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COMMISSION STAFF WORKING DOCUMENT

**International Cooperation under the Water Framework Directive (2000/60/EC) -
Factsheets for International River Basins**

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) and the Floods
Directive (2007/60/EC)**

**Second River Basin Management Plans
First Flood Risk Management Plans**

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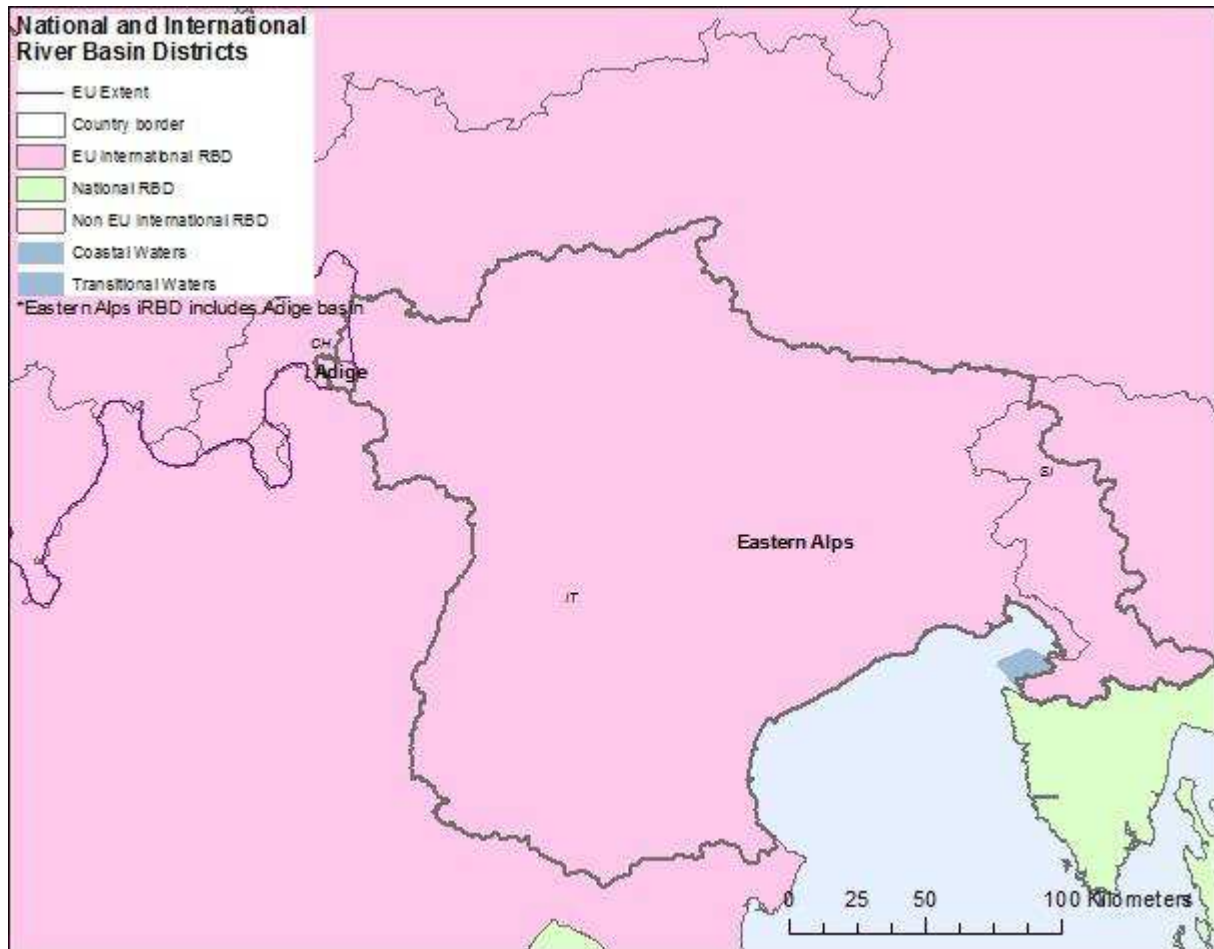
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2. International River Basins - category 2

2.1. Adige/Etsch River Basin

2.1.1. General Information

Map 2.1.1 Adige/Etsch International River Basin



Source: WISE reporting 2016

The Adige/Etsch International River Basin is shared by Italy and Switzerland. Italy reported to WISE that the Eastern Alps RBD is Category 2 basin, indicating that an agreement and joint body is in place but no international RBMP.

Adige/Etsch is part of the Eastern Alps River Basin District in Italy. The Adige/Etsch is the largest catchment in the Eastern Alps river basin district, representing close to one-third of its territory. The Adige/Etsch River Basin is shared with Switzerland; however, with only 1 % (approximately 186 km²) of the catchment in Switzerland and 99 % of the catchment in Italy. The Eastern Alps River Basin District includes at least one other international catchment: the Isonzo/Soca, shared with Slovenia.

Italy reported information to WISE for the entire Eastern Alps River Basin District. As this RBD comprises two international river basins, it is not clear to what extent the information reported applies specifically to the shared Adige/Etch catchment. Switzerland, as non-EU Countries, did not report to WISE under the WFD.

According to the website of the Eastern Alps RBD, the Adige River basin has a total area of approximately 12,100 km². The transboundary portion is represented by the Rio Ram basin (also called Rio Rom or the Rombach) that springs at the Ofen Pass (Ofenpass) in Switzerland and, crossing the Val Müstair (also called the Münstertal and the Monastero), flows after 21 km into the River Adige.

2.1.2. International Cooperation

International cooperation between Italy and Switzerland is governed by several international agreements including the Convention concerning the protection of Italian-Swiss waters against pollution, which was concluded on 20 April 1972. With this agreement, the Swiss Federal Council and the Italian Government have decided to work closely together to protect Italian-Swiss surface and groundwater from pollution, insofar as they contribute to polluting the common waters listed below¹:

- Lake Lugano (Ceresio)
- Lake Maggiore (Verbano) - Water courses that mark the border or cross it, as in particular the Doveria (VS-I)
- The Melezza (TI-I)
- The Giona (TI-I)
- The Tresa (TI-I)
- The Breggia (TI-I)
- Mera (GR-I)
- Poschiavino (GR-I), and
- Spöl (GR-I).

The Contracting Governments have established the Joint Commission for the protection of Italian-Swiss waters against pollution. The Adige (and the Rio Rom/Ram) is not specifically mentioned, but it is addressed in documents of the Joint Commission. The cooperation framework for Adige/Etch has not changed since the first river basin management cycle.

The website of the Italian-Swiss Commission mentions an Action Plan for the protection of Italian-Swiss Waters. It defines the strategic guidelines and objectives of the Commission, as well as the consequent lines of action, aimed at achieving the protection of the common waters from pollution and the improvement of the ecological quality of lakes. The plan

¹ Website of the Joint Commission for the protection of Italian-Swiss waters against pollution: <http://www.cipais.org/html/commissione.asp>

identifies a strategy with objectives and activities to be implemented during the reference period of the Plan. The Commission organizes and carries out all necessary research to determine the origin, nature and importance of pollution, enhancing the data obtained. The strategy does not include a joint warning system for cooperation on accidental pollution events.

Information regarding joint activities within the international river basin is limited. Based on the information included in the Eastern Alps RBMP and reported to WISE, the two countries do not appear to cooperate on all elements of WFD implementation, such as joint delineation of water bodies, typology coordination, establishment of reference conditions, joint identification of pressures, etc.²

2.1.3. Recommendations

- Overall, the coordination within the international river basin district is restricted to specific topics. Information on cooperation with Switzerland is not provided in the Eastern Alps RBMP. Italy did not report to WISE information specific to its international sub-basins, which includes areas not part of Adige/Etsch. For the next management cycle, it is recommended that the information reported to WISE is specific to the international basin to enable obtaining a clearer view on what joint activities may be taking place.
- Furthermore, as Italy and Switzerland decided not to develop a joint management plan, it is recommended that Italy includes a section in its RBMP on international coordination efforts to increase transparency. Such a chapter should also include clear information on the specific topics where the two countries are coordinating, e.g. coordination on addressing pressures (beyond the Action Plan on Lakes).

² Italy informed subsequently that, due to the fact that water quality of the water bodies in the Swiss territory is good and no relevant pressures were identified, the information is still sufficient to provide an overview on possible water issues.

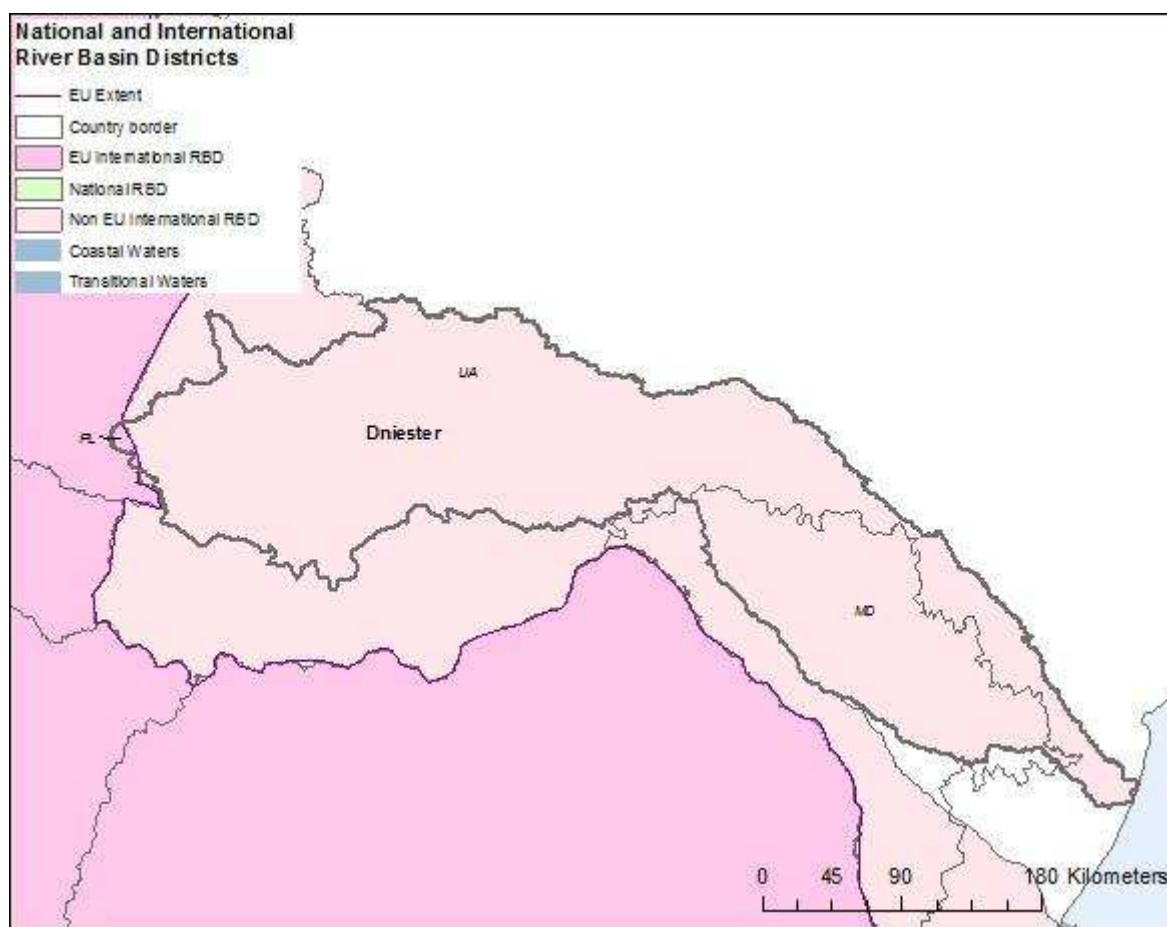
Italy moreover noted that in the context of the public consultation carried out for the Strategic Environmental Assessment procedure [of the Eastern Alps RBMP] and of the more general cross-border coordination in implementation of Article 3.5 of the WFD, Italy has formally involved Austria, Slovenia and Switzerland. In order to facilitate cross-border consultation with neighbouring states, a specific document concerning the shared portions of the district and any related issues was elaborated and forwarded. The document can be downloaded from the site: <http://www.alpiorientali.it/direttiva-2000-60/primo-aggiornamento-del-piano-2015-2022.html>

As indicated in this document, the ecological and chemical status of the Rio Rom are good and no relevant pressures have been identified.

2.2. Dniester International River Basin District

2.2.1. General Information

Map 2.2.1 Map of the Dniester International River Basin District



Source: WISE reporting

The Dniester International River Basin District (iRBD) is shared between Poland, Ukraine and Moldova. The iRBD is allocated to cooperation Category 3, which means that an international agreement is in place, but there is no permanent co-operation body or international WFD RBMP.

The Dniester River is a transboundary river 1380 km long, which starts in the Ukraine, flows through Moldova and reaches the Ukraine again near the Black Sea. The upper and lower reaches of the Dniester flow within Ukraine, totalling a length of 629 km. Another 225 km of the river is shared by Ukraine and Moldova, while 475 km are within the borders of Moldova. Only a very small upper part of the Strviash River (a tributary of the Dniester) lies within the territory of Poland. The basin of the 1,362-km long river Dniester is commonly considered shared by Ukraine and the Republic of Moldova, as the share of Poland is very small (233.06

km²). According to the UNECE Second Assessment on transboundary water bodies³, only 0.322 % of Dniester iRBD lies within Poland.

The only EU Member State in the iRBD, Poland was the only country required to report to WISE. As such, this report does not include tables or figures based on WISE reporting as a comparison with the other iRBD sharing countries cannot be made.

2.2.2. International Cooperation

International cooperation in the basin is carried out bilaterally. The cooperation framework in the iRBD is based on the following bilateral agreements:

- Agreement between the Government of Ukraine and the Government of Poland on Cooperation in the Field of Water Management in Frontier Waters (signed in 1996). This agreement established the Ukrainian-Polish Commission.
- Agreement between the Government of the Republic of Moldova and the Government of Ukraine on the joint management and protection of the cross-border waters in 1994.

In June 2017, Ukraine and Moldova ratified the Treaty on Cooperation in the Field of Protection and Sustainable Development of the Dniester River Basin which is set to enhance cooperation. The Treaty identifies principles and provides a framework for cooperation on water pollution prevention and control, water flow regulation, conservation of biodiversity and protection of the Black Sea environment. It also addresses the monitoring of data exchange, public participation and cooperation in emergency situations. The Treaty significantly broadens the existing cooperation arrangements to cover the entire river basin and all sectors relevant to the management and protection of the shared waters.

According to the Polish Dniester RBMP, the Ukrainian-Polish Commission has 5 working groups: 1) planning of transboundary waters; 2) protection of border waters against pollution; 3) flood control regulations and drainage; 4) combating extraordinary pollution; and 5) hydrometeorology and hydrogeology. The key areas of cooperation between Poland and the Ukraine are:

- joint monitoring;
- hydromorphology;
- pollution (pressures/measures assessment point source pollution and/or diffuse source pollution);
- coordinated/shared databases and/or GIS;
- flood risk management; and
- joint communication strategy and public participation activities.

³ Available at: <https://www.unece.org/?id=26343>

There is a website⁴ devoted to the cooperation between Moldova and Ukraine to improve sustainable management of the Dniester River basin. It was developed in the frame of the UNECE / OSCE / UNEP project Action Programme to improve transboundary cooperation and sustainable management of the Dniester River basin (Dniester III) within the Environment and Security Initiative (ENVSEC). The key cooperation activities according to the 1994 Agreement are:

- ensure that all hydroengineering, water protection and flood control facilities associated with the cross-border water systems are maintained in proper technical condition;
- agree on the operation regime for these hydroengineering facilities and planned water protection and management actions and work together to address financial issues associated with the priority actions;
- inform each other about the implementation of water protection and management actions that are perceived to have effect on composition and properties of cross-border waters, notify each other about accidents and emergency situations, and hold joint consultations on these issues;
- ensure that the hydrometeorological observations in the cross-border sections are carried out in a systematic and methodically homogeneous manner and the data are exchanged regularly;
- jointly develop plans for integrated management and protection of water resources or water balances that take account of actual quality of cross-border waters;
- if and where necessary, take joint actions to manage and protect water resources;
- cooperate in developing methods and techniques designed to prevent water pollution and adverse impacts on water resources, and ensure their sustainable management;
- take measures required to maintain the appropriate water levels in water bodies in order to ensure the optimal regime for drinking water supplies, fisheries and ecosystem's biodiversity conservation purposes; and
- assess the state of biological resources, establish the agreed upon management regime and harvesting limits for stocks available in water bodies within an area under the jurisdiction of Contracting Parties.

The Agreement further states that the competent authorities of the Contracting Parties define the principles of cooperation with respect to the regular exchange of information, hydrological and water quality forecasts for cross-border water systems; and specify the scope and programme of measurements and observations, relevant measurement techniques and data processing methods, locations and timeframes for these activities.

⁴ <http://dniester-basin.org/>

During 2004–2005, the OSCE and the UNECE implemented a project that resulted in a “Transboundary Diagnostic Study for the Dniester River Basin” and established a network of stakeholders (Dniester I). The project “Transboundary cooperation and sustainable management in the Dniester River basin: Phase III – Implementation of the Action Programme” (Dniester-III) started in 2009 with the support of the Swedish and Finnish governments. The aim of the project is to improve cooperation between Moldova and Ukraine on joint management of the Dniester River basin (Agreement between the Government of the Republic of Moldova and the Government of Ukraine on the Joint Use and Protection of the Cross-Border Waters). There is no specific mention of water body delineation but the website indicates that the diagnostic study from 2005 should meet the requirements of the article 5 of the WFD."

There was also an action programme to improve transboundary cooperation and sustainable management of the Dniester river basin for the period 2007-2010, which outlined a concrete framework for the development of bilateral cooperation and management at the river basin level for a period of four years. The action plan contained four main tasks: 1) improvement of the legal and institutional basis for cooperation; 2) development of cooperation on disaster prevention and management, and on the drinking water quality and public health; 3) creation of a joint information system for the Dniester River basin using GIS technologies; and 4) development of scientific cooperation and involvement of the public in decision making.

According to the Joint Dniester Project, in the Ukraine and Moldova, regular surveillance of the Dniester's water quality is carried out by the state monitoring systems. Under the 1994 Agreement, the countries share the surveillance data, but only in cross-border areas of the river and on a limited set of parameters. A joint water quality investigation along the entire length of the Dniester was made in 1997. In July 2011 Moldova and Ukraine undertook another joint hydro-chemical investigation. Recommendations were made to repeat the exercise every six years. The Project mentions that monitoring under the 1994 Agreement (supported by the project) resulted in finalizing and signing a revised version of the Regulation of Ukrainian and Moldovan Cooperation on Monitoring of Cross-border Water Quality, as well as in drawing up a concept of a project proposal for harmonization of the laboratory research procedures. Updated information is not available.

In recent years, significant progress has been made regarding cooperation on adaptation to climate change between the Ukraine and Moldova. The Strategic Framework for Adaptation to Climate Change in the Dniester River Basin was published in 2015. It describes the climate change issues facing the river basin, the potential for adaptation to climate change and defines priorities and actions. Measures were assessed and prioritised, focussing reduction in losses from extreme flooding; reduction in losses from a decrease in flow; reduction in losses from a

deterioration in water quality; increase in the resilience of aquatic and wetland ecosystems; and general measures for climate change adaptation in the basin.

2.2.3. Recommendations

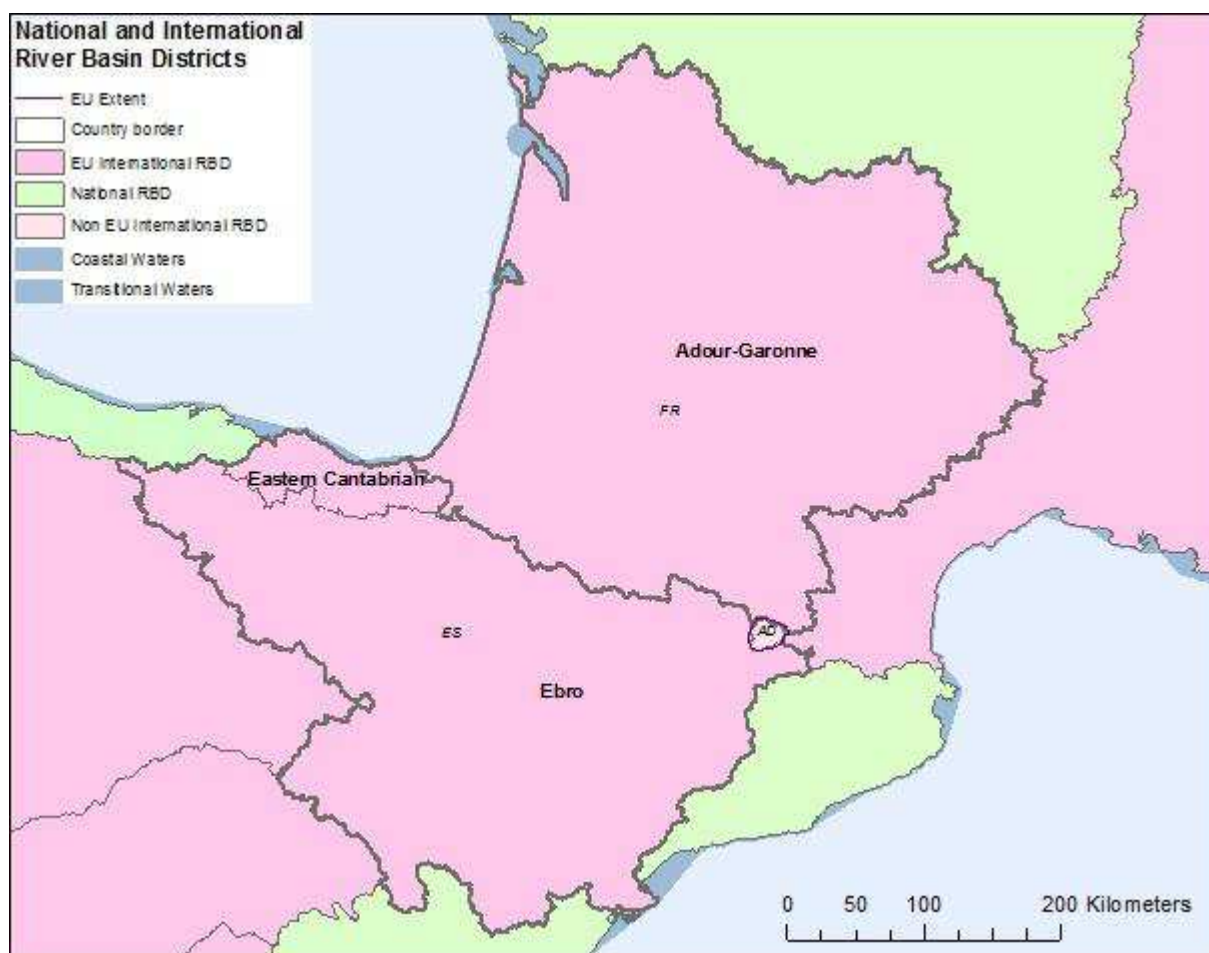
International coordination in the iRBD is governed by bilateral agreements. Poland has a small share of the Dniester iRBD. Information from the Polish-Ukraine Commission shows that the two countries are actively coordinating within the basin. Overall information on international coordination is limited in the Polish RBMP. The on-going bilateral project between the Ukraine and Moldova shows that there has been considerable progress on international cooperation.

- Overall, it is recommended that the three countries work together within the basin to enhance the concept of river basin management.
- It is recommended that Poland include a specific chapter in its RBMP on international coordination in order to increase the transparency of coordination efforts and to better identify potential gaps.

2.3. Garonne/East Cantabria/Ebro River Basin District

2.3.1. General Information

Map 2.3.1 Garonne/Eastern Cantabrian/Ebro International River Basin District



Source: WISE reporting 2016

The Garonne/Eastern Cantabrian/Ebro International River Basin District (iRBD) is shared by France and Spain. The Garonne iRBD is allocated to cooperation Category 2, which means that an international agreement and a permanent co-operation body are in place but no international WFD RBMP.

The iRBD comprises three national river basin districts: the Ebro RBD and the Eastern Cantabrian in Spain and the Adour Garonne RBD in France.

Spain reported specific information regarding the international parts of its basins to WISE. France reported to WISE that Adour Garonne is not part of an international basin district, and therefore they did not report any information on international aspects to WISE for this basin. However, the national RBMP for Adour Garonne acknowledges that the RBD has transboundary water bodies. The Adour Garonne RBMP includes a map showing which rivers

are transboundary, namely the La Nive, La Nivelles and the Bidasoa. The size of the international basin within the Adour Garonne RBD is not presented in the RBMP.

The table below presents the information available in WISE regarding the size of the iRBD in Spain.

Table 2.3.1 Member State shares for the international RBD

Shared International RBD	Total Area of Shared International RBD	Member States	EU RBD Code	National Area within International RBD
	(km ²)			(km ²)
Garonne/Eastern Cantabrian/ Ebro	Unknown	Eastern Cantabrian	ES017	6,391
		Ebro	ES091	85,942
		France	Adour Garonne	Did not report

Source: WISE electronic reporting 2016

2.3.2. International Coordination

According to the Ebro RBMP, the following agreements govern the international cooperation in the iRBD:

- The Agreement of Toulouse (signed in 2006), under which it was agreed to make independent plans and to hold technical meetings for coordination. A coordination committee was announced to be established, with several technical meetings on the WFD implementation, which took place between 2006 and 2014. The last of these meetings focused on the coordination of the review of the second RBMP. Additional meetings were held in the framework of projects funded under the POCTEFA⁵. As regards the coordination under the Toulouse Agreement, there is a regular information exchange between the Adour-Garonne and the Ebro river basin competent authorities.
- The Joint Commission on the Lanós Lake, with yearly meetings between 2011 and 2017. However, it is deemed that there is no room for further improvement for the third RBMPs regarding this international coordination.
- The Upper Garonne Joint Commission, with no activity reported, and no agreement is in place with Andorra. No working groups are in place.

Additionally, Spain subsequently clarified that the International Commission of the Pyrenees holds yearly plenary meetings, the last one held on 2 December 2014; details regarding their

⁵ Projects BIDUR, GURATRANS and currently H2OGUREA.

relevance and outcomes of international coordination for the RBMPs were not provided. In addition, the Commission on the exploitation of the International Channel D'Angoustrine and Llviva was formally established on 7 May 2013. Finally, the Ebro RBD has signed a convention with DREAL Nouvelle-Aquitania for the implementation of a joint platform for information exchange.

The Adour Garonne RBMP mentions that collective management of the common territory is ensured and mentions the 2006 agreement as well. The cooperation framework for the Garonne/East Cantabria/Ebro iRBD has not changed since the first river basin management cycle.

In the Spanish RBMPs, Spain reported that it cooperated with France regarding public participation and exchanged information on those measures which could affect the other Member State. The Adour Garonne RBMP states that the administrative cooperation has ensured coherent objectives and measures being assigned for transboundary water bodies, and that the drafting has been done in cooperation with the Spanish authorities and their land-use planning. France also indicates that information and public consultation on the management of watercourses and transboundary coastal zones are coordinated between the two Member States.

The RBMPs outline that coordination has taken place but do not specifically mention whether the Member States coordinated on the Article 5 assessment. Both national RBDs in Spain reported to WISE that there was international coordination of transboundary water bodies. For example, the Eastern Cantabrian RBD has updated the list of transboundary water bodies with France and some specific coordination works have been carried out between the two countries, following an agreement in the first cycle. The Adour Garonne RBMP does not specifically mention international coordination for typology of surface water bodies.

Coordination between France and Spain has taken place with respect to monitoring of surface water bodies. According to the Eastern Cantabrian RBMP, there was an exchange between France and Spain on their monitoring programmes. The RBMP mentions that meetings in the framework of the Agreement of Toulouse were held on the validation of general criteria for status assessment, sharing information on monitoring networks, specific work on tin compounds TBT in some protected areas (bathing, drinking) and the drafting of a warning and action protocol for accidental spills. The RBMP also mentions that further actions will be undertaken in the coming years. The Adour Garonne RBMP mentions that transboundary water quality monitoring programs are developed in consultation but does not provide further details.

The RBMPs of France and Spain do not provide information regarding the most sensitive biological quality elements for pressures in the iRBD or harmonization among the national RBDs. There is no specific information regarding the coordination of the river basin specific pollutants in the RBMPs. The RBMPs mention that international cooperation has taken place with respect to status assessment, the evolution of TBT, and the drafting of a warning and action protocol for accidental spills.

2.3.3. Recommendations

Coordination within the international river basin district is ongoing although there is room for improvement for the 3rd RBMPs.

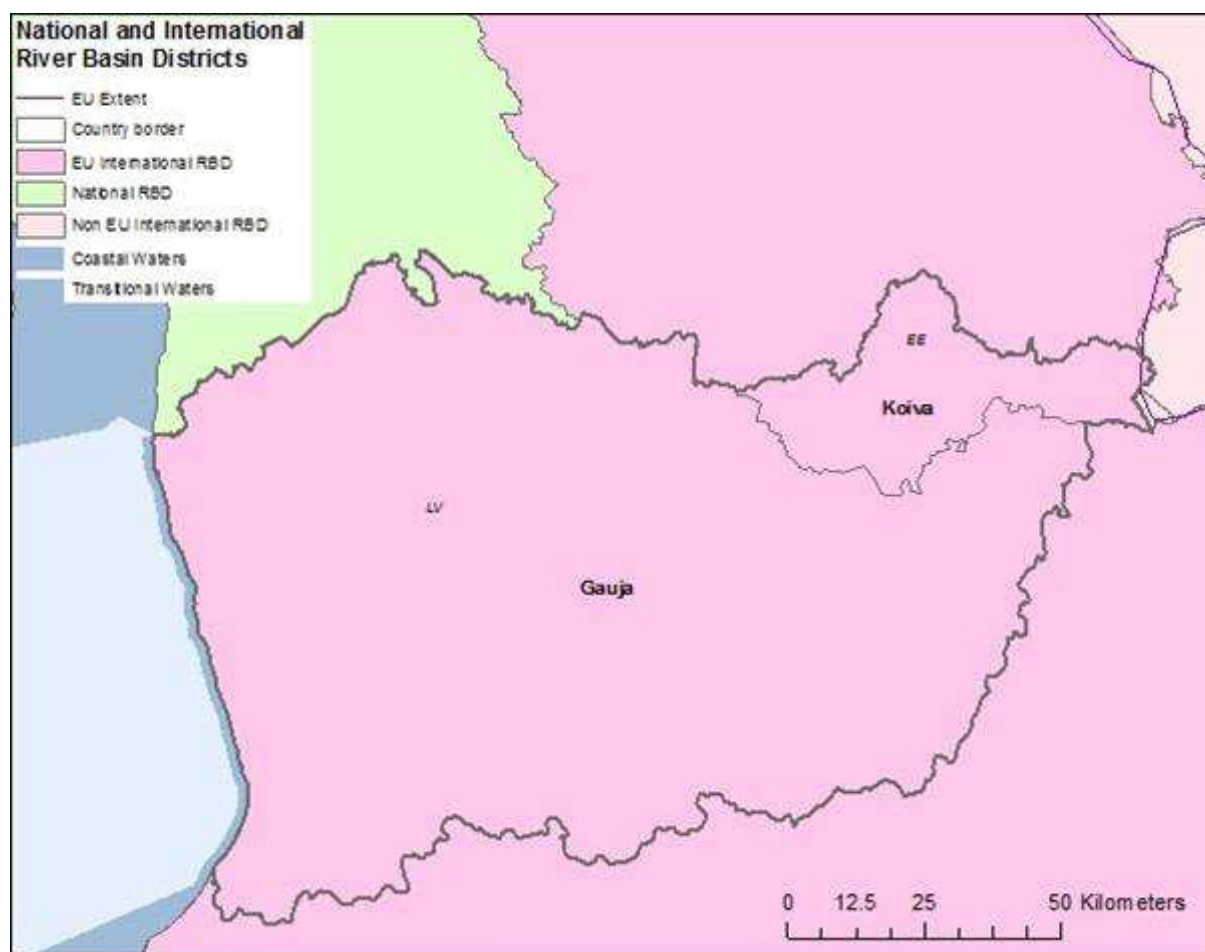
The following recommendations can be made to further improve cooperation:

- To ensure transparency, it is important that Adour Garonne RBD report to WISE that its basin has an international share.
- More information should be provided on how objectives were coordinated, the extent to which water quality monitoring is coordinated and how measures that may affect the other Member States are addressed between the two countries.

2.4. Gauja/Koiva River Basin District

2.4.1. General Information

Map 2.4.1 Gauja/Koiva International River Basin District



Source: WISE reporting 2016

The Gauja/Koiva International River Basin District (iRBD) is shared between Estonia and Latvia. The iRBD is a Category 3 basin, which means that an international agreement is in place but there is no permanent co-operation body or iRBMP.

The Gauja/Koiva does not have transboundary groundwater bodies.

The table below shows the national shares of the iRBD that Estonia and Latvia reported to WISE.

Table 2.4.1 Size of the total catchment area and national shares for each international RBD

Shared International RBD	Total Area of Shared International RBD	EU Member States	EU RBD Code	National Area within International RBD	National Area within International RBD
	(km ²)			(km ²)	(%)
Gauja/Koiva River Basin District	14,744.64	Estonia	EE3 (Koiva)	1,309	9.3
		Latvia	LVGUBA (Gauja)	13,435.64	90.7

Source: WISE electronic reporting 2016

2.4.2. Governance and public participation

The Gauja/Koiva iRBD is governed by the Agreement between the Ministry of Environment of the Republic of Latvia and the Ministry of the Environment of the Republic of Estonia on co-operation for protection and sustainable use of transboundary water courses. It entered into force in 2003. The key objective of the agreement is to cooperate in order to protect and provide sustainable use of transboundary water courses and to establish and manage the international river basin district. The WFD is mentioned in the preamble of the Agreement, stating that both Parties are implementing the requirements of the WFD 2000/60/EC in the transboundary context.

For the second management cycle, a background document was developed on "Transboundary Cooperation between Estonia and Latvia in the frame of River Basin Management Planning in Gauja/Koiva River Basin District". The document states that cooperation in the transboundary RBD will continue with the aim of developing a transboundary policy document for the Gauja/Koiva RBD for the 3rd cycle of RBMP implementation.

The project "Towards joint management of the trans-boundary Gauja/Koiva river basin district" was initiated in 2011 with the aim to enhance the management of the Gauja/Koiva RBD by taking joint actions. The project was funded by Estonian-Latvian programme 2007–2013 and was carried out from 1 July 2011 to 31 October 2013. Its outputs included joint GIS maps for the whole RBD, proposals for the establishment of a common approach to typology, water quality assessment and classification. New data from monitoring and investigatory activities were also obtained. Latvian and Estonian experts conducted case studies, which included proposals for harmonisation of the assessment of point and diffuse sources of pollution and hydromorphological alterations of water bodies. In addition, user-friendly information products (a map with basic facts, brochures, info stands, a website) on different aspects of common river management were prepared. Several transboundary events were also

organised, including two river clean-up activities in June and July 2012. Stakeholders involved in the project include: Ministries of Environment of Latvia and Estonia: the Latvian Environmental, Geological and Meteorological Center: the Estonian Environmental Information Center; the Latvian Nature Conservation Agency; Gauja / Koiva river basin district, regional environmental agencies and local authorities of Latvia and Estonia; planners; and fishermen's organisations.

2.4.3. Characterisation of the River Basin District

Coordination of the Article 5 assessment

One of results of the project “Towards joint management of the trans-boundary Gauja/Koiva river basin district” was the comparison of methodologies for assessing water pressures, obtaining an overview of pressure factors and an assessment of impacts and their trends. There is no information in Estonian and Latvian RBMPs regarding cooperation for this assessment. Both Member States reported to WISE that they did not cooperate in the development of the Art. 5 assessment.

Delineation of surface water bodies

An objective of the 2011-2013 transboundary project between Estonia and Latvia was the harmonization of boundaries of transboundary water bodies. The background document on the outcomes of the project states that the project resulted in harmonised GIS data layers for some of the water bodies in the region. The remaining water bodies have not yet been harmonised. Member State reported GIS data for a stretch of river in the basin was assessed. An analysis of the GIS data shows the size of the Latvian shared water body is shorter than the Estonian water body delineated for the same river.

Map 2.4.2 Comparison of the delineation of a river the border



Source: WISE electronic reporting 2016

The grey line refers to water body EE1154200_1 delineated by Estonia and the brown line refers LVG231 delineated by the Latvia. The starting and end points of both delineations do not match.

Typology Coordination of surface water bodies

Latvia and Estonia participated in typology coordination within the 2011-2013 transboundary project. According to the background document on transboundary cooperation, an attempt to harmonise national typologies with regard to cross-border water bodies was made in the frame of the project. Further work is needed to verify the consistency of typologies outside the transboundary area.

Six river types have been defined in Latvia and seven types in Estonia. Both Member States have generally used the “size of catchment” factor, Estonia has used “geology”, while in Latvia this factor is not applied as majority of rivers are calcareous. In Latvia “mean water slope” is additional factor for grouping rivers in types.

For the lake water bodies ten lake types are defined in for lakes in Latvia and eight lake types in Estonia. The factor “size of surface area” has been implemented partly in Estonia by distinguishing large lakes as separate large lake water bodies. Latvia does not differentiate lakes according to the type as all lakes are smaller than 100km².

“Depth” is another mandatory factor of WFD. All Estonian lakes have mean depth between <15m, while mean depth of Latvian lakes are between 2-9 m, therefore the differentiation has

been introduced. “Geology” factor described by conductivity values is used by both countries. The threshold value for defining soft lake is the same in both countries. Another common factor used is “organic matter”. Instead of the hydrological depth the Estonian system has introduced to use functional depths of lakes defined by two descriptors – stratified or non-stratified lakes.

Coordination in the Establishment of reference conditions for surface water bodies

The Latvian RBMP mentions that there are differences in type-specific reference conditions between the two Member States but that they will be coordinated during the next planning period.

The physico-chemical quality element values for rivers in Estonia varies depending on geological typology factor, in Latvia the values are different for each type. Regarding physico-chemical quality indicators for lake water bodies, the present boundaries between high and good as well as good and moderate are relatively close. However, further work on harmonization and setting common boundaries is needed.

The comparison of biological elements for rivers and lakes was not possible because the Latvian classification system did not cover all biological elements required by WFD. During the Gauja/Koiva project, a closer cooperation of Estonian and Latvian scientists was established, in particular in the frame of development of a common classification system for biological elements in river and lake WBs. This work was later used by Latvian scientists as a basis for finalisation of ecological assessment methods.

Coordination on Significant Water Management Issues

In the background document (agreement), there is information on significant pressures in transboundary water bodies in Latvia and Estonia. The document states that it is important to further harmonise significant water issues. Joint significant water management issues have not been identified.

2.4.4. Monitoring, assessment and classification of surface water ecological status

Monitoring of ecological status/potential

Under the Gauja/Koiva project, a joint survey of transboundary waters was carried out on three rivers (Vaidava/Vaidva, Peetri/Melnupe and Pedeli/ Pedele) and three lakes (Lake Väike Palkna/Mazais Baltiņš, Lake Kikkajärv/Ilgājs/, Lake Murati/Muratu) located on the border between Estonia and Latvia⁶. In each selected river, two sites were jointly sampled, one in

⁶ For more information see: http://gauja.balticrivers.eu/files/wp2_final_report_17_04_2014_balts_unsecured.pdf

Latvian side, another in Estonian side. In total six joint sampling sites were selected in rivers and three in lakes. Additionally, three transboundary rivers (Ujuste/Kaičupe, Pārlijogi/Pērļupīte, Pedetsi/Pedeze) were investigated separately by Latvian and Estonian experts.

During the joint survey of transboundary water bodies, sampling was carried out for four biological quality elements: phytobenthos (only in rivers), phytoplankton (only in lakes), benthic macroinvertebrates and aquatic macrophytes. Fish were not sampled jointly because of legal obstacles, but experts exchanged experience participating as observers during sampling in neighbouring countries.

There is no specific information in the RBMPs regarding a joint monitoring programme for surface waters. The background document on transboundary cooperation mentions that the Gauja/Koiva project led to new data from monitoring

Sensitive Quality elements (excluding river basin specific pollutants)

According to the WFD and as explained in the CIS guidance on monitoring⁷, for operational monitoring, Member States are required to monitor for those biological and hydromorphological quality elements most sensitive to the pressures to which the body or bodies are subject. According to the international Agreement document, the selection of most sensitive biological quality elements has not been harmonised.

Member States were requested to report to WISE which biological quality elements they considered to be sensitive for a given pressure. In WISE the sensitive biological quality elements are listed for each pressure. The table below differentiates four biological quality elements (or three biological quality elements and two sub- biological quality elements), nine different pressures and four different water categories.

An important assessment parameter is whether there is a minimum agreement between Member States sharing a border. Such an agreement would be expressed by the fact that there is at least one biological quality element that is considered to be sensitive (for each pressure) in both Member States. Such a quality element can then be used as the least common denominator for comparable assessments of ecological status, provided that the Intercalibration has been successful.

For rivers, the table below lists sensitive quality elements for each pressure. There is a full agreement between the two Member States on sensitive quality elements for nutrients (other aquatic flora and benthic invertebrates), organic pollution (benthic invertebrates) and

⁷ See: [https://circabc.europa.eu/sd/a/63f7715f-0f45-4955-b7cb-58ca305e42a8/Guidance%20No%207%20-%20Monitoring%20\(WG%202.7\).pdf](https://circabc.europa.eu/sd/a/63f7715f-0f45-4955-b7cb-58ca305e42a8/Guidance%20No%207%20-%20Monitoring%20(WG%202.7).pdf)

hydrological, temperature and morphological pressures (fish). For chemical pressures information is not complete.

There is a common approach on the selection of relevant biological quality elements but the analysis does not cover whether the assessment methods produce comparable results.

Table 2.4.2 Sensitivity of biological quality elements towards different pressure types for river water bodies

Member State	Phytoplankton	Other aquatic flora	Macrophytes	Phy-tobenthos	Benthic invertebrates	Fish
Assessment method mainly sensitive to nutrient pollution						
Estonia		yes	yes	yes	yes	yes
Latvia		yes	yes	yes	yes	
Assessment method mainly sensitive to organic pollution						
Estonia					yes	
Latvia		yes	yes	yes	yes	
Assessment method mainly sensitive to chemical pollution						
Latvia					yes	
Assessment method mainly sensitive to elevated temperature						
Estonia					yes	yes
Latvia						yes
Assessment method mainly sensitive to altered habitats due to hydrological changes						
Estonia					yes	yes
Latvia					yes	yes
Assessment method mainly sensitive to altered habitats due to morphological changes						
Estonia					yes	yes
Latvia					yes	yes

Source: WISE electronic reporting 2016

Coordination of River Basin Specific Pollutants (RBSPs) and matrices monitored

The WFD requires Member States to identify and select river basin specific pollutants and their environmental quality standards at the national, river basin or water body level.

According to the Latvia RBMP, 12 different River Basin Specific Pollutants are monitored: two in coastal waters, eight in lakes, 12 in rivers, and two in transitional waters. Copper and zinc are measured in biota in coastal and transitional waters. eight substances are monitored in settled sediment in lakes and rivers. Ten substances were monitored in water in rivers and six in lakes.

As part of the reporting to WISE regarding the assessment of ecological status, Member States were asked to report information regarding river basin specific pollutants at RBD level. For the reporting to WISE, Member States could report pollutants using pre-defined codes from a list set by the European Commission, and they could report pollutants to a category “other”. The “other” category is not uniform among the Member States and therefore the information reported for these pollutants cannot be compared within the iRBD.

The river basin specific pollutants reported by the Member States to WISE were evaluated. The summary of the evaluation concern three essential aspects:

- 1 which and how many substances have been selected for the entire basin or parts of it;
- 2 whether the substances have an environmental quality standard and are monitored; and
- 3 whether the environmental quality standards are the same or in one or another way comparable (in the same range/order of magnitude, for the same matrix).

For environmental quality standards of river basin specific pollutants, different aspects have to be considered to make comparisons. They can only be compared for a given substance if the specific pollutant matrix (water, sediment, biota etc), the unit (mg/L, µg/L etc.), the scale at which the standard is applied (national, water body, river basin etc.), the category (rivers, lakes, coastal water, territorial water and transitional water) and the standard (AA-EQS⁸, MAC-EQS⁹) are comparable. Therefore, there are many different approaches and dimensions for such a comparison.

This assessment covers selected aspects of the topic at the iRBD scale for reasons of practicability. The most important aspects are environmental quality standards for 1) AA-EQS, 2) for the matrix water and 3) setting of the standard at the national level. The relevant results are a quantitative description of the harmonisation and cooperation with respect to river basin specific pollutants.

A summary for the number of established environmental quality standards is given in the table below. The table below shows the number of Member States that have established an environmental quality standard for a certain river basin specific pollutant. This shows how many standards defined at the national level can be compared between how many countries and describes the extent of harmonization¹⁰.

Table 2.4.3 Summary of the assessment of relevant river basin specific pollutants for the Gauja/Koiva basin

Number of Member States	Number of river basin specific pollutants with an environmental quality standard	
	River basin specific pollutant scale	
	National	All
1	13	13

⁸ annual average environmental quality standard

⁹ maximum allowable concentration environmental quality standard

¹⁰ This analysis assumes a basin-wide view only, it does not show whether the pollutants are shared between neighbouring countries.

2	2	2
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Source: WISE electronic reporting 2016

Table 2.4.3 shows that two pollutants have an environmental quality standard in both countries. As these are Copper and Zinc (and their compounds), it does not look like the result of coordination but as a result of coincidental match. Only for these two substances comparisons of environmental quality standards can be made. 13 environmental quality standards cannot be compared between the two countries. River basin specific pollutants are only useful and supportive for the assessment of ecological status if an environmental quality standard has been adopted and the pollutants are monitored. The information the Member States reported to WISE was assessed using the following reporting elements:

- 1) RBSPvalue: If a value is provided in WISE criterion “EQS-yes” is fulfilled
- 2) chemicalLastMonitored: If a value \geq 2010 is provided in WISE the criterion “Monitored: yes” is fulfilled

For each river basin specific pollutants, the criteria mentioned above were evaluated according to the scheme given in table below. A filter is applied, considering the following schema elements: a) chemicalSubstanceCode, b) chemicalMatrix c) chemicalPurpose, d) rbspCategoryRW.

Table 2.4.4 shows how many river basin specific pollutants can be used for the assessment of ecological status. In total Estonia reported 101 pollutants (including two “other pollutants”) and Latvia reported six. The number of pollutants that can be integrated into the assessment of ecological status is nine for Estonia and two for Latvia. The information describes the role that river basin specific pollutants play in the frame of the ecological assessment and whether the approaches are comparable. The results do not describe whether and how often these pollutants have been used in the frame of status assessment.

Table 2.4.4 *Synthesis of environmental quality standards and sampling of river basin specific pollutants with pre-defined codes in the WISE reporting¹¹*

Member State	Monitored: yes Environmental quality standard: yes	Monitored: no Environmental quality standard: yes	Monitored: yes Environmental quality standard: no	Substances (number and percentage) that can be used for the assessment of the ecological status
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¹¹ Information regarding “other RBSP” is not included in the table.

Estonia ¹²	9	6	91	9 / 9 %
Latvia	2	0	4	2 / 33 %

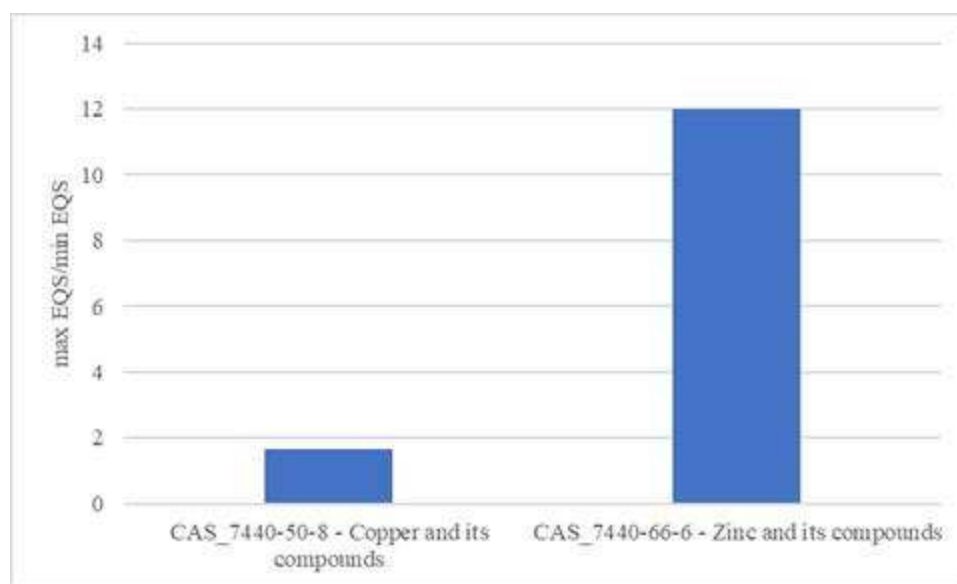
Source: WISE electronic reporting 2016

Environmental quality standards for river basin specific pollutants

The comparison between environmental quality standards is given in the figure below. It shows the ratio minimum environmental quality standards/maximum environmental quality standards for river basin specific pollutants in the Gauja / Koiva iRBD. The value should ideally be 1. For both pollutants the environmental quality standards are different and for Zinc the standards are not in the same order of magnitude. The same measurement value leads to different results of status assessment for both substances.

¹² Subsequent clarification by the Member State indicates that until 2015 there was 16 River Basin Specific Pollutants (Minister of the Environment, regulation nr 49). As of 11.01.2016 (Minister of the Environment, regulation nr 77) there are 31 River Basin Specific Pollutants. All of them are monitored in water and some are monitored also in fish/sediment for background information.

Figure 2.4.1 Ratio between the minimum and the maximum environmental quality standard for river basin specific pollutants¹³



Source: WISE electronic reporting 2016

Status Classification

Use of monitoring results for classification – transboundary harmonization

According to the background document on transboundary cooperation, in the beginning of development of the second RBMPs, the Latvian system of classification of water body status was relatively undeveloped. It was substantially improved based largely on the methods used in Estonia. Work on the improvement of the Latvian classification system was carried out in 2011–2013 in the frame of the project “Towards joint management of the trans-boundary Gauja/Koiva river basin district”. It provided additional classification methods for river and lake macroinvertebrates that were used to develop the second RBMPs in Latvia, as well as to re-evaluate water quality monitoring data from the first monitoring cycle (2006–2008).

Although a large part of Latvian river and lake water bodies classification methods were adopted from Estonia, the estimation of status class for several cross-border water bodies is different in Estonia and Latvia. Depending on a particular water body, differences in national classifications can be related to various reasons, such as different status class boundaries for biological and physico-chemical quality elements, methods of sampling and/or sample processing in laboratory, as well as sampling year and location of sampling points (possible different distribution of pressures in the catchment area).

¹³ A ratio of one indicates that the Member States that have set a standard use the same value for this standard. The higher the ratio, the higher the differences in the standards used.

For the transboundary water bodies, status assessment confidence was estimated as low; therefore, it was difficult to make reliable conclusions regarding progress in water body status comparing the results of the first (2006–2008) and the second (2009–2014) monitoring cycle under the WFD.

Ecological status/potential classification for water bodies that form the border between iRBD countries

Although efforts were made within the 2011-2013 transboundary project to improve harmonization of status classification, differences still remain. The table¹⁴ below shows how the status of some of the same water bodies differs between Estonia and Latvia.

¹⁴Transboundary Cooperation between Estonia and Latvia in the frame of River Basin Management Planning in Gauja/Koiva River Basin District. Background document for the second RBMPs

Table 2.4.5 Comparison of transboundary water bodies status in Gauja/Koiva RBD

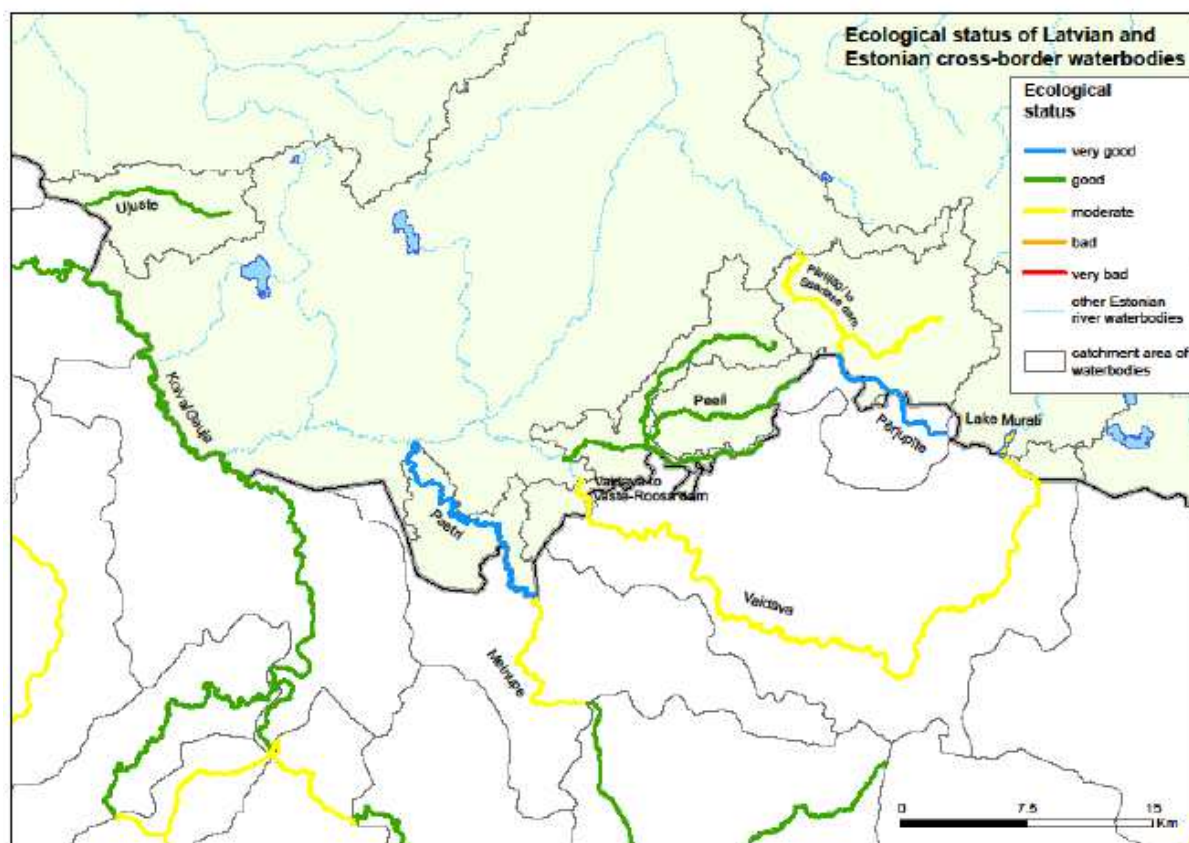
Estonia – Koiva RBD					Latvia – Gauja RBD				
WB code	WB name	Status 2 nd RBMP	QE below good status	Reason	WB code	WB name	Status 2 nd RBMP	QE below good status	Reason
River water bodies									
1154200_1	Koiva	good			G225	Gauja	good		
					G231	Gauja	good		
1158400_1	Kolga	good			(no WB)				
1158100_1	Peeli	good			(no WB)				
1158700_1	Peetri	high			G233	Melnupe/ Pēterupe	moderate	Benthic invertebrates, fish	Unclear (physico-chemical QEs and HyMo are good)
1155700_1	Pärlijõgi Saarlase paisuni	moderate	Fish	barriers	G237	Pērļupīte	high		
1154300_1	Ujuste	good			(no WB)				
1158000_1	Vaidava Vastse-Roosa paisuni	moderate	Fish	barriers	G235	Vaidava	moderate	Fish	Unclear (physico-chemical QEs and HyMo is good)
Lake water bodies									
2155900_1	Murati järv	moderate	Physicochemical QEs, benthic invertebrates	natural condition	E205	Muratu ezers	good		

Source: Background document on International Coordination

The map¹⁵ below highlights how the status of the water body changes as it crosses the border.

¹⁵ ibid

Map 2.4.3 Status of water bodies in Gauja/Koiva RBD



Source: WISE electronic reporting 2016

Intercalibration exercise and Geographical Intercalibration Group (GIG)

According to national RBMPs, Estonia and Latvia both participated in the intercalibration exercise. Intercalibration of methods adopted from Estonia in Latvia took place in 2014–2016 for most biological quality elements). In parallel, development and intercalibration of a classification system for river and lake fish was being carried out (finalised in summer 2016).

2.4.5. Monitoring, assessment and classification of surface water chemical status

Monitoring of chemical status in surface waters

The monitoring of chemical status has not been coordinated in the iRBD, but the different approaches in the Member States were compared during the Gauja/Koiva project.

Coordination of monitoring and assessment of chemical status

The assessment of chemical status has not been coordinated but it was compared during the Gauja/Koiva project. According to the background document on transboundary cooperation, the classification of chemical status in both countries was done based on the requirements of the EQS Directive (2008/105/EC). According to available monitoring data, there were no

EQS exceedances in transboundary water bodies but the amount of available data is rather limited.

In the Gauja/Koiva catchment only one Priority substance has not been measured in the 2010-15 period (CAS_87-68-3 – Hexachlorobutadiene). In Estonia 23 Priority (165 samples) and in Latvia 35 (708 samples) substances have been measured. 22 substances have been measured in one country and for 18 substances there are measurement values in both countries.

An important aspect for chemical status assessment is whether the water samples have been taken with the frequency recommended as a general rule in the WFD¹⁶. Monthly samples should be analysed for WFD compliant assessment of chemical status at a given site. Other frequencies need a justification based on expert judgement or technical knowledge. Not all measurements were done with a WFD compliant frequency (of 12 samples per year for the water matrix). 51 % of the measurements can be used for the assessment of chemical status in Estonia, while in Latvia 93 % are useful for chemical status assessment (reported to WISE).

Table 2.4.6 *Percentage of Priority Substance samples that have been taken with a WFD compliant frequency (monthly samples)*

Member State	Percentage of Priority Substance samples with a frequency ≥ 12 /year
Estonia	51 % (out of 165 samples)
Latvia	93 % (out of 708 samples)

Source: WISE electronic reporting 2016

The total number of samples (see table below) was calculated by combining the information of the WISE reporting elements “chemicalfrequency” and “chemicalCycle”, as also illustrated in the reporting guidance under chapter 4.3.5.

¹⁶ Information reported to WISE did not differentiate between surveillance or operation monitoring. In the case of surveillance monitoring, water sampling has to be carried once a month for one year only within the management cycle. Operational monitoring requires monthly sampling every year management cycle.

Table 2.4.7 Number of analysed samples for each Priority Substance and each national iRBD share for the period 2010-15¹⁷

Number of samples for Priority substances (period 2010-2015)		
Zeilenbeschriftungen	Estonia	Latvia
CAS_104-40-5 - 4-nonylphenol	-	12
CAS_107-06-2 - 1,2-Dichloroethane	-	12
CAS_115-29-7 - Endosulfan	-	20
CAS_117-81-7 - Di(2-ethylhexyl)phthalate (DEHP)	2	16
CAS_118-74-1 - Hexachlorobenzene	13	14
CAS_12002-48-1 - Trichlorobenzenes (all isomers)	-	12
CAS_120-12-7 - Anthracene	2	16
CAS_122-34-9 - Simazine	2	12
CAS_127-18-4 - Tetrachloroethylene	3	-
CAS_140-66-9 - Octylphenol (4-(1,1',3,3'-tetramethylbutyl)phenol)	-	12
CAS_1582-09-8 - Trifluralin	1	12
CAS_15972-60-8 - Alachlor	-	12
CAS_1912-24-9 - Atrazine	-	12
CAS_206-44-0 - Fluoranthene	2	16
CAS_2921-88-2 - Chlorpyrifos	-	12
CAS_330-54-1 - Diuron	-	12
CAS_34123-59-6 - Isoproturon	-	12
CAS_36643-28-4 - Tributyltin-cation	-	16
CAS_470-90-6 - Chlorfenvinphos	-	12
CAS_50-29-3 - DDT, p,p'	13	8
CAS_50-32-8 - Benzo(a)pyrene	2	16
CAS_56-23-5 - Carbon tetrachloride	2	-
CAS_608-73-1 - Hexachlorocyclohexane	-	24
CAS_608-93-5 - Pentachlorobenzene	1	16
CAS_67-66-3 - Trichloromethane	2	12
CAS_71-43-2 - Benzene	2	12
CAS_7439-92-1 - Lead and its compounds	45	112
CAS_7439-97-6 - Mercury and its compounds	8	6
CAS_7440-02-0 - Nickel and its compounds	44	112
CAS_7440-43-9 - Cadmium and its compounds	9	112
CAS_75-09-2 - Dichloromethane	2	12
CAS_79-01-6 - Trichloroethylene	3	-
CAS_85535-84-8 - Chloroalkanes C10-13	-	16
CAS_87-68-3 - Hexachlorobutadiene	-	6
CAS_87-86-5 - Pentachlorophenol	-	12
CAS_91-20-3 - Naphthalene	2	14
EEA_32-02-0 - Total cyclodiene pesticides (aldrin + dieldrin)	-	8
EEA_32-03-1 - Total DDT (DDT, p,p' + DDT, o,p' + DDE, p,p')	2	8
EEA_32-04-2 - Brominated diphenylethers (congener number 1-10)	1	2
EEA_32-23-5 - Total Benzo(b)fluor-anthene (CAS_205-99-4)	-	12
EEA_32-24-6 - Total Benzo(g,h,i)-perylene (CAS_191-24-1)	2	12
Total number of substances	23	38
Total number of samples	165	708

Source: WISE electronic reporting 2016

The RBMPs did not describe harmonisation activities regarding chemical status assessment.

¹⁷ All monitoring frequencies, all matrices included and all purposes included.

2.4.6. Programme of measures

After the first river basin management cycle, the European Commission recommended that both Member States ensure a coherent transboundary cooperation in PoM development. The Member States have formalised the cooperation by signing agreement: "Transboundary Cooperation between Estonia and Latvia in the frame of River Basin Management Planning in Gauja/Koiva River Basin District". Although the two Member States agreed to increase cooperation, there is limited information regarding these activities in the RBMPs. The background document on transboundary cooperation in the basin presents information on measures but for each Member State separately and does not describe international coordination between the two countries.

The 2011-2013 transboundary project mentions that efforts have been made to increase cooperation on measure implementation. One of the objectives of the project was to identify cost-effective measures to improve the water status in the iRBD. This activity included the development of a cost-effectiveness assessment methodology, its testing in the Gauja / Koiva waters, and conclusions. The document mentions reducing water pollution by using more effective measures on forestry and agricultural lands, environmentally friendly management of agricultural drainage systems, as well as forest buffer zones. It also highlighted the need for measures to reduce the hydromorphological pressure caused by invasive plants and species that impact fishery operations. A multi-criteria analysis was selected to assess measures to support the reduction of hydromorphological pressures, but this evaluation of the measures could not be fully implemented as many measures lacked the evaluation of selected criteria.

One of the main results of the project was a proposal for a programme of measures to improve water management. It is not clear from the information in either RBMP how the results of this project fed into the development of the RBMPs.

2.4.7. Economic analysis and water pricing policies

The 2011-2013 transboundary project had as an objective to develop a cost-effectiveness assessment methodology. One of the main results of the project was the coordination of a joint economic analysis approach, which included the analysis of essential water uses, water services, potential future trends and costs.

The Estonian RBMP states that the economic analysis of water management plan was analysed with the aim of harmonizing the approach of Estonia and Latvia to the water management plans for the second management cycle. The analysis covered the following elements: socio-economic appraisal of water use, the development of a baseline scenario (to assess probable changes in pressure factors), the assessment of the cost of water services and pricing, the cost of measures and the cost-effectiveness analysis. It mentions that one of the goals of the Gauja /Koiva project was to identify cost-effective measures to improve the state

of the river basin. This activity included the development of a cost-effectiveness assessment methodology, its testing in the Gauja / Koiva river basin district and conclusions.

The background document on transboundary cooperation states that work has already been done to coordinate methodologies for economic analysis¹⁸. Methodological gaps still remain, e.g. on assessment of “environmental costs” and their cost-recovery. Moreover, practically applicable and coordinated methodologies are still missing as regards the assessment of benefits of achieving good water status and exemptions to environmental objectives due to “disproportionate costs”.

2.4.8. Recommendations

Since the first river basin management cycle, considerable efforts have been taken between Estonia and Latvia on coordination in the iRBD. The transboundary project from 2011-2013 helped to improve harmonised approaches on typology and status classification, although it is clear from the project results that further work is still needed. While considerable work has been carried out to better align ecological status classification, no information was available regarding activities related to chemical status.

The following recommendations can be made to further improve cooperation:

- Member States should cooperate on water body delineation and develop harmonised methodologies for delineation.
- Efforts on aligning typologies and related assessment methodologies should continue.
- International monitoring stations should be established.
- Efforts on harmonisation of status assessment, including work for chemical status, should continue.
- The work on harmonising a joint economic analysis approach should be continued and gaps related to e.g. on assessment of “environmental costs” and their cost-recovery should be closed.
- A joint programme of measures for transboundary water bodies should be implemented.

¹⁸ E.g. the Assessment of the baseline scenario for the harmonisation of the national approaches between Estonia and Latvia.

2.5. Guadiana International River Basin District

2.5.1. General Information

Map 2.5.1 Guadiana International River Basin District



Source: WISE reporting 2016

The Guadiana International River Basin District (iRBD) is shared by Portugal and Spain. The Guadiana iRBD is allocated to cooperation Category 2, which means that an international agreement and a permanent co-operation body are in place but no international WFD RBMP.

The table below presents the size of the total catchment area and national shares within the iRBD (km²; %). The table includes information reported to WISE.

Table 2.5.1 Member State share of the iRBD

<i>Shared International RBD</i>	<i>Total Area of Shared International RBD</i>	<i>EU Member States</i>	<i>EU RBD Code</i>	<i>National Area within International RBD</i>	<i>National Area within International RBD</i>
	<i>(km²)</i>			<i>(km²)</i>	<i>(%)</i>
Guadiana	67,171	ES	ES040	55,560	82.71
		PT	PTRH7	11,611	17.29

Source: WISE electronic reporting 2016

2.5.2. Governance and public participation

The Albufeira convention for the protection and sustainable use of the waters of the Spanish-Portuguese watersheds, has been in place since 1998. The agreement dates from 1998 and links to the WFD were already included. On 4 April 2008, the agreement was revised to redefine the criteria for determining the water flow regimes of the Portuguese-Spanish river basins, improving its temporal scale, with a finer seasonal regime, in addition to the annual one, providing better conditions for an environmentally sustainable management of shared rivers.

The main management body is the “Comisión para la Aplicación y Desarrollo del Convenio de Albufeira (CADC)” or “Comissão para a Aplicação e o Desenvolvimento da Convenção”, which meets on a regular basis. There are two working groups: Information Exchange and Planning. The articulation for the elaboration of the RBMP was coordinated through the Planning Working Group. The CADC meeting in 2014 included one agenda item on the WFD planning process for the 2016-2021 period, with an agreement to prepare a) a common list of transboundary WBs, b) a common delineation of such water bodies, c) a common list of transboundary heavily modified water bodies, and d) to hold in each of the RBDs one event for public participation. It was also decided that the Planning Working Group should continue to develop the work to promote articulation in the second cycle of planning for the international basins.

Seven meetings were held in order to promote a coordination to RBMP development to international basins, between February 2014 and May 2017 (with two of them after the WFD deadline of December 2015 for the adoption of the second RBMPs). The information of the meeting and the minutes are public and can be found in the Albufeira Convention webpage: <http://www.cadc-albufeira.eu/es/documentos/>

The Commission published in June 2017 a Coordination Document¹⁹ on the 2016 - 2021 joint planning process that took place on the iRBDs shared by Spain and Portugal. The document summarizes the improved coordination mechanisms since the first cycle and includes information on the plan of action for the 3rd planning cycle. The document includes information on systems of communication and exchange of information between the competent Portuguese and Spanish authorities; methodology used to coordinate the work of the second planning cycle, namely regarding identification and delineation of transboundary bodies of water, identification of heavily modified water bodies, typology of water bodies, Protected areas, significant pressures, water body monitoring programs, assessment of the state of water bodies, Program of measures, and environmental objectives and their exceptions; application of agreed methodology in each shared international river basin district; public participation; Strategic Environmental Assessment; monitoring and implementation of plans; and plan of action for the 3rd planning cycle.

This document presents the results of the RBMPs regarding both sides of the border, including the methodology used for coordination of the planning process results (delineation of water bodies, characterization of water bodies²⁰, identification of heavily modified water bodies, typology of water bodies, protected areas, monitoring, status assessment, programme of measures, objectives and exemptions). The assessments were done at National level (with the corresponding methodologies and criteria) and afterwards coordinated, for a joint presentation in the RBMPs.

The annex of the coordination document contains also, for each shared water body, a datasheet with all the information obtain during the coordination process for the second planning cycle.

In the Guadiana RBMP (Annex 12), a list of transboundary water bodies is included and a common assessment of status (overall results) is presented in the RBMP.

Regarding public participation, two presentation meetings (Madrid, Lisbon) and four joint workshops were organized in order to present the draft Significant water Management Issues and the proposals of the RBMPs for the 2016-2021 cycle in the river basins of Miño, Duero,

¹⁹ <http://www.cadc-albufeira.eu/pt/documentos/> and http://www.apambiente.pt/zdata/Politicass/Agua/PlaneamentoGestao/PGRH/2016-2021/DocumentoCoordenacaoInternacional_2016_2021_ES_PT.pdf

²⁰ Spain subsequently clarified that the collection and processing of data related to water uses and demands are very uneven in the Spanish and Portuguese parts of the Guadiana RBD, which requires greater coordination work within the framework of the Albufeira Convention. Amongst the facts that confirm these differences is the conclusions raised by the project GUA-SEEAW (System of Economic and Environmental Accounts for Water in Guadiana River Basin <http://ec.europa.eu/environment/water/blueprint/pdf/GUA-SEEAWreport.pdf>) on the implementation of the water accounting system of UN SEEA-Water. The project was funded by the European Commission and it carried out an exhaustive collection of hydrological and socioeconomic data from the ES and PT RBMPs the Spanish National Institute of Statistics (INE), the Portuguese National Water Resources Information System (SNIRH) and Eurostat.

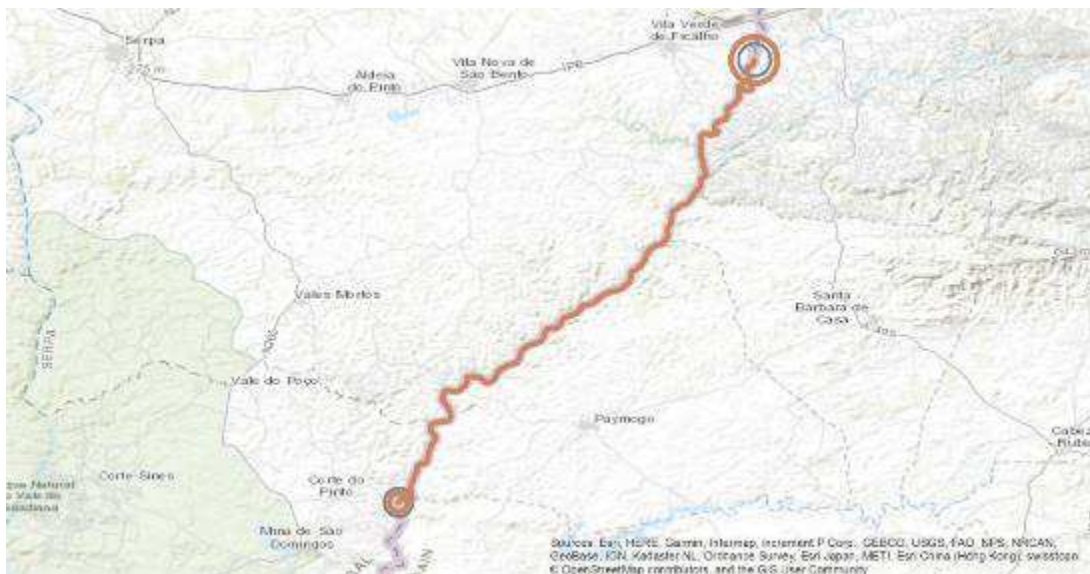
Tajo and Guadiana. The information on these meetings can be accessed on the Albufeira Convention webpage and there is a reference to the public participation in the Coordination Document²¹ on the 2016 - 2021 joint planning process. Contributions to the draft of the Guadiana RBMP have been analysed and considered in the RBMP²².

2.5.3. Characterisation of the River Basin District

Both RBMPs present overview tables for all transboundary water bodies. The Albufeira Convention has set up a working group for data and information exchange, and transboundary water bodies are reported to be coordinated in terms of delineation.

To determine whether the delineation of surface water bodies by the Member States has resulted in the same outcome, the Member State reported GIS data for a stretch of river in the iRBD was assessed. The results of the assessed show that the delineation of the stretch of river by Portugal and Spain resulted in the same outcome.

Map 2.5.2 Assessment if delineation of surface water body has been taken place as indicated in WISE²³



Source: WISE electronic reporting 2016

No transboundary groundwater bodies were delineated between Spain and Portugal²⁴. The competent authorities subsequently informed the Commission that the geological formations

²¹ <http://www.cadc-albufeira.eu/pt/documentos/> and http://www.apambiente.pt/_zdata/Politiclas/Agua/PlaneamentoGestao/PGRH/2016-2021/DocumentoCoordenacaoInternacional_2016_2021_ES_PT.pdf

²² The contributions and the related information about outcomes from the interested and public consultations in the Guadiana RBMP can be found following the links: in the document (listed in table 1), http://planhidrologico2015.chguadiana.es/corps/planhidrologico2015/data/resources/file/documentos2015/definitivos/segundaetapa/RPH_25_4PP-T2_Doc_Resumen_POS_PHC_EAE_PGRI.pdf ; <https://www.apambiente.pt/index.php?ref=16&subref=7&sub2ref=9&sub3ref=848>

²³ The grey line refers to water body ES0404MSPF000141 delineated by the Spain and the brown line refers PT07GUA1562I delineated by Portugal. The starting and end points of both delineations match so only the Portuguese delineation is visible

at the border of Portugal and Spain are constituted essentially by igneous and metamorphic formations, corresponding to fissured means, which present low hydraulic conductivities, resulting in reduced productivities. Due to this reason no transboundary groundwater bodies have been identified.

Both national RBMPs state that there was coordination on setting typology for surface water bodies but neither plan provides details. For the water body shown in Map 2.5.2, Spain reported type RWRM2, but no type was reported by Portugal²⁵. The RBMPs do not mention whether reference conditions were coordinated²⁶.

The RBMPs do not provide specific information whether the assessment under Article 5 WFD or the identification of significant water management issues was coordinated²⁷. However, a cross-check of significant pressures was carried out by a mutual review process of National results, outlined in the Coordination Document on the 2016 - 2021 joint planning process.

2.5.4. Measures to address pressures

Water abstraction has been identified as significant pressure in the iRBD by both Member States. Water quantity is an issue for both Member States. As such, ecological flows are regulated with a specific focus under the Albufeira Convention. Agriculture pollution pressures have been reported in both national parts of the iRBD. Both Member States reported to WISE that pollution from sectors other than agriculture is a transboundary issue. Both Member States reported to WISE that they are addressing river continuity and other hydromorphological pressures but not sediment management in the national share of the iRBD.

The Albufeira Convention includes a specific Working Group dealing with Information Exchange and addressing i.e. exchange on hydrometeorological data, flow regime establishment, flow discrepancy resolution and drought indicators. The Spanish RBMP states that measures for transboundary water bodies will be implemented in coordination with Portugal but no further information is provided.

²⁴ Portugal subsequently clarified that it was again confirmed that the geological formations at the border of Portugal and Spain are constituted essentially by igneous and metamorphic formations, corresponding to fissured means, which present low hydraulic conductivities, resulting in reduced productivities. In this sequence, no transboundary groundwater bodies have been identified.

²⁵ The competent authorities subsequently informed that further efforts are being made, as there is an ongoing project between Portugal and Spain on the establishment of coordinated monitoring and assessment of the transboundary water bodies in Minho, Douro, Tagus and Guadiana. There are also two specific measures in the PoM in the RBMPs of Miño-Sil and Guadiana to coordinate the identification of type-specific reference conditions.

²⁶ Portugal subsequently clarified that this exercise was made under the Intercalibration Group.

²⁷ Portugal subsequently clarified that a cross-check of significant pressures was carried out by a mutual review process of National results, as stated in the above-mentioned Coordination Document on the 2016 - 2021 joint planning process

Both Member States have identified measures to address water use efficiency in their share of the basin. The establishment of e-flows, advice for irrigators and technical efficiency measures are foreseen in both RBMPs; however, water pricing is only foreseen in the downstream basin part (Portugal).

In order to enable a comparable grouping of measures in the national and international programme of measures, the European Commission introduced the concept of KTMs in 2012 to simplify reporting²⁸. KTMs are groups of measures identified by Member States in the PoMs which target the same pressure or purpose. To address water scarcity and droughts, both Member States are implementing measures to improve flow regime and/or establish ecological flows (KTM 7), water efficiency, technical measures (KTM 8) and advisory services for agriculture (KTM 12). Neither of the two RBMPs includes measures under KTM10 – Water pricing policy measures for the implementation of the recovery of cost of water services from industry²⁹. Portugal is implementing KTM 11 on water pricing in agriculture. To address pollution from agriculture, both Member States reported to WISE that they are implementing KTM 2 – reduce nutrient pollution from agriculture, KTM 3 – reduce pesticides pollution from agriculture and KTM 12 – advisory services. Neither Member State has reported transboundary measures regarding chemical pollution other than from agriculture, and neither Member State reported implementing KTMs to address pollution from sectors other than agriculture.

There are no joint measures specifically outlined in the iRBD³⁰.

2.5.5. Recommendations

Both Member States made efforts on international coordination in the Guadiana iRBD. There is a webpage of the Albufeira Convention where the information of meetings and discussed issues is publicly accessible.

The following recommendations can be made to further improve cooperation:

- The RBMPs should better illustrate efforts and approaches on international coordination, including inter alia on the coordination of water body delineation, typology and the application and justification of exemptions.

²⁸ The need for KTMs was borne out of the large differences in the level of detail reported in 2010 by the Member States. Some Member States reported 10- 20 measures whilst others reported hundreds or even thousands.

²⁹ Portugal subsequently clarified that in the Portuguese part of the river basin district there is no relevant economic activity besides agriculture, and therefore no measures have been defined for chemical pollution for other sectors.

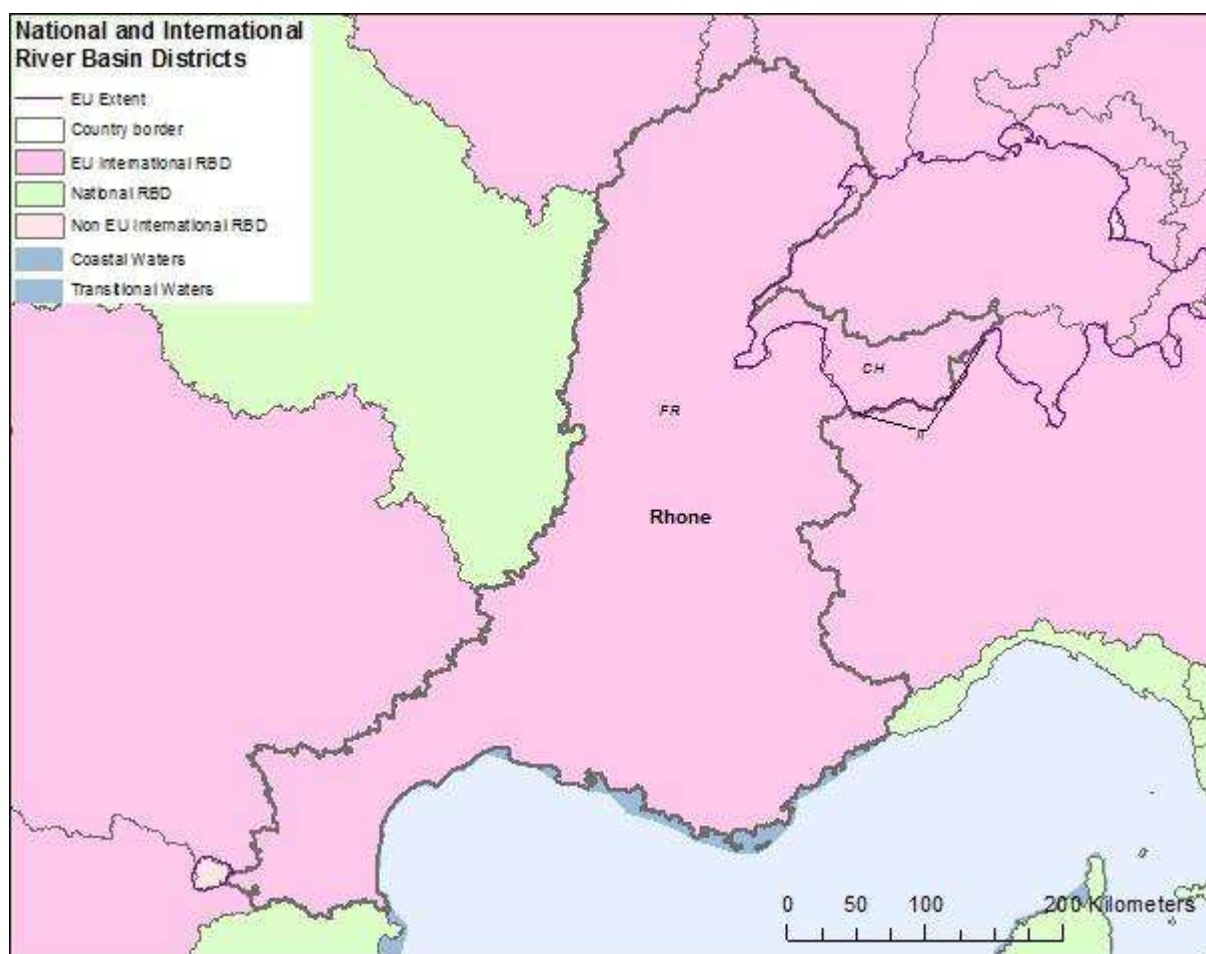
³⁰ Portugal subsequently clarified that there are several common measures. For some of them there are approved projects with EU funds (INTERREG - POCTEP), namely to Minho and Guadiana. Furthermore, the bilateral Commission will produce a common report with the evaluation of the Measures Programme as defined by both countries for the shared water bodies.

- Given the water scarcity and drought issues in the iRBD, the Member States should put emphasis on coordinating and implementing relevant measures in line with the WFD requirements and taking into account the effects of climate change.

2.6. Rhône River Basin District

2.6.1. General Information

Map 2.6.1 Rhône International River Basin District



Source: WISE reporting 2016

The Rhône International River Basin District (iRBD) is shared by France, Italy and Switzerland and also contains a catchment shared with Andorra and Spain. The iRBD is composed of the watersheds of the Rhône river and other rivers which are not Rhône tributaries and flow directly to the Mediterranean Sea (including the rivers Var, Hérault and Aude).

The Rhône iRBD is allocated to cooperation Category 2, which means that an international agreement and a permanent co-operation body is in place but there is no international RBMP. Member State authorities in France informed the European Commission that France shares the Rhône iRBD with:

- Switzerland: The whole Rhône river basin covers 98,134 km²:
 - 92 % lies in France (74 % of the Rhône iRBD),
 - 8 % in Switzerland, mainly in the Canton of Valais.

- Italy: The Roya river basin covers 670 km²:
 - 90 % in France (0.4 % of the Rhône iRBD),
 - 10 % in Italy as a part of the North Apennines RBD.
- Spain and Andorra: The Sègre river basin is 19,690 km²:
 - 96 % in Spain,
 - 2 % in France (0.5 % only of the Rhône iRBD),
 - 2 % Andorra.

The Sègre river is a tributary of the Ebro river within the Spanish iRBD Ebro river.

(The remaining shares of the iRBD are rivers in France that are not tributaries of the Rhône and flow directly to the Mediterranean³¹.)

It should be noted that an international agreement is not in place for the iRBD itself; rather, in 1963 France and Switzerland signed an agreement to protect Lake Geneva, which is part of the Rhône iRBD and in effect covers the Swiss part of the iRBD. In addition, France and Switzerland have signed administrative agreements for several small, shared sub-catchments, and France and Italy have signed a protocol to establish stronger coordination on their shared sub-catchment of this international RBD.

2.6.2. International Coordination

While an international agreement for the whole iRBD is not in place, bilateral agreements cover the Rhône river basin as well as smaller river basins.

France and Switzerland

France and Switzerland concluded the 1963 Convention to protect Lake Geneva against Pollution (*Convention entre le Conseil fédéral suisse et le Gouvernement de la République française concernant la protection des eaux du lac Léman contre la pollution*). This Convention created the International Commission for the Protection of the Waters of Lake Geneva (*Commission internationale pour la protection des eaux du Léman, CIPEL*). The Convention and the Commission cover Lake Geneva's basin and most of the area of the iRBD in Switzerland.

France and Switzerland also signed an administrative agreement for the coordination of the implementation of the WFD on the French parts of the transboundary Lake Geneva basin. The web site of CIPEL includes a note (from December 2017) stating that work on ecological status, undertaken as per the WFD, has been carried out and is to be published on the French web site for Rhône-Méditerranée. The Swiss government was consulted on the draft French

³¹ Neither France or Italy reported the total iRBD size and national shares of the catchment to WISE. Switzerland is not an EU Member States and is therefore not obliged to report to WISE.

RBMP and provided comments, but no international coordination on public participation or sectoral and stakeholder was put in place.

In addition, several agreements and mechanisms are in place for small sub-basins of the Rhône:

- France and Switzerland signed agreements for the Doubs sub-basin of the Rhône in 1969 on water management for hydroelectricity and in 1991 on fishing; Member State authorities indicated that these agreements concern the 43 km transboundary section of the Doubs river.
- France and Switzerland also signed an administrative agreement for the coordination of the WFD implementation on the French parts of the transboundary Doubs river
- France and Switzerland have set up several coordination mechanisms: river contracts for the Allaine and the Arve Leman sub-basins

France and Switzerland are moreover negotiating a new general agreement for integrated management of all shared waters. Following a drought event that occurred in spring 2011, in January 2012 France asked Switzerland to work on a framework for integrated water management between the two countries. Switzerland agreed and, following the results of the GouvRhône university study (*Gouvernance transfrontalière du Rhône, du Léman à Lyon* - Institute for Environmental Sciences³²), Switzerland asked France to specify a technical framework. France prepared the document '*Gouvernance transfrontière - Eléments préparatoires aux négociations*' (Transboundary governance – preparatory elements for negotiations) in December 2015³³.

On 7 October 2016, the Franco-Swiss dialogue on the governance of the Rhône officially started with the first meeting of French and Swiss delegations, and two working groups were set up, one on technical issues and one on governance issues. Member State authorities in France informed the European Commission that the Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the challenges of potential climate impacts provided the basis for the discussions.

The main challenges are considered during negotiations are the following: energy production, water management during water scarcity periods, river water levels, drinking water from surface water and groundwater, inter-basin transfers, sediment management, floods,

³² Available at: <http://www.rhone-mediterranee.eaufrance.fr/rhone/presentation/etude-gouvrhone.php>

³³ Available at: <http://www.rhone-mediterranee.eaufrance.fr/docs/rhone/gouvernance/20151207-RAP-ChampTechniqueGouvernanceEauFrCh-Vf.pdf>

accidental pollution, domestic and industrial sanitation, recreational and professional fishing and navigation and recreational activities related to water.

France and Italy

According to the Rhône-Méditerranée RBMP³⁴ in September 2013 France and Italy signed a cooperation protocol in the sub-basin³⁵. The goals of this cooperation include the development of a transboundary river contract to support common actions for the attainment of WFD's objectives; protocols on key issues, including an alert system on water quality; and an on-going governance system based on a transboundary technical committee and a permanent coordination committee³⁶.

Limited information is available regarding joint public consultation activities within the iRBD. The Rhône-Méditerranée RBMP indicates that Italian authorities were consulted on the draft plan. No information was found on international coordination on public participation or sectoral and stakeholder involvement.

2.6.3. Recommendations

Efforts are underway between France and Italy, and France and Switzerland to improve international coordination.

The following recommendations can be made to further improve cooperation:

- For the next management cycle, the information reported to WISE should be specific to the international catchment to enable obtaining a clearer view on what joint activities may be taking place.
- Furthermore, France and Italy should include a specific section in their national RBMPs on international coordination efforts to increase transparency.

³⁴ Rhône-Méditerranée RBMP (pp. 457-8)

³⁵ Also spelled the Roja River in Italy.

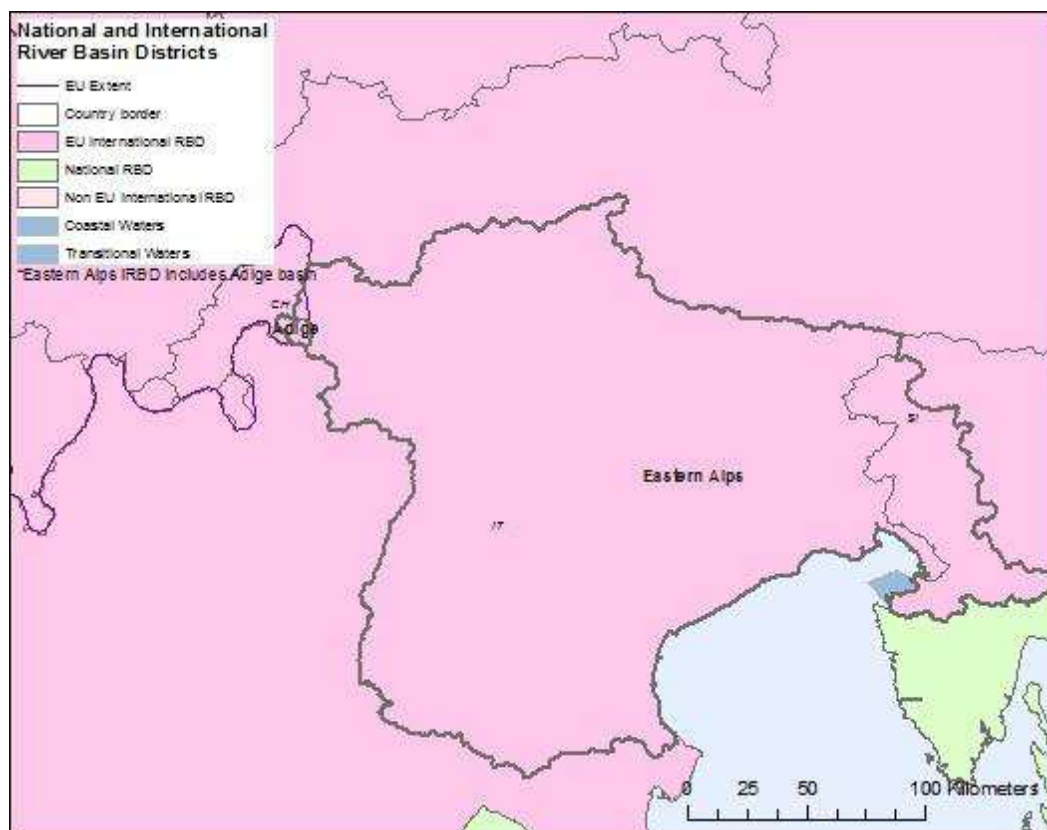
³⁶ Italy subsequently informed that the Northern Apennines RBMP includes a measure regarding the implementation of the protocol under KTM 26 "Roja International cooperation protocol". The measure is also included in the Water Protection Plan of Regione Liguria.

2.7. Isonzo-Soča River Basin

2.7.1. General Information

The Isonzo/Soča International River Basin is shared by Italy and Slovenia. The Isonzo/Soča basin is part of the Eastern Alps River Basin District in Italy and the Adriatic River Basin District in Slovenia.

Map 2.7.1 Isonzo-Soča River Basin International River Basin



Source: WISE reporting 2016

Italy reported to WISE that the Eastern Alps RBD is Category 2, indicating that an agreement and joint body is in place³⁷; Slovenia also reported that the Adriatic RBD is Category 2. The total area of the shared catchment is about 3,400 km², of which about 1,150 km² are in Italy and 2,250 km² in Slovenia³⁸. Consequently, about two thirds of the territory of the Isonzo/Soča river catchment falls in Slovenia while the remaining one-third is located on Italian territory. The main sub-catchment is the Isonzo/Soča River itself (including the sub-basins Natisone/Nadiža, Corno/Koren, Vipacco/Vipava Judrio/Idrija and other small sub-basins); other shared sub-catchments are associated with the Timavo/Timav, a karstic river that flows partially underground.

³⁷ While the Eastern Alps RBD also comprises the small international section of the Adige/Etsch catchment, Italy informed the Commission that the indication of the "Category 2" has been assigned considering the basin of the Isonzo and the Timavo (therefore the coordination with the Republic of Slovenia) which by far are the most important cross-border basins in the Eastern Alps District by land area and issues related to water management.

³⁸ Information obtained from the 2012 Pressures and Measures Study.

2.7.2. Governance

A coordinating body called “Commissione Italo-Slovena per’idroeconomia” in Italian and “Stalna slovensko-italijanska komisija za vodno gospodarstvo” in Slovenian (hereinafter called Permanent Bilateral Commission for Water Management) was established with the Osimo Agreement in 1975 between Italy and Ex-Yugoslavia for the shared management of the Isonzo basin.

The Permanent Bilateral Commission for Water Management meets regularly (generally twice a year) to discuss the level of implementation of the Floods Directive and the WFD and cooperation activities between the two countries in this sector. In its meetings from 2009 to 2014, discussions in the Permanent Bilateral Commission for Water Management included the following topics³⁹:

- Implementation of the WFD and the FD
- UNECE activities in the Soča/ Isonzo river basin
- Erosion processes in Idrija
- Drinking water supply in Nova Goriča - Gorizia
- Dam safety on the Soča/Isonzo river
- Presentation of an investment project to increase connectivity of the Koren/Corno stream
- Proposal for a cross-border connection of the Solkan/Salcano irrigation system
- Flood risk reduction measures

Technical meetings under the Permanent Bilateral Commission for Water Management addressed specific topics for the implementation of the WFD. These included, according to information provided by Slovenia to the European Commission:

- groundwater bodies and measures to address pressures, were presented and discussed bilaterally:
- monitoring, assessment and classification of surface water ecological and chemical status
- monitoring, assessment and classification of groundwater quantitative and chemical status
- methodological approaches for delineation of surface water bodies and groundwater bodies
- considerations for protected areas
- environmental objectives and exemptions

³⁹ Based on the RBMP for Slovenia Adriatic RBD, p. 244

- significant pressures and methodological approaches for the designation of significant pressures
- measures related to significant pressures and
- projects (for example ASTIS, HYDROKARTS, etc.)

Joint projects in the international river basin have been financed by the EU INTERREG programme. Italy and Slovenia have carried out a series of Interreg projects on cross-border water topics (11 projects were financed in the 2007-13 programming period⁴⁰; information is not available on projects financed in the current, 2014-2020 period)⁴¹: it appears that the Commission has supported the development of such projects, but their programming was carried out by regional authorities.

A meeting of experts under the Permanent Bilateral Commission for Water Management in December 2015 in Gorizia concluded that:

- The “Slovenian and the Italian side have presented water management plans... [for the] common international Soca/Isonzo river basin between Slovenia and Italy...
- “The Parties agreed that coordination of both plans was achieved and agreed a programme of actions to be systematically implemented in 2016 and beyond to coordinate the technical details of implementation of the plans in the shared international river basins.”⁴²

⁴⁰ Projects relevant for water management included the following:

CAMIS Coordinated activities for management of Isonzo Soča

HYDRO KARST - The Karst aquifer as a strategic cross-border water resource

GEP - Joint Geo-Information System (GIS) for Emergency Protection of Drinking Water Resources

GOTRAWAMA - Cross-border system for water management in urban area of Gorizia and Nova Gorica

ASTIS - Groundwater and Transition Isonzo / Soča

Cross-border cooperation to improve environmental and land, protection and coordinated management of the catchment area of the Isonzo-Soča by sewage and urban waste water collection systems

⁴¹ Italy subsequently informed that an INTERREG strategic project (GREVISLIN – GREen Vipava/Vipacco, Isonzo/Soča and Livenza INfrastructure) prepared by Italian and Slovenian authorities was submitted in March 2018 to the 5th call of the Interreg Italy-Slovenia 2014-2020 Programme. The project is aimed at promoting innovation, sustainability and cross-border governance and is strongly focused on development and implementation of cross-border strategic actions in the field of water management. The project targets the development of green infrastructure (including natural retention areas, green corridors, fish ladders and more) in the Isonzo/Soča and Vipava river basins and the implementation of research and management tools to address agricultural pressures arising in the cross-border area. Pilot actions have also been planned for nature and biodiversity protection in Natura2000 sites. Data sharing and joint monitoring activities on transboundary waters planned in the project draft are highly expected to strengthen the ability to address common water issues between Italy and Slovenia. The project as a whole should enhance transboundary cooperation in the field of water management.

⁴² Stalna Slovensko-Italijanska Komisija za Vodno Gospodarstvo/Commission Permanente Italo-Slovena per l’Idroeconomia, Zapisnik/Verbale, Srečanje ekspertov va izvajanje Direktive 2000/60/ES in Direktive 2007/60/ES / Incontro di esperti per attuazione della Direttiva 2000/60/EC e Direttiva 2007/60/EC, 3 December 2015

Based on common conclusions and proposals from the technical meeting, the Permanent Bilateral Commission for Water Management (Gorica, 17th of May 2016) concluded that coordination of both plans was achieved and that the programme of actions was agreed.⁴³

2.7.3. Characterisation of the River Basin District

Both Italy and Slovenia reported to WISE that the Article 5 assessment was coordinated for the international part of the basin.

A technical session of the Permanent Bilateral Commission for Water Management, for example, addressed the characterisation of water bodies, monitoring, water status and pressures in its meeting on 20 October 2014. The delegations moreover agreed to exchange GIS information of updated water bodies (as both countries were preparing new delineations for the second cycle), to unify geometry of cross-border water bodies. In addition, the delegations agreed to exchange water body data on the basis of the WFD Reporting Template⁴⁴.

According to Italy's Eastern Alps RBMP⁴⁵, a definition of 'transboundary' surface water bodies was considered within the Permanent Bilateral Commission for Water Management. Under this proposal, transboundary water bodies would be defined to have a total basin of more than 10 km² which meet at least one of the following criteria: 1) they constitute a state border between the two Member States and 2) they cross from one Member State to the other⁴⁶. In the context of this proposal, the Permanent Bilateral Commission for Water Management considered a designation "water bodies of cross-border interest" the bodies that, although fully included in the territory of a Member State, present an environmental status which can be conditioned by pressures deriving from human activities across the border⁴⁷.

⁴³ Italy subsequently informed that in addition, in the context of the public consultation carried out for the Strategic Environmental Assessment procedure and of the more general cross-border coordination in implementation of article 3 paragraph 5 of the WFD, Italy formally involved Austria, Slovenia and Switzerland. In order to facilitate cross-border consultation with neighbouring states, a specific document concerning the shared portions of the district and any related issues was elaborated and forwarded. The document can be downloaded from the Eastern Alps web site: <http://www.alpiorientali.it/direttiva-2000-60/primo-aggiornamento-del-piano-2015-2022.html>.

⁴⁴ Mixed Italian-Slovenian Commission for water management. Convocation of the technical session on October 20, 2014: Working Group Directive 2000/60/CE

⁴⁵ RBMP for ITA, Volume 2: Assetto dei corpi idrici superficiali e sotterranei, Section 2.7

⁴⁶ According to the Eastern Alps RBMP (Vol. 2, Section 2.7), on this basis 15 river water bodies have been identified as transboundary. Of these, it appears that five rivers form the border between Italy and Slovenia (the others being water bodies that cross the border). These water bodies are parts of three rivers - the Judrio, the Natisone and the Rio Nero. While for the Judrio river the delineation points are similar between Italy and Slovenia, for the Natisone river they are more detailed in Slovenia.

⁴⁷ Slovenia subsequently informed that a joint approach for a coordinated surface water bodies delineation and groundwater bodies delineation was bilaterally discussed only on a technical level at meetings between Slovene and Italian experts. A starting point for further activities was proposed by Italian experts, including a list of potential water bodies of common interest. It was agreed that Slovene experts will examine the proposal of the Italian experts and put forward their position. It was also agreed that information exchange regarding monitoring data will be a subject of further development.

The technical session of the Permanent Bilateral Commission for Water Management on 20 October 2014 also discussed the identification of common cross-border groundwater bodies. The session noted that expert work was carried out via two EU-funded projects, ASTIS and HYDROKARST⁴⁸, financed under the Italian-Slovenian cross-border cooperation programme 2007-2013⁴⁹. In December 2015, the technical session of the Permanent Bilateral Commission for Water Management proposed an action programme for 2016 that aimed to agree on the cross-border groundwater bodies⁵⁰.

In sum, cooperation on several issues for the characterisation of water bodies is on-going through the Permanent Bilateral Commission for Water Management and via INTERREG projects⁵¹.

2.7.4. Monitoring, assessment and classification of groundwater quantitative and chemical status

Technical sessions organised under the Permanent Bilateral Commission for Water Management have discussed groundwater monitoring and groundwater status. For example, the meeting on 20 October 2014 noted that the chemical status of groundwater bodies on both sides of the border was good, as well quantitative status for all groundwater bodies but one in Italy (IT06P10). The session also indicated that an exchange of monitoring data would be performed to investigate opportunities for optimisation through a shared monitoring plan in the next cycle⁵².

In sum, this is an area where there is ongoing information exchange and cooperation.

⁴⁸ Mixed Italian-Slovenian Commission for water management. Convocation of the technical session on October 20, 2014: Working Group Directive 2000/60/CE

⁴⁹ RBMP for ITA, Volume 2: Assetto dei corpi idrici superficiali e sotterranei, Section 7.4

⁵⁰ Italy subsequently informed that in technical meetings held in May and November 2016, Italian and Slovenian experts further developed the discussion of issues related to pressures, impacts and possible transboundary management actions in the shared watersheds. Among the common activities jointly planned by the experts was the coordination of the geometry of existing transboundary surface water and groundwater bodies, on the basis of information already exchanged in the previous meetings and proposals put forward.

⁵¹ Italy subsequently informed that typology process is determined by each country according to national methodologies which are defined in line with WFD Annex 2 systems. By the time of RBMPs drafting, metrics involved in the classification of water bodies in Italy and Slovenia were intercalibrated, ensuring comparability between Slovenian and Italian classifications results, regardless of typology systems and type-specific reference conditions. In the context of data exchange under the Italian-Slovenian Commission for Water Management, background information on typologies have been collected and the issue has been discussed.

⁵² Italy subsequently informed that the groundwater working group, appointed by the Italian-Slovenian Permanent Commission for Water Management, addressed the following issues in its meeting in November 2016 meeting:

- the coordination of the geometry of transboundary groundwater bodies on the basis of information exchanged in the previous meetings and proposals put forward;
- the exchange of monitoring data, through the preliminary definition of a set of monitoring points in the surface and groundwater bodies of transboundary interest;
- the sharing of methodologies for classification of chemical and quantitative status of groundwater bodies, in order to provide elements for an in-depth comparison of monitored data and classification results, possibly useful to verify the feasibility of coordinate monitoring in the next planning cycles.

There was no information in the RBMPs on whether the assessment of quantitative and chemical status is coordinated between Italy and Slovenia.

2.7.5. Measures to address pressures

In their reporting to WISE, neither Italy nor Slovenia indicated that water abstraction is a significant pressure for the respective RBDs (Eastern Alps in Italy, Adriatic in Slovenia). Neither Italy or Slovenia reported to WISE that water scarcity is an issue for their respective RBDs. However, Italy subsequently explained in the frame of the assessment that a water management issue concerning the Isonzo river is reported by the Eastern Alps District, and its RBMP commits the Friuli Venezia Giulia Region to assess the feasibility of possible and sustainable mitigation actions, within the context of the final HMWB designation⁵³.

Meetings of the Permanent Bilateral Commission for Water Management and technical sessions exchanged information on significant pressures in the water bodies of the Isonzo/Soča basin.

The Italian Eastern Alps RBMP identifies Isonzo/Soča water bodies affected by significant pressures caused by local anthropogenic sources (agricultural and hydro-energy abstractions), and according to the RBMP, these anthropogenic impacts are worsened by the hydrological regime of the Isonzo/Soča river, which is influenced by flow regulation at the dam at Solkan in Slovenia. Slovenia subsequently explained in the frame of the assessment that the hydrological regime of the Isonzo/Soča river is a subject of an international agreement which Slovenia consistently respects. As stated by the Slovenian side, additional quantities of water are regularly provided.

The Italian Eastern Alps RBMP also highlights one transboundary pollution issue: mercury from the former mines at Idrija, Slovenia, which is now present in sediments, including in downstream transitional waters in Italy⁵⁴. Slovenia subsequently explained in the frame of the assessment that former mercury mine in Idrija represents a historical burden which Slovenia extensively addressed in past years. In the period after 1991, in which time the mine was already closed, Slovenia extensively addressed this historical burden by implementing

⁵³ Point 20.4.3 following the link:
http://www.alpiorientali.it/dati/direttive/acque/wfd_20160302/08%20Programma%20delle%20misure%20-%2020160302.pdf

⁵⁴ Italy subsequently informed that in the 2016 meetings of the Italian-Slovenian Commission for Water Management, an extension to the list of water bodies of transboundary interest was proposed in order to include transitional and coastal waters affected by mercury contamination. The Delegations agreed to pay particular attention to the issue through the exchange of monitoring data, also in light of Directive 2013/39/EU on priority substances and its provisions regarding persistent, bioaccumulative and toxic substances. The joint evaluation of such data may serve in future as support to evaluate the feasibility and sustainability of the relevant mitigation actions, since mercury contamination was considered a relevant issues to be addressed, even through common measures.

different extensive restoration measures that resulted in reducing the impact of the historical mining activity on environment.

Both Italy and Slovenia reported pollution from sectors other than agriculture as a pressure to WISE⁵⁵.

Although the respective RBMPs did not include common measures, in meetings of the Permanent Bilateral Commission for Water Management and its technical sessions, the minutes report (as noted above) that “coordination of both plans was achieved and agreed a programme of actions to be systematically implemented in 2016 and beyond to coordinate the technical details of implementation of the plans”.

In sum, Italy and Slovenia have exchanged information on significant pressures and have coordinated their RBMPs and programmes of measures in an on-going process.

2.7.6. Recommendations

Through the joint commission to address transboundary water bodies between Italy and Slovenia, bilateral cooperation is taking place to coordinate on a number of aspects of WFD implementation for the international river basin of the Isonzo-Soca.

The following recommendations can be made to further improve cooperation:

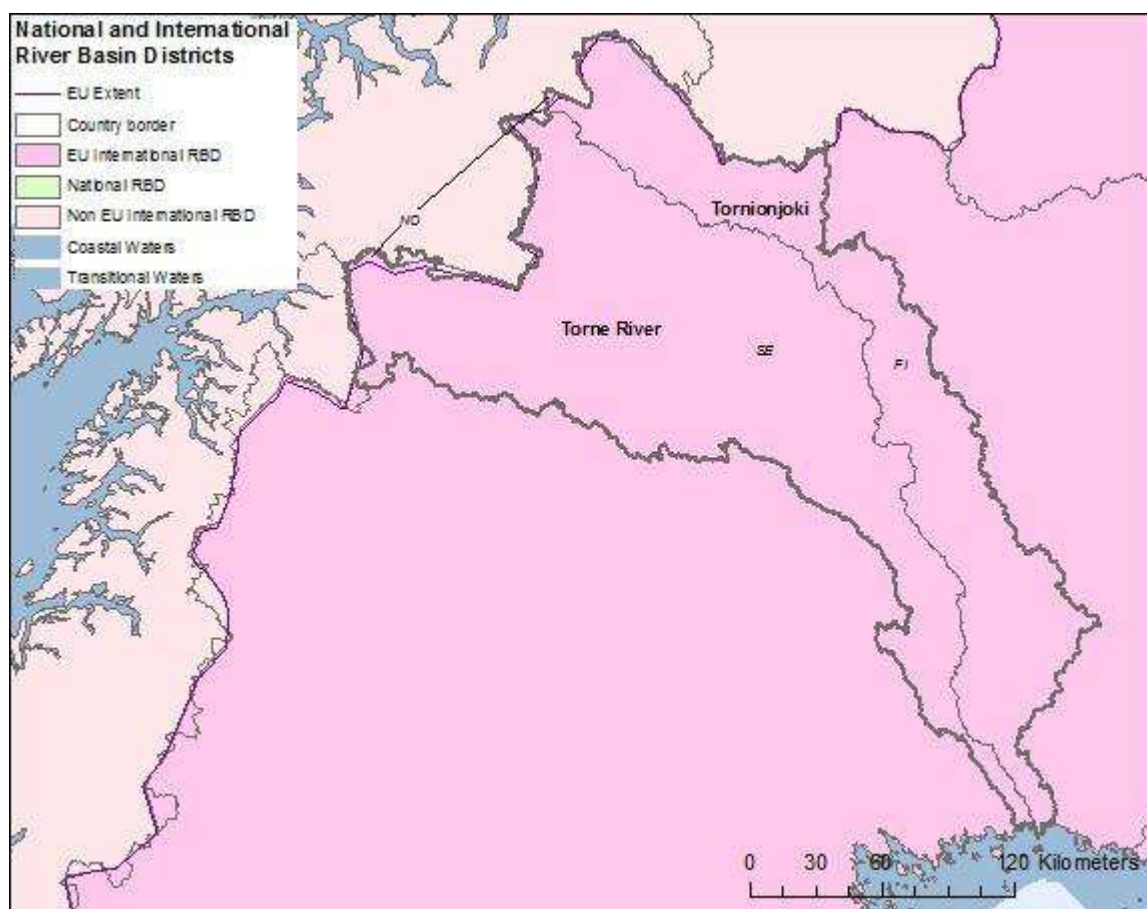
- Transboundary cooperation should be continued and further improved for the coordinated achievement of the WFD objectives of the water bodies in the international river basin of the Isonzo-Soča.
- Reporting to WISE should be improved. Information was either provided for the whole national RBD and therefore not specific to the iRBD, was missing or the information was not coherent. It is recommended that iRBD specific information is reported, allowing for a better assessment of the iRBD and related issues.
- The national RBMPs from both countries should include a dedicated chapter, providing more detailed information on the international coordination efforts to increase transparency.

⁵⁵ Italy subsequently informed that actions are ongoing to improve coordination of measures set to tackle these pressures. The GREVISLIN project, noted above, includes in its aims to deepen the relationship between hydromorphological pressures, agricultural pressures and environmental status of water bodies, taking into account the presence, at the mouth of the Isonzo/Soča river, of an important protected area

2.8. Torneälven/Tornionjoki River Basin

2.8.1. General Information

Map 2.8.1 Torneälven/Tornionjoki International River Basin



Source: WISE reporting 2016

The Torneälven/Tornionjoki International River Basin is shared by Finland, Sweden and Norway. The Torneälven/Tornionjoki International River Basin is allocated to cooperation Category 2, which means that an international agreement and a permanent co-operation body is in place but there is no international RBMP. Within the EU, the international river basin is part of the Tornionjoki RBD in Finland and the Bothnian Bay (International district Torne river) in Sweden.

The table below shows the shares of the iRBD between Finland and Sweden as reported to WISE. Norway, as an EFTA country, is implementing the WFD under a specific timetable agreed pursuant to the Agreement on the European Economic Area (EEA), including reporting to WISE. The plans for 2016-2021 represent the first cycle under formal WFD obligations for Norway. Full reporting to WISE is being completed.

The Swedish RBMP reports that the Torneälven's catchment area is 40,368 km². Only 181 km² (0.45 %) of the River Basin is located in Norway. This part is sparsely populated, with very limited anthropogenic pressures.

Table 2.8.1 *Size of the total catchment area and national shares for each international RBD*

Shared International RB	Total Area of Shared International RB	EU Member States/Non EU countries in International RB	EU RBD Code	National Area within International RB	National Area within International RB
	(km ²)			(km ²)	(%)
Tornionjoki iRB1. Bothnian Bay (International district - Sweden)	40,368	Finland	FIVHA6	14,687	36.38
		Sweden	SE1TO	25,500	63.17
		Norway	NOFIVHA6/N OSE1TO	181	0.45

Source: WISE electronic reporting 2016 and Swedish RBMP

2.8.2. Governance and public participation

The following bilateral agreements are in place:

- Agreement between Finland and Sweden Concerning Transboundary Rivers
- Agreement (last updated in 2015) concerning positions regarding water authorities' national work with border water between Norway and Sweden (PM rörande ställningstaganden gällande vattenmyndigheternas nationella arbete med gränsvatten mellan Norge och Sverige)

Since reporting ended in 2016, Sweden has indicated that there is a new agreement as of 2018 between Norway and Sweden on further cooperation concerning implementation of the WFD.

Both agreements between Sweden and Norway address cooperation on implementation of the WFD. In the Strategy for International Cooperation, no current cooperation activities are mentioned, but the strategy outlines positions regarding water authorities' national work with transboundary waters between Norway and Sweden. It refers to international water districts and WISE reporting. The countries also aim at sharing information.

The agreement of 2018 between national competent authorities aims at harmonising water body delineation, cooperation on monitoring, developing a common classification system, improving the joint management of shared transboundary river basins, and achieving a common understanding and management of heavily modified water bodies.

Management plans for the transnational river basins between Norway and Sweden are established according to the following principles: each district management plan has two parts, one comprising the parts of the district in its own country and a second part covering the international river basins within the river basin district.

There is currently cooperation between Sweden and Finland regarding flooding issues and Norway participates in the Swedish River Coordination Groups that are established in the border regions⁵⁶.

In the first management cycle of the WFD, WFD implementation was not referred to in the existing agreements, other than implicitly through links in Law 1929:405 to the Environmental Code and relevance for the WFD was not clear. The 2015 and 2018 agreements now clearly sets out the coordination of Swedish and Norwegian river basins. The 2015 Agreement indicates that the two countries will apply the downstream country's principles for classification, characterisation and risk assessment. The main change is that the international catchment areas in Norway should not be considered as their own district but shall be included in the international river basin districts, which is the case for Bothnian Bay. Coordination since the first plan has included a dialogue on coordinating environmental standards, monitoring and measures. The strategy for international cooperation also intends to use downstream country's principles for classification, characterisation and risk assessment.

The Agreement between Sweden and Finland creates the conditions for the implementation of the WFD and FD of the EU in the River Tornionjoki-River Muonionjoki river basin in the frontier region between Finland and Sweden. According to the Finnish RBMP, the basic principles include follow fair and equitable use of water resources, participation, exchange of information and cooperation.

The Border Commission⁵⁷ acts as a co-operative body between states and its task is to develop cooperation between the parties and to promote cooperation between the authorities.

The main purpose is to promote the interests of the frontier region, prevent flood and environmental damages, coordinate and reconcile the programmes, plans and measures in the water management area, the monitoring of the status of waters and to promote collaboration between the Parties in water and fisheries issues. It promotes cooperation between the authorities of the Parties in coordinating and reconciling programmes, plans and measures designed to reach the objectives for the status of the aquatic environment and monitoring the status of waters. It states that representatives of public authorities involved in flood prevention

⁵⁶ There are also specific agreement between Norway and Sweden regarding the cooperation between the rescue services, www.nordred.org

⁵⁷ Finnish-Swedish Border Commission: www.fsgk.se

may cross the national border to assist the authorities of the other country when it is necessary to take practical action to prevent an immediate flood risk in the transboundary river.

Sweden and Finland have developed a common plan for the Torne Älv River⁵⁸. The report gives an overview of the Swedish and Finnish management plans. The report describes the status of water, water management challenges within the border crossing the river basin and what challenges are needed to coordinate the work maintaining or achieving good status within the river basin. The common plan was not formally reported to the European Commission and thus has not been assessed in detail regarding the information on international cooperation between Sweden and Finland for the Torne Älv River.

According to the Swedish RBMP, the national management plan was made available for public consultation in Sweden and Finland, thereby ensuring that all relevant authorities, municipalities, organizations and the public received information about water management both within their own borders and in parts of the water district located in the other country.

2.8.3. Characterisation of the River Basin District

Finland and Sweden reported to WISE that they coordinated with each other in the development of the Art. 5 assessment report. Details on this coordination are not provided in the national RBMPs.

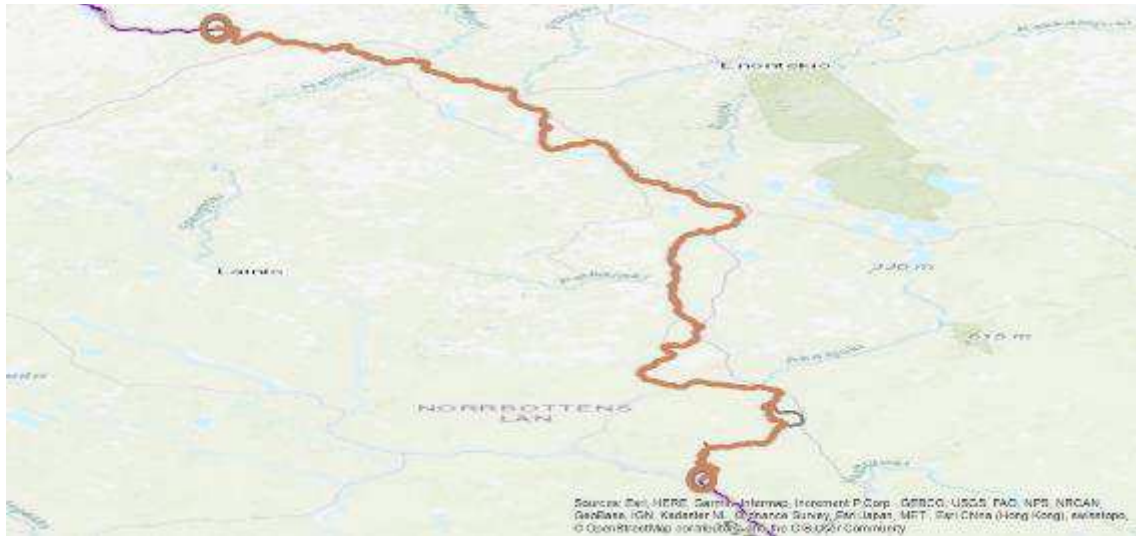
Joint methods for coordinating transboundary surface water body delineation are partly in place, including no longer clipping a transboundary water body in two different national parts, but rather delineating it as a whole, based on type, pressures and status, regardless of the national border passing through it. Norway, Sweden and Finland use 0.5 km² as the limit for delineating lake water bodies in the Torne älv river basin. Only parts of some water bodies in Sweden may be within the iRBD on the Norwegian side. The water body-ID for transboundary water bodies between Sweden and Norway follows the Swedish ID system but uses SENO in front of the number⁵⁹. For the 3rd RBMPs, this will change to probably using the national water body ID system of the country into which the water flows.

As shown in the map below, delineation between Sweden and Finland has taken place. The delineations by Sweden and Finland for the same water body mostly match. No GIS data was reported by Norway, as explained in the introduction.

⁵⁸ See: <http://www.ymparisto.fi/download/noname/%7B381679E5-BA51-4519-922A-535C2E516875%7D/123495>.

⁵⁹ E.g. RBMP, Annex 6 for SE5, p. 7-8, and fig. B6.1 p.4

Map 2.8.2 Comparison of the delineation of a river along the Swedish-Finnish border



The grey line refers to water body FI67_300_001 delineated by Finland and the brown line refers to water body SE755505-182645 delineated by Sweden. The starting and end points of both delineations match so only the Swedish delineation is visible except for the small grey part where Finland also delineated a tributary as part of the main water body.

No international groundwater bodies have been delineated.

The typologies for surface water bodies have not been harmonised, but agreements on status and pressures for water bodies in the iRBDs have been achieved through bilateral collaboration between Sweden and Norway and Sweden and Finland. Although most of the typology factors used in the Swedish typology system are the same as those used in Norway and Finland, the ranges for each typology factor is different, e.g. using 4m to distinguish deep from shallow lakes, while Norway and Finland follow the WFD Annex II System A, using <3, 3-15 and >15 m depth ranges to distinguish very shallow (unstratified), shallow (stratified) and deep lakes. Sweden does not use altitude as a separate factor, but integrates that into their ecoregions, in contrast to Norway, which uses altitude also within each ecoregion. Also, the alkalinity and humic content have different ranges in Norway and Sweden, so types are not directly comparable. However, a revision of the typology system has recently been agreed in Sweden, attempting to further harmonize most of the typology factors and their ranges to those used in Norway and Finland. This new typology is planned to be used for the 3rd RBMP.

After the first management cycle, the European Commission recommended that Sweden fully co-operate with neighboring countries, including the correct designation of transboundary river basin districts and intercalibration also in the context of coordination with neighboring

countries. For the second management cycle, some intercalibration has been undertaken between Sweden, Norway and Finland.

Finland, Sweden and Norway did not coordinate in the designation of type-specific reference conditions. For the second RBMPs, the reference conditions for transboundary water bodies will follow the classification system used in the country into which the water flows. In Sweden, reference conditions are estimated with models for each water body, while in Norway and Finland the reference conditions are type-specific. The reference conditions for the different biological quality elements are nevertheless intercalibrated for national types corresponding to the common intercalibration types, so to some extent the reference conditions are comparable.

Finland and Sweden reported to WISE that they coordinated with each other in the development of significant water management issues. The RBMPs indicates that they coordinated on the identification of pressures for water bodies in the iRBDs, but the plans do not specify how this coordination is linked to the coordination on identifying significant water management issues.

2.8.4. Recommendations

Efforts have been made since the first river basin management cycle to improve international coordination in the iRBD. New agreements are in place to promote cooperation, with positive indications that coordination will further increase for the 3rd cycle. The Member States and Norway are jointly discussing a number of WFD related issues.

The following recommendations can be made to further improve cooperation:

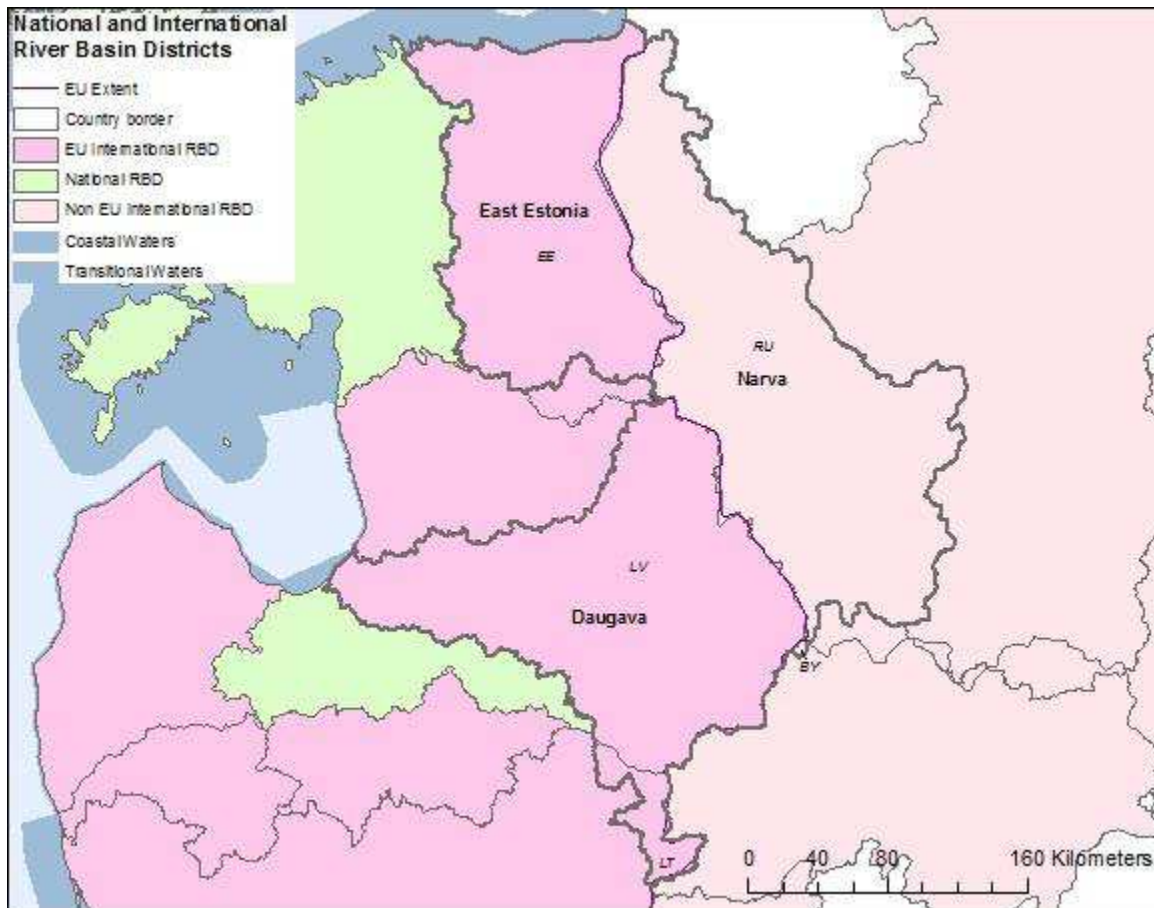
- Information on coordination should be clearer presented in the RBMPs including regarding typology and water body designation.
- Information on other important WFD related aspects should be extended and clearly presented, including pressures analysis, significant water management issues and coordinated measures to achieve the WFD environmental objectives.

3. International River Basins - category 3

3.1. Narva River Basin

3.1.1. General Information

Map 3.1.1 East Estonia/Narva International River Basin District



Source: WISE reporting 2016

The East-Estonia/Narva International River Basin is shared by Estonia, Latvia and Russia. Within the EU, the Narva is part of the East-Estonian River Basin District in Estonia and the Daugava River Basin District in Latvia. The river basin is allocated to cooperation Category 3, which means that an international agreement is in place but no permanent cooperation body or international RBMP.

Estonia and Latvia reported to WISE for their respective RBDs, not just the international East-Estonia/Narva River Basin within the River Basin Districts. As such, the information regarding the national shares of the international river basin is not available in WISE.

According to the 2012 Pressures and Measures study⁶⁰, the total area of the international River Basin is 56,200 km. The national share for Estonia is 17,000 km² (30 %); for Latvia 3,100 km² (6 %); and Russia 36,100 km² (64 %).

3.1.2. International Cooperation

In the International Narva Basin, the following bilateral agreements are in place:

- Estonia and Russia: Agreement on Protection and Rational Use of Transboundary Waters (Lake Peipsi/Chudskoe, Lake Lämmijärv/Teoploye and Lake Pihkva/Pskovskoye, Narva River, Narva Reservoir) and Agreement between the Government of Estonia and the Government of Russia concerning the Conservation and Use of Fishing Stocks in Lake Peipsi/Chudskoe, Lake Lämmijärv/Teoploye and Lake Pihkva/Pskovskoye;
- Estonia and Latvia: Agreement between the Ministry of Environment of Latvia and Estonia on Cooperation on the Protection and Sustainable Use of Transboundary Water Bodies.

There is no international agreement between Estonia, Latvia and Russia.

According to the East Estonia RBMP, through the Agreement between Estonia and Russia the two countries exchange data on environmental monitoring; harmonizing monitoring methods and support the information publication and exchange on transboundary water issues. The RBMP describes the cooperation activities between Estonia and Russia.

Estonia's co-operation with Russia occurs within the framework of the Joint Committee for Estonian-Russian Transboundary Water Bodies, created in 1997, including two expert groups: 1) expert group for monitoring and assessment and the 2) expert group for integrated water management. Co-operation in frame of first expert group include environmental monitoring and the assessment of transboundary waterbodies, while the second group focuses on transboundary water management and implementation of related measures according to River Basin Management Plans. Relevant expert groups and Commission meet at least once per year and review the implementation of RBMP. Cross-border cooperation on groundwater bodies is planned between Estonia and Russia.

The East Estonia and Daugava RBMPs do not describe cooperation activities between Estonia and Latvia in this international river basin.

⁶⁰ See <http://ec.europa.eu/environment/archives/water/implrep2007/pdf/Governance-Transboundary%20Fact%20Sheets.pdf>

3.1.3. Recommendations

Overall, the coordination within the international river basin district is limited. Information on cooperation between the Member States and with Russia is not provided in the East Estonian and Daugava RBMPs. Neither Member State reported to WISE for its national shares of the International Narva River Basin since it was not designated as a separate River Basin District.

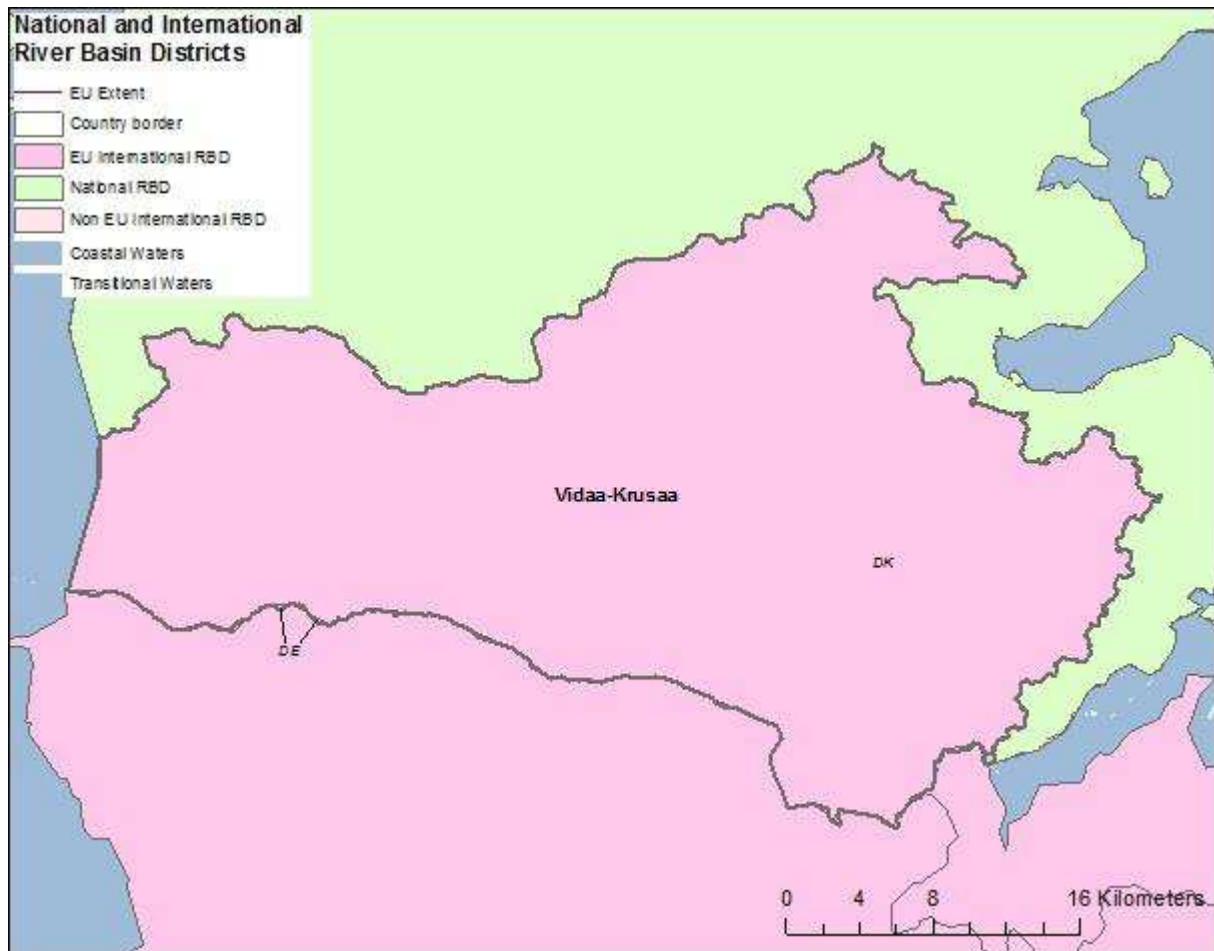
The following recommendations can be made to further improve cooperation:

- For the next management cycle, the EU Member States should report information to WISE specific to the international catchment.
- Estonia and Latvia should include a section in their national RBMPs on international coordination efforts to increase transparency and to improve cooperation on a range of different WFD related aspects.

3.2. Vidaa-Krusaa River Basin

3.2.1. General Information

Map 3.2.1 Vidaa-Krusaa International River Basin



Source: WISE reporting 2016

The Vidaa-Krusaa International River Basin is shared by Denmark and Germany.

Vidaa-Krusaa is part of the Eider and Schlei/Trave RBD in Germany and makes up the whole of the International RBD in Denmark. The Vidaa-Krusaa is a Category 3 basin, meaning that it has an international agreement in place, no permanent body or international river basin management plan.

3.2.2. International Cooperation

In January 2005, the Federal Republic of Germany and the Kingdom of Denmark entered in an Agreement according to Art. 3 (2) WFD, in which the coordination and cooperation regarding the management of the catchment areas of the transboundary Wiedau/Vidaa and Krusau/Krusaa rivers. For the development of the Krusau/Krusaa river, a German/ Danish INTERREG III A project on joint ecological development of the transboundary water was

carried out. As part of the international coordination on the implementation the WFD, meetings are regularly held between the competent bodies on the German and Danish sides to compare and harmonise results.

Germany and Denmark indicate that the two countries harmonise and exchange methodology on the following issues in the transboundary rivers and coastal waters:

- Delineation
- Monitoring
- Setting of environmental objectives
- Status assessment
- Ensuring river continuity for migratory fish
- Measures to reduce diffuse pollution
- Application of exemptions

3.2.3. Recommendations

International coordination already took place in the first RBMPs to ensure similar results for the two transboundary rivers. The RBMPs do not provide specific information on coordination efforts in the second management cycle.

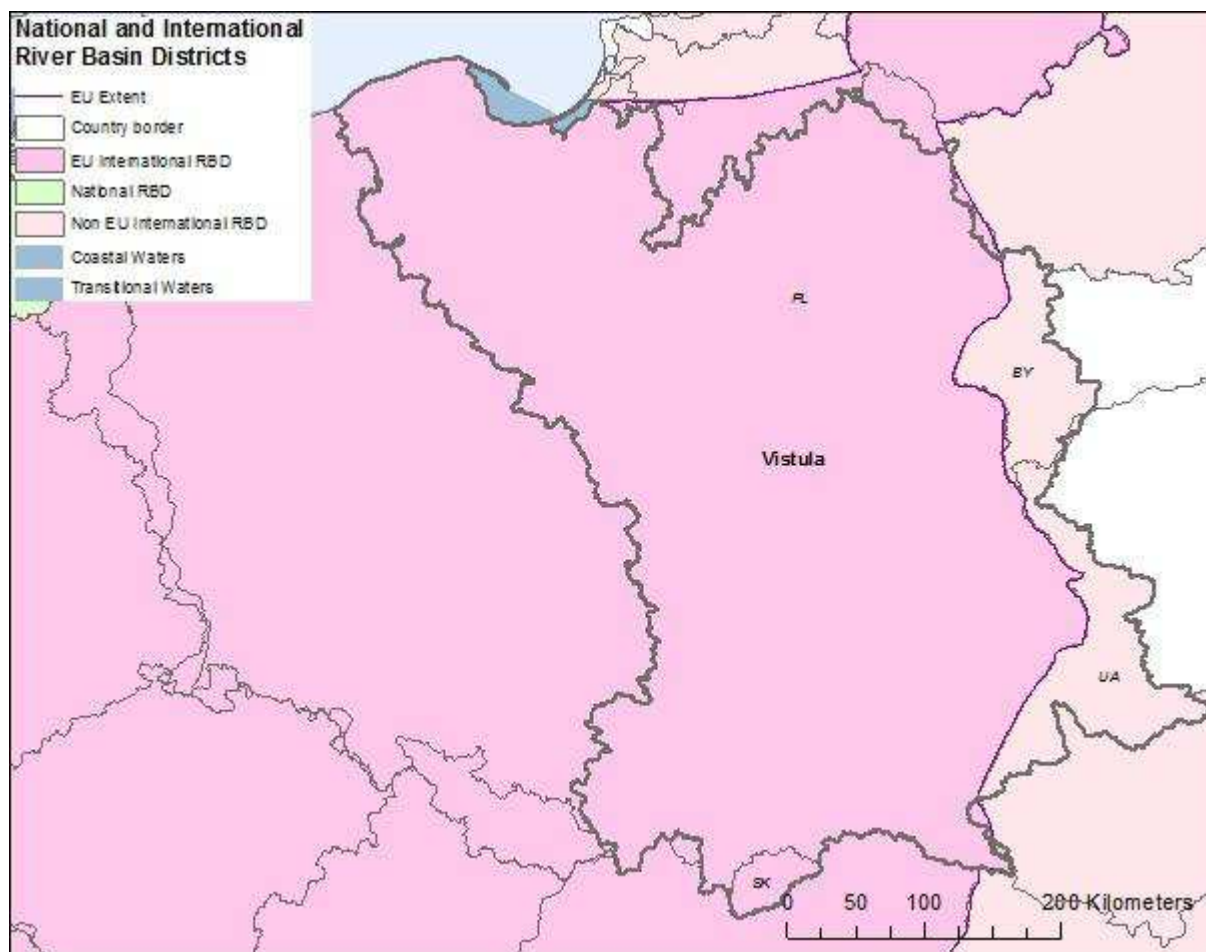
The following recommendations can be made to further improve cooperation:

- For the next management cycle more detailed information should be provided on the extent to which coordination of the two transboundary rivers led to harmonised results in relation to WFD implementation, including water body delineation, status assessment, exemptions and measures.

3.3. Vistula River Basin District

3.3.1. General Information

Map 3.3.1 Vistula International River Basin District



Source: WISE reporting 2016

The Vistula International River Basin District (iRBD) is shared by Belarus, Poland, Slovakia and the Ukraine. The Vistula iRBD is allocated to cooperation Category 3, which means that an international agreement is in place but no permanent co-operation body or international RBMP.

The table below shows the shares of the iRBD in Poland and Slovakia as reported to WISE. The Polish Vistula RBMP reports that 87.5 % of the Vistula iRBD lies within Poland. Information on the shares of the iRBD in Belarus and the Ukraine are not available.

Table 3.3.1 Size of the total catchment area and national shares for each international RBD

Shared International RBD	Total Area of Shared International RBD (reported in PL RBMP)	EU Member States	EU RBD Code	National Area within International RBD (WISE)
	(km ²)			(km ²)
Vistula	192,963.43	Poland	PL2000	183,491.76
		Slovakia	SK30000	1,950

Source: WISE electronic reporting 2016 and Polish RBMP

3.3.2. International cooperation

In the Vistula iRBD, international cooperation on water management is governed through the following bilateral agreements:

- Agreement between the Government of Slovakia and the Government of Poland on the Management of Transboundary Waters (signed in 1997, entry into force 1999)
- Agreement between the Government of Ukraine and the Government of Poland on Cooperation in the Field of Water Management in Frontier Waters (signed in 1996)
- Agreement on Cooperation between the Hydrometeorology Department of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus and the Institute of Hydrometeorology and Water Resources of Poland (signed 2003)

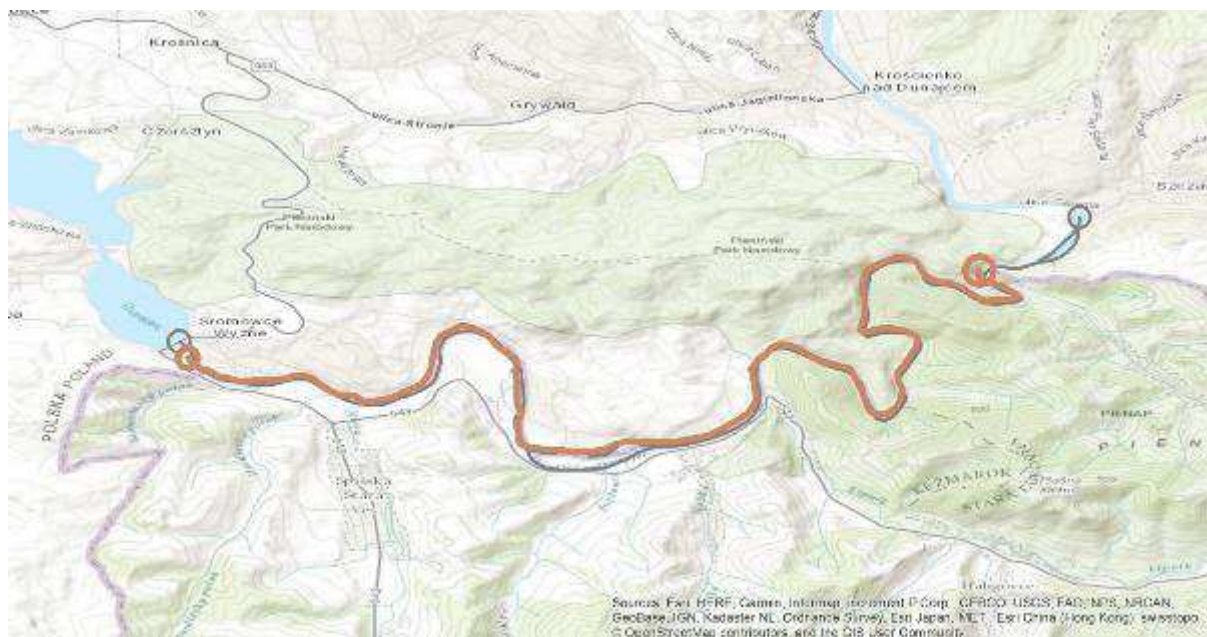
The Agreement between Slovakia and Poland is implemented through the Polish-Slovakian Transboundary Waters Commission. Four international working groups have been set up within the Commission: 1) Group R - for flood prevention measures, regulation of border watercourses, water supply, land improvement, planning and hydrogeology for flood prevention measures, regulation and maintenance of border watercourses and land improvement; 2) HyP Group - for hydrology and flood protection on border waters; 3) OPZ Group - for protection against pollution; and 4) WFD group - for the implementation of tasks in the water management on border waters.

The Polish RBMP does not provide information on joint approaches or methods between the two countries⁶¹. In the Slovakian RBMP, there was a general statement that most transboundary water bodies forming the border were harmonized both in terms of delineation (see example in the map below) and typology. On the Polish government website for

⁶¹ Poland subsequently informed that information on Polish-Slovakian cooperation is described in the Vistula RBMP

international water management cooperation, it is mentioned that during the WFD Working Group meeting in 2015 characterisation of the Vistula iRBD was discussed⁶².

Map 3.3.2 Assessment of delineation of surface water body has been taken place as indicated in WISE



Source: WISE electronic reporting 2016

The brown line refers to water body SKC001 delineated by Slovakia and the grey line refers PLRW20001521419 delineated by the Poland. The map above shows that delineation has been harmonised. However, Poland designated the waterbody as heavily modified, while Slovakia designated the same water body as natural.

Monitoring between Poland and Slovakia is coordinated through the Working Group OPZ. Meeting minutes from the Group (available on the Polish government website⁶³) summarize the international cooperation. A water monitoring programme has been established between the two countries based on jointly monitored parameters and assessment of water bodies status. The programme is based on WFD and EQS Directive requirements. Rules regarding monitoring are described in the Rules of cooperation in the field of water protection against pollution between Poland and Slovakia. Poland has clarified that the monitoring programme may be a subject to change in case of occurrence of new regulations in this matter resulting from changes in the EU directives. The results of monitoring conducted between Poland and Slovakia are being discussed and status assessment is being agreed between the two countries. The Polish RBMP includes a basic measure within its Programme of Measures aimed at

⁶² Poland informed that the harmonization of border water bodies took place within the framework of the commission, and the minutes and information from the meetings are available on the website.

⁶³ For further information please visit <http://kzgw.gov.pl/index.php/pl/wspolpraca-miedzynarodowa/wspolpraca-z-republika-slowacka>

ensuring coordination of achieving environmental objectives in the entire area of the international river basin. Further information on cooperation is not available.

The Ukrainian-Polish Commission has five working groups: 1) planning of transboundary waters; 2) protection of border waters against pollution; 3) flood control regulations and drainage; 4) combating extraordinary pollution; and 5) hydrometeorology and hydrogeology. The key areas of cooperation between Poland and the Ukraine are:

- joint monitoring;
- hydromorphology;
- pollution (pressures/measures assessment point source pollution and/or diffuse source pollution);
- coordinated/shared databases and/or GIS;
- flood risk management; and
- joint communication strategy and public participation activities.

The Ukrainian-Polish Commission's website states that Poland and Ukraine discussed the methodologies for determining water types and developing maps of surface water typologies along the Bug River, a tributary of the Vistula river, in Poland and Ukraine in 2012. No further information is given⁶⁴.

In addition to the agreement on hydrometeorology, Belarus and Poland have been working on an agreement on water resource management, which is still under negotiation. The two countries have had discussions on cooperation on monitoring the quality of water in the river, water level dynamics, and border-related issues.

3.3.3. Recommendations

International coordination in the iRBD is governed by bilateral agreements. An agreement between Poland and Belarus is being negotiated. Overall information on international coordination is limited in the Polish and Slovakian RBMPs. The information available from working group meeting documents points to cooperation on characterization, monitoring and assessment, pressure analysis and information exchange; however, information is limited and it is not fully clear what processes are harmonized in the context of river basin management.

The following recommendations can be made to further improve cooperation:

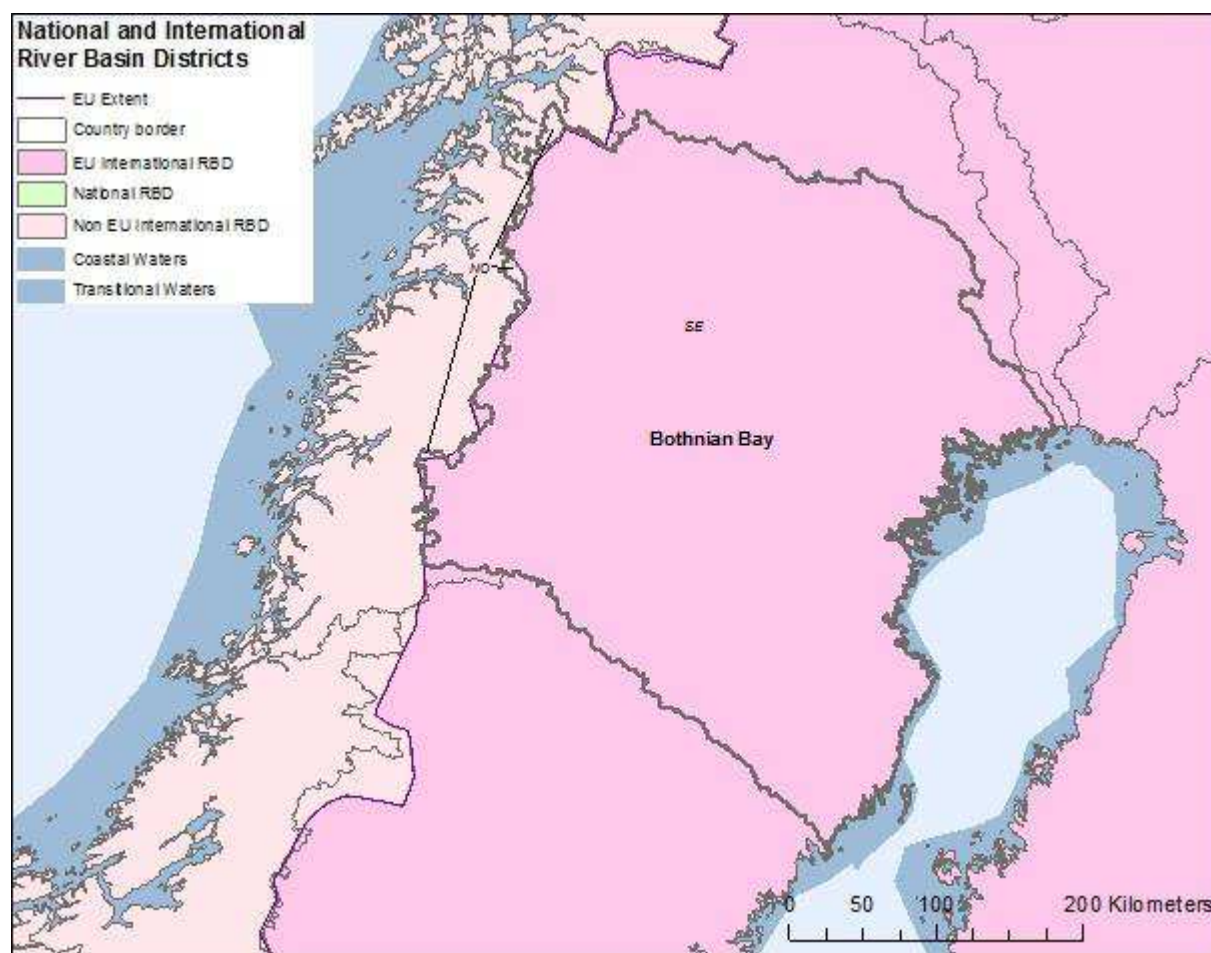
⁶⁴ Subsequent clarification from Poland indicates Poland provides Ukraine every three months results of water quality obtained in designated measuring points of the drainage catchment of the river Bug and after completion of annual research cycle. The evaluations of the status of water bodies are given on the basis of the classification of biological, physico-chemical and hydro-morphological elements.

- The EU Member States should include a specific chapter in their RBMPs on international coordination in order to increase the transparency of coordination efforts and to better identify potential gaps which should be appropriately addressed.

3.4. Luleälven, Umeälven and Piteälven River Basins

3.4.1. General Information

Map 3.4.1 Luleälven-Umeälven-Piteälven International River Basin District



Source: WISE reporting 2016

The Luleälven-Umeälven-Piteälven International River Basins are shared by Sweden and Norway. The River Basins are allocated to cooperation Category 3, meaning that it has an international agreement in place but there is no permanent body or international RBMP⁶⁵. Within the EU, the river basins are part of the Bothnian Bay International River Basin District (IRBD) in Sweden. The map below, provided by the Member States, shows the geographic location of the individual international river basins within the Bothnian Bay iRBD.

⁶⁵ Sweden subsequently informed the Commission that parts of each RBMP in Norway and Sweden are included in the neighbouring RBDs RBMP.

Map 3.4.2 Bothnian International River Basin District and its basins



Source: Sweden

The information Sweden reported to WISE is for the whole Bothnian Bay RBD and not just the share for Luleälven-Umeälven-Piteälven. As Sweden did not report specific information on the share of the international river basins to WISE and Norway had not yet completed WISE reporting, the table uses data obtained in 2012 during an assessment of international cooperation in the implementation of the WFD⁶⁶. Norway, as an EFTA country, is implementing the WFD under a specific timetable agreed pursuant to the Agreement on the European Economic Area (EEA), including reporting to WISE. The plans for 2016-2021

⁶⁶ 2012 Pressures and Measures Study. Available at: <http://ec.europa.eu/environment/archives/water/implrep2007/pdf/Governance-Transboundary%20Fact%20Sheets.pdf>. Page 209

represent the first cycle under formal WFD obligations for Norway. Full reporting to WISE is being completed during the summer of 2018.

Table 3.4.1 National area shares of the International Basin

Shared International River Basin	Total Area of Shared International RBD	EU Member States/Non EU Member States	EU RBD Code	National Area within International River Basin	National Area within International RBD
	(km ²)			(km ²)	(%)
Luleälven	25,264	Sweden	SE1	24,506	97 %
		Norway	NOSE1	758	3 %
Umeälven	26, 829	Sweden	SE1	26,560	99 %
		Norway	NOSE1	268	1 %
Piteälven	11,299	Sweden	SE1	11,186	99 %
		Norway	NOSE1	113	1 %
TOTAL	63,392	Sweden	SE1	62,252	98.2 %
		Norway	NOSE1	1,140	1.8 %

Source: Sweden

Only 1.8 % of the area of three River Basins is located within Norway. This part is sparsely populated and with very limited anthropogenic pressures.

3.4.2. International Cooperation

Cooperation in the iRBD is based on the following bilateral agreement:

- Agreement (last updated 2015) concerning positions regarding water authorities' national work with border water between Norway and Sweden (PM rörande ställningstaganden gällande vattenmyndigheternas nationella arbete med gränsvatten mellan Norge och Sverige)

Since reporting ended in 2016, Sweden has indicated that there is a new agreement as of 2018 between Norway and Sweden on further cooperation concerning implementation of the WFD.

Both agreements between Sweden and Norway address cooperation on the implementation of the WFD. In the Strategy for International Cooperation, no current cooperation activities are mentioned, but it outlines positions regarding the water authorities' national work with transboundary waters between Norway and Sweden. It refers to international water districts and WISE reporting. The countries also aim at sharing information. The agreement from 2018 between national competent authorities aims at harmonising water body delineation, cooperation on monitoring, developing a common classification system, improving the joint

management of shared transboundary river basins and achieving a common understanding and management of heavily modified water bodies.

The management plans for the transboundary river basins between Norway and Sweden have been established according to the following principles: each district management plan has two parts, one comprising the RBD in its own country and a second part covering the international river basins within the district. The latter part is to be handled as an attachment.

There is currently cooperation between Sweden and Norway regarding flooding issues and Norway participate in the Swedish River Coordination Groups that are established in the border regions⁶⁷.

In the first management cycle of the WFD, WFD implementation was not referred to in the existing agreements, other than implicitly through links in Law 1929:405 to the Environmental Code and relevance for the WFD was not clear. The 2015 and 2018 agreement now clearly sets out the coordination of Swedish and Norwegian river basins. The 2015 Agreement indicates that the two countries will apply the downstream country's principles for classification, characterisation and risk assessment. The main change is that the international catchment areas in Norway should not be considered as their own district but shall be included in the international river basin districts, which is the case for Bothnian Bay. Coordination since the first plan has included a dialogue on coordinating environmental standards, monitoring and measures. The strategy for international cooperation also intends to use downstream country's principles for classification, characterisation and risk assessment.

Extensive collaboration is in place between Sweden and Norway, which is described in the relevant Swedish RBMP. According to the Bothnian Bay RBMP, the national management plan was made available for public consultation in Norway, thereby ensuring that all relevant authorities, municipalities, organizations and the public received information about water management both within their own borders and in parts of the water district located in the other country.

Sweden reported to WISE that the two countries coordinated on the development of the Art. 5 assessment report, i.e. coordination on pressure analysis, characterisation of the basin and identification of significant water management issues. The Bothnian Bay RBMP indicates that the two countries coordinated on the identification of pressures for water bodies in the iRBDs, but the plan does not specify how this coordination is linked to the coordination on identifying significant water management issues.

⁶⁷ Sweden subsequently clarified that the Floods Directive is not being implemented in Norway, as it is not part of the Agreement on the European Economic Area (EEA). There are also specific agreement between Norway and Sweden relating to the cooperation between the rescue services, www.nordred.org

A joint approach/method for coordinating transboundary surface water body delineation has been developed and applied in the international river basin. The water body-ID for transboundary water bodies between Sweden and Norway follows the Swedish ID system but uses an acronym in front of the number. For the 3rd RBMPs, this will change to probably using the national water body ID system of the country into which the water flows.

Joint methods are partly in place, including no longer clipping a transboundary water body in two different national parts, but rather delineating it as a whole, based on type, pressures and status, regardless of the national border passing through it. The iRBD does not have any transboundary groundwater bodies. There are some differences in the delineation of lakes. Norway uses 0.5 km² as the limit for delineating a lake. With regard to Sweden, for lakes within EU-protected areas of special ecological value, also smaller lakes have been added for the management cycle 2016-2021, which means that lakes smaller than 0.5 km² have also been designated as water bodies.

Typology has not been coordinated in the basin. Although the typologies have not been harmonised, agreements on status and pressures for water bodies in the international river basin have been achieved through bilateral collaboration between Norway and Sweden. Although most of the typology factors used in the Swedish typology system are the same as those used in Norway, the ranges for each typology factor is different, e.g. using 4m to distinguish deep from shallow lakes, while Norway follows the WFD Annex II System A, using <3, 3-15 and >15 m depth ranges to distinguish very shallow (unstratified), shallow (stratified) and deep lakes. Sweden does not use altitude as a separate factor, but integrates that into their ecoregions, in contrast to Norway, which uses altitude also within each ecoregion. Also, the alkalinity and humic content have different ranges in Norway and Sweden, so types are not directly comparable. However, a revision of the typology system has recently been agreed in Sweden, attempting to further harmonize most of the typology factors and their ranges to those used in Norway. This new typology is planned to be used for the 3rd RBMP.

Sweden and Norway did not harmonise the designation of type-specific reference conditions. However, for the second river basin management cycle, the reference conditions for transboundary water bodies follow the classification system used in the country into which the water flows. In Sweden, reference conditions are estimated with models for each water body, while in Norway the reference conditions are type-specific. The reference conditions for the different biological quality elements are nevertheless intercalibrated for national types corresponding to the common intercalibration types, so to some extent the reference conditions are comparable.

Environmental quality standards for the transboundary catchment areas between Norway and Sweden are determined according to the following principles: the water authority of the respective water district decides for all water bodies in Sweden. This means that the standards can only be decided for water bodies within Sweden's borders. In other words, Swedish water authorities will not be able to decide on environmental quality standards for the entire water districts, as some parts are outside Swedish territory. The Bothnian Bay RBMP does not make clear whether this refers to adhering to the EQS Directive or if they are referring to quality elements in the context of water body status classification.

3.4.3. Recommendations

International coordination was extended in the international river basin since the first river basin management cycle. New agreements are in place to promote cooperation, with positive indications that coordination will increase further for the 3rd cycle. From the agreements and the summary chapter in the RBMP from Sweden, it is clear that Sweden and Norway are jointly discussing a number of issues. Information on the coordination of delineation is available, which also serves as a basis for identifying pressures and selecting measures.

The following recommendations can be made to further improve cooperation:

- It would be helpful to have additional information in the Bothnian Bay RBMP on how the pressures analysis within the Art. 5 report was coordinated and which common significant water management issues – if any – were identified.