodologies applied



Eutrophication

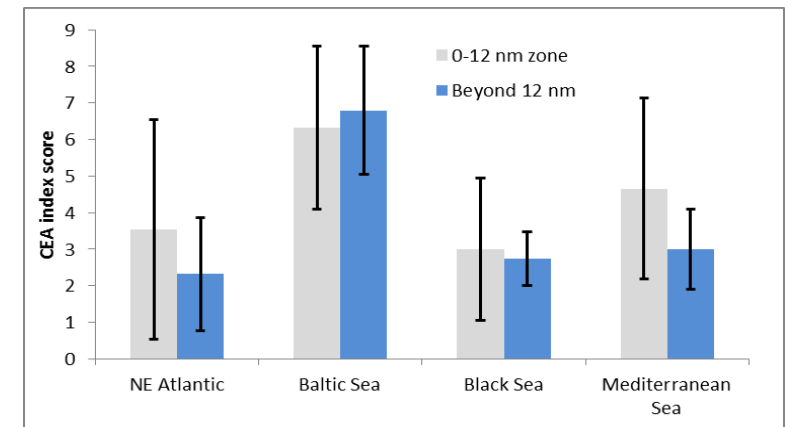
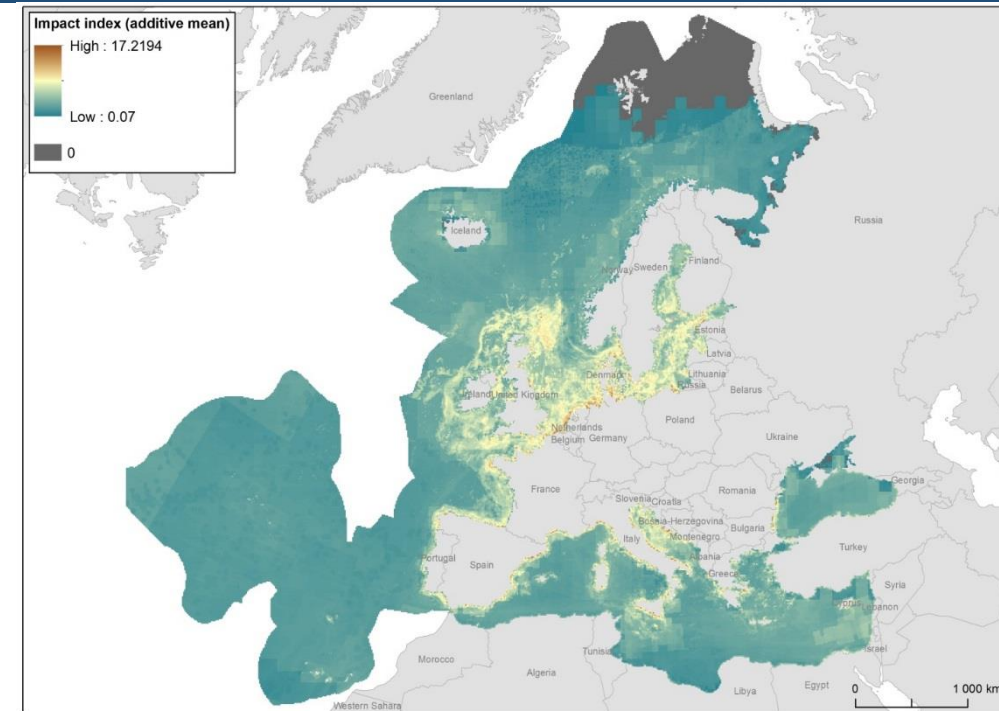
Key messages:

- Eutrophication caused by inputs of nutrients, especially nitrogen and phosphorus, is a widespread and well documented issue in many European marine waters.
- The cure, reduction of nutrient inputs, is embedded in several EU water policies, e.g. the WFD and MSFD.
- The reduction required to meet the objectives will come via the Nitrates and Urban Waste Water Treatment Directives.
- Examples of successful implementation of nutrient management strategies are showing up, e.g. the Baltic Sea and North Sea regions. However, further reductions in nutrient inputs are required to meet WFD and MSFD objectives



Cumulative Pressures

- X% of EU seas is exposed to moderate or high potential cumulative effects. Intensity of cumulative effects is regional seas specific.
- Cumulative effects are higher in coastal zone in all regional seas, except in the Baltic sea, where the open sea area is potentially more sensitive.
- The offshore water-column habitats are the most effected in all regional seas, except in the Baltic sea, where the coastal water column is potentially the most affected habitat.
- Most potentially affected species groups:
 - Seals, breeding birds and fish in the Baltic Sea.
 - Fish, cetaceans, seals and turtles (other RS).

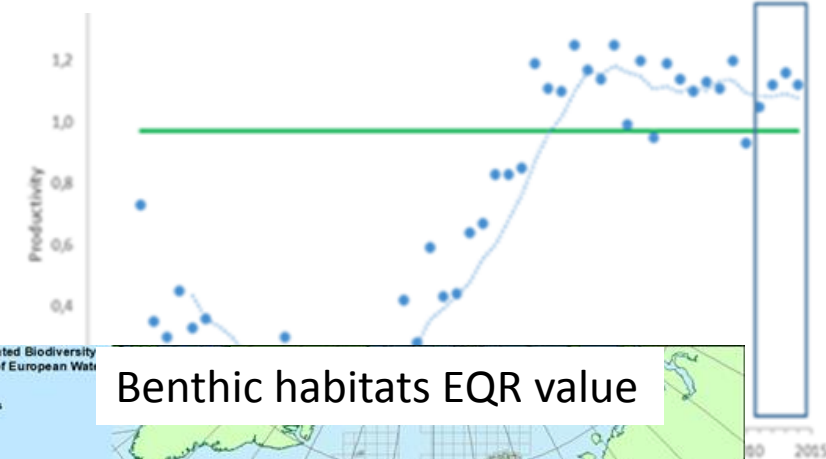


Biodiversity

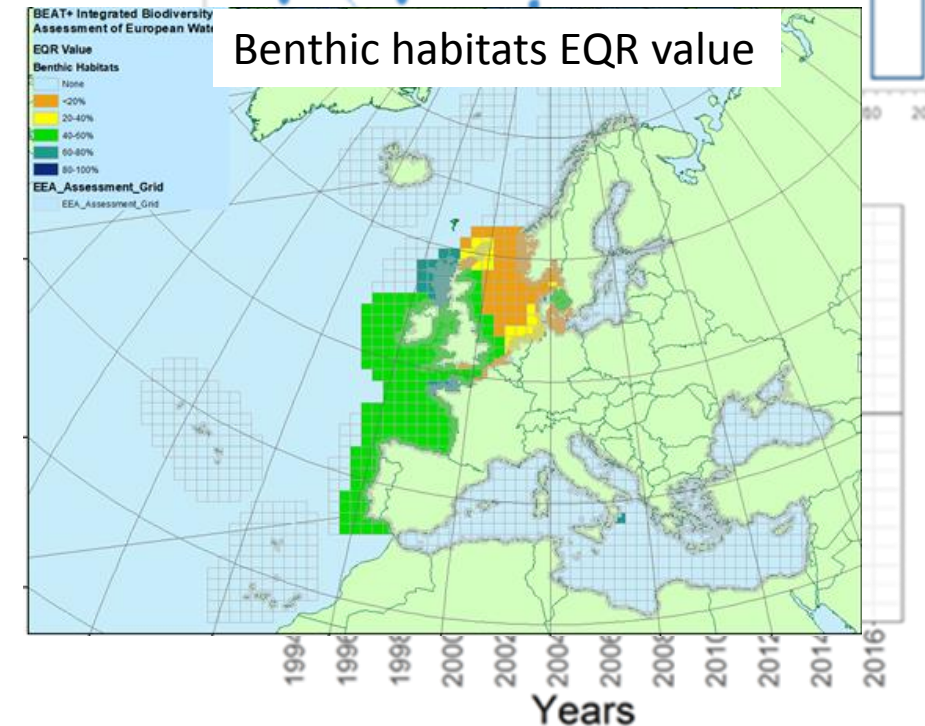
Key messages:

- Observations in Sea Surface Temperature and Ocean Acidification indicates that significant systemic changes in the oceans and degradation of ecosystem resilience are already happening.
- High proportion of vulnerable species and habitats continues to be in unfavourable conditions.
- Examples of recovery of certain species, e.g. White-tailed Eagle, are appearing in seas with solid, consistent cooperation and efforts.
- Achieving 'good environmental status' for marine biodiversity and favourable conditions for species and habitats will not be possible by 2020.
- Management efforts targeting individual species and habitats have led to improving conditions regionally.

White-tailed Eagle recovery



Benthic habitats EQR value

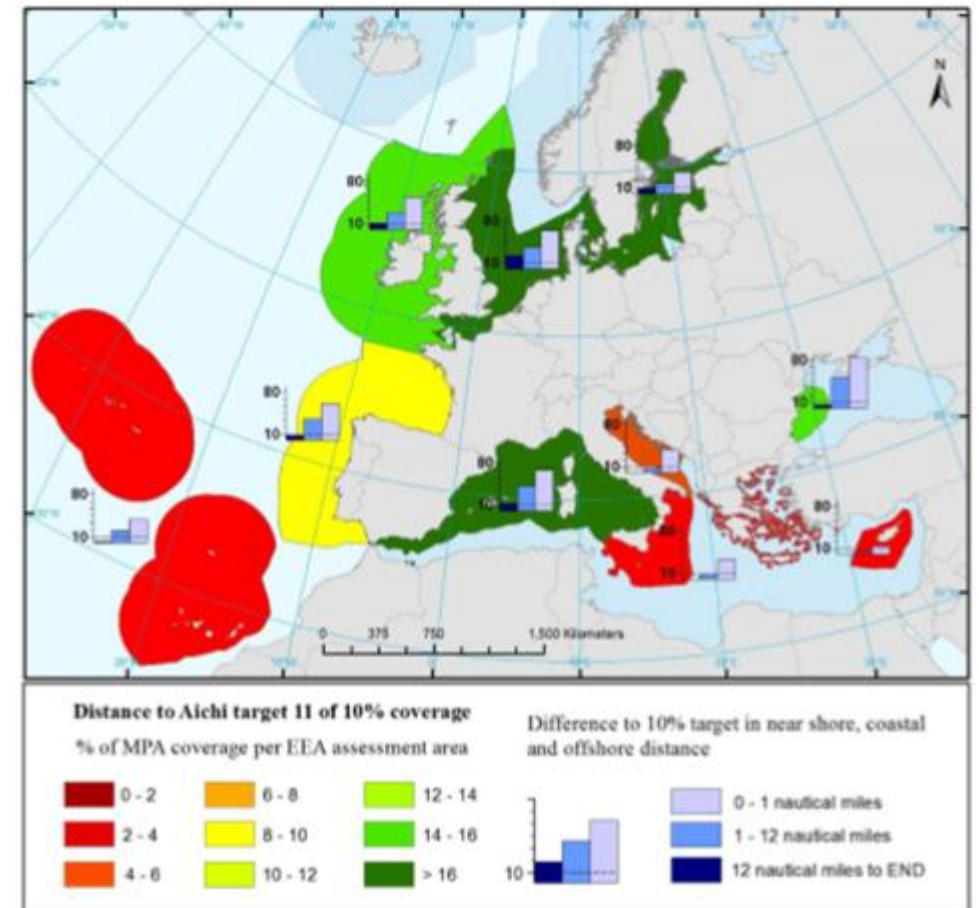


Marine protected areas

Key messages:

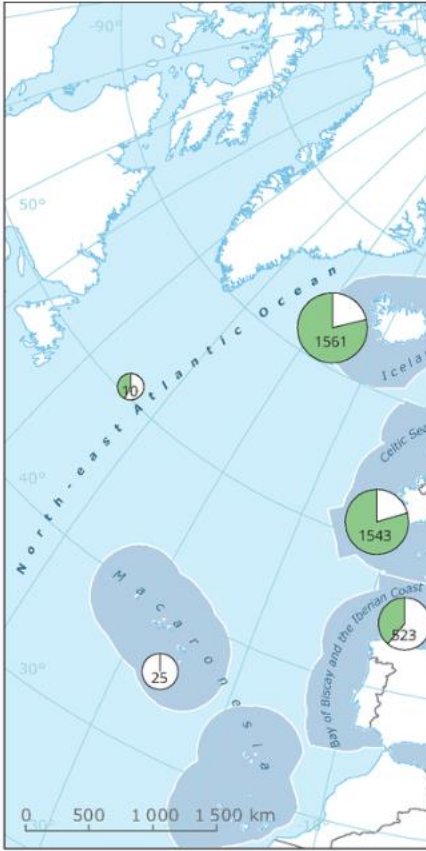
- Europe has designated more than 10% of its seas within marine protected area networks, thus meeting Aichi target 11 before 2020.
- The coverage of marine protected areas (MPAs) varies significantly across regional seas, and more MPAs are needed in some regional seas.
- MPA coverage is in general higher in coastal waters and territorial waters compared to off shore waters. As such, not all biodiversity features appear adequately represented.
- Greater conservation gains may be possible by taking further steps to guarantee MPA effectiveness through a whole sites approach to management of protected sites e.g. increased protection levels.

Map 3.5 Distance to 10% coverage target for each marine region and sub-region and for each buffer zone



Status of marine fish and shellfish

Fig. 1: Landings of fish per regional seas, and proportion of assessed stocks



Proportion of European fish landings per regional sea

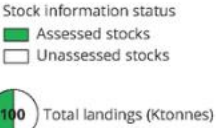
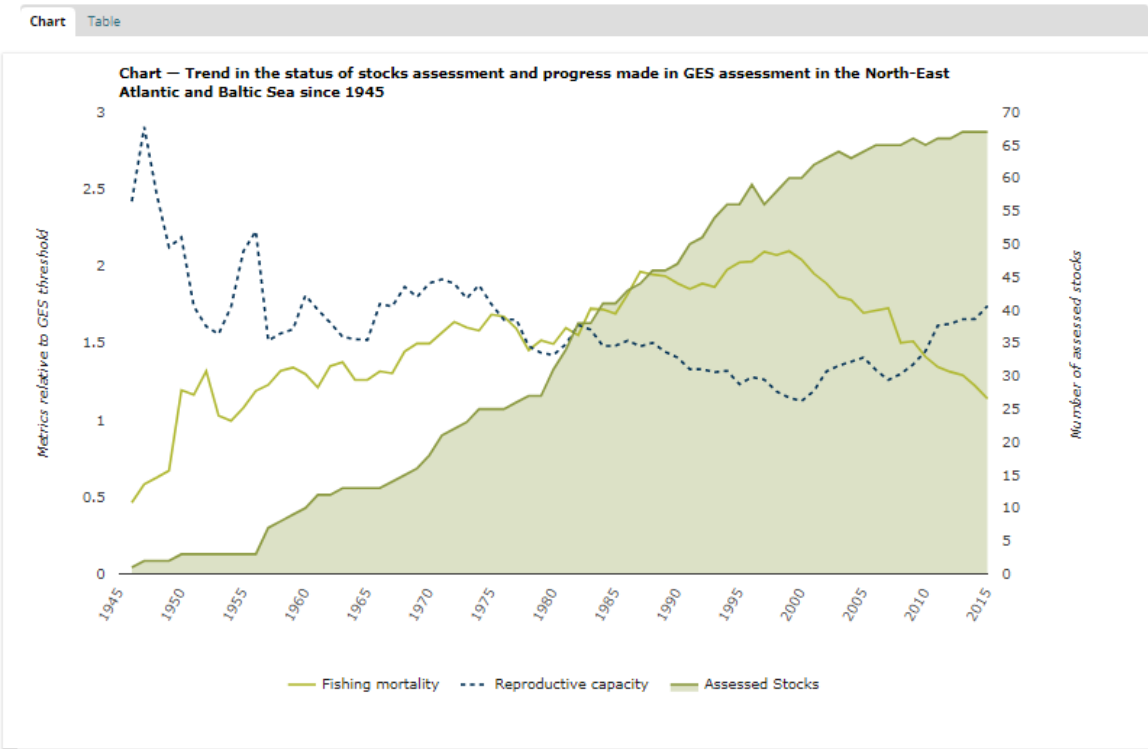


Fig. 3: Trend in the status of stocks assessment and progress made in GES assessment in the North-East Atlantic and Baltic Sea since 1945



Notes:

This figure shows trends in the status of assessed fish stocks between 1946 and 2015, expressed in two metrics: fishing mortality (F) and reproductive capacity (i.e. spawning stock biomass (SSB)). It reflects their average deviation relative to policy thresholds for Good Environmental Status (GES) (i.e. F_{msy} and MSY B trigger respectively)*. For fishing mortality, 1 is a target (F_{msy}), above which exploitation is unsustainable, while for reproductive capacity, 1 is a precautionary limit (MSY B trigger), below which there is a high risk that it is impaired.

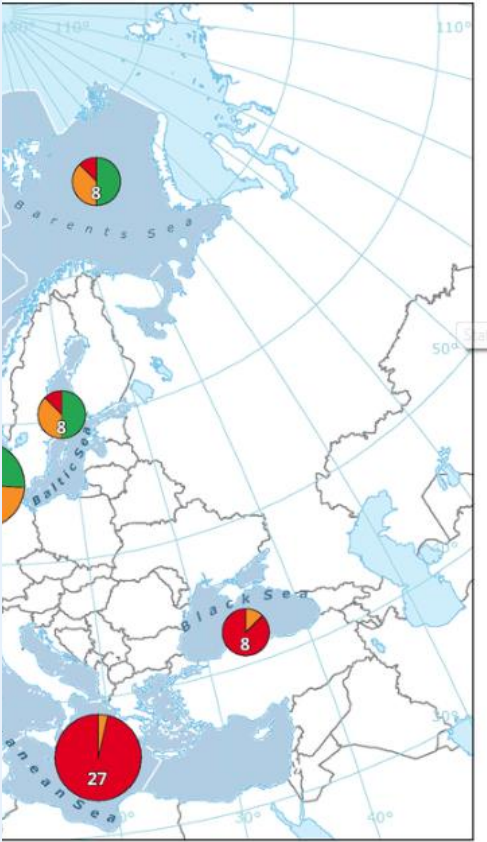
The figure is based on 81 fish stocks in the North-East Atlantic Ocean and Baltic Sea, for which F and/or SSB could be calculated against reference points. Both F/F_{msy} and SSB/MSY B trigger could be calculated for a maximum of 67 stocks. The value of the metrics is determined by an increasing number of stocks so that part of the trend may be explained by new stocks being introduced into the analysis. From 2013 onward, the suite of assessed stocks remained stable.

* MSY: maximum sustainable yield; MSY B: maximum sustainable yield biomass

Note:

*: GES could not be calculated for the Azores as it only concerns unassessed stocks.

Environmental Status per regional sea



Environmental Status (GES) per regional sea



Key messages

1. EU projects need to increasingly address the sea-land interaction, i.e. the land-sea continuum, for example in terms of contaminants, eutrophication and plastics. Data sets, methods and studies are very much at different levels of development and studies segmented (i.e. addressing only land or sea).
2. There is a need to guide the implementation at the EU level of the EBM approach, which features at the core of the water, marine and maritime EU policies. An integrated approach recognizing all the functions of water is key to ensure effectiveness and efficiency of policies, which would address key nexuses (e.g. water-energy-food/agriculture-ecosystems).
3. There is a need to further progress our understanding of the chain 'ecosystems condition/status → ecosystems services supply (or capacity to)'



Key messages

4. There is a need for scenarios/outlooks/modelling/integrated assessment tools to further support policy makers.
5. There is an urgent need to streamline EU reporting with regard to water and biodiversity, particularly with regard to MSFD, HBD, WFD and CFP. This process has been initiated at DG ENV and will get increasing attention through the Streamlining Environmental Reporting process and Reportnet 3.0.

Stakeholders' contribution:

- Research community and practitioners -> 1, 2, 3, 4
- EU institutions -> 2., i.e. toward more integrated and coherent reporting at EU level in terms of content and timing.

Stéphane Isoard
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Stephane.Isoard@eea.europa.eu

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Water is life

Europe's rivers, lakes and seas are under pressure from pollution, over-exploitation and climate change. How can we ensure a sustainable use of this vital resource?

