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**COMMISSION STAFF WORKING DOCUMENT**

**Member State : Poland**

*Accompanying the document*

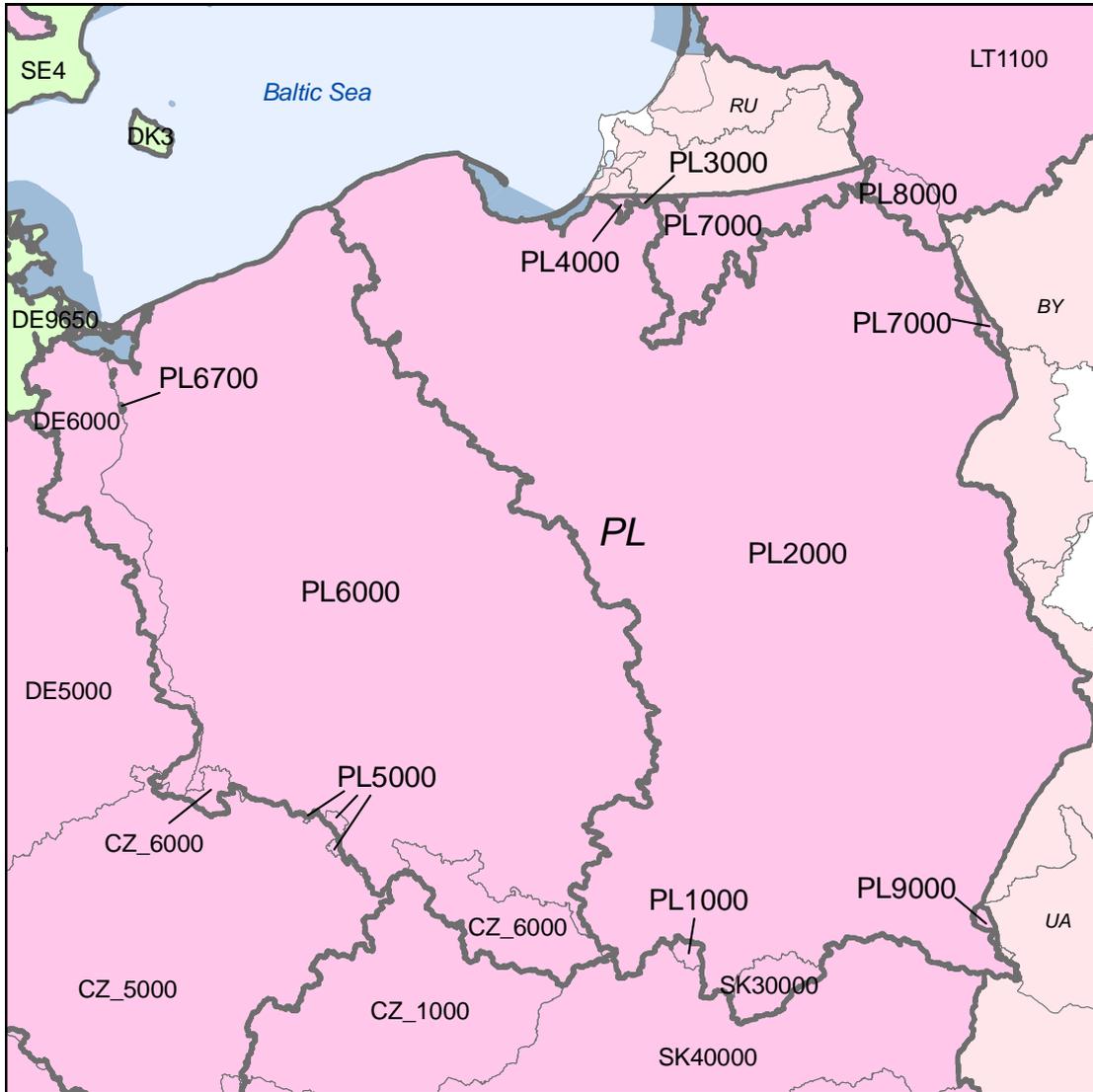
**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND  
THE COUNCIL**

**on the Implementation of the Water Framework Directive (2000/60/EC)**

**River Basin Management Plans**

{COM(2012) 670 final}

# 1. GENERAL INFORMATION



**Figure 1.1:** Map of River Basin Districts

	International River Basin Districts (within EU)
	International River Basin Districts (outside EU)
	National River Basin Districts (within EU)
	Countries (outside EU)
	Coastal Waters

Source: WISE, Eurostat (country borders)

Poland joined the European Union in 2004.

Poland has a population of 38.1 million<sup>1</sup> and a total land area of 312,679km<sup>2</sup>. Its territory stretches from the Baltic Sea (in the north) to the Carpathian Mountains (in the south). The northern part of the country is mainly lowlands with lake districts, whilst the southern part is mountainous. The lowest point in Poland is at 1.8 metres below sea level at Raczki Elblaskie in the delta of Vistula. The highest part of the Carpathians is the Tatra Mountains with the highest peak Rysy at 2,499 meters above sea level.

Poland shares its borders with Germany (west), the Czech Republic and Slovak Republic (south), Ukraine, Belarus and Lithuania (east) and the Baltic Sea and the Russian region of Kaliningrad Oblast (north).

Poland has ten river basin districts and they are listed in the Table below. They are all international. The longest Polish rivers are the Vistula and Odra and their river basin districts cover almost 97% of the country. Both rivers flow into the Baltic Sea.

RBD	RBD Name	Size (km <sup>2</sup> ) (% of RBD in Poland)	Countries sharing RBD
PL1000	Danube	385 (less than 1%)	DE, SK, UA, AT, BG, CZ, HR, HU, RO, IT, MD, ME, RS, SI, BA, AL, CH, MK
PL2000	Vistula	183 174 (app. 59%)	BY, RU, UA, SK
PL3000	Swieza	161 (less than 1%)	RU
PL4000	Jarft	212 (less than 1%)	RU
PL5000	Elbe	238 (less than 1%)	CZ, DE, AT
PL6000	Oder	118 015 (app. 38%)	CZ, DE
PL 6700	Ucker	15 (less than 1%)	DE
PL7000	Pregolya	7 522 (app. 2.5%)	RU
PL8000	Nemunas	2 515 (less than 1%)	BY, LT (RU)
PL9000	Dniester	233 (less than 1%)	UA (MD)

**Table 1.1:** Overview of Poland's River Basin Districts

**Source:** River Basin Management Plans reported to WISE<sup>2</sup>: <http://cdr.eionet.europa.eu/pl/eu/wfdart13>

<sup>1</sup> European Commission [http://europa.eu/about-eu/countries/member-countries/poland/index\\_en.htm](http://europa.eu/about-eu/countries/member-countries/poland/index_en.htm)

<sup>2</sup> This MS Annex reflects the information reported by the MS to WISE which may have been updated since the adoption of the RBMPs. For this reason there may be some discrepancies between the information reported in the RBMPs and WISE.

Name international river basin	National RBD	Countries sharing RBD	Co-ordination category					
			1		2		3	
			km <sup>2</sup>	%	km <sup>2</sup>	%	km <sup>2</sup>	%
Danube	PL1000	DE, SK, UA, AT, BG, CZ, HR, HU, RO, IT, MD, ME, RS, SI, BA, AL, CH, MK	430	<0.1				
Elbe	PL5000	CZ, DE, AT	239	0.2				
Oder	PL6000	CZ, DE	107169	86.4				
Dniester/ Dnistr/ Nistru	PL9000	UA (MD)			232	0.3		
Nemunas/ Nieman/ Neman/ Nyoman	PL8000	BY, LT (RU)					2009	2.1
Vistula	PL2000	BY, RU, UA, SK					168699	86.8
Bug (Sub--basin Vistula)							19284	48.9

**Table 1.2:** Transboundary river basins by category (see CSWD section 8.1) and % share in Poland<sup>3</sup>

Category 1: Co-operation agreement, co-operation body, RBMP in place.

Category 2: Co-operation agreement, co-operation body in place.

Category 3: Co-operation agreement in place.

Category 4: No co-operation formalised.

**Source:** EC Comparative study of pressures and measures in the major river basin management plans in the EU.

## 2. STATUS OF RIVER BASIN MANAGEMENT PLAN REPORTING AND COMPLIANCE

All Polish RBMPs were adopted on 22 February 2011 by the Council of Ministers and subsequently published in the official journal. They were all reported to the Commission in July 2011.

The approach used for the RBMPs preparation was the same for all the Polish RBDs. The Vistula and Odra are the biggest RBDs in terms of area in Poland and the RBMPs prepared for those RBDs were more detailed, and some of the supporting documents reported by Poland included more details for those RBDs. The structure of all the RBMPs were similar, as well as their contents (the similarities are so stark that they approach the point where the content is unchanged apart from values).

<sup>3</sup> Categorisation determined under the EC Comparative study of pressures and measures in the major river basin management plans in the EU (Task 1b: International co-ordination mechanisms).

### **The main strengths and gaps in the Polish RBMPs were:**

- The overarching problem identified in the Polish implementation of the WFD as reflected in the River Basin Management Plans (RBMPs) is the inconsistency of the planning process. In particular, the fact that there is no integrated approach on water management and that there seems to be a disconnection between water management and the environmental objectives of European water legislation. There is also no evidence of an integrated policy approach between water management and other related policy areas such as navigation, energy production, flood protection, agriculture, etc.
- A Strategic Environmental Assessment (the term used in Poland is a Strategic Environmental Impact Assessment) was carried out for all the Polish RBMPs.
- Public participation was very extensive, e.g. with active involvement of the relevant stakeholders. A number of supporting reports uploaded to WISE and a section in RBMPs summarise this aspect. Section 12 of all the RBMPs summarises this aspect. Following the consultation process a number of changes were made to the draft RBMPs. Notwithstanding the above, serious omissions were identified with regard to the public consultations carried out. The monitoring programmes also do not include all the required quality elements and the ecological status assessment methods are not fully developed for all required biological quality elements.
- Some biological methods were intercalibrated during the first phase of the EU intercalibration process but some of the intercalibrated class boundaries were not consistent with those used in national classification systems and the results were not translated to all other types in Poland. Poland expects that its ecological classification methods to be better intercalibrated as a result of the 2nd intercalibration exercise due to be completed in 2012. Poland reported that 79% of its surface water bodies had an unknown ecological status/potential: this probably reflects the lack of fully developed ecological status assessment and classification methods.
- At the time of publication of the RBMPs the methods for the classification of ecological status were not fully compliant with the requirements of the WFD. This is because even though a typology has been developed for all water body categories in Poland there were major gaps in the establishment of reference conditions for all types though since the publication of the RBMP there have been major efforts to fill the gaps.
- Around 30% of surface water bodies have been designated as heavily modified or artificial in Poland. Extensive information was provided regarding the designation of heavily modified water bodies (HMWBs). Additional reports providing the details of the methodology to determine heavily modified and artificial water bodies in Poland, verification of indicators for assessment of HMWBs and number of smaller reports per Regional Water Management Board (which cover all the RBDs) were reported to WISE. Nonetheless, the Commission could not find details on how the methodology for the designation was applied and cannot state that the actual designation of HMWBs was carried in line with the WFD. Poland has confirmed that further work is currently underway to verify the designation of water bodies in the first RBMPs. The ecological potential of some water bodies was reported though there was no detail on the methods used. More recent information from Poland

indicates that the mitigation-measures approach has been used in establishing good ecological potential

- While all Polish RBDs are international, little information was provided regarding international cooperation and coordination. There is no evidence that the Programme of Measures has been coordinated with other countries within the international RBDs.
- The Programme of Measures is summarised in Section 10 of all of the RBMPs. More details can be found in the Water and Environment Programme for Poland however, this document was not referenced in the RBMPs or uploaded to WISE.
- Limited number of measures in relation to chemical pollution and no monitoring of the effectiveness of the measures.
- Very little information was found on the classification of ecological status.
- There was only limited general but not specific information in the RBMPs regarding the monitoring process indicating that biological, physicochemical, chemical and hydromorphological parameters were measured.
- Climate change issues were only superficially mentioned in short sections 5 of each of the RBMPs. It seems that not a lot of research has been done in this field however each RBMP concludes that for the purposes of future plans, it will be necessary to do more research on climate change.
- There were also many gaps in the information reported to WISE with more than two thirds of the expected elements not being reported for the two main RBDs and even less for the smaller ones. Additionally, the information reported to WISE is inconsistent with that provided in RBMPs. The Polish authorities updated their data reported to WISE after the reporting of the RBMPs and hence leading to the inconsistencies in the data.

### **3. GOVERNANCE**

#### **3.1 Timeline of implementation**

There were three rounds of public consultations on the draft RBMPs. The first round concerned the schedule of the activities which were contributing to the development of River Basin Management Plans. The second round of public consultation concerned the consultation of the "Overview of significant water management issues in the river basins". The document set out a preliminary list of major problems in each RBD which could lead to the non-achievement of good status of waters in the area. A third round of consultation concerned the draft river basins water management plans. All the documents summarising the information and activities to be carried out within the river basins to help to achieve good water status by 2015 were then consulted.

Each of the three rounds took 6 months; first started 22 December 2006 till 22 June 2007, second started 22 December 2007 till 22 June 2008 and finally third round started 19

December 2008 and was finished on 22 June 2009. It is clear that the relevant summary documents were available during these periods. The timetable of the major milestones is summarised in the Table below.

- Date of publication of the draft timetable for the production of the RBMP: 22/12/2006.
- Date of publication of the work programme for the production of the RBMP: 22/12/2007.
- Significant water management issues: 22/12/2007.
- Draft River Basin Management Plan: 19/12/2008.
- Date of adoption of the final RBMPs: 22/02/2011.

### 3.2 National administrative arrangement – river basin district and competent authorities

The main competent authority roles in the Polish RBDs are split between the National Water Management Authority and the relevant Regional Water Management Boards. The National Board is responsible for the coordination, preparation and production of river basin management plans and the Regional Boards for reporting, public information and consultation. The responsibility of implementation of WFD is split between a large number of national and regional authorities. More detail is given in the following Tables.

Authority	Responsibilities
Minister responsible for water management (Ministry of Environment)	Responsible for water management and every two years, not later than June 30, needs to provide the government with the following information: State of Water Resources (quality and quantity), Usage of water resources, Implementation of RBMP, International cooperation, Maintenance of surface water and water facilities, Investments, Flood and drought protection.
President of the National Water Management Authority	Central governmental organisation body responsible for water management. The responsibilities consist of e.g. development of RBMP, supervision of the activities of directors of the regional water management boards, in particular, controlling their actions, approval of plans and RBMPs and their implementation, as well as ad-hoc commission to carry out the control of water management in different regions.
Minister of Infrastructure	Responsible for maritime affairs.
Ministry of Agriculture and Rural Development	Responsible for keeping the records of: Inland surface waters or parts in the public domain, essential for the regulation of water for agriculture, water management facilities, and the reclaimed land, Determination of the area which have a beneficial effect of specific water drainage devices.
Chief Inspector for Environment Protection	The central body of government. Appointed to monitor compliance with environmental legislation and environmental studies, supervised by the Minister of the environment.

***Table 3.2.1: Responsibilities for the implementation of the WFD***  
***Source: RBMPs***

Regional administrative arrangements are summarised in the table below.

<b>Regional authority</b>	<b>Arrangements</b>
Directors of Regional Water Management Boards (Authorities)	Supervised by the President of National Water Management Authority. The Directors of the regional boards are responsible for water management in the region, i.a. the identification of significant pressures and assessment of their impact on the status of surface and ground water in the region, developing terms of water use water region, developing the economic analysis of water use in the region, preparation and maintenance of lists of protected areas, the development of flood studies in the region of water, the development of draft plans for flood protection in a region, coordinating the activities related to the protection against floods and drought, etc.
District Governors	Government Administration. . They are responsible for: delineating water bodies; distribute the costs of maintaining the water's edge forming the walls of buildings or facilities other than water, establishing the buffer zone measuring devices of state services, at the request of the service, specifying the prohibitions, orders, restrictions, issuing water licenses, approval of the shareholders, enable the plant to the company, at the request of the water company or establishment concerned, if it is justified by the purposes for which the company was established (Article 168), supervision and control over the activities of water companies .
Province Inspectorate for Environment Protection	Carry out the different types of monitoring.
Province Sanitary Inspectorates	Responsible for drinking water quality
Directors of the Province Authorities for Land Improvement and Water Facilities.	They are responsible for: implementation, on behalf of the Province Marshals, the tasks arising from the exercise by the Marshal of ownership rights in relation to public waters owned by the State, essential for the regulation of water in agriculture and in relation to other waters not subject to management by President of the National Water Management Authority and directors of national parks.
Province Marshalls	Local government administration. They are responsible for issuing water licenses.
Directors of Maritime Authority and Directors of Inland Waterways	Both report to the Minister of Infrastructure.

**Table 3.2.2:** Regional administrative arrangements

**Source:** RBMPs

The responsibility of implementation of WFD is split between a large number of national and regional authorities. The RBD competent arrangements are summarised in the Table below.

Competent Authority	Responsibilities
President of National Water Management Authority	Responsible for: development of draft management plans for the river basin, water and environment programmes for the country, drafting plan for flood protection and counteract the effects of drought in the country, including the sharing of river basins, agreeing project terms of water use the water of the region, conducting water cadastre for the area of the state, including the sharing of river basins etc.
Directors of Regional Water Management Boards	Responsible for water regions, e.g. Regional Water Management Board in Warsaw is responsible for the following river basins: Jarf, Swieza, Lyna, i Węgorapa, Niemen (Nemunas) and the central (middle) part of the Vistula RB.
Chief Inspector for Environmental Protection	Central organ of government, appointed to monitor compliance with environmental legislation and environmental studies, and supervised by the MoE
Province Marshalls	Cooperation with President of National Water Management Authority.
Province Governors	
Melioration board	Reporting to the province marshals.

**Table 3.2.3: Competent Authorities**  
**Source: RBMPs**

The Regional Water Management Boards are shown on the map below.



*Figure 3.2.1: Map of Regional Water Management Boards*

*Source: <http://www.warszawa.rzgw.gov.pl/en/?skipcheck>*

### **3.3 RBMPs - Structure, completeness, legal status**

All ten RBDs are international; however no international RBMP has been reported or mentioned by Poland for any of these RBDs.

The RBMPs were adopted by the Council of Ministers, in the form of a Resolution. The National Programme of measures was however not adopted in the form of a legal act.

The RBMPs are adopted by resolution of the Council of Ministers. These are internal acts binding on the authorities and bodies subordinated to that Council. However, the specific provisions of Polish law provide for instances when the RBMPs are binding on other planning acts or individual decisions, namely on the land use plans prepared on the national, regional and local level; regional development plans; water-law permits and EIA decisions. Polish law does not provide for any requirement to review the existing permits/decisions in line with environmental objectives. However, the majority of water-law permits are issued for the period of 10 years. This means that after the previous permit expires, the new one will be issued only after stating that it will be in line with the RBMP.

The permitting authorities are bound by the RBMPs. The legislation states that the competent authority shall refuse the water-law permit in case when it violates the RBMP (and not only the “environmental objectives”). The same rule applies to EIA decision when the EIA procedure shows that the project may jeopardize the achievement of the environmental objectives set by the RBMP (thus, in this case only the environmental objectives and not the entire RBMP are mentioned).

### **3.4 Consultation of the public, engagement of interested parties**

The methodology used for the consultation process was generally consistent across all RBDs in Poland. There were three rounds of consultations (for more details see **Timeline of implementation**). These were carried out quite extensively by surveys mainly distributed to local governments but also to Regional Water Management Boards and water related people. Stakeholders involved included: local government, government administration, water supply and sanitation sector, environmental NGOs and other (industry, agriculture, public utilities, tourism and water recreation, forestry, fisheries, services, trade and hydropower). The general public was able to provide comments at the consultation meetings held and organised by National and Regional Water Management Boards. Also users of different sectors of water usage were invited to be actively involved in the consultation process.

Following the third round of consultation a number of changes were made to the RBMPs. These included:

- Some general changes in the structure of some of the chapters and addition of a glossary of terms.

- Other changes included addition of the general characteristics of the river basin, climatic conditions in relation to river basin, more detailed description of the monitoring of surface water, groundwater, environmental objectives set for groundwater, description of the results of additional studies in the municipal sector in relation to the recovery of costs, explanations on what was included in the basic measures with supplementary measures, analysis of planning documents indicating the links with the objectives of the WFD supplemented by a list of missing documents identified during the public consultation and updated documents outlined the tasks of planning and development, more details on public consultations, more detail description of the governmental and administrative bodies responsible for the implementation of WFD etc.
- According to the information recently provided by Poland<sup>4</sup>, the Programme of Measures was extended to include more measures related to inter alia wastewater management with more information regarding the costs and those who are responsible for implementation of measures.

It is however clear that despite the extensive process of public consultations, substantive parts of the documents, which should had been subject to public consultations under WFD, were omitted in the process of consultations. In particular, application of derogations from duties flowing from Article 4 was placed in annexes to the RBMPs and were not made subject to public consultations (thus inter alia application of Article 4.7 on new modifications, application of Article 4.3 on HMWB).

### **3.5 International cooperation and coordination**

Poland has 10 RBDs and all of them are international. No detailed information regarding international cooperation and coordination has been found. Each RBMP includes a section where international agreements are listed; however there is no indication of an International RBMP. International RBMPs are however available for the Odra, Elbe and the Danube, although for the latter two Poland has a very small share.

According to the information recently provided by Polish authorities, Poland is a member of three international commissions with a number of different working group regarding Odra, Elbe/Laba and Danube rivers. Additionally, Poland is a member of Polish-Slovakian, Polish-Czech, Polish-German and Polish-Ukrainian commissions which cooperate on the management of trans-boundary/international water.

### **3.6 Integration with other sectors**

The RBMPs contain links to other sectors such as agriculture through Rural Areas Development Programme for 2007-2013 although no specific measures are defined, energy through the Renewable Energy Development Strategy, forestry through the National Forestry Expansion Plan, Conservation Plans for National Parks, Conservation Plans for Landscape

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<sup>4</sup> Information mentioned after the RBMPs were reported to the Commission.

Parks, Conservation plans for Nature Reserves and biodiversity through the National Strategy for Conservation and Sustainable Use of Biodiversity. It is however only mentioned and not clear to which degree the RBMPs are coordinated with these plans and which measures are identified.

## **4. CHARACTERISATION OF RIVER BASIN DISTRICTS**

### **4.1 Water categories in the RBD**

Each of the RBDs in Poland (except Ucker RBD) has rivers and lakes, but only PL 2000 (Vistula) and PL 6000 (Odra) have transitional and coastal waters. The typology is described in detail in the report “Typology and surface water designation of surface and groundwater in accordance with requirements of WFD 2000/60/EC”.

### **4.2 Typology of surface waters**

The RBMPs show that typologies have been developed for all water categories in Poland. The typologies of rivers were determined using "system A", and for lakes, transitional and coastal waters using "system B" (Annex II WFD).

Preliminary work to establish reference conditions was carried out in Poland in 2004, however due to major data gaps, especially on biological quality elements, only 8 out of 26 river's types had a reference condition established, and only preliminary reference conditions were determined for the remainder. Also due to the lack of data, for some of the rivers, there is an incomplete description of the biological conditions. According to more recent information provided by Poland<sup>5</sup>, reference conditions for rivers were established using a spatially based method.

Poland has a lake typology which is said to be consistent with the WFD (using spatially based methods), but it is only based on chlorophyll a (phytoplankton abundance) and macrophytes, and consequently reference conditions were only determined for those biological quality elements.

The RBMPs also report that due to lack of biological data reference conditions in coastal and transitional waters were only preliminary and only determined for physico-chemical quality elements. However the typology report<sup>6</sup> indicates that there are 5 transitional water body types and the WISE summary, indicates that there are reference conditions for phytoplankton (chlorophyll) for four of them. Similarly, 3 coastal water body types were reported and reference conditions for all of them in terms of phytoplankton (chlorophyll) but not for any

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<sup>5</sup> It is however not clear to which degree the RBMPs are coordinated with these.

<sup>6</sup> Typology and surface water designation of surface and groundwater in accordance with requirements of WFD 2000/60/EC. It seems to be a contradiction: if it is stated that there is no biological data how types could have been defined?

other biological quality element. The number of surface water types by water category is shown in the Table below (based on the information from the Typology report <sup>7</sup>).

Category	Number of types
Rivers	26
Lakes	13
Transitional	5
Coastal	3

**Table 4.2.1:** Surface water body types at water category level  
*Source: Typology report*

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<sup>7</sup> Typology and surface water designation of surface and groundwater in accordance with requirements of WFD 2000/60/EC.

The following information on typology was reported to WISE.

<b>RBD</b>	<b>Rivers</b>	<b>Lakes</b>	<b>Transitional</b>	<b>Coastal</b>
PL1000	2	0	0	0
PL2000	24	13	4	3
PL3000	1	1	0	0
PL4000	1	0	0	0
PL5000	2	0	0	0
PL6000	21	9	2	2
PL6700	0	0	0	0
PL7000	5	5	0	0
PL8000	6	3	0	0
PL9000	1	0	0	0

**Table 4.2.2:** Surface water body types at RBD level  
*Source: WISE*

The background document ‘Typology and surface water designation of surface and groundwater in accordance with requirements of WFD 2000/60/EC’ has been reported.

Since the publication of RBMPs, Poland indicated that since 2004 there has been intensive work carried out to supplement reference conditions and to improve methodologies. Polish authorities have informed after the RBMP reporting that information about reference conditions is planned to be completed in the next actualization of the RBMPs.

### **4.3 Delineation of surface water bodies**

The smallest river water bodies identified in the RBMPs have catchment areas of 10 km<sup>2</sup> – this is the smallest size criterion given in for a system A typology in Annex II of the WFD for the identification of river water bodies. Small lakes are referred to in the background typology document but the numerical value for the surface area delineating small lakes was not given. Transitional and coastal waters have been delineated, however, as for lakes, no numerical values were provided for the smallest water bodies delineated. It was also reported that small bodies of water could be aggregated into adjacent bodies of water of the same category and type. A methodology for this was not reported.

The number and sizes of rivers, lakes, transitional and coastal waters identified in the Polish RBDs are given in the following Table.

RBD	Surface Water								Groundwater	
	Rivers		Lakes		Transitional		Coastal		Number	Average Area (sq km)
	Number	Average Length (km)	Number	Average Area (sq km)	Number	Average Area (sq km)	Number	Average Area (sq km)		
PL1000	11	21	0		0		0		2	192
PL2000	2660	25	481	2	5	295	6	53	89	2049
PL3000	4	16	1	1	0		0		0	0
PL4000	6	18	0		0		0		0	0
PL5000	8	18	0		0		0		1	214
PL6000	1735	24	420	2	4	116	4	87	63	1874
PL7000	120	24	101	3	0		0		3	2806
PL8000	39	21	35	2	0		0		2	1236
PL9000	3	43	0		0		0		1	233
<i>Total</i>	<i>4586</i>	<i>24</i>	<i>1038</i>	<i>2</i>	<i>9</i>	<i>215</i>	<i>10</i>	<i>67</i>	<i>161</i>	<i>1939</i>

**Table 4.3.1:** Surface water bodies, groundwater bodies and their dimensions

Note: No information has been reported on PL 6700 (Ucker).

Source: WISE

#### 4.4 Identification of significant pressures and impacts

Poland used a common, national approach to identify significant pressures in all RBDs. All the pressures required by the WFD were assessed. The main common pressures in all RBDs were identified as municipal and industrial wastewaters discharges, leachate from landfills and accidental contamination of soil and water. Additionally, the Odra and Vistula RBDs have pressures from mining. The Vistula also has some pressures from sand and gravel extraction. The information reported to WISE also indicates that the Vistula, Odra and Pregolya have a number of water bodies that are subject to significant diffuse pressures from agriculture.

No detailed information was provided on flow and morphological alterations despite the fact that these pressures affects the largest part of water bodies (see table below).

Numerical methods were mainly used to assess the significance of the identified pressures arising from point source, diffuse source and abstraction pressures. Summary details of the methods were described in the WISE report, though there was no information on the actual criteria or thresholds used to define significance. The basis of the methods for the other pressures was not clearly reported<sup>8</sup>.

Significant pressures and impacts of human activities on surface and groundwater are presented on maps in RBMPs.

The table below lists the significance pressures on surface water bodies in terms of numbers and percentage of total surface water bodies - information reported to WISE.

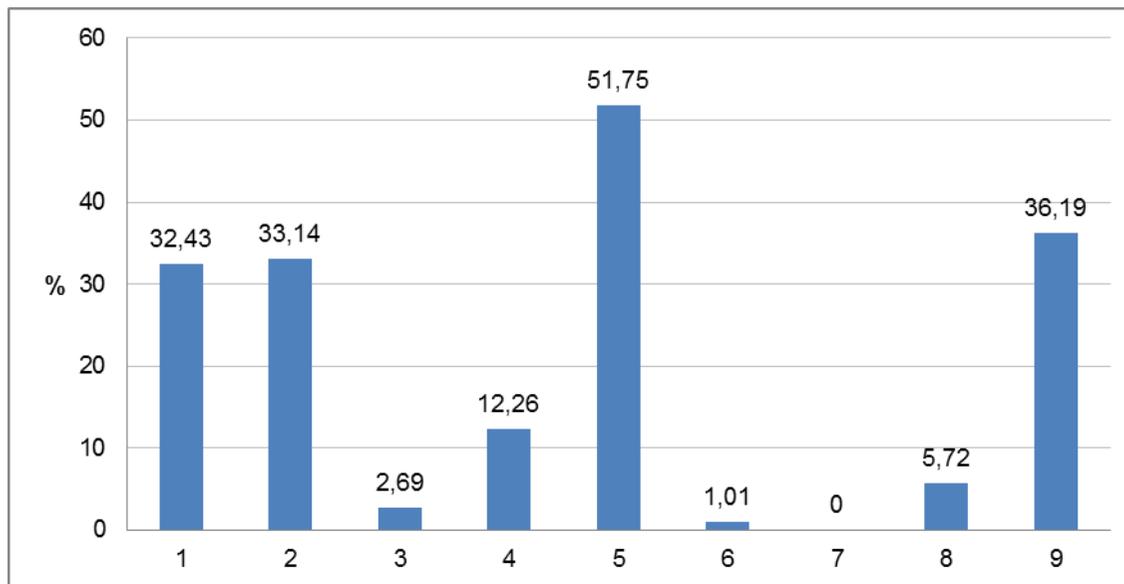
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<sup>8</sup> Polish authorities have mentioned after the RBMPs reporting that Information given in the WISE report and published in the RBMP include (according to the WFD requirements) only a synthesis, a descriptions of actions undertaken on the pressures analysis. Detailed information concerning a review of human activity impact on the ground and surface waters are described in the elaboration titled „The analysis of pressures and anthropogenic pollution impacts with particular regard on ground and surface water bodies for completion of programs of measures and of the RBMP”, delivered to the European Commission as source materials together with the report on the RBMP in March 2010. According to Polish authorities, this elaboration complying the available data identifies anthropogenic pressures and evaluates their impact on particular water bodies as well as it points a level of pressures susceptibility qualifying them to the threatened, potentially threatened and not threatened water bodies, involving the requirements of points 1.4 and 1.5 of the Annex II to the WFD. Authorities have also pointed that to identify significant anthropogenic impacts the Method of Multivariate Comparative Analysis was applied although relevant documents regarding all these aspects was not found on the RBMPs reported.

RBD	No pressures		Point source		Diffuse source		Water abstraction		Water flow regulations and morphological alterations		River management		Transitional and coastal water management		Other morphological alterations		Other pressures		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
PL1000	4	36.36	3	27.27	0	0	3	27.27	5	45.45	0	0	0	0	0	0	0	0	0
PL2000	1132	35.91	1037	32.9	44	1.4	402	12.75	1542	48.92	49	1.55	0	0	192	6.09	642	20.37	
PL3000	3	60	1	20	0	0	1	20	0	0	0	0	0	0	0	0	0	0	0
PL4000	6	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PL5000	4	50	1	12.5	0	0	2	25	3	37.5	0	0	0	0	0	0	4	50	
PL6000	455	21.04	782	36.15	106	4.9	268	12.39	1351	62.46	8	0.37	0	0	121	5.59	1386	64.08	
PL7000	163	73.76	38	17.19	2	0.9	14	6.33	16	7.24	0	0	0	0	7	3.17	8	3.62	
PL8000	62	83.78	6	8.11	0	0	1	1.35	2	2.7	0	0	0	0	3	4.05	2	2.7	
PL9000	1	33.33	2	66.67	0	0	1	33.33	1	33.33	0	0	0	0	0	0	0	0	
<i>Total</i>	<i>1830</i>	<i>32.43</i>	<i>1870</i>	<i>33.14</i>	<i>152</i>	<i>2.69</i>	<i>692</i>	<i>12.26</i>	<i>2920</i>	<i>51.75</i>	<i>57</i>	<i>1.01</i>	<i>0</i>	<i>0</i>	<i>323</i>	<i>5.72</i>	<i>2042</i>	<i>36.19</i>	

**Table 4.4.1:** Number and percentage of surface water bodies affected by significant pressures

Source: WISE



**Figure 4.4.1:** Graph of percentage of surface water bodies affected by significant pressures

1 = No pressures

2 = Point source

3 = Diffuse source

4 = Water abstraction

5 = Water flow regulations and morphological alterations

6 = River management

7 = Transitional and coastal water management

8 = Other morphological alterations

9 = Other pressures

**Source:** WISE

No information has been found on which sectors contributing most to chemical pollution.

## 4.5 Protected areas

RBD	Number of PAs										
	Article 7 Abstraction for drinking water	Bathing	Birds	European Other	Fish	Habitats	Local	National	Nitrates	Shellfish	UWWT
PL1000	5					2					
PL2000	219	148	86			206			7		
PL5000	3	1	1			3					
PL6000	127	163	49			144			11		
PL7000	3	6	4			4			1		
PL8000		2	1			5					
<i>Total</i>	<i>357</i>	<i>320</i>	<i>141</i>			<i>364</i>			<i>19</i>		

**Table 4.5.1:** Number of protected areas of all types in each RBD and for the whole country, for surface and groundwater<sup>9</sup>

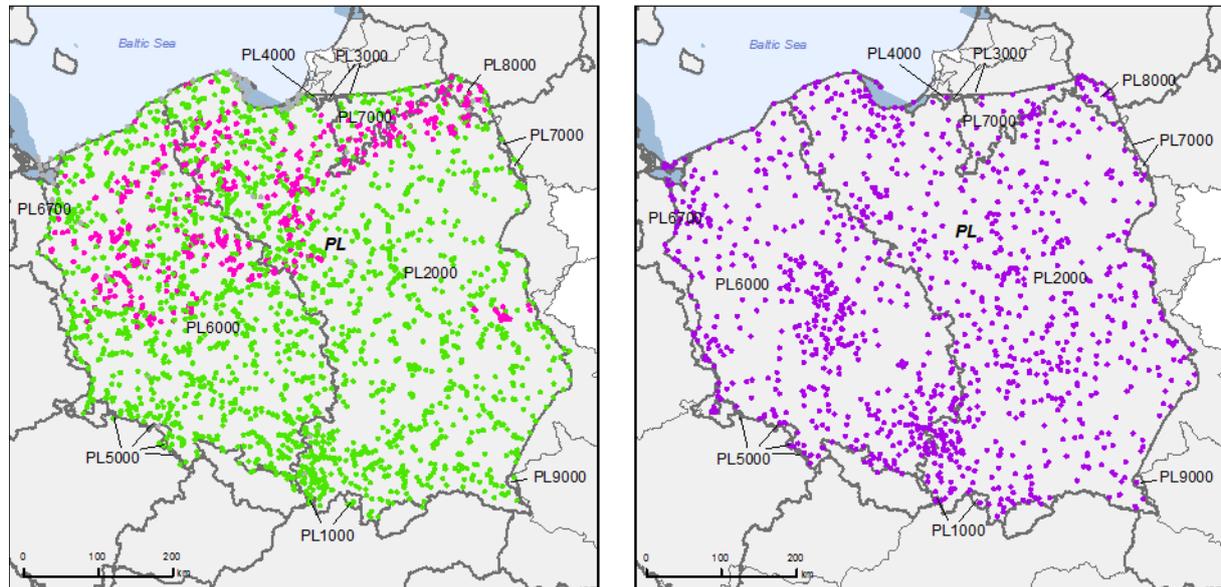
Note: Table currently does not distinguish between Article 7 drinking water protected areas for surface and groundwater. Also data on PL3000, PL4000, PL6700 and PL9000 were not reported.

Source: WISE

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<sup>9</sup> This information corresponds to the reporting of protected areas under the WFD. More/other information may have been reported under the obligations of other Directives.

## 5. MONITORING



**Figure 5.1:** Maps of surface water (left) and groundwater (right) monitoring stations

- River monitoring stations
- Lake monitoring stations
- Transitional water monitoring stations
- Coastal water monitoring stations
- Unclassified surface water monitoring stations
- Groundwater monitoring stations



**Source:** WISE, Eurostat (country borders)

The RBMPs state that the monitoring of surface water is carried out according to the Ministry of Environment Regulation of 13 May 2009. The regulation entered into force at a later stage to have the chance to be used for the RBMPs preparation (considering also that the monitoring programmes are the substantial source of information to define the actions to identify in the RBMPs).

The Regulation lists all the elements required to be monitored under the WFD. However the information reported in the RBMPs indicate that this has not yet been fully implemented. The RBMPs report monitoring sites of surface water in nine RBDs and for groundwater in eight RBDs (except Ucker RBD). Monitoring is not carried out in the Ucker RBD for both, surface and groundwater and in the Swiezia RBD for groundwater bodies. The information reported in WISE confirms this.

Information reported to WISE shows that there are 1946 monitoring sites on rivers, 1943 for operational monitoring and 446 for surveillance. In comparison, the total number of sites on

rivers reported in 2009 was 2235 of which 1594 were for operational purposes and 1218 for surveillance i.e. there were fewer stations reported in 2010 than reported in 2009.<sup>10</sup> Recent information from Poland shows that the number of monitoring sites on rivers has increased again (see Table 5.1). The quality elements monitored at each site was not reported. The number of monitoring sites for lakes, transitional and coastal waters was not reported to WISE. Similarly for groundwater monitoring sites, it can be concluded that a number of chemical surveillance monitoring sites decreased from 918 to 789, while the number of chemical operational and quantitative monitoring sites increased, from 115 to 369 for operational monitoring and from 804 to 828 for quantitative.

RBD	Rivers		Lakes		Transitional		Coastal		Groundwater		
	Surv	Op	Surv	Op	Surv	Op	Surv	Op	Surv	Op	Quant
PL1000	2	6	0	0	0	0	0	0	1	0	1
PL2000	304	1134	303	315	8	19	8	9	492	118	465
PL3000	0	1	0	0	0	0	0	0	0	0	0
PL4000	1	1	0	0	0	0	0	0	1	0	1
PL5000	2	4	0	0	0	0	0	0	1	0	1
PL6000	193	913	229	324	8	12	6	6	263	242	325
PL7000	5	41	32	32	0	0	0	0	16	9	16
PL8000	15	14	17	18	0	0	0	0	15	0	18
PL9000	1	1	0	0	0	0	0	0	0	0	1
<i>Total by type of site</i>	<i>523</i>	<i>2115</i>	<i>581</i>	<i>689</i>	<i>16</i>	<i>31</i>	<i>14</i>	<i>15</i>	<i>789</i>	<i>369</i>	<i>828</i>
<i>Total number of monitoring sites<sup>11</sup></i>	<i>2194</i>		<i>707-</i>		<i>31-</i>		<i>15-</i>		<i>1304</i>		

**Table 5.1:** Number of monitoring sites by water category

*Surv* = Surveillance

*Op* = Operational

*Quant* = Quantitative

**Source:** WISE and feedback from MS

Polish authorities have informally transmitted information on operational and surveillance monitoring in lakes, transitional and coastal waters after the RBMPs reporting but no reference/source information was provided. PL 6700 Ucker was not reported (as no monitoring is carried out there).

<sup>10</sup> Polish authorities have pointed out after the RBMPs reporting that the difference in the number of monitoring sites was largely because sites located in small inflows or lakes were removed.

<sup>11</sup> Number of sites calculated from data reported at site level. If no data reported at site level, then table supplemented with data reported at programme level.

RBD													
PL1000		QE1.1 Phytoplankton										Rivers	
PL2000		QE1.2 Other aquatic flora											
PL3000		QE1.2.3 Macrophytes											
PL4000		QE1.2.4 Phytobenthos											
PL5000		QE1.3 Benthic invertebrates											
PL6000		QE1.4 Fish											
PL7000		QE1.5 Other species											
PL8000		QE2 Hydromorphological QEs											
PL9000		QE3.1 General Parameters											
		QE3.3 on priority specific pollutants											
		QE3.4 Other national pollutants											
		QE1.1 Phytoplankton											Lakes
		QE1.2 Other aquatic flora											
		QE1.2.3 Macrophytes											
		QE1.2.4 Phytobenthos											
		QE1.3 Benthic invertebrates											
		QE1.4 Fish											
		QE1.5 Other species											
		QE2 Hydromorphological QEs											
		QE3.1 General Parameters											
		QE3.3 Non priority specific pollutants											
		QE3.4 Other national pollutants											





## 5.1 Monitoring of surface waters

The distribution of monitoring sites for Vistula and Odra RBDs is presented in the RBMPs and on the maps below. Similar maps can be found in other RBMPs (excluding Ucker as monitoring is not carried out in this RBD). There is, however, no detail on how the required objectives of surveillance and operational and the location of monitoring sites have been met in the design of the monitoring networks. According to information provided by Poland<sup>12</sup>, monitoring sites have been located in accordance with the Ministry of Environment Regulations mentioned above. In case of **surveillance monitoring**, the criteria used were inter alia the monitoring of rivers in catchment over 2,500 km<sup>2</sup> as well as where water bodies crossed international borders. In the case of **operational monitoring**, sites were focused on water bodies identified as at risk of failing of WFD objectives by the Article 5 analysis of pressures and impacts. However, there was no information as to whether or not the monitoring programmes are compliant with all WFD objectives for monitoring such as the objective of the surveillance monitoring programme for which MS shall establish the assessment of long-term changes in natural conditions<sup>13</sup>.

The RBMPs only provide general information on monitoring indicating that for rivers and lakes the following elements were monitored: biological indicators, physicochemical and chemical indicators and hydro-morphological indicators for all types of monitoring. However specific quality elements (QEs) are not described in RBMPs. Similarly only limited information for rivers were reported to WISE. These only indicated that priority and non-priority specific substances were monitored.

Additional information on the QEs monitored was found in the Status of Rivers<sup>14</sup> and Status of Lakes<sup>15</sup> reports (both not reported to the Commission). These are summarised in a Table below. In terms of biological quality indicators monitoring was not compliant with WFD as fish and hydromorphological QEs were not monitored in rivers. Phytobenthos and fish were not monitored in lakes<sup>16</sup>. Some physico-chemical elements were not included in monitoring and these were: thermal conditions, salinity, acidification status, and other pollutants. Priority substances were analysed, however not used to determine the classification of chemical status<sup>17</sup>. Hydromorphological elements were not monitored. No information was found on the

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<sup>12</sup> Information provided after the RBMPs reporting.

<sup>13</sup> According to Polish authorities – as indicated after the RBMPs reporting - the Ministry of Environment Regulation of 13 May 2009 regarding surveillance and operational monitoring objectives meet the objectives of WFD.

<sup>14</sup> [http://www.gios.gov.pl/zalaczniki/artykuly/stan\\_czystosci\\_rzek\\_2007-2009.pdf](http://www.gios.gov.pl/zalaczniki/artykuly/stan_czystosci_rzek_2007-2009.pdf)

<sup>15</sup> [http://www.gios.gov.pl/zalaczniki/artykuly/wyniki\\_monitoringu\\_wod\\_jezior\\_2008.pdf](http://www.gios.gov.pl/zalaczniki/artykuly/wyniki_monitoringu_wod_jezior_2008.pdf)

<sup>16</sup> Polish authorities have pointed out after the RBMPs reporting that in the following years his element was added to monitoring but no supporting document was provided.

<sup>17</sup> Polish authorities have pointed out after the RBMPs reporting that both thermal conditions and elements characterizing salinity (conductivity, sulfur, chlorides, calcium) and acidification (basicity and pH) have been monitored. The scope of elements differed between water categories but no supporting document was provided.

specific QEs monitored for in coastal and transitional waters. The information found is in the table below.

BQE	Rivers	Lakes	Transitional waters	Coastal waters
Phytoplankton	✓	✓		
Macrophytes	✓	✓		
Phytobenthos	✓			
Macroalgae				
Benthic fauna	✓			
Fish				

**Table 5.1.1:** BQEs monitored

*Source:* Status of Rivers and Status of Lakes reports

According to information provided by Poland<sup>18</sup>, surveillance monitoring does not include phytobenthos in rivers. A method is being developed for macroinvertebrates in lakes and is expected to be finalised by the end of 2012. With regard to the physicochemical quality elements all the required elements are said by the Polish authorities to be monitored.

**Operational monitoring** has been established. The Ministry of Environment Regulation of 13 May 2009 (Polish authorities have informed after the RBMPs reporting that this has been replaced in 2011 by the Ministry of Environment Regulation of 15 November 2011) lists all the biological quality elements required under the WFD to be considered in the operational monitoring. There is however no further information on which QEs have been selected and actually monitored in operational monitoring for particular RBDs and methodology on how they were selected. According to the latest information provided by Poland, depending on the type of pressure and type of water bodies, chlorophyll a, phytobenthos or macrophytes and selected physicochemical supporting elements, as well as all priority substances discharged and other contaminants are monitored.

The WFD required monitoring frequencies (all 12 times a year) for rivers and lakes for priority substances in surveillance monitoring are tabulated in the Ministry of Environment Regulation of 13 May 2009<sup>19</sup>. It is not clear however whether this is the case for transitional and coastal waters as the Table in Regulations has not been formatted properly and could not be assessed.

There is no further information on which **priority substances or other specific pollutants** are discharged and actually monitored in the RBDs. Additionally, no information was found in the WISE summary, RBMP or the Regulation on the sediment and biota monitoring including required frequencies. Recent information provided by Poland<sup>20</sup> specified that some of the heavy metals and organic compounds were monitored in the period preceding the entry into force of the river basin management plans. In 2009, analytical screening was carried out for the 33 priority substances at 123 measurement stations. Surveillance monitoring covering all 33 priority substances was implemented in most of the regional inspectorates in 2011 and

<sup>18</sup> Information not included in the reporting and provided after the reporting of the RBMPs.

<sup>19</sup> This Regulation was replaced by a 2011 Regulation (with the same title).

<sup>20</sup> Information not included in the reporting and provided after the reporting of the RBMPs.

it will be continued in 2012. While the RBMPs refer to ‘aggregated surface water bodies’ for the purpose of assessment under the WFD, an explanation of the methodology for aggregating (**grouping**) those water bodies for monitoring was not provided. It is also not clear which types of surface waters were grouped and whether the grouping was carried out in the context of the WFD.

Generally no information was found on whether any WFD trans-boundary monitoring or co-operation was taking place.

## **5.2 Monitoring of groundwater**

Quantitative and chemical surveillance and operational monitoring of groundwater has been established in Poland.

It is not clear from the RBMPs or from WISE reports how the parameters used in operational and surveillance monitoring are selected in relation to pressures. Information on the parameters used in groundwater monitoring programmes was reported to WISE for 4 (Danube, Jarft, Elbe and Dniester) of the 10 RBDs while groundwater monitoring sites (without information on which parameters) were reported for a further 4 RBDs (Vistula, Oder, Pregolya and Nemunas).

All core parameters (oxygen content, pH value, conductivity, nitrate and ammonium) and other pollutants were reported to be monitored for chemical surveillance in 3 of the 4 RBDs mentioned above (no chemical monitoring in the Dniester) at one site per RBD at a frequency of once a year for one year in the first 6 year planning cycle. In terms of chemical operational monitoring no sites were reported to be monitored in the 4 RBDs.

Groundwater levels were monitored for quantitative status at a frequency of once a week every 3 years in the Danube and 12 times a year once every sixth year in the other 3 RBDs.

The RBMPs state that according to a 2009 Regulation of the Ministry of Environment the monitoring of Polish RBDs aims to detect long term **trends** but no detailed information was found on how programmes were designed to do this. According to the recent information provided by Poland<sup>21</sup>, the methodology for detecting significant trends has been developed in Poland, however due to the requirement of at least 8 years of monitoring data to be used in trend analysis it was not possible to assess the available data. The Polish authorities referred also to a simplified analysis, which was carried out but this only gave unreliable assessment of trends. No information was found on whether any transboundary monitoring or cooperation for groundwater bodies was taking place.

## **5.3 Monitoring of protected areas**

The RBMPs indicate that drinking water protected areas are included in groundwater surveillance and/or operational monitoring programmes and also in quantitative monitoring. However, it is not clear whether there is a separate (from WFD) monitoring programme for

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<sup>21</sup> Information not included in the reporting and provided after the reporting of the RBMPs

drinking water protection areas (DWPAs), and as to whether the monitoring is adequate or not in terms of protecting drinking water sources. It is also unclear on how many of monitored protected areas are at risk of failing the objectives of Habitat and Birds Directives. Polish authorities state in more recent information provided by Poland<sup>22</sup> that monitoring includes all of the physicochemical parameters listed in the Drinking Water Directive but no additional information has been provided.

RBD	Surface waters									Ground-water drinking water
	Surface drinking water abstraction	Quality of drinking water	Bathing water	Birds sites	Fish	Habitats sites	Nitrates	Shellfish	UWWT	
PL1000	0	0	0	0	0	2	0	0	6	0
PL2000	0	0	135	387	6	382	27	0	1521	236
PL4000	0	0	0	1	0	0	0	0	1	0
PL5000	0	0	1	0	2	3	0	0	4	0
PL6000	0	0	305	391	98	406	60	0	1264	212
PL6700	0	0	0	0	0	0	0	0	0	0
PL7000	0	0	9	24	0	15	2	0	73	8
PL8000	0	0	1	26	0	35	0	0	48	3
PL9000	0	0	0	1	0	1	0	0	1	0
<i>Total</i>	<i>0</i>	<i>0</i>	<i>451</i>	<i>830</i>	<i>106</i>	<i>844</i>	<i>89</i>	<i>0</i>	<i>2918</i>	<i>459</i>

**Table 5.3.1:** Number of monitoring sites in protected areas<sup>23</sup>

**Source:** WISE

<sup>22</sup> Information not included in the reporting and provided after the reporting of the RBMPs

<sup>23</sup> Number of sites calculated from data reported at site level. If no data reported at site level, then table supplemented with data reported at programme level.

## 6. OVERVIEW OF STATUS (ECOLOGICAL, CHEMICAL, QUANTITATIVE)

RBD	Total	High		Good		Moderate		Poor		Bad		Unknown	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
PL1000	8	0	0	0	0	1	12.5	1	12.5	0	0	6	75.0
PL2000	2158	16	0.7	48	2.2	236	10.9	44	2.0	39	1.8	1775	82.3
PL3000	5	0	0	0	0	0	0	0	0	0	0	5	100
PL4000	6	0	0	0	0	0	0	0	0	0	0	6	100
PL5000	8	0	0	1	12.5	2	25.0	0	0	0	0	5	62.5
PL6000	1470	9	0.6	26	1.8	136	9.3	36	2.4	30	2.0	1233	83.9
PL7000	207	2	1.0	4	1.9	26	12.6	4	1.9	2	1.0	169	81.6
PL8000	71	5	7.0	5	7.0	4	5.6	0	0	0	0	57	80.3
PL9000	3	0	0	0	0	1	33.3	0	0	0	0	2	66.7
<i>Total</i>	<i>3936</i>	<i>32</i>	<i>0.8</i>	<i>84</i>	<i>2.1</i>	<i>406</i>	<i>10.3</i>	<i>85</i>	<i>2.2</i>	<i>71</i>	<i>1.8</i>	<i>3258</i>	<i>82.8</i>

**Table 6.1:** Ecological status of natural surface water bodies

Source: WISE

RBD	Total	High		Good		Moderate		Poor		Bad		Unknown	
		No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
PL1000	3	0	0	0	0	1	33.3	0	0	0	0	2	66.7
PL2000	994	10	1.0	20	2.0	164	16.5	39	3.9	17	1.7	744	74.8
PL3000	0	0	0	0	0	0	0	0	0	0	0	0	0
PL4000	0	0	0	0	0	0	0	0	0	0	0	0	0
PL5000	0	0	0	0	0	0	0	0	0	0	0	0	0
PL6000	693	9	1.3	16	2.3	153	22.1	49	7.1	27	3.9	439	63.3
PL7000	14	1	7.1	0	0	1	7.1	0	0	1	7.1	11	78.6
PL8000	3	0	0	0	0	0	0	0	0	0	0	3	100
PL9000	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Total</i>	<i>1707</i>	<i>20</i>	<i>1.2</i>	<i>36</i>	<i>2.1</i>	<i>319</i>	<i>18.7</i>	<i>88</i>	<i>5.2</i>	<i>45</i>	<i>2.6</i>	<i>1199</i>	<i>70.2</i>

**Table 6.2:** Ecological potential of artificial and heavily modified water bodies

Source: WISE

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
PL1000	8	0	0	2	25.0	6	75.0
PL2000	2158	47	2.2	95	4.4	2016	93.4
PL3000	5	0	0	0	0	5	100
PL4000	6	0	0	0	0	6	100
PL5000	8	0	0	2	25.0	6	75.0
PL6000	1470	39	2.7	39	2.7	1392	94.7
PL7000	207	9	4.3	3	1.4	195	94.2
PL8000	71	7	9.9	0	0	64	90.1
PL9000	3	0	0	1	33.3	2	66.7
<i>Total</i>	<i>3936</i>	<i>102</i>	<i>2.8</i>	<i>142</i>	<i>3.6</i>	<i>3692</i>	<i>93.8</i>

**Table 6.3:** Chemical status of natural surface water bodies  
Source: WISE

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
PL1000	3	0	0	0	0	3	100
PL2000	994	23	2.3	92	9.3	879	88.4
PL3000	0	0	0	0	0	0	0
PL4000	0	0	0	0	0	0	0
PL5000	0	0	0	0	0	0	0
PL6000	693	26	3.8	45	6.5	622	89.8
PL7000	14	0	0	0	0	14	100
PL8000	3	1	33.3	0	0	2	66.7
PL9000	0	0	0	0	0	0	0
<i>Total</i>	<i>1707</i>	<i>50</i>	<i>5.8</i>	<i>137</i>	<i>8.0</i>	<i>1520</i>	<i>89.0</i>

**Table 6.4:** Chemical status of artificial and heavily modified water bodies  
Source: WISE

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
PL1000	2	2	100	0	0	0	0
PL2000	89	84	94.4	5	5.6	0	0
PL5000	1	1	100	0	0	0	0
PL6000	63	57	90.5	6	9.5	0	0
PL7000	3	3	100	0	0	0	0
PL8000	2	2	100	0	0	0	0
PL9000	1	1	100	0	0	0	0
<i>Total</i>	<i>161</i>	<i>150</i>	<i>93.2</i>	<i>11</i>	<i>6.8</i>	<i>0</i>	<i>0</i>

**Table 6.5:** Chemical status of groundwater bodies  
Source: WISE

RBD	Total	Good		Poor		Unknown	
		No.	%	No.	%	No.	%
PL1000	2	2	100	0	0	0	0
PL2000	89	73	82	16	18	0	0
PL5000	1	1	100	0	0	0	0
PL6000	63	50	79.4	13	20.6	0	0
PL7000	3	3	100	0	0	0	0
PL8000	2	2	100	0	0	0	0
PL9000	1	1	100	0	0	0	0
<i>Total</i>	<i>161</i>	<i>132</i>	<i>82</i>	<i>29</i>	<i>18</i>	<i>0</i>	<i>0</i>

**Table 6.6:** *Quantitative status of groundwater bodies*  
**Source:** WISE

RBD	Total	Global status (ecological and chemical)					Good ecological status 2021	Good chemical status 2021	Good ecological status 2027	Good chemical status 2027	Global exemptions 2009 (% of all SWBs)							
		Good or better 2009		Good or better 2015		Increase 2009 - 2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7				
		No.	%	No.	%	%	No.	%	No.	%	No.	%	%	%				
PL1000	11	0	0.0	2	18.2	18.2									0	0	0	0
PL2000	3152	10	0.3	72	2.3	2.0									35	1	0	2
PL3000	5	0	0.0	0	0.0	0.0									20	0	0	0
PL4000	6	0	0.0	0	0.0	0.0									0	0	0	0
PL5000	8	0	0.0	1	12.5	12.5									0	0	0	0
PL6000	2163	6	0.3	59	2.7	2.5									39	0	0	4
PL7000	221	0	0.0	2	0.9	0.9									32	0	0	1
PL8000	74	3	4.1	4	5.4	1.4									23	0	0	1
PL9000	3	0	0.0	1	33.3	33.3									0	0	0	0
<i>Total</i>	<i>5643</i>	<i>19</i>	<i>0.3</i>	<i>141</i>	<i>2.5</i>	<i>2.2</i>									<i>36</i>	<i>1</i>	<i>0</i>	<i>3</i>

**Table 6.7:** Surface water bodies: overview of status in 2009 and expected status in 2015, 2021 and 2027<sup>24</sup>

Waterbodies with good status in 2009 fall into the following category:

1. Ecological status is high or good and the chemical status is good, exemptions are not considered

Waterbodies expected to achieve good status in 2015 fall into the following categories:

1. Ecological status is high or good and the chemical status is good, exemptions are not considered

2. Chemical status is good, and the ecological status is moderate or below but no ecological exemptions

3. Ecological status is high or good, and the chemical status is failing to achieve good but there are no chemical exemptions

4. Ecological status is moderate or below, and chemical status is failing to achieve good but there are no ecological nor chemical exemptions

Note: Waterbodies with unknown/unclassified/Not applicable in either ecological or chemical status are not considered

Source: WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

<sup>24</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total	Ecological status					Good ecological status 2021		Good ecological status 2027		Ecological exemptions (% of all SWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015	No.	%	No.	%	Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%					%	%	%	
PL1000	8	0	0	2	25.0	25.0					0	0	0	0
PL2000	2158	64	3.0	186	8.6	5.7					35.5	0.2	0	2.0
PL3000	5	0	0	0	0	0					20.0	0	0	0
PL4000	6	0	0	0	0	0					0	0	0	0
PL5000	8	1	12.5	2	25.0	12.5					0	0	0	50.0
PL6000	1470	35	2.4	125	8.5	6.1					35.2	0	0	2.3
PL7000	207	6	2.9	24	11.6	8.7					30.0	0	0	1.0
PL8000	71	10	14.1	14	19.7	5.6					23.9	0	0	0
PL9000	3	0	0	1	33.3	33.3					0	0	0	0
<i>Total</i>	<i>3936</i>	<i>116</i>	<i>3.0</i>	<i>354</i>	<i>9.0</i>	<i>6.0</i>					<i>34.7</i>	<i>0.1</i>	<i>0</i>	<i>2.1</i>

**Table 6.8:** Natural surface water bodies: ecological status in 2009 and expected status in 2015, 2021 and 2027<sup>25</sup>  
**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

<sup>25</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total	Chemical status					Good chemical status 2021	Good chemical status 2027		Chemical exemptions (% of all SWBs)				
		Good or better 2009		Good or better 2015		Increase 2009 -2015				Art 4.4	Art 4.5	Art 4.6	Art 4.7	
		No.	%	No.	%	%				No.	%	%	%	%
PL1000	8	0	0	2	25.0	25.0					0	0	0	0
PL2000	2158	47	2.2	142	6.6	4.4					0	0	0	0
PL3000	5	0	0	0	0	0					0	0	0	0
PL4000	6	0	0	0	0	0					0	0	0	0
PL5000	8	0	0	2	25.0	25.0					0	0	0	0
PL6000	1470	39	2.7	78	5.3	2.7					0	0	0	0
PL7000	207	9	4.3	12	5.8	1.4					0	0	0	0
PL8000	71	7	9.9	7	9.9	0					0	0	0	0
PL9000	3	0	0	1	33.3	33.3					0	0	0	0
<i>Total</i>	<i>3936</i>	<i>102</i>	<i>2.6</i>	<i>244</i>	<i>6.7</i>	<i>4.1</i>					<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

**Table 6.9:** Natural surface water bodies: chemical status in 2009 and expected status in 2015, 2021 and 2027<sup>26</sup>

**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

<sup>26</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total	GW chemical status					Good chemical status 2021		Good chemical status 2027		GW chemical exemptions (% of all GWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015	No.	%	No.	%	Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%					%	%	%	%
PL1000	2	2	100	2	100	0					0	0	0	0
PL2000	89	84	94.4	88	98.9	4.5					0	1	0	0
PL5000	1	1	100	1	100	0					8	0	0	0
PL6000	63	57	90.5	58	92.1	1.6					0	0	0	0
PL7000	3	3	100	3	100	0					0	0	0	0
PL8000	2	2	100	2	100	0					0	0	0	0
PL9000	1	1	100	1	100	0					0	0	0	0
<i>Total</i>	<i>161</i>	<i>150</i>	<i>93.2</i>	<i>155</i>	<i>96.3</i>	<i>3.1</i>					<i>3</i>	<i>1</i>	<i>0</i>	<i>0</i>

**Table 6.10:** Groundwater bodies: chemical status in 2009 and expected status in 2015, 2021 and 2027<sup>27</sup>

**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

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<sup>27</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total	Groundwater quantitative status					Good quantitative status 2021		Good quantitative status 2027		GW quantitative exemptions (% of all GWBs)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015	No.	%	No.	%	Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%					%	%	%	%
PL1000	2	2	100	2	100	0					0	0	0	0
PL2000	89	73	82.0	74	83.1	1.1					9	15	0	0
PL5000	1	1	100	1	100	0					0	0	0	0
PL6000	63	50	79.4	50	79.4	0					6	24	0	0
PL7000	3	3	100	3	100	0					0	0	0	0
PL8000	2	2	100	2	100	0					0	0	0	0
PL9000	1	1	100	1	100	0					0	0	0	0
<i>Total</i>	<i>161</i>	<i>132</i>	<i>82.0</i>	<i>133</i>	<i>82.6</i>	<i>0.6</i>					<i>7</i>	<i>17</i>	<i>0</i>	<i>0</i>

**Table 6.11:** Groundwater bodies: quantitative status in 2009 and expected status in 2015, 2021 and 2027<sup>28</sup>  
**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

<sup>28</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total HMWB and AWB	Ecological potential					Good ecological potential 2021		Good ecological potential 2027		Ecological exemptions (% of all HMWB/AWB)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015	No.	%	No.	%	Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%					%	%	%	
PL1000	3	0	0	1	33.3	33.3					0	0	0	0
PL2000	994	30	3.0	130	13.1	10.1					11.6	1.0	0	0.7
PL5000	0	0	0	0	0	0					0	0	0	0
PL6000	693	25	3.6	105	15.2	11.5					21.5	0	0	3.3
PL7000	14	1	7.1	3	21.4	14.3					7.1	0	0	0
PL8000	3	0	0	0	0	0					0	0	0	0
PL9000	0	0	0	0	0	0					0	0	0	0
<i>Total</i>	<i>1707</i>	<i>56</i>	<i>3.3</i>	<i>239</i>	<i>14.0</i>	<i>10.7</i>					<i>15.5</i>	<i>0.6</i>	<i>0</i>	<i>1.8</i>

**Table 6.12:** Heavily modified and artificial water bodies: ecological potential in 2009 and expected ecological potential in 2015, 2021 and 2027<sup>29</sup>  
**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

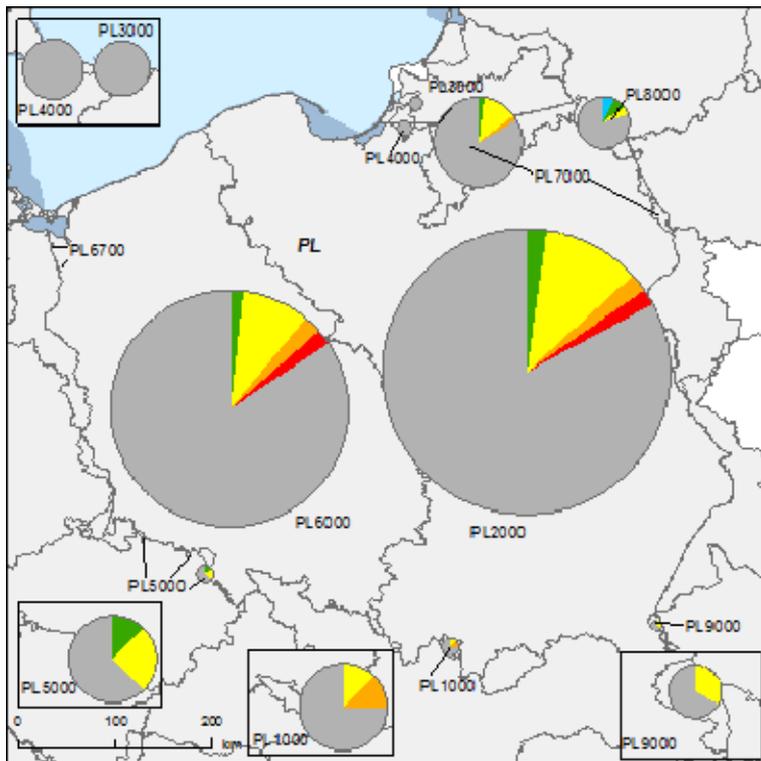
<sup>29</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.

RBD	Total HMWB and AWB	Chemical status					Good chemical status 2021		Good chemical status 2027		Chemical exemptions (% of all HMWB/AWB)			
		Good or better 2009		Good or better 2015		Increase 2009 -2015					Art 4.4	Art 4.5	Art 4.6	Art 4.7
		No.	%	No.	%	%	No.	%	No.	%	%	%	%	%
PL1000	3	0	0	0	0	0					0	0	0	0
PL2000	994	23	2.3	115	11.6	9.3					0	0	0	0
PL5000	0	0	0	0	0	0					0	0	0	0
PL6000	693	26	3.8	71	10.2	6.5					0	0	0	0
PL7000	14	0	0	0	0	0					0	0	0	0
PL8000	3	1	33.3	1	33.3	0					0	0	0	0
PL9000	0	0	0	0	0	0					0	0	0	0
<i>Total</i>	<i>1707</i>	<i>50</i>	<i>2.9</i>	<i>187</i>	<i>11.0</i>	<i>8.1</i>					<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

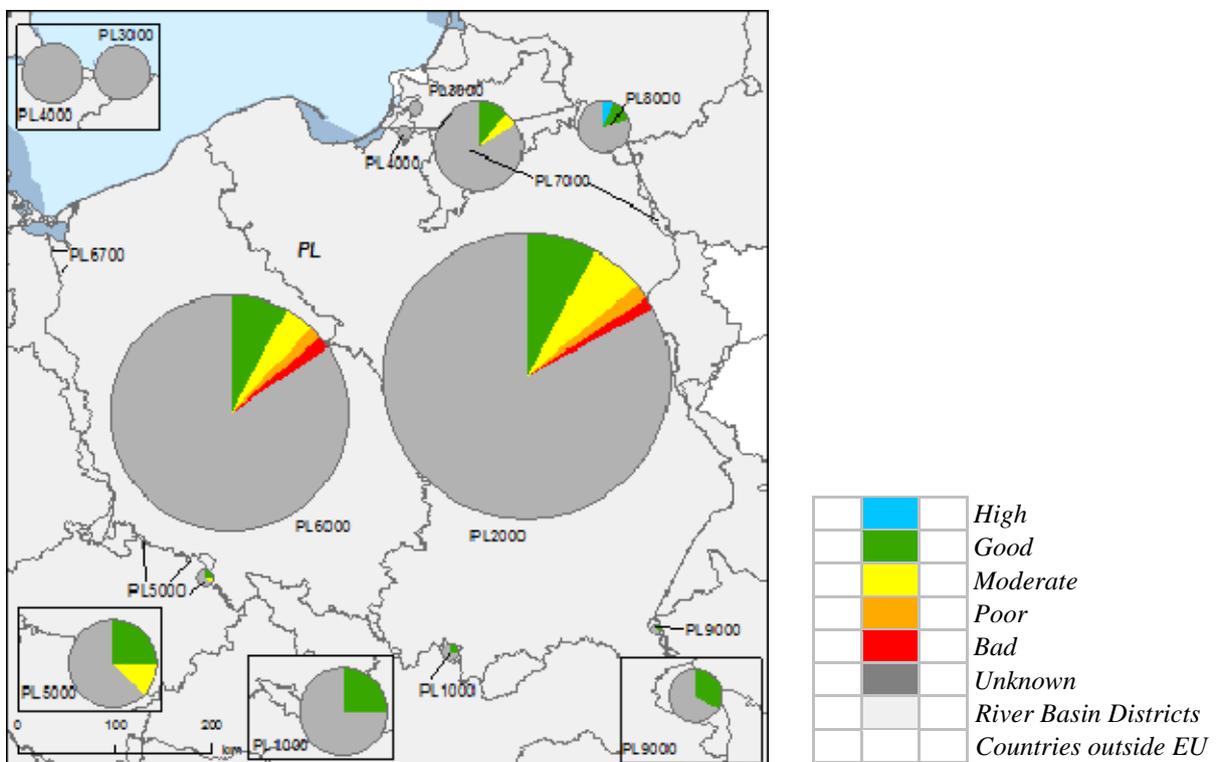
**Table 6.13:** Heavily modified and artificial water bodies: chemical status in 2009 and expected status in 2015, 2021 and 2027<sup>30</sup>

**Source:** WISE (for data on status in 2009, 2015 and exemptions) and RBMPs (for data on status in 2021 and 2027)

<sup>30</sup> Data for 2009 and 2015 extracted from WISE. Data for 2021 and 2027 established during the compliance assessment of the RBMPs.



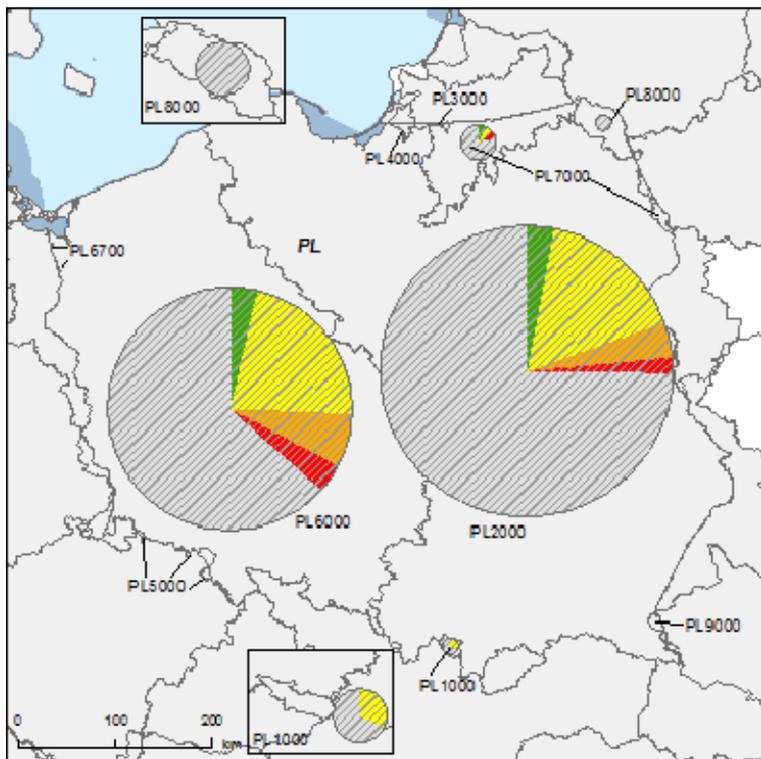
**Figure 6.1:** Map of ecological status of natural surface water bodies 2009



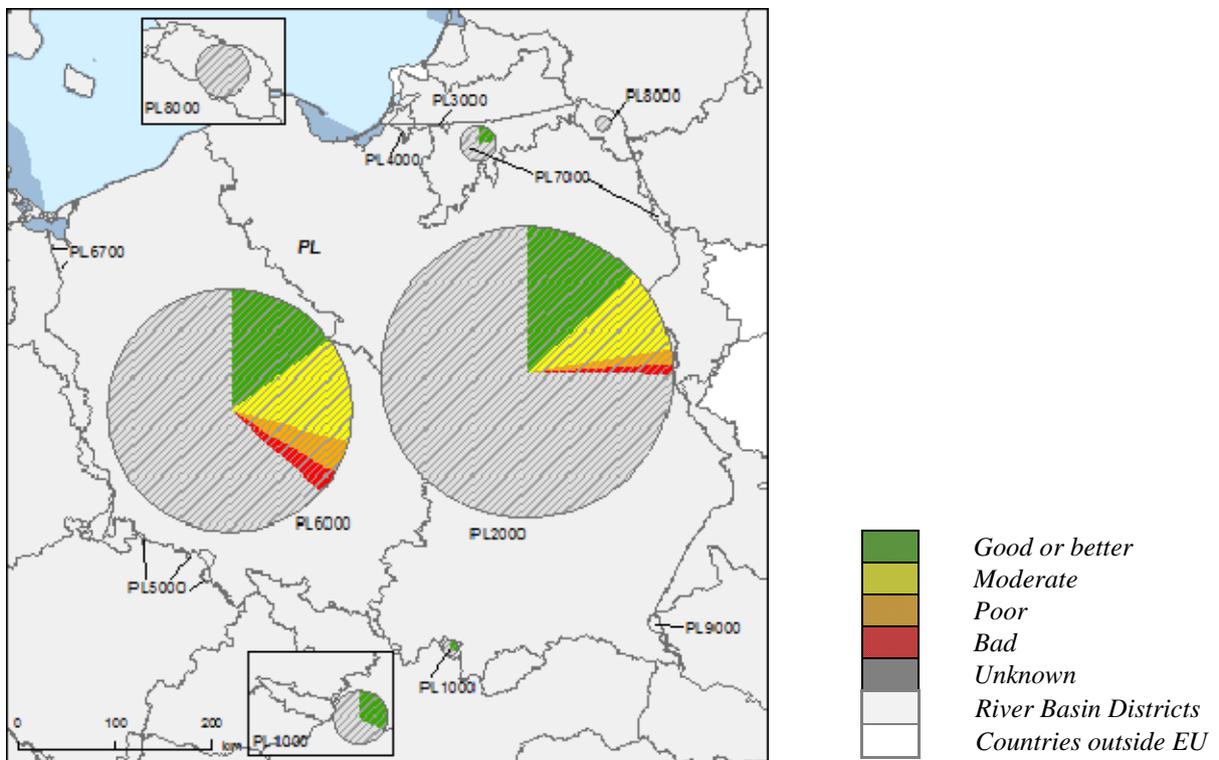
**Figure 6.2:** Map of ecological status of natural surface water bodies 2015

Note: Standard colours based on WFD Annex V, Article 1.4.2(i).

Source: WISE, Eurostat (country borders)



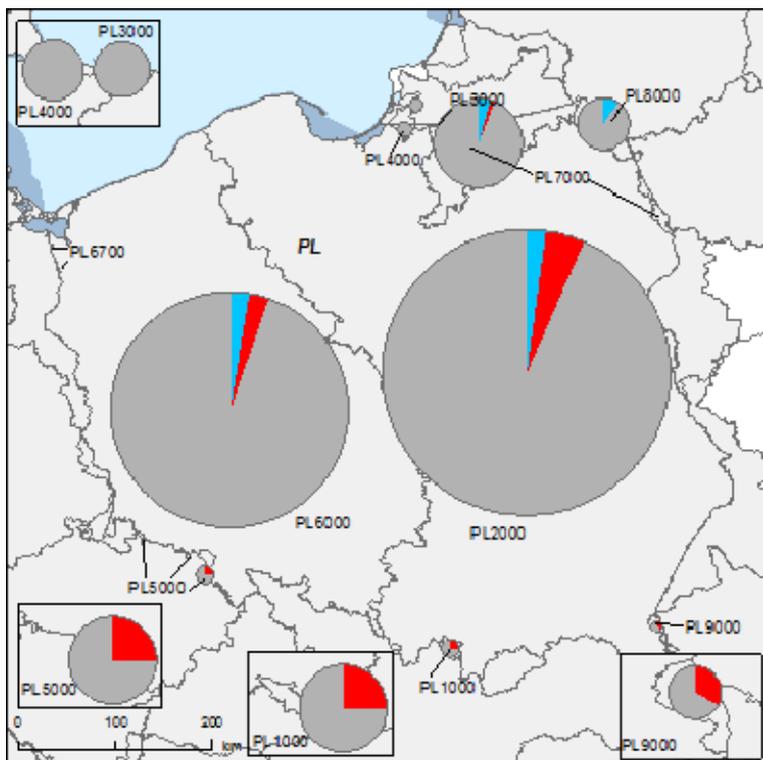
**Figure 6.3:** Map of ecological potential of artificial and heavily modified water bodies 2009



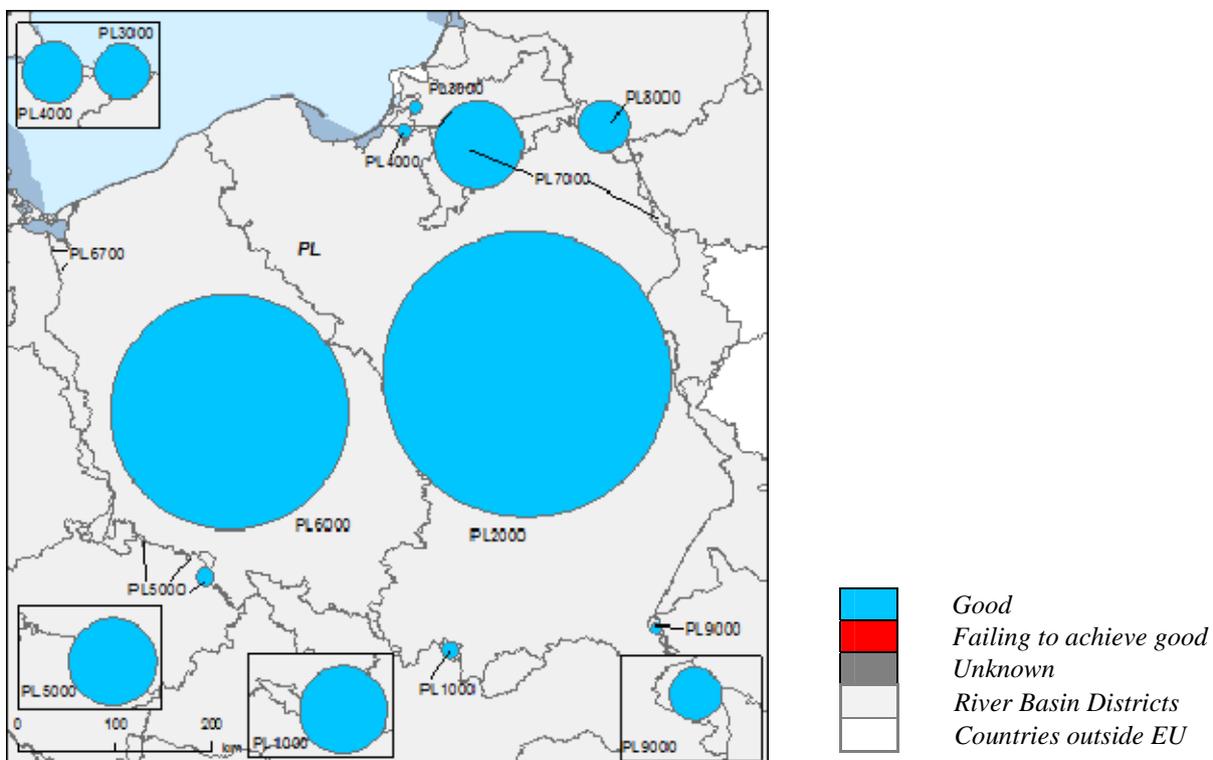
**Figure 6.4:** Map of ecological potential of artificial and heavily modified water bodies 2015

Note: Standard colours based on WFD Annex V, Article 1.4.2(ii).

Source: WISE, Eurostat (country borders)



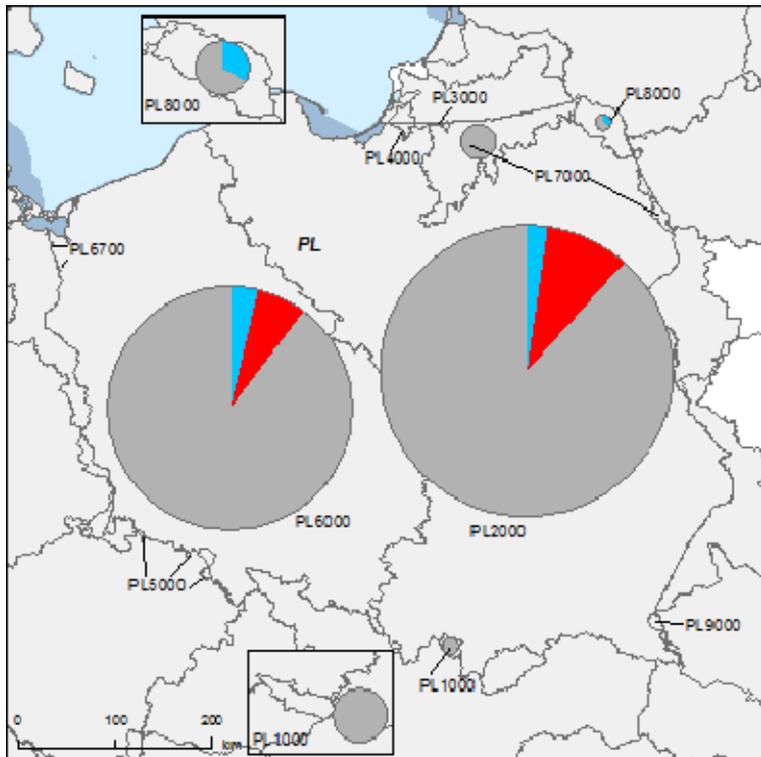
**Figure 6.5:** Map of chemical status of natural surface water bodies 2009



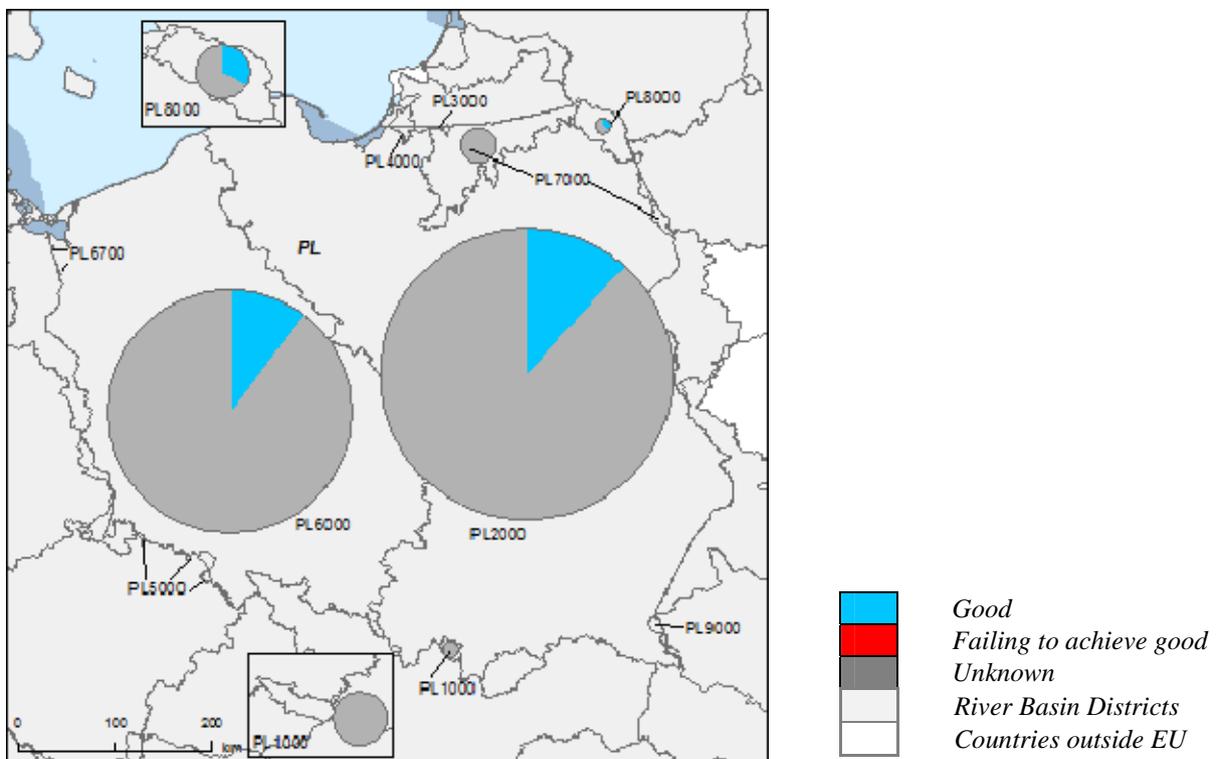
**Figure 6.6:** Map of chemical status of natural surface water bodies 2015

Note: Standard colours based on WFD Annex V, Article 1.4.3.

Source: WISE, Eurostat (country borders)



**Figure 6.7:** Map of chemical status of artificial and heavily modified water bodies 2009



**Figure 6.8:** Map of chemical status of artificial and heavily modified water bodies 2015  
 Note: Standard colours based on WFD Annex V, Article 1.4.3.

Source: WISE, Eurostat (country borders)

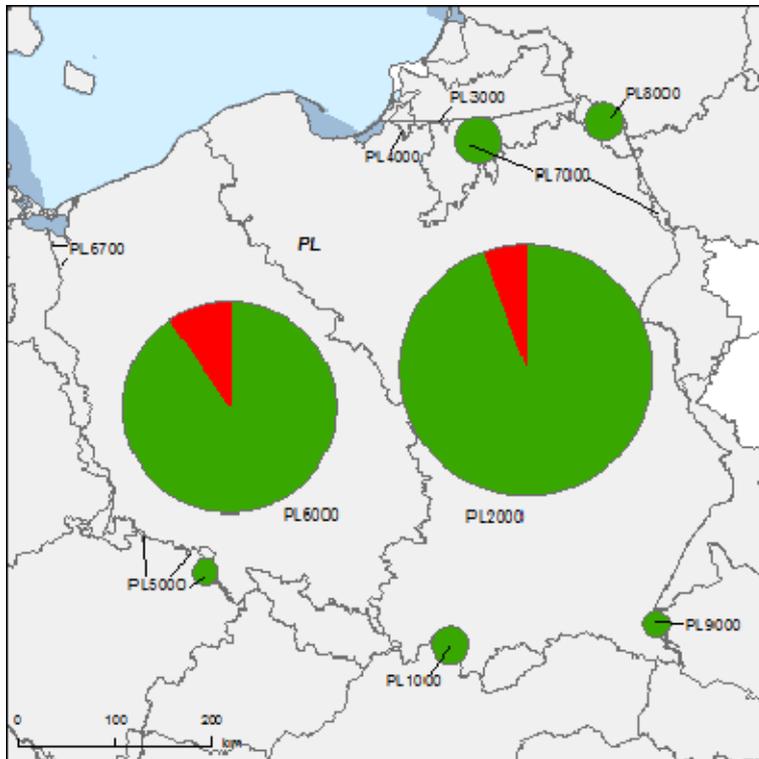
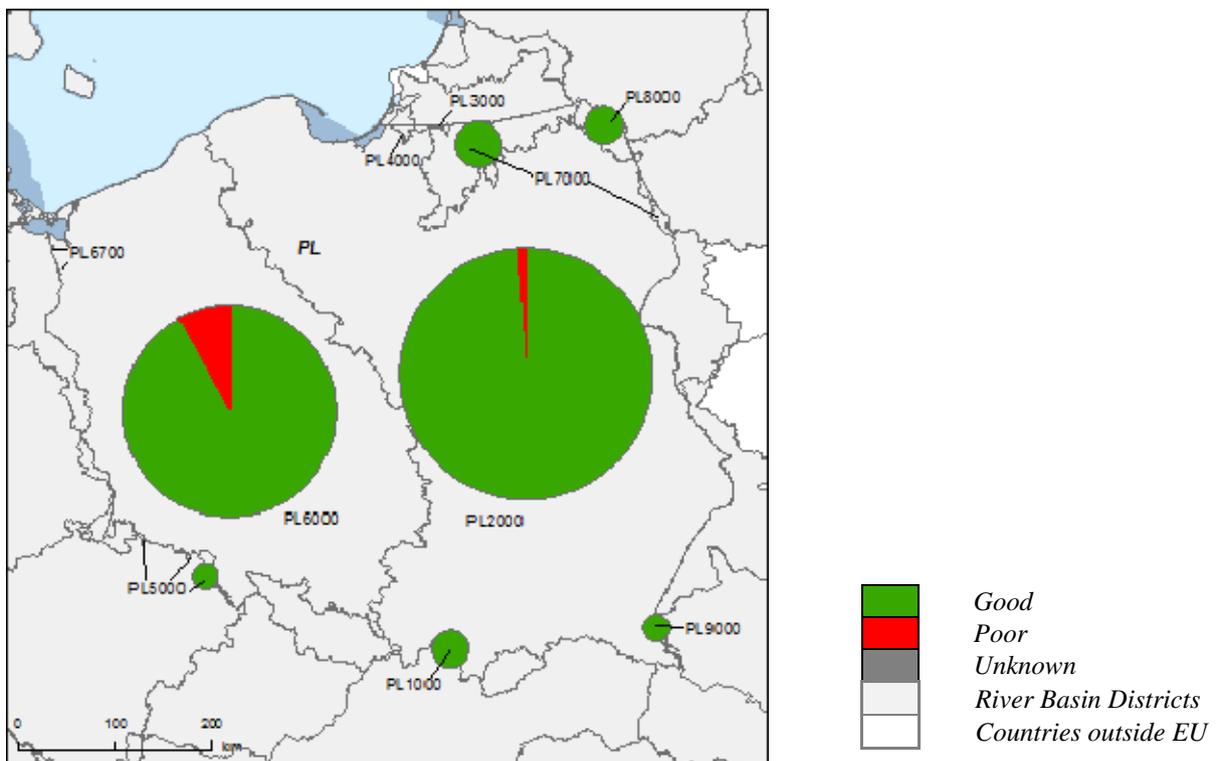


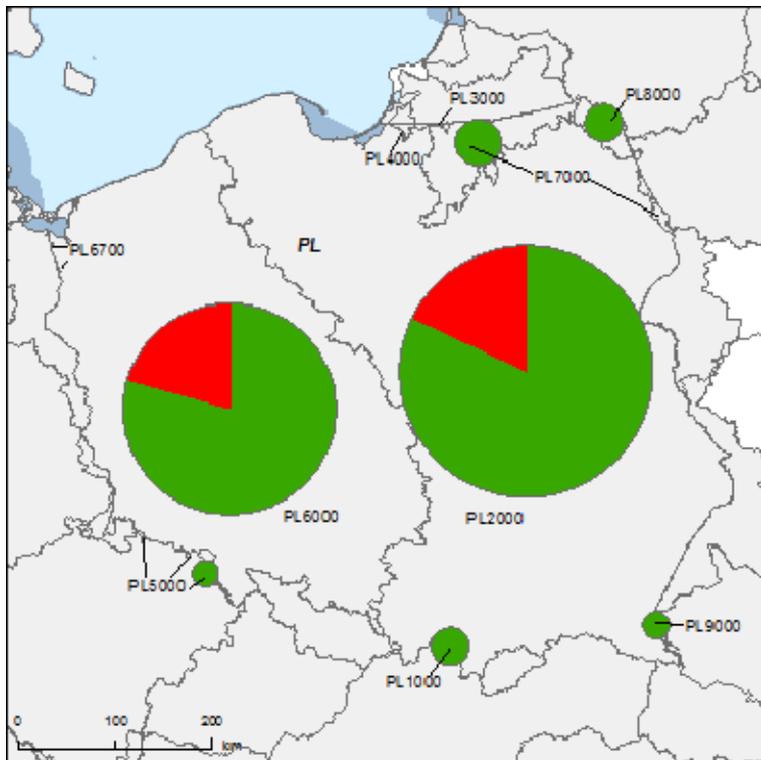
Figure 6.9: Map of chemical status of groundwater bodies 2009



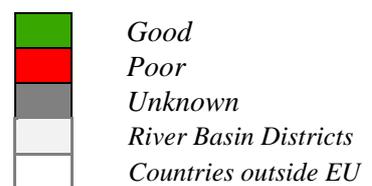
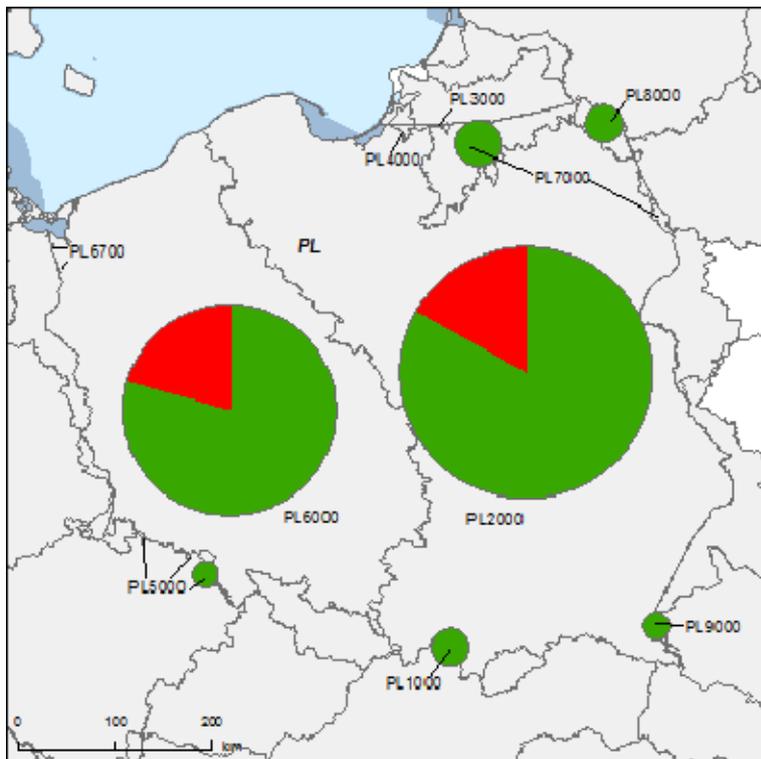
**Figure 6.10:** Map of chemical status of groundwater bodies 2015

Note: Standard colours based on WFD Annex V, Article 2.4.5.

Source: WISE, Eurostat (country borders)



**Figure 6.11:** Map of quantitative status of groundwater bodies 2009



**Figure 6.12:** *Map of quantitative status of groundwater bodies 2015*  
*Note: Standard colours based on WFD Annex V, Article 2.2.4.*  
**Source:** *WISE, Eurostat (country borders)*

## 7. ASSESSMENT OF ECOLOGICAL STATUS OF SURFACE WATERS

A national approach is followed for the ecological classification of surface waters.

### 7.1 Ecological status assessment methods

Limited information was found in the RBMPs or the background documents reported to WISE on the methods used for the classification of ecological status in terms of biological, hydromorphological and physicochemical quality elements. The RBMPs refer to a national regulation<sup>31</sup> that lists QEs and threshold values used in the classification and this was reported to WISE.

In Poland fully developed methods (i.e. WFD compliant) are currently available for phytoplankton in all 4 water categories<sup>32</sup>. For rivers fully developed methods were also available for macrophytes and phytobenthos but only partially developed methods for benthic invertebrates and no methods for fish. Fully developed methods for phytobenthos and macrophytes were also available for lakes but there were not methods for benthic invertebrates and fish. More recent information from Poland<sup>33</sup> indicates that since the publication of the RBMP that the method for benthic invertebrates in rivers had been fully developed. Additionally a method for benthic macroinvertebrates in lakes is currently being finalised, and methods for fish in rivers and lakes would be developed by the end of 2013. Biological methods are less well developed in transitional and coastal waters where only methods for phytoplankton were fully developed with no methods available for macroalgae and angiosperms in both categories, and also not for fish in transitional waters, and with methods for benthic invertebrates in both under development. No information was found on whether the biological assessment methods are able to detect the major pressures.

The methods for the **supporting physicochemical QEs** are developed for all relevant ones in rivers but only developed for some in lakes (acidification status missing<sup>34</sup>), transitional and coastal waters (thermal conditions for both and salinity for coastal waters are missing). There was no information as to whether or not there were any relationships between the biological QE class boundaries and the physicochemical QE class boundaries.

The **hydromorphological QEs** have not been used in the ecological classification of any of the water categories and that reference conditions have not yet been identified due to the lack of data.

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<sup>31</sup> National Regulation Dz.U.2008.162.1008, (Journal of Laws No. 162 Regulations of Minister of the Environment, of 20 August 2008 concerning the classification of the status of surface water bodies).

<sup>32</sup> But, no monitoring found on this for coastal and Transitional waters.

<sup>33</sup> Information not included in the reporting and provided after the reporting of the RBMPs.

<sup>34</sup> According to Polish authorities as pointed out after the RBMPs this parameter is useless in assessment of ecological status of Polish lakes.

Poland did not classify the ecological status/potential of its surface water bodies in terms of non-priority specific pollutants or other national pollutants with water bodies being reported as having unknown status. However, Poland has established 'water quality indicators' in terms of many non-priority specific pollutants such as copper and zinc. However, no information was found in the RBMP or supporting documents on how they were derived and whether or not they are equivalent to WFD compliant Environmental Quality Standards (EQS). However, the Polish Classification Regulations<sup>35</sup> indicates that the concentrations of the water quality indicators are expressed as 90 percentile concentrations which is not consistent with the WFD requirement for maximum and annual average concentrations being established for EQSs.

The **one-out, all-out principle** was used in the classification of ecological status though it is clear this was not based on the full set of quality elements required by the WFD. In spite of this **confidence** in the classification of some water bodies was reported as being high though there was no information on the methodology used to determine the confidence and precision.

Poland does not have classification systems for all national **water body types** in all water categories<sup>36</sup>.

In terms of the **intercalibration** of class boundaries for ecological status classification, there are 4 river common intercalibration types relevant to Poland that have been intercalibrated in terms of benthic invertebrates. The values in the national classification scheme are not consistent with the values given in the Intercalibration Decision perhaps reflecting that the river invertebrate assessment method was only partly developed. For lakes, 3 common types relevant to Poland have been intercalibrated for phytoplankton. From the available information the national classification boundaries are partly consistent with the Decision as the boundaries have not been transposed to all types equivalent to the common types. One of the 3 common intercalibration types for transitional and coastal waters relevant to Poland have been intercalibrated in terms of phytoplankton but the intercalibrated values have not been transposed to the relevant types in the national classification even though fully developed assessment methods for phytoplankton are available.

Since the publication of the RBMPs there has been a further EU intercalibration exercise which has included the intercalibration of the common transitional and coastal water types relevant to Poland. It is expected that the new results will be incorporated in the national classifications for future assessments.

The results of intercalibration have also not been applied to the classification boundaries of other national types that differ or slightly differ from the intercalibrated common types for all 4 water categories.

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<sup>35</sup> Although it is not clear which one has been applied (2008 or 2011).

<sup>36</sup> According to Polish authorities all water body types in all water categories have classification system but no supporting information has been provided.



RBD	Rivers						Lakes						Transitional						Coastal									
	Phytoplankton	Macrophytes	Phytobenthos	Benthic invertebrates	Fish	Physico-Chemical	Hydromorphological	Phytoplankton	Macrophytes	Phytobenthos	Benthic invertebrates	Fish	Physico-Chemical	Hydromorphological	Phytoplankton	Macroalgae	Angiosperms	Benthic invertebrates	Fish	Physico-Chemical	Hydromorphological	Phytoplankton	Macroalgae	Angiosperms	Benthic invertebrates	Physico-Chemical	Hydromorphological	
PL2000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
PL6000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
PL7000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PL8000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Table 7.1.1:** Availability of biological assessment methods

■	Assessment methods fully developed for all BQEs
■	Assessment methods partially developed or under development for all or some BQEs
■	Assessment methods not developed for BQEs, no information provided on the assessment methods, unclear information provided
-	Water category not relevant

Note: only the river basin management plans from the 4 named RBDs were assessed: there are 10 RBDs in Poland. No transitional or coastal waters in the Pregolya and Nemunas

Source: RBMPs

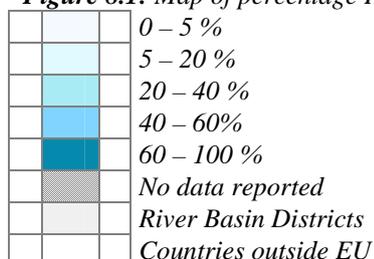
## 7.2 Application of methods and ecological status results

Rivers were classified in terms of phytoplankton, other aquatic flora and general physicochemical quality elements. All of these were included in surveillance monitoring but benthic invertebrates though monitored were not classified. Lakes were classified in terms of phytoplankton, and general physicochemical QEs. Of these only phytoplankton and general physicochemical QEs were monitored for surveillance purposes<sup>37</sup>. However macrophytes were also monitored in lakes. Transitional waters were classified in terms of phytoplankton, other aquatic flora and benthic invertebrates; and coastal waters in terms of phytoplankton, other aquatic flora and benthic invertebrates. There was no information on the surveillance monitoring of transitional and coastal waters.

## 8. DESIGNATION OF HEAVILY MODIFIED WATER BODIES (HMWB) AND ASSESSMENT OF GOOD ECOLOGICAL POTENTIAL



**Figure 8.1:** Map of percentage Heavily Modified and Artificial waterbodies by River Basin District



**Source:** WISE, Eurostat (country borders)

<sup>37</sup> According to Polish authorities all indicators were monitored for surveillance purposes but no supporting information has been provided.

Around 30% of surface water bodies have been designated as HMWB or AWBs in Poland.

## **8.1 Designation of HMWBs**

One of the supporting documents reported to WISE<sup>38</sup> specifies the following water uses navigation, including port facilities, recreation, storage for drinking water supply, storage for power generation, storage for irrigation, water regulation, flood protection, land drainage, construction (roads, railways, pipelines), urban development, fish ponds, water and wastewater discharges. The physical modifications leading to designation may include dams, reservoirs, bank reinforcement etc.

It is clear that there has been extensive technical work and detailed documentation on the process of designating HMWB in Poland though not much relevant information was published in the RBMPs. From the supporting technical documents it is apparent that the methodology used for the designated followed the stepwise approach of the CIS Guidance No. 4. Nevertheless there are no details on how the methodology has been applied and the reasoning behind its application. Therefore, it is not possible to assess how the designation of HMWB has been done.

There is no explicit mention of uncertainty in relation to the designation of HMWB in the RBMP and WISE summary. Recently Poland has informed the Commission<sup>39</sup> that work is underway on the verification of the methodology for designating heavily modified and artificial water bodies. It is expected that this will be completed by the end of 2012, and the results presented in the RBMPs in 2015. This provides the evidence that the designation of HMWB done should be reviewed.

## **8.2 Methodology for setting good ecological potential (GEP)**

HMWBs have been designated and the ecological potential of some (but nowhere near all) heavily modified water bodies has been reported, including some water bodies at high potential. However, no methodological information was found on how GEP has been defined nor on the next steps on how/when the methodology for GEP definition will be reported. Information from Poland to the Commission<sup>40</sup> since the publication of the RBMPs indicates that the so-called mitigation-measures (or Prague) approach has been adopted in the definition of GEP.

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<sup>38</sup> Uszczegółowienie metodyki w zakresie ostatecznego wyznaczenia silnie zmienionych i sztucznych części wód w Polsce.

<sup>39</sup> Information not included in the reporting and provided after the reporting of the RBMPs.

<sup>40</sup> Information not included in the reporting and provided after the reporting of the RBMPs.

## **9. ASSESSMENT OF CHEMICAL STATUS OF SURFACE WATERS**

### **9.1 Methodological approach to the assessment**

Over 92% (5212) of water bodies were reported with an unknown chemical status in Poland, 5% (279) less than good status and 3% (152) of good chemical status. The large percentage of unknowns indicates that priority substances were not being extensively monitored at the time of developing the RBMPs. However, the RBMPs state that the monitoring of surface water's chemical status was being expanded and in 2009 there was a monitoring screening exercise for all priority substances at 123 monitoring sites in Poland. Surveillance monitoring of all 33 priority substances was undertaken in 2011

At the time of publication of the RBMPs the Environmental Quality Standards (EQS) laid down in Part A of Annex I of the EQS Directive (2008/105/EC) had not been completely transposed into Polish law. More recently Poland has informed the Commission<sup>41</sup> that all of the provisions of the Directive have been included in the amended Regulation, including all EQSs. However, whilst all the concentration values for the EQSs are the same as given in the Directive, the MAC standards are compared to calculated 90 percentile values instead of maximum values which may give a less stringent and non-compliant assessment of chemical status.

The EQS Directive gives Member States the option of applying EQSs for sediment and/or biota instead of those laid down in Part A of Annex I in certain categories of water. From the revised Regulation mentioned above and information reported in the RBMP it appears that standards in biota and/or sediment are not applied. However, recent information provided by Poland indicates that 17 priority substances (including mercury) are monitored approximately once every 3 years in river and lake sediment.

Member States also have the option of taking into account natural levels and bioavailability of metals when assessing compliance with EQSs. From the revised Regulation these options are available for use in Poland when assessing compliance with EQSs for metals.

The EQS Directive also states that Member States may use mixing zones when establishing regulatory and compliance assessment regimes for discharges of priority substances. There was no indication in the RBMP or the revised Regulation that mixing zones are used in Poland.

## **10. ASSESSMENT OF GROUNDWATER STATUS**

All groundwater bodies were classified in terms of chemical and quantitative status. Monitoring programmes have been established for both chemical and quantitative status and all expected parameters are included. The assessment and confirmation of both statuses in groundwater bodies has included some but not all of the tests required by the Groundwater

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<sup>41</sup> Information not included in the reporting and provided after the reporting of the RBMPs.

Directive. Though there is a method established for detecting trends of pollutants in groundwater, no reliable trends have yet been detected because of a lack of a long enough time series of data. It is expected that this will improve in time for the next RBMP.

The assessment of groundwater status generally follows a national approach. In Poland 132 (82%) were reported to be at good quantitative status and 29 (18%) at poor status. The RBMPs report that the main reason for groundwater bodies not achieving good quantitative status is excessive, long-term consumption of groundwater that exceeds the resources available. 150 (93.2%) out of 161 groundwater bodies were reported to be at good chemical status and 11 (6.8%) at poor status. The chemicals causing failure of good chemical status were nitrates (6 GWB), ammonium (6 GWB), sulphate (3 GWB), conductivity (1 GWB) and chloride (1 GWB).

### **10.1 Groundwater quantitative status**

The assessment of groundwater quantitative status must ensure that there are no adverse impacts on associated surface waters and dependent terrestrial ecosystems and there are no anthropogenically induced saltwater or other intrusions in the GWB. Most of the criteria specified in Annex V of the WFD for the assessment have been considered with the exception of the effects of water level alterations or changes in flow conditions on the achievement of Article 4 objectives in associated surface water bodies.

### **10.2 Groundwater chemical status**

In 81 out of 161 GWBs there are threshold value exceedances at monitoring points and yet the GWB is considered to be at good chemical status according to the GWD.

However, no information was reported on which method/criteria had been applied to estimate the extent of the GWB which exceeds quality standards (QS) or threshold values (TV) and what extent of the GWB exceeding QSs or TVs is considered acceptable for confirming good groundwater chemical status.

The assessment of chemical status must ensure that there is no diminution of surface water chemistry and ecology for associated waters and no damage on groundwater dependent terrestrial ecosystems (GWDTEs) because of transfer of pollutants from the groundwater body. It is clear from documents supporting the RBMP that the assessment of associated surface waters was undertaken in Poland (with unclear methodology) but not the one relating to GWDTEs.

No information on the analysis of trends in pollution has been found.

The establishment of threshold values in Poland for the assessment of chemical status in groundwater bodies follows the guidelines given in the GWD and background levels of naturally occurring substances have also been considered, but it is not clear, how.

It is not known whether or not there has been coordination in the establishment of TV in transboundary GWB with neighbouring countries.

### **10.3 Protected areas associated with groundwater bodies**

As indicated below even though there are drinking water protected areas associated with groundwater bodies no information was reported on their status. The establishment of safeguard zones around water abstraction areas was also identified as one of the supplementary measures.

<b>RBD</b>	<b>Good</b>	<b>Failing to achieve good</b>	<b>Unknown</b>
PL1000			2
PL2000			78
PL5000			1
PL6000			61
PL7000			3
<i>Total</i>	<i>0</i>	<i>0</i>	<i>145</i>

**Table 10.3.1:** Status of groundwater drinking water protected areas  
No data reported for PL3000, PL4000, PL6700, PL8000 and PL9000  
**Source:** WISE

## 11. ENVIRONMENTAL OBJECTIVES AND EXEMPTIONS

- **Surface waters**

The Table below shows the number of surface water bodies with exemption from achieving the environmental objectives of the WFD according to Articles 4.(4) to (7).

### a) Ecological status/potential

RBD	Total surface water bodies	At least good status	less than good status	Unknown status	At least one exemption	Article 4(4) Technical feasibility	Article 4(4) Disproportionate costs	Article 4.4 Natural conditions	Article 4(5) Technical feasibility	Article 4(5) Disproportionate costs	Article 4(7)
Total	5643	172 (3%)	1014 (18%)	4457 (79%)	2176 (39%)	1287 (23%)	396 (7%)	747 (13%)	29 (1%)	23 (1%)	152 (3%)
PL1000	11	0	3 (27%)	8 (73%)	0	0	0	0	0	0	0
PL2000	3152	94 (3%)	539 (17%)	2519 (80%)	1167 (37%)	769 (24%)	14 (1%)	336 (11%)	24 (1%)	23 (1%)	66 (2%)
PL3000	5	0	0	5 (100%)	1 (20%)	0	0	1 (20%)	0	0	0
PL4000	6	0	0	6 (100%)	0	0	0	0	0	0	0
PL5000	8	1 (13%)	2 (25%)	5 (63%)	4 (50%)	0	0	0	0	0	4 (50%)
PL6000	2163	60 (3%)	431 (20%)	1672 (77%)	913 (42%)	508 (23%)	382 (18%)	332 (15%)	5 (1%)	0	79 (4%)
PL7000	221	7 (3%)	34 (15%)	180 (81%)	73 (33%)	9 (4%)	0	62 (28%)	0	0	2 (1%)
PL8000	74	10 (14%)	4 (5%)	60 (81%)	18 (24%)	1 (1%)	0	16 (22%)	0	0	1 (1%)
PL9000	3	0	1 (33%)	2 (67%)	0	0	0	0	0	0	0

**Table 11.1:** Ecological status/potential of surface water bodies

Source: WISE

There were no exemptions applied to surface water bodies in terms of chemical status.

**b) Quantitative status of groundwater bodies**

RBD	Total groundwater bodies	Good status	Poor status	unknown status	With at least one exemption	Article 4(4) Technical feasibility	Article 4(4) Natural conditions	Article 4(5) Technical feasibility
Total	161	132 (82%)	18 (29%)	0	40 (25%)	9 (6%)	3 (2%)	28 (17%)
PL1000	2	2 (100%)	0	0	0	0	0	0
PL2000	89	73 (82%)	16 (18%)	0	21 (24%)	7 (8%)	1 (1%)	13 (15%)
PL5000	1	1 (100%)	0	0	0	0	0	0
PL6000	63	50 (79%)	13 (21%)	0	19 (30%)	2 (3%)	2 (3%)	15 (24%)
PL7000	3	3 (100%)	0	0	0	0	0	0
PL8000	2	2 (100%)	0	0	0	0	0	0
PL9000	1	1 (100%)	0	0	0	0	0	0

*Table 11.2: Quantitative status of groundwater bodies*  
*Source: WISE*

**c) Chemical status of groundwater bodies**

RBD	Total groundwater bodies	Good status	Poor status	unknown status	With at least one exemption	Article 4(4) Technical feasibility	Article 4(4) Natural conditions	Article 4(5) Technical feasibility
Total	161	150 (93%)	11 (7%)	0	6 (4%)	1 (1%)	4 (2%)	1 (1%)
PL1000	2	2 (100%)	0	0	0	0	0	0
PL2000	89	84 (94%)	5 (6%)	0	1 (1%)	0	0	1 (1%)
PL5000	1	1 (100%)	0	0	0	0	0	0
PL6000	63	57 (90%)	6 (10%)	0	5 (8%)	1 (2%)	4 (6%)	0
PL7000	3	3 (100%)	0	0	0	0	0	0
PL8000	2	2 (100%)	0	0	0	0	0	0
PL9000	1	1 (100%)	0	0	0	0	0	0

*Table 11.3: Chemical status of groundwater bodies*  
*Source: WISE*

## **11.1 Additional objectives in protected areas**

There are protected areas in Poland which include drinking water protected areas, bathing waters and Natura 2000 sites and the supplementary measures to achieve at least good environmental status/potential have been set for those. Additional objectives (to achieve the status/potential beyond good) have not been established as clarified by Polish authorities, because they deem the objectives of WFD to often be higher than the objectives in the regulations regarding protected areas<sup>42</sup>. There has been No verification of the environmental objectives for protected areas in the first planning cycle. The authorities say that these activities are however planned in subsequent planning cycles.

## **11.2 Exemptions according to Article 4(4) and 4(5)**

**Article 4(4) and 4(5)** are summarised in RBMPs but there is no specific information on how each exemption have been applied. The investment projects for flooding protection, improvement and development and adaption of agriculture and forestry, economic development of the region and investments related to the mining industry which have an impact on GWBs which will lead to derogations under the WFD, are listed in RBMPs but there is no breakdown under which article the derogations are made for or the expected improvements in status/potential over each planning cycle. The exemptions applied under Article 4.4 and 4.5 are by water category, RBD and for the whole of Poland are presented in the Table above. This information was reported to WISE and a breakdown of the justifications for exemption from achieving the ecological status objectives under Articles 4(4) and 4(5) is graphically presented below. There were no exemptions reported in terms of achievement of good chemical status in surface waters.

The pollutants that are associated with the exemptions for chemical status in groundwater bodies were identified as following: Nitrates, Annex II pollutants, Conductivity, Ammonium, Chloride and Sulphate. In total 6 groundwater bodies were exempted from achieving good chemical status but some of them were exempted because of more than one pollutant.

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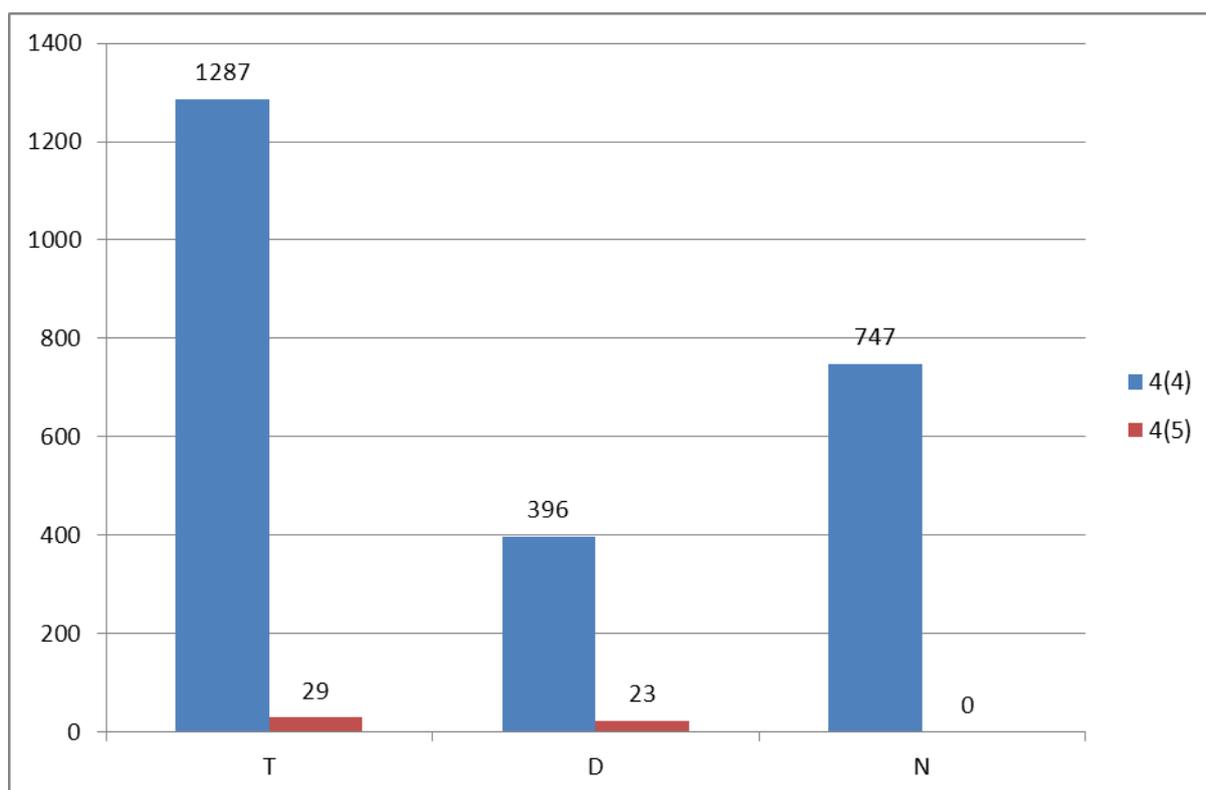
<sup>42</sup> According to the interpretation of Polish authorities.

RBD	Global <sup>43</sup>					
	Technical feasibility		Disproportionate costs		Natural conditions	
	Article 4(4)	Article 4(5)	Article 4(4)	Article 4(5)	Article 4(4)	Article 4(5)
PL1000	0	0	0	0	0	-
PL2000	769	24	14	23	336	-
PL3000	0	0	0	0	1	-
PL4000	0	0	0	0	0	-
PL5000	0	0	0	0	0	-
PL6000	508	5	382	0	0	-
PL7000	9	0	0	0	62	-
PL8000	1	0	0	0	16	-
PL9000	0	0	0	0	0	-
<i>Total</i>	<i>1287</i>	<i>29</i>	<i>396</i>	<i>23</i>	<i>747</i>	<i>-</i>

**Table 11.2.1:** Numbers of Article 4(4) and 4(5) exemptions  
**Source:** WISE

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<sup>43</sup> Exemptions are combined for ecological and chemical status.



**Figure 11.2.1: Numbers of Article 4(4) and 4(5) exemptions**

*T = Technical feasibility*

*D = Disproportionate costs*

*N = Natural conditions*

*Blue = Article 4(4) exemptions*

*Red = Article 4(5) exemptions*

**Source:** WISE

### **11.3 Exemptions according to Article 4(6)**

Article 4 (6) has not been applied.

### **11.4 Exemptions according to Article 4(7)**

The RBMPs refer to the Article 4(7) in terms of failure to achieve environmental objectives because of the implementation of new investments projects. Similarly as Article 4(4) and 4(5) derogations the RBMPs list the investment projects but there is no indication which ones are under Article 4(7) or regarding the expected improvements in status/potential.

However, the information in WISE indicates that a total of 162 exemptions under Article 4(7) were reported for 152 surface water bodies in Poland. 10 were because of sustainable human development and 152 were for new modifications.

No further information regarding implemented measures, justification or alternatives options for the exemptions under Article 4(7) were provided by Poland. No information on whether or not the cumulative effects were included in the assessment.

## **12. PROGRAMMES OF MEASURES**

According to Annex VII of the WFD, the RBMPs should contain a summary of the programmes of measures (PoM), including the ways in which Member States expect to achieve the objectives of Article 4 WFD. The programmes should have been established by 2009, but are required to become operational only by December 2012. The assessment in this section is based on the PoM as summarised by the Member State in its RBMP, and the compliance of this with the requirements of Article 11 and Annex VII of the WFD.

It therefore does not include a comprehensive assessment of compliance with the requirements of Article 11(3)<sup>44</sup> on basic measures. It focuses in particular on key sets of measures. Member States will report to the Commission by December 2012 on the full implementation of their PoMs, including on the progress on the implementation of basic measures as required by Article 11(3). The Commission will assess what Member States report and will publish its assessment in accordance with Article 18 WFD.

### **12.1 Programme of measures (PoM) – general**

Poland reported programmes of measures, however the basis for the selection of measures is unclear as well as it is not clear whether cost-effectiveness analysis of measures has been carried out. Recent clarifications added by Poland<sup>45</sup> explain that development of PoM was preceded by identification of measures together with an analysis of cost-effectiveness and indication and the reasons for the need for derogation. Further work involved the identification of measures for specific water bodies.

Measures were not based on the status assessment of water bodies. When selecting measures for each of the water bodies, risk assessment results and assessment of their impact on water status were primarily used, as well as the provisions of existing laws, programmes and documents implementing these provisions, in meeting the requirements imposed on Poland and fulfilling the tasks set out in EU legislation. The public consultation of relevant water management issues was taken into account. The Polish authorities also recently informed the Commission that in the final version of the PoM, the requirements of Article 11 of WFD regarding protected areas were taken into account.

Measures are reported in terms of the main pressures and impacts identified in the RBMPs. However, there is often a lack of information on how measures were selected and on links between pressures/uses and measures. Because of gaps and shortcomings in some of the methods available to assess and classify water status (e.g. no monitoring of hydromorphology and incomplete monitoring and assessment of chemical status) it is uncertain whether or not all identified pressures will be tackled effectively by the reported programmes of measures.

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<sup>44</sup> These are the minimum requirements to be complied with and include the measures required under other Community legislation as well as measures to achieve the requirements of other WFD Articles and to ensure appropriate controls on different activities affecting water management.

<sup>45</sup> Information not included in the reporting and provided after the reporting of the RBMPs.

There is no information regarding the international coordination in the setting of the Programme of Measures for RBDs in Poland.

Measures are said to be implemented on a number of levels, including national level, RBD, sub-basin or water body level. A number of authorities/bodies share responsibility for the implementation of measures in Poland. These include national, regional and local authorities, enterprises, farmers, individuals and land or objects owners.

The costs of measures in Poland have been estimated to be PLN10.7 billion (approximately €2.8 billion)<sup>46</sup>. These costs can be found presented for sub-basins, regional water management bodies, river basins and water regions in the Access database<sup>47</sup> provided as a part of PoM document (not referenced in RBMP). No information has been presented in terms of costs per measure; however costs were presented by sector, including agriculture, household, industry and others. The RBMPs define the costs which will be paid for by the government<sup>48</sup>. It also lists public bodies and facility owners as those who are obliged to provide the funding without explicitly saying how much will be paid by those public and private bodies. Some specific projects which contribute towards the implementation of WFD through the national planning and development together with their costs and information on how they will be funded are presented in RBMPs. Most of these have very clearly defined costs and who will finance them. Some of them have exact indication of the costs where others total values and list of institutions that will finance the activity without specific cost values against each of them.

It is not clear when measures will be operational; the various actions envisaged in the programme are divided by the deadline of their implementation, i.e., for periods up to the end of 2005, 2010, 2013, or 2015. There was also no information on how the effectiveness of measures will be monitored.

## **12.2 Measures related to agriculture**

The pressures on water from agriculture include: pressures on water quality from diffuse source of pollutant such as nutrients and eutrophication.

Farmers were included in the general consultation process but no specific approach was taken for the agricultural sector

Technical measures which were selected to address pressures included: reduction or modification of fertiliser and pesticide application, hydromorphological measures and water saving measures by construction of drainage and irrigation of agricultural land and verification of licenses abstraction of water and reduction of groundwater abstraction for

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<sup>46</sup> According to Polish authorities as pointed out after the RBMPs reporting the cost is estimated to be 20.495.217.200 PLN – approximately 5.4 Billion€ - but no supporting information has been provided.

<sup>47</sup> <http://www.kzgw.gov.pl/pl/Program-wodno-srodowiskowy-kraju.html>

<sup>48</sup> According to Polish authorities as pointed out after the RBMPs reporting, the cost summary for particular actions together with information about institutions responsible for their implementation occur in the attachment 2 to The National Program of (Access base, task table zd).

industry and agriculture. Non-technical measures included implementation and enforcement of existing older EU legislation including Nitrates Directive, Sewage Sludge Directive, Plant Protection Products Directive and IPPC Directive, Advice and training on the specific method of application of fertilisers and conducting training of its use/handling, development of specific action plans/programmes and technical standards.

The scope of the recommended measures is reported to relate to the geographical area and sector/sub-sector. Some information regarding the timing of implementation are also included.

Some potential sources of funding are listed in RBMPs indicating how some of the measures will be financed. This also includes funds from the Rural Development Programmes. The Access dB<sup>49</sup> provided as a part of Water and Environment Programme<sup>50</sup> (not referenced in RBMP) provides more details regarding the funding including the for agriculture sector as a whole; however, no information has been presented in terms of costs per measure.

The Water and Environment Programme lists the key actions which will allow the achievement of good water status by 2015.

The Table below summarises the measures in relation to agriculture that were included in 4 RBMPs in Poland.<sup>51</sup>

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<sup>49</sup> <http://www.kzgw.gov.pl/pl/Program-wodno-srodowiskowy-kraju.html>

<sup>50</sup> <http://www.kzgw.gov.pl/pl/Program-wodno-srodowiskowy-kraju.html>

<sup>51</sup> According to Polish authorities as pointed out after the RBMPs reporting, detailed information on actions taken to prevent erosion occur in the attachment 2 (Access base) and the attachment 6 to the National Program of Measures. These actions are dedicated to Oder and Vistula under the Act of 3 February 1995 on agricultural and forest land protection. According to the Act the owner of the agricultural land and of the land recultivated for agricultural purposes is obliged to prevent soil degradation, in particular erosion and massive land movements. Additionally the National Program of Measures contains among all controlling actions and increasing of farmers' environmental awareness.

Measures	PL2000	PL6000	PL7000	PL8000
<b>Technical measures</b>				
Reduction/modification of fertiliser application	✓		✓	✓
Reduction/modification of pesticide application	✓	✓	✓	✓
Change to low-input farming (e.g. organic farming practices)				
Hydromorphological measures leading to changes in farming practices	✓	✓	✓	✓
Measures against soil erosion				
Multi-objective measures (e.g. crop rotation, creation of enhanced buffer zones/wetlands or floodplain management)				
Technical measures for water saving	✓	✓		
<b>Economic instruments</b>				
Compensation for land cover				
Co-operative agreements				
Water pricing specifications for irrigators				
Nutrient trading				
Fertiliser taxation				
<b>Non-technical measures</b>				
Additions regarding the implementation and enforcement of existing EU legislation	✓	✓	✓	✓
Institutional changes				
Codes of agricultural practice				
Farm advice and training	✓	✓	✓	✓
Raising awareness of farmers				
Measures to increase knowledge for improved decision-making				
Certification schemes				
Zoning (e.g. designating land use based on GIS maps)				
Specific action plans/programmes	✓	✓	✓	✓
Land use planning				
Technical standards	✓	✓	✓	✓
Specific projects related to agriculture				
Environmental permitting and licensing				
Additions regarding the implementation and enforcement of existing EU legislation				

**Table 12.2.1:** Types of WFD measures addressing agricultural pressures, as described in the PoM

Note: only the river basin management plans from the 4 named RBDs were assessed: there are 10 RBDs in Poland.

Source: RBMPs

### 12.3 Measures related to hydromorphology

Water flow regulation, weirs, land drainage, abstraction for hydropower, abstraction for water supply, barriers, land sealing, flood defence dams and river dredging were identified as

significant pressures. Hydromorphological measures were reported, however no details were provided on the selection methodology. There was also no explicit link between pressures/uses and measures. Therefore, it seems to be inconsistency on stating hydromorphology as a significant pressure but scarce efforts on measures related to hydromorphology. Measures include construction of fish ladders, removal of structures such as weirs, barriers, bank reinforcement and an inspection of water management in the possession of licenses and inspections intervention.

Limited information is provided in RBMPs on the expected improvements due to the hydromorphological measures. This includes e.g. biological continuity of rivers and increased the diversity of fish and other aquatic organisms of rivers will be improved by creating fish passages or partial or complete removal of weirs, dams etc.

There is a clear evidence that hydromorphological measures are planned in HMWB, however it is only mentioned in general terms that these will be carried out e.g. WISE Summary states that ensuring continuity of rivers and streams through the patency of rivers by removing objects forming a barrier to fish migration in heavily modified bodies is planned in the RBD of Vistula. Implementation of measures for heavily modified and artificial water bodies was preceded by the development of a comprehensive program of river patency in order to provide the condition for the migration of species of special interest. The result only became available in 2010 and will be taken into account in the second planning period. Definition of an ecologically based flow regime has not been provided in RBMP and no specific measures have been reported to achieve an ecologically based flow regime.

Measures	PL2000	PL6000	PL7000	PL8000
Fish ladders	✓	✓		
Bypass channels				
Habitat restoration, building spawning and breeding areas				
Sediment/debris management				
Removal of structures: weirs, barriers, bank reinforcement	✓	✓	✓	✓
Reconnection of meander bends or side arms				
Lowering of river banks				
Restoration of bank structure				
Setting minimum ecological flow requirements				
Operational modifications for hydropeaking				
Inundation of flood plains				
Construction of retention basins				
Reduction or modification of dredging				
Restoration of degraded bed structure				
Remeandering of formerly straightened water courses				

**Table 12.3.1:** Types of WFD measures addressing hydromorphological pressures, as described in the PoM  
**Source:** RBMPs

## **12.4 Measures related to groundwater**

In terms of quantitative status basic and supplementary measures are implemented to tackle groundwater over-exploitation. Basic measures include verification of abstraction licenses and users of water, especially in areas where there is a need for a significant reallocation of water resources and where restrictions in the consumption of water for purposes other than social and living, food and pharmaceutical products may be needed. There is no mention of artificial recharge or augmentation of groundwater bodies.

The supplementary measures include annual reports on measurements of the quantity and quality of water collected, discharged, injected and dehydrated, along with a range of depression cone, in mining areas as a condition of permits issued for the use of water, isolation outbreaks of impurities (e.g., heaps and heaps coal mining, landfills); monitoring for potential pollution sources (industrial plants, farms and livestock rearing) and closed areas, degraded and mining; effective implementation of the rationalization of water consumption in industrial plants by the obligation to use good quality water, drainage from the mine for the purpose of social and living conditions; rational management of water intended for consumption by seeking and documentation and verification of the power of water, especially in areas with a significant reallocation of groundwater.

In terms of chemical status, measures were put in place to prevent input of pollutants under other Directives (plant protection products, IPPC, SEVESO II) and to limit inputs into groundwater of any hazardous substance from diffuse or point sources and any non-hazardous substance from point sources and to prevent losses from technical installations and prevent significant losses of pollutants from technical installations. There is scarce information on the link between pressures and selection and application of measures.

No information on transboundary coordination has been found. According to the additional information provided by Poland, the study has been carried out and there were no negative impacts on cross-border environment.

It is not clear whether there are measures for groundwater bodies where TVs are exceeded in some monitoring points but status is still considered good.

## **12.5 Measures related to chemical pollution**

No information was found regarding an inventory of sources of pollution. However according to the additional information recently provided by Poland, the obligation of recording information on discharges containing hazardous substances priority lies with the Inspectorate for Environmental Protection, which runs the National Register of Pollutant Release and Transfer. According to Polish Water Law, the director of RWMB needs to prepare water emission inventories of priority substances and other causing pollution set environmental quality standards. In accordance with the requirements of Directive 2008/105/EC, the lists will be prepared for the first time by 31 December 2013.

It was not clear from the RBMP whether the chemical pollution is a significant factor however the following pressures that contribute to the chemical pollution were reported:

mining activities, wastewater discharges, landfills, accidental contamination of soil and water as point sources and agriculture, wastewater discharges as diffuse pollution.

The programme of measures reports measures to tackle chemical pollution from industrial emissions, waste deposits on land/fields and from households.

In terms of industrial emissions, measures included: the development of a programme to prevent major accidents in industrial plants, construction of a National Register of dangerous facilities, establishment of standards for emissions of chemical substances in discharges to water or sewer facilities, issuing permits for the discharge of waste containing chemical substances, the development of special programs to reduce emissions of priority hazardous substances and to reduce water pollution by hazardous substances (schedule II of Directive 76/464/EEC).

In terms of waste deposits on land/fields, the following measures were reported: additional monitoring points to determine groundwater quality, targeted surveillance monitoring, systematic rehabilitation and redevelopment of sites previously used as a landfill.

In terms of households, the following measures were reported: development of an inventory of septic tanks and sewage treatment plants, monitoring of compliance with the conditions of the emission limit values for pollutants, the use of authorised plant protection products and, to obtain an integrated permit for pollution prevention etc.

However no information has been found on the substance specific measures.

According to the additional information provided to the Commission by Poland, Annex 6 of PoM document lists measures to prevent pollution and control IPPC (obtaining permission for an integrated pollution prevention and control by companies carrying out activities listed in the Regulation on the types of installations which may cause significant pollution of the environment or environmental elements j as a whole; monitoring of compliance with the conditions of the emission limit values of pollutants) and prevention of pollution by certain dangerous substances (the elimination of pollution by priority hazardous (List I) and dangerous substances (List II) (by: a census of discharges containing these substances, establishing emission standards of these substances in discharges to water or sewage facilities, issuing permits for the discharge of wastewater containing these substances, the development of programs aimed at reducing water pollution) and control of the implementation of Directive 2006/11/EC and Directive 80/68/EEC by Inspectorate.

## **12.6 Measures related to Article 9 (water pricing policies)**

- The definition of water services provided in RBMPs covers water and sewerage services in the municipal sector provided by legal entities involved in water supply, collection and treatment of sewage or the provision of both of these services. However in the economic analysis of water uses in RBD a broader range of water services was taken into account within the calculation of cost recovery of water services (derange, impoundment for hydropower, industrial and agriculture self-abstraction, pollutant release, services for inland navigation). Households' self-abstraction has not been taken into account.

- RBMPs identify following water uses: public water supply and waste water treatment, industry, agriculture and forestry, and "indirect water use" such as: floods protection, inland navigation, hydropower, recreation.
- The above mentioned analysis does not take into account the development of mining sector (the analysis predicts reduction in water abstraction for mining sector in 2015) related to shell gas extraction, which is a high water consuming technology.
- Cost recovery levels were calculated for public water supply & waste water treatment, industry and agriculture. According to Polish authorities, there were some methodological and analytical attempts undertaken to calculate cost recovery for other forms of water usage.
- Environmental and resource costs were calculated. Environmental costs were based on studies of A. Markowska of 2003 (not reference in the RBMP) by contingent valuation method, which determine the average willingness to pay for improving water quality. Allocation of environmental costs between the various sectors was achieved by the division of responsibility according to the structure of pollutants discharged by the different sectors.
- The resource costs were calculated by the determination of the quantitative deficit of water resources in the unit i.e. country, RBD, Regional Water Management Board (RMBD) and then specific unit values were assigned to the loss of benefits as a result of water deficit (in PLN/m<sup>3</sup> water deficit per year). A zero value was assigned in Poland for the resource costs as a result of analysis but also due to assumption made and lack of the data. Further work is planned (data collection and further estimates).
- It was reported that subsidies were only approximately 1% of water supply in 2006 in Poland.
- The enforcement of the polluter pays principle is described for water uses in the following sectors: householders, industry and agriculture. The polluter-pays principle has been taken into account in the recovery of the costs of water services with reference to the pressure and impact study. The principle 'polluter-pays' is especially strictly enforced for the industry sector.

Although there is no detailed information reported, it is mentioned that water-pricing policies were introduced to provide adequate incentives for users to use water resources efficiently. Also that current water pricing policies provide adequate incentives through the volumetric charging and water metering and price elasticity for water demand (adjusting unit rates). Polish legal system however allows for some exemption from water abstraction and waste water release fees, resulting from the Act of 27 April 2001 - Environmental Protection Law for energy, agricultural irrigation and filling fish ponds. There are as well no charges for water services related to hydropower, despite the fact that environmental costs have been identified. There is a clear statement in the analysis that agriculture does not comply with polluter pays principle. However introduction of charges for consumption of cooling water and for agriculture is planned but no details on how and when this will be done are provided.

- No information has been found on whether the provision of Article 9(4) or flexibility provisions of Article 9 has been used concerning agriculture and energy (cooling) and hydropower sectors

## **12.7 Additional measures in protected areas**

The water bodies and protected areas needing additional measures are not clearly identified in the RBMPs and no information on the type and magnitude of the additional measure(s) was given in the PoM.

No additional measures have been included to reach the more stringent objectives of the Birds Directive, Habitats Directive, Shellfish Directive, Fresh Water Fish Directive or Bathing Water Directive. Safeguard zones to protect drinking water abstraction areas have been established, however no further information has been provided.

These measures should have been included in the Plan. In particular if there are additional objectives, there should be additional measures.

## **13. CLIMATE CHANGE ADAPTATION, WATER SCARCITY AND DROUGHTS AND FLOOD RISK MANAGEMENT**

### **13.1 Water Scarcity and Droughts**

Local / sub-basins water scarcity is a phenomenon that characterise all assessed Polish RBDs except for Nemunas, when local / sub-basins droughts characterise all of them. Both, water scarcity and droughts were not clearly defined as pressures in the RBMPs however past and current over-allocation of available water resources, water shortages caused by e.g. mining activities and increased air temperature and evapotranspiration in spite of a slightly increased precipitation was reported. Also, in some of the RBMPs measures to deal with the negative effects of drought were reported. In 2012, two out of seven Regional Water Management Boards started preparatory activities to develop draft plans to counter the effects of drought.

Water demand trend scenarios were not provided in RBMPs. Information on water availability and prospective resources of groundwater were presented in the form of a Table divided by different regions, however only one value per region was provided rather than trends.

Measures to deal with water scarcity and drought include: improvement of the efficiency of water agricultural uses, reduction of losses in urban distribution networks, reduction / management of groundwater abstraction (e.g. by controls, registers), modification of the water pricing system to foster a more efficient use of water.

No international coordination on water scarcity or droughts was mentioned.

## **13.2 Flood Risk Management**

Floods are mentioned in RBMP in a number of places e.g. increased flooding is listed under climate change scenarios. Flood defence, dams, dredging weirs, weirs, land drainage, barriers, land sealing, were identified as significant hydromorphological pressures in Poland.

Article 4 (6) has not been applied.

The RBMPs refer to the Article 4(7) in terms of failure to achieve environmental objectives because of the implementation of new investments projects and lists those projects but there is no indication which ones are exemptions under Article 4(7). However a number of them relate to flood protection.

No further information regarding implemented measures, justification or alternatives options for the exemptions under Article 4(7) were provided by Poland. No information on whether or not the cumulative effects were included in the assessment.

The State Water Policy Programme till 2030 (including the stage of 2016) as one of the objectives states the completion of work on the foundations of the implementation of Floods Directive 2007/60/EC.

## **13.3 Adaptation to Climate Change**

A separate chapter was included in RBMP about the climate change. Climate change scenarios focus on change in temperature and precipitation. Drought and flood risks were mentioned in relation to adaptation to climate change.

A climate check of the programme of measures has not been carried out. However, the RBMP states that the predicted climate change will not be significant to any actions identified, but for the purpose of future plans research on climate change will be undertaken.

## **14. RECOMMENDATIONS**

- On the basis of the analysis of the RBMPs prepared by Poland, important shortcomings include; i) a large number of infrastructure projects on water management planned in the river basins of Poland but no application of environmental protection measures and no reference to Article 4; often the projects are not even mentioned in the RBMPs, ii) the limited approach of the monitoring programmes, iii) the little control of chemical pollution, and iv) no monitoring of the effectiveness of measures.
- The information reported to WISE should be improved and made more comprehensive. For example, the quality elements monitored should be reported for each monitoring site rather than just at the aggregated monitoring programme level. Effort should also be made to ensure that information reported to WISE is consistent with that in the RBMPs.

- Further work is required to make the monitoring, assessment and classification of surface water and groundwater status fully compliant with the requirements of the WFD, EQS and Groundwater Directives. The biological assessment methods for all surface water categories in Poland should be fully intercalibrated at the EU level.
- Only little improvement of the water status is expected by 2015 and the objectives for subsequent plans are not always clear. Objectives should be clearly indicated and transparent in order to be able to reach good status of waters in a reasonable timeframe.
- Where there are currently high uncertainties in the characterisation of the RBDs, identification of pressures, and assessment of status, these need to be addressed in the current cycle, to ensure that adequate measures can be put in place before the next cycle.
- The designation of HMWBs should comply with all the requirements of Article 4(3). The assessment of "significant adverse effects" on their use or the environment and the lack of "significantly better environmental options" should be specifically mentioned in the RBMPs. This is needed to ensure the transparency of the designation process.
- The method for the determination of good ecological potential in heavily modified and artificial water bodies should be transparent and clearly reported. There seems to be no understanding of how the methodology should be applied.
- Exemptions from the achievement of good ecological status by 2015 have been widely applied in Poland, and mostly under Article 4(4). While the WFD does provide for exemptions, specific criteria must be fulfilled for their use to be justified. The application of exemptions needs to be more transparent and the reasons for the exemptions should be clearly justified in the plans.
- The high number of exemptions applied in these first RBMPs is a cause for concern. Poland should take all necessary measures to bring down the number of exemptions for the next cycle, including the needed improvements in the characterisation process, monitoring networks and status assessment methods, as well as reducing significantly the degree of uncertainties.
- It is unclear whether there are other new physical modifications planned in RBMPs apart from those reported in the RBMPs. If this is the case, the use of exemptions under Article 4(7) should be based on a thorough assessment of all the steps as requested by the WFD, in particular an assessment of whether the project is of overriding public interest and whether the benefits to society outweigh the environmental degradation, and regarding the absence of alternatives that would be a better environmental option. Furthermore, these projects may only be carried out when all possible measures are taken to mitigate the adverse impact on the status of the water. All conditions for the application of Article 4(7) in individual projects must be included and justified in the RBMPs as early in the project planning as possible.
- River basin specific pollutants need to be identified, with clear information on how they have been selected, how and where they are being monitored, where there are exceedances and how such exceedances will be taken into account in the assessment of

ecological status. It is important that there is an ambitious approach to combatting chemical pollution and that adequate measures are put in place.

- The monitoring of priority substances should be sufficient to allow chemical status to be determined for a much higher proportion of water bodies. The correct statistical calculations should be done when assessing compliance with the MACs. The plans should make clear which priority substances are being monitored where, and in which matrix. Mercury, hexachlorobenzene and hexachlorobutadiene should be monitored in biota unless an equally protective EQS has been established in water. The trend monitoring apparently being carried out in sediment or biota should include the substances in EQSD Article 3(3) and will need to be reflected in the next RBMP.
- On groundwater, it is important to have a clear methodology on how exceedances of threshold values are handled in the assessment of groundwater chemical status. Furthermore, a methodology for trend analysis should be in place, even if it was not possible yet to carry out such an analysis during the first RBMP, in order to be sure that this will be done in the second RBMP, and to link groundwater protection measures with the relevant pressures.
- Meaningful information regarding the scope, the timing and the funding of the measures should be included in the PoM so that the approach to achieve the objectives is clear and the ambition in the PoM is transparent. All the relevant information on basic and supplementary measures should be included in the summary of the PoM to ensure transparency on the planned actions for the achievement of the environmental objectives set out in the WFD.
- The adopted measures in the PoM are not based on the status assessment of water bodies. This is the result of the absence of fully developed status assessment methods and classification systems in Poland at the time of publication of the RBMPs. Poland should urgently improve these methods, which will allow, together with a cost-effectiveness analysis, a selection of the measures based on the current status, and will improve the definition of the measures. The monitoring of the effectiveness of measures should also be done in the current RBMP.
- More information should be provided regarding the programme of measures. In particular there is a need for a clear link between pressures and measures, a clear identification of the costs of measures, who is responsible for their implementation and on how their effectiveness will be monitored. More effort should be put in identifying and linking the whole cycle of the planning process, in particular regarding the monitoring network.
- Agriculture is indicated as exerting a significant pressure on the water resource in all Polish RBDs. This should be translated into a clear strategy that defines the basic/mandatory measures that all farmers should adhere to and the additional supplementary measures that can be financed. This should be developed with the farming community to ensure technical feasibility and acceptance. There needs to be a very clear baseline so that farmers know the rules and the authorities in charge of the CAP funds can adequately set up Rural Development programmes and cross compliance water requirements.

- In terms of measures related to Article 9, a narrow approach to water services was applied. The cost-recovery should address a broad range of water services, including impoundments, abstraction, storage, treatment and distribution of surface waters, and collection, treatment and discharge of waste water, also when they are 'self-services', for instance self-abstraction for agriculture. The cost recovery should be transparently presented for all relevant user sectors, and environment and resource costs should be included in the costs recovered. Information should also be provided on the incentive function of water pricing for all water services, with the aim of ensuring the efficient use of water. Information on how the polluter pays principle has been taken into account should be provided in the RBMPs.