

The right data ?

- for what?

The use of monitoring data for indicator based assessments linked to the DPSIR-framework on EU-level

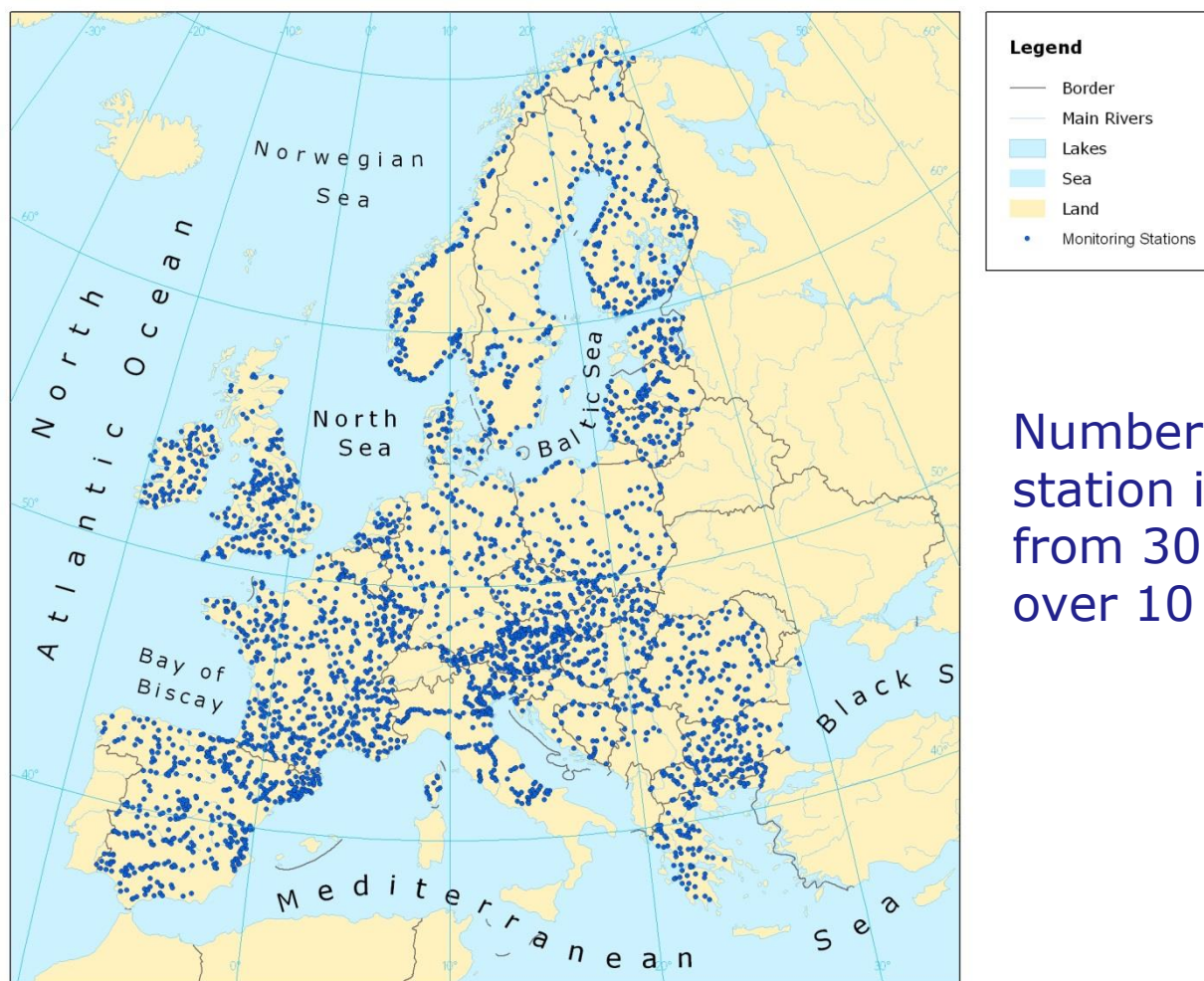
Beate Werner

Content

- Use of monitoring data and indicators in EEA products, EU network = MS network
- EEA information and indicators in the policy cycle – using the DPSIR
- The SOE –reporting – a success
- SOE information and water directives (WFD+)
- Assessing interrelations and policy relevant information



Eionet-Water - River Stations in end 1990ies

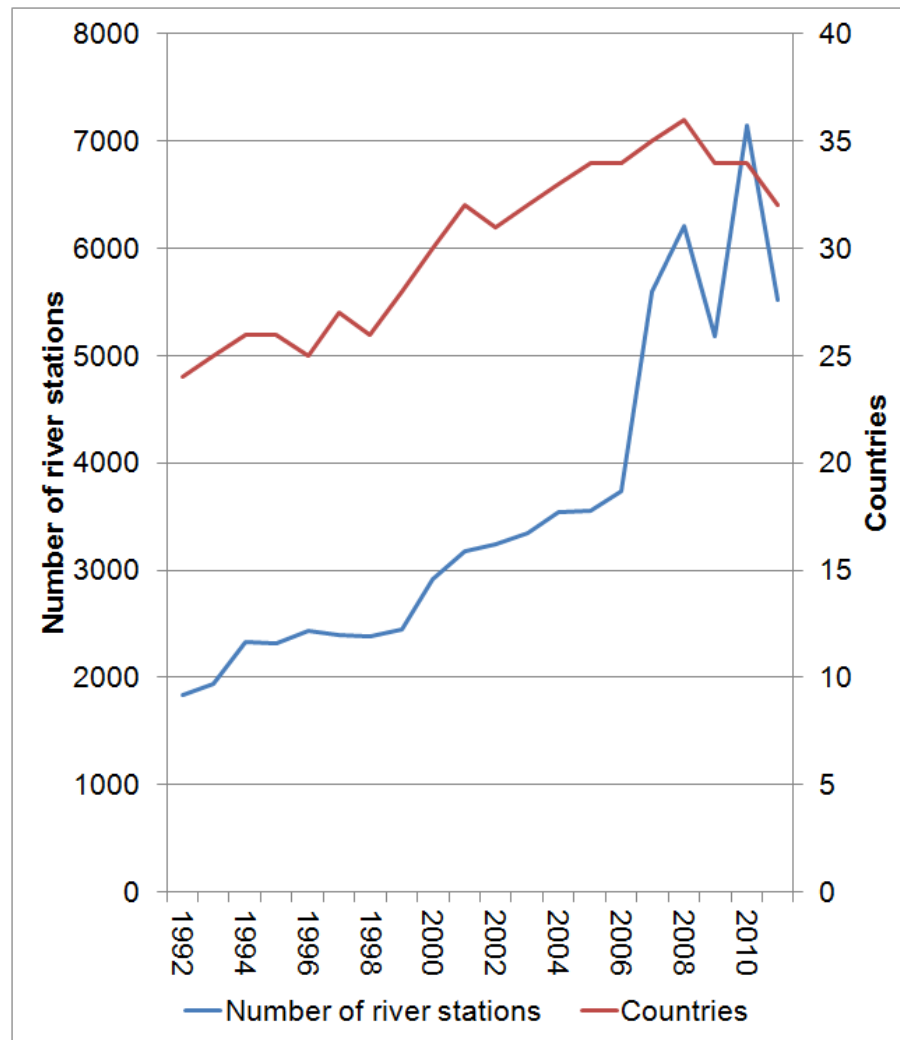


Number of river station increased from 3000 to over 10 000

WISE-SoE dataflow - a success

- Over the last 20 years countries have reported
- More than **11 000 river stations** (38 countries) – only Malta has not reported rivers
- More than **3200 lake stations** (36 countries)
- More than **1500 groundwater bodies**
- For rivers there are around 1000-1500 time series covering the last 20 years 1992 to 2011.

Number of river stations and countries reporting per year



CountryCc	Total R_St	2007	2008	2009	2010	2011
AL	54	52	52	22	22	20
AT	290	65	60	66	66	
BA	66	18	19	20	16	31
BE	98	57	59	60	61	90
BG	115	107	98	92	95	96
CH	24	15	11	6	10	
CY	31	23	18	24	29	25
CZ	73	69	69			
DE	267		253	255	255	257
DK	42	42	41	41	41	40
EE	122	60	60	60	64	58
ES	2965	652	1244	1317	1605	905
FI	230	138	137	130	128	125
FR	1873	1380	1522	1441	1567	1567
GB	1235	400	392	465	1185	1140
GR	133	115	107			
HR	52	45	45	45	45	44
HU	150	96				
IE	209	156	159	179	172	172
IS	3	1	2	3	3	3
IT	2075	1336	1024	195	1134	
LI	18	15	15	15	12	15
LT	118	53	53	53	54	59
LU	4	4	4	3	4	3
LV	119	49	40	32	5	5
ME	36					36
MK	20	20	20	20	20	19
NL	31	16	15	14	14	14
NO	46	46	46	46	46	44
PL	344	129	118	113	34	282
PT	64	56	56	51	42	43
RO	132	118	118	117	120	118
RS	77	76	76	76	76	76
SE	127	119	119	117	120	118
SI	33	19	20	15	15	21
SK	124	51	85	43	32	37
TR	5	5	5	5	5	5
XK	48		45	47	47	47

River stations

Most countries report every year

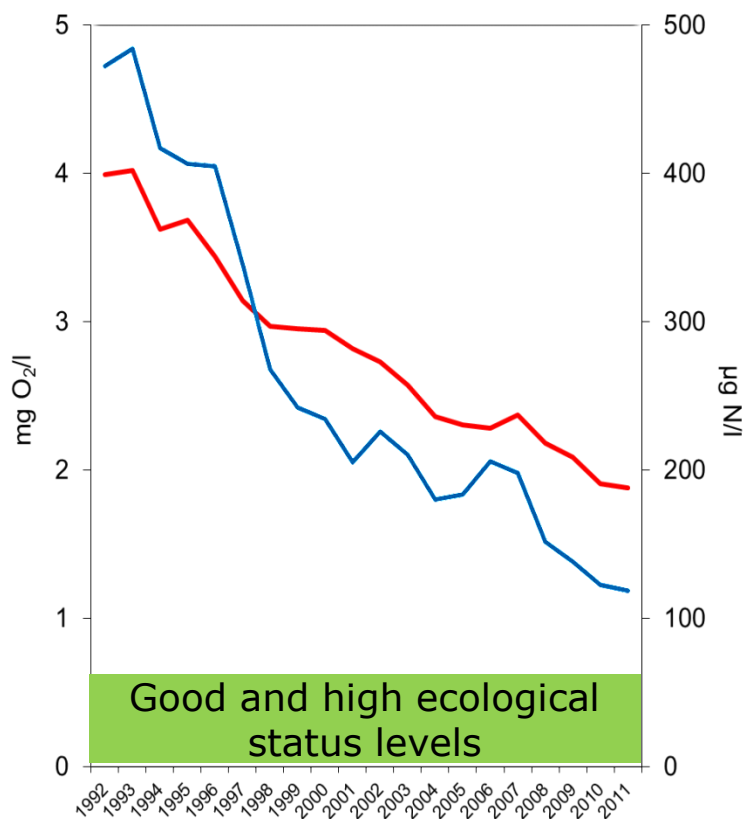
Hungary, Greece and Czech Republic have not reported river data since 2007/2008

Austria, Switzerland and Italy had late/no 2012 reporting

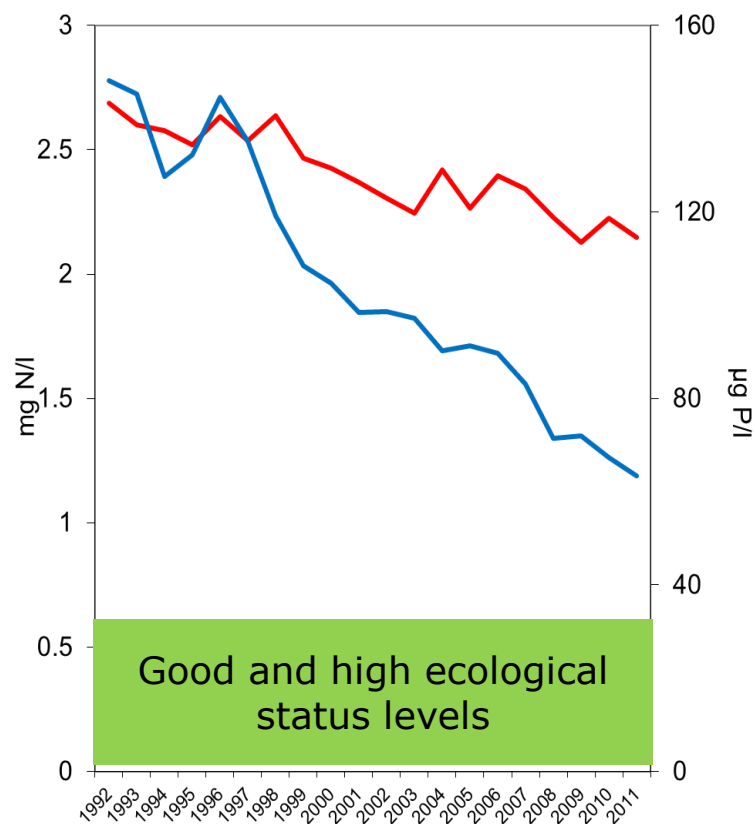


SOE data on river quality (1992-2011)

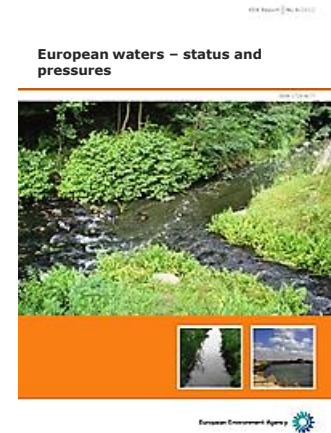
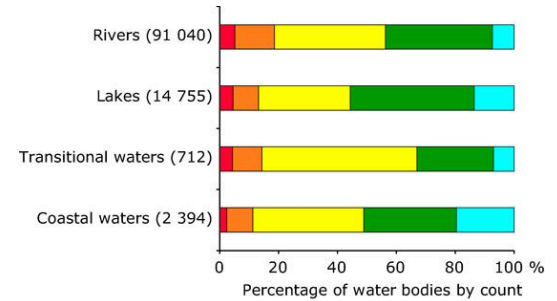
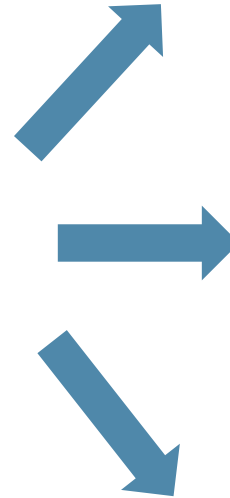
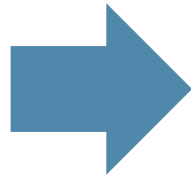
— BOD
— Total ammonium



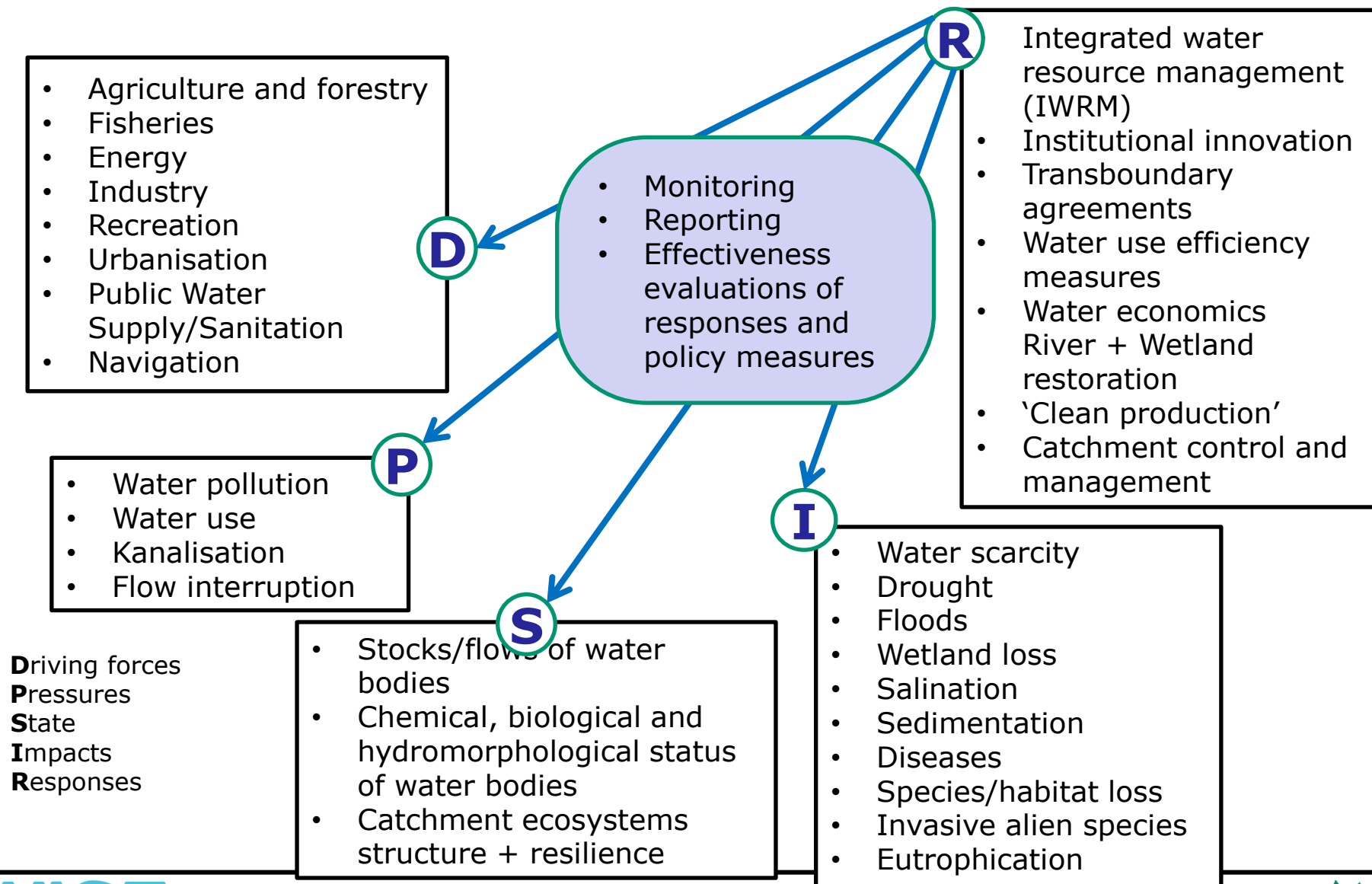
— Nitrate
— Orthophosphate



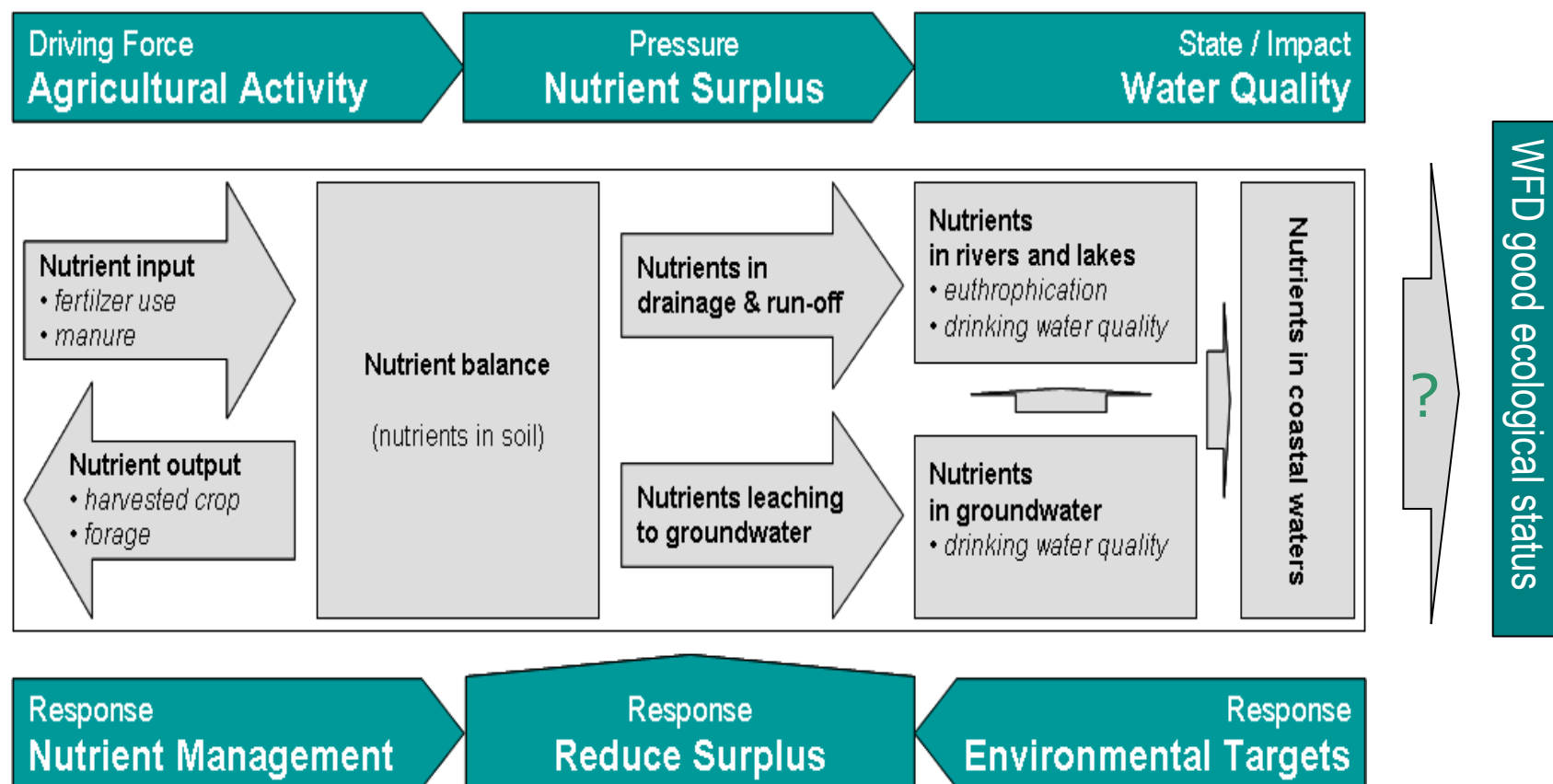
WFD information and EEA State of Water assessments



The DPSIR Water Cycle - in the policy cycle

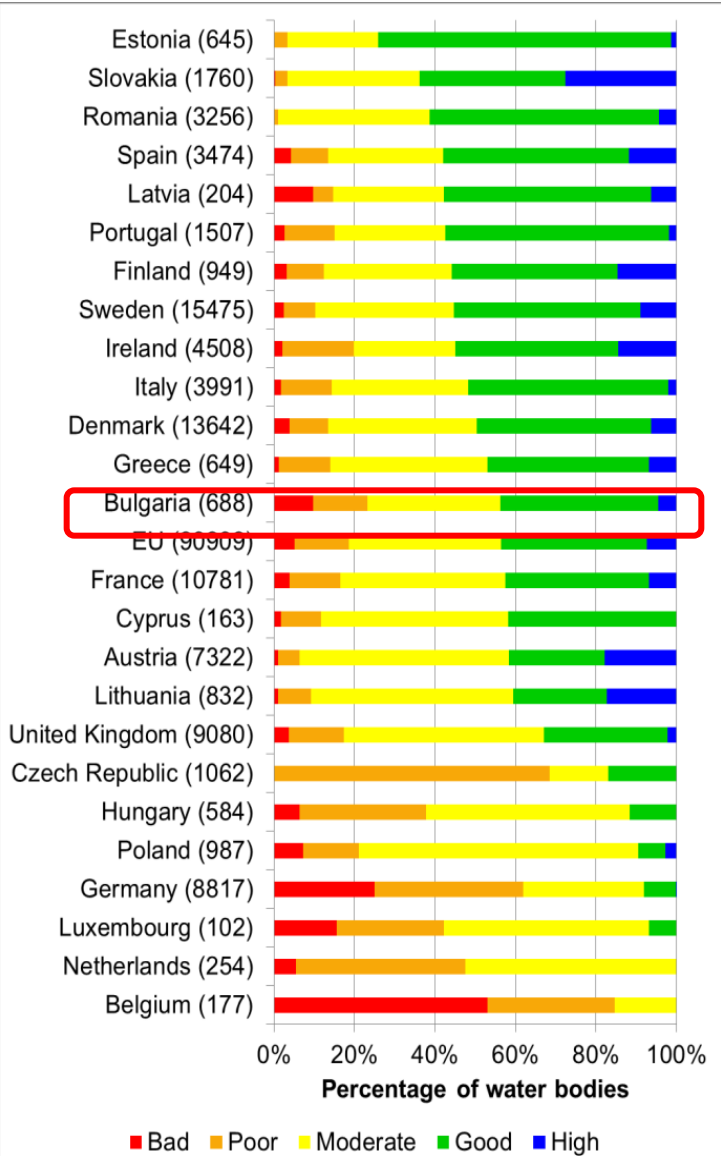


DPSIR-based conceptual framework linking nutrient input through agricultural activity and water quality.

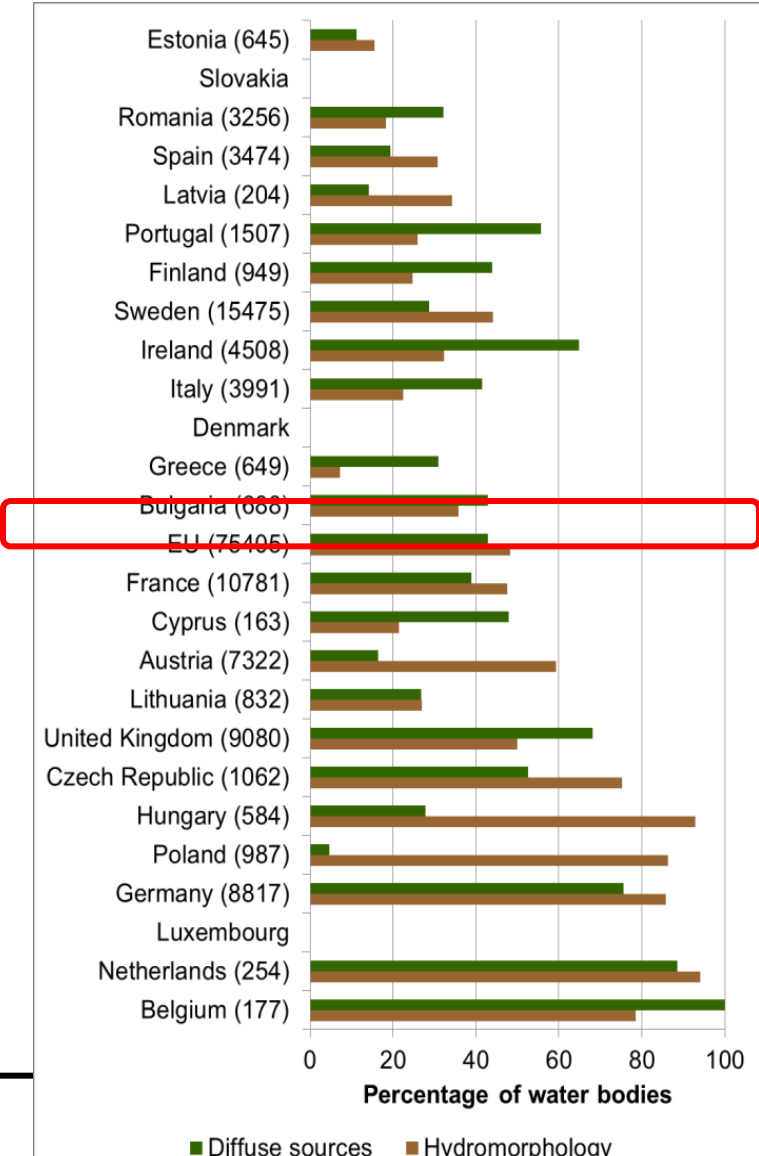


WFD Rivers ecological status and pressures per country

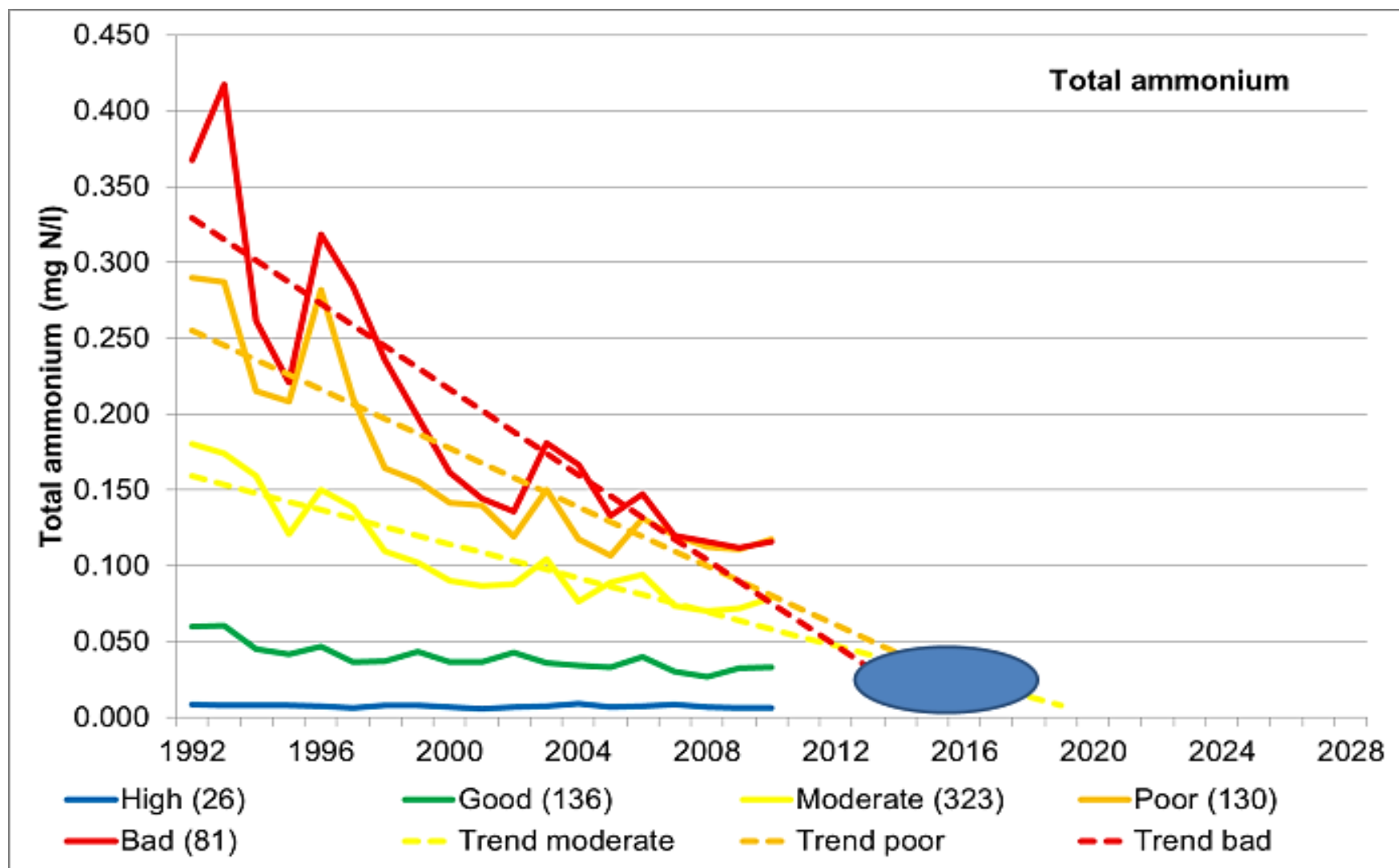
Ecological status/potential



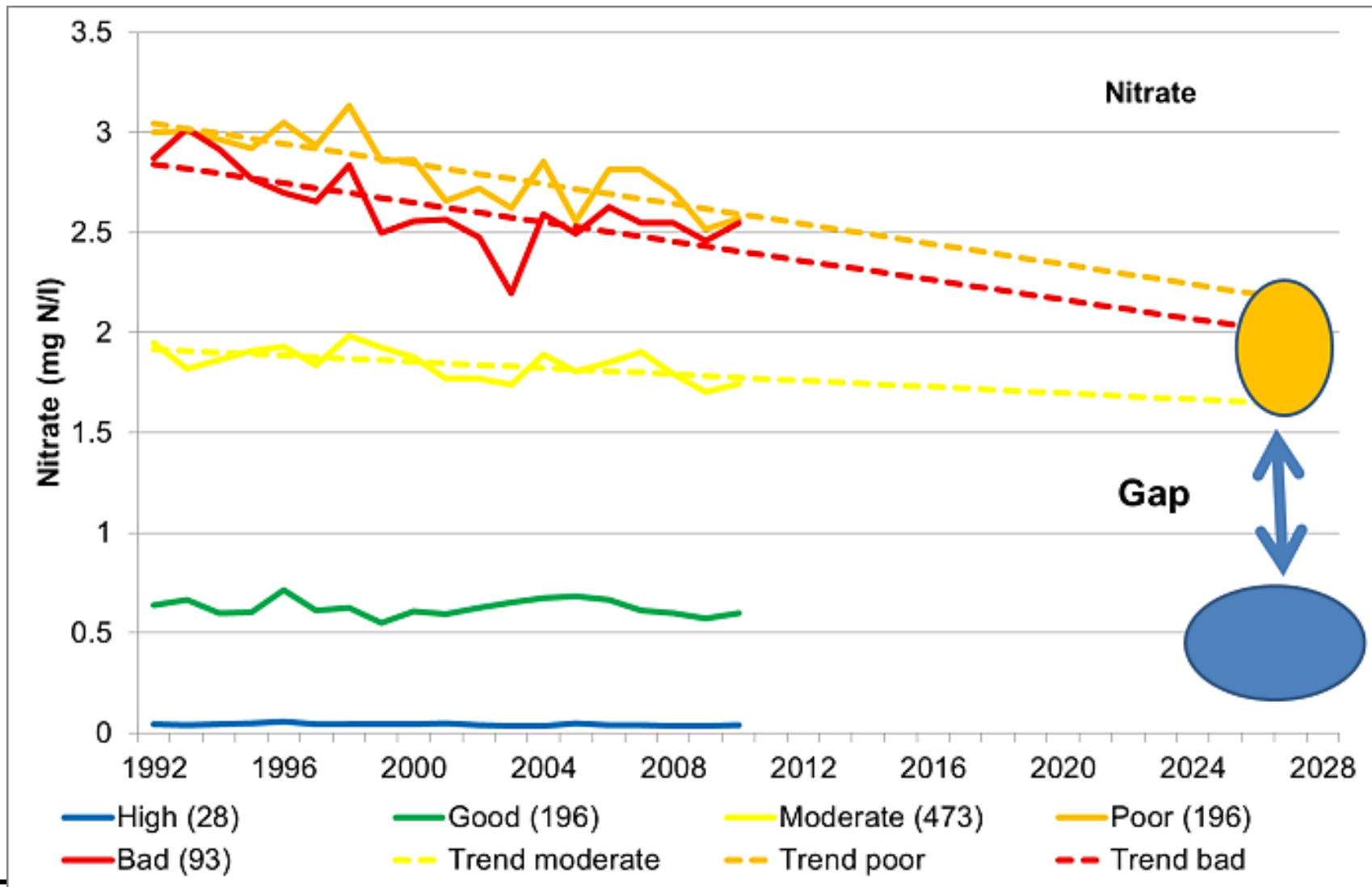
Pressures



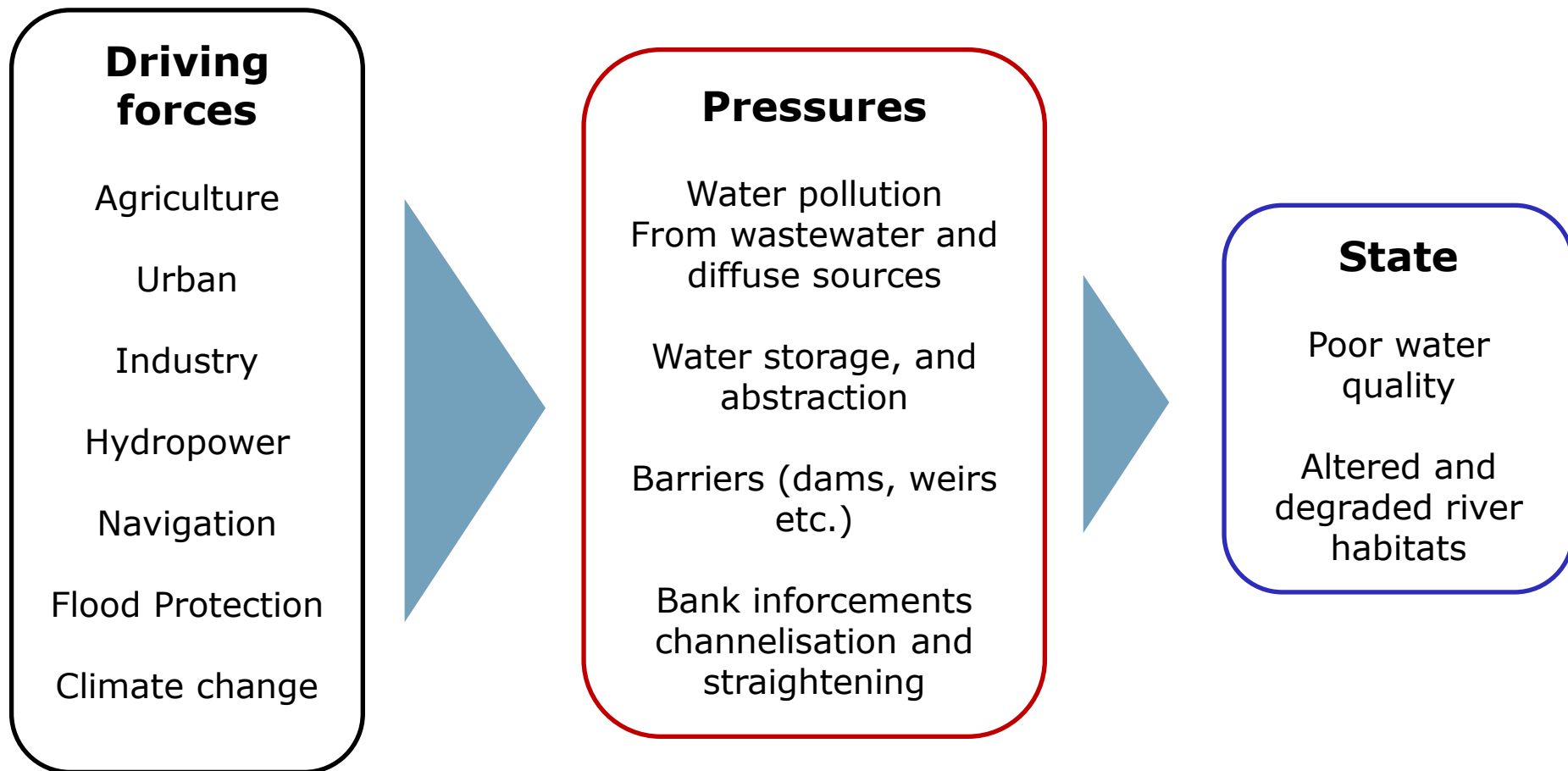
Point sources pollution reduction



Pollution reduction from diffuse sources



Sources of pressures

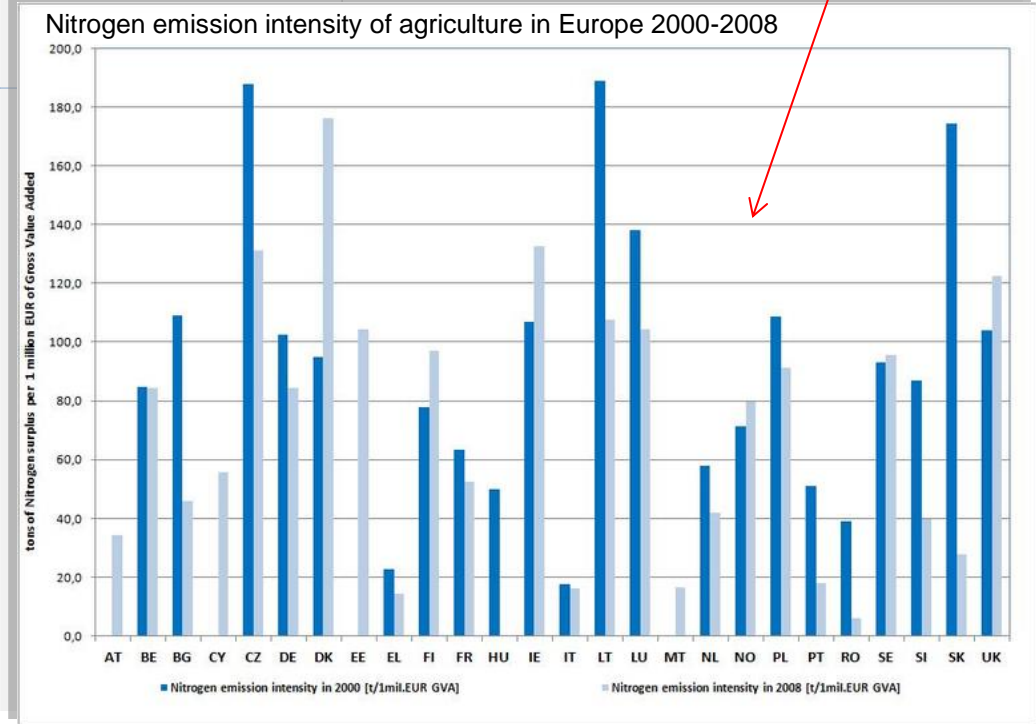
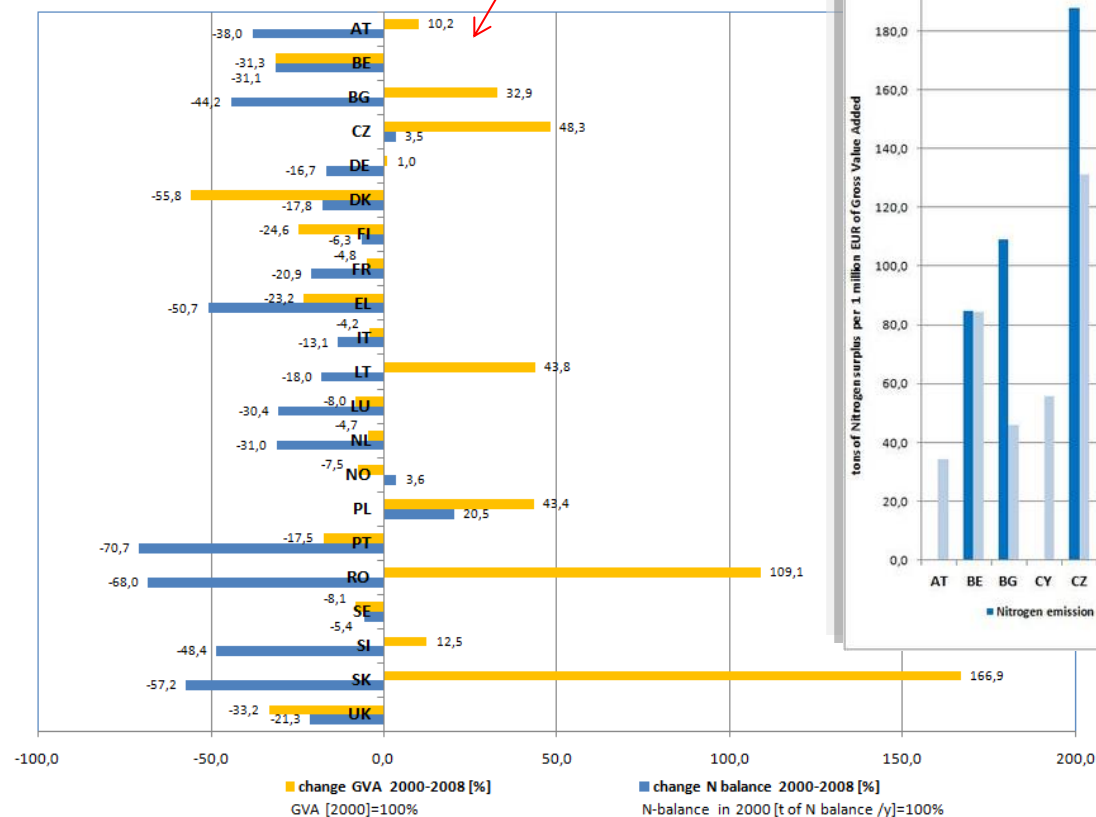


Emission intensity of agriculture in Europe (WREI 001, draft)

Several countries have absolute decoupling of emission intensity
- Decreasing emission intensity and increasing GVA

But arising from different
emission intensity levels

Nitrogen

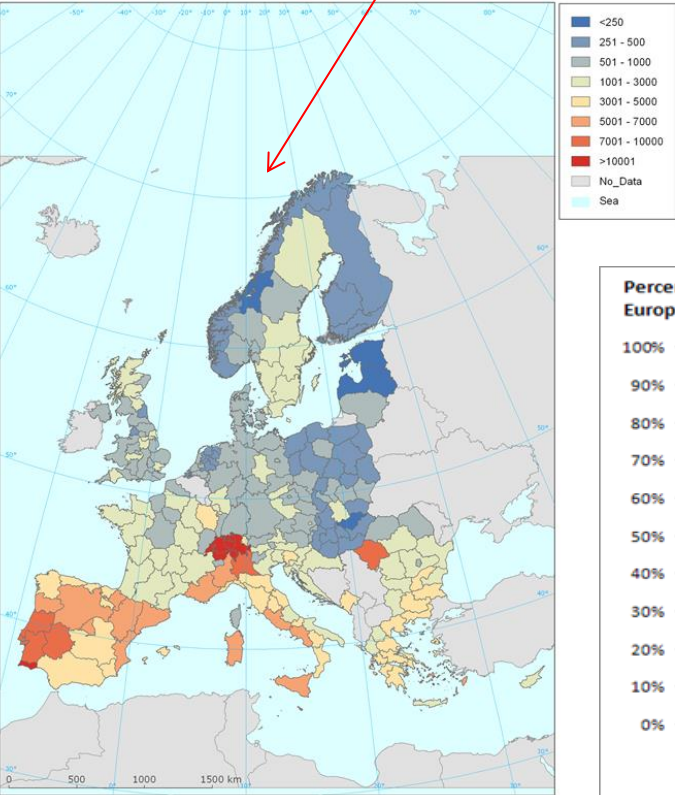


Economic Water Productivity of irrigated crops (€/m3) – ECWP

- indexed by Purchase Power Standard (PSS)

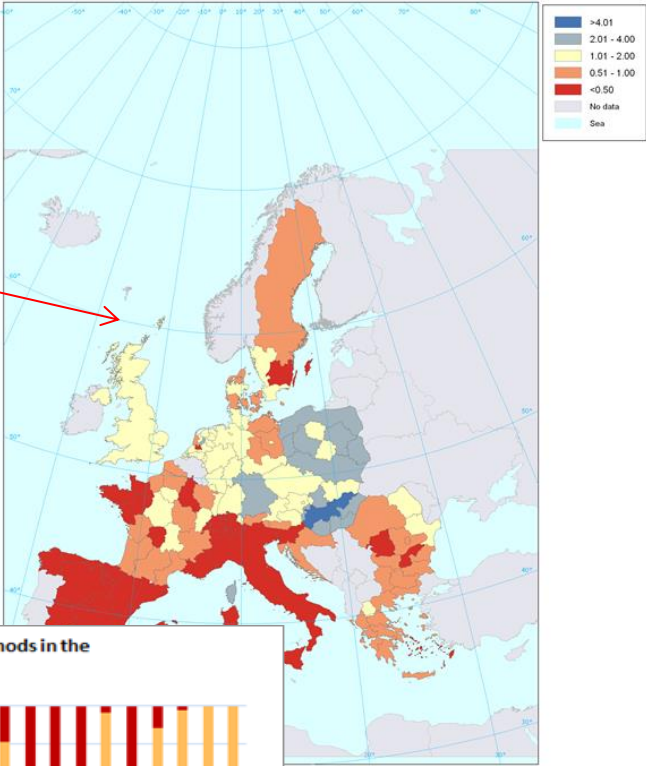
Based on water use for irrigation
and crops grown

Map 1 - Water Used for Irrigation in Europe per NUTS2 Regions (m3/ha)

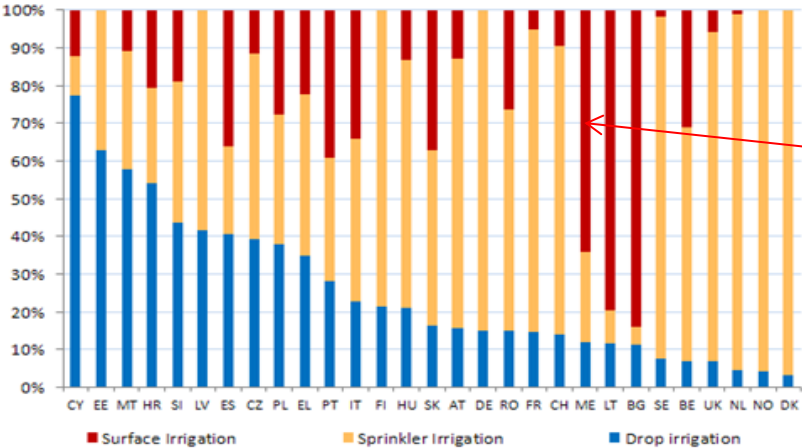


and GVA for various crops:
Calculates ECWP

Map 3 - ECWP (in € PPS/m3) for maize (green and grain)
across EU NUTS2 areas

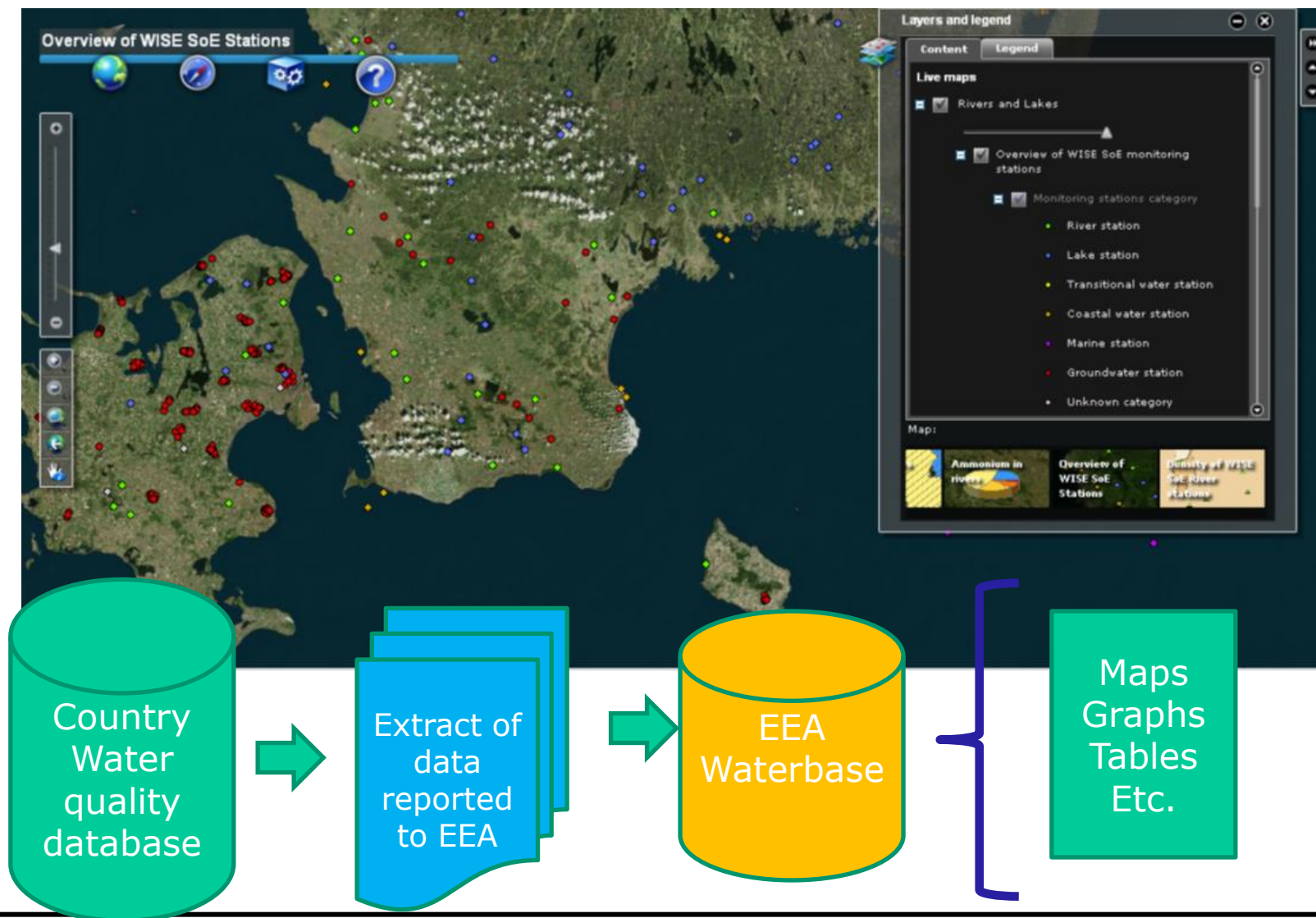


Percentage of irrigated areas applying different irrigation methods in the
European countries, for the year 2010

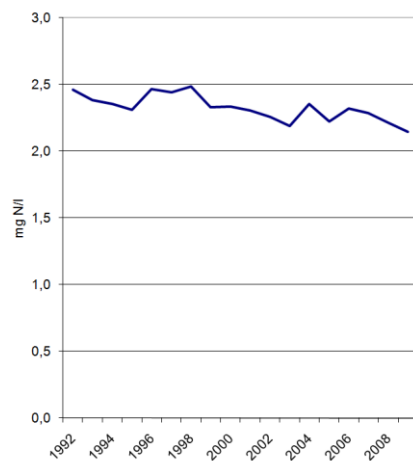


Irrigation methods
may improve ECWP

Water quality based on national information

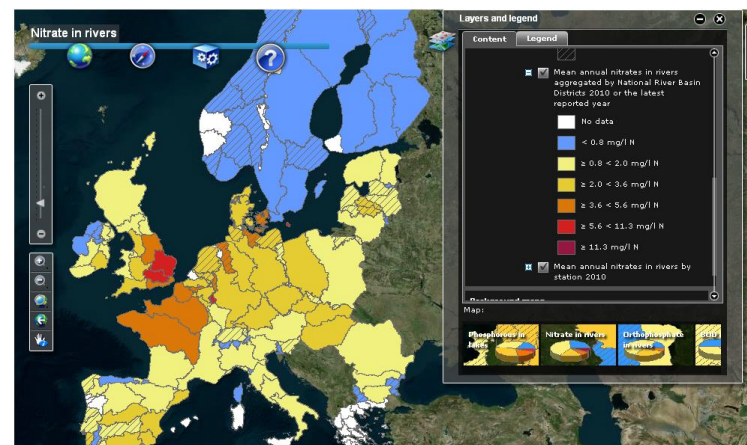


Nitrate trend in European rivers



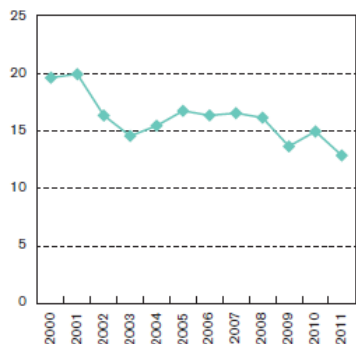
Based on 1200 river time series
(27 time series from Belgium)

Nitrate in River Basin Districts

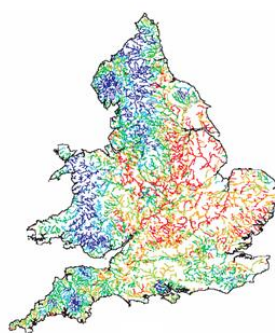


Based on 10 000 river stations

gemiddelde nitraatconcentratie (mg NO₃/l)



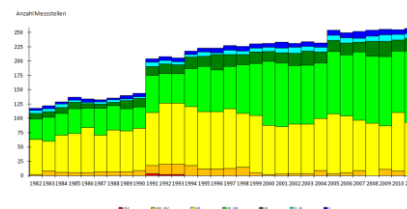
Belgium Flanders



Observed River Concentration
Environment Agency Data

England & Wales

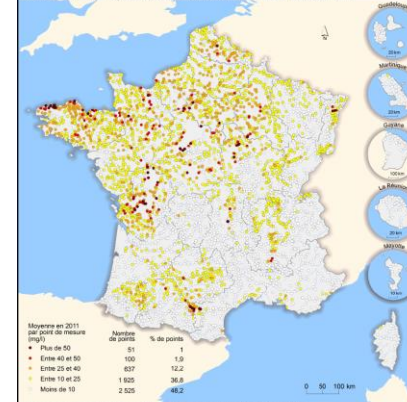
Güteklassifikation für Nitrat-Stickstoff (LAWA-Messstellennetz)



Quelle: Umweltbundesamt, Zusammenfassung nach Angaben der Bundesländeroberste Messstellen

Germany

Concentration moyenne en nitrates dans les cours d'eau en 2011

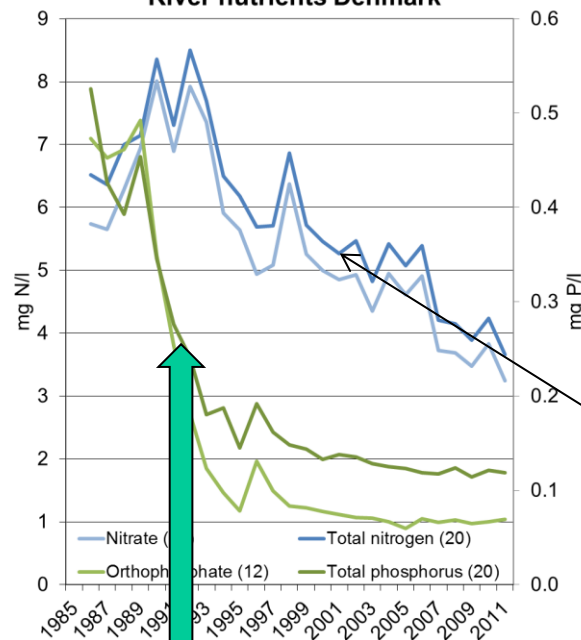


Source : Ag

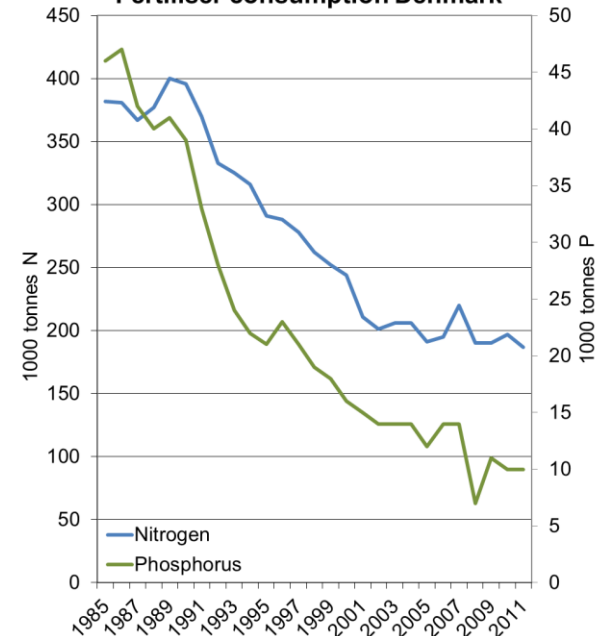
France



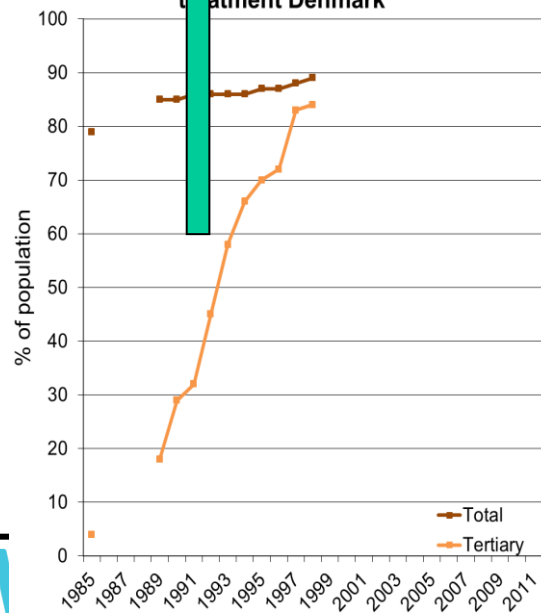
River nutrients Denmark



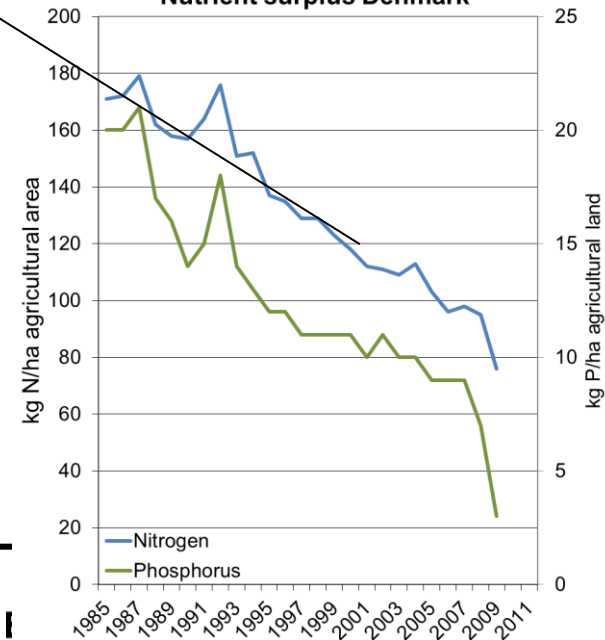
Fertiliser consumption Denmark



Population connected to waste water treatment Denmark



Nutrient surplus Denmark



- Keep on following the DPSIR as far as data available
- Focus the monitoring on policy relevance on MS and EU level
- WFD, water industry directives (UWTD, DW, BaWa) & NiDi to be assessed towards consistent RBM planning
- Regular water quality (and quantity) monitoring for SOE purposes (annual) and WFD (6 yearly)
need to integrate pressures and impacts from different drivers → focus needs to extend to all water policies
- Data quality and consistency (between countries & between directives) is key

Thank you



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