Screening Assessment of Draft Second Cycle River Basin Management Plans

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1. Executive Summary

The main focus of the 4th European Water Conference is on lessons learned from the 1st Water Framework Directive (WFD) planning cycle, expectations for the 2nd planning cycle as well as on experiences in implementing the Floods Directive. The timing of the Conference coincides with the public consultations of the Member States on the draft 2nd River Basin Management Plans (RBMP) and (some of) the draft Flood Risk Management Plans (FRMP).

The aim of this document is to sketch progress made from the 1st to the 2nd cycle RBMPs with respect to the Commission's recommendations to Member States as outlined in the 4th implementation report on progress in implementation of the WFD Programme of Measures[1]. The Commission's recommendations aim to assist Member States in identifying the areas where improvement in the implementation of the WFD is needed and expected as a matter of priority. This document outlines to which extent the recommendations have been implemented within selected draft 2nd RBMPs (dRBMPs), the content of which has been screened for the purpose of this assessment. The results presented are not a "final" assessment but a first informal overview; they show the progress made but do not allow a ranking of RBMPs.

Basic statistics

Basic statistics have been obtained from the screened dRBMPs, and where possible compared with the equivalent values at the start of the 1st WFD planning cycle. The screened dRBMPs are not necessarily representative of all the river basin districts (RBDs) within the Member State they are part of or of the EU as a whole. In addition, not all of the screened dRBMPs had values for the selected statistics. Nevertheless the results give an indication of the likely differences and changes between the 1st and 2nd cycle RBMPs.

There has been a change in the delineation of surface water and groundwater bodies in most of the screened dRBMPs. with nearly the same number of dRBMPs showing an increase in numbers of surface water bodies as show a decrease compared to the first RBMPs. More dRBMPs indicated an increase in the numbers of groundwater bodies than those with no changes or a decrease in numbers.

A number of Member States (MS) have reviewed and revised their designation of heavily modified water bodies for their second RBMPs: 10 of the 21 RBDs, for which information was

[1] COM (2015) 120 final: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on The Water Framework Directive and the Floods Directive: Actions towards the 'good status' of EU water and to reduce flood risks, 9.3.2015. Available at http://ec.europa.eu/environment/water/water-framework/impl_reports.htm

found, have designated fewer. 9 RBDs have designated more, with over 50% more in 3 RBDs.

There is wide range (from 5% to 65%) in the percentage of river/surface water bodies expected to be at good or better ecological status/potential at the start of the 2nd cycle. Compared to the first cycle, 12 RBDs show a decrease in the percentage at good or better ecological status/potential, and 16 RBDs an increase. In some cases the differences might be explained by changes in the delineation of water bodies and changes (improvements) in the biological assessment and classification systems between the two cycles.

Eleven of the 22 dRBMPs with information on the expected chemical status of surface water bodies indicated that over 90% were expected to be at good chemical status at the start of the 2nd cycle. For one RBD it was indicated that none would be at good chemical status. It also seems that there will be an increase in the number of RBDs where there are no surface water bodies with unknown chemical status perhaps indicating that there has been an improvement in the monitoring and assessment of chemical status in the selected RBDs over the first cycle.

In terms of groundwater status, there is a wide range in the percentage of groundwater bodies expected to be at good quantitative status (from 13% to 100%) and at good chemical status (from 8% to 100%) at the start of the second cycle. Compared to the first cycle, a decrease in the percentage of groundwater bodies at good chemical status at the start of the second cycle was expected in 19 of the 27 RBDs with information, an increase in 7 was indicated and no change in one. The screening has also indicated that there have been changes in the delineation of groundwater bodies, and improvements in groundwater assessment and classification methods. These changes may contribute to the differences found between the two cycles.

Progress on expectations from the 1st cycle

Only some dRBMPs have been explicit on the progress made in achieving WFD objectives and in meeting the expectations formulated in the 1st planning cycle. This indicates the need for more transparency with respect to the achievement of the set objectives.

Several MS report a lack of progress in achieving good status. Reasons provided are delays in implementing key actions in the programmes of measures (PoM) and an increase in the number of water bodies below good status compared to 2009, because of new assessment systems and monitoring data. Furthermore, several MS report that improvements achieved in some quality elements or parameters are not reflected in the overall status because of the one-out all-out principle.

Nature of reporting on the draft 2nd RBMPs

The content and structure of some of the dRBMPs reflects that they are largely documents for consultation rather than having the detail that will appear in the finalised versions of the dRBMPs.

Some of the dRBMPs were accompanied by supporting documents on particular aspects (e.g. method statements on classification). The level of transparency of the dRBMPs would considerably increase if the details from important background documents are (better) summarised in the final RBMPs and not just referenced.

Characterisation of the River Basin District

Almost all screened dRBMPs indicate that changes were made to the way water bodies are delineated and characterised. There is some evidence of progress on defining reference conditions and in setting boundaries for many quality elements, mainly for rivers and lakes. More extensive gaps still remain for transitional and coastal waters. Some key quality elements are not yet fully incorporated in the assessments.

The analysis of pressures and impacts has improved in several RBDs in different ways, e.g. through improved modelling, improved monitoring and inventories of emissions and discharges.

Monitoring and status assessment

Improving the system of monitoring and the status classification for surface water and groundwater bodies has been a specific point of emphasis of the 2nd cycle RBMPs in several countries.

Many RBDs report improvements to the monitoring programmes (new monitoring stations, monitoring of additional quality elements or both). Gaps still remain, which usually concern one or more of the following: the monitoring of chemical substances, hydromorphological conditions, monitoring of groundwater or monitoring of coastal and transitional waters.

Many RBDs also report positive changes to the methodologies for assessing status, especially for several quality elements in rivers and lakes, and the setting of Environmental Quality Standards (EQS) values for river basin specific pollutants (RBSPs) and priority substances. Gaps which still need to be addressed refer to assessment methods for hydromorphological conditions, fish either in rivers or lakes, phytoplankton, macrophytes, and the assessment of the status of groundwater.

Most MS indicated a change in the status classification of water bodies as a result of changes in the characterisation of water bodies, adjustments to the pressures analysis, improved monitoring and assessment methods. These changes in classification have made it difficult to

judge the progress in achieving good status, making the situation in 2015 not directly comparable with 2009.

Designation of heavily modified water bodies (HMWB)

Little progress is noted in terms of revising the methodologies and criteria used for designation since the 1st WFD cycle, with certain exceptions in specific MS. Overall, a number of RBDs reported changes in the number of Heavily Modified Water Bodies (HMWBs) and Artificial Water Bodies (AWBs), with numbers either increasing or decreasing.

Little progress is noted in improving the methods for defining good ecological potential (GEP), with exceptions in a few countries which have developed more comprehensive methodologies.

Objective setting and exemptions

Overall, most RBDs indicated that they intended to increase the use of exemptions under Articles 4.4 and 4.5 in the 2nd cycle. This may be explained by the fact that good status was not achieved in 2015 in many water bodies. There is also an indication that more use of Article 4.7 will be made. However the justification of exemptions only improved slightly and the demonstration of disproportional costs remains a challenge.

Economic analysis

Several MS have put effort to improve the economic analyses. However cost recovery calculations are mainly targeted towards water supply and waste water treatment as well as self-abstraction. The incorporation of environmental and resource costs remains a gap.

Many RBDs have expanded their cost-benefit and cost-effectiveness analyses. Methodologies have been improved and more sectors have been analysed.

Programme of measures

Despite progress on better understanding pressures and sources, there is still a gap in knowledge on the contribution that basic measures will have on reducing pressures and helping to achieve WFD objectives. It is therefore difficult to judge the gap that supplementary measures will fill and their contribution to achieving WFD objectives. A similar picture can be drawn for targeting measures on pressures and drives (sectors). Information on costs and financing of measures has improved in a view RBDs.

Some progress is noted in terms of including more targeted hydromorphological measures in the planning, without being able to judge at this stage if the actions proposed are more ambitious than in the 1st cycle. It becomes apparent that more “technical” measures rather than administrative and research measures are proposed compared to the 1st cycle. Little

progress is noted in regulatory actions, such as reviewing existing hydropower permits to incorporate targeted mitigation measures.

Green infrastructure and natural water retention measures, especially those related to floodplain restoration and erosion reduction, seem to be considered to different extents in most screened RBDs.

As regards pressures from agriculture the majority of the 2nd dRBMPs still lack specific information on the extent to which the Nitrates Directive – and other basic measures under Article 11(3) h - will enable MS to achieve good status. Information on supplementary measures has for the most part improved since the 1st cycle. RBDs are clearer on the measures they will implement.

Little progress is noted in terms of metering for all abstractions and registering abstractions. The systematic review of abstraction permits to ensure consistency with the environmental objectives is also poor. However more progress is noted in terms of considering ecological flows (e-flows) for existing and planned abstractions. In several countries, the establishment of e-flows is included as a specific measure and addressed by specific regulations. In addition, there are several ongoing initiatives to set new standards for e-flow definition in order to achieve WFD objectives.

Little progress was found on implementing measures relating to chemical substances, and assessing how much these measures will contribute to the achievement of WFD objectives. Quite a few RBDs have updated their lists for priority and dangerous substances.

In terms of measures to reduce pressures from urban wastewater treatment (UWWT), some Member States show good progress having provided clear(er) information on the measures planned for UWWT and their contribution to achieving the objectives, especially nutrient removal. Nevertheless, it appears there are still several Member States where information provided is poor or indicative of a lack of progress on this issue.

On average, little progress could be found in terms of addressing the gaps on protected areas. For drinking water protected areas, some new measures have been included to develop new standards or relevant regulation for their monitoring is updated. For protected areas linked to Natura 2000 areas, additional objectives have been formulated in a few more MS compared to the 1st cycle, or studies are on-going to address this. So far progress on specific measures for nature protected areas seems minor.

2. Introduction and Background

The Water Framework Directive (2000/60/EC) (WFD) adopted in 2000 put forward an integrated approach for EU water policy. It is a key initiative aimed at improving water quality throughout the EU. It applies to rivers, lakes, groundwater, transitional and coastal waters. The Directive requires an integrated approach to managing water quality on a river basin basis, with the aim of maintaining and improving water status. The main tool to achieve good status of all EU waters by 2015 is the River Basin Management Plan (RBMP) including Programmes of Measures (PoMs). The first RBMP and PoMs were adopted by most (but not all) Member States in 2009 and are currently in the process of being updated to produce the 2nd cycle of RBMPs, based on new developments and better knowledge of the aquatic environment. Currently drafts of the 2nd cycle RBMPs (dRBMPs) are subject to public consultation in several Member States, and depending on the feedback received they should be finally adopted by the end of 2015.

The European Commission has tracked and assessed the implementation of the WFD since its adoption and has published four implementation reports so far with the aim to inform the European Parliament, the Council and the public about the results of its assessments (see Article 18 WFD). The four reports are:

- 1st implementation report on the first stage of implementation (March 2007);
- 2nd implementation report on monitoring networks (April 2009);
- 3rd implementation report on the first River Basin Management Plans (November 2012);
- 4th implementation report on the progress in implementation of the Water Framework Directive Programme of Measures (March 2015).

In addition to the WFD, the Floods Directive (FD) of 2007 aims to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The Directive requires Member States to first carry out a preliminary assessment by 2011 to identify areas in the river basins and associated coastal waters at risk of flooding. For such zones they would then need to draw up flood hazard and risk maps by 2013 and establish flood risk management plans focused on prevention, protection and preparedness by 2015. The FD applies to inland waters as well as all coastal waters across the whole territory of the EU. Unlike the WFD, the FD does not have a precise calendar of public consultation, but many Member States are consulting on the WFD and Flood Plans at the same time, during the first semester of 2015.

Having the above in mind and considering the dynamics both directives have created in water management (but also other sectors) the Environment Directorate-General of the European

Commission is organising the 4th European Water Conference, which will be held in Brussels on 23-24 March 2015, the day after World Water Day. The main focus of the Conference will be the implementation of the Water Framework Directive and the Floods Directive (lessons learned from the 1st WFD planning cycle, expectations for the 2nd planning cycle, experiences in implementing the Floods Directive). The timing of the Conference coincides with the public consultations of the dRBMPs and (some of) the draft Flood Risk Management Plans (dFRMPs).

The aim of this document is to sketch the progress made from the 1st to the 2nd RBMPs with respect to the issues highlighted in the Commission's recommendations to Member States in its 4th WFD implementation report (Commission Staff Working Document, March 2015). The Commission's recommendations aim to assist Member States in identifying the areas where improvement in the implementation of the WFD is needed and expected as a matter of priority. It should be stressed that, although the Commission is publishing these recommendations in March 2015, they were already known by Member States, since some were included already in the 2012 assessment of the River Basin Management Plans and others were raised at the bilateral discussions that took place between the Commission and the Member States during 2013-2014. The Commission expects Member States to address the gaps in implementation in their second RBMPs (to be published at the end of 2015) at least in the form of measures included in the PoMs. This report outlines for selected River Basins the extent to which the recommendations have been implemented. The results presented are not a "final" assessment but a first informal overview of the dRBMPs.

Please note that a separate consultants' report deals with the results of a screening assessment of the draft Flood Risk Management Plans, also carried out in preparation for the 4th European Water Conference.

3. Framework for Screening Assessment

3.1 Methodology

As mentioned, the objective of the current assessment is to screen the draft 2nd River Basin Management Plans (dRBMPs) for evidence that the recommendations made to each Member State (MS) in the Commission Staff Working Document (CSWD, March 2015)[2] are being actioned and to see if progress has been made in achieving the changes and improvements associated with the recommendations.

The recommendations cover all key steps of the WFD planning process: governance; characterisation; analysis of pressures and impacts (source apportionment); economic analysis; monitoring; assessment of status; targeting of measures to pressures to deliver WFD objectives; and implementation and effectiveness of basic and supplementary measures.

The screening assessment was organised in three parts:

1. Compilation of **basic statistics** from the draft second RBMPs:
   Number of surface and groundwater bodies; number of heavily modified river water bodies; number of monitoring surface water and groundwater sites; number of surface water bodies at good or better and at unknown ecological status/potential and chemical status; and number of groundwater bodies at good and unknown quantitative and chemical status.

2. Summary of **headline messages and changes** in the draft second RBMPs, in particular changes made from the first cycle, as highlighted by the Member States within the plans.

3. Screening of the draft second RBMPs for **evidence of progress on each of the CSWD 2015 recommendations**.

A template was developed for each of the assessed RBDs to extract targeted information from the draft second RBMPs on progress made in the particular areas highlighted in the CSWD 2015 recommendations. The templates consist of the following elements:

[2] Commission's report to the European Parliament and Council on progress in implementation of the WFD programmes of measures, March 2015, SWD(2015) 50 final http://ec.europa.eu/environment/water/water-framework/impl_reports.htm.

- The **full set of the CSWD 2015 recommendations** for each Member State, which is used as the starting point for the screening.

- Each recommendation is specified in terms of the problem and/or gaps it addresses from the 1st planning cycle (called the "**baseline**") and a description of the **actions** that are expected to fully address the recommendation in the 2nd planning cycle. The information for defining the "baseline" and actions needed is largely based on the MS summaries from the assessment of the 1st RBMPs in 2012[3] and information exchanged in the bilateral meetings of the European Commission and the Member States in 2013-14.

- An **evaluation** by each Member State assessor of whether **progress** has been made on the individual issues identified in the CSWD 2015 recommendations. The evaluation of progress is indicated in terms of a scaling system (see table below) and a written justification by the assessor.

Evaluation	Description
☺☺	**Strong evidence that actions taken are likely to address the COM recommendation in the CSWD 2015.** All the actions relating to the recommendation have clearly been taken in the second plans. The actions are defined in relation to the "baseline" situation in the first RBMPs.
☺	**Evidence found that good progress is being, or has been, made** There has been good progress on the actions associated with the recommendation but not all actions have been taken, some may be on-going with a clear timetable which will solve issues in a reasonable timeframe (1 year for simple things, 2-3 years for more complex issues).
😐	**Some evidence of progress.** Some (but not all) of the actions proposed in the recommendations are mentioned and described but not in enough detail to be certain that they have been fully taken. Some of the actions required by the recommendation may not have been taken or mentioned at all.
?	**No information could be found on the actions associated with the recommendation.** There is no information in the plan that any of the actions associated with the recommendation have been considered or taken. The justification must describe the documents that have been screened.
☹	**No progress, or implementation of the WFD has worsened** The same inadequate processes, approaches and/or methods used in the first plan have been reported in the second plan, and/or implementation has worsened in relation to the subject of the recommendation.
	A blank cell or row in the results-tables of this document indicates that the relevant issue was not assessed for the specific Member State in the context of this screening exercise. This is due to the fact that no explicit reference was made to the specific issue for

[3] The MS Summaries published in 2012 are available on the European Commission web site http://ec.europa.eu/environment/water/water-framework/impl_reports.htm.

Evaluation	Description
	this Member State in the CSWD 2015 recommendations.

The detailed screening results for each Member State and RBD screened can be viewed in the Member State Annexes to this report (made available separately).

A team of 15 Member State assessors carried out the screening of the draft second RBMPs. A core team of 5 experts from WRc, Ecologic Institute and Fresh Thoughts developed the assessment framework and was responsible for quality checking and improvement of the comparability of screening results across Member States.

3.2 Selection of RBDs for screening

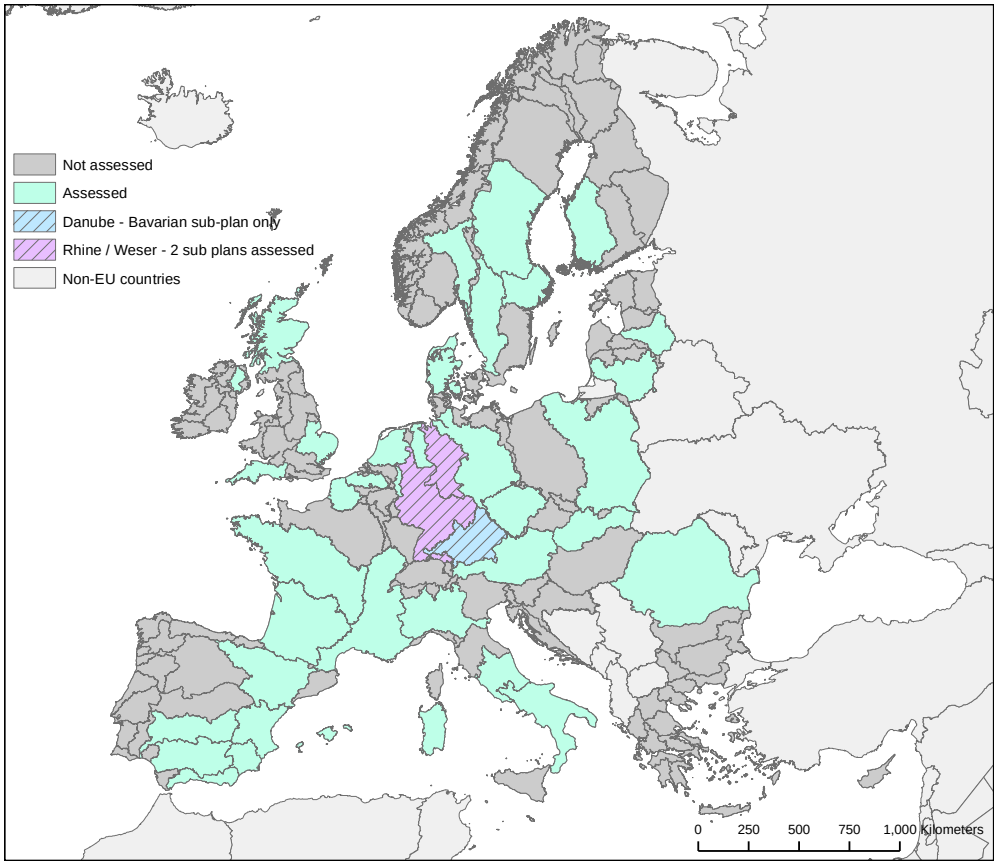
In total, 18 MS which have published all or some of their dRBMPs by the end of January 2015 have been considered in this screening exercise. Due to time and resource constraints, it has not been possible to screen all dRBMPs but instead a selection has been made for each Member State. The selection has been made on the basis of the largest geographical coverage and representativeness in terms of the main pressures and impacts for each Member State. In total, 38 RBDs have been selected for screening (see table and map below).

Table 3.1 River Basin Districts screened

MS	River Basin Districts	Number
AT	Danube	1
BE-Fl	Scheldt	1
CZ	Elbe	1
DE	dRBMPs: BY (Danube), Elbe, NRW (Rhine, Weser, Ems, Maas), Lower Saxony's (Rhine, Elbe, Weser and Ems) dFRMPs: Elbe, Eider, Danube (BW)	4
DK	Jutland and Funen	1
ES	Guadiana; Guadalquivir; Andalucía Mediterranean basins; Ebro; Jucar; Segura; Baleares	7
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea	1
FR	Loire; Rhone; Adour Garonne; Scheldt, Somme and coastal waters of the Channel and the North Sea	4
IT	Po; Central Appenines; Southern Appenines; Sardinia	4
LV	Daugava	1
LT	Nemunas	1
NL	Rhine	1
PL	Vistula	1

MS	River Basin Districts	Number
RO	Danube	1
SK	Danube	1
SE	Bothnian Sea; North Baltic; Skageratt and Kattegat	3
UK	Scotland; Northern-Ireland (Neagh Bann); South West; Anglian	4
NO	Glomma	1

Figure 3.1 River Basin Districts screened



3.3 Limitations of the screening exercise

To interpret and place the information provided into context, the following boundary conditions for this screening assessment should be kept in mind:

- This is a **screening exercise** and the results have not been fully intercalibrated between those undertaking the evaluation. The results should be considered as a qualitative evaluation rather than a detailed assessment of performance of Member States. A quantitative assessment has not been possible within the time and resource constraints of the work. For several topics, detailed and more accurate information can only be gathered by means of an in-depth assessment.

- The results presented are not a “final” assessment but a first informal overview of the dRBMPs. For most topics, the screening does not necessarily make any conclusions on whether progress is sufficient to fully implement the WFD requirements.

- The screening has been based on statements made in the dRBMPs without checking actual progress on the ground. In addition, the content and structure of some of the draft plans reflects that they are largely documents for consultation rather than having the detail that will appear in the finalised versions of the second plans.

- Some of the dRBMPs were accompanied by supporting documents on particular aspects (e.g. method statements on classification). These have also been screened when relevant to specific recommendations but there has been no in-depth searching for other documents that might contain more detailed information that would be required for an in-depth assessment.

- No direct comparison of Member States is made, since the assessment is not fully intercalibrated across Member States and, therefore, there is likely to be a certain degree of subjectivity in the evaluations made. While some CSWD 2015 recommendations are specific with clear actions required, others are more descriptive and a greater element of expert judgment was required to evaluate progress.

- The degree of progress made depends on the baseline situation in the 1st cycle. This report only presents an overview of progress made and not an overview of the baseline situation on the different topics across Member States. Some details on the baseline for each recommendation are given in the Member State Annexes to this report (made available separately).

3.4 Structure of this report

The report provides an overview of the screening assessment results. Section 4.1 gives some key EU statistics on current water body (WB) delineation, monitoring and status on the basis of numbers presented in the dRBMPs. Sections 4.3 to 4.8 summarise the key conclusions of the screening and provide MS overview tables on the main aspects of the WFD planning process: characterisation; analysis of pressures and impacts; monitoring; assessment of status; HMWB designation; economic analysis; objectives and exemptions; gap analysis; targeting of measures to pressures; implementation and effectiveness of basic and supplementary measures; and progress on measures to deal with pressures related to agriculture, hydromorphological modifications, abstractions, chemicals, urban wastewater treatment and protected areas.

Topics raised in the CSWD 2015 recommendations for fewer than 5 Member States (e.g. transboundary coordination, climate change) have not been summarised but the screening results for these topics can be viewed in the Member State Annexes to this report (made available separately).

4. Assessment of Draft Second River Basin Management Plans

4.1 Some key statistics from the draft second RBMPs

A number of basic statistics have been obtained from the selected draft second RBMPs and any associated and relevant documents accompanying the consultation. The basic statistics have been compared, where possible, with the same information from the 1st cycle plans which had either been reported to the Water Information System for Europe (WISE) from 2010 onwards or had also been provided in the dRBMPs.

The context to the selected basic statistics arise from some of the key facts and issues within the Commission's assessment of the 1st cycle RBMPs. For example:

"A clear gap in monitoring emerges from the information reported to the Commission. This shows that around 15% of surface water bodies in the EU are in unknown ecological status and 40% in unknown chemical status. In some Member States ecological and chemical water status is unknown for more than 50% of the water bodies. A determined effort is required."[4]

"In 2009, 43% of surface water bodies at good ecological status/potential and 53% expected to be at good ecological status/potential by 2015[3]*."*

"Overall, more than half (55%) of the total number of classified surface water bodies in Europe are reported to have less than good ecological status/potential. Only around 44% of rivers and 33% of transitional waters are reported to be in high or good status. 56% of the lakes are reported to be in good or high status, and 51% for coastal waters[5]*."*

The following sections summarise the main differences between the first and draft second plans in terms of the basic statistics associated with the Commission's 2012 assessment of the 1st cycle RBMP. These are: numbers of surface and groundwater bodies; numbers of heavily modified water bodies; monitoring of surface and groundwater; ecological

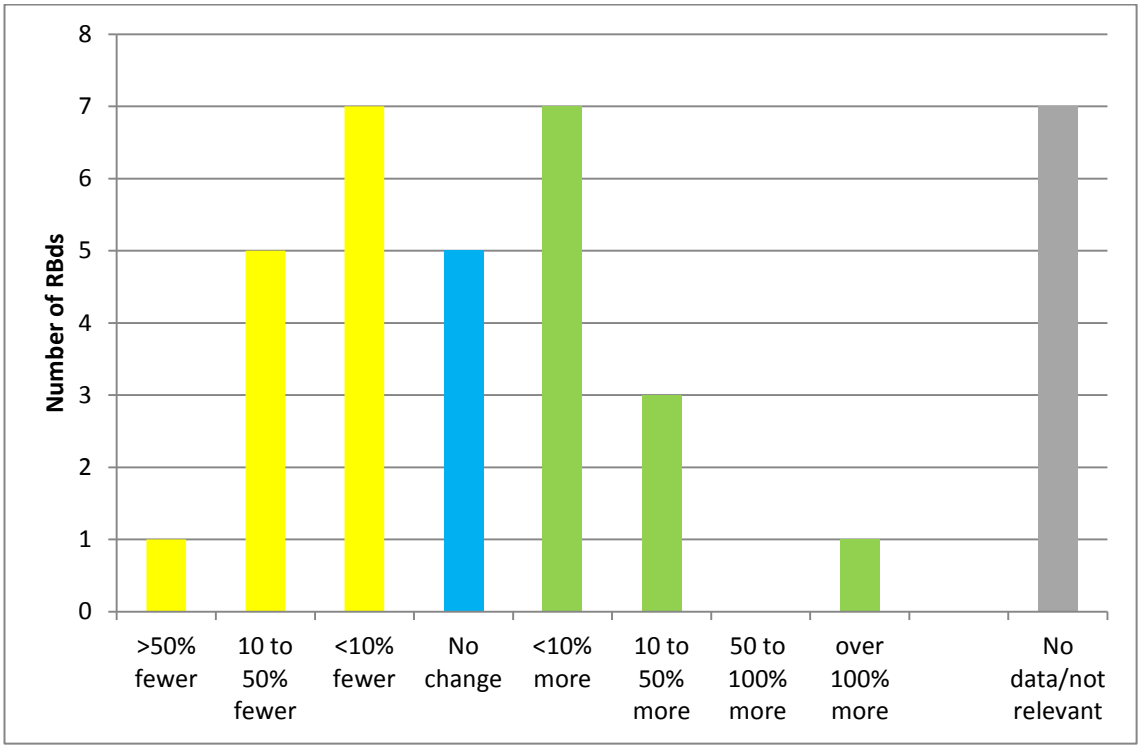
[4] COM(2012) 670 final: REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the Implementation of the Water Framework Directive (2000/60/EC) River Basin Management Plans, Brussels, 14.11.2012. Available at http://ec.europa.eu/environment/water/water-framework/impl_reports.htm

[5] SWD(2012) 379 final: COMMISSION STAFF WORKING DOCUMENT, European Overview, Accompanying the document REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the Implementation of the Water Framework Directive (2000/60/EC) River Basin Management Plans Brussels, 14.11.2012. Available at http://ec.europa.eu/environment/water/water-framework/impl_reports.htm

status/potential of surface water bodies; chemical status of surface and groundwater bodies; quantitative status of groundwater bodies; and numbers of water bodies with unknown status. The presentations are generally based on the draft second RBMPs from 37 RBDs: one RBD in DE was screened at the Land level rather than the RBD level, therefore, the statistics for the second cycle were not comparable to those reported for the RBD as a whole for the first cycle.

4.1.1 Delineation of Surface water bodies

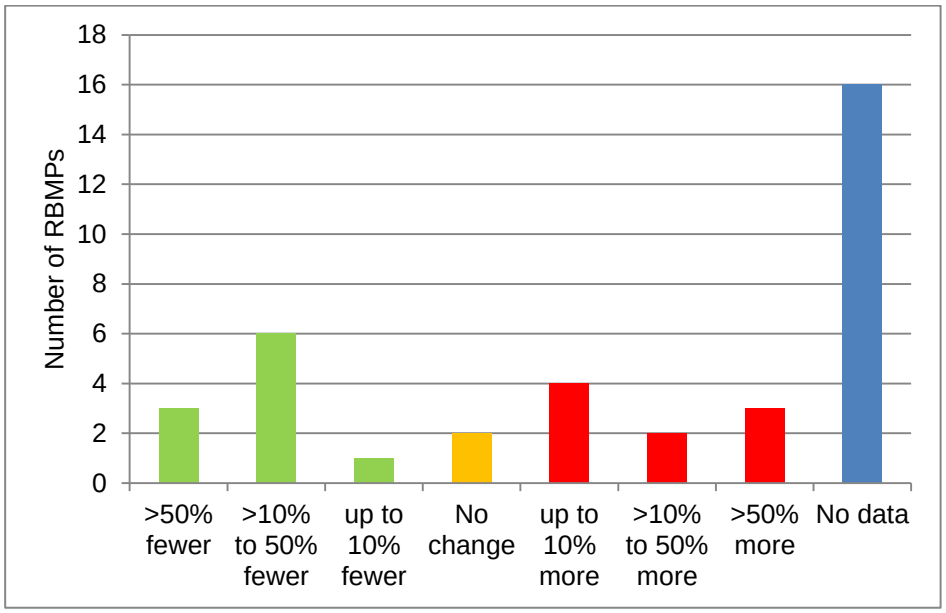
Figure 4.1 Changes in numbers of surface water bodies between the second and first cycle



Information was available from 29 RBDs. The number of surface water bodies (rivers, lakes, transitional and coastal water) for the second cycle was the same as for the first cycle in 5 RBDs. The screening of the plans indicated that many MS had revised the delineation of their water bodies for the second cycle. This is reflected by Figure 4.1 where there is an increase in numbers of surface water bodies in 11 RBDs and a decrease in 13. One RBD delineated over 50% fewer and another over 100 % more than for the first cycle.

4.1.2 Designation of heavily modified water bodies

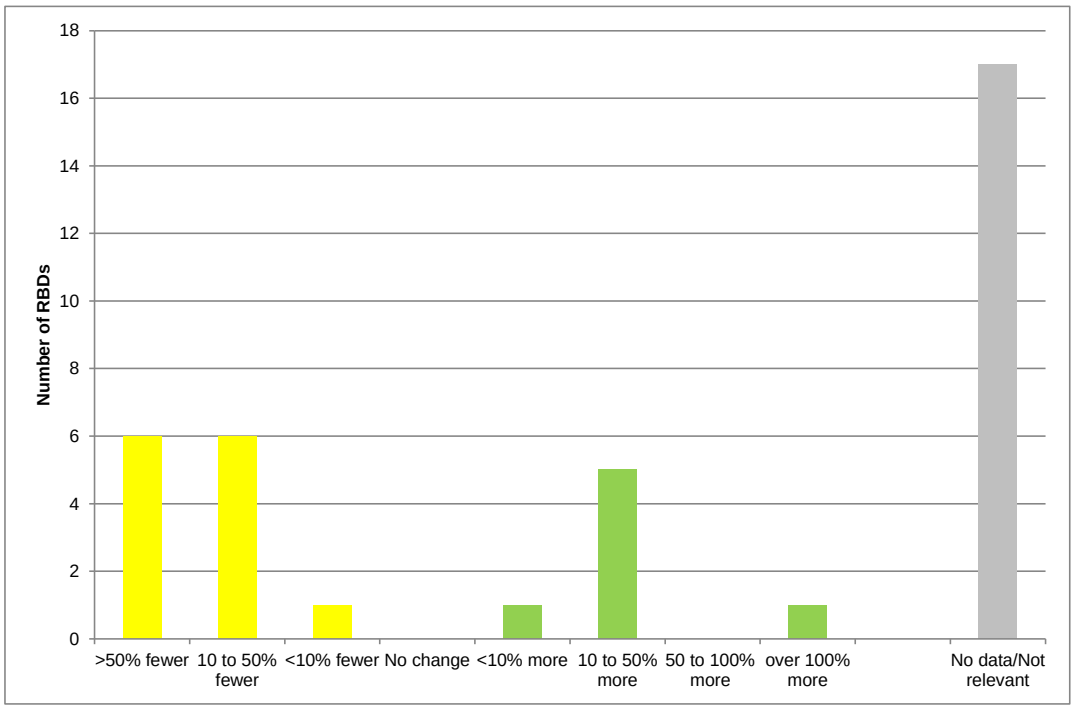
Figure 4.2 Changes in numbers of river water bodies designated as heavily modified between the second and first cycle plans



In the first plans approximately 13% of river water bodies at the EU level were designated as heavily modified. The proportion of heavily modified river water bodies varied from none in some MS to 94% in one MS, with over a quarter being designated in 6 MS. It is clear from the screening of the selected RBMPs that a number of MS have reviewed and revised their designated water bodies for the second cycle. For the 21 RBDs with information, 2 reported no changes in the numbers of river water bodies designated as heavily modified, 10 had designated fewer and 9 have designated more for the 2nd cycle. In 3 RBDs over 50% more HMWBs have been designated.

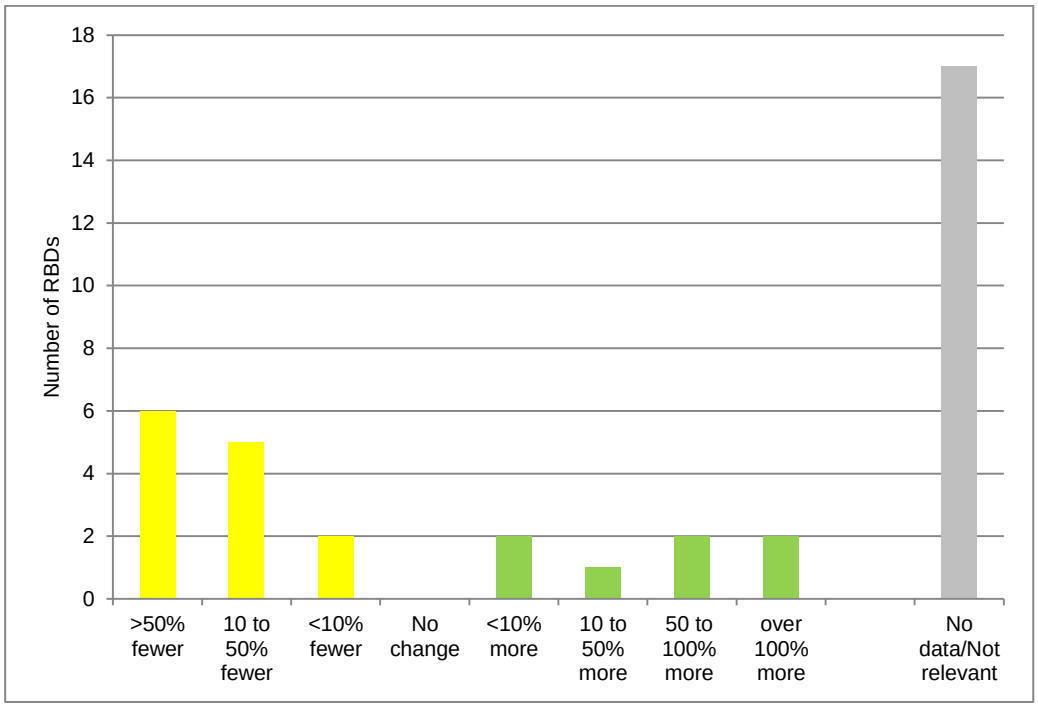
4.1.3 Monitoring of surface water bodies

Figure 4.3 Changes in numbers of operational monitoring sites in surface water between the second and first cycle plans



The results of monitoring are used in the classification of water body status. MS are required to monitor sufficient water bodies to obtain an overview of the status of water bodies within a RBD and to monitor the effectiveness of measures to reduce pressures. In 13 RBDs there were fewer, and in 7 RBDs more monitoring sites in surface waters for operational purpose than had been reported for the first cycle. There was no information for 17 RBDs.

Figure 4.4 Changes in numbers of surveillance monitoring sites in surface water between the second and first cycle plans



In terms of surveillance monitoring, there were fewer surveillance monitoring sites for surface waters in 13 RBDs and more in 7 RBDs.

4.1.4 Ecological status/potential of surface water bodies

Figure 4.5 Percentage of river or surface water bodies with at least good ecological status or potential at start of second cycle (no data from 8 RBDs)

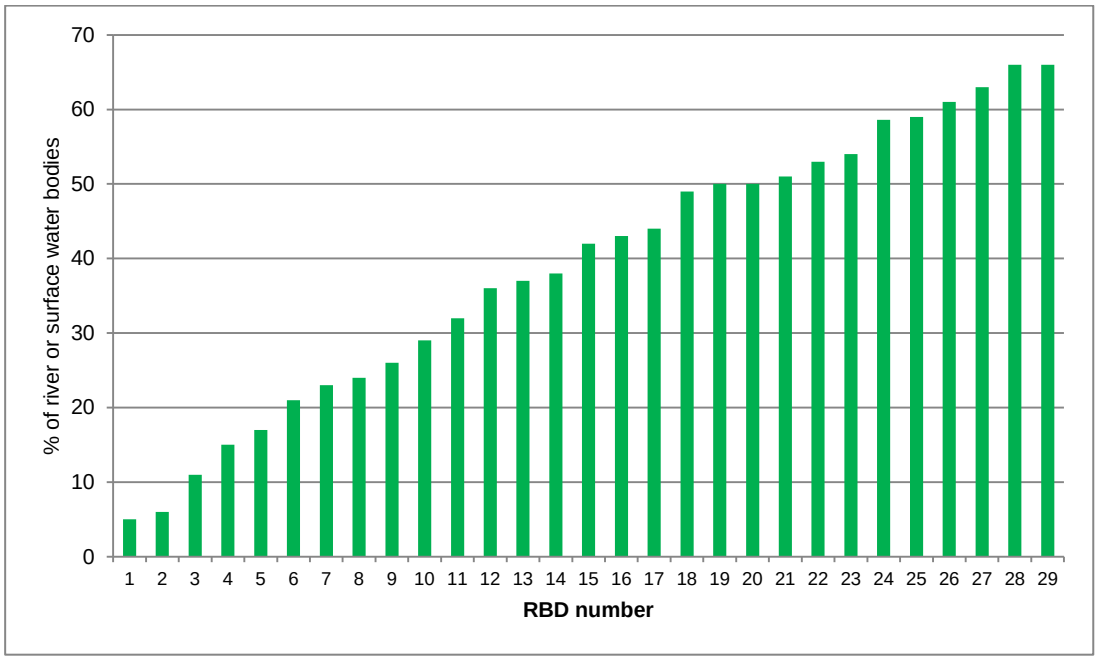


Figure 4.5 shows the percentage of river water bodies with at least good ecological status/potential as found in the dRBMP. In some RBMPs, status was presented in terms of surface water bodies as a whole and not differentiated by category. These values have been used in Figure 4.5 when there was no status information on river water bodies. There is a wide range (from 5% to 65%) of the percentage of river (surface) water bodies (RWB/SWB) expected to be at good or better ecological status/potential (GES/GEP) for the second cycle.

Figure 4.6 Difference in percentage of RWB/SWB classified as being at least GES/GEP between the second and first cycle plans

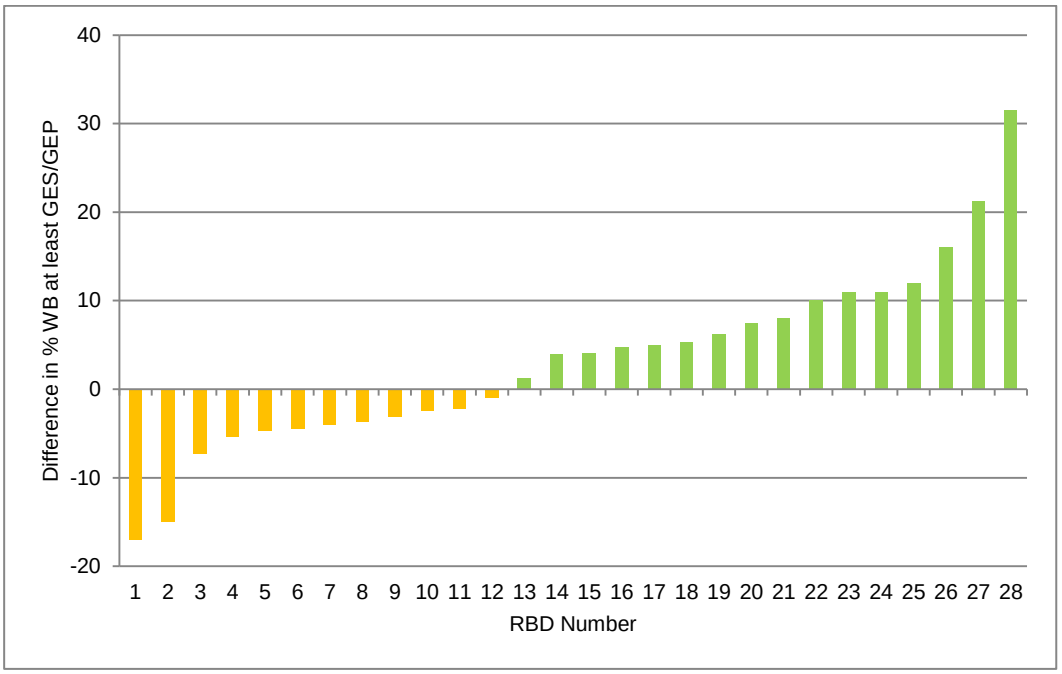
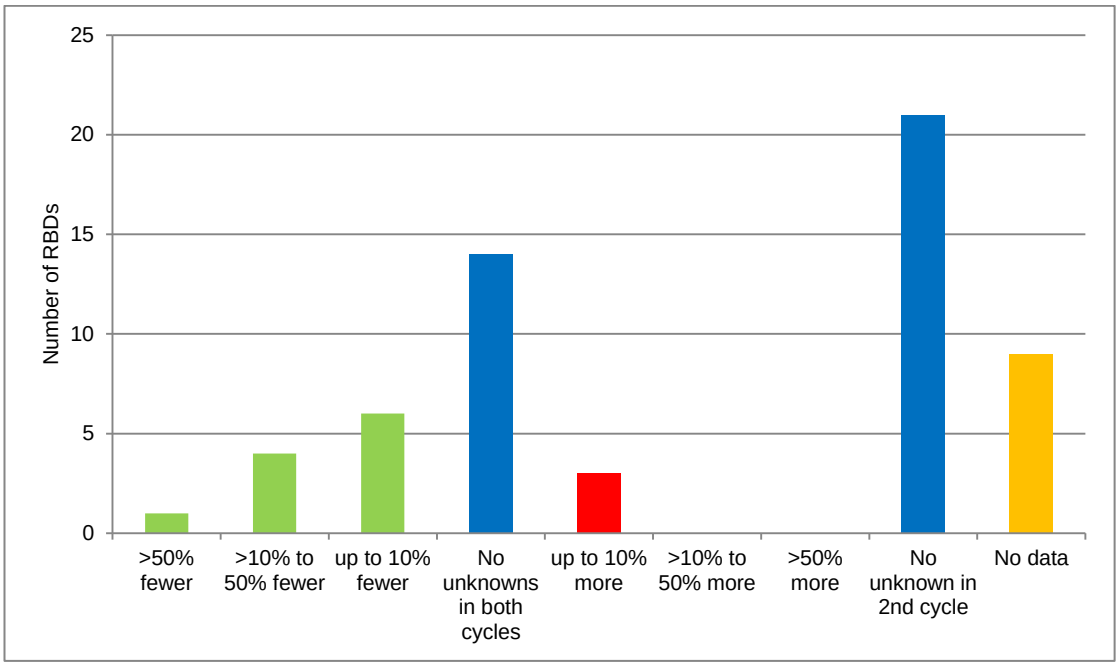


Figure 4.6 shows the difference in the percentage of river/surface water bodies expected to be at good or better ecological status/potential at the start of the second cycle compared to the start of the first cycle. A decrease is shown for 12 RBDs and an increase in 16 RBDs. The screening has shown that many MS have changed the delineation and numbers of surface bodies between the first and second cycles, and also some have revised their biological assessment and classification systems. It is also stated in some plans that because of this the classifications for the two cycles are not directly comparable. To overcome this 2 classifications, one based on the first cycle classification and water body delineation, and another based on the second cycle classification and water body delineation, will be presented in the second RBMPs.

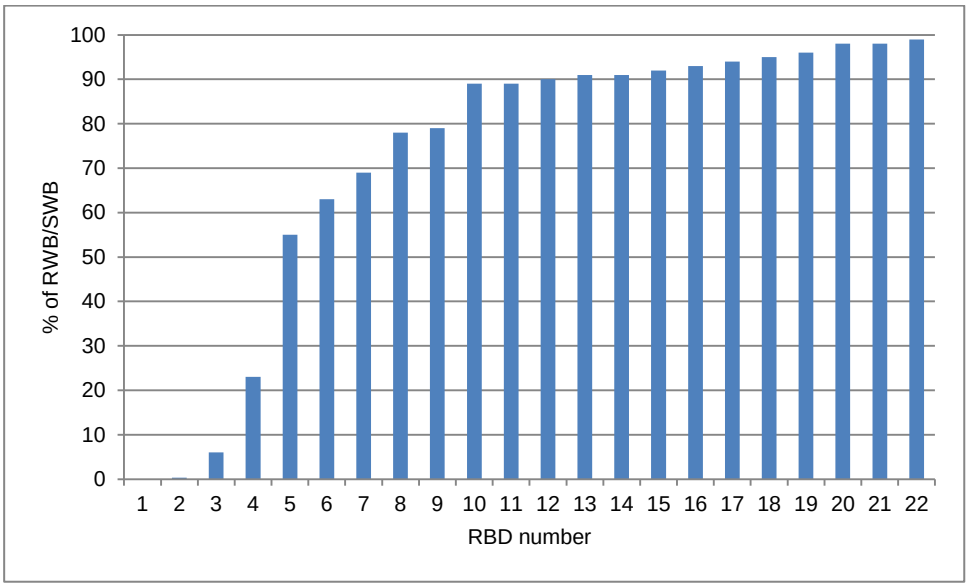
Figure 4.7 Change in percentage of RWB/SWB with unknown ecological status/potential between the second and first cycle plans (37 RBDs)



At the EU level 15% of surface water bodies were reported as having unknown ecological status/potential for the first cycle. The screened dRBMPs show that 21 of the 28 RBDs with relevant information had no surface water bodies with unknown ecological status or potential. However, for three RBDs up to 10% more surface water bodies had unknown status.

4.1.5 Chemical status of surface water bodies

Figure 4.8 Percentage of RWB/SWB at good chemical status at start of second cycle (no data from 15 RBDs)



11 of the 22 RBDs with information on the expected chemical status of river or surface water bodies indicated that over 90% were expected to be at good status at the start of the second cycle. One RBD reported that none would be at good chemical status.

Figure 4.9 Difference in percentage of RWB/SWB classified as being at good chemical status between the second and first cycle plans

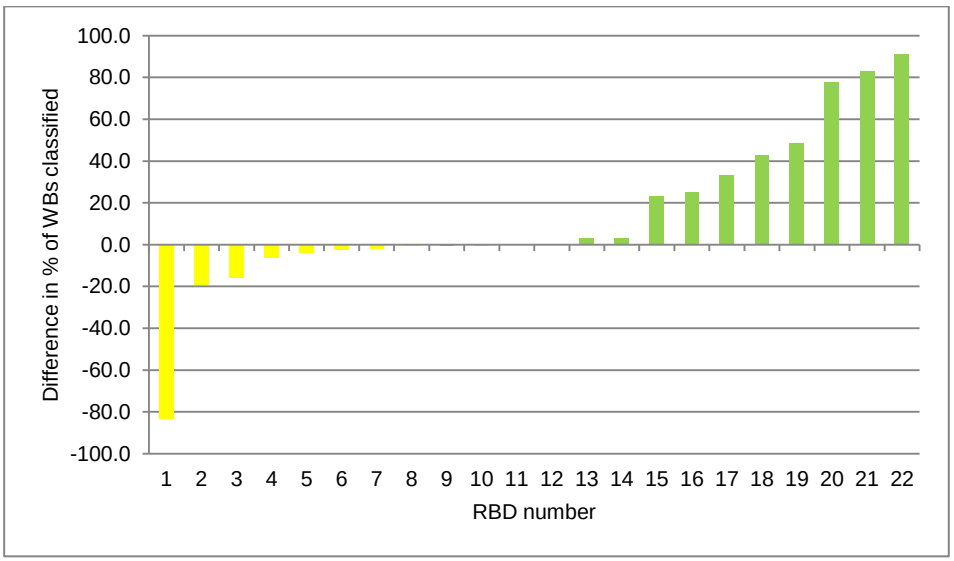
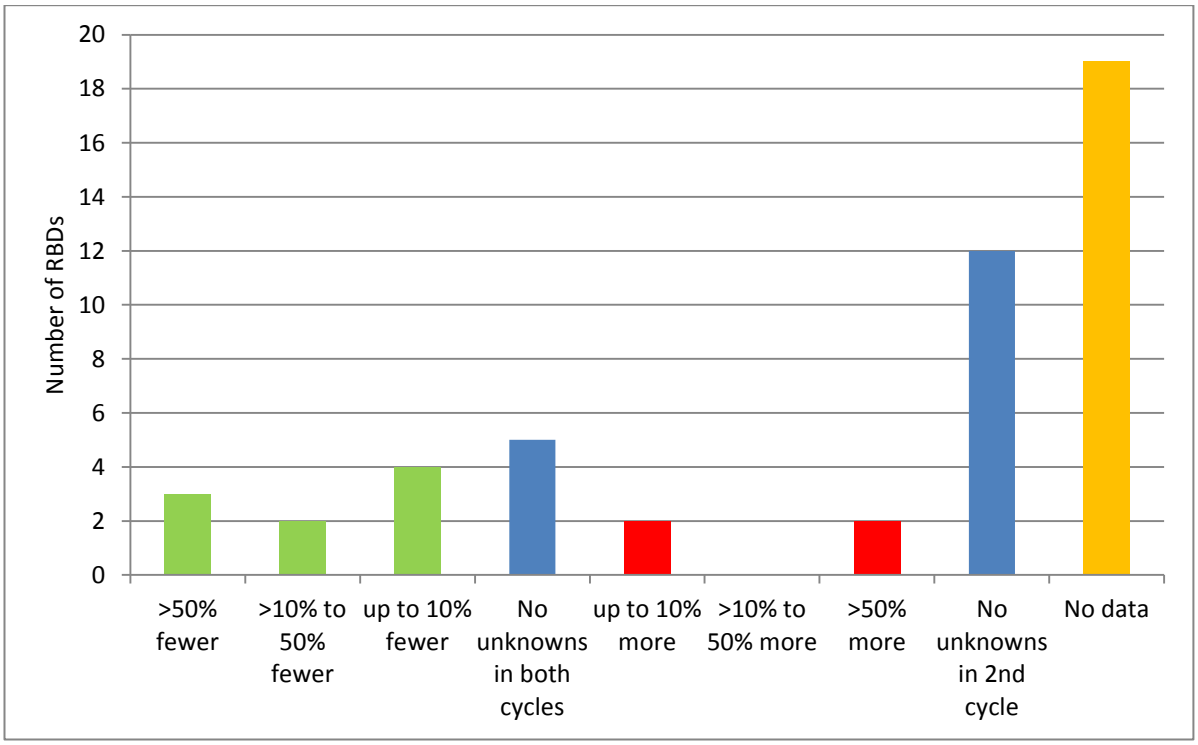


Figure 4.9 shows the difference in the percentage of river/surface water bodies expected to be at good chemical status at the start of the second cycle compared to the start of the first cycle. A decrease is shown for 11 RBDs and an increase also in 11 RBDs. The screening has shown that many MS have changed the delineation and numbers of surface bodies between the first and second cycles. In addition, it is expected that the requirements of the 2008 EQS Directive will have been fully incorporated into the second plans and also the 2013 Directive amending the Environmental Quality Standards (EQS) Directive may have been considered in the second plans. Therefore, the standards and substances by which chemical status is assessed may have changed between the first and second plans. The classifications for the 2 cycles may, therefore, not be directly comparable.

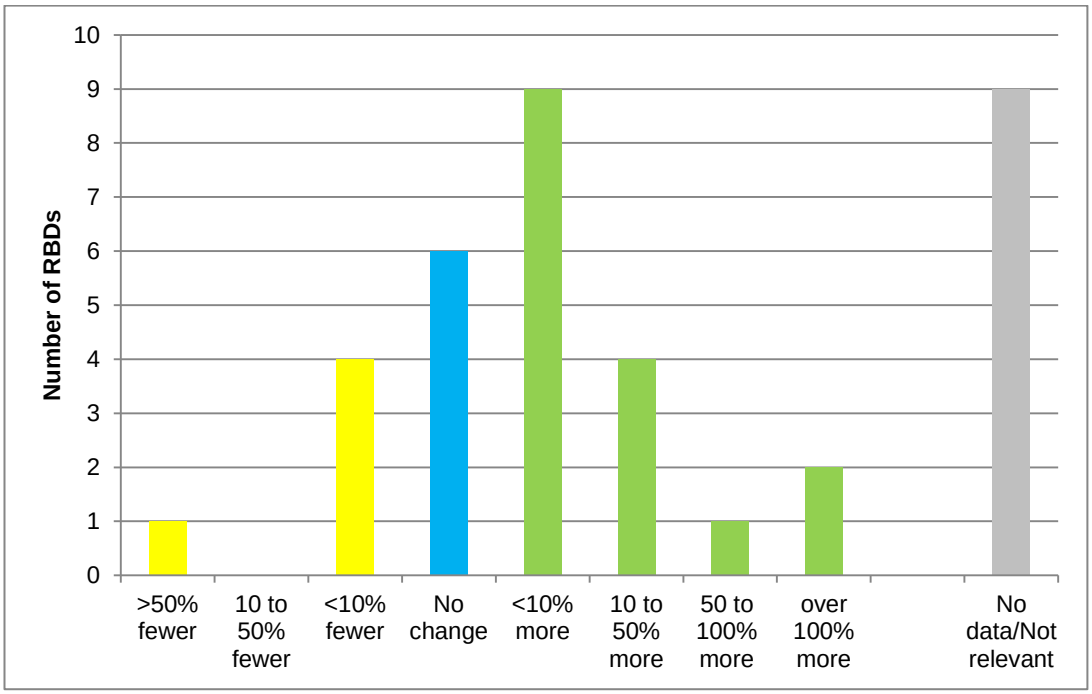
Figure 4.10 Change in percentage of RWB/SWB with unknown chemical status between the second and first cycle plans (37 RBDs)



At the EU level 40% of surface water bodies were reported as having unknown chemical status for the first cycle. The screened dRBMPs show that 12 of 18 RBDs with relevant information had no surface water bodies with unknown chemical status. However, for 2 RBDs up to 10% more surface water bodies had unknown status, and for 2 other RBDs greater than 50% more.

4.1.6 Delineation of groundwater bodies

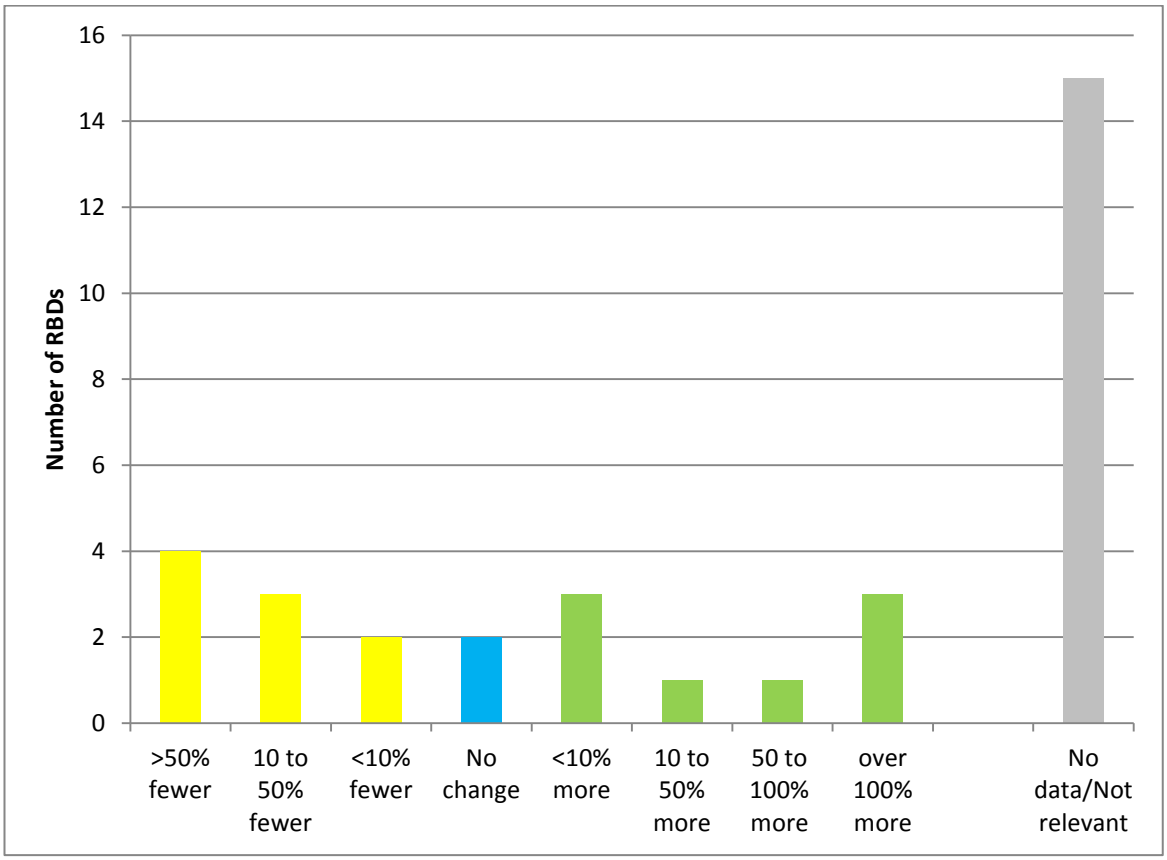
Figure 4.11 Changes in numbers of groundwater bodies between the second and first cycle plans



As for surface waters, the screening of the draft second RBMPs revealed that many MS and RBDs had revised their delineation of groundwater bodies between the second and first cycles. Six of the 27 RBDs with information indicated no change in the numbers between the 2 cycles but most of the others (16 RBDs) indicated that the numbers had increased for the second cycle.

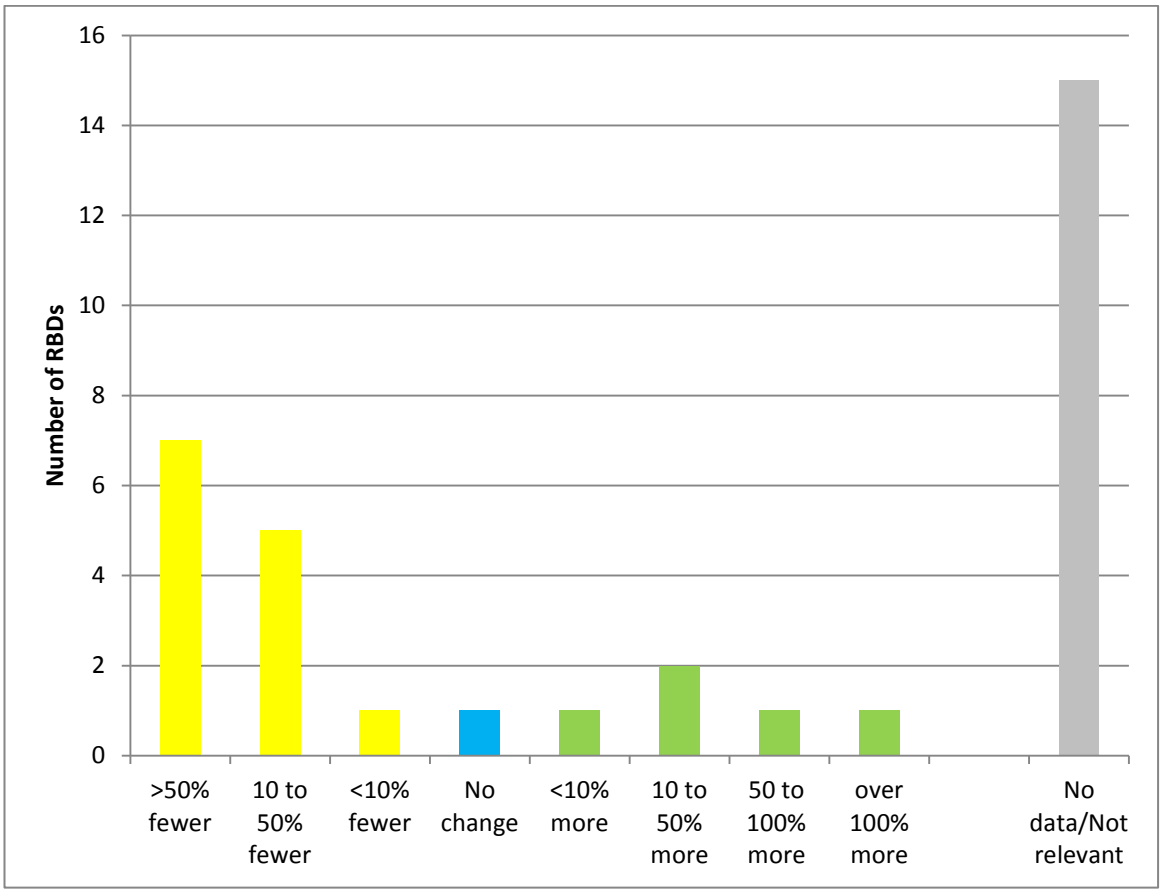
4.1.7 Monitoring of groundwater bodies

Figure 4.12 Changes in numbers of sites used for the monitoring of quantitative status of groundwater bodies between the second and first cycle plans



The results of monitoring are used in the classification of water body status. MS are required to monitor sufficient water bodies to obtain an overview of the status of water bodies within a RBD and to monitor the effectiveness of measures to reduce pressures. In 9 (out of the 19 with data) RBDs there were fewer, and in 8 RBDs more monitoring sites in groundwater waters for quantitative status than had been reported for the first cycle: in 2 the numbers were the same. There was no information for 18 RBDs.

Figure 4.13 Changes in numbers of surveillance sites used for the monitoring of chemical status of groundwater bodies between the second and first cycle plans



In terms of surveillance monitoring of chemical status of groundwater bodies, there were fewer sites in 13 RBDs and more in 5 RBDs: there was no change in numbers in one RBD.

4.1.8 Quantitative status of groundwater bodies

Figure 4.14 Percentage of groundwater bodies at good quantitative status at start of the second cycle (no data from 11 RBDs)

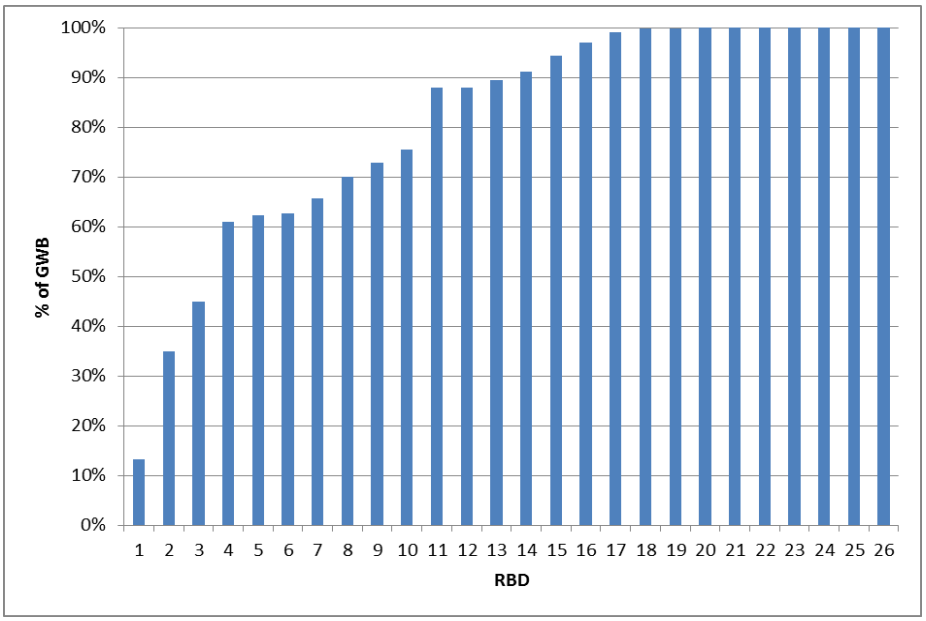


Figure 4.14 shows the percentage of groundwater bodies with good quantitative status as found in the draft second RBMP. There is a wide range (from 13% to 100%) of the percentage of groundwater bodies expected to be at good quantitative status for the second cycle with 100% reported for 9 RBDs.

Figure 4.15 Difference in percentage of groundwater bodies classified as being at good quantitative status between second and first cycle

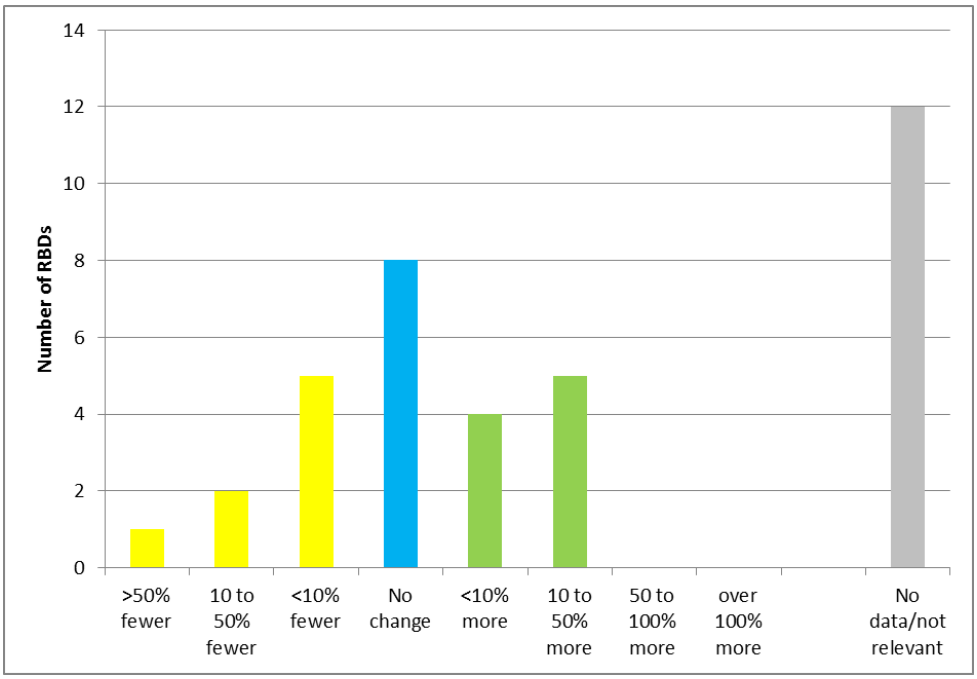


Figure 4.15 shows the difference in the percentage of groundwater bodies expected to be at good quantitative status/potential at the start of the second cycle compared to the start of the first cycle. No change was indicated for 8 RBDs, a decrease is shown for 8 RBDs and an increase in 9 RBDs. The screening has shown that some MS have changed the delineation and numbers of groundwater bodies between the first and second cycles, and also some have revised/improved their quantitative status assessment methods. It should be noted that the classifications for the 2 cycles may, therefore, not be directly comparable.

4.1.9 Chemical status of groundwater bodies

Figure 4.16 Percentage of groundwater bodies at good chemical status at start of second cycle (no data from 10 RBDs)

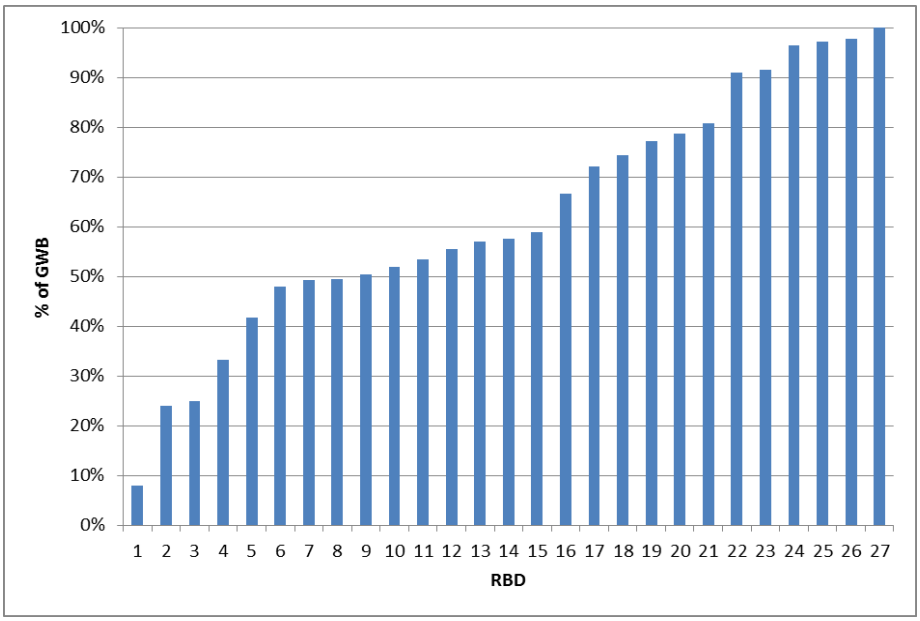


Figure 4.16 shows the percentage of groundwater bodies with good chemical status as found in the draft second RBMPs. There is a wide range (from 8 % to 100%) of the percentage of groundwater bodies expected to be at good chemical status for the second cycle with 8 (out of the 27 with data) RBDs having fewer than 50% of groundwater bodies at good chemical status.

Figure 4.17 Difference in percentage of groundwater bodies classified as being at good chemical status between second and first cycle

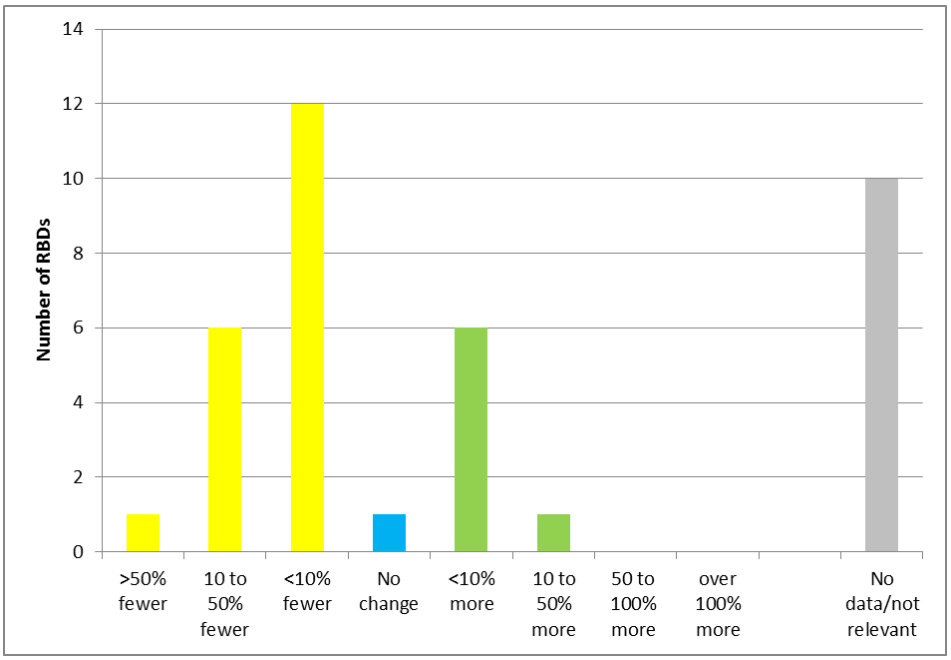


Figure 4.17 shows the difference in the percentage of groundwater bodies expected to be at good chemical status at the start of the second cycle compared to the start of the first cycle. No change was indicated for 1 RBD, a decrease is shown for 19 RBDs and an increase in 7 RBDs. The screening has shown that some MS have changed the delineation and numbers of groundwater bodies between the first and second cycles, and also some have revised or improved their chemical status assessment methods. It should be noted that the classifications for the 2 cycles may, therefore, not be directly comparable.

4.2 Progress on expectations from the first cycle

The screening assessment showed that not all dRBMPs have been explicit on the progress made in achieving WFD objectives and in meeting the expectations formulated in the 1st planning cycle. Only about half of the RBDs included information in the dRBMP on what expectations from the 1st cycle have not been achieved, and why. Some dRBMPs give clear information in terms of the number of water bodies that should have achieved good status by 2015 and did not or on the progress made so far in implementation of measures.

Several MS report a lack of progress in achieving good status due to the following reasons:

- The implementation of actions in the PoM has been delayed. Only some dRBMPs report explicitly on the reasons for delays, e.g. financial constraints, delays in planning, legal difficulties preventing measures to be implemented on private land, lack of acceptance of measures, time lag between action and results.

- In some cases, there are more water bodies in less than good ecological status in 2015 than in 2009, due to new assessment systems (e.g. new assessment of hydromorphological impacts in SE) and monitoring data (see also section 4.4).

In addition, several MS (e.g. BE, FR) report that improvements have been achieved in individual quality elements or parameters, but these are not reflected in the overall status because of the 'one-out all-out' principle.

4.3 Characterisation of the River Basin District

4.3.1 Headlines

- Almost all screened dRBMPs indicate that changes were made to the way water bodies are delineated and characterised.
- This most often led to a reduction in the number of water bodies, but in a few cases the change in methodology led to an increase in water bodies.
- RBDs have improved their analysis of pressures in different ways.
- A few RBDs reported using/strengthening the DPSIR approach to change/improve the definition of significant pressures.
- Research projects modelling pressures were reported, usually focused on diffuse pollution from agriculture (e.g. improved MONERIS model in Romania and the WSFS-VEMALA (Watershed Simulation and Forecasting System) model to calculate diffuse source pressures in Finland). In some RBDs, modelling is reported as on-going with final results not yet ready.
- New topics, such as flooding, droughts and climate change, are playing a larger role in the pressures analysis.

4.3.2 Results of the screening assessment based on the CSWD 2015 recommendations

Overall, the CSWD 2015 recommendations addressed aspects of typology, establishment of reference conditions, and delineation of water bodies, in less than half of the MS. The screening assessment shows some evidence of progress on defining reference conditions and in setting boundaries for many quality elements mainly for rivers and lakes. More extensive gaps still remain for transitional and coastal waters. In many cases, some key quality elements are not fully incorporated yet in the assessments.

The CSWD 2015 recommendations addressed the analysis of pressures and impacts in at least two thirds of the MS. Overall good progress has been made since the 1st cycle. The description of pressures and impacts and the related risk assessment has improved (e.g. see DE, DK, FI, FR, LT, NL, RO), due to the use of more elaborate modelling, improved monitoring and inventories of emissions and discharges.

Table 4.1 Results of the screening assessment "Characterisation of the River Basin District" (see page 9 for the legend)

MS	RBD	Typology/ Reference conditions/ Delineation of WBs	Identification of significant pressures and impacts	Comments
AT	Danube	☹	😐	Delineation of small WBs not clarified. For WBs with a catchment area of less than 10 km^2, there is no area-wide planning. The plan acknowledges that the objectives are also relevant for these WBs. Description of pressures improved, especially regarding point sources (emission register), and sources of impacts better identified. Revised EQS to be applied in 2015. List River Basin Specific Pollutants and information on how data below Limit of Quantification are being treated in the status assessment not provided. No discussion of uncertainties of pressures and impact analysis on measure targeting.
BE-Fl	Scheldt			
CZ	Elbe			
DE	Elbe		☺	Update of the risk assessment (far less positive picture than in 2009). Clear indication on number of WBs impacted by pressures (and likely to prevent the achievement of objectives).
DE	Rhine, Elbe, Weser, Ems/LS		☺	Changes in the definition of significant pressures following a national approach with more details based on the DPSIR approach. Clear indication on number of WBs impacted by pressures (and likely to prevent the achievement of objectives).
DE	Danube/BY		☺	Same as above.
DE	Rhine/Weser/ Ems/Maas/NRW		☺	Same as above.
DK	Jutland and Funen	😐	☺	Transitional waters still not designated but justification provided related to smooth

MS	RBD	Typology/ Reference conditions/ Delineation of WBs	Identification of significant pressures and impacts	Comments
				salinity gradients and freshwater input to coastal waters. More explanation given on typology but no information found on validation of types against biological data. Improved quantification of pressures and impacts including risk assessment, also for hydromorphology and groundwater. Quantification of pressures from hazardous substances still partly not available.
ES	Guadiana	😐	☹	A draft Decree on monitoring and status assessment (to be approved in 2015) includes binding reference conditions, boundaries for many quality elements and partly incorporates the results of the intercalibration exercise. However, some key quality elements are not yet incorporated fully. No harmonisation of the consideration of temporary streams in the Mediterranean area due to natural causes reflected in the dRBMP. No review of the legislation to incorporate explicitly the identification of WBs at risk as a result of the pressures and impacts analysis.
ES	Guadalquivir	😐	☹	Same as for Guadiana.
ES	Andalucía Mediterranean basins	😐	😐	Same as for Guadiana. In the dRBMP, some complementary boundary values are established, additional to the Spanish legislation. Criteria to assess pressures changed, now referring to those pressures that put water bodies in risk either individually or combined with other pressures (expert judgement used but not explained).
ES	Segura	😐	☹	Same as for Guadiana.
ES	Jucar	😐	☹	Same as for Guadiana. Pending definition of boundary values for HMWB (lake waters) and lack of reference conditions for transitional waters.

MS	RBD	Typology/ Reference conditions/ Delineation of WBs	Identification of significant pressures and impacts	Comments
ES	Ebro	😐	☹	Same as for Guadiana.
ES	Baleares	😐	☹	Same as for Guadiana.
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea		☺	Methodology for determining pressures is explained, and pressures specified by sectors. No clear information on the determination of significance.
FR	Loire		☺	Analysis of risk is based on improved methods and elements.
FR	Rhone			
FR	Adour Garonne		😐	Quantitative refinement of pressure analysis in a limited way. Details given on the inventory of dangerous substances.
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea		☺	New assessment method to evaluate the risk of not achieving the WFD objectives due to different pressures.
IT	Po		☺	Includes a common methodology for significant pressures; the quantitative assessment of significant impacts at WB level will be available by Dec. 2015.
IT	Central Appenines		😐	Information on pressures is fragmentary (preliminary report on the methodology of the assessment of pressures and impacts).
IT	Southern Appenines		😐	More detail given on specific pressures. No indication of common criteria for significant pressures and impacts.
IT	Sardinia		😐	Refers to approaches for better information on the update of pressures and impacts but does not include results (to be presented in the final RBMP).
LV	Daugava	☺		River WB typology revised. Further plans for more proper delineation and grouping of small river WB.
LT	Nemunas	😐	☺	Progress made in setting up reference

MS	RBD	Typology/ Reference conditions/ Delineation of WBs	Identification of significant pressures and impacts	Comments
				conditions for several indicators, esp. for rivers and lakes. For coastal and transitional waters, only preliminary reference conditions for indicators of some biological elements. Significance of all types of relevant pressures described in detail and for some pressures, clearly informed by monitoring data.
NL	Rhine		☺	Inventory of the number of WBs significantly impacted by the different pressure types is provided.
PL	Vistula		☹	No details on criteria or thresholds to define significance, no details on quantification of pressures from flow and morphological alterations.
RO	Danube	☺	☺	Definition of reference conditions progressed but difficulties remaining for certain types of river WBs. WBs reviewed, validated and regrouped. Intercalibration of assessment methods foreseen to be completed in 2015-2016. Method for significant pressures and impacts reviewed. Information not found on the share of WBs with no pressures.
SK	Danube			
SE	Bothnian Sea			
SE	North Baltic			
SE	Skageratt and Kattegat			
UK	Scotland			
UK	Northern-Ireland (Neagh Bann)			
UK	South West			
UK	Anglian			

MS	RBD	Typology/ Reference conditions/ Delineation of WBs	Identification of significant pressures and impacts	Comments
NO	Glomma	☹	☺	Transitional water bodies not defined and no explanation provided. Biological impact factors are defined in the PoM, e.g. fish farms, diseases and invasive species, and ca. 250 pressures are identified to be mapped and monitored.

4.4 Monitoring and status assessment

4.4.1 Headlines

- Many RBDs report modifications to the monitoring programmes.
- Most RBDs indicated that they have expanded their monitoring systems and have started to fill the gap in monitoring Environmental Quality Standards and Biological Quality Elements.
- Overall, the RBDs reported positive changes to the methodologies for assessing status.
- Quite a few RBDs have updated their lists for priority substances and river basin specific pollutants.
- Most MS indicated a change in the status classification of water bodies as a result of changes in the characterisation of water bodies, adjustments to the pressures analysis, improved monitoring and assessment methods.
- This has resulted in some RBDs having more water bodies in good status, whereas other RBDs indicated that the adjustments in methodologies led to a decrease in status in comparison to 2009.
- Many RBDs indicate that changes in classification have made it difficult to judge the progress in achieving good status, and that the situation in 2015 is not directly comparable with 2009.
- The resulting changes have also resulted in updates to the risk assessment of the likelihood of water bodies achieving good status by 2021 or 2027.

4.4.2 Results of the screening assessment based on the CSWD 2015 recommendations

Improving the system of monitoring and the status classification for surface water and groundwater has been a specific point of emphasis of the 2nd RBMPs in certain countries, e.g. FI (see first box below), IT.

In most MS, there is evidence of some progress and, in a few cases, of substantial progress made with respect to monitoring. The monitoring programmes have been updated either in

terms of adding monitoring stations, or monitoring additional quality elements or both. However, gaps still remain, which usually concern one or more of the following: the monitoring of chemical substances; hydromorphological conditions; monitoring of groundwater or monitoring of coastal and transitional waters.

In terms of methods to assess the status, the screening assessment shows that progress made is similar to the progress noted on monitoring, as these two elements are closely interlinked in the planning process. Status assessment systems have improved methodologically for several quality elements especially for rivers and lakes and they have in many cases been a subject of specific new legislation or national guidance documents. Also some progress is reported in terms of setting Environmental Quality Standards (EQS) values for river basin specific pollutants (RBSPs) and priority substances, e.g. in DK, PL, LT. However, as mentioned for monitoring, several key elements are not yet incorporated fully in the assessment systems of some countries. Gaps usually refer to assessment methods for hydromorphological conditions, fish either in rivers or lakes, phytoplankton, macrophytes, and the assessment of the status of groundwater.

In certain countries (e.g. LT, UK-EW, RO (see second box below), PL), more substantial progress is reported in terms of filling in gaps identified in the 1st planning cycle and finalising assessment methods. In the UK, significant improvements are indicated in terms of assessing the status of groundwater, reducing uncertainty and the number of surface water bodies at unknown chemical status (largely due to new risk assessments based on modelling and expert judgement; no information given as to how many WBs were monitored for priority substances or how many substances were included).

FI, RBD Kokemäenjoki-Archipelago Sea-Bothnian Sea, Improvements in monitoring and reducing water bodies in unknown status

Enlarging the system of monitoring and identifying the status of water bodies is clearly stated as the focus of the 2nd RBMP. Many water bodies were not assessed in the first cycle. The second cycle will focus on identification of data for water bodies for which the status was unknown. It is reported that the number of monitored surface- and groundwater bodies has increased since the first cycle, and the number of water bodies in unknown status has been reduced.

The new monitoring programme for years 2014-2016 takes into account new research and previous experiences in the classification of water bodies. In the period 2014-2016 monitoring of surface waters is done through grouping, which aims at reducing the number of water bodies in unknown status. For groundwater bodies, unknown status applied to 95 GWB in the first cycle; in the second cycle, the number of unknown GWB has decreased to 61, and the monitoring network is foreseen to be further expanded during 2014-2016.

In the same time, it is indicated that changes in the status of water bodies are difficult to assess over a short time period. The 1st cycle status assessment used data from 2000-2007,

while for the 2nd cycle mainly data from 2006-2012 will be used. Changes in the assessment are further complicated by the fact that the surface waters classification criteria and monitoring data has been subject to change due to the intercalibration exercise.

RO, RBD Danube, Improvements in monitoring and status of water bodies

The following highlights from the draft 2nd RBMP indicate good progress being made to improve the data basis for the river basin planning process:

- The monitoring system has been improved: the monitoring network has been extended to monitor a larger number of water bodies; also the number of quality elements and monitored parameters has increased in order to achieve a better confidence level in evaluating the status of water bodies;
- Reduction in the number of water bodies which have not been evaluated;
- For chemical status, the dRMBP indicates progress in the monitoring of priority substances and improvement of analytical methods; while in the first RMBP the evaluation for some surface water bodies was made taking into account the risk analysis and expert opinions, in the second dRMBP the analysis is based on monitoring data.
- Overall, increase in the number of water bodies which have reached good and high status, e.g. natural surface water bodies at good ecological status or better are 70% at the start of the 2nd cycle compared to 64% in the 1st cycle. Conversely, there is a reduction of the number of water bodies which have bad or poor status. There has been as assessment of the results of current measures in terms of ecological status/ecological potential of WBs, which concluded that the gap to good status is reduced thanks to the measures that have been implemented so far. However, no detailed explanations of these improvements are given.

Table 4.2 Results of the screening assessment "Monitoring and status assessment" (see page 9 for the legend)

MS	RBD	Monitoring of status	Status assessment methods	Comments
AT	Danube			
BE-Fl	Scheldt		😐	Some progress noted in the development of methods for status assessment (mainly for GW chemical

MS	RBD	Monitoring of status	Status assessment methods	Comments
				and quantitative status, ecological potential) with reference to a background document of 2014.
CZ	Elbe	☹	😐	Progress particularly in assessment of biological quality elements but little information provided on assessment methods. Some more information on achieving good status or not linked to agricultural pollution. No information on how Environmental Quality Standards (EQS) for River Basin Specific Pollutants (RBSP) are established. Ecological potential and chemical status of heavily modified and artificial lakes now assessed (to fill gaps in reporting quality of lakes in the 1st plan). No information found on how biological quality elements were selected in relation to all potential pressures and impacts or on changes in to pick up potential polluting loads in the operational monitoring.
DE	Elbe			
DE	Rhine, Elbe, Weser, Ems/LS			
DE	Danube/BY			
DE	Rhine/Weser/Ems/Maas/NRW			

MS	RBD	Monitoring of status	Status assessment methods	Comments
DK	Jutland and Funen	☺	😐	Monitoring extended to include more quality elements (QEs) and monitoring of groundwater (some QE/parameter gaps still present). Includes 150 stations for surveillance monitoring of lakes (QEs per station indicated). Class boundaries given for all BQEs in a background document on classification. Also for hydro-morphological QEs, class boundaries have been provided (but not repeated in draft 2nd RBMP). No information found on uncertainty in classification. EQS values for RBSPs set and apparently WFD compliant. Rivers classified for chemical status still less than 1% (as in 1st RBMP), but 5% for lakes and 50% for coastal waters. For groundwater, more water bodies monitored and assessed for chemical status.
ES	Guadiana	😐	😐	Several monitoring protocols adopted in 2013 by the Spanish authorities. Monitoring programmes updated and changed but gaps remaining (e.g. on certain priority substances). Model for extrapolation for non-monitored water bodies not presented. Draft Decree on monitoring and status assessment (which may be approved in 2015), which also addresses the (missing) assessment systems for coastal and transitional waters and the assessment of priority substances. It is unclear if consistency between physico-chemical standards and the related biological quality classes has been addressed. However, several key quality elements not yet incorporated

MS	RBD	Monitoring of status	Status assessment methods	Comments
				fully (e.g. indicators for hydromorphological conditions, fish, phytoplankton).
ES	Guadalquivir	😐	😐	Same as for Guadiana. Monitoring stations in transitional and coastal waters reduced significantly, without providing further information. See Guadiana above for status assessment. Gaps not addressed in the assessment of GW quantitative status.
ES	Andalucía Mediterranean basins	😐	😐	Monitoring programmes completed by additional stations and new indicators added. Gaps still remain in monitoring individual quality elements. See Guadiana above for status assessment. Updated assessment of GW quantitative status.
ES	Segura	😐	😐	Similar to Guadiana. No indication on the parameters applied to assess status, for the different water categories. Neither fish nor phytoplankton are apparently considered. GW quantitative status assessment considers possible risks in water-dependent ecosystems.
ES	Jucar	😐	😐	New indicators added to monitoring. Hydromorphological indicators are not being monitored. See Guadiana above for status assessment. Gaps in the assessment of ecological and chemical status esp. for temporary water bodies. GW quantitative status assessment considers possible risks in water-dependent ecosystems.

MS	RBD	Monitoring of status	Status assessment methods	Comments
ES	Ebro	😐	😐	Some new protocols and indicators added to monitoring. Gaps still for coastal and transitional waters. See Guadiana above for status assessment. 33% of lake and river WBs not assessed for their status. Monitoring gaps for transitional and coastal waters. Gaps not addressed in the assessment of GW quantitative status.
ES	Baleares	☹	😐	Last monitoring in 2009 and few data gathered since then. Monitoring programmes and status assessment incomplete for groundwater. Review of monitoring programmes included in the PoM for 2022-2027, based on a study in the previous cycle. See Guadiana above for status assessment.
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea	😐	😐	Enlarging the system of monitoring and identifying the status of WBs is the focus of the 2nd RBMP. Number of WBs monitored has increased. Expert opinion is still used. Further emphasis on expanding monitoring for GWBs.
FR	Loire			
FR	Rhone			
FR	Adour Garonne			
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea			

MS	RBD	Monitoring of status	Status assessment methods	Comments
IT	Po	😐	😐	Full assessment of status of SWBs and GWBs is available and based on Italy's revised rules for monitoring and characterisation. Methods for some BQEs are missing (e.g. fish in rivers). RBSPs have been measured. Still some important methodological issues to be addressed at national level, e.g. GEP for AWB/HMWB; methods for GWB quantitative status, trends of pollutants.
IT	Central Appenines	😐	😐	Recent national legislation provide a basis of methods for status assessment and revised rules for monitoring. Some BQEs, e.g. for fish, not yet developed.
IT	Southern Appenines	😐	😐	Update of status assessment of WBs but no full information provided on assessment methods. Monitoring results not complete for some quality elements.
IT	Sardinia	😐	😐	Stated that monitoring systems and approaches have been modified. Provisional status of river WBs and results on GWB status. Methods for certain biological quaity elements (BQEs) not ready (e.g. macrophytes).
LV	Daugava	?	?	In the current dRBMP only information on changes in the typology are summarised and reported. No information on changes or actual status on monitoring stations, monitoring results, and ecological status reported.
LT	Nemunas	😐	☺	Additional monitoring provided extra information on the status and pressures of certain WBs (mainly related to point sources). Assessment methods for quality

MS	RBD	Monitoring of status	Status assessment methods	Comments
				elements are mostly finalised and methods presented. RBSPs are included and the one-out-all-out principle is used. Chemical status is assessed in relation to both annual average (AA)-EQS and maximum annual concentration (MAC)-EQS.
NL	Rhine			
PL	Vistula	☺	☺	Monitoring program reported as adapted to WFD requirements; more comprehensive, includes biological and hydromorphological elements. Methods for status assessment seem more complete with several missing quality elements (QE)s addressed. EQS for priority substances and other pollutants established; lists of emissions and concentrations included and used to assess chemical status. Number of unknowns for chemical status not reported (unclear).
RO	Danube	☺	☺	Missing quality elements included in monitoring; network extended. Methods for the assessment of status reviewed and developed, considering developments in monitoring data.
SK	Danube	☺	😐	All biological and hydromorphological QEs monitored (fish monitoring in limited WBs). Priority substances and river basin specific pollutants (RBSP)s monitored. Type specific WFD compliant classification schemes applied. All classification schemes for all BQEs in surface waters (with the exception of large rivers) intercalibrated. RBSPs causing failure of good status and priority substances causing failure of good

MS	RBD	Monitoring of status	Status assessment methods	Comments
				chemical status described. Details on EQS for RBSPs not provided.
SE	Bothnian Sea			
SE	North Baltic			
SE	Skageratt and Kattegat			
UK	Scotland	?	😐	Generally no information presented on monitoring for the 2nd cycle. Little information given on progress with assessment methods. Revised Directions of 2014 provide standards for the second plans (e.g. new standards for phytoplankton and angiosperms); no assessment method for fish in lakes yet.
	Northern-Ireland (Neagh Bann)	?	😐	No information found on changes to monitoring. Not clear if gaps closed on assessment methods. Brief information on proposed changes to environmental standards and classification methods for the 2nd cycle, e.g. new standards for certain metals, planned method for asessing river continuity.
	South West	☺	☺	For operational monitoring quality elements selected according to the priority pressures. A new river monitoring network introduced in 2013 and 2014 with a better coverage of BQEs. The statistical certainty or confidence in the classification of status is calculated from the monitoring results. Fish in lakes not assessed (no method yet). Hydromorphological conditions included in the method for classifying SWBs. Large improvements in reducing uncertainty and numbers of unknowns in terms of

MS	RBD	Monitoring of status	Status assessment methods	Comments
				chemical status. Methods for assessing GW status improved.
	Anglian	☺	☺	Same as South West.
NO	Glomma	😐	😐	Regional monitoring programme under development. Limited progress on the improvement of groundwater monitoring. New guidance (2013) on the classification of status using BQEs. Many classifications parameters, with associated limits, are still missing. New guidance on priority substances and EQS under development.

4.5 Designation of Heavily Modified Water Bodies and definition of Good Ecological Potential

4.5.1 Headlines

- Little progress is noted in terms of revising the methods and criteria for designation of Heavily Modified Water Bodies (HMWB), with few exceptions. Several RBDs report changes in the number of HMWBs and AWBs.
- Little progress is noted in the methods for defining good ecological potential (GEP), with very few exceptions of methodological improvements.

4.5.2 Results of the screening assessment based on the CSWD 2015 recommendations

Approximately half of the screened Member States were targeted by specific CSWD 2015 recommendations on the issue of Heavily Modified Water Bodies (HMWB) and Artificial Water Bodies (AWB). Overall, little progress is noted in terms of revising the methodologies and criteria used for designation since the 1st cycle. There are certain exceptions to this, especially in DE and PL, where clearer and more complete information is provided on designation compared to the 1st cycle, as well as reductions in the numbers of their designated HMWB. Overall, a number of RBDs reported changes in the number of HMWBs and AWBs, with numbers either increasing or decreasing (see statistical results on designated river HMWBs in section 4.1.2).

Concerning the definition of good ecological potential (GEP) as the objective for HMWB/AWB, similarly little progress is noted in improving the relevant methods. The screening indicated limited exceptions to this, especially DE where a rather comprehensive methodology has been developed.

DE, Revisions in HMWB designation and GEP definition

In the German RBD Elbe, the number of HMWB decreased in the 2nd cycle (- 2%) and changes are justified on the basis of better knowledge and data available. Also in the screened RBMP of Lower Saxony, covering the Rhine, Elbe, Weser and Ems, 2 WBs previously classified as HMWB are considered natural in the 2nd planning cycle. The screening exercise in the German 2nd draft RBMPs also indicates major improvement on GEP definition due to a new methodological approach harmonised at national level.

Table 4.3 Results of the screening assessment "Designation of HMWB and definition of GEP" (see page 9 for the legend)

MS	RBD/UoM	Designation of HMWBs	Definition of GEP	Comments
AT	Danube	😐	☺	Changes to the general method of HMWB designation not found. Some more specific information on navigation related to HMWB. National guidance document concentrates on methods and criteria for GEP definition.
BE-Fl	Scheldt		😐	Changes applied since the 1st cycle, reference made to a more detailed background document of 2014.
CZ	Elbe			
DE	Elbe	☺☺	☺	Number of HMWB decreased (2%). Changes are justified due to better knowledge and data. GEP approach has been harmonised at national level. For the details of the method, there is reference to a background paper.
DE	Rhine, Elbe, Weser, Ems/LS	😐	☺	2 WBs previously classified HMWB are now considered natural. No details given. GEP

MS	RBD/UoM	Designation of HMWBs	Definition of GEP	Comments
				improvement – see above.
DE	Danube/BY	😐	☺	HMWB designation revised following a German-wide approach (reference to a guidance document). GEP improvement – see above.
DE	Rhine/Weser/Ems/Maas/NRW	😐	☺	HMWB designation revised following a German-wide approach (reference to a guidance document). No comparison with previous HMWB. GEP improvement – see above.
DK	Jutland and Funen		☹	No information or further methodological explanation found on GEP definition.
ES	Guadiana	😐	☹	Partial update of the method for designation. No obvious change in the definition of GEP.
ES	Guadalquivir	☹	☹	No changes in the method of the designation process. No obvious change in the definition of GEP.
ES	Andalucía Mediterranean basins	☹	☹	Same as Guadalquivir.
ES	Segura	☹	😐	No obvious change in the designation process. No major change in defining GEP, except for inclusion of some new indicators.
ES	Jucar	😐	☹	Designation for lake –type SWBs complete. Assessment of alternative options included. Significant adverse effects still established qualitatively. No obvious change in the definition of GEP.
ES	Ebro	☹	😐	No update of the designation process, still no clear criteria to define significant adverse effects. GEP assessment introduced and

MS	RBD/UoM	Designation of HMWBs	Definition of GEP	Comments
				mitigation measures for each WB. No assessment for river-type WBs except reservoirs due to lack of knowledge to set reference conditions.
ES	Baleares	☹	☹	No explanation of the designation process given. GEP not established.
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea			
FR	Loire			
FR	Rhone			
FR	Adour Garonne			
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea			
IT	Po			
IT	Central Appenines			
IT	Southern Appenines			
IT	Sardinia			
LV	Daugava			
LT	Nemunas			
NL	Rhine	😐		The motivation for the designation of HMWB is given in factsheets. No further assessment possible of the details in the revision of HMWB.
PL	Vistula	☺	☹	More details on methodology and indicators available on HMWB designation. Number of HWMB decreased significantly for rivers and lakes. No information found on the classification of GEP.
RO	Danube	☹	😐	Methodology for HMWB designation not revised. Level of confidence of GEP definition reported as improved.

MS	RBD/UoM	Designation of HMWBs	Definition of GEP	Comments
SK	Danube			
SE	Bothnian Sea			
SE	North Baltic			
SE	Skageratt and Kattegat			
UK	Scotland			
UK	Northern-Ireland (Neagh Bann)			
UK	South West			
UK	Anglian			
NO	Glomma	😐	☹	Revised guidance for HMWB classification in 2014. Candidate HMWB and justification provided (no final decisions yet). GEP not defined.

4.6 Objective setting and exemptions

4.6.1 Headlines

- The majority of RBDs indicated that there were significant changes to number of exemptions being applied.
- Overall, most RBDs indicated that they intended to increase the use of exemptions under Articles 4.4 and 4.5 in the second cycle; very few RBDs stated that they would decrease their application (e.g. in RO, NL, PL).
- In this context, a few RBDs mentioned improving on the methodology, for example by expanding on the criteria used for applying exemptions.
- Only a few RBDs have chosen to apply Article 4.7 more often than in 2009 (e.g. for building dams in Spain, new power plants in AT).

4.6.2 Results of the screening assessment based on the CSWD 2015 recommendations

In most Member States with a recommendation to provide better justification of exemptions under Art 4.4. (time extension of achieving the objectives) and Art 4.5 (lower objectives) little progress has been made in terms of revising the methodology and criteria (in particular related to disproportional costs). Good examples of progress in terms of describing the

methodology and criteria used to increase transparency can be found in the RBDs in DE, ES and UK.

Application of disproportional costs in the Anglian and South West RBDs of the UK

A statistical confidence of 95% that a water body is less than good status seems to be required before measures are considered, especially those entailing relative high costs (no threshold of cost was found: example of P removal from sewage effluent was given as an example). For relatively low cost (voluntary measures) a lower confidence of 75% might be acceptable. The proposed water body objectives are set on the basis that they could be achieved in the long-term if all measures that are technically feasible and when implemented, would give rise to more benefits than they cost. No measures are ruled out on the basis of affordability constraints or available funding. The proposed water body objectives also take into account the requirement to prevent deterioration. Costs and benefits are not taken into account when setting objectives to prevent deterioration. This is scenario 4 in the economic analysis.

The economic appraisal of measures was undertaken at the catchment scale. Groups ('bundles') of measures that could improve the status of water bodies were identified. The costs of the measures and the resulting benefits were then assessed. “Worthwhile” measures where the benefits to society from implementing the measures exceed the costs of putting the measures in place were then identified. The decision on whether the proposed measures are worthwhile was informed by the 'Net Present Value' (NPV). The NPV is calculated by subtracting the costs from the benefits. A bundle of measures is considered to be potentially worthwhile if the NPV is greater than £0. In some cases it has not been possible to identify a bundle of measures that would achieve good status that has a positive NPV. Where this is the case, water body objectives of less than good status have been proposed, and the costs were considered as being disproportionate.

The River Basin Planning Guidance (July 2014) provided by the UK government to the Environment Agency (EA) of England states that it was not sufficient to show that the best monetised estimate of costs exceeds the best monetised estimate of benefits. This is because benefits may be more difficult to quantify and monetise than costs. Therefore the EA had to undertake a sensitivity analysis of the calculation of disproportionate costs that take into account of more qualitative information on the possible benefits of measures. Affordability for those who would have to pay for measures is a factor that will also be considered in the assessment of disproportionate cost and might be a factor in proposing an extended deadline in accordance with Article 4.4.

With regard to the definition of Article 4.7 (new modifications affecting water bodies) the no or little progress has been made and more cases of application will be found in the 2nd cycle RBMP.

Application of Article 4.7 in Slovakia

It is mentioned in the draft second plan that the exemptions (especially in relation to future infrastructure projects) must be adequately justified to ensure compliance with Article 4.7 of the WFD. Specific examples are provided in the RBMP for the following sectors: economy (hydropower plants Sered, Ipel), defence, transport, agriculture, flood protection (including projects Slatinka and Tichy Potok). Flood risk management plan requires for new flood protection measures application of all provisions of Article 4.7 of the WFD.

Table 4.4 Results of the screening assessment on "Objective setting and exemptions" (see page 9 for the legend)

MS	RBD	Justification of exemption	Comments
AT	Danube	☹	The approach regarding exemptions is not made clearer in the draft 2nd National RBMP. Article 4.7 is now being applied to 8 WBs. No specific explanation/justification is provided.
BE-Fl	Scheldt	😐	Exemptions are now justified at the water body level for some applications, not for all. The methodology is now more elaborated and is available as a background doc to the RBMP.
CZ	Elbe	😐	Only exemptions according to the Article 4.4 and/or 4.5 are identified . No exemption under Article 4.7 was applied.
DE	Elbe	☺	The justification of exemptions has improved and reference is made to some more detailed background documents.
DE	Rhine, Elbe, Weser, Ems/LS	☺	
DE	Danube/BY	☹	The level of justification of exemptions remains vague (in particular as regards the assessment of affordability and disproportionate costs and providing details for different types of measures).
DE	Rhine/Weser/Ems/Maas/NRW	☺	There are more detailed descriptions of the justifications for exemptions (addressing the issue of affordability and disproportionate costs).
DK	Jutland and Funen	☹	The proportion of water bodies with exemptions have increased between the 1st and 2nd RBMP. For the 2nd dRBMP for each WB, the textual justification for the use of exemption and the

MS	RBD	Justification of exemption	Comments
			type of exemption is given, whether technical feasibility; disproportionate costs; natural conditions (Article 4.4 and 4.5). Yet, the duration of the exemptions have not consistently been reported in terms of 6 or 12 years. Only if time exemptions are required, has the duration been specified.
ES	Guadiana	😐	Similar to the first RBMP, exemptions – 228 under Article 4(4), 1 under Article 4(5) and 1 under Article 4(7) - are explicitly stated in the dRBMP, and their justification includes an analysis of measures though only providing overview data and no specific reference to measures, thus remaining untransparent.
ES	Guadalquivir	☹	Similar to the first RBMP, exemptions – 180 under Article 4(4), 30 under Article 4(5) and 126 under Article 4(6) - are explicitly stated in the dRBMP per water body, but their justification is limited to inclusions in overview tables; and no analysis of measures has been carried out. Article 4(7) exemptions cover 46 SWB, mainly for dam construction – including one package of 21 new dams for 'adapting to climate change'.
ES	Andalucía Mediterranean basins	☺	An analysis of the measures needed to achieve good status has been provided in the dRBMP, as a basis to justify whether measures are disproportionately costly or technically unfeasible; though it does not provide information on which measure targets exactly which pressure, and does not provide the corresponding apportionment. No Article 4(7) exemptions are included in the dRBMP.
ES	Segura	☹	An analysis of the measures needed to achieve good status has not been provided in the dRBMP, as a basis to justify whether measures are disproportionately costly or technically unfeasible. The dRBMP includes the exemption under Article 4(7) for 8 water bodies, including four coastal water bodies and four river water

MS	RBD	Justification of exemption	Comments
			bodies to be turned into dams “for flood mitigation”. A fiche has been identified in Annex 8 including the planned measures (mainly dam construction purposes), but not regarding the corresponding justification.
ES	Jucar	☹	Exemptions are justified in general with the lack of budget to implement measures and specified for each of the exemptions with the measure code. There is apparently no assessment of less-expensive means of reducing the pressures.A number of Article 4(4) exemptions are required because the corresponding studies to characterise the pressure and impacts have not been carried out so far and appropriate measures have not yet been determined. Another set of Article 4(4) exemptions is based on the lack of the corresponding assessment of chemical status, thus no corresponding objectives have been fixed. The dRBMP (Annex 8) includes a justification for 2 exemptions under Article 4(7). The dRBMP includes a brief justification for the 2 dams, including for the Marquesado dam the presentation of alternatives (all considering dams), but no reference to mitigation measures (though the measure is budgeted with detail in the PoM).
ES	Ebro	☹	An analysis of the measures needed to achieve good status has not been provided in the dRBMP, as a basis to justify whether measures are disproportionately costly or technically unfeasible. Exemptions are just presented in an overview table and map. The dRBMP includes a “rubber stamping process” justification for 28 exemptions under Article 4(7). The dRBMP includes a brief justification for the individual infrastructure projects, plus a set of general considerations about planning of dams in the past decades, the added value of irrigation agriculture and the estimated overall

MS	RBD	Justification of exemption	Comments
			consumption of water in the RBD. Article 4(7)b and d and Article 4(8) are apparently not considered.
ES	Baleares	☹	An analysis of the measures needed to achieve good status has not been provided in the dRBMP, as a basis to justify whether measures are disproportionately costly or technically unfeasible. Exemptions are only listed for GWB, in a table, and specifying which article and justification type apply. The dRBMP does not include any exemptions under Article 4(7).
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea	☹	There was no information found on exemptions. The dRMBP includes information on the relevant provisions of the Water- and Sea Protection Act (Law no. 1299/2004, previously called Water Act). The law lists conditions that must be fulfilled for projects that may modify the hydro-morphological conditions of a water body. In addition a detailed overview of such projects foreseen in FIVHA3 is provided. However, there is no description of mitigation measures foreseen for these projects.
FR	Loire	😐	There is no clear mention to the methodology used for justification of exemptions to the achievement of environmental objectives, but there is a reference to 2 guidance documents developed in 2013. On disproportionate costs, there is a specific section as part of the cost recovery chapter. There is one specific chapter on projects for which an Article 4.7 exemption needs to be requested. There are no projects that fulfil the criteria in order to require exemption following the criteria explained in the RBMP.
FR	Rhone	☹	There is no clear mention of the methodology used for justification of exemptions to the achievement of environmental objectives. In the glossary, there are some more clarifications on disproportionate costs and economic analysis.

MS	RBD	Justification of exemption	Comments
			There is one specific chapter on projects for which an Article 4.7 exemption needs to be requested, but there are no projects that require an exemption under Article 4.7.
	Adour Garonne	☹	No specific chapter on the methodology has been given. France informs that for 3 more water bodies exemptions relating to a less stringent objective have been applied. In the chapter on objectives, there is a box with information on the derogation for extending the time to reach the objective, but it does not give a lot of new specific information. There is a new national guidance produced however, but no specific reference to it.
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea	☹	
IT	Po	😐	The dRBMP provides a methodology or the application of Article 4(7) of the WFD in an annex to Vol. 5 on Objectives. The main report includes a typology of possible activities to be addressed, though it does not contain a list of plans, investments or activities that would require this exemption. It appears that full information is intended to be provided in the final RBMP.
IT	Central Appenines	😐	Annex A.5.2 contains a methodology for exemptions. No information was found, however, on exemptions that will be presented in the second cycle. No reference was found to Article 4(7).
IT	Southern Appenines	😐	The dRBMP states that the regions are still gathering and assessing monitoring results for the definition of environmental objectives and exemptions. It also notes that the exemptions put forward in the first cycle have not been implemented as the regional approaches were late and not homogeneous. No reference was found to Article 4(7).
IT	Sardinia	😐	The dRBMP indicates that all objectives and exemptions set out in the 2010 RBMP are currently under review, and a revised set of

MS	RBD	Justification of exemption	Comments
			exemptions will be presented in the Dec. 2015 draft. The dRBMP refers briefly to Art. 4(7) along with other exemptions, but does not provide any information whether it is or will be addressed.
LV	Daugava	😐	
LT	Nemunas	?	No information found as the plans are incomplete.
NL	Rhine	😐	In the dRBMPs, an overview is given of the number of exemptions. In comparison with 2009, for surface water there is a decrease of 3%, however for groundwater bodies there is an increase from 27% to 82%, because of the use of a different assessment technique to determine the status of a groundwater body. The disproportionate costs justification for exemptions, has been used in the programme of action of the Nitrate Directive and the 2nd note on durable crop protection. The European Commission did agree with this policy. In 2016 and 2018, this policy will be evaluated by the status of the waterbodies. In comparison with the motivation found in the factsheets of the first cycle RBMP, in the factsheets of the dRBMP, there are more specific motivations/justification related to each waterbody instead of the standard phrasing as seen in the first RBMP although this is not the case for all factsheets. No information on Article 4.7 was found.
PL	Vistula	😊	The number of exemptions dropped between the second and first plans – e.g. from 904 to 491 for rivers. Appendix 28 and 29 lists exemptions in Vistula RBD. Information such as on type of exemption, justification and deadlines for achieving good status is given. Appendix 31 lists 421 projects for which an exemption under Article 4.7 has been considered/ applied. Projects that could have a negative impact on the WB status were analysed to meet the conditions of Articles 4.7 to 4.9. This included

MS	RBD	Justification of exemption	Comments
			the description of the impacts on relevant biological quality elements such as phytoplankton, other aquatic flora, benthic invertebrates or fish: however this information does not seem to be provided in the dRBMP.
RO	Danube	😐	Exemptions are justified at water body level, but apart from some general statements, no further justifications are provided. The future infrastructure projects (planned to be finalised between 2016-2020) that could create hydromorphological pressures are described in detail and their effects are taken into consideration and weighted against social, economic and environmental objectives. No Article 4.7 exemptions have been identified yet, but this is foreseen to be completed during the course of 2015.
SK	Danube	☺	New modifications are presented to be of overriding public interest with the benefits of the project outweighing the benefits of achieving the WFD environmental objectives. The assessments made showed that the beneficial objectives of the new modifications would not be achievable by a significantly better environmental option. Alternative options were actively sought before exempting a water body.
SE	Bothnian Sea	😐	Sweden has still no methodology established for calculations of disproportionate costs. Sweden has more clearly, though elaborated the governing principles being applied for various types of exemptions, both time postponing the achievement of objective or permanent lowering of objectives, essentially used for chemical status and mercury, an element found in high concentrations for natural reasons. Noteworthy is it that compared to the first RBMPs, the second RBMPs – for all five Swedish RBDs have more WBs with exemptions than in the first¨.
SE	North Baltic	😐	
SE	Skageratt and Kattegat	😐	

MS	RBD	Justification of exemption	Comments
			In the associated VISS information system, for each WB the cause of exemption is explained and elaborated textually.
UK	Scotland	☹	Disproportionately expensive and costly are mentioned in relation to the application of exemptions but there is no information in the plan or supporting documents found on the linked SEPA web site on the methods used.
UK	Northern-Ireland (Neagh Bann)	☹	Disproportionality is mentioned in the supporting document "What we plan to achieve by 2021 and beyond" which describes the review of Environmental Objectives for the draft second RBMP. The UKTAG guidance on this is referred to but there is no detailed information on the processes involved or on the point where measures become disproportionately expensive: there has been no progress since the first plan.
UK	South West	☺	Good progress is being made but the affordability criteria are not explicit (see box above).
UK	Anglian	☺	See South West
NO	Glomma		

4.7 Economic analysis

4.7.1 Headlines

- The screening assessments showed that a few RBDs have improved their economic analysis of water uses since 2009.
- RBDs have expanded their cost-benefit and cost-effectiveness analyses. Methodologies have been improved and more sectors have been analysed.

By introducing the concepts of full cost recovery, incentive pricing and the polluter-pays principle, Article 9 of the EU Water Framework Directive (WFD) sets guidelines for establishing water pricing schemes that promote sustainable and efficient water use. In the first cycle several Member States could not fully implement the requirements of Article 9 due to several reasons. Main challenge was the calculation of cost recovery rates and including

environmental and resource costs and so several Member States got the recommendation to improve in that regard.

Example for cost recovery in England

The draft plans for England focus on a scenario which sets out water body objectives that could be achieved in the long-term (2027) if all measures that give rise to more benefits than cost were implemented. It is stated that under this scenario the measures would cost an additional £16-18bn. It is stated that it is unlikely that this level of funding would be available in the short term. Therefore choices will need to be made about which of the proposed water body objectives are achieved first and how the improvements should be funded. In England, the private and public sector currently spend about £5 billion per year to protect the benefits society receives from the water environment. One of the issues that will determine the scope and ambition of the updated plans will be the availability of funding and mechanisms to require action. The plan describes the hierarchy for funding measures and requiring action to resolve or mitigate a problem: this is Polluter pays; Beneficiary pays; Government pays. In addition to this hierarchy, there are voluntary or grant giving funding routes.

It is clear from the documents that whilst the EA will determine which measures are disproportionately costly it will be ministers deciding what is affordable or not reflecting the statement in the plan "Disproportionate cost is a political judgement informed by economic information". Affordability will govern the speed at which the benefits can be achieved. In some cases, even if the benefits are greater than costs for a bundle of measures, it might be judged disproportionate to implement the measures because of affordability issues. Therefore consideration of costs and benefits helps to determine the status part of a water body objective and decisions on affordability help to determine the date by which that status can be achieved. Where affordability is used as part of a disproportionate cost argument, alternative financing mechanisms will be considered. This might mean moving from the preferred option of the 'polluter pays' approach to a 'beneficiary pays' approach. If the beneficiary (those who directly benefit from the improved water status) are unable or unwilling to pay, other sources of funding may need to be considered. There is a detailed explanation of these aspects in the draft plan.

The WFD further requires considering the cost-effectiveness of measures when selecting them. Again, following this requirement was a challenge for several Member States and there is a need to improve.

4.7.2 Results of the screening assessment based on the CSWD 2015 recommendations

The main recommendations to several Member States in the CSWD 2015 stress that cost-recovery should address a broad(er) range of water services and should integrate environmental and resource costs into cost recovery calculations for the second RBMPs. Further Member States should ensure that the process of selecting (or not) measures is more sound and transparent, providing in the RBMPs not only statements that a cost-effectiveness

analysis has been carried out, but also informing on the measures that have been considered in the analysis, its results and how this assessment has influenced the selection of measures.

Table 4.5 Results of the screening assessment "Economic analysis" (see page 9 for the legend)

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
AT	Danube	😐	☹	☹	As in the first National River Basin Management Plan, it is assumed that environment and resource costs are internalised into the financial costs of water suppliers and wastewater companies; again, they are not calculated/listed separately. Beyond general descriptions on cost effectiveness analysis (CEA), no methodological approach or comparison of options is presented/detailed.
BE-Fl	Scheldt	😐	😐	☺☺	In the chapter on Economic Analysis of water services, the services are mapped next to the definitions of the WFD. It is indicated that the environmental and resource cost is recovered through the groundwater abstraction tax and the retribution on water

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					intake. For treatment it is mentioned that the tax ensures that there is a reduction of environmental and resource cost. No specific further information is given on environmental and resource cost. A cost-benefit analysis has again been done.
CZ	Elbe	☹	☹	☺	Calculation of contribution of different water uses is not disaggregated, only total water supply and collecting and treatment of wastewater was provided. The methodology includes only environmental cost. The cost-effectiveness analysis was done for all proposed measures and selected measures according to the readiness and reality of measures.
DE	Elbe				
DE	Rhine, Elbe, Weser, Ems/LS				
DE	Danube/BY				
DE	Rhine/Weser/Ems/Maas/NRW				

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
DK	Jutland and Funen	😐	😐		In the draft 2nd RBMP Denmark has been clear on the water services that have been included namely exclusively public provision of drinking water and treatment of wastewater (ref Annex 5/Bilag 5 in the dRBMP). No other water services (and possible environment or resource cost) are thus included or considered.
ES	Guadiana	😐	😐	☹	Cost recovery calculations are done. Environmental costs are calculated on the basis of the cost of the corresponding PoM. Similar to the previous planning process, the cost-effectiveness of measures has been assessed, but the results for individual measures are not presented nor has the analysis apparently influenced the selection of measures.
	Guadalquivir	😐	😐	☹	The dRBMPs environmental cost calculations only consider point source and diffuse pollution. No environmental costs are considered

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					for self-abstraction nor energy production. An analysis of alternative cost-effective measures is lacking, and the process on how measures have been selected remains unclear. No changes are apparent in the water pricing policy to provide adequate incentives to use the water efficiently.
	Andalucía Mediterranean basins	😐	☹	☹	Cost recovery covers 90% of financial costs and 80% of all costs. Nonetheless, these estimations are not based upon a gap analysis. The dRBMPs environmental cost calculations do not consider diffuse pollution by agriculture. Environmental costs have apparently not been calculated for energy production.
	Segura	😐	☺	☺	Environmental and resource cost calculations do not consider costs for self-abstraction for agricultural and industrial (incl. energy and golf courses) users. The dRBMP includes

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					information about the expected increases of urban water supply due to the increasing expected proportion of desalinised water as source.
	Jucar	😐	☺	☺	The dRBMP includes some measures to review urban water use fees, as well as measure 08M0914 to study comparatively the current tariffs.The dRBMP (Annex 9) does consider water services for energy production jointly with industrial uses. It is unclear which specific energy uses are covered. Environmental costs have apparently not been calculated for energy production, and have not been calculated or calculated at zero for self-abstraction.
	Ebro	😐	☹	☹	The dRBMP does not refer to energy production within its cost recovery chapter. The dRBMP's environmental cost calculations consider diffuse pollution by agriculture (though only the agro

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					environmental measures for irrigation), river fragmentation, and wastewater treatment. Details are not included in the dRBMP.
	Baleares	☹	☹	☹	No information has yet been provided on cost recovery except the blank reporting table. There is no reference to volumetric fees. The PoM only refers to installing 150 flow meters, covering 3-5% of agricultural abstractions.
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea			☺	The dRBMP explains the system applied for the cost-benefit analysis and how this has influenced the selection of measures, information is provided on the funding of measures for each sector.
FR	Loire	😐	☹		Users and services are defined. It is then per user defined how much the recuperation of the costs is established. In the next years, it is explained that it will be necessary to develop methods and data for better determining the environmental cost.

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					This is not included yet. A brief case study is included on the coastal environmental and resource cost, but given as an example not included as cost-recovery methodogy.
FR	Rhone	☺	☺		Rhone has done an elaborate calculation integrating environmental costs.
FR	Adour Garonne	☺	☹		There was a specific study done on cost recovery estimating that there is 1395 million euro on costs on top of the invoices for the basin Adour Garonne. On the environmental cost, they say it is difficult to estimate.
FR	Artois Picardie	😐	☹		The recovery of cost is calculated but it is not clear to which extend environmental costs are included.
IT	Po	😐	😐	☹	The national guidelines, prepared by the Ministry of Environment, address environmental and resource costs. A draft from the national Authority for electricity, gas and water system (Oct. 2014) discusses a methodology for

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					incorporating these costs in municipal water service tariffs. It is not clear if or to what extent these issues might be addressed in the final RBMP. There is no indication, however, whether any information will be provided on cost effectiveness, nor whether this criterion will be used to select measures.
IT	Central Appenines	😐	😐	☹	Same as in the Po.
IT	Southern Appenines	😐	😐	☹	A revised economic analysis will be prepared for the final report, using the Ministry of Environment's guidelines. The dRBMP presents some information on the costs of measures in the current cycle, but none on measures for the second cycle – and little information on what those measures would be, so no information found on their expected effectiveness of measures.
IT	Sardinia	😐	😐	☹	Information cost recovery highlights that work is underway at

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					national level on methodologies. The dRBMP does not discuss measures for the second cycle, so also no CEA.
LV	Daugava	☹	☹	☹	No information.
LT	Nemunas				
NL	Rhine				
PL	Vistula			😐	It is mentioned that when assessing costs of proposed measures – cost analysis was carried out (to achieve a good WB status) and all noncost-effective measures were rejected, but no details are provided.
RO	Danube	☺	☺	☺	The methodology for the calculation of environmental and resource costs is clearly explained, and it covers both point and diffuse sources. Environmental costs are approximated by evaluating the costs of measures whose principal purpose is to protect the aquatic environment based on existing environmental legal standards, as required by Article 9 of the WFD. The recovery of the costs of water services is based on

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					the principle of “the polluter pays”. The cost-effectiveness analysis has been realised at sub-river basin level, only in relation to the supplementary measures, as the basic measures have already been included in the basic scenarios and in the pressure-impact-risk analysis.
SK	Danube	😐	😐	☹	The cost recovery analysis included setting of the affordability index. The calculation of Environmental and Resource Costs was not carried out. The analysis of cost effectiveness of measures was not carried out.
SE	Bothnian Sea			😐	The selection of the proposed measures on this level is supported by some cost-effectiveness analysis, done for the agricultural sector. For the other sectors, mainly targeting point sources, this appears not to be done.
	North Baltic			😐	Same as in the Bothnian Sea .

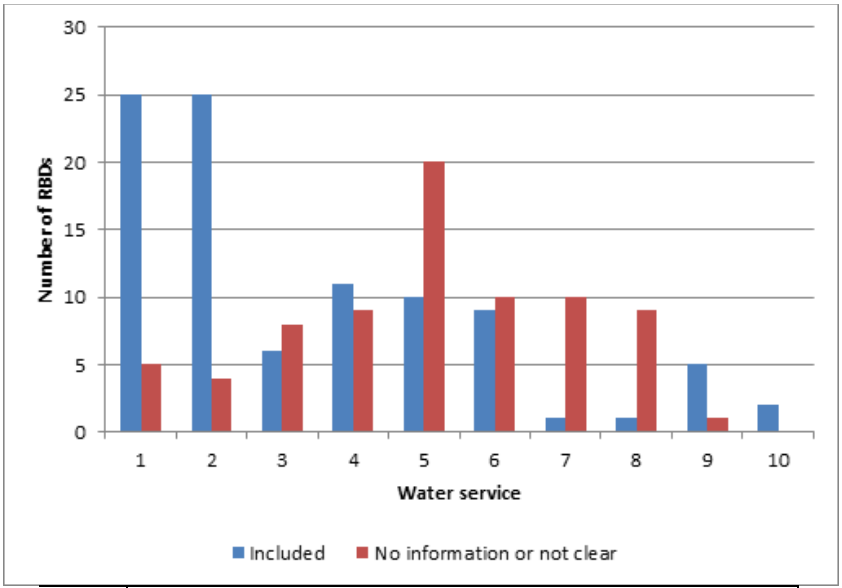
MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
	Skageratt and Kattegat			😐	Same as in the Bothnian Sea.
UK	Scotland	☹	☹		In the first plans environmental and resource costs were not calculated and recovered, the implementation of the polluters pay principle was questionable. There should be a clear description in the second plans on how the principle has been applied, but no such description was given.
UK	Northern-Ireland (Neagh Bann)	☹	☹		Same as in Scotland.
UK	South West	☺☺	☹		The plan describes the hierarchy for funding measures and requiring action to resolve or mitigate a problem: this is Polluter pays; Beneficiary pays; Government pays. In addition to this hierarchy, there are voluntary or grant giving funding routes. Where affordability is used as part of a disproportionate cost argument, alternative financing mechanisms will be considered. This might mean moving from the preferred option of the 'polluter pays' approach to a 'beneficiary pays' approach. If the beneficiary (those who directly benefit from the improved water status) are unable or unwilling to
UK	Anglian	☺☺	☹		

MS	RBD	Cost recovery	Environmental & resource costs	Cost effectiveness analysis	Comments
					pay, other sources of funding may need to be considered. There is a detailed explanation of these aspects in the draft plans.
NO	Glomma	☹	☹	☹	No evidence has been found that an Article 5 economic analysis has been carried out. The cost-effects are listed in the analysis of measure but contains no values. The PoM states that the cost for 1/3 of the measures is not defined, for 1/3 the cost has been identified and for the remaining the costs have been evaluated in terms of effect of investment.

4.7.3 Application of Article 9

The table below shows what has been explicitly included/excluded in cost recovery, where no information is provided and where the information is not clear. It is based on the screening of the draft second RBMPs for information on this particular aspect.

Figure 4.18 Cost recovery in MS



1	Drinking water abstraction (surface and/or groundwater), treatment and distribution
2	Sewage collection and wastewater treatment
3	Drinking water abstraction (surface and/or groundwater), treatment and distribution AND sewage collection and wastewater treatment (when considered together)
4	Irrigation water abstraction, treatment and distribution
5	Self-abstraction
6	Impoundment and storage of water
7	Impoundment for flood protection
8	Impoundment for navigation
9	Industrial and agricultural abstractions are explicitly included in cost recovery when taken from the public supply network
10	Hydroelectricity generation

Drinking water abstraction (surface and/or groundwater), treatment and distribution and sewage collection and wastewater treatment are considered in all assessed plans as a water service for cost recovery (either separated or combined). Basins with a high level of irrigation (basins in IT, ES and FR) also included irrigation in their cost recovery approach. Impoundments for flood protection and navigation are only considered in SE 4000. An explicit exclusion of other water services has not been taken place in most of the plans. Only DE, some basins in the UK and the Netherlands made clear statements. Information on the use of Article 9.4 has not been found in any of the assessed plans.

4.8 Programme of measures

4.8.1 Headlines

- Despite progress on better understanding pressures and sources, there is still a gap in knowledge on the contribution that basic measures will have on reducing pressures and helping to achieve WFD objectives; it is therefore difficult to also judge the gap that supplementary measures will fill and their contribution to achieving WFD objectives.

- Supplementary measures have been expanded and more technical measures are being implemented (as opposed to administrative measures). However there is also clarification still needed in many RBDs whether supplementary measures will be implemented during the 2nd cycle.
- Some measures have been removed from the PoMs due to new source apportionment.
- Some RBDs indicated links to the Rural Development Programmes (RDP), with a focus on supplementary measures.

4.8.2 Establishment of programmes of measures to meet objectives

MS should ensure that the RBMPs clearly identify the gap to good status for individual pressures and water bodies in order to define PoMs. Further almost all MS got the recommendation to establish a quantitative source apportionment and a link between pressures/impacts and their sources as a basis for determining and targeting programmes of Measures. Thereby the right balance between basic and supplementary should be found with a clear understanding what each of them contributes to achieving the target. Several Member States should also provide a better picture on how they are going to finance the PoM.

As regard to the gap analyses only a few basins (Elbe /DE, South West UK08, Anglian UK05) have made significant progress. In all other screened basins little or no progress has been made. In most cases the extent of the problem remains unclear or is just describes in a qualitative way. A similar picture can be drawn for targeting measures on pressures and drives (sectors) and also the understanding on how much a measure will contribute to reaching the environmental objective.

The table below presents the results of the assessment as regard to recommendations on:

- Gap assessment: This recommendation refers to the fact that the gap that needs be filled by measures for the achievement of WFD objectives by 2021 (or later) has been quantified in terms of the reductions needed in the pressures causing water bodies to be failing, or being at risk of failing, objectives at the start of the second plan. So having a clear picture on the gap is a precondition for optimal designing and targeting the measures.

- Targeting of measures to pressure and sectors (source apportionment): This recommendation refers to the fact that not all Member States have a clear understanding of which source (driver) causes a pressure to which extend. Based on this knowledge measures should be designed and targeted (geographically, but also in terms of sector they address) to address a certain pressure.

- Cost/financing of PoMs: This refers to recommendation to provide information on costs and financing of the PoMs.

Table 4.6 Results of the screening assessment "Overall Program of measures" (see page 9 for the legend)

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
AT	Danube	☹	😐	☹	The gap to achieve good status is not quantified in the draft second National River Basin Plan. Most measures to tackle pressures are described only in very general terms, however, it is clearly indicated which measures are basic, and which are supplementary measures. Information on financing/how PoMs are funded is not made clear.
BE-Fl	Scheldt	😐	😐	☺☺	Gap to be filled is quantified in some way by the scenarios applied. Further on, for individual parameters (e.g. ground water quality and quantity), the assessment of status is based on several parameters and the scoring gives a good insight per individual water body where there is a gap to good status per specific parameter. However, no real quantification is done on the reductions in pressures needed for this. Source apportionment has been applied for some parameters. Information on financing, investing and operational costs and the

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					foreseen budget is provided.
CZ	Elbe	😐	😐	☺	A quantitative apportionment was prepared for nutrient load from contributory sources and abstracted water, and qualitative apportionment for hazardous substances. No quantification of reduction pressures was found in dRBMP. Impact and cost of measure and extent of “damage” of water body (exceeding factor based on pollutant concentration) and dependent protected area was considered.
DE	Elbe	☺	☺	😐	The pressures are clearly linked to sectors and some information on the magnitude is provided. There is an indication to which extend pressures need to be reduced. Measures are linked to pressures and often to sectors. Hardly any information on what basic and what supplementary measures are given. Some general financing lines (EU and national) are described but it remains very general which measures can be funded by these lines.
	Rhine, Elbe, Weser,	😐	☺	😐	As regard to the reduction in pressures

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
	Ems/LS				required some references to the RB level plans. Basic measures are clearly identified. Measures are linked to pressures and often to sectors. Financing information is given, but mainly what can be funded (most measures are of voluntary nature).
	Danube/BY	😐	☺	😐	The gap is shown by the number of WB not in good status in 2014. A table clearly indicates the link between sector and pressure and measures but it remains unclear to which extent measures contribute to closing the gap. Basic measures are clearly identified. Detailed information on measures – for example, exactly what will be implemented, whether it will be implemented and how it will be financed – is missing in the PoM.
	Rhine/Weser/Ems/Maas/NRW	😐	☺	☺☺	The gap is shown by the number of WB not in good status in 2014. For some measures it is clear to which extent measures contribute to closing the gap. The dRBMP states that a clear distinction between basic and supplementary measures is not always possible at measure level but

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					that this difference is not so important. Measures are linked to pressures and often to sectors. The PoM contains a detailed assessment of the costs by group of measures and about financing (including private and public funding mechanisms).
DK	Jutland and Funen			😐	There are good overviews of pressure specific measures for each water category and the associated costs for these measures, as well as their geographic scope. Further clarification on the financing of these costs are needed, especially concerning their allocation to different funding sources. There are good overviews provided on all legislations forcing measures, separated by those resulting from basic and supplementary measures.
ES	Guadiana	☹	☹		The dRBMP does not include any apportionment of impacts to pressures and sources/drivers. In the dRBMP, no gap analysis has been carried out beyond the analysis carried out similarly in the first planning cycle. The results are presented in the dRBMP, without further clarifications

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					(beyond the methodologies). There is a clear separation between basic and supplementary measures.
	Guadalquivir	☹	☹		The dRBMP does not include any apportionment of impacts to pressures and sources/drivers. In the dRBMP, no gap analysis has been carried out beyond analysis carried out similarly in the first planning cycle. The results are presented in the dRBMP, without further clarifications (beyond the methodologies). In general, the dRBMP specifies the classification (basic, other basic, supplementary), though not for all measures.
	Andalucía Mediterranean basins	😐	☹		The dRBMP does not include any apportionment of impacts to pressures and sources/drivers. In the dRBMP, some sort of gap analysis has been carried out whilst listing the required measures to WBs with exemptions. Nonetheless, no information is provided regarding the specific link between measures and pressures. In general, the dRBMP specifies the classification (basic, other basic, supplementary), though not for

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					all measures. The dRBMP does not provide detailed information for each measure, as the targeted sector and source, the specific pressure addressed and the expected specific effects in terms of status improvement (in the specific WBs).
	Segura	☹	☹		In the dRBMP, no gap analysis regarding environmental objectives has been carried out. In general, the dRBMP specifies the location of measures (including the number of water bodies), and a list of measures per water body is provided. The links between measures and pressures (and impacts) are initially addressed (by typology). The dRBMP does not provide all relevant and useful information for each measure, e.g. not regarding its character (voluntary or binding), the targeted sector and source, and the expected specific effects in terms of status improvement. The dRBMP does not include any apportionment of impacts to pressures and sources/drivers.
	Jucar	☹	☹		In the dRBMP, no gap analysis has been carried out beyond analysis carried out

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					similarly in the first planning cycle. The dRBMP presents the measures related to both, the water body and to the typology of impacts (e.g. point-source pollution, diffuse pollution), but does not provide neither a gap analysis nor a relation between measures and specific pressures (from the inventory). In the dRBMP, there is information about the actions taken in practice (including e.g. technical measures) to implement the basic measures. There is no information on how much of these measures is required to close the gap. The dRBMP does not include any apportionment of impacts to pressures and sources/drivers.
	Ebro	☹	☹		In the dRBMP, no gap analysis has been carried out. It is unclear on which basis the measures have been selected. The dRBMP does not include any apportionment of impacts to pressures and sources/drivers. The dRBMP only informs about the status of the measure, its budget, the funding authority and its classification according the National legislation. It does not provide detailed

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					information on its location, nor the targeted sector and source, the pressure addressed and the expected specific effects in terms of status improvement (in the specific WBs).
	Baleares	☹	☹		In the dRBMP, no gap analysis regarding environmental objectives has been carried out. In general, the dRBMP specifies the classification (basic, other basic, and supplementary) and its budget and competent authority. The dRBMP does not provide detailed information for each measure, neither on the targeted sector and source, the pressure addressed and the expected specific effects in terms of status improvement (in the specific WBs).
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea	😐	😐	☺	In the dRBMP the outcomes of the measures are still mainly described qualitatively. Quantitative apportionment is performed in terms of the loads of nutrients from each contributory sector. The reduction of nutrients and phosphorous necessary to achieve good status is expressed in percentages (but not specified according to sectors). There is no

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					further quantification of reductions in pressures, such as for example loads of pollutants to be reduced, number of barriers to continuity, length of water bodies to be remediated or restored. The basic and supplementary measures for agriculture, as well as their costs are comprehensively presented in the dRBMP.
FR	Loire	☹	😐		There is no information whether the reduction in pressures required to achieve the environmental objectives has been quantified or not (except for specific pollutants where % reduction is specified in order to reach the objective). There is no information on how much of the gaps is expected to be filled by the different measures. Apportion pressures by their sources: done per orientation is done in a qualitative way but not in a quantitative way, except for dangerous substances, but there is still a lot of uncertainty involved.
	Rhone	☹	☹		There is no information whether the reduction in pressures required to achieve the environmental objectives has been quantified or not. There is no information whether the

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					reduction in pressures required to achieve the environmental objectives has been quantified or not. There is no evidence that pressures were apportioned by their sources. There is no identification of the responsible sectors/areas. Basic and supplementary measures are identified.
	Adour Garonne	😐	😐		The gap to good status is more or less clear but the projected objectives that should be reached have been changed for the water bodies in the Garonne river basin. The plan is developed in orientations with different specific objectives per orientation, from which measures occur. There is some source apportionment but not for all pressures/parameters. Basic and supplementary measures are identified, but it remains unclear how much of the gaps is expected to be filled by the different measures.
	Artois Picardie	☹	☹		There is no information whether the reduction in pressures required to achieve the environmental objectives has been quantified or not. A quantitative apportionment of some

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					pressure by their source has been done. There is no information on how much of the gaps is expected to be filled by the different measures. Basic and supplementary measures are identified.
IT	Po	☹	☹	☹	This information is not currently provided. Nonetheless, the main dRBMP report indicates (pp. 22-23) that the regions will identify specific measures to apply at WB level, on the basis of specific pressures and impacts (the measures will be based on the list of measures at RBD level). It is not clear, however, if the final RBMP will indicate how measures will contribute to the achievement of good status. The catalogue of measures in Vol. 7 (PoM) indicates the extent of financing for each measure in the current cycle (2009-15), and also indicates EU funds, though not their shares. Section 4 provides summary tables.
	Central Appenines	☹	☹	☹	The little information in the dRBMP on measures for the second cycle. The plan provides no indication how they may contribute to the achievement of good status.

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					No information was found on funding sources.
	Southern Appenines	☹	☹	😐	The dRBMP provides little information on the measures for the second cycle, and none on how they will lead to achievement of good status. The dRBMP indicates EU sources as key for funding the PoM, but provides little detail. The dRBMP highlights links with RDPs and operational programmes. It does not, however, provide a clear indication of the amounts of funding available or to be used for the PoM. Other sources of funding are little discussed.
	Sardinia	☹	☹	☹	The dRBMP does not discuss measures for the second cycle. The dRBMP mentions EU sources, including the region's Rural Development Programme as well as Operational Programmes, it does not indicate how these may provide funding.
LV	Daugava	☹	☹	☹	There is no information on the PoM provided.

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
LT	Nemunas	☹	☹	☹	The Nemunas RBMP is not yet finalised. The existing version does not contain any information on a comprehensive assessment of compliance.
NL	Rhine	☹	😐		In the factsheets for a water body (not for all waterbodies), there is an indication of the prognosis of the status of 2021, together with status of 2009 and 2010-2015. Next to the measures that are given in the factsheets, there is no clear link how much of the pressures have to be reduced to achieve the objectives. Thus there is link between measures and identified pressures, however it is not clear if there is a link between the choice of measure and the significance of the pressure.
PL	Vistula	☹	😐	☹	Although there is more information on pressures and measures, no information was provided about how much gap will be filled to achieve the WFD objectives by planned measures. Poland stated that the basic measures are indicated for implementation in all water bodies, regardless of their current status and results of the risk assessment of

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					failure to achieve the environmental objectives. These measures are the minimum requirement. The link between pressures and measures has not been clearly explained, even if some details on measures are provided. No detailed information on financing is provided.
RO	Danube	😐	😐	😊	Romania has assessed the gap to good status for each water body. A quantification for each WB was not found, however. The PoMs are described in detail and categorised by types of measures and by the objectives followed. They mention their impact on reducing the gap to good status and the contribution that they will have on the medium- and long-term to achieving all environment objectives. A preliminary analysis of the prioritisation of supplementary measures has been realised at the drafting phase of the RBMP, which took into consideration qualitative criteria such as the reduction of pollution, the financial availability, the impact on environment and aquatic ecosystems, the level of investments

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					etc.
SK	Danube	☹	😐☹	😐	There is no information in the dRBMP on how the gap from the present status to that required to meet WFD objectives has been quantified in terms of the required reduction of pressures. There is also no information on how much of the gaps are expected to be filled by the different measures. There is quantitative information provided on the number and extent of measures planned. The sources of funding of measures are described in the Plan and the EU funds are planned to be exploited for financing measures.
SE	Bothnian Sea		☹		The description of the sources is basically the same in the dRBMP as in the 1st cycle – not source apportioned.
SE	North Baltic		☹		Same as in the Bothnian Sea.
SE	Skageratt and Kattegat		☹		Same as in the Bothnian Sea.
UK	Scotland	☹	😐		The draft plan and the supporting documents do not discuss how the gap to the achievement of good status is expected to be filled in the second and third cycles. This

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					implies that the gap to be filled is yet to be quantified. There has been an apportionment of pressures between contributory sources but there was no further information found on how this was done and the contribution that measures to reduce the pressure would make to the achievement of WFD objectives. The plan presents for consultation three scenarios (baseline, step 1 and step 2) for measures to be taken to reduce rural diffuse source pressures in the second cycle. There was no information on how this would be achieved for other measures to be taken to tackle the other significant pressures in this RBD.
UK	Northern-Ireland (Neagh Bann)	😐	😐		In identifying the performance gap between current status and the 2015 objectives, and the further measures necessary to close that gap, additional investigation and modelling work has been carried out. However, there was no further information found on how this was done and on which pressures the gap assessments were undertaken. It appears that there has not been a quantitative source

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					apportionment of other impacts and pressures than point and diffuse pollution and sources.There is some evidence that the proposed measures shows that there may in the future be a re-focus to “harder regulation” and more enforceable supplementary measures. Recommendations not made on cost /financing aspects.
UK	South West	☺	☺		The gap to the achievement of WFD objectives has been assessed for some pressures and impacts but not all. This is particular so in relation to the reduction of phosphorus, nitrate and some other physicochemical determinands. There has been significant progress towards a more transparent approach where there is a quantitative apportionment of pressures between all the contributory sources with the respective contributions they are expected to make to the achievement of WFD objectives. In summary, in terms of implementing mandatory basic measures there still appears to be a gap in terms of measures for the control of diffuse sources and for
UK	Anglian	☺	☺		

MS	RBD	Gap analysis	Targeting of measures to pressure and sectors (source apportionment)	Cost/financing of POM	Comments
					hydromorphological pressures. It is also not clear the contribution that supplementary measures are expected to make towards the achievement of WFD objectives in the 2nd RBMP, and it appears that the basis (mandatory versus voluntary) of most measures proposed for the second plan has not changed from the first.
NO	Glomma		☺	😐	The measures presented are linked to the pressure(s) identified. Measures are presented together with a number of parameters beside the pressures. The effect is given as low, medium or large together with the environmental target for 2021. Some cost estimates are provided are provided.

4.8.3 Measures to reduce pressures from hydromorphological alterations

Headlines

- In some RBDs, more hydromorphological measures have been included in the 2nd draft RBMPs compared to the 1st cycle, although it cannot be concluded via the screening whether actions taken are more ambitious than before.
- More "technical" measures rather than administrative and research measures are proposed compared to the 1st cycle.
- Green infrastructure and natural water retention measures, especially measures related to floodplain restoration and erosion reduction, feature more prominently in the 2nd draft RBMPs in most screened RBDs. However, the RBMPs need to be clearer on whether such measures are considered a priority, especially in relation to grey infrastructure.

Results of the screening assessment based on the CSWD 2015 recommendations

The screening shows a mixed picture in terms of improvements in hydromorphological measures to address issues highlighted in the CSWD 2015 recommendations. Overall, some progress is noted in terms of including hydromorphological measures in the planning. The screening does not allow an assessment of whether or not actions taken are more ambitious than before.

In the DE dRBMPs, the PoM include several hydromorphological measures, which are also covered in the relevant Rural Development Programmes (as requested in the relevant CSWD 2015 recommendation) (see also section 4.8.4 on measures for agriculture). Regional / Länder programmes associated to the RBMP, e.g. on flood protection, wetlands, restoration, address morphological improvements in an explicit way.

In other MS, progress noted in terms of planning hydromorphological measures in the 2nd cycle is less straightforward, although it becomes apparent that more "technical" measures rather than administrative and research measures are proposed compared to the 1st cycle (e.g. see SE). For certain MS (e.g. FI, AT), specific recommendations addressed the need for clear measures to review existing hydropower permits in order to ensure the achievement of WFD objectives on the basis of mitigation measures. The screening did not indicate any clear progress in this respect.

In the CSWD 2015 recommendations, many MS were also asked to provide evidence on considering and prioritising green infrastructure (GI) and natural water retention measures (NWRM) in their programme of measures. The screening indicates that such measures, especially measures related to floodplain restoration and erosion reduction, are considered in most screened RBDs to some or to a considerable extent. However, information on whether

or not such measures are considered a priority, especially in relation to grey infrastructure, in the 2nd dRBMPs is not as clear.

In the UK, the Scottish Government's Water Environment Fund has enabled a number of hydromorphological improvements by encouraging and supporting initiatives by groups and individuals. Specific work on catchment plan level aims at demonstrating how improvements to river habitats can be combined with measures that help reduce flood risk (and also prioritising them). The measures proposed, e.g. removal of embankments, and restoring vegetation, can be classified as NWRM.

Table 4.7 Results of the screening assessment "Measures to improve hydromorphology" (see page 9 for the legend)

MS	RBD	Measures to tackle hydro-morphological pressures	Green infrastructure and/or NWRM	Comments
AT	Danube	☹		The draft 2nd plan shows no clear commitment to prioritising hydromorphological measures. This was the same situation as for the first plan. Not much information on reviewing permits, except that the legal option to do so exists. If new permit process is initiated/necessary, new and old permits will be (re-)assessed to minimize impacts.
BE-Fl	Scheldt	😐		A group of measures refers to plans for studies and analysis in relation to hydromorphological requirements. No specific information on links to pressures.
CZ	Elbe	😐	☹	Some measures included, updated. National strategy for river connectivity. No specific info on GI/NWRM.

MS	RBD	Measures to tackle hydro-morphological pressures	Green infrastructure and/or NWRM	Comments
DE	Elbe	☺	😐	Several hydromorphological measures included, also covered in the relevant RDPs. GI/NWRM considered; priority unclear.
DE	Rhine, Elbe, Weser, Ems/LS	☺☺	😐	Several hydromorphological measures included, also covered in the relevant RDPs. Clear reference of RDPs in PoM. NWRM considered; priority unclear.
DE	Danube/BY	☺	☺	Regional programmes on flood protection and wetlands address morphology. Measures on remeandering and integrated catchment improvements. Frequent use of GI/NWRM. Description of priority measures refers to measures that have synergies with other directives (such as floods, N2000, biodiversity and nature conservation).
DE	Rhine/Weser/Ems/Maas/ NRW	☺	☺	Specific Länder level programme on restoration and connectivity included, also covered in the relevant RDPs. Clear reference of RDPs in PoM. NWRM planned; seem to have some priority.
DK	Jutland and Funen	☺		Clear summaries given on hydromorphological measures and costs.

MS	RBD	Measures to tackle hydro-morphological pressures	Green infrastructure and/or NWRM	Comments
ES	Guadiana		😐	Includes measures on restoration, erosion reduction; no details on priority.
ES	Guadalquivir		😐	Some generic measures on restoration works, none explicitly to NWRM.
ES	Andalucía Mediterranean basins		😐	Few information on NWRM, some measures on restoration, erosion.
ES	Segura		😐	Some restoration measures included.
ES	Jucar		😐	Some restoration measures included.
ES	Ebro		😐	Measures on restoration and reafforestation, unclear if NWRM assessed as alternative for flood mitigation dams.
ES	Baleares		☹	Unclear if NWRM is foreseen.
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea	☹	☺	No clear measure to review existing hydropower permits included. GI/ NWRM presented as a cost-effective way for flood protection.
FR	Loire		😐	Some restoration measures included, without details.
FR	Rhone		☺	A specific orientation on flood protection, clearly stated that NWRM should be preferred.
FR	Adour Garonne		😐	No specific GI measures but included in other actions, e.g. on erosion reduction.

MS	RBD	Measures to tackle hydro-morphological pressures	Green infrastructure and/or NWRM	Comments
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea		☺	dRBMP gives priority to the natural functioning of the environment to prevent and limit the negative effects of floods.
IT	Po	☹	☹	Not clear how measures tackle specific hydromorphological pressures; information on existing pressures, not found in the main dRBMP. No reference found in the main dRBMP to GI/NWRM.
IT	Central Appenines	☹	☹	Same as in the Po.
IT	Southern Appenines	☹	☹	No indication of measures to address hydromorphological pressures. dRBMP provides little information on measures for the 2nd cycle, and none related to GI/NWRM.
IT	Sardinia	**?**	?	dRBMP does not discuss measures for the 2nd cycle. The update of the PoM will be prepared for the final plan.
LV	Daugava	**?**	😐	No information on measures, so far in dRBMP (dRBMP incomplete). Study completed on options and priorities for GI/NWRM in flood risk areas. Results not incorporated yet in dRBMP.
LT	Nemunas	**?**	?	No information on supplementary measures included in dRBMP. RBMP currently incomplete (still

MS	RBD	Measures to tackle hydro-morphological pressures	Green infrastructure and/or NWRM	Comments
				under development).
NL	Rhine		☺	Restoration measures considered and indicated as effective and efficient.
PL	Vistula	☹	☹	Hydromorphological measures related to agriculture not found. Restoration of floodplains included only as possible projects.
RO	Danube		☺	GI/NWRM included. Potential win-win solutions for WFD and Floods Directive addressed.
SK	Danube	😐	☺	Hydromorphological measures also considered for HMWB. No clear links to sectors causing pressures. Benefits and win-win potential of GI measures and NWRM are mentioned explicitly in the plan.
SE	Bothnian Sea	😐	😐	Specific measures are described and quantified. Costs calculated only for a few measures. Not possible to assess how much of the need for hydromorphological measures is planned for the 2nd cycle. Restoration measures clearly considered, mainly in rural areas.
	North Baltic	😐	😐	Specific measures are described and quantified. Costs calculated for all measures. Not possible to assess how much of the

MS	RBD	Measures to tackle hydro-morphological pressures	Green infrastructure and/or NWRM	Comments
				need for hydromorphological measures is planned for the 2nd cycle. Restoration measures clearly considered, mainly in rural areas.
	Skageratt and Kattegat	😐	😐	Specific measures are described and quantified. Not possible to assess how much of the need for hydromorphological measures is planned for the 2nd cycle. Restoration measures clearly considered, mainly in rural areas.
UK	Scotland		☺	Water Environment Fund, administered by SEPA, enabled a number of improvements in restoration combined with flood risk reduction. Plans for each catchment give overview of approach to identify and prioritise improvements including measures that are NWRM.
	Northern-Ireland (Neagh Bann)		😐	No explicit reference to GI/NWRM but reference to coordination of WFD measures with FRMP. Examples of NWRM are included as considerations.
	South West		😐	Only mention of measures that might be considered as NWRM in the context of the National Flood and Coastal Erosion Risk Management

MS	RBD	Measures to tackle hydro-morphological pressures	Green infrastructure and/or NWRM	Comments
				Strategy for England published in 2011. No evidence for priority on GI/NWRM.
	Anglian		😐	Same as in the South West.
NO	Glomma			

4.8.4 Measures to reduce pressures from agriculture

Headlines

- Agriculture remains a main pressure and source for not achieving good status. Nutrients, pesticides and abstraction are responsible.
- The quantification of source apportionment for nutrients has improved.
- New mandatory measures as regard to abstraction are introduce in some basins
- Rural Development Programs will be a major source for financing measures, however this means that several agriculture measures will remain voluntary.

The 2015 CSWD recommendations for agriculture requested clarifications with regard to:

- The role of Nitrates Directive (ND) and other mandatory basic measures in achieving WFD objectives.
- Supplementary measures needed to bridge the gap to good status.
- Expectations for the Rural Development Programmes (RDP).
- Progress on implementation of the Sustainable Use of Pesticides Directive.

In the majority of the MS, the draft second RBMPs (dRBMP) still lack specific information on the extent to which the Nitrates Directive – and other basic measures under Article 11(3) h - will enable MS to achieve good status. The recommendations asked MS to carry out a gap analysis to indicate what can be achieved by basic measures and which supplementary measures are needed to bridge the gap. While many RBDs can definitely state that the Nitrates Directive will not be enough to achieve good status, detailed information is largely

missing in the dRBMPs. This is likely attributed to many RBDs not attributing nutrient loads to sectors with quantifiable data. In some RBDs, this information exists but information on measures and their effectiveness/contribution to reducing loads is not available. A few RBDs have information on nutrient loads through modelling; some are still waiting on results of research projects to this end. In addition, a few MS were also asked to improve their analysis and measure selection for phosphorus pollution. RBDs were for the most part successful in providing this information, indicating sources of phosphorus pollution and measures to address these loads. This information needs to be expanded on the remaining gap to reduce phosphorus pollution.

The recommendations also called for more information regarding supplementary measures for diffuse pollution, going beyond basic categories of measures and giving information on enforcement, controls, financing and the contribution to WFD objectives. Information on supplementary measures has for the most part improved since the 1st cycle. RBDs are clearer on the measures they will implement. However, most of the RBDs do not provide information in line with a gap analysis. Many of these supplementary measures are linked to the Rural Development Programmes. Only a few dRBMPs provided little or no information to this effect. This recommendation was also not requested to all MS. A considerable concern remains that RBDs are heavily relying on voluntary measures under the Rural Development Programmes (RDP) despite articulating that basic measures are not enough. Without a gap analysis for basic measures, including the role of supplementary measures, it continues to remain unclear what can be achieved by the Programme of Measures.

A few MS were asked to inform on their progress on an action plan to achieve under the Pesticides Directive. Some RBDs provided information on the progress, others only indicated that measures for pesticide pollution are to be included in the second cycle. Overall, it can be stated that improvement is needed in the RBDs who were requested to provide this information.

Table 4.8 Results of the screening of measures planned for tackling agricultural measures in the draft second RBMPs (see page 9 for the legend)

Key to recommendation and aspects of implementation of agricultural measures

1. Analysis of the gap to the achievement of WFD objectives that will be filled by measures taken under the Nitrates Directive (ND) and other basic measures
2. More explicit information on the use and contribution of supplementary measures to the achievement of WFD objectives
3. The role of Rural Development Plans (RDP) in financing measures to tackle agricultural pressures
4. Progress on Action Plans under the Pesticides Directive

MS	RBD	1	2	3	4	Comments
AT	Danube	😐	😐	☺	☺☺	There is no information on the degree to which the basic measures of the ND are sufficient to tackle agricultural pressures. Also, there is no additional substantial information/clarification on existing laws better enforced, action plans or guidance modified in order to specifically support the achievement of WFD objectives. There are basic and supplementary measures listed in the PoM to control other diffuse pollutants, such as pesticides. However, appropriate advice, monitoring and inspection regimes to effectively implement the measures are not listed. Neither are concrete funding sources. Information on measures under the RDP are given but the link to funding not explicit beyond 2014.The national action plan under the Sustainable Use of Pesticides Directive in the National Water Resource Management Plan seems to be finalised.
BE-Fl	Scheldt	😐	☺	☹	☺	A new Action Programme for the ND is being negotiated but it does not make any commitment on the required ambition level. Specific information on additional measures provided and information on reduction of N and P. No information has been found on the funding out of the RDP. Several actions have been formulated in the PoMs on Action Plan on Sustainable Pesticide Use.
CZ	Elbe	☹	☹	☹		No specific information was found regarding a gap analysis of contribution of basic measures to WFD objectives. No specific information was found in dRBMP on measures to address diffuse pollution except measures against erosion. Some measures to control

MS	RBD	1	2	3	4	Comments
						pesticides from agriculture and metals and polycyclic aromatic hydrocarbon (PAH) substances from atmospheric deposition are included in the dRBMP. The measures are not differentiated as basic, additional and supplementary. No specific information was found in the dRBMP regarding expectations of the RDP.
DE	Elbe	☹	😐	☹	☹	The plan indicates that basic measures are not enough. There is no information on the extent to which the ND is helping to achieving the WFD or how the changes to the ND in Germany will improve the situation. Supplementary measures are vaguely mentioned in general categories with no details on their contribution to WFD. The plan does not provide information on what voluntary measures are offered under the European Agricultural Rural Development Fund (EARDF). There is no information on the progress in developing national action plans under the Pesticides Directive.
	Rhine, Elbe, Weser, Ems/LS	😐	☺	☺	😐	The draft PoM provides concrete details on programmes and measures to tackle pollution by nutrients. A gap analysis has not yet taken place on contribution of basic measures, but there is an on-going research project that is analysing nutrient load reduction possibilities and the additional need for action despite the implementation of basic measures. The plan mentions revising the Nitrates Directive but indicates that it is not yet clear how a revised nitrates action plan will contribute to WFD objectives. The PoM provides considerable details on the supplementary measures proposed in Lower Saxony, with considerable emphasis on the RDP. The RDP provides information on pesticides measures but does not provide information on the extent of progress in developing national action plans.
	Danube/BY	☹	😐	☺	☹	The plan does not indicate, in quantitative terms, the extent to which the measures under the ND have contributed to achieving WFD objectives or what the remaining gap is. Additional measures are listed and there is a statement that they are necessary as the ND is not enough. The plan mentions that supplementary measures are part of greening and lists specific measures; voluntary measures under the RDPs are also listed. But there is no mention of an assessment or judgement as to how much these measures will contribute to the achievement of WFD objectives. There is no information on how much of

MS	RBD	1	2	3	4	Comments
						the RDP budget will be used to fill the gap on addressing diffuse pollution. There is no information in on the extent of progress in developing and implementation national action plans. There is not information how far measures to tackle pesticides will go to address pesticide risks in relation to the WFD objectives.
	Rhine/Weser/ Ems/Maas/NRW	☹	☺	😐	😐	The plan provides considerable details on the revision of the Nitrates Directive. In addition NRW implemented in 2012 a new regulation on manure and a ban on converting grassland. Use of the RDP is mentioned but not described in detail. The plan does not indicate what will be achieved through these changes specifically other than a better basis for tackling diffuse pollution. The plan includes supplementary measures to address pesticides and mentions the Pesticides Regulations. The plan does not indicate the extent of progress in developing national action plans. Overall, the plan does not detail what will be achieved through measure implementation.
DK	Jutland and Funen					
ES	Guadiana	😐	😐			In the dRBMP, there is some descriptive information about the actions taken in practice (including e.g. technical measures) to implement the basic measures, though only presented in a rough overview. In the dRBMP, information on PATRICAL (GWB nitrates pollution) analysis carried out similarly in the first planning cycle. The results are presented in the dRBMP, without further clarifications (beyond the methodologies). The PoM includes 8 supplementary measures to address diffuse agricultural pollution within the 2016-2021 period, with a budget of estimated 7 MEUR. Additionally, the 3rd cycle draft-PoM includes further measures, also targeting erosion.
	Guadalquivir	☹	☹			In the dRBMP, there is no further information about the actions taken in practice (including e.g. technical measures) to implement the basic measures. In the dRBMP, information on PATRICAL (GWB nitrates pollution) analysis carried out similarly in the first planning cycle. The PoM only includes measures on codes of good practice to address agricultural diffuse pollution with a budget average of 4 EUR/km^2/yr (referred to the surface area of

MS	RBD	1	2	3	4	Comments
						this pressure according to Annex 14) for the second planning cycle, and no budget at all is considered for the third one. A key measure in many RBMPs is increased efficiency of water usage in agriculture. Within the dRBMP there is no indication that only those projects which genuinely contribute to the WFD objectives are labelled as such. In fact, no indication of the expected (net or gross) water savings has been found in the document.
	Andalucía Mediterranean basins	☹	☹			In the dRBMP, there is no further information about the actions taken in practice (including e.g. technical measures) to implement the basic measures. In the dRBMP, information on PATRICAL (GWB nitrates pollution) analysis carried out similarly in the first planning cycle. A key measure in many RBMPs is increased efficiency of water usage in agriculture. Within the dRBMP there is no indication that only those projects which genuinely contribute to the WFD objectives are labelled as such. In fact, no indication of the expected (net or gross) water savings has been found in the document.The PoM does not include measures beyond the mandatory in Nitrate Vulnerable Zones (NVZ).
	Segura	😐	😐			The dRBMP foresees a significant extension of NVZ. In some areas, the planned declaration of NVZ (in the first RBMP) has been skipped due to additional studies that reflect that threshold values have not been reached or trends have changed. In the dRBMP, there is no further information about the actions taken in practice (including e.g. technical measures) to implement the basic measures. In the dRBMP, information on PATRICAL analysis carried out similarly in the first planning cycle. A key measure in many RBMPs is increased efficiency of water usage in agriculture. Within the dRBMP there is no indication that only those projects which genuinely contribute to the WFD objectives are labelled as such. In fact, no indication of the expected (net or gross) water savings has been found in the document. Two measure lines are planned to reduce nitrates and pesticides. In two areas, reduction of pesticide use is also targeted. Preventive measures beyond NVZ have not been identified.
	Jucar	😐	😐			The dRBMP presents the measures related to both, the water body and to the typology of impacts (e.g. point-source pollution, diffuse pollution), but does not provide neither a gap

MS	RBD	1	2	3	4	Comments
						analysis nor a relation between measures and specific pressures (from the inventory). In consequences, the selection of measures remains opaque. The dRBMP includes a prioritisation exercise for the PoM implementation given budget constraints, but it is not guaranteed that the set of measures included in the dRBMP will ensure achieving good status (despite the gaps in the status assessment). The PoM only includes measures on codes of good practice to address agricultural diffuse pollution in NVZ, as well as specific measures under Directive CE 2009/128. A key measure in many RBMPs is increased efficiency of water usage in agriculture. Within the dRBMP there is no indication that only those projects which genuinely contribute to the WFD objectives are labelled as such. In fact, no indication of the expected (net or gross) water savings has been found in the document.
	Ebro	☹	☹			The Plan does not provide detailed information for each measure, neither on its character (voluntary or binding), nor the location, nor the targeted sector and source, the pressure addressed and the expected specific effects in terms of status improvement (in the specific water bodies). Except the agro-environmental measures of Catalonia's Rural development Programme and some studies and one remediation action (nitrates in a borehole), no reference has been found in the PoM on addressing diffuse pollution. A key measure in many RBMPs is increased efficiency of water usage in agriculture. Within the dRBMP there is no indication that only those projects which genuinely contribute to the WFD objectives are labelled as such.
	Baleares	☹	☹			The dRBMP does not provide detailed information for each measure, neither on the targeted sector and source, the pressure addressed and the expected specific effects in terms of status improvement (in the specific water bodies). In the dRBMP, there is no further information about the actions taken in practice (including e.g. technical measures) to implement the basic measures. Control of fertilizers and pesticides is foreseen in the dRBMP, but with zero EUR budget for both planning periods.

MS	RBD	1	2	3	4	Comments
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea	😐	😐	☺		The basic and supplementary measures for agriculture, as well as their costs are comprehensively presented in the dRBMP. Mandatory measures contain measures covered by the Nitrates Directive, cross-compliance in good agricultural practice and environmental permitting, animal keeping in compliance with the environmental permitting and plant protection in compliance with the requirements applicable to the use of pesticides. However, the measures do not refer to binding requirements on nutrient inputs or measures aimed at control or enforcement of the applicable rules. Measures taken under the Nitrates Directive are said to contribute to the achievement of the WFD goals, however no detailed description of the measures is provided and no information on their results. The agri-environmental support schemes that form a part of the Rural Development programme for 2014-2020 are said to be key tools to reduce the pressure from agriculture on water environment.
FR	Loire	☹	☺	☺	☹	Clear information supplementary measures. A link with the rural development programme is given when the financing of the measures is discussed. No reference is made to the Directive on the Sustainable Use of Pesticides.The only measure related to the regulation of the use of pesticides is the national basic measure.
	Rhone	☹	😐	☺	☹	The ND and the Common Agricultural Policy (CAP) are both mentioned as part of the basic measures (defined at national level), and specific measures are listed. There is no quantification of the effectiveness of measures taken under the ND. There is a specific disposition to reduce inputs of phosphorus and nitrogen in aquatic environments. These values should serve to identify effective measures to reduce phosphorus inputs: source reduction, tertiary treatment. There are measures for pesticides but no mention of the Action Plan or any progress.
	Adour Garonne		😐	☺	☹	In the PoMs document , it is indicated that the measure on reduction of the nitrogen is taken as part of the Nitrate Directive implementation for all sub-basins as well as the Rural Development programme with the agri-environmental measures. The Directive is also mentioned as part of the basic measures, and specific measures are listed. The Pesticides

MS	RBD	1	2	3	4	Comments
						Directive is mentioned but there is no information on progress.
	Artois Picardie	☹	😐	☺	☹	Reference to the national nitrates action programme and to the regional nitrates action programmes both implemented under the Nitrate Directive. Regional action programmes include reinforced or additional measures to control nitrate pollution in critical zones (reinforced actions areas). The Nitrate Directive and the CAP are both mentioned as part of the basic measures (defined at national level), and specific measures are listed. There is no explanation on the effectiveness of measures taken under the ND. There are measures for pesticides but no mention of the Action Plan or any progress.
IT	Po	☹	☹			No gap analysis. No information was found in the dRBMP on further measures for farmers regarding nutrients. While the dRBMP indicates that the issue is of priority for the RBD, it is not clear if appropriate measures have been taken or are being prepared.
	Central Appenines	☹	☹			The little information in the dRBMP on measures for the second cycle provides no indication how they may contribute to the achievement of good status. No information found on measures for diffuse pollution.
	Southern Appenines	☹	☹			The dRBMP provides little information on the measures for the second cycle, and none of how they will lead to achievement of good status. The dRBMP refers to the recent national Agricultural Action Plan, prepared by the Ministry of Environment, in discussing diffuse sources of pollution (section 6.4). No information was found, however, on further measures to improve nutrient balances – nor an indication that this is an area of ongoing attention.
	Sardinia	☹	☹			The dRBMP does not describe measures for the second cycle, nor discuss the effectiveness of measures in the first cycle.
LV	Daugava	☹	☹	☹		There is no information on farmer compliance with existing requirements (e.g. slurry storage, nutrient planning, pesticides application) or whether existing measures will be sufficient (if fully complied with) or if additional measures will be needed and should be included in the 2nd cycle PoMs. There is no information on the need to establish additional

MS	RBD	1	2	3	4	Comments
						(supplementary) measures to protect water from agricultural pressures financed through the Rural Development Programmes.
LT	Nemunas	☹	☹	☹		The Nemunas RBMP is not yet finalised. The existing version does not contain any information on a comprehensive assessment of compliance. The existing version contains some information on the load reduction (mainly from point sources), but no information on the load reduction of nutrients from agriculture is provided. The existing version does not contain any information on the proposals to the Ministry of Agriculture.
NL	Rhine	😐	☺			At this moment, there is no indication to have additional basic measures beyond the Nitrates Directive. In the summary document of the PoM of Rhine, there is no link between the measures identified in PoM and the contribution to the achievement of the WFD objectives. There are additional measures designed for the agricultural sector (Deltaplan agricultural water management) to reduce emissions from agriculture (not only focus on N and P).The effects of the supplementary measures will be evaluated beginning 2015. To combine local measures with additional area focused measures it is expected to achieve the objectives for nutrients in 2027.
PL	Vistula	😐	😐	☺		Article 11.3 h is not referred to in RBMP. An Appendix lists measures in Vistula RBD. Adopted measures under the Nitrates Directive have been formulated in such a way as to reduce the impact of agricultural pollution to the extent necessary to achieve good status. It is not clear whether measures will be carried out outside of NVZ zones. Programme of Measures lists measures in agriculture sector. An Appendix lists Rural Development Programme measures. The supplementary measures are planned, but there is no information in Appendix of how they will contribute to achievement of objectives, only what will be done and who will do it. There is no mention of pesticides or sediments in relation to agriculture in RBMP or PoM.
RO	Danube	☺	☺	☹	☹	Measures under the ND, which are mandatory, are described in the draft second RBMP and have been evaluated through prognosis scenarios, as well as cost-efficiency and cost-benefit analysis, with the purpose of establishing an optimal combination of measures

MS	RBD	1	2	3	4	Comments
						which would ensure achievement of good status. The national authority plans to publish suggestions to amend national legislation in the field of water management as regards of diffuse pollution and control of pollutants (nitrates, pesticides), especially concerning the groundwater resources. Supplementary measures have been envisioned to address the gap to good status. The CAP is not mentioned at all in the draft second RBMP and there is no information on the pesticides action plan.
SK	Danube	😐	😐			There is no link between agricultural measures and the chemical and ecological status of impacted water bodies and there is no detailed timing for the implementation of measures. The basic measures include the revision of the Law on fertilizers and refer to cross compliance, greening of direct payment in line with CAP requirements (having positive impacts on natural water retention and on reduction of soil erosion). The metering of agricultural water abstractions has not been implemented, it should be included in the next revision of the Water Law. Mechanisms of monitoring of measures are not mentioned.
SE	Bothnian Sea	☹	😐	☺		No specific information on increasing the number of basic measures in place to address agriculture's impact on water quality and quantity, except some general notes on different directives. The implementation of measures are not divided between basic and supplementary measures. There is a huge gap between the calculated need for nitrogen reduction and the effect of proposed measures. It should be mentioned, that the reduction needed for P is very accurate and obviously very well connected to the calculated need for meeting the objective and the proposed measures. In the current RBMP the connection to the RDP is made explicit, and several instruments and measures are included in the overarching PoM and the detailed catchment PoMs.
SE	North Baltic	☹	😐	☺		No specific information on increasing the number of basic measures in place to address agriculture's impact on water quality and quantity, except some general notes on different directives. The implementation of measures are not divided between basic and supplementary measures. There is a huge gap between the calculated need for nitrogen reduction and the effect of proposed measures. It should be mentioned, that the reduction

MS	RBD	1	2	3	4	Comments
						needed for P is very accurate and obviously very well connected to the calculated need for meeting the objective and the proposed measures. In the current RBMP the connection to the RDP is made explicit, and several instruments and measures are included in the overarching PoM and the detailed catchment PoMs.
SE	Skageratt and Kattegat	☹	😐	☺		No specific information on increasing the number of basic measures in place to address agriculture's impact on water quality and quantity, except some general notes on different directives. The implementation of measures are not divided between basic and supplementary measures. The calculated need for N-reduction is by far not met (PoM p. 89). It should be mentioned, that the reduction needed for P is very accurate and obviously very well connected to the calculated need for meeting the objective and the proposed measures. In the current RBMP the connection to the RDP is made explicit, and several instruments and measures are included in the overarching PoM and the detailed catchment PoMs.
UK	Scotland	😐	☺	☺		There is no explicit mention of the measures required under Nitrates Directive in the draft 2nd RBMP. The measures described in the draft second plan are not explicitly identified as basic or supplementary measures. There is no mention of the measures required by the relevant Directives. The use of general binding rules to control and reduce diffuse pollution have previously been considered as being part of Article 11.3.h basic measures. The draft plan states that the diffuse pollution 'priority catchment' approach adopted in the first plan was proving to be effective in securing the necessary changes in land management practices required to reduce diffuse pollution. There was no information on how the continued effectiveness of these measures would be verified or enforced in the 2nd plans. In addition, there was no information on how this would be achieved for other measures to be taken to tackle the other significant pressures in this RBD. There is also mention of the potential funding of measures under the Scottish Rural Development Programme (SRDP) that may contribute to the achievement of objectives: no specific detail was given.

MS	RBD	1	2	3	4	Comments
UK	Northern-Ireland (Neagh Bann)	☹	☹	☺		Additional measures to close the gap in terms of phosphorus reductions are being considered. In terms of nitrate the extent of the gap between what current measures will achieve and WFD objectives is not well quantified, and a large programme of investigations is on-going. In terms of implementing mandatory basic measures there still appears to be a gap in terms of measures for the control of diffuse sources. It is also not clear the contribution that supplementary measures are expected to make towards the achievement of WFD objectives in the 2nd RBMP, and it appears that the basis (mandatory versus voluntary) of most measures proposed for the second plan has not changed from the first. Clear link to RDPs. There was only limited information in the draft plans on the measures for the control of pesticides from agricultural activities.
UK	South West	☹	☹	☺		Additional measures to close the gap in terms of phosphorus reductions are being considered. In terms of nitrate the extent of the gap between what current measures will achieve and WFD objectives is not well quantified, and a large programme of investigations is on-going. In terms of implementing mandatory basic measures there still appears to be a gap in terms of measures for the control of diffuse sources. It is also not clear the contribution that supplementary measures are expected to make towards the achievement of WFD objectives in the 2nd RBMP, and it appears that the basis (mandatory versus voluntary) of most measures proposed for the second plan has not changed from the first. The only basic measure described in terms of tackling agricultural pressures are in relation to Nitrates Actions Programme associated with NVZs. Most other measures within and outside NVZs seem to be voluntary or incentive based and none seem to be mandatory Article 11.3.h basic measures. Clear link to RDPs.
UK	Anglian	☹	☹	☺		There was very little explicit mention of the basic measures required by Directives with only Nitrates Action Programmes being described. The only basic measures are those relating to the Nitrates Directive. It seems that there are no other mandatory basic measures such as required under Article 11.3.h. Supplementary measures are listed for the current and the second plan: these are by and large soft measures such as voluntary

MS	RBD	1	2	3	4	Comments
						agreement, advice and further research and investigations. There is no information on how any of the current or proposed measures will contribute to the achievement of WFD objectives.
NO	Glomma	☹				No information found in the guidance or in the RBMP as regards the contribution of basic measures to WFD objectives; this includes the Nitrates Directive.

4.8.5 Measures to reduce pressures from water abstractions

Headlines

- Little progress is noted in terms of measures to address water abstractions. Although some further measures are reported to control abstractions, there is lack of wide-spread efforts and regulatory changes to address metering, register and review of abstractions.
- Some progress has been made and is still on-going in terms of ecological flows (e-flows) in existing and planned abstractions. Except for the inclusion of specific measures for establishing e-flows, there are several on-going initiatives to set new standards for e-flow definition in order to achieve WFD objectives.

Results of the screening assessment based on the CSWD 2015 recommendations

The 2015 CSWD recommendations addressed issues relevant to abstractions in a relatively small number of Member States (mainly southern Europe, e.g. ES, IT). The main issues at stake are the implementation of metering to all abstractions, ensuring that all abstractions are registered, the systematic review of abstraction permits and their possible revision to ensure consistency with the environmental objectives. The overall progress noted is poor. In Spain, with the exception of sporadic measures on flow meters and adaptation of irrigation water rights, no plan has been presented to extend the use of flow meters for all abstractions and no systematic regulatory changes took place to ensure registering all abstractions. Similarly in Italy, no RBMP-specific information is found on the extent of metering and only few measures are reported relevant to the control of abstractions. National guidelines on the use of metering and volume-based pricing for irrigation are reported as upcoming (due 2015).

Some more progress is noted in terms of considering ecological flows in existing and planned abstractions. In DE, FR and RO, the establishment of e-flows are planned as measures. In FR, these are addressed by a specific regulation linking e-flows to the issuing of concessions under consideration of the relevant environmental objectives. In DE, a clear target is reported on establishing new appropriate standards for e-flow definition. In Romania, the draft 2nd RBMP considers the need to regulate e-flows and research is ongoing to develop a method for e-flow to achieve WFD objectives. In Spain, no systematic reassessment of e-flows to guarantee links to good status appears to have taken place.

Table 4.9 Results of the screening assessment "Measures to reduce pressure from abstraction" (see page 9 for the legend)

MS	RBD	Metering/ Register of abstractions/ Permit revision/	Ecological flow	Comments
AT	Danube			
BE-Fl	Scheldt			
CZ	Elbe		☹	No specific information found; abstracted water not identified as a significant pressure. For the existing methodology on e-flows, it has been previously demonstrated how it is consistent with the achievement of GES or GEP.
DE	Elbe		☹	E-flows not mentioned. Measures on abstraction are relevant to a limited extent as the pressure (mainly from mining) is declining.
DE	Rhine, Elbe, Weser, Ems/LS		☺	Establishment of e-flows planned as measures. Clear target of establishing new appropriate standards.
DE	Danube/BY		☺	
DE	Rhine/Weser/Ems/Maas/ NRW		😐	Introduction of e-flows as measure, no details.
DK	Jutland and Funen			
ES	Guadiana	☹	😐	No plan presented to extend the use of flow meters for all abstractions. No regulatory changes to ensure registering all abstractions. No reassessment of e-flows to guarantee links to good status. Some hydrological studies done to expand minimum flows extrapolated to all SWB.
ES	Guadalquivir	☹	😐	No plan presented to extend the use of flow meters for all abstractions. No regulatory changes to ensure registering all

MS	RBD	Metering/ Register of abstractions/ Permit revision/	Ecological flow	Comments
				abstractions . No reassessment of e-flows to guarantee links to good status. Restrictions to minimum flows in protected areas established.
ES	Andalucía Mediterranean basins	☹	☹	No plan presented to extend the use of flow meters for all abstractions. No regulatory changes to ensure registering all abstractions . No reassessment of e-flows to guarantee links to good status. No changes to e-flows since 1st RBMP.
ES	Segura	😐	😐	No plan presented to extend the use of flow meters for all abstractions. No regulatory changes to ensure registering all abstractions. Two relevant measure: install flow meters for all GW abstractions and adapt all irrigation water rights to RBMP. No reassessment of e-flows to guarantee links to good status. Further eflow elements to be set in the 2nd planning implementation cycle.
ES	Jucar	😐	😐	No plan presented to extend the use of flow meters for all abstractions. No regulatory changes to ensure registering all abstractions. Metering of GW abstractions extended and further planned. No reassessment of e-flows to guarantee links to good status. Description of e-flows with some links to biological quality elements.
ES	Ebro	😐	☹	No plan presented to extend the

MS	RBD	Metering/ Register of abstractions/ Permit revision/	Ecological flow	Comments
				use of flow meters for all abstractions. No regulatory changes to ensure registering all abstractions. Refers to a specific register INTEGRA. Measure to update the water rights register with rights previous to 1986. No reassessment of e-flows to guarantee links to good status. No changes in e-flows since 1st RBMP.
ES	Baleares	☹		No plan presented to extend the use of flow meters for all abstractions. No regulatory changes to ensure registering all abstractions. E-flows not relevant.
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea			
FR	Loire		☺	A specific regulation addresses e-flows. E-flows to be set when issuing a concession, to contribute to environmental objectives.
FR	Rhone		☺	See above.
FR	Adour Garonne		☺	See above.
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea		☺	See above.
IT	Po	☹		No information on the extent of metering. Main dRBMP does not discuss permits and their relation with objectives (PoM includes one measure on consideration of minimum flows for abstraction permits).
IT	Central Appenines	☹		No information on the extent of metering and a review of abstraction permits. Mention of a

MS	RBD	Metering/ Register of abstractions/ Permit revision/	Ecological flow	Comments
				register of abstractions.
IT	Southern Appenines	😐		Mention of upcoming national guidelines on the use of metering and volume-based pricing for irrigation (due 2015). Option to modify permits due to requirements for minimum flows.
IT	Sardinia	☹		Meters for agriculture only partial, unauthorised GW abstraction continues, no specific measures mentioned.
LV	Daugava			
LT	Nemunas			
NL	Rhine			
PL	Vistula			
RO	Danube		☺	dRBMP considers the need to regulate e-flows. Ongoing research to develop a method for e-flow to achieve WFD objectives.
SK	Danube		☺	Minimum flow (MQ) methodology applied reflecting the criteria set by the WFD CIS Guidance on Ecological Flows.
SE	Bothnian Sea			
SE	North Baltic			
SE	Skageratt and Kattegat			
UK	Scotland			
UK	Northern-Ireland (Neagh Bann)			
UK	South West			
UK	Anglian			
NO	Glomma			

4.8.6 Measures to reduce pressures from chemicals

Headlines

- Quite a few RBDs have updated their lists for priority and dangerous substances.
- Overall, little progress was found on implementing measures towards chemical substances and assessing how much these measures will contribute to the achievement of WFD objectives.

Results of the screening assessment based on the CSWD 2015 recommendations

According to the evaluation of CSWD 2015 recommendations in relation to chemical pollution, Article 11.3.a basic measures are expected to help achieve improvements in eight Member States but there is no clear view on how much of the gap will be filled, and there is no assessment or judgement as to how much the measures will contribute to the achievement of WFD objectives in 13 other Member States. Similarly for no Member State was any information found indicating that there had been a quantitative assessment of the gap that will be filled by the basic measures required by Article 11.3.g, or Article 11.3.k or by supplementary measures relevant to chemical pollution.

According to the screening exercise no or little progress was found on this issue.

Table 4.10 Results of the screening assessment "Measures to reduce pressure from chemical pollution" (see page 9 for the legend)

MS	RBD	Measures on chemical pollution[6]	Comments
AT	Danube		
BE-Fl	Scheldt		
CZ	Elbe		
DE	Elbe	☹	No information.
DE	Rhine, Elbe, Weser, Ems/LS	☹	No information.
DE	Danube/BY	☹	No information.
DE	Rhine/Weser/Ems/Maas/NRW	☹	No information.
DK	Jutland and Funen	☹	No information.
ES	Guadiana		

[6] Measures related to pesticides and nutrients are covered in the section on agricultural measures.

MS	RBD	Measures on chemical pollution[6]	Comments
ES	Guadalquivir		
ES	Andalucía Mediterranean basins		
ES	Segura		
ES	Jucar		
ES	Ebro		
ES	Baleares		
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea		
FR	Loire		
FR	Rhone		
FR	Adour Garonne		
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea		
IT	Po	😐	The dRBMP highlights the development of an inventory of priority substances discharged in the RBD. Its PoM (Vol. 7) notes regional legislation and projects that focus on priority substances. However, a brief review did not find information on further substance-specific measures.
IT	Central Appenines	☹	No information found. The brief indications of “priority measures” for the second cycle include strengthening wastewater treatment.
IT	Southern Appenines	☹	The dRBMP provides little information on the measures for the second cycle, and no indication of substance-specific measures for chemical pollution.
IT	Sardinia	☹	The dRBMP does not discuss measures for the second cycle.
LV	Daugava	☹	There is no information in the dRBMP on this issue, no measures defined so far.
LT	Nemunas	☹	There is no information on whether the inventory of sources of pollution (established in accordance with the requirements set out in Article 5 of the EQS Directive) is or will be carried out and will serve as a basis for measures.
NL	Rhine	☹	In general, the measures related to specific substances are still described under general basic measures. In additional measures, no substance specific measures could be identified.
PL	Vistula	😐	An inventory of sources of pollution, in accordance with Directive 2008/105/EC, has been developed. No priority substances specific measures have been identified.
RO	Danube		
SK	Danube		

MS	RBD	Measures on chemical pollution[6]	Comments
SE	Bothnian Sea	☹	It is mentioned that knowledge of the impact from hazardous substances is still limited and that more monitoring and impact assessments are needed. The description of the sources is basically the same in the dRBMP as in the 1st cycle – not source apportioned.
SE	North Baltic	☹	
SE	Skageratt and Kattegat	☹	
UK	Scotland		
UK	Northern-Ireland (Neagh Bann)		
UK	Anglian		
UK	South West		
NO	Glomma		

4.8.7 Measures to reduce pressures from urban wastewater treatment

Headlines

- Some Member States have provided clear(er) information on the measures planned to address pressures from urban wastewater treatment (UWWT) and their contribution to achieving the objectives, especially nutrient removal. Nevertheless, it appears there are still several Member States where information provided is poor or indicative of small progress on this issue.

Results of the screening assessment based on the CSWD 2015 recommendations

For several Member States, the 2015 CSWD recommendations requested clarification with regard to the level of compliance with the Urban Wastewater Treatment Directive (UWWTD) requirements, the certainty of funding and the links of relevant measures to the achievement of good status.

In some Member States, good progress can be concluded (e.g. FI, parts of FR, LT, RO, SE) with clear information on the measures planned for UWWT and their contribution to achieving the objectives, especially nutrient removal.

There were also cases (e.g. DE, parts of FR) where the progress noted was relatively smaller, with some aspects still unclear, e.g. with respect to the concrete expected achievements. In several cases, no relevant information on the level of compliance with UWWTD requirements could be found in the draft second RBMPs.

Table 4.11 Results of the screening assessment "Measures to address Urban waste water" (see page 9 for the legend)

MS	RBD	Measures on UWWT	Comments
AT	Danube		
BE-Fl	Scheldt		
CZ	Elbe		
DE	Elbe	😐	Clear assessment of nutrients loads from UWWT; unclear load reduction needed to achieve good status. Issue of storm water considered.
DE	Rhine, Elbe, Weser, Ems/LS	😐	Nutrient loads not differentiated for UWWT and unclear what will be achieved through compliance with the UWWTD. Measures on storm water overflows are mentioned.
DE	Danube/BY	😐	Unclear what will be achieved through compliance with the UWWTD. Measures on storm water overflows are mentioned.
DE	Rhine/Weser/Ems/Maas/ NRW	😐	Measures cover the improvement of UWWT and addressing storm water overflows. Unclear what will be achieved through compliance with the UWWTD.
DK	Jutland and Funen		
ES	Guadiana		
ES	Guadalquivir		
ES	Andalucía Mediterranean basins		
ES	Segura		
ES	Jucar		
ES	Ebro		
ES	Baleares		
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea	☺☺	Improving P and N removal stated explicitly as one of the goals to be achieved by reconstructing and modernising wastewater treatment plants and permitting procedures.

MS	RBD	Measures on UWWT	Comments
FR	Loire	☹	No specific information found on a more coherent strategy on the UWWTD.
FR	Rhone	☺	One of the foci is to “continue to address domestic and industrial pollution” with reference to the UWWTD. The RBMP intends to clarify the conditions under which it is necessary to strengthen the measures where it is locally needed (sensitive areas).
FR	Adour Garonne	😐	Reference to UWWTD in the thematic orientation addressing specifically the reduction of pollution.
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea	😐	One of the foci is to “Continue to reduce point source discharge of classic pollutants” with reference to the UWWTD.
IT	Po	☹	No information on assessing the relative impact of UWW in not achieving good status.
IT	Central Appenines	☹	Same as in the Po.
IT	Southern Appenines	😐	UWWT plant improvements are a key area for measures.
IT	Sardinia	😐	Indication that final plan will include an analysis of UWWT plants discharges and of what will be achieved from full implementation of the UWWTD.
LV	Daugava	?	No information, dRBMP incomplete.
LT	Nemunas	☺	Information given on number of WBs failing good status due to UWW. New legislation on wastewater treatment and in particular Individual or Appropriate Systems (IASs).
NL	Rhine		
PL	Vistula	☹	Many measures on municipal WWT not finalised yet. No/unclear information on UWWTD implementation and timing for compliance, sources of funding, monitoring of discharges.

MS	RBD	Measures on UWWT	Comments
RO	Danube	☺	Basic measures on UWWT implemented or under implementation. Clear timeframe provided for facilities that still need to be adapted. Clear indication of costs and their source.
SK	Danube		
SE	Bothnian Sea	☺☺	The impact of UWWT plants is very well described for nutrients through detailed source apportionments. All SE treatment plants fulfil the requirements in the UWWTD (basic measures). The requirements for waste water treatment will contribute to P reduction (together with measures for agriculture).
SE	North Baltic	☺☺	See above.
SE	Skageratt and Kattegat	☺☺	See above.
UK	Scotland		
UK	Northern-Ireland (Neagh Bann)		
UK	South West		
UK	Anglian		
NO	Glomma		

4.8.8 Measures related to protected areas

Headlines

- For protected areas linked to Natura 2000 areas, additional objectives have been formulated in a few more Member States compared to the 1st cycle, or studies are ongoing to address this.
- However, there is very little progress on specific measures for nature protected areas so far.
- For drinking water protected areas, some new measures have been included to develop new standards or relevant regulation for their monitoring is updated.

Results of the screening assessment based on the CSWD 2015 recommendations

For several Member States, the 2015 CSWD recommendations requested clarification with regard to the setting of additional objectives and appropriate measures for protected areas, especially related to drinking water as well as protected species and habitats. Overall, only some or no evidence of progress could be found in terms of addressing recommendations on protected areas.

For drinking water protected areas, some new measures have been included to develop new standards (e.g. BE) or relevant regulation for their monitoring is updated (e.g. ES). For protected areas linked to Natura 2000 areas, additional objectives have been formulated in a few more Member States, compared to the 1st cycle, or studies are ongoing to address this issue. Progress on specific measures for nature protected areas seems minor so far.

Table 4.12 Results of the screening assessment "Measures to related to protected areas" (see page 9 for the legend)

MS	RBD	Drinking water Protected Areas	Species and habitats Protected Areas	Comments
AT	Danube			
BE-Fl	Scheldt	😐	😐	Measure included to develop new standards and specific measures in Drinking Water Protected Areas (DWPA). For protected areas for habitats and species, additional objectives are formulated.
CZ	Elbe	☹	☹	No additional objectives/measures mentioned for relevant protected areas.
DE	Elbe			
DE	Rhine, Elbe, Weser, Ems/LS			
DE	Danube/BY			
DE	Rhine/Weser/Ems/Maas/ NRW			
DK	Jutland and Funen			

MS	RBD	Drinking water Protected Areas	Species and habitats Protected Areas	Comments
ES	Guadiana	😐	😐	Monitoring of DWPAs includes all relevant parameters of Drinking Water Directive (new draft Royal Decree), but no harmonised criteria and threshold values for assessing status of Protected Areas (PAs). Ongoing studies on the water requirements of PAs for species and habitats; unclear when and how these will be translated into specific objectives.
ES	Guadalquivir	😐	☹	Same as Guadiana for DWPAs. Insufficient analysis of PAs for species and habitats.
ES	Andalucía Mediterranean basins	😐	😐	Same as Guadiana for DWPAs. Description of Natura 2000 habitats and species related to water. No information on additional objectives.
ES	Segura	😐	😐	Same as Guadiana for DWPAs. Description of Natura 2000 habitats and species related to water. Still vague information on additional objectives.
ES	Jucar	😐	☹	Same as Guadiana for DW PAs. Insufficient analysis of PAs for species and habitats.
ES	Ebro	😐	☹	Same as Guadiana for DW PAs. No additional objectives for PAs for habitats and species.
ES	Baleares	😐	☹	Same as Guadiana for DW PAs. No reference to Natura 2000 regarding status and objectives.
FI	Kokemäenjoki-Archipelago Sea-Bothnian Sea		☹	No details given on water bodies kept eutrophic to achieve compliance with the Birds and Habitats Directive.

MS	RBD	Drinking water Protected Areas	Species and habitats Protected Areas	Comments
FR	Loire			
FR	Rhone			
FR	Adour Garonne			
FR	Scheldt, Somme and coastal waters of the Channel and the North Sea			
IT	Po			
IT	Central Appenines			
IT	Southern Appenines			
IT	Sardinia			
LV	Daugava	?	?	dRBMP incomplete.
LT	Nemunas	?	?	dRBMP incomplete. No additional measures nor additional objectives identified.
NL	Rhine	☹	☹	No additional measures related to protected areas could be found.
PL	Vistula	☺	😐	Number and objectives for DWPAs. Objectives for protected areas for species and habitats given, no clear links to measures.
RO	Danube	☹	😐	No measures identified specifically for DWPAs. No specification of DWPAs with an unknown status. Status of PAs for species and habitats assessed, additional objectives set, measures not specified.
SK	Danube			
SE	Bothnian Sea	😐	😐	Description of PAs very brief. Water bodies in Natura 2000 sites identified. Need for protection zones around water bodies used for drinking water identified; unclear if these zones will be established in the 2nd cycle.

MS	RBD	Drinking water Protected Areas	Species and habitats Protected Areas	Comments
SE	North Baltic	😐	😐	See Bothnian Sea.
SE	Skageratt and Kattegat	😐	😐	See Bothnian Sea.
UK	Scotland			
UK	Northern-Ireland (Neagh Bann)			
UK	Anglian			
UK	South West			
NO	Glomma			