



**Guidance Document
for the development of the
transboundary Drina River Basin
Management Plan and its
Joint Program of Measures
(Bosnia-Herzegovina, Montenegro and
Republic of Serbia)**

ECRAN - XXXXX

**Financed by the TAIEX Instrument
in the Framework of the implementation of the
Environment and Climate Regional Accession Network**

**Beneficiaries:
ECRAN beneficiary countries (Albania, Bosnia and
Herzegovina, former Yugoslav Republic of Macedonia,
Kosovo*, Montenegro, Republic of Serbia and Turkey)**

Reference: <http://ec.europa.eu/enlargement/taieux>.

List of abbreviations

BAP	Best Agricultural Practice
BAT	Best Available Techniques
BEP	Best Environmental Practice
BLS	Baseline Scenario
BSC	Black Sea Commission
CAP	Common Agricultural Policy
CIS	Common Implementation Strategy
CP	Contracting Party
DPSIR	Driver, Pressure, State, Impact and Response framework for environmental analysis
Drina RB	Drina River Basin
DRB	Danube River Basin
DRBD	Danube River Basin District
DRBMP	Danube River Basin Management Plan
DRPC	Danube River Protection Convention
EC	European Commission
ECRAN	Environment and Climate Regional Accession Network Project
EPER	European Pollutant Emission Register
EQS	Environmental Quality Standards
EU	European Union
FASRB	Framework Agreement on the Sava River Basin
GES	Good Ecological Status
HMWB	Heavily Modified Water Body
ICPBS	International Commission for the Protection of the Black Sea
ICPDR	International Commission for the Protection of the Danube River
IED	Industrial Emissions Directive
IMPRESS	Impact pressures assessment guidance
IPPC	Integrated Pollution Prevention and Control Directive
MS	Member State
N	Nitrogen
na	not available
ND	Nitrates Directive
NVZ	Nutrient Vulnerable Zones
P	Phosphorus
PE	Population Equivalent
PRTR	Pollutant Release and Transfer Register
RBM	River Basin Management
RefCond	Reference Conditions
RR	Roof Report
SWMI	Significant Water Management Issue
UWWTD	Urban Wastewater Treatment Directive
WB	Water Body
WFD	Water Framework Directive
WWTP	Waste Water Treatment Plant



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1. Background

According to Article 13 of the EU Water Framework Directive, Member States shall ensure that a river basin management plan is produced for each river basin district lying entirely within their territory. In the case of an international river basin district falling entirely within the Community, Member States shall ensure coordination with the aim of producing a single international river basin management plan.

River basin planning is a strategic decision-making process that integrates the management of land and water within river basin districts. The river basin management planning process is a gradual cyclical process which aims to improve and support sound and sustainable water management to deliver the requirements of the WFD while balancing the environmental, social and economic needs within the river basin district.

River basin management plans may be supplemented by the production of more detailed programmes and management plans for sub-basin, sector, issue, or water type, to deal with particular aspects of water management. Implementation of these measures shall not exempt Member States from any of their obligations under the rest of this Directive.

This requirement is relevant for the Drina River Basin with the special context that the three countries are members of the International Commission for the Protection of the Danube River (ICPDR) and of the International Sava River Basin Commission¹. When the EU Water Framework Directive (2000/60/EC) was adopted in October 2000 the countries cooperating under the Danube River Protection Convention decided through the Danube Declaration, to make all efforts to implement the Water Framework Directive throughout the whole basin.

The Danube River Protection Convention and the Danube Declaration represent the legal as well as political framework for cooperation and transboundary water management in the Danube River Basin. All Danube countries with territories > 2000 km² in the Danube River Basin are Contracting Parties to the DRPC.

The International Sava River Basin Commission (ISRBC) was established in 2005 to implement the Framework Agreement on the Sava River Basin (FASRB), signed on 3 December 2002 by Bosnia and Herzegovina, Republic of Croatia, Republic of Serbia and the Republic of Slovenia. The main goal of the commission is to coordinate transboundary cooperation in the Sava River Basin in the establishment of the international navigation regime, sustainable water management and protection from harmful effects of water, water regime and ecosystem.

FASRB came into force on 29 December 2004. According to the FASRB, Article 12, “The Parties agree to develop the joint and/or integrated Plan on the management of the water resources of the Sava River Basin and to cooperate on its preparatory activities”. The ISRBC serves as the platform for coordination for the implementation of the WFD in the Sava River Basin on issues of basin-wide importance, although not all of them have legal obligations towards the European Commission.

¹ Montenegro is an Observer to the International Sava River Basin Commission. A Memorandum of Understanding on cooperation between the International Sava River Basin Commission and Montenegro has been signed in Belgrade on December 9, 2013. Montenegro is an Observer to the International Sava River Basin Commission



Both Commissions have prepared the River Basin Management Plans (RBMPs) for the Danube (2009) and the Sava (2013), respectively, in line with the WFD requirements. The first cycle will be followed-up by two more RBM Cycles that will be finalized by 2021 and 2027, respectively.

Considering the need to ensure a greater particularization of the water management issues on a smaller scale but having potentially a larger impact, the countries in the Drina River Basin (Drina RB) will develop the **Drina River Basin Management Plan** which will include a **Joint Program of Measures**.

Drina River Basin (Drina RB) has been selected within the frame of **the Environment and Climate Regional Accession Network (ECRAN) Project** as the most appropriate pilot river basin for assistance to the beneficiary countries in the development of transboundary river basin management plans.

This process will set off interfaces between a sub – unit (3 countries) and the Sava River Basin (4 countries) and the whole Danube River Basin (19 countries), through the exchange and comparison of state-of-the-art knowledge, frameworks, practices and experiences gained at the Sava and Danube basin scale. The different scale and degree of detailing - at the sub unit level - will offer the possibility of filling the missing data and gaps and bringing together the most comprehensive and up-to-date information and statistics when addressing the key challenges for the Drina basin.

Through previous involvement in the preparation of the Danube and Sava River Basin Management Plans, the cooperation on water management has been considerably improved between the Drina RB countries, which would attach a significant added value by further facilitating the cross-border dialogues, exchange of experiences and strengthening the national capacity building in preparing RBM plans and program of measures, and thus reaching the ECRAN Project objectives.

Many planning processes, including the development and adoption of river basin management plans require a Strategic Environmental Assessment (SEA) to be carried out in line with the European Strategic Environmental Assessment Directive. The SEA will ensure information on the significant environmental effects of the RBMP is gathered and made available to consultation authorities and the public during its preparation and prior to its adoption. The SEA will assess the significant environmental effects of the strategic objectives and significant national and regional measures set out in the RBMP. As the RBMP itself sets out to protect and improve the water environment, the SEA will include an assessment of this as well as any wider non-water environmental impacts.

2. Scope and Aim of this Guidance document

The overall **scope** of this **living guidance document** is to assist the experts involved in the implementation of the EU Water Framework Directive, specifically in the elaboration of the River Basin Management Plan and related Program of Measures, outlining the required technical issues.

It **aims** to offer clear evidence on the **topics of training the experts** in Bosnia and Herzegovina, Montenegro and Republic of Serbia, based on the logical flow of preparatory process of the Program of Measures in the selected pilot basin: Drina River Basin.

The guidance document will be updated along the ECRAN project implementation, based on the results of specific assessments, such as the identification of Significant Management Issues in Drina RB, the definition of



the Drina River Basin long vision for each of the identified SWMI, and the description of the respective management steps required to reach the WFD objectives.

An important component will be attached in the next project phase related to the **economic analysis and financing of the Program of Measures**, in line with the WFD requirements. The river basin management plan has an important role in reaching the precise balance between the benefits delivered by environmental improvements and the associated costs imposed on those who use the water environment.

3. Coordination Mechanisms

Appropriate coordination mechanisms on the A level enable transboundary cooperation and ensure the development of the River Basin Management Plan (RBMP) on the basin-wide level. In general, three different levels of coordination have been established both in the Danube River Basin and as well in the Sava River Basin levels: the basin- wide level (Danube/Sava), the bilateral/multilateral level and the national level.

Most sub-basins in the Danube river basin cover the territories of several countries, since the hydrographical boundaries of sub-basins generally do not correspond to national or administrative borders. Furthermore, some sub-basins are very large and therefore entail a great deal of coordination for the development of the river basin management plan. In order to facilitate the management of data for the presentation of results in national and bilateral coordination processes, so-called "sub-units" have been introduced as manageable units.

Sub-basin (according to Art. 2, 14. WFD)

"means the area of land from which all surface run-off flows through a series of streams, rivers and, possibly, lakes to a particular point in a water course (normally a lake or a river confluence)."

Sub-unit (defined for the use in the Danube River Basin District)

"means an area located on national territory consisting of

- a) a sub-basin,*
- b) a part of a sub-basin,*
- c) a group of sub-basins, or*
- d) a group of parts of sub-basins".*

There has been an agreement between the Danube countries to use the sub-unit to prepare the Danube River Basin Management Plan (DRBMP). These sub-units have been harmonized with those used in the ICPDR Flood Action Programme.

The content of the RBM Plan on the A level is strongly based on findings and actions on the national/sub-basin level. Today, the Danube countries have agreed to develop sub-basin management plans for several sub-basins: Sava, Tisza, the Danube Delta and Prut basin. The interrelation between the different levels is diverse and is exploited in the best possible way to achieve the objectives on all levels in the most efficient way.



The Danube River Basin Management Plan and programmes of measures according to the WFD are developed on three scales in the DRBD, which consists of three parts with Part A being the roof level and the level of detail increasing from Part A down to Part C (Figure 1). All three parts have a common structure. The competent authorities jointly coordinate Part A. Part C is coordinated by the competent authorities on the national level.

Part B can be the sub-basin – which is an option particularly for larger transboundary sub-basins – or Part B can be the national level thereby making full use of the sub-unit which is based on the hydrographic boundaries and national borders.

Countries can coordinate WFD implementation on the national level, but must coordinate any transboundary issues on the bilateral level. Where trilateral or sub-basin agreements exist, the coordination at this level must also be included in the national reports. The information on Part C (sub-units) is an integral part of the national plans or sub-basin plans (Part B).

It is up to the countries in the Drina RB to decide which approach to take for enabling transboundary cooperation and ensuring the development of the Drina RBM Plan.

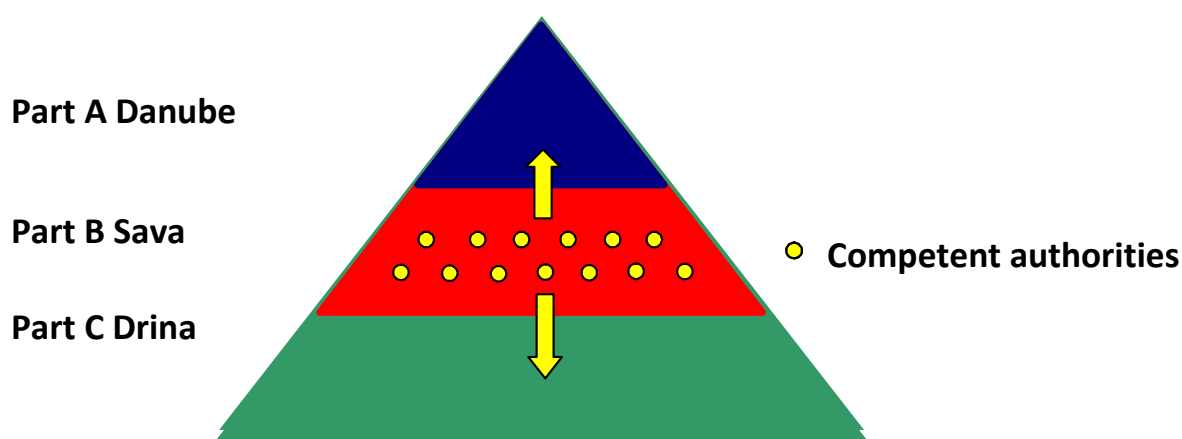


Figure 1 Coordination mechanism for developing the River Basin Management Plan and the Program of Measures

The Roof Reports (2003 and 2004) on Art. 3 and Art. 5 WFD, the first DRBMP (2009) and as well the ongoing 2nd DRBMP (2015) have been all prepared using the mechanism described above, based on the timely contributions of all the Danube countries, for meeting the reporting deadlines of the WFD.

For the following sub-basins the countries concerned have agreed to prepare coordinated sub-basin management plans:

Sub-basin	Coordination platform
② Tisza River Basin (HU, RO, RS, SK and UA)	Tisza MoU
② Sava River Basin (BA, HR, SI and RS)	Sava River Basin Commission
② Prut River Basin (MD, RO, and UA)	Trilateral cooperation
② Danube Delta (RO and UA)	Bilateral cooperation

The EU WFD implementation process follows **four phases** with defined tasks:

- Phase I: Definition of river basin districts, definition of the institutional frame and mechanisms for coordination.
- Phase II: Analyses of river basin characteristics, pressures and impacts and the economic analysis, establishment of the register of protected areas.
- Phase III: Development of monitoring networks and programmes.
- Phase IV: Development of the River Basin Management Plan including the Joint Programme of Measures (JPM) and public participation/consultation.

Therefore, within the scope of the Water Working Group for ECRAN Project, Task 2.3.2 (Assistance in the development of transboundary river basin management plans), the preparation of the Drina River Basin Management Plan and the related Joint Programme of Measures (JPM) represent the Phase IV of the first RBM Cycle.

4. The River Basin Management Plan and the Joint Program of Measures

4.1 Background

The principal component of the Water Framework Directive for each river basin district is the development of river basin management plans which will be reviewed on a six yearly basis and which set out the actions required within each river basin to achieve set environmental quality objectives.

The best model for a single system of water management is management by river basin - the natural geographical and hydrological unit - instead of according to administrative or political boundaries. For each river basin district - some of which will traverse national frontiers - a "river basin management plan" will need to be established and updated every six years, and this will provide the context for the co-ordination requirements identified above.

The river basin management plan (RBMP) represents the main achievement tool of the WFD objectives, which is realized in 6-year cycles and consists of preparation, implementation and revision phases.

Essentially, the RBMP provides:

- (i) evidence and documentation mechanism for the information gathered including: **pressures and impact assessment, environmental objectives** for surface and ground waters, quality and quantity of waters, and **the impact of human activity on water bodies**,
- (ii) facilitates coordination of the **programmes of measures** and other relevant programmes within the river basin district, and



- (iii) guarantees the main progress **reporting mechanism to the EC** as required by the WFD Art. 15.

In order to address the WFD implementation challenges in a coordinated way, the Commission agreed on a number of guidance documents and technical reports which have been produced to assist EU Member States with an overall methodological approach, which could be adjusted to specific circumstances by each EU Member State.

The most relevant documents include:

- "Common Strategy on the Implementation of the Water Framework Directive"
- "Carrying forward the Common Implementation Strategy for the Water Framework Directive - Progress and Work Programme 2003/2004"
- "Moving to the next stage in the Common Implementation Strategy for the Water Framework Directive - Progress and Work Programme 2005/2006"
- "Improving the comparability and the quality of Water Framework Directive implementation – Progress and Work Programme 2007-2009"
- "Supporting the implementation of the first river basin management plans - Workprogramme 2010-2012"
- "Strengthening the implementation of EU water policy through the second river basin management plans - Work Programme 2013-2015".

In addition, the Commission produced Thematic CIS information sheets, such as for River Basin Management, Reporting and WISE (Water Information System for Europe), Ecological Status, Groundwater, Chemical Aspects, Flood Risk Management, Climate Change and Water, Water Scarcity and drought, Agriculture and Water, Biodiversity and water, Hydromorphology, and Economic Issues.

4.2 Basic Outline of the Drina River Basin District Management Plan (Article 13 WFD)

The outline of the Drina River Basin Management Plan will follow Annex VII WFD, called the "*Elements of the river basin management plan*". This approach allows countries sharing several international river basins to follow the same outline in all their river basins.

The river basin management plan for each river basin district includes the following chapters:

- General description of the characteristics of the river basin district, including a map showing the location and boundaries of the surface and ground water bodies and a further map showing the types of surface water bodies within the basin.
- Summary of the significant pressures and the impact of anthropogenic activity on the status of surface and ground waters, including point source pollution, diffuse pollution and related land use, the quantitative status of water including abstractions and an analysis of other impacts of human activity on water status.



- List of the environmental objectives set for all water bodies, including those where the use has been made of derogations.
- Summary of the economic analysis of water use.
- Summary of the programme or programmes of measures.
- Register of any more detailed programmes and management plans and a summary of their contents.
- Summary of the public information and the consultation measures taken, their results and the changes to the plan as a consequence.
- List of competent authorities.
- Contact points and procedures for obtaining background documentation and information, including actual monitoring data.

The RBMP includes several maps, such as: map of the results of the pressures assessment (point and diffuse pollution), of the monitoring network and programme showing the status of all water bodies and protected areas, or of the protected areas.

Within the Water Framework Directive, the environmental objectives will be set for all water bodies. One of its main aims is that all water bodies (including rivers, lakes, coasts, estuaries and groundwater) achieve 'good status' by 2015, respectively 2012 or 2027. Water bodies must also be protected to prevent any deterioration in status.

Through the gap analysis, for each water body, any possible discrepancy between its existing status and that required by the Directive is identified.

If a water body is considered unlikely to achieve its environmental objectives by 2015/2021/2027 (including those for protected areas and groundwater), the WFD requires that management measures to be put in place to meet the WFD goals. Individual measures and/or packages of measures for water bodies must be integrated in a co-ordinated and cost-effective programme of measures.

4.3 Setting up the Programme of Measures

The program of measures is the key component of the river basin management planning process (WFD, Article 11) as it is the main mechanism for achievement of the Directive requirements, through actions to be taken during the plan period to secure the WFD's broader aims of:

- reducing organic and nutrients pollution
- helping to ensure the progressive reduction of discharges, emissions and losses of hazardous substances
- reducing the level of purification treatment required for drinking water
- improving the efficiency of water use
- mitigating the effects of floods and droughts.



A measure is an action taken to reduce the negative impact of one or more pressures on one or more water bodies.

The scale and type of measure can vary. In terms of scale, measures can be applied at a variety of levels from a national level down to a single water body. These measures will be delivered by a wide range of organisations and initiatives across the Drina RB, in order to meet the WFD's objectives to achieve good status and to prevent deterioration in the status of water bodies.

For each SWMI identified at the Drina RB level² (Annexes 1 - 2), a list of the main measures currently available to mitigate or control the activity or pressure will be prepared. These measures may include legislation and range from regulations through to guidance, voluntary action and support. For example, efforts will be required through co-ordination of actions by responsible authorities or through partnership working. These may deliver small-scale environmental projects or large-scale partnership projects but, whatever the scale, all will contribute to delivering environmental improvements.

The purpose is to develop a cost-effective combination of measures that bring together the best tools to address a problem. This means thinking about utilising the full range of measures from regulation through to the provision of advice. **The goal is to achieve maximum environmental benefits with the minimum financial costs and administrative burden.**

4.3.1 What are the main pressures that will require measures?

The pressures identified in WFD Annex II, Sub-section 2.1 correspond to the first three of the categories identified for surface waters, specifically:

- **Point sources** of pollution (such as the wastewater discharges from agglomerations and industry, mining, contaminated land, agriculture point waste management, aquaculture)
- **Diffuse sources** of pollution (such as the urban drainage, including runoff, agriculture diffuse, forestry and other diffuse), and,
- Changes in water levels and flow caused by abstraction or recharge.

Both Sava and Danube River Basin analysis assessed a wide range of pressures on the water environment as part of an initial risk screening exercise. This analysis has been refined and combined with the assessments completed for the first River Basin Management Plan which was produced in 2009. The Reports identified four significant water management issues in the Danube Basin District for surface waters, as well for Sava River Basin: pollution by organic substances, nutrients and hazardous substances, and alterations to hydromorphology (such as the structural characteristics of the shape, natural morphology and boundaries of rivers, lakes, transitional and coastal waters); and transboundary groundwater issues including alterations to quality and quantity.

² The basic concept for identification of SWMIs and the link with the PoM are presented in the Annexes 1 and 2 to this document.



4.3.2 The WFD type of measures

A combination of basic and supplementary measures is likely to be the most effective means of reducing the point and diffuse pollution, but this will vary between catchments.

The WFD identifies two types of measure:

4.3.2.1 Basic measures

These are the minimum requirements for PoMs and include measures to implement existing EU legislation for the protection of water such as the Integrated Pollution Prevention and Control/ Industrial Emissions Directive, Urban Wastewater Treatment and Habitats Directives. A full list is given in Annex VI of the WFD. In addition, Article 3 of the WFD gives a list of pressures that must be controlled using statutory measures. This list includes diffuse and point sources of pollution, abstraction of water and ‘any other significant adverse impacts on the status of water’.

Basic Measures required under the Directives are presented by Table 1.

The Bathing Water Directive - (76/160/EEC)
The Birds Directive - (79/04/EEC)
The Drinking Water Directive - (80/778/EEC) <i>as amended by Directive (98/83/EC)</i>
The Major Accidents (Seveso II) Directive - (96/82/EC)
The Environmental Impact Assessment Directive - (85/337/EEC)
The Sewage Sludge Directive - (86/278/EEC)
The Urban Wastewater Treatment Directive - (91/271/EEC)
The Plant Protection Products Directive - (91/414/EEC)
The Nitrates Directive - (91/676/EEC)
The Habitats Directive - (92/43/EEC)
³ The Integrated Pollution Prevention and Control Directive - (96/61/EC)

Table 1 Basic measures to be included in the Programme of Measures

4.3.2.2 Supplementary measures

If a water body is considered unlikely to achieve its environmental objectives by 2015 based only on the implementation of the basic measures (including those for protected areas and groundwater), the WFD requires taking supplementary measures to improve the status and to meet the objectives.

Therefore, the Program of Measures may also need to include supplementary, or alternative, measures to provide further controls on pressures. The WFD provides a non- exhaustive list of such measures including legislative and economic instruments, codes of practice, projects, promotion of water efficient technologies and education.

³ Based on Annex VI (Part A) of Directive 2000/60/EC.



In practice, measures will be applied at different scales (e.g. national, catchment, site-specific).

The list of the supplementary measures that may be included in the Programme of Measures⁴ is presented in the Table 2.

Legislative, administrative, economic and fiscal instruments.
Abstraction and emission controls.
Negotiated environmental agreements.
Codes of good practice.
Demand management measures.
Efficiency and re-use measures.
Artificial recharge of aquifers.
Recreation and the restoration of wetlands.
Construction projects.
Desalination plants.
Rehabilitation projects.
Education projects
Research, development and demonstration projects.
Other relevant measures.

Table 2. Supplementary measures that may be included in the Programme of Measures

5. Organisation of work

The preparation of the PoM for Drina RB will include the followings steps:

- Pressures and impact assessment at the Drina RB level
- Selection of Significant Water Management Issues
- Assessment of interlinkages between specific topics and their integration
- Definition of visions for each SWMI
- Description of management objectives for each SWMI/vision
- Compilation of measures in the Pom
- Economic analysis
- Financing
- Assessment of anticipated effects to achieve the WFD objectives based on the compiled PoM, making use of scenarios of future developments.

⁴ Based on Annex VI (Part B) of Directive 2000/60/EC.



The development of the Drina RBM Plan and its related PoM is broad in scope, as the investigated issues are diversified in comparing with the other sub basins or sub units, such as: integration of water quality with quantity or aspects of draughts and flooding treated together.

The work under Drina RB allows making use of already existing methodologies at the Sava and Danube of levels, but with the possibility of detailing the approaches and filling the missing data and gaps.

Annexes

1. Transboundary issues: template for data collection for Drina countries
2. SWMIs basic concept and screening template for Drina countries
3. Linkages SWMIs and PoM: background document for all ECRAN project beneficiaries
4. Monitoring programs: template for data collection from all ECRAN beneficiaries countries

