EEA 2012 State of Water assessment

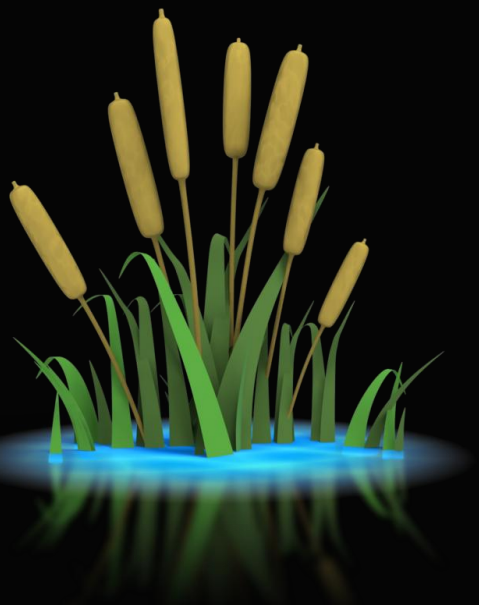
2nd Advisory Group meeting 29/11/2011

Summary

EEA 2012 State of water assessment

1. Setting the scene and planning
2. Selected results on ecological/status , pressures and impact
3. From zero drafts to first draft assessments
4. Selected methodology issues

SETTING THE SCENE AND PLANNING



EEA 2012 State of Water assessment

- 100 pages synthesis/integrated report
- Four thematic assessments (30-60 pages)
- Overview of status and pressures affecting Europe's water
- Some more detailed sector and activities chapters

WFD Article 18: … a review of the status of surface water and groundwater in the Community under-taken in coordination with the European Environment Agency;

EEA 2012 State of Water assessment - synthesis

Thematic assessments

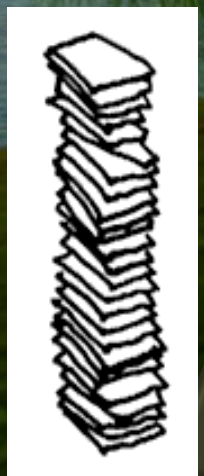
- Ecological status and related pressures;
- Hydromorphology status and pressures;
- Water resources and resource efficiency; water economics;
- Water and vulnerability (water scarcity and droughts, floods;)

Other EEA reports

- Coastal report
- Urban report
- Climate impact
- 2011 Chemicals report
- 2011 & 2012 Bathing water reports
- Update of water indicators
- Update of WISE maps
- European ecosystem assessment

170 RBMPs

Other information



Analysis

Baseline *(Status of waters and pressures affecting them)*

Further assessments *– e.g. water resource efficiency, water accounts, ecosystem goods and services*

DG Environment

Blueprint to Safeguard European Waters

WFD imple-mentation

Water scarcity & drought

Climate change & water

EEA State of European Water

Synthesis/integrated

Water assessment

Thematic (focused) assessments

Good work from our Topic Centre

The draft thematic assessments have started growing

Status and pressure assessments based on RBMPs

Status

Overall status (e.g. European overviews (pie-charts, maps)

Regional or type specific overviews (e.g. ecological status of deep lakes compared to shallow lakes)

Water bodies with poor-bad status – where are the hot-spots

Case-studies

Pressures and impact

Overview of pressures and impacts

Assessments of main pressures

- ❑ Point sources
- ❑ Diffuse sources
- ❑ Contamination
- ❑ Hydromorphology – morphology, flow, & continuity

Role of advisory group

The Advisory Group are requested to provide advice and recommendations on:

Outline and structure of the report, e.g. whether the thematic assessments address the main issues, whether the selected results are appropriate and policy relevant

Linking to national, river basin district and sectoral experience and scientific knowledge in accessing the state of and pressures affecting Europe waters.

Identify good case studies and information sources for the different thematic assessments. Add text boxes etc.

Contribute to the assessments and synthesis with relevant sections and text boxes. Comment on validity of results and assessments.

Involved in planning of the advisory forum (March 2012)

Identify possible events and their timing for launch of the assessments and other ways of dissemination.

Tentative planning of thematic assessments

22/11 zero-drafts of thematic assessments.

29/11 EEA advisory group discussion of zero draft assessments

Dec. Possibility to provide comments DG ENV & adv. Group

Dec.-Jan. 2012 Finalise first draft of thematic assessments

Feb.-March Internal and external consultation (Eionet; DG ENV; WG-D and other Stakeholders)

13-17 March (6th WWF) Launch of thematic assessment on water efficiency

22-23 March (tentative) Member States and Stakeholder Forum, EEA Cph.

Feb.-May: Editing to condensed 30-50 p. and finalise thematic assessments (final drafts HYMO 15/4; Ecological status 15/6)

May: Launch (HYMO) Green Week; 3rd European Water Conference

August: Launch (Ecological Status) Stockholm Water Week

Autumn: Launch of Vulnerability (event?)

End November : Launch of Blue print and EEA Synthesis

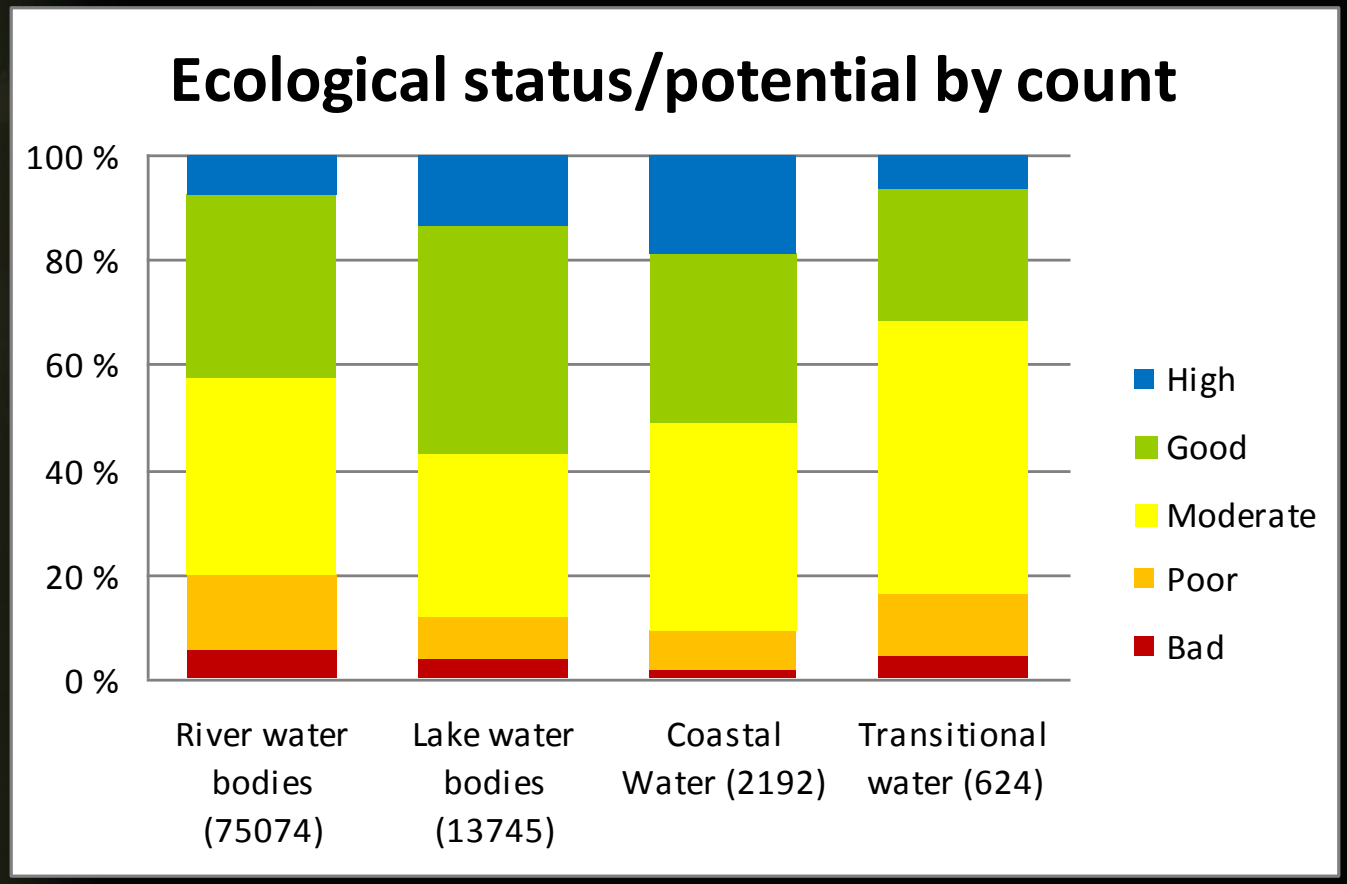
RESULTS ON STATUS, PRESSURES AND IMPACTS

Overview of data reporting

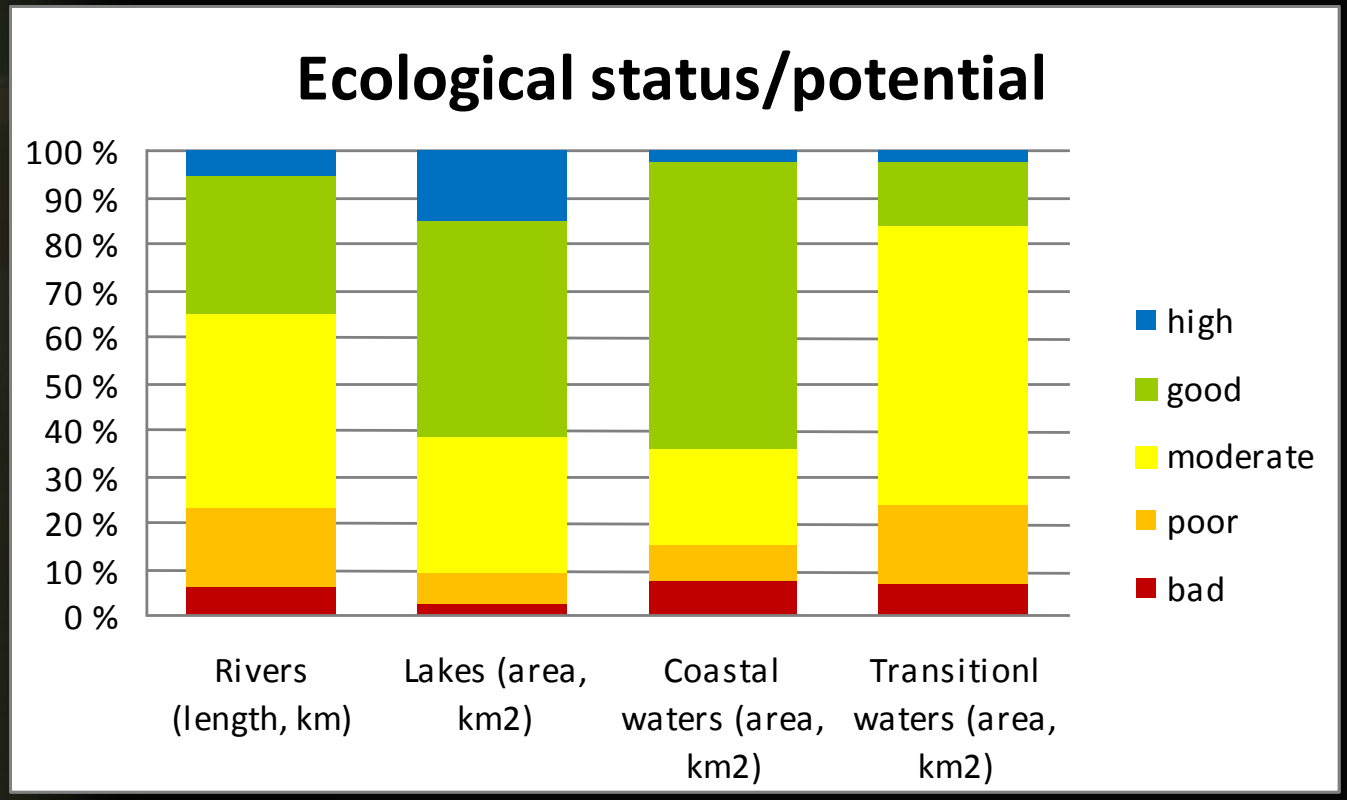
Country	RBMP adopted	All RBDs reported	All water categories (RI,LA; TR, CO)	Ecological status (yellow high % unknown)	Significant Pressures	Impacts
Austria					Aggr.	
Belgium	Flanders				Aggr.	
Bulgaria					disaggr.	
Czech Rep.				no H&B	disaggr.	
Estonia					disaggr.	
Finland		Åland	Transitional		disaggr.	
France					mixed	
Germany					Aggr.	
Greece*					mixed	
Hungary					mixed	
Ireland					error	
Italy		ITH&ITG			mixed	
Latvia					disaggr.	
Lithuania					disaggr.	
Luxembourg			LA			
Malta			RI+LA			
Netherlands					Aggr.	
Poland		Vistula			disaggr.	
Romania						
Slovak Rep.			LA			
Spain*		Segura			mixed	
Sweden					disaggr.	
United Kingdom					Aggr.	
Cyprus						
Denmark						
Portugal						
Norway						

Slovenia

Ecological status/potential - I

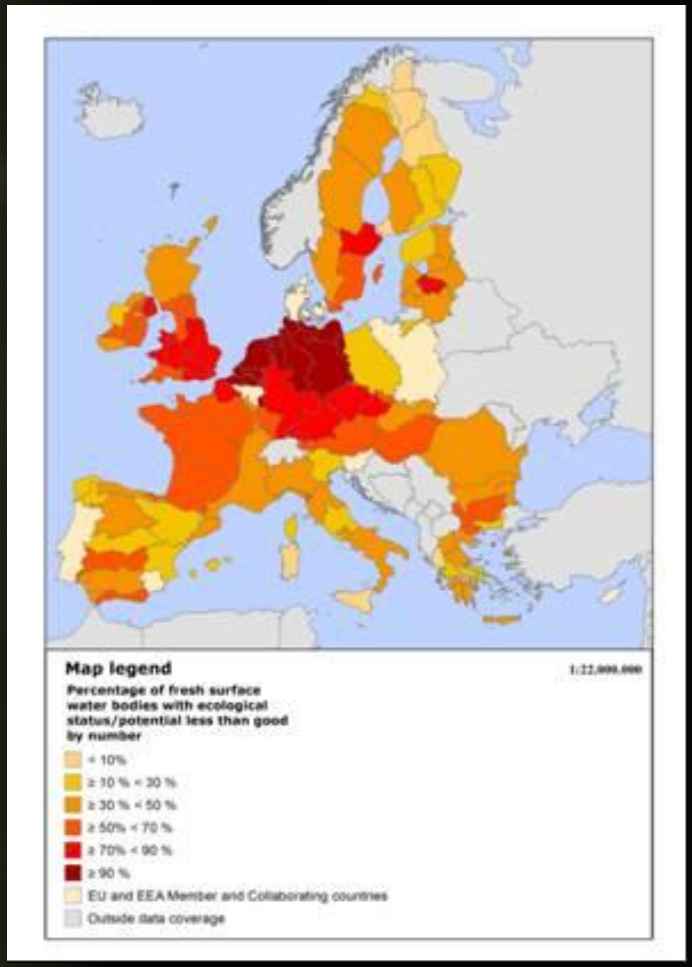


Ecological status/potential - II

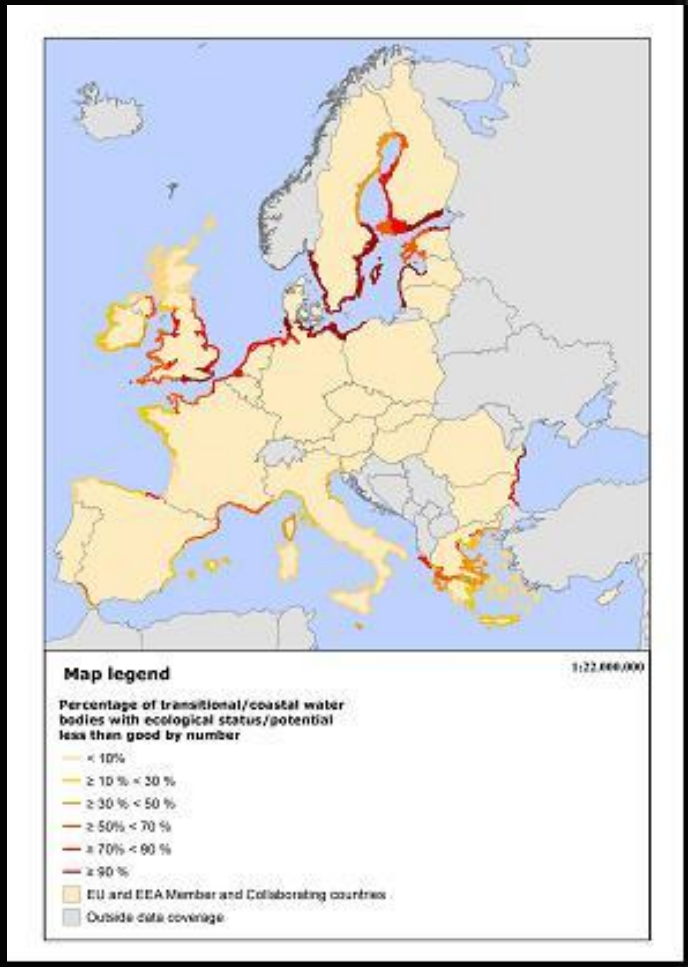


Percentage of water bodies in less than good ecological status/potential

Rivers and lakes

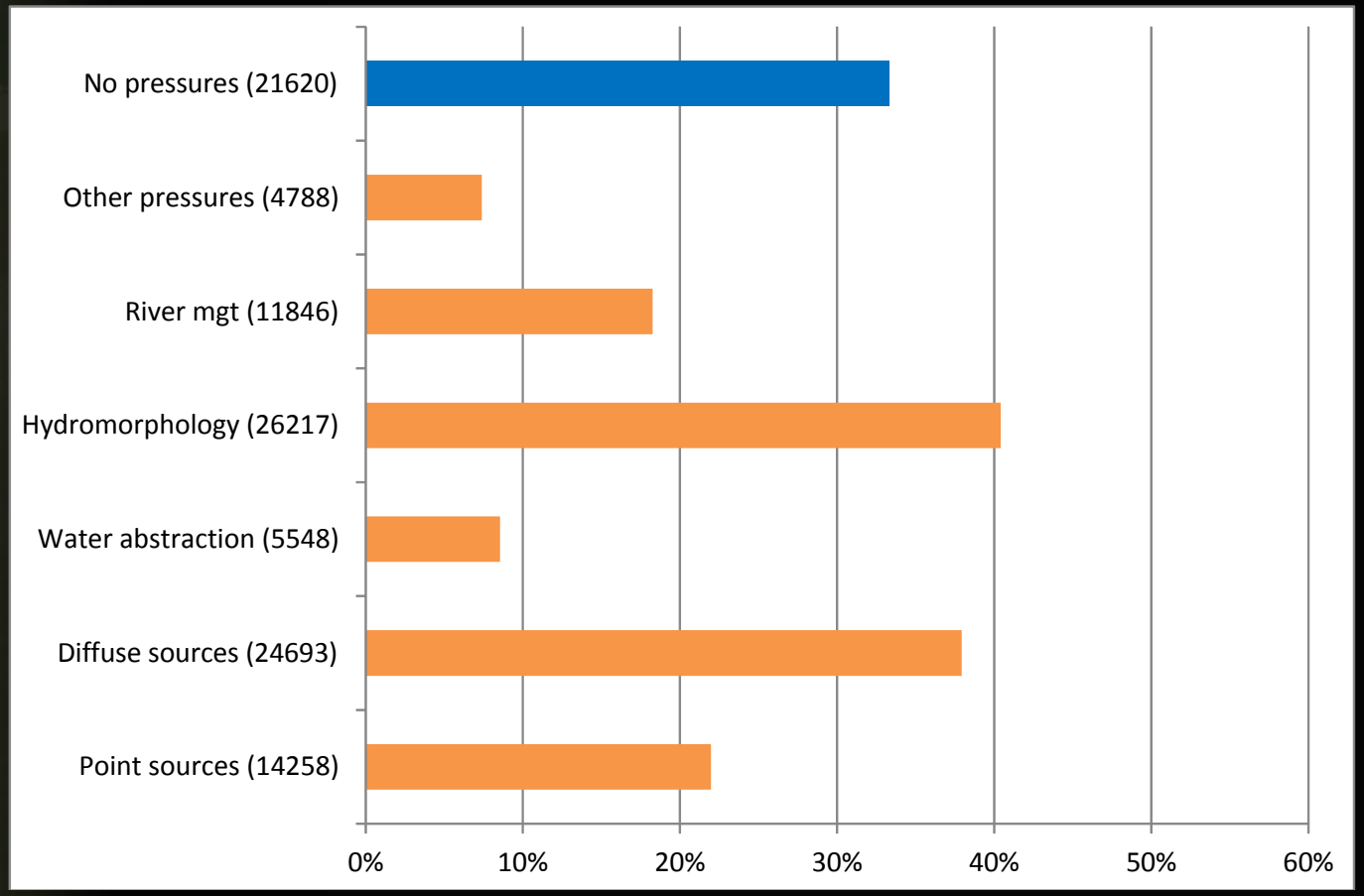


Transitional and coastal waters



Significant pressures

% of river WBs being affected by specific pressures

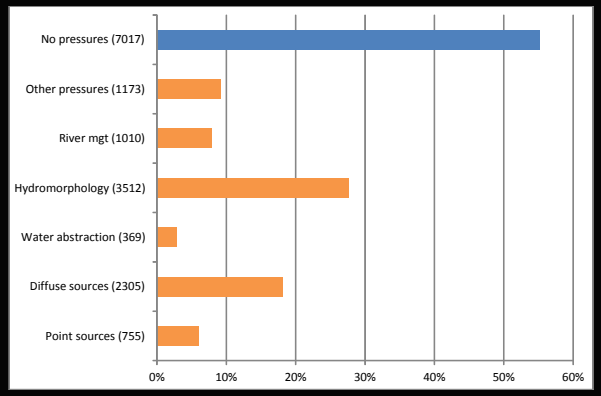


Significant pressures

Lakes

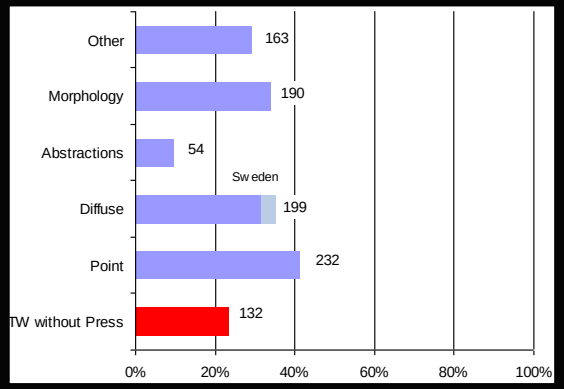
> 50 % without pressures

HYMO & diffuse pollution



Transitional waters

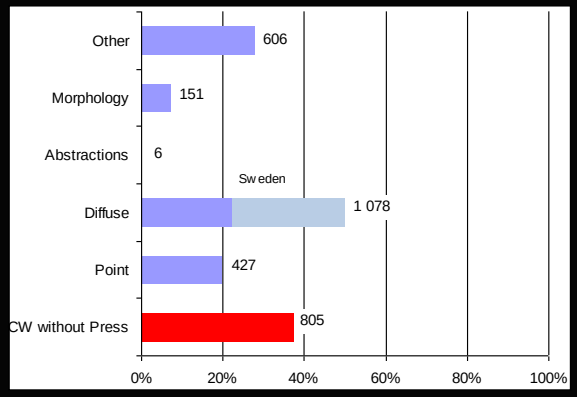
Around 20 % without pressures
High pollution and hydromorphology pressures



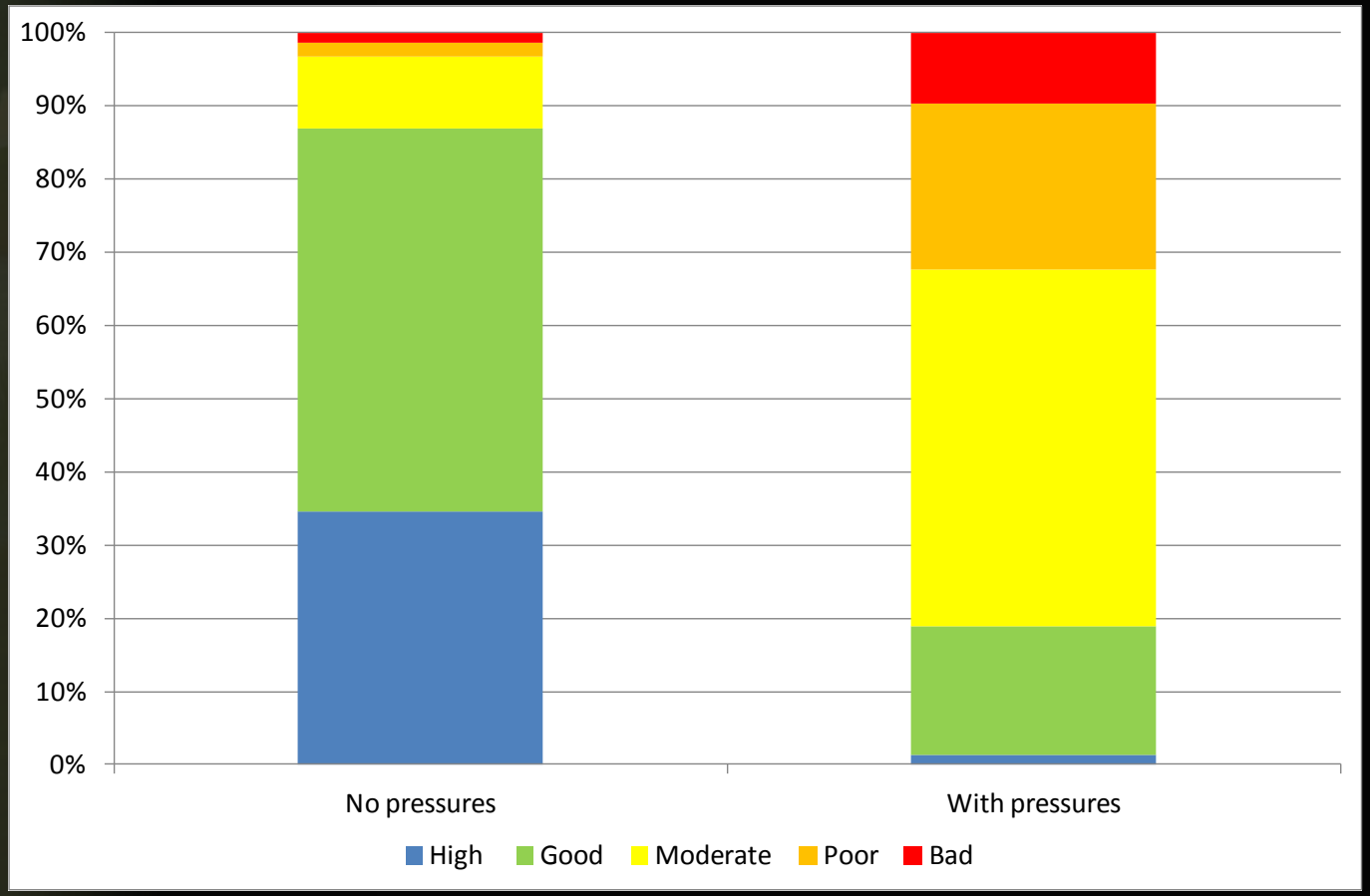
Coastal water

< 40 % without pressures

Diffuse & point sources + Others pressures

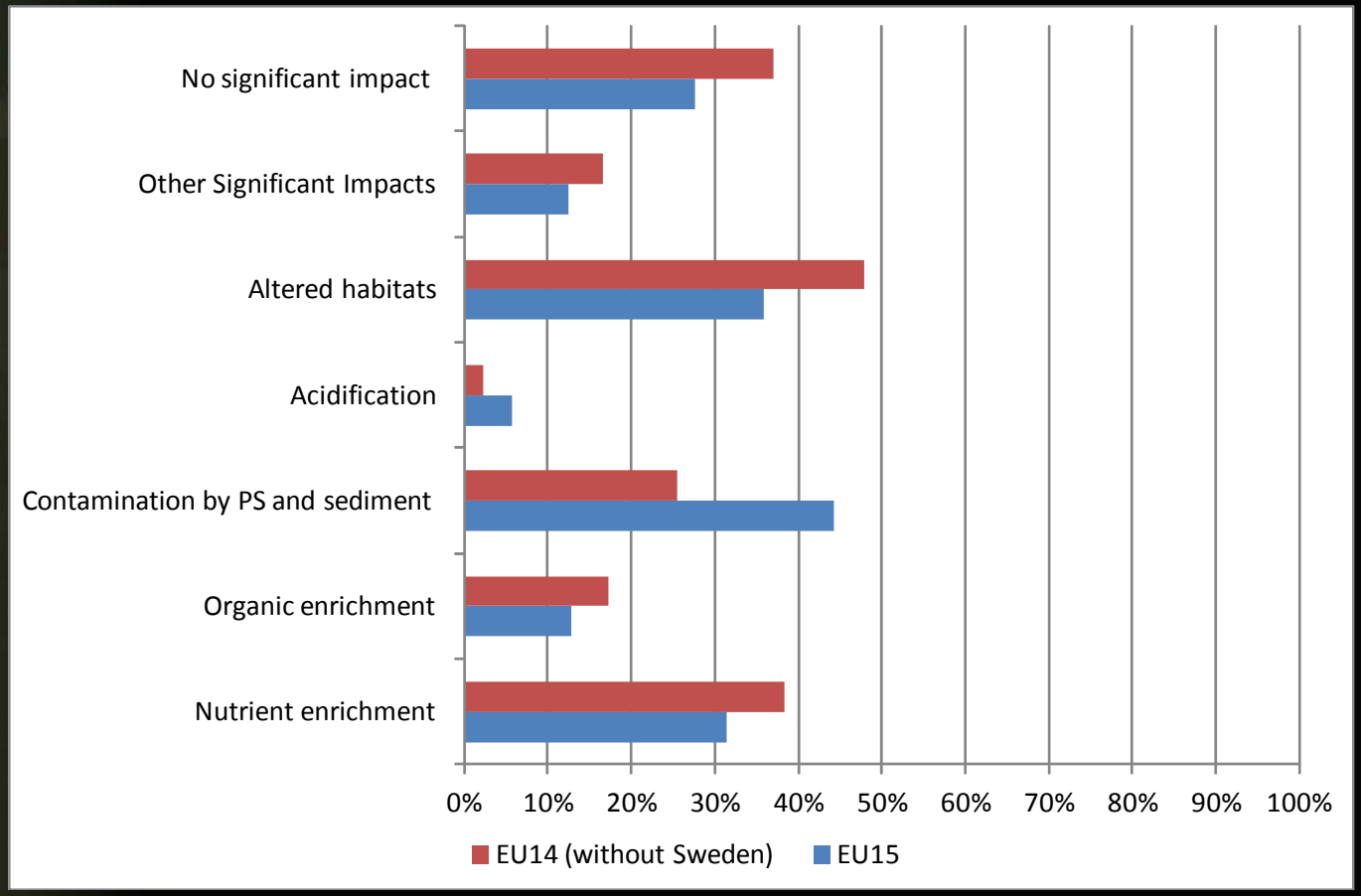


Ecological status of lake WBs without and with significant pressures

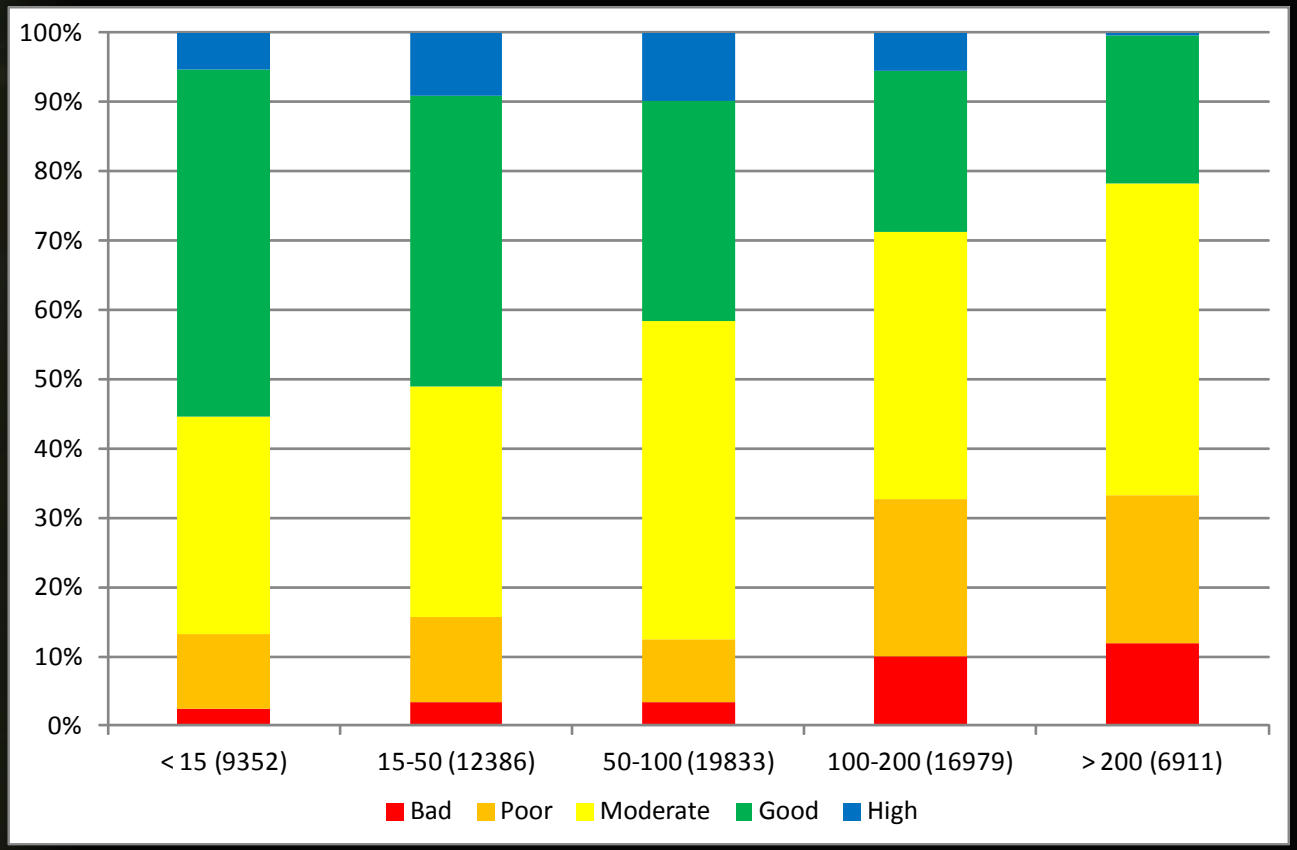


Impacts

% of river WBs being subject to specific impacts

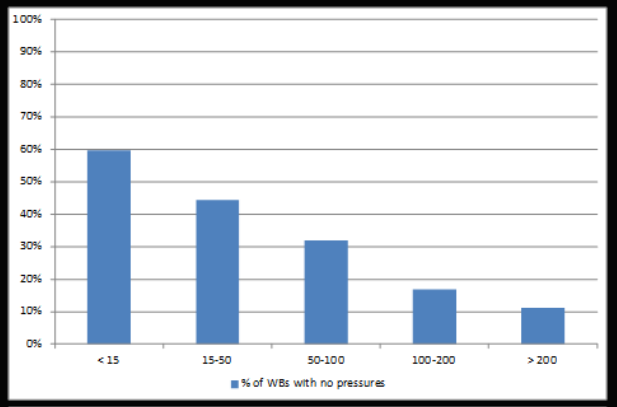


River Ecological status/potential by population density of RBDs

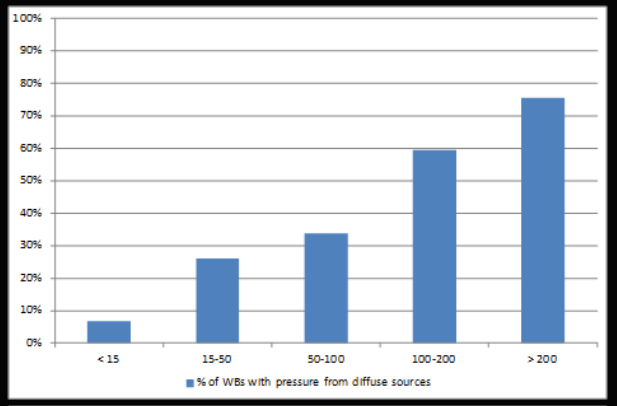


Percentage of river WBs having no or diffuse pollution or hydromorphology pressures

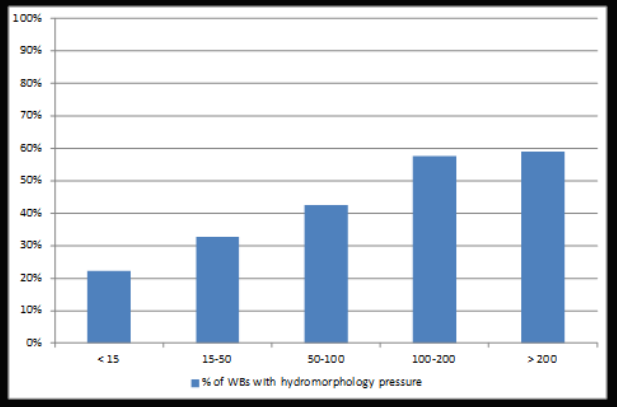
No pressures



Diffuse pollution pressures



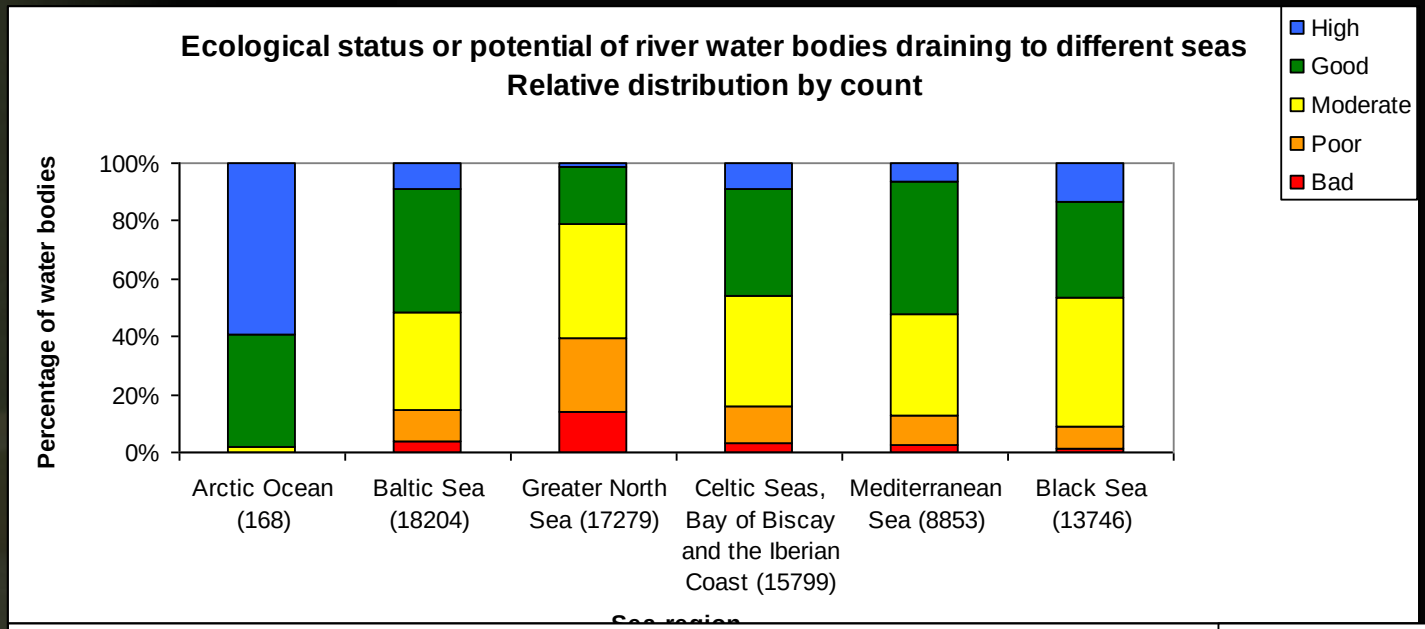
Hydromorphology pressures

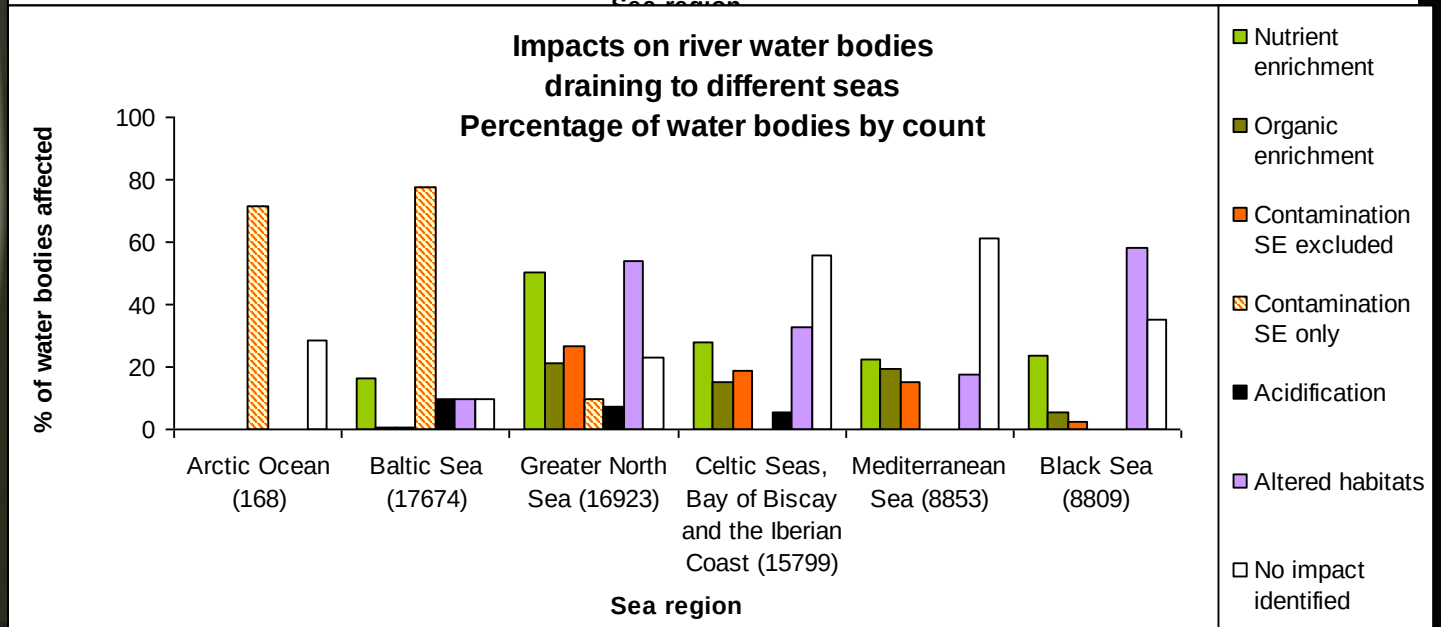


Population density in RBDs < 15 15-50 50-100 100-200 >200

Regional overview

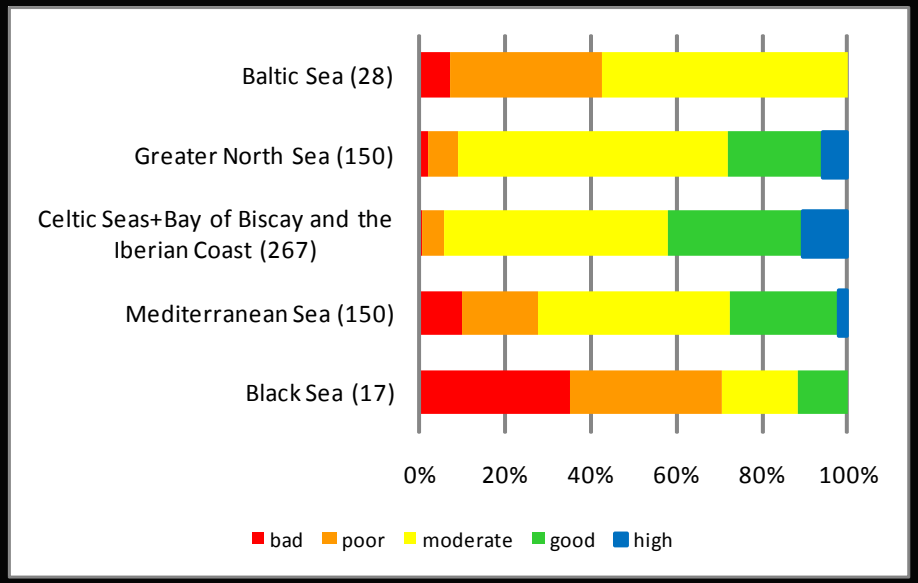
Ecological status and impacts



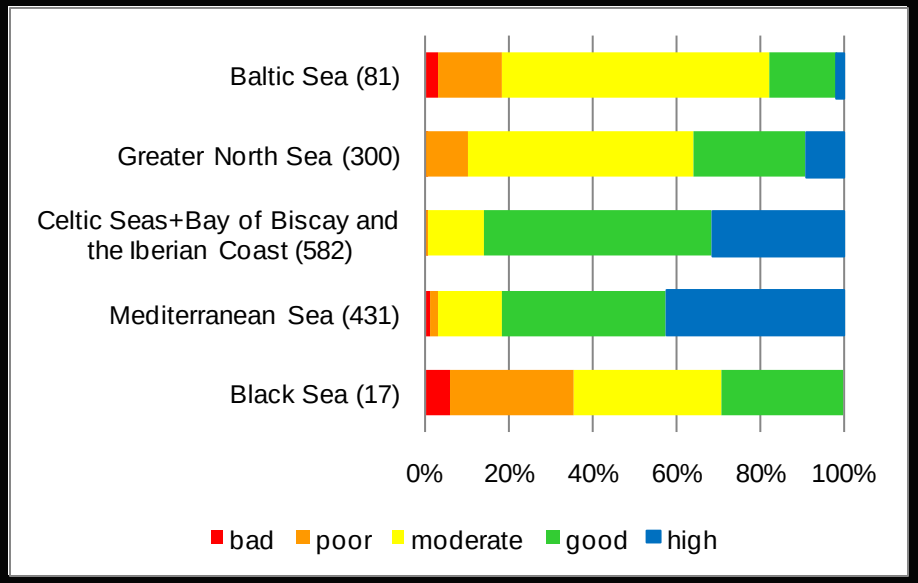


Transitional and coastal waters

Transitional waters

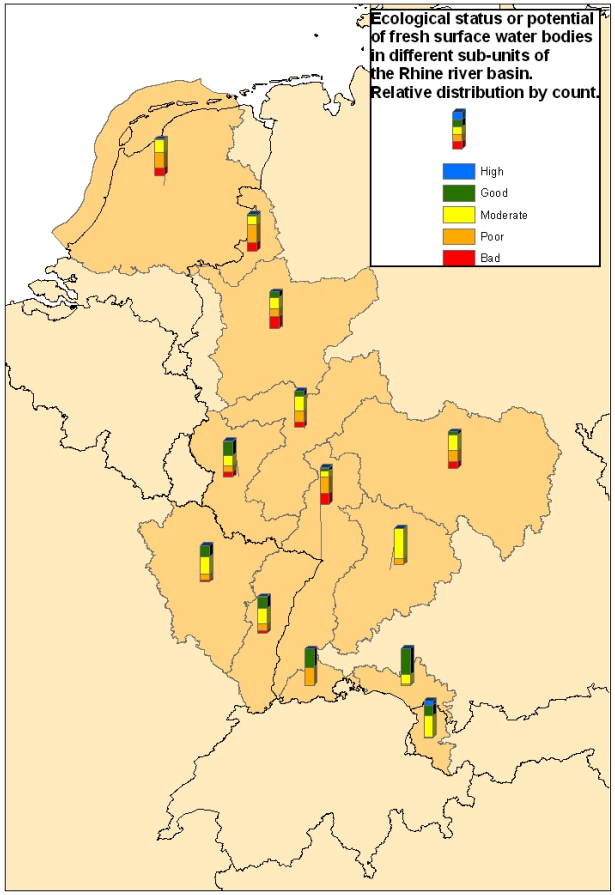


Coastal waters

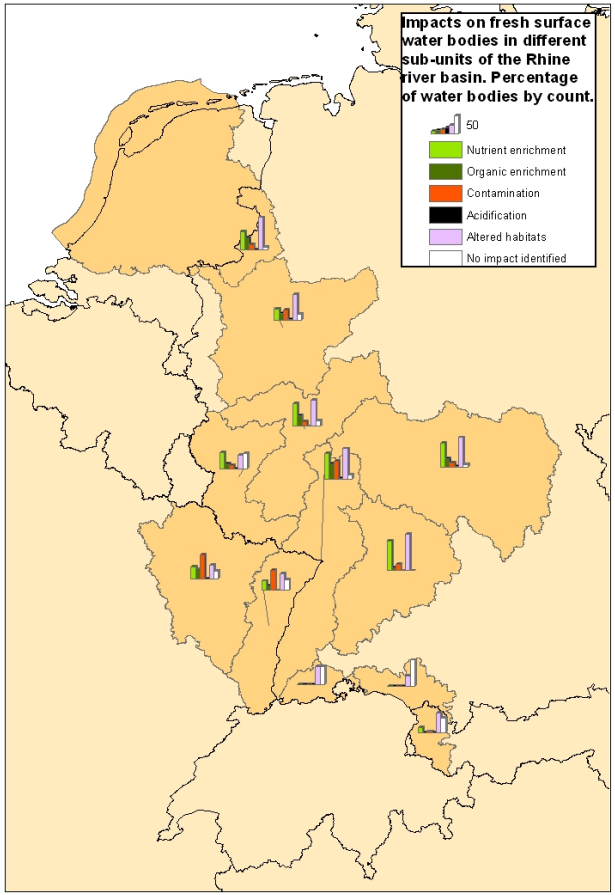


Rhine international RBD

Ecological status, rWBs

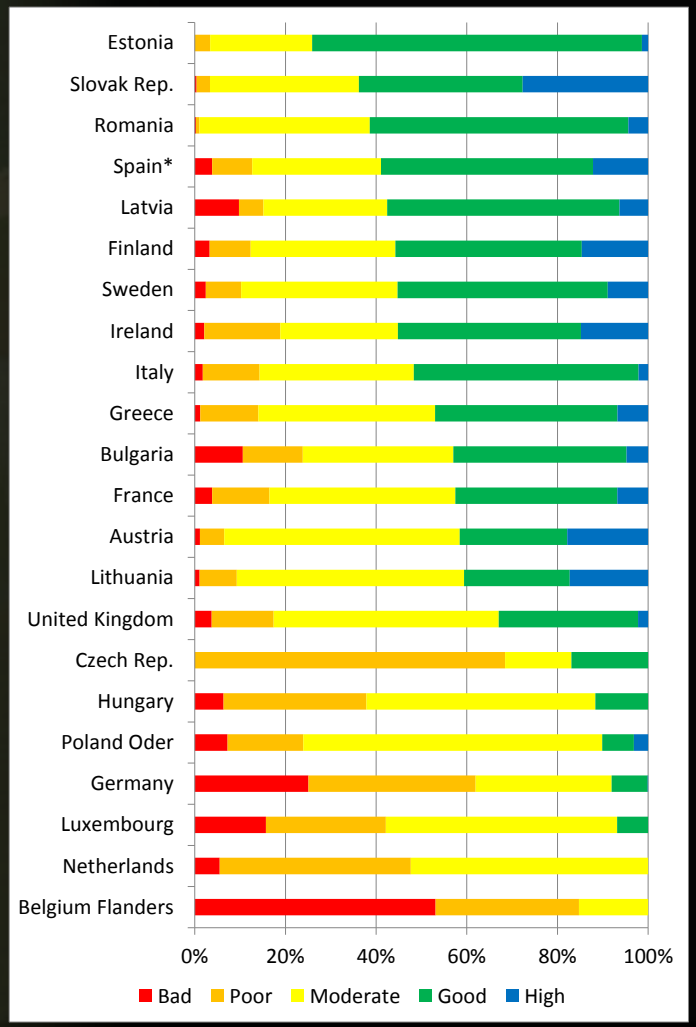


Impacts, river WBs

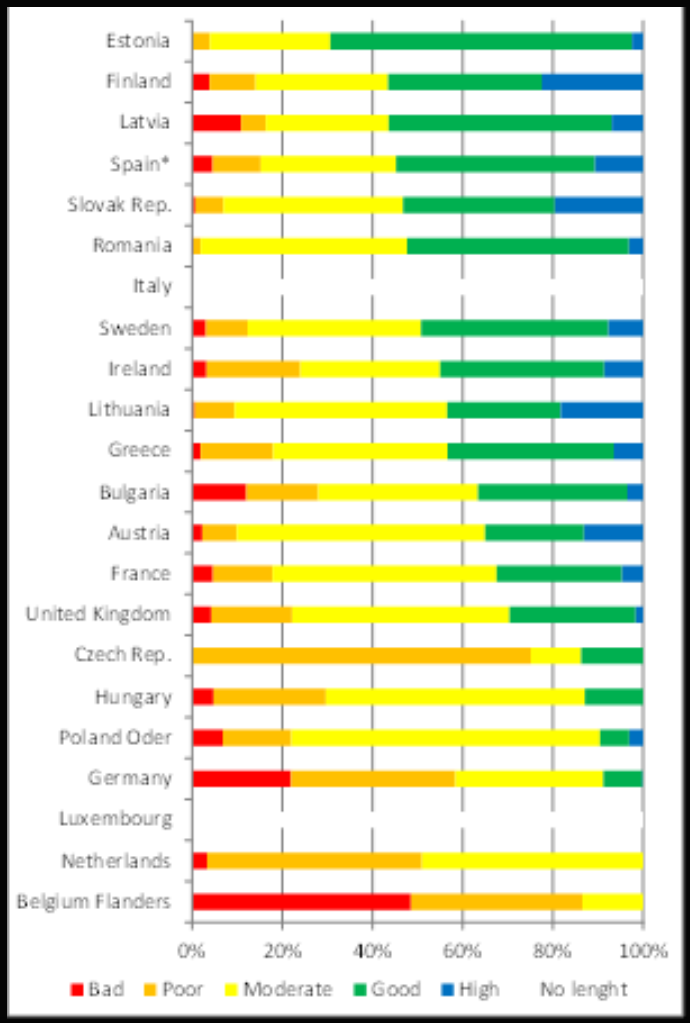


River ecological status/potential

By count of WBs

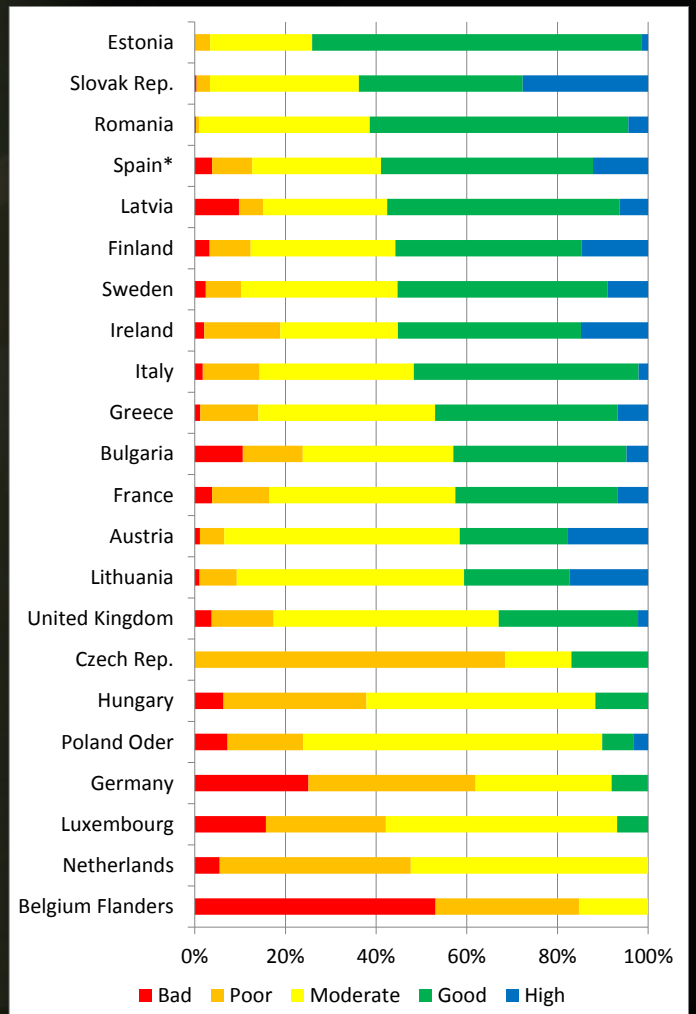


By river length

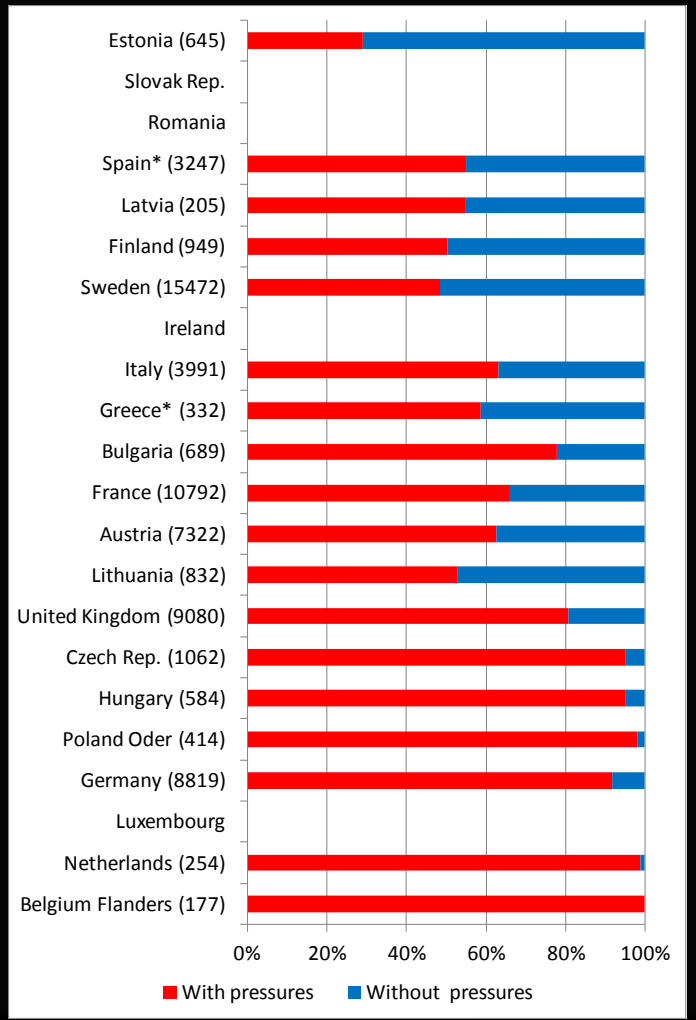


River ecological status & pressures

Ecological status, by count of WBs

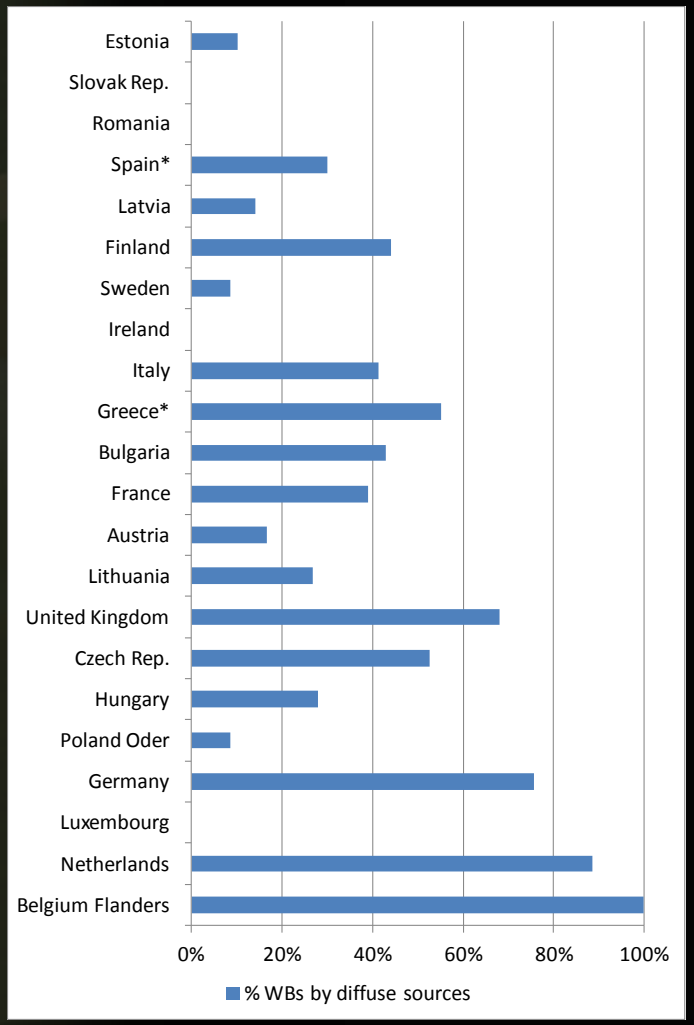


Proportion of river WBs with and without pressures

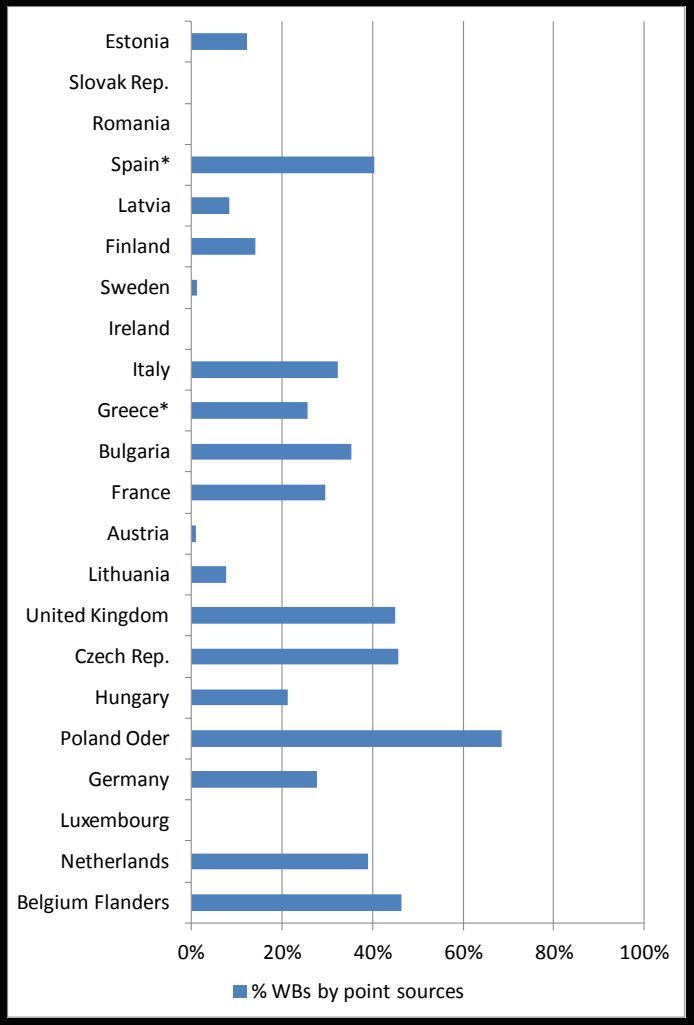


Main pressures

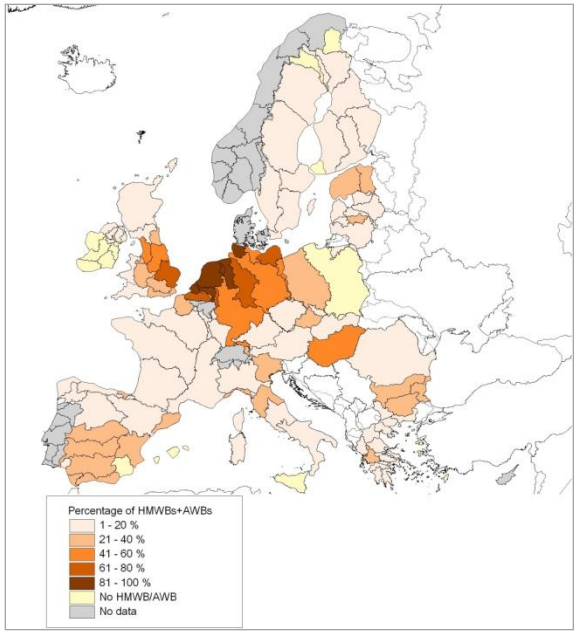
Diffuse pollution pressure



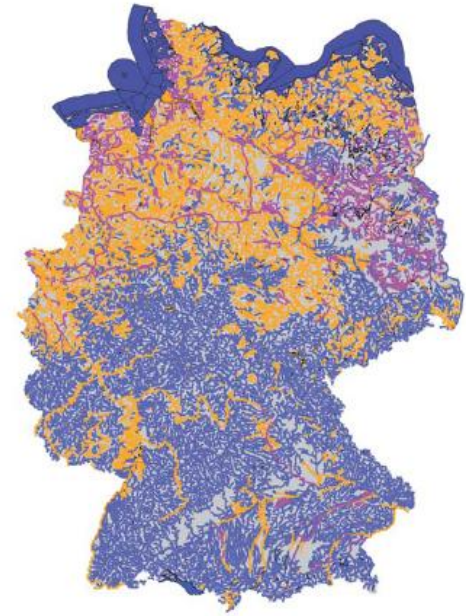
Hydromorphology pressures



Heavily modified WBs Germany



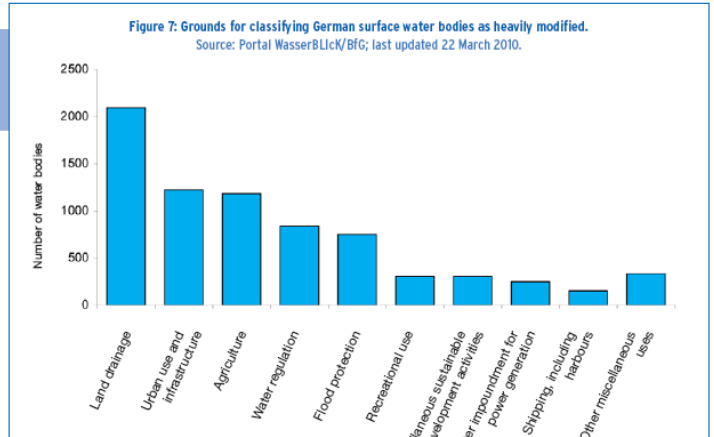
Map 3: Natural, artificial, and heavily modified water bodies in Germany.
Source: Portal WasserBLIcK/BfG; last updated 22 March 2010.



Natural water bodies | Heavily modified water bodies | Artificial water bodies

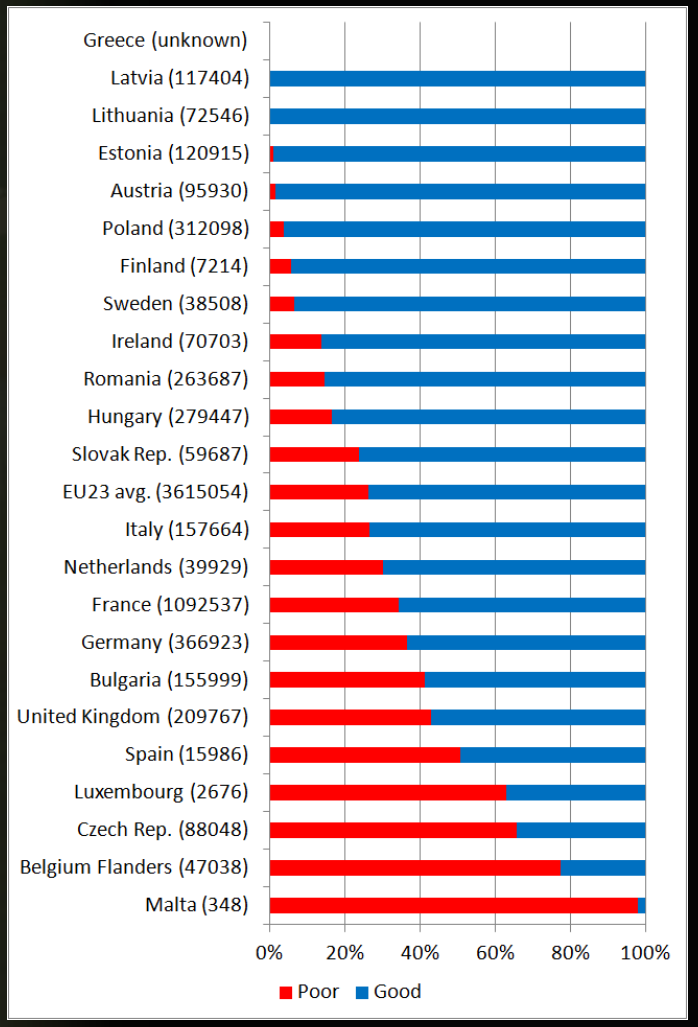
Figure 7 shows the main grounds for classifying German water bodies as "heavily modified". For such water bodies, measures aimed at achieving "good ecological status" would have a highly detrimental effect on various water body uses, particularly land drainage, agriculture, residential areas, infrastructure elements, water regulation and flood protection. Such water bodies are also heavily used for leisure time activities, shipping and power generation.

Figure 7: Grounds for classifying German surface water bodies as heavily modified.
Source: Portal WasserBLIcK/BfG; last updated 22 March 2010.

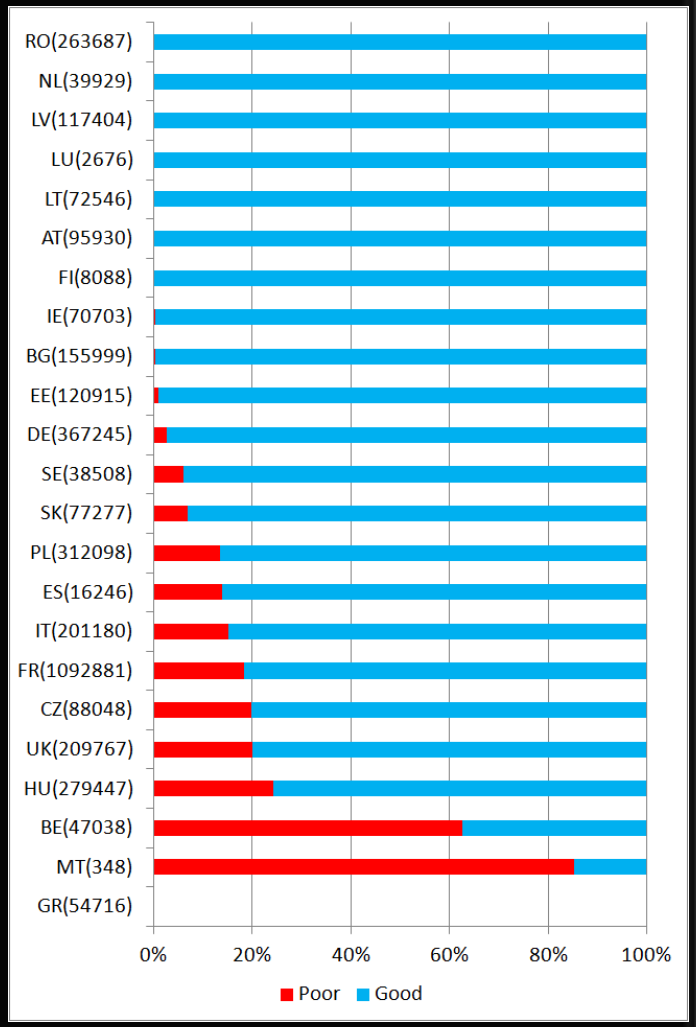


Groundwater

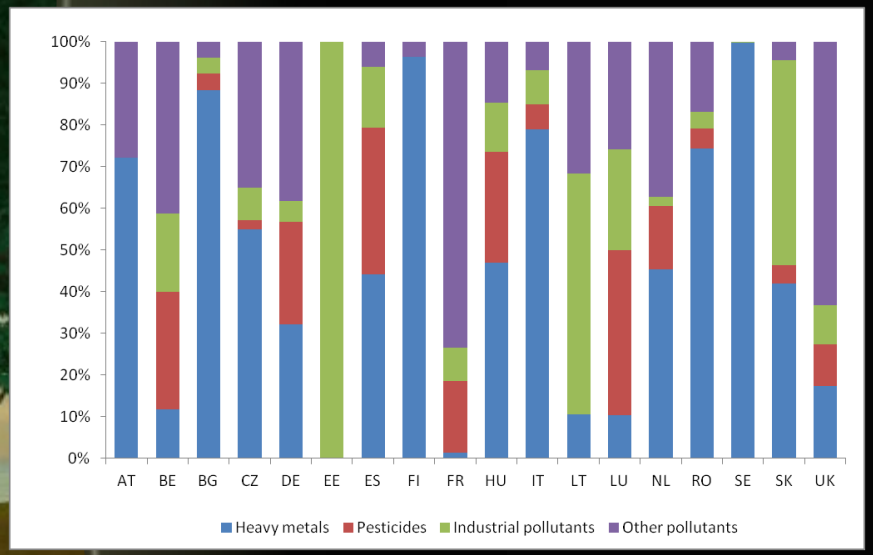
Chemical status



Quantitative status



Chemical status inland surface waters



WBs in poor chemical status due to appropriate pollutant group in Member States

Heavy metals

Pesticides

Industrial pollutants

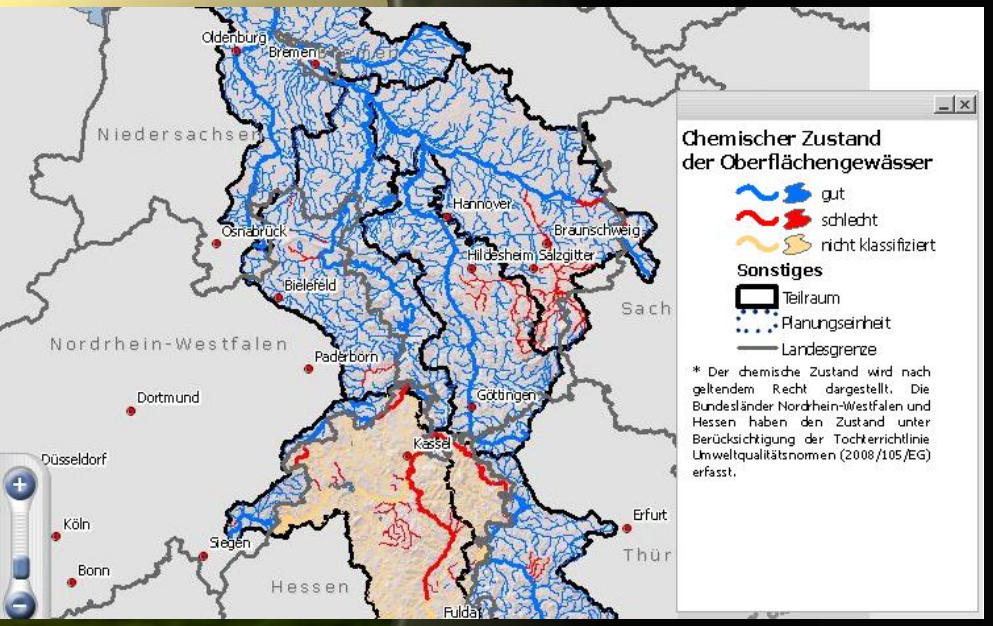
Other pollutants

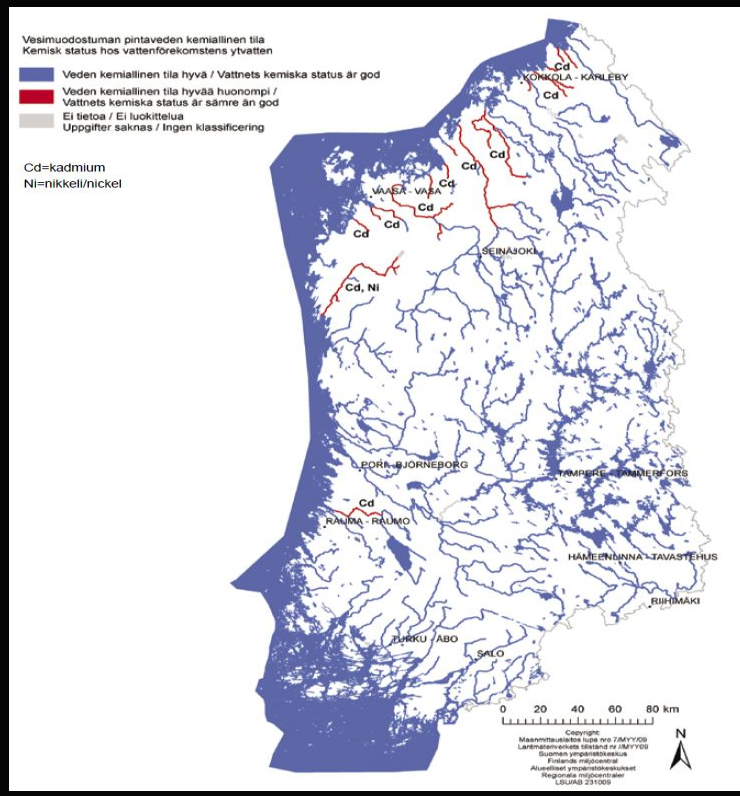
Chemical status of surface waters in the Bulgarian East Aegean RBD.

The most polluted waters in Bulgaria are located in the southern part of Eastern Aegean RBD being polluted by heavy metals from mines and processing industry.

Chemical status of surface waters in Weser & Kokemäenjoki RBDs

Nearly all Finnish surface WBs having poor chemical status are found NW part of the Kokemäenjoki RBD mainly being polluted by heavy metals due to acidified soils.
In the Weser RBD there are several sources to chemical pollution

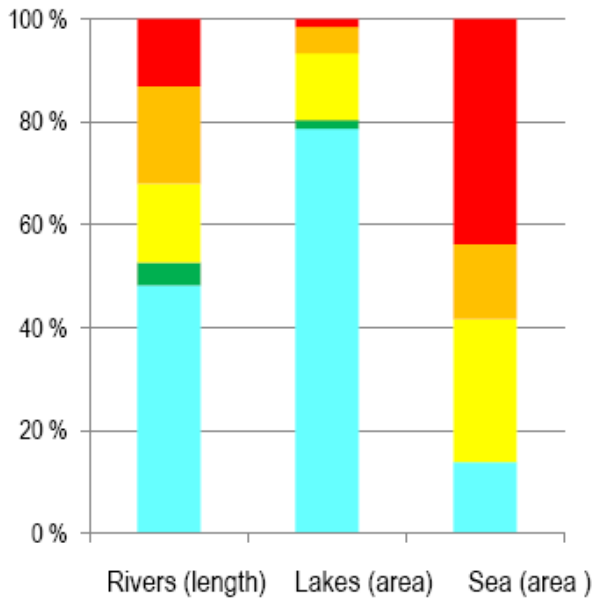




Finland Environmental objectives

(will be covered by DG Environment)

Reaching the objectives



- Objectives will be reached by 2027 with additional measures
- Objectives will be reached by 2021 with additional measures
- Objectives will be reached by 2015 with additional measures
- Objectives will be reached by 2015 with basic measures
- Objectives will be reached by basic measures

SYKE

Source: Keto 2010 at www.vannportalen.no

Overview of status and pressure results

Status, pressures Water categories	**European overviews**	**Regional overview**	**Country comparison**
Ecological status Water bodies (Rivers, Lakes, Transitional and Coastal)	√ Including RBD maps	√ Sea regions	√
Chemical status (Rivers, Lakes, Transitional and Coastal & Groundwater)	--- Problems of comparability		--- Problems of comparability
Quantitative status (Groundwater)	---		---
Sign. Pressures (surface waters – aggregated types (point sources, diffuse sources etc.)	√	√	√
Sign. Pressures (surface waters – disaggregated types e.g. barriers, mining	--- Use of examples		--- Use of examples
Impacts (surface waters – nutrients, altered habitats etc.	√	√	√
Sign. Pressures & Impacts (Groundwater)	---		---

Final products condensed 30-60 p. thematic assessments

Launch dates
- End May
- End August
- Autumn

Member States & Stakeholders Comments and input before 30 March

Adv. Group & others Comments and input before Xmas

Zero draft assessments

Adv. group & others to comment

First draft assessments

Comprehensive and detailed assessments for MS and stakeholder consultation (100-150 pp.)

Condensed and focused assessments

Editing and focus on key messages resulting in condensed 30-60 p. thematic assessments.

The revised 1st draft asessments may be used as background documents.

From zero drafts to first drafts

December-February

Take into account comments from advisory group and others

Write and complete assessment text

Harmonise and update diagrams

Add key messages

Add additional chapters on sectors and relevant other aspects

Dec.-Jan. 2012 Finalise first draft of thematic assessments

Sector and activity chapters

Hydromorphology pressures

A number of 3-5 pages sector chapters will be added on

- Hydropower
- Navigation, inland water ways, ports etc.
- Flood protection
- Agricultural activities (land drainage, buffer strips etc.)

They will generally be structured by

- An introduction (setting the scene) describing the main sector activities , its pressures and impact on the HYMO status.
- A brief overview of the sector in Europe (e.g. the number of hydropower plants)
- A summary of relevant information on the sector in the RBMPs
- A discussion of WFD and sector issues (e.g. Balancing WFD and Renewable Energy Directive (RES) requirements)

Chapters on other relevant aspects such as invasive alien species, environmental flows and plans for getting fish species (e.g. Salmon (Rhine, Thames, Meuse etc); sturgeon (Danube); eel (French rivers) and lampreys) back into the river systems may also be included.

Sector and activity chapters

Ecological status, pressures and impacts

A number of short chapters or text boxes will be added on

- Water quality – relationship between water quality data reported via EEA SOE and ecological status/potential
- Chemical status (overview of information on chemical status and pressures)
- Point sources (UWWT Directive, large IPPC industries) – results from EEA core set of indicators on UWWT)
- Diffuse sources (Nitrate Directive, pesticides etc.)
- *Mining and industrial sites*
- *Acidification*

Questions? Comments?

Thank you for your attention!

SELECTED METHODOLOGY ISSUES

Overview of data reporting

Country	RBMP adopted	All RBDs reported	All water categories (RI,LA; TR, CO)	Ecological status (yellow high % unknown)	Significant Pressures	Impacts
Austria					Aggr.	
Belgium	Flanders				Aggr.	
Bulgaria					disaggr.	
Czech Rep.				no H&B	disaggr.	
Estonia					disaggr.	
Finland		Åland	Transitional		disaggr.	
France					mixed	
Germany					Aggr.	
Greece*					mixed	
Hungary					mixed	
Ireland					error	
Italy		ITH&ITG			mixed	
Latvia					disaggr.	
Lithuania					disaggr.	
Luxembourg			LA			
Malta			RI+LA			
Netherlands					Aggr.	
Poland		Vistula			disaggr.	
Romania						
Slovak Rep.			LA			
Spain*		Segura			mixed	
Sweden					disaggr.	
United Kingdom					Aggr.	
Cyprus						
Denmark						
Portugal						
Norway						

Data issues

What do we do with MS (GR&ES) that have reported data but not yet have adopted their RBMPs?

For some MS (e.g. PL (Vistula) &ES (Segura)) large RBDs are missing also some smaller RBDs missing

Six MS have a large proportion of WBs with unknown ecological status

Four MS have not reported significant pressure (IE, LU, RO & SK) data

How do we handle aggregated/disaggregated pressures? – the HYMO pressure information is a mess

Seven MS have not reported impact (IE, LT, LU, NL, PL, RO & SK) data

No differentiation between ecological status and potential

In the analysis, no distinction has been made between ecological status and potential.

The criteria for classification of natural (status) and artificial or heavily modified water bodies (potential) vary, but the ecological conditions they reflect are assumed to be comparable.

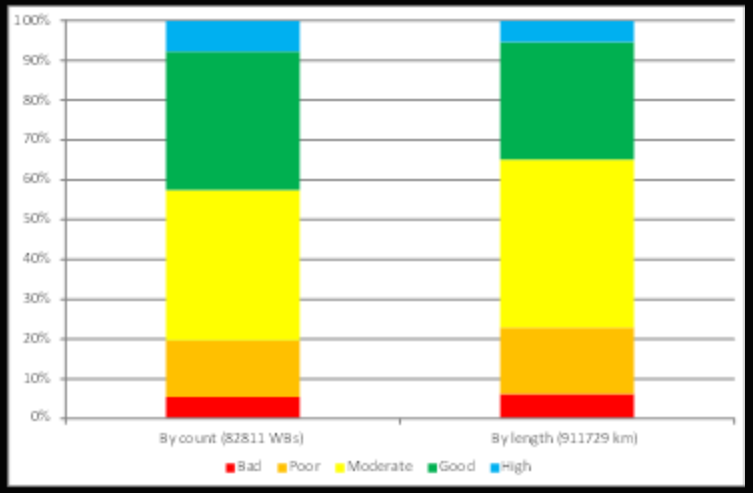
This assumption may not be correct for all Member States but the implications are thought to be minimal.

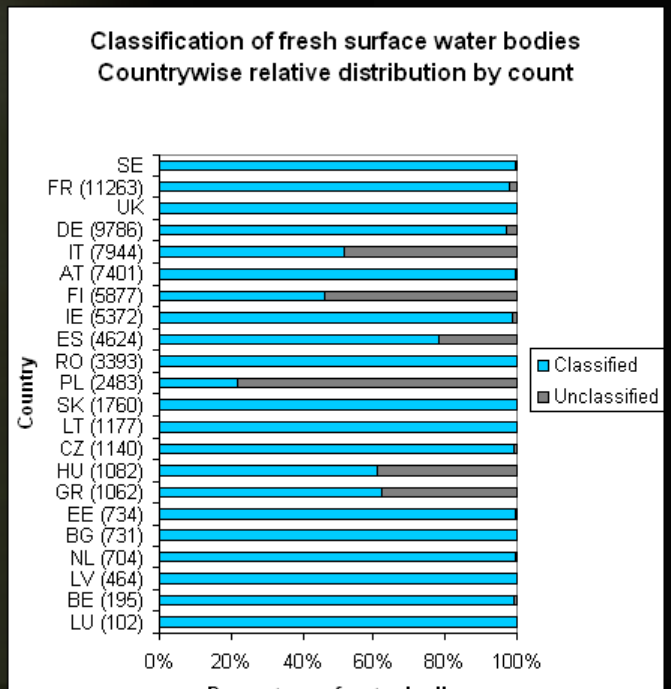
If the approach is not used no European overview and country comparison can be provided.

Aggregation of ecological status/potential to European overviews

WB_1, WB_2...WB_n

Only classified (not including unknown status)





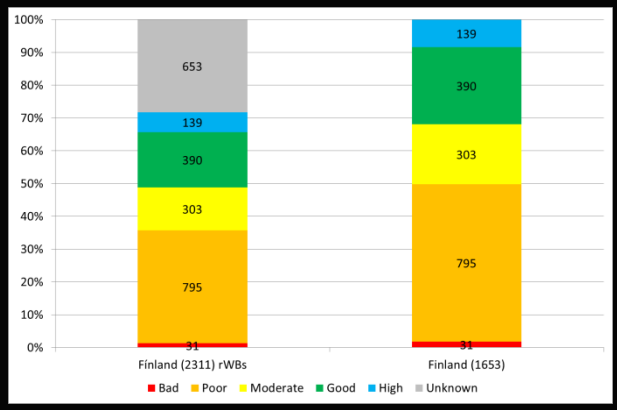
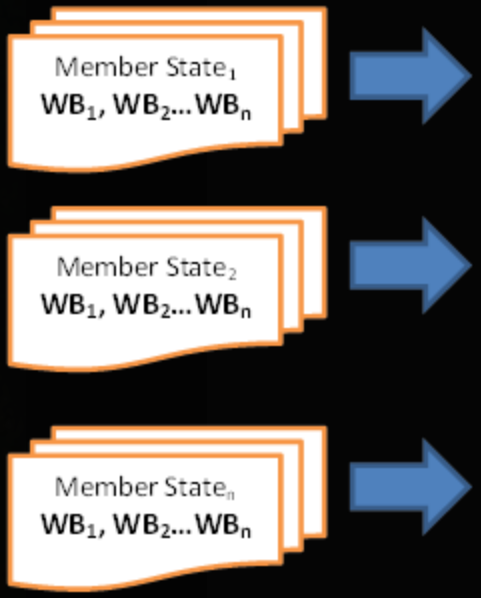
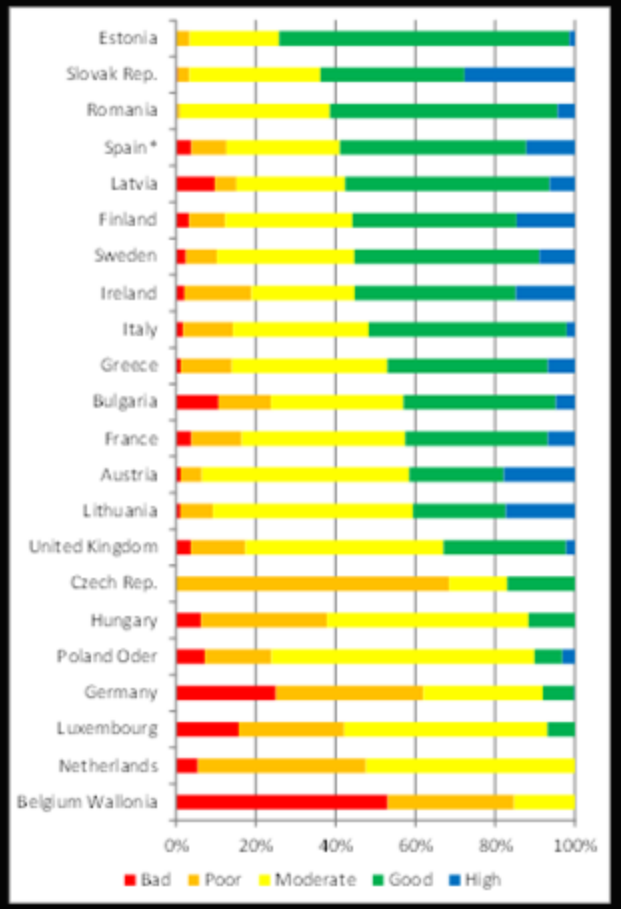


Figure Aggregation of ecological status/-potential and country comparison.

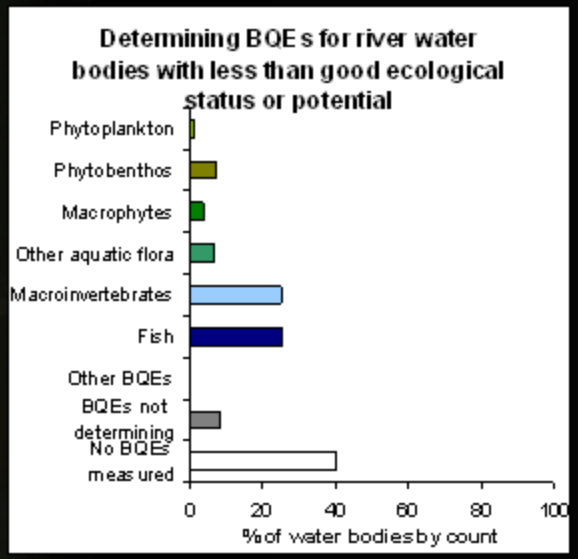


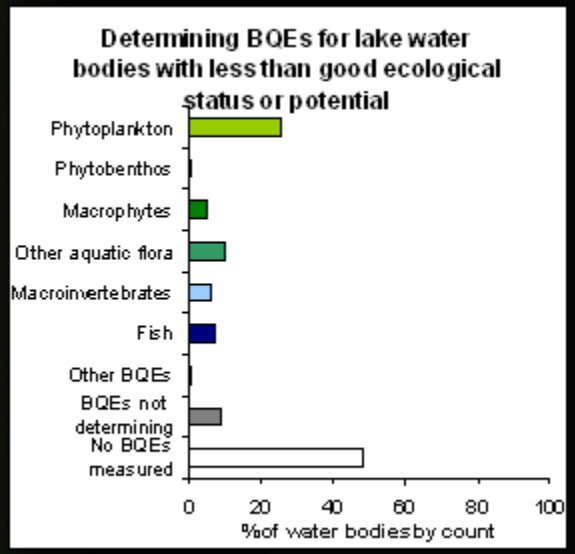


Ranked by percentage not achieving good ecological status

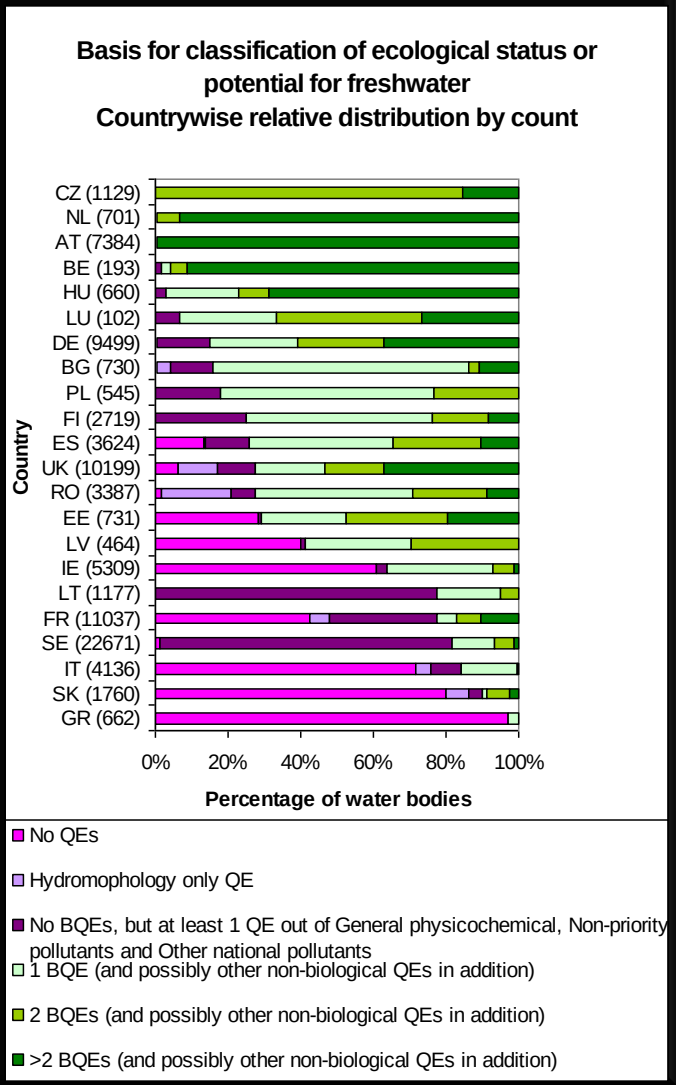
Many WBs have been classified without Biological Quality Elements

quality elements used for classification of water bodies as percentage of total number of water bodies in less than good status

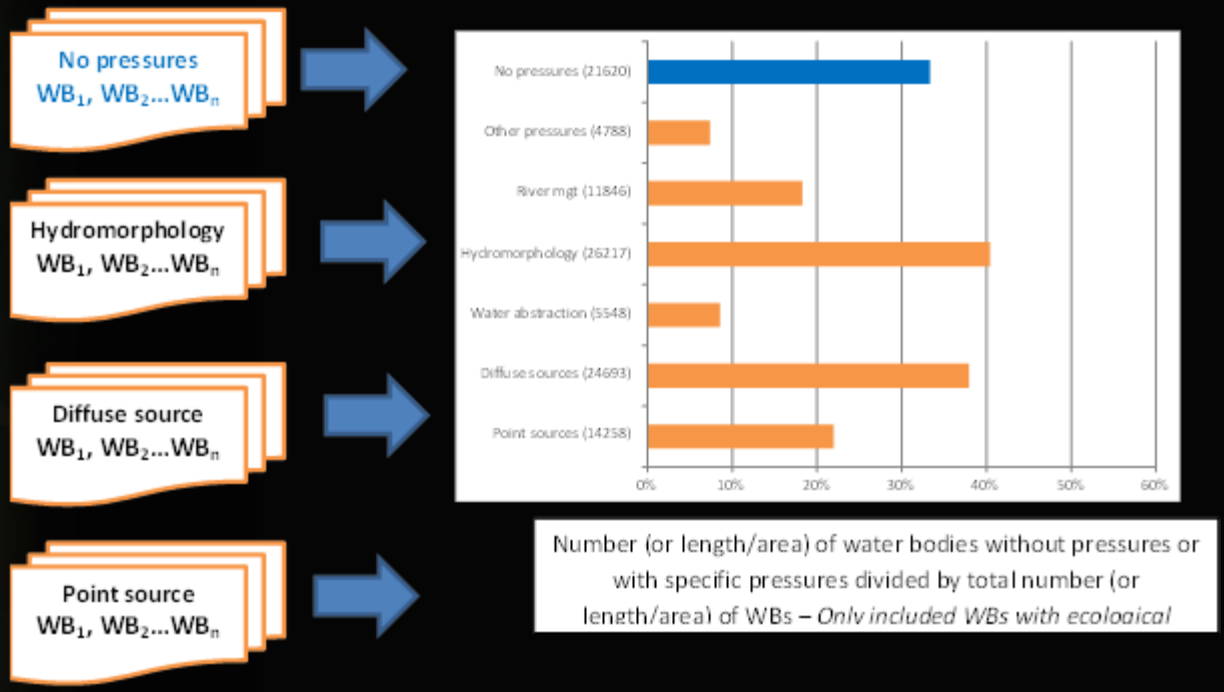


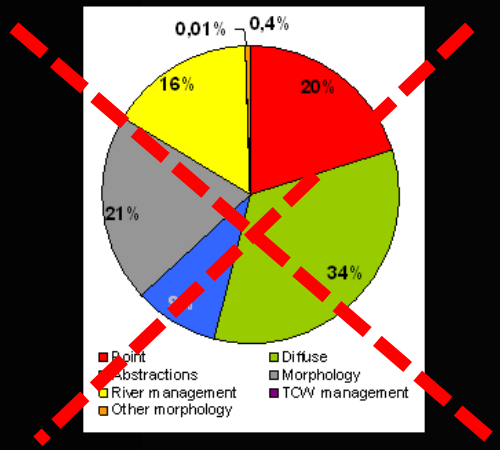


Classification of ecological status



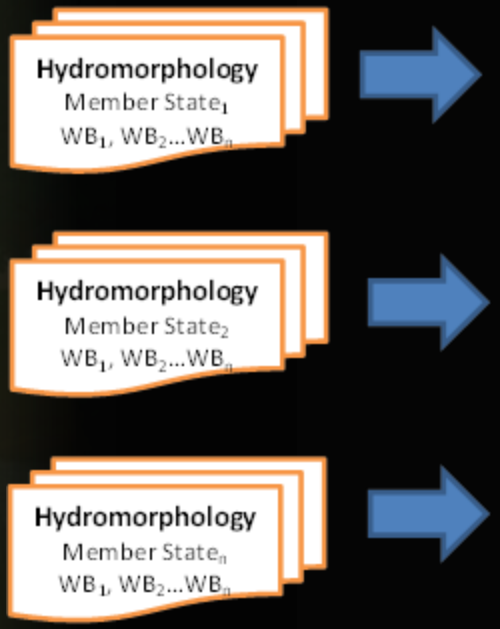
Aggregation of pressures (and impact) information

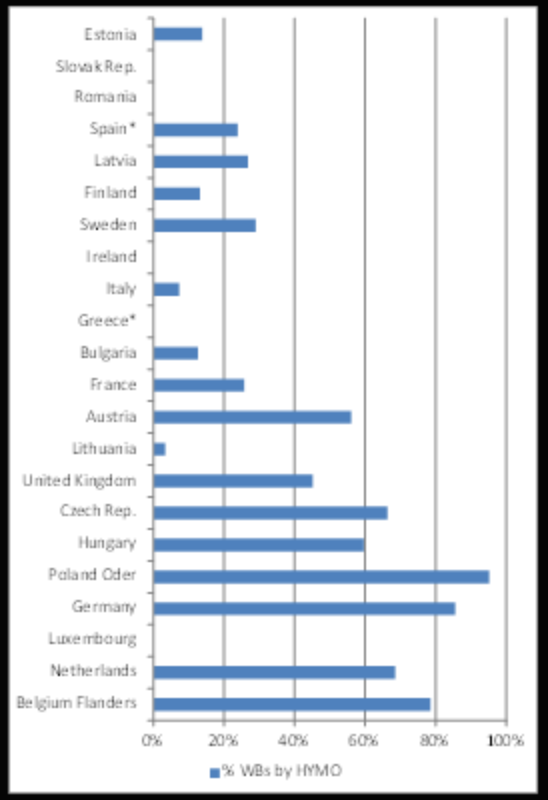




Aggegation of pressures (and impact) in pie-charts and stacked bars is not correct - Implications for WISE maps

Member State information on pressures (and impacts)





% of WBs being affected by the specific pressure
MS ranked by the order of at least good ecological status

How do we handle aggregated/disaggregated pressure data?

Country	Aggregated	Detailed
AT	1 PS,2 DS,3 WatAbS,4 FlowMorph;	7 Other Morph 54 (Barriers)
BE	2 DS,3 WatAbs,4 FlowMorph; 8 Other pressures	1 PS;
BG	No	1 PS; 2 DS; 3 WAtAbs; 4 FlowMorph; 5 River Mgt; 7 Other Morph & 8 Other pressures
CZ	No	1 PS; 2 DS; 4 FlowMorph; 5 River Mgt; & 8 Other pressures
DE	1 PS,2 DS,3 WatAbS,4 FlowMorph; 8 Other pressures	
EE	EE1: 2 DS,3 WatAbs EE2 &EE3 no	1 PS; 2 DS; 3 WAtAbs; 4 FlowMorph ; 8 Other pressures
	1 Point sources	1.1 Point - UWWT_General 1.1.1 Point - UWWT_2000 1.1.2 Point - UWWT_10000 1.1.3 Point - UWWT_15000 1.1.4 Point - UWWT_150000 1.1.5 Point - UWWT_150000PLUS 1.2 Point - Storm Overflows 1.3 Point - IPPC plants (EPRTR) 1.4 Point - Non IPPC 1.5 Point - Other
	2 Diffuse sources	2.1 Diffuse - Urban run off 2.2 Diffuse - Agricultural 2.3 Diffuse - Transport and infrastructure 2.4 Diffuse - Abandoned industrial sites 2.5 Diffuse - Releases from facilities not connected to sewerage network 2.6 Diffuse - Other
	3 Water Abstractions	Total and abstractions by sectors
	4 Water flow regulations and morphological alterations	See next slide

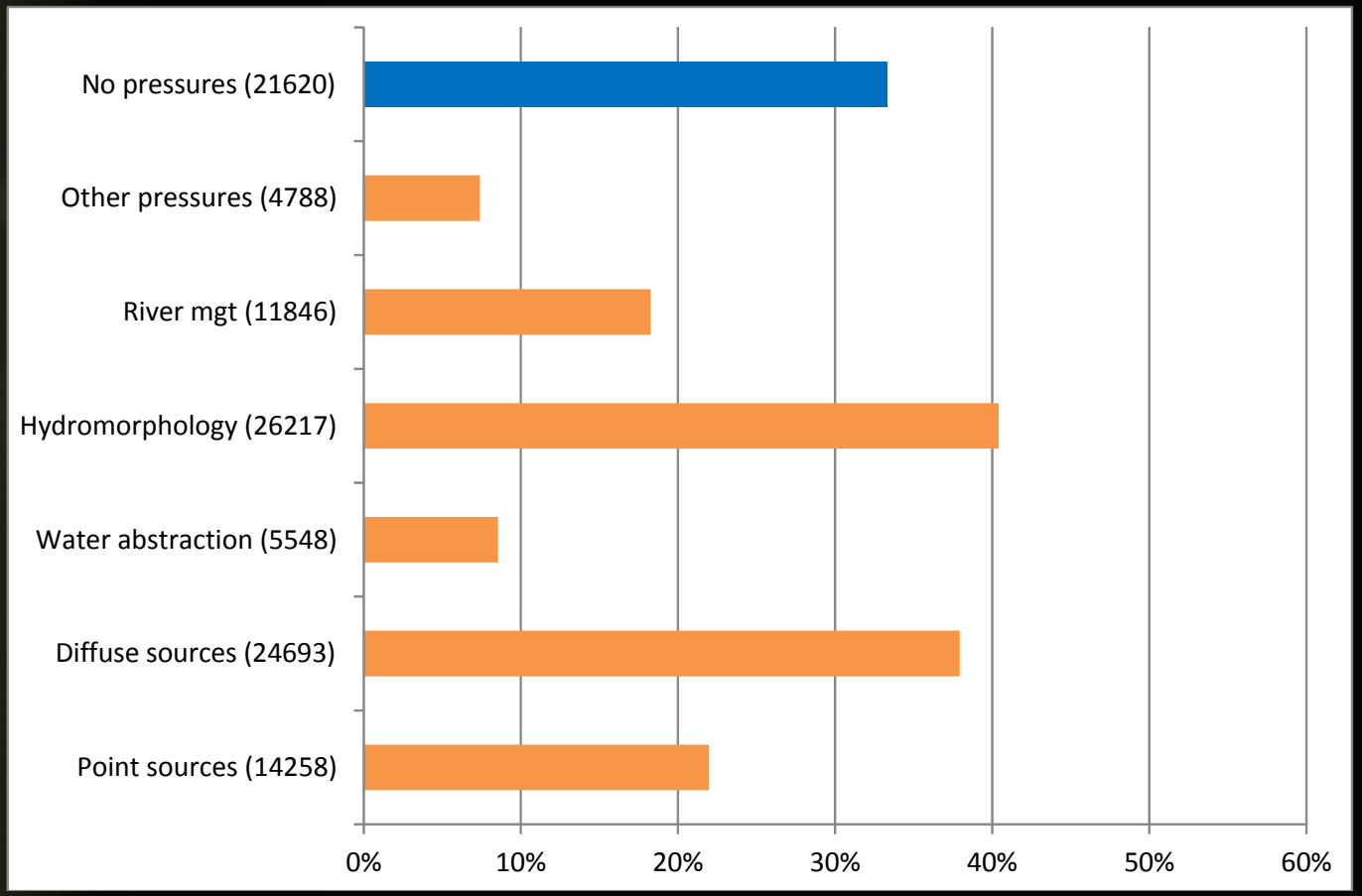
Example of aggregated/diaggregated pressures

Austria and Germany only reported aggregated pressures – e.g. River WBs being affected by point sources
Belgium Flanders, Bulgaria and the Czech Republic reported disaggregated pressures (e.g. River WBs being affected by UWWT, IPPC plants etc.)
In the analysis the Be Fl.; BG; and CZ have been aggregated to WBs affected by points sources (no double counting).

1 Point sources AT (68) -0.9 % DE (2436) – 27.6 % *Aggregated – disagg.* BE Fl. (82) – 46.3 % BG (243) – 35.3 % CZ (485) - 45.7	1.1 Point - UWWT_General --- BE(62): BG(3); CZ (86) 1.1.1 Point - UWWT_2000 --- BG (65); CZ (116) 1.1.2 Point - UWWT_10000 --- BG (85); CZ (81) 1.1.3 Point - UWWT_15000 --- BG (18); CZ (13) 1.1.4 Point - UWWT_150000 --- BG (35); CZ (55) 1.1.5 Point - UWWT_150000PLUS--- BG (6); CZ (6) 1.2 Point - Storm Overflows --- CZ (1) 1.3 Point - IPPC plants (EPRTR) --- BE(17); BG(45); CZ (136) 1.4 Point - Non IPPC --- BE(30): BG(106); CZ (153) 1.5 Point – Other --- --- BE(8): BG(67); CZ (153)

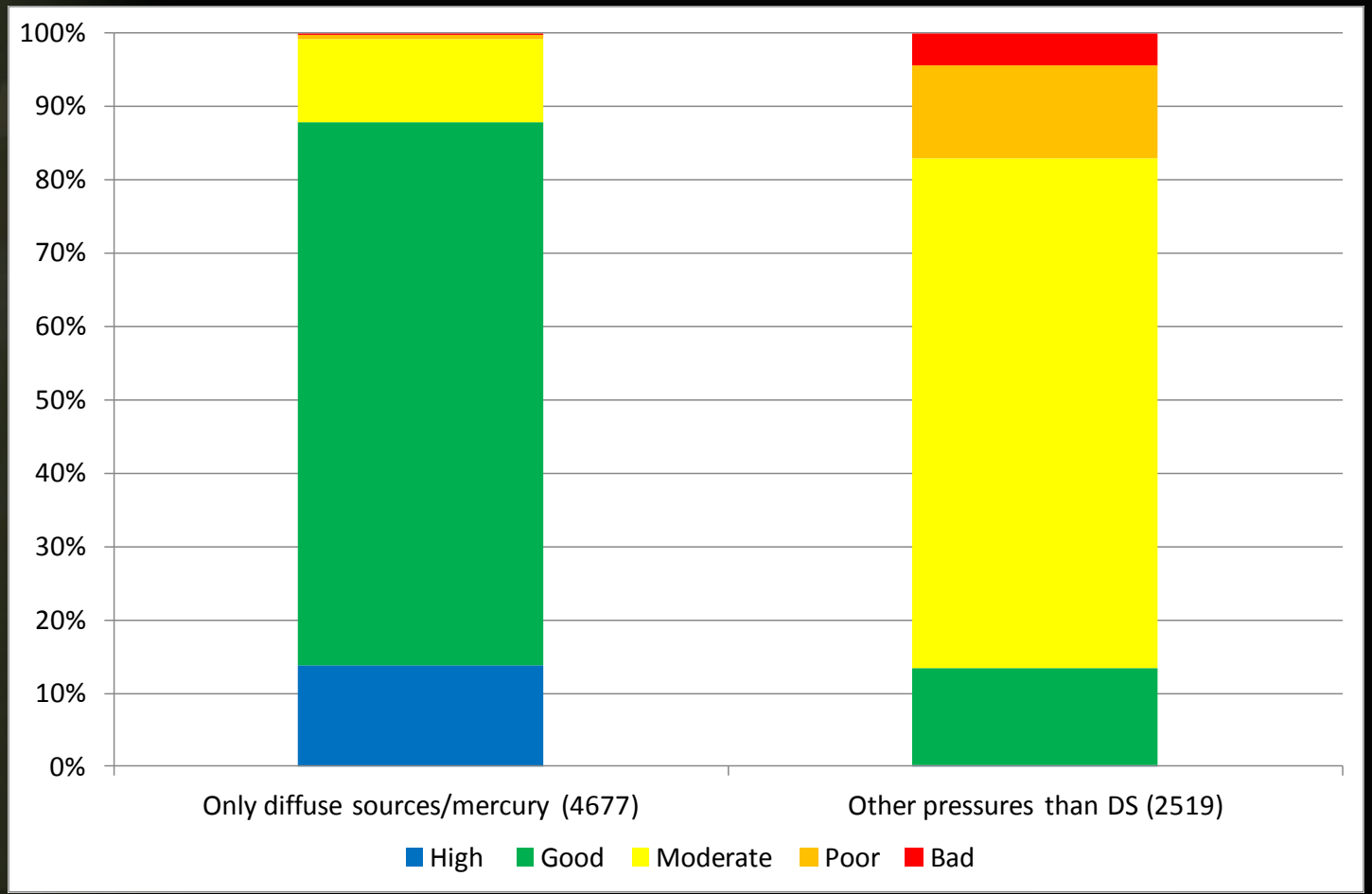
Significant pressures

% of river WBs being affected by specific pressures



Sweden only diffuse pollution WBs other than mercury pollution

Swedish lakes – ecological status of WBs with diffuse sources (mainly mercury) being the only pressure or status for WBs with other pressures than diffuse sources



HYMO pressure information is a mess

Aggregated	Detailed
3 Water Abstractions AT, BE, DE, EE, NL, UK	BG, EE, HU 3.1 Abstraction - Agriculture 3.2 Abstraction - Public Water Supply 3.3 Abstraction - Manufacturing 3.4 Abstraction - Electricity cooling 3.5 Abstraction - Fish farms 3.6 Abstraction - Hydro-energy not cooling 3.7 Abstraction - Quarries 3.8 Abstraction - Navigation 3.9 Abstraction - Water transfer 3.10 Abstraction - Other
4 Water flow regulations and morphological alterations AT, BE, DE, NL, SE, UK	BG, CZ, EE, HU 4.1 FlowMorph - Groundwater recharge 4.2 FlowMorph - Hydroelectric dam 4.3 FlowMorph - Water supply reservoir 4.4 FlowMorph - Flood defence dams 4.5 FlowMorph - Water Flow Regulation 4.6 FlowMorph - Diversions 4.7 FlowMorph - Locks 4.8 FlowMorph - Weirs
5 River management NL, SE, UK	BG, CZ, EE, HU 5.1 RiverManagement - Physical alteration of channel 5.2 RiverManagement - Engineering activities 5.3 RiverManagement - Agricultural enhancement 5.4 RiverManagement - Fisheries enhancement 5.5 RiverManagement - Land infrastructure 5.6 RiverManagement – dredging
7 Other morphology	7.1 OtherMorph – Barriers, AT, BG 7.2 OtherMorph - Land sealing
8 Other pressures BE, DE NL, UK	BG, CZ, EE, HU 8.1 OtherPressures - Litter/fly tipping 8.4 OtherPressures - Recreation 8.9 OtherPressures - Land drainage 8.10 OtherPressures- Other

Looking on results in detail

Several quality issues (results look suspecius, for example

- no high or bad classified Czech rivers (only three classes);
- no WBs affected by Urban Waste Water Treatment in Sweden;
- no Swedish WBs with altered habitats being an impact

Aggregation results affected by MS included (e.g. two thirds of the lake WBs and lake area in Sweden and Finland

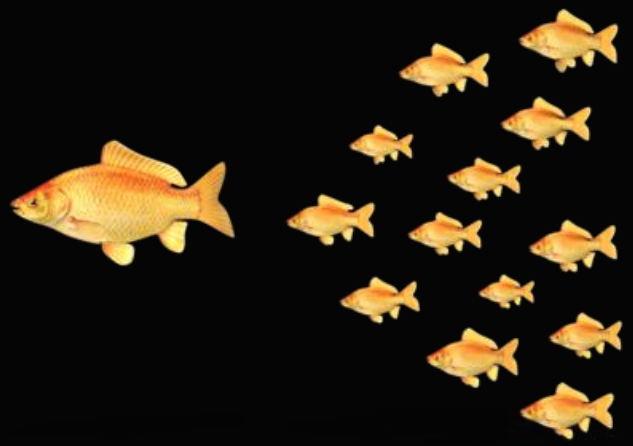
Difficult to use detailed pressure information

Limited reporting of aggregated pressure information (loads of pollutants or water abstractions within RBD and sub-units)

State and pressure not fully covered

- Chemical status (SWB and GW)
- Groundwater
- Quantitative status
- Aggregated pressures (pollutant loads; water abstractions; barriers)
- Examples and cases from the RBMPs

COORDINATION ISSUES AND OTHER ASPECTS



Questions? Comments?

Thank you for your attention!