
Significant Water Management Issues in the Danube River Basin District

icpdr **iksd**
International Commission for the Protection of the Danube River
Internationale Kommission zum Schutz der Donau

Including visions and management objectives for each Significant Water Management Issue

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List of Acronyms

DRB	Danube River Basin
DRBD	Danube River Basin District
DRBM Plan	Danube River Basin Management Plan
DRPC	Danube River Protection Convention
EG	Expert Group
EU WFD	European Water Framework Directive
ICPDR	International Commission for the Protection of the Danube River
JAP	Joint Action Programme
JPM	Joint Programme of Measures
MS	Member State
RBM	River Basin Management
RBM EG	River Basin Management Expert Group
SWMI	Significant Water Management Issue
UWWTP	Urban Waste Water Treatment Plant
WWF	World Wildlife Fund
WWTP	Waste Water Treatment Plant

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1. Introduction

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. When the EU Water Framework Directive (2000/60/EC) was adopted in October 2000 the countries cooperating under the Danube River Protection Convention decided to make all efforts to implement the Water Framework Directive throughout the whole basin. They aim for a *Danube River Basin Management Plan¹ by 2009 entailing national and basin-wide agreed measures as well as setting the framework for more detailed plans at the sub-basin or national level*. The Danube River Basin Management Plan and the Joint Programme of Measures – as integral part of it - follow the requirements of the EU Water Framework Directive and therefore aim for the achievement of the respective environmental objectives.

The International Commission for the Protection of the Danube River (ICPDR) is the coordinating platform to compile multilateral and basin-wide issues of the Danube River Basin Management Plan. The Danube Basin Analysis or Roof Report has been finalised in 2004 and represents the first milestone of the Danube River Basin Management Plan. This report reflects a comprehensive analysis of the Danube River Basin District including the natural characterisation of transboundary surface- and groundwater bodies as well as the identification of their significant anthropogenic pressures/impacts. The Roof Report 2004 is the basis for any further steps to compile the Danube River Basin Management Plan and its Joint Programme of Measures by 2009.

Several documents have been published to guide towards a joint Danube River Basin Management Plan including a strategy paper for the development of a Danube River Basin District Management Plan (ICPDR DOC 101, 2005) and a corresponding Road Map/Work Plan (ICPDR DOC 110, 2005). The strategic steps and respective timelines to achieve the final Danube River Basin Management Plan 2009 are included in these documents.

Further, four Issue Papers regarding each Significant Water Management Issue in the DRBD have been developed with the aim to achieve a common understanding and approach towards the DRBM Plan.

The ICPDR River Basin Management Expert Group – in cooperation with the other ICPDR EGs - is responsible for the preparation of this document on Significant Water Management Issues in the DRBD. According to WFD Article 14, this document will be made available to the public in order to inform about the preparation of the Danube River Basin Management Plan and the Joint Programme of Measures. The document will be published on the ICPDR website including an invitation for comments.

¹ The Danube River Basin District has been defined in the frame of the work of the ICPDR. It covers 1) the Danube River Basin, 2) the Black Sea coastal catchments on Romanian territory, and 3) the Black Sea coastal waters along the Romanian and partly the Ukrainian coast. The river basin management plan will be developed for this entire Danube River Basin District. However, in this text and as a simplification the ***Danube River Basin District Management Plan (DRBDM Plan)*** is always cited as ***the Danube River Basin Management Plan (DRBM Plan)***.

2. Scope and Aim of this Document

The Danube Basin Analysis 2004 enabled the identification of initial Significant Water Management Issues in the Danube River Basin District:

1. Pollution by organic substances
2. Pollution by nutrients
3. Pollution by hazardous substances
4. Hydromorphological alterations²
5. Alterations regarding quantity and quality of transboundary groundwater bodies

The scope of this document is to focus on these Significant Water Management Issues on the basin-wide scale to ensure a target-oriented Danube River Basin Management Plan and an appropriate Joint Programme of Measures by 2009.

The water management issues were derived on the basis of the requirements of the EU Water Framework Directive and mainly relate to quality aspects. However, in addition, investigations are already being undertaken to identify other relevant issues and their significance on the basin-wide scale such as climate change and changes in sediment transport. Changes related to water quantity through flood and drought events take an equally important role in the Danube River Basin District. Floods are a threat to human safety and health whereas flood protection measures (i.e. dams and polders) can impact the surface water status. The EU Floods Directive (2007/60/EC) and the ICPDR Flood Action Programme set a frame of future flood management in the Danube River Basin. For the integrated Danube River Basin Management Plan, the inter-linkage of flood management, flood protection measures and measures to achieve the objectives of the EU Water Framework Directive will be aimed for to ensure best possible solutions. Moreover, the water management issues will be reviewed on a regular basis, e.g. the importance of water scarcity and droughts and the need for water saving measures will be discussed in the future in the light of the EU Communication addressing water scarcity and droughts and the Green Paper on adaptation of climate change.

Further, countries develop their national and regional strategies to complement the Danube RBM Plan and, where necessary, addressing also other significant water management issues.

This document serves as the first outline of the DRBM Plan/JPM - it describes its overall scope as well as the approach how to achieve it. It highlights the general cross-cutting issues between the SWMI in the DRBD and is based on the specific issue papers on the Significant Water Management Issues³. The cross-cutting issues set the joint frame for the compilation of the DRBM Plan. The document includes visions and operational management objectives for each SWMI, through which the Danube countries commonly agree on the aims of the DRBM Plan. The document also serves the future management of needed, active input from the Danube countries and the necessary preparatory actions for each SWMI. The document thus will support the ICPDR EGs, the respective Task Groups and the Danube countries to deliver the Plan and measures by 2009 with the aim of achieving the objectives by 2015.

² Hydromorphological alterations are human pressures to the natural structure of surface waters such as modification of bank structures, sediment/habitat composition, discharge regime, gradient and slope. The consequence of these pressures can impact aquatic ecological fauna and flora and can hence significantly impact the water status.

³ All four individual Issue Papers can be downloaded on the public ICPDR website (www.icpdr.org).

The approach towards the DRBM Plan at ICPDR level - as described in this document - should be modelled on the successful preparation of the Danube Basin Analysis 2004 where the Part A (Roof Part) responded to the needs of basin-wide importance. In addition, Danube River Basin management is based on analyses on the international sub-basin scale (Part B) such as performed for the Tisza, Sava, Prut River Basin or the Danube Delta. However, the input into Part A depends on the timely and comprehensive contribution from the contracting parties on the national activities. Therefore, the document outlines upcoming needs and requirements to the Danube countries. Furthermore, the document includes some cross-cutting issues for all Significant Water Management Issues

3. General Cross Cutting Issues

Cross cutting issues can be identified for all SWMIs related to surface waters and groundwater. They set the general joint frame to approach the development the Danube River Basin Management Plan.

3.1. Interrelation between the international, national and sub-basin level of RBM Plans

River basin management plans and programmes of measures according to the WFD will be developed on three scales in the DRBD, which are the

1. International level (Part A)
2. National level (Part B) and/or
3. Internationally coordinated sub-basin level (Part B) for selected sub-basins (Tisza, Sava, Prut, Danube Delta) and in addition the sub-unit level (Part C).

As outlined in the strategic document on the *Development of the Danube River Basin District Management Plan* (ICPDR document 101) the information increases in detail from the Part A to Part B and C. The content of the RBM Plan on the A level is strongly based on findings and actions on the national/sub-basin level. The interrelation between the different levels is manifold and should be exploited in the best possible way to achieve the objectives on all levels in the most efficient way. Adverse overlaps and duplication of work should be prevented.

3.2. Long-term vision and specific management objectives – basic principles

The approach on the basin-wide level must be complementary and inspirational to the national planning and implementation – and vice versa. To enable this approach in practice, visions and specific operational objectives (=management objectives) on the international scale are defined to guide the Danube countries towards a commonly agreed aim.

The SWMI visions are based on shared values and describe the principle objectives for the DRBD with a long-term perspective. The respective management objectives describe the first steps towards the environmental objectives in the DRBD in an explicit way - they are less detailed than at the national WFD water body level and more detailed than expressed in the Danube River Protection Convention (DRPC) as well as in the Danube Declaration. Basin-wide management objectives

- are described in a quantitative, semi-quantitative or qualitative way. They can be achieved through measures that need to be taken (e.g. construction of wastewater treatment plants), pressures, which need to be reduced/eliminated (e.g. reduction of nutrient input) or water quality thresholds (e.g. concentrations below environmental quality standards).
- help to bridge the gap between measures on the national level and their agreed coordination on the basin-wide level to achieve the overall WFD environmental objective. Measures at the national level can thus be complemented by the international level in such a way that they are effective in reducing and/or eliminating the existing impacts on the water status on the basin-wide scale.
- help to illustrate the implementation success by comparing the current implementation status with the management objective.

EU Member States must apply the EU WFD – which requires more detailed environmental objectives on a water body level – correctly. All other Contracting Parties to the Danube River Protection Convention (DRPC) have signed up to follow the WFD as well. This joint approach among all the Danube Basin States is reflected in the visions and management objectives presented in this document. Different timescales and aggregation levels of the EU WFD, the DRPC and the Danube Declaration will be harmonised through the approach towards the DRBM Plan and JPM. Clear timelines ensure the appropriate implementation and enable smooth transitions between the different RBM cycles. The basin-wide management objectives will be reached by the international coordination of national actions (aggregated information) or via a direct cooperation at ICPDR level.

3.3. Basin-wide approach

The DRBM Plan will follow the principle of the basin-district-wide⁴ approach, as the added value for an international RBM Plan is manifold:

- Environmental issues can be addressed that individual countries would not necessarily address (e.g. nutrient pollution of the Black Sea with special reference to the coastal waters as part of the DRBD).
- Coordination of actions can increase effectiveness and efficiency.
- Sharing of experiences, information and transformation of relevant issues to the basin-wide scale as contribution to the DRBM Plan (e.g. topic of exemptions).
- Sharing of national approaches and improvement of their comparability (e.g. criteria for final HMWB designation, sampling and assessment methods, etc.).
- Communication and information flow is improved (in particular relevant for early warning in case of floods and accidents).
- Enabling the joint assessment of the nature and extent of transboundary problems in relation to water.
- Creating solidarity between the countries sharing the same river basin.

At the same time, the basin-wide approach will take the different conditions in the Danube countries (e.g. natural conditions, socio-economic aspects, different EU MS status) into account. As starting point, the collection of national measures for the JPM on the basin-wide scale will focus on

- rivers with catchment areas >4000 km² ⁵
- lakes >100 km²,
- rivers and lakes of important international sub-basins (catchment areas >1000 km²) and
- transboundary groundwater water bodies > 4000 km²

However, the implementation scale of the national as well as the sub-basin Programmes of Measures is more detailed than for the basin-wide overview (JPM) and it is expected that most of the measures will be necessary in catchment areas < 4000 km². In order to highlight additional efforts in the DRBM Plan - if considered of importance for the basin-wide level - the Danube countries

- can report national measures for catchment areas <4000 km² and/or
- will provide a description of measures (number of measures, finances), which will be undertaken in the catchment areas <4000 km².

⁴ ‘Basin district wide’ is cited as ‘basin-wide’ throughout the whole text of this document.

⁵ The scale for measure collection related to point source pollution is smaller and therefore more detailed.

3.4. Joint Programme of Measures (JPM)

The DRBM Plan will include a Joint Programme of Measures, which will be at least as detailed and ambitious as the previous ICPDR Joint Action Programme (JAP – 2001 to 2005). For each SWMI, the JPM will be based on the defined management objectives and will – as a consequence - include commonly agreed, basin-wide measures.

As in the past, the approach towards basin-wide measures of the JPM is firmly based on and coordinated with the national programmes of measures. However, there might be few individual measures which are agreed on the ICPDR level and which would not be carried out to the extent necessary to address basin-wide concerns, if they were not jointly agreed within the ICPDR (e.g. feasibility study for sturgeon and other important fish species migration at Iron Gate I & II, status of coastal waters and the nutrient input to the Black Sea).

A feedback mechanism from the basin-wide discussions into the national planning and implementation should ensure the design of the JPM in the most efficient way and the achievement of the objectives set by the ICPDR. Therefore, the first step is to compile the relevant measures from the national level on the Roof level. Following the coordination of the measures on the basin-wide level, a joint assessment on whether the measures are targeted and sufficient to achieve the basin-wide management objectives will be undertaken. Thereafter, a feedback to the national planning and implementation process may be necessary. The last step is to make a commitment within the ICPDR, that the joint results will be implemented on the national level.

3.5. Financing issues

Financing tools and mechanisms are essential for the implementation of the DRBM Plan and the JPM. The differentiation between national/sub-basin activities related and those of basin-wide importance related to financial sources (e.g. funding) for measure implementation seems important and will be performed. Therefore, the JPM has to take the different socio-economic conditions of the Danube countries as well as the different status/levels of WFD implementation (EU MS, Accession Countries, non-EU countries) into account. Financing issues should be adapted to the different needs and opportunities of the different country groups in the DRB.

It is an overall objective, that the ICPDR promotes information exchange on existing international and EU financing instruments as well as on existing International Financing Institutions (IFI) to exploit these to the best possible extent. The EU Neighborhood Policy will also be taken into account as an important funding source. New financing mechanisms may need to be developed in the DRB and the active coordination with other ongoing activities (e.g. DABLAS – Danube-Black Sea Task Force) is important. The financing mechanisms may include

- financing commitments of the countries,
- transboundary financing of specific projects,
- the polluter pays principle (through water pricing policy) and
- the discussion of financial contributions to basin-wide measures by respective users.

As soon as the JPM has been compiled, special attention needs to be paid to the identified measures, their basin-wide importance, to the identification and implementation of priority measures and such measures with a lack of funding.

Any issues, which might emerge related to financing issues during the development of the JPM will be followed by the River Basin Management Expert Group.

4. SWMIs – Visions and Management Objectives

The chapter includes both, visions and operational management objective for all Significant Water Management Issues in the DRBD. The definition of visions and management objectives in the context of the DRBD can be found in Chapter 3.2. The management objectives will guide the DRBM Plan/JPM 2009. A detailed set of measures for each Significant Water Management Issue will be compiled, which should be implemented by 2015. Afterwards the subsequent river basin management cycles 2021 and 2027 will include further measures, where necessary. Due to the different status of the Danube countries regarding their EU membership the management objectives are defined separately for EU Member States, Accession Countries and Non-EU Member States.

The input and preparatory process for the DRBM Plan are outlined in detail in Annex 1 for each Significant Water Management Issue. Facts and figures on pressures/impacts for each SWMI are part of the Danube Basin Analysis and the respective issue papers.

4.1. Surface Waters

The visions and management objectives will support the achievement of the environmental objectives according to the EU Water Framework Directive. However, it has to be noted that so far many national measures have already been taken which improved the water status in some parts of the Danube River Basin District. The constructions of wastewater treatment plants significantly reduced emissions of organic substances and nutrients from point sources in the upper Danube River Basin and improved the quality in its water bodies. Similar measures are taken in other parts of the DRBM as well as measures to improve the status from hydromorphological impacts (e.g. construction of fish migration aids). The results of the Danube Basin Analysis reflect these environmental achievements and they will be taken into account when illustrating the future implementation success in the Danube River Basin District. However, many measures still need to be taken and will be coordinated in the Joint Programme of Measures to further improve the conditions on the basin-wide scale.

4.1.1. Organic pollution in the DRBD

The ICPDR's basin-wide vision for organic pollution is zero emission of untreated wastewaters into the waters of the Danube River Basin District.

Basin-wide Management Objectives – Organic Pollution

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States:

- ⇒ Phasing out – by 2015 at the latest – all discharges for untreated wastewater from towns with >10.000 population equivalents and from all major industrial and agricultural installations, through
 - ⇒ Implementation of the Urban Waste Water Treatment Directive (91/271/EEC)¹.
 - ⇒ Where required, identification of construction and/or improvement of wastewater treatment plants according to the ICPDR Emission Inventory by 2015.
 - ⇒ Implementation of the Sewage Sludge Directive (86/278/EEC) and the Integrated Pollution Prevention Control Directive (96/61/EC).
 - ⇒ Increase of the efficiency and level of treatment thereafter when necessary.

¹ For RO the implementation year is 2018 regarding agglomerations 2.000 - 10.000 Population Equivalents.

Accession Countries and Non-EU Member States:

- ⇒ Specification of number of wastewater collecting systems (connected to respective WWTPs), which are planned to be constructed by 2015.
- ⇒ Specification of number of municipal and industrial wastewater treatment plants, which are planned to be constructed by 2015 including
 - ⇒ Specification of treatment level (secondary or tertiary treatment)
 - ⇒ Specification of emission reduction targets

4.1.2. Nutrient pollution in the DRBD

The ICPDR's basin-wide vision for nutrient pollution is the balanced management of nutrient emissions via point and diffuse sources in the entire Danube River Basin District that neither the waters of the DRBD nor the Black Sea are threatened or impacted by eutrophication.

Basin-wide Management Objectives – Nutrient Pollution

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and Non EU MS:

- ⇒ Reduction of the total amount of nutrients entering the Danube and its tributaries to levels consistent with the achievement of the good ecological/chemical status in the Danube River Basin District by 2015.
- ⇒ Reduction of discharged nutrient loads in the Black Sea Basin to such levels, which permit the Black Sea ecosystems to recover to conditions similar to those observed in the 1960s.
- ⇒ Reduction of phosphates in detergents preferably by eliminating phosphates in detergent products as it is already the case for some Danube countries.
- ⇒ Implementation of the management objectives described for organic pollution with additional focus on the reduction of nutrient point source emissions (see above).
- ⇒ Implementations of best environmental practices regarding agricultural practices (for EU Member States linked to EU Common Agricultural Policy (CAP)).
- ⇒ Create baseline scenarios of nutrient input by 2015 taking the respective preconditions and requirements of the Danube Countries (EU Member States, Accession Countries, Non EU Member States) into account.
- ⇒ Definition of basin-wide, sub-basin and/or national quantitative reduction targets (i.e. for point and diffuse sources) taking the respective preconditions and requirements of the Danube Countries (EU Member States, Accession Countries, Non EU Member States) into account.

In addition, for EU Member States:

- ⇒ Implementation of the UWWTD (91/271/EEC) as described for organic pollution (see above) taking into account the character of the receiving coastal waters as a sensitive area.
- ⇒ Implementation of the EU Nitrates Directive (91/676/EEC) taking vulnerable zones into account in case natural freshwater lakes, other freshwater bodies, estuaries, coastal waters and marine waters of the DRBD are found to be eutrophic or in the near future may become eutrophic.

4.1.3. Hazardous substances pollution in the DRBD

The ICPDR's basin-wide vision for hazardous substances pollution is no risk or threat to human health and the aquatic ecosystem of the waters in the Danube River Basin District and Black Sea waters impacted by the Danube River discharge.

Basin-wide Management Objectives – Hazardous Substances Pollution

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and Non EU MS:

- ⇒ Elimination/reduction of the total amount of hazardous substances entering the Danube and its tributaries to levels consistent with the achievement of the good chemical status by 2015.
- ⇒ Implementation of Best Available Techniques and Best Environmental Practices including the further improvement of treatment efficiency, treatment level and/or substitution.
- ⇒ Explore the possibility to set up quantitative reduction objectives for pesticide emission in the Danube River Basin District.

In addition, for EU Member States

- ⇒ Implementation of the Integrated Pollution Prevention Control Directive (96/61/EC), which also relates to the Dangerous Substances Directive 76/464/EEC.

4.1.4. Hydromorphological alterations in the DRBD

The ICPDR's basin-wide vision for hydromorphological alterations is the balanced management of past, ongoing and future structural changes of the riverine environment, that the aquatic ecosystem in the entire DRB functions in a holistic way and is represented with all native species.

This means in particular, that

- ⇒ *anthropogenic barriers and habitat deficits do not hinder fish migration and spawning anymore - sturgeon species and specified other migratory species are able to access the Danube River and relevant tributaries. Sturgeon species and specified other migratory species are represented with self-sustaining populations in the DRBD according to their historical distribution.*
- ⇒ *floodplains/wetlands in the entire DRBD are re-connected and restored. The integrated function of these riverine systems ensure the development of self-sustaining aquatic populations, flood protection and reduction of pollution in the DRBD.*
- ⇒ *hydrological alterations are managed in such a way, that the aquatic ecosystem is not influenced in its natural development and distribution.*
- ⇒ *future infrastructure projects are conducted in a transparent way using best environmental practices and best available techniques in the entire DRBD – impacts on or deterioration of the good status and negative transboundary effects are fully prevented, mitigated or compensated.*

Interruption of River and Habitat Continuity

Basin-wide Management Objective – Restoration of River and Habitat Continuity

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and non EU MS:

- ⇒ Construction of fish migration aids and other measures to achieve/improve river continuity in the Danube River and in respective tributaries to ensure reproducing and self-sustaining of sturgeon species and specified other migratory species.
 - Specification of number and location of fish migration aids and other measures to achieve /improve river continuity, which are intended to be implemented by 2015 by each country.
- ⇒ Restoration, conservation and improvements of habitats and their continuity for sturgeon species and specified other migratory species in the Danube River and the respective tributaries.
 - Specification of location, extent and measure type, which are intended to be implemented by 2015 by each country⁶.
- ⇒ Performance of a feasibility study regarding the possibility for sturgeon and other important species to migrate upstream and downstream through the Iron Gate I & II dams including habitat surveys. If the results of this feasibility study will be positive the respective measures should be integrated into the DRBM Plan and Joint Programme of Measures for implementation.

Dis-connection of adjacent floodplains/wetlands

Basin-wide Management Objective – Re-connection of adjacent floodplains/wetlands

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and non EU MS:

- ⇒ Protection, conservation and restoration of wetlands/floodplains to ensure biodiversity, the good status in the connected river by 2015, flood protection and pollution reduction.
- ⇒ To determine the implementation steps for restoration and reconnection of lost floodplains and wetlands along the Danube River and its tributaries, a priority ranking needs to be developed and introduced taking flood retention, nutrient reduction and wetland/floodplain re-connection into account (the identified 17 sites identified along the Danube River and tributaries of approximately 330.000 ha should be considered⁷).
- ⇒ Implementation of the *no net-loss principle*⁸

Hydrological Alterations

Basin-wide Management Objective –Hydrological Alterations

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and non EU MS:

- ⇒ Performance of a respective analysis as an addendum to the Danube Basin Analysis 2004 to be part of the Danube River Basin Management Plan. Operational management objectives will be defined as soon as the analysis is finalised.

⁶ This specification will be determined as soon as the information on non-passable obstacles for fish is available.

⁷ The 330.000 ha restoration potential refers to findings of the WWF-Danube Pollution Reduction Programme report: Evaluation of Wetland and Floodplain Areas in the DRB (1999).

⁸ No net loss principle = conservation of floodplains and wetlands whenever possible – if surface areas of wetlands are converted to other uses, the total wetland resource base has to be offset through restoration and creation of other wetlands.

Future Infrastructure Projects

Basin-wide Management Objectives – Future Infrastructure Projects

The vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and non EU MS:

- ⇒ Conduction of Environmental Impact Assessments and/or a Strategic Environment Assessment in conjunction with the EU Water Framework requirements of Article 4(7) during the planning phase of the respective future infrastructure project if needed.
- ⇒ Fulfilment of the conditions set out in WFD Article 4, in particular the provisions for new modifications specified in Article 4, Paragraph 7.
- ⇒ Recommendations for stakeholders for the implementation of best environmental practices and best available techniques.

4.2. Groundwater

4.2.1. Alterations of groundwater quality in the DRBD

The ICPDR's basin-wide vision is that the emissions of polluting substances do not cause any deterioration of groundwater quality in the Danube River Basin District. Where groundwater is already polluted, restoration to good quality will be the ambition.

Basin-wide Management Objectives – Quality of Groundwaters

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and non EU MS:

- ⇒ Elimination/reduction of the amount of hazardous substances and nitrates entering the groundwater bodies in the Danube River Basin District to prevent deterioration of groundwater quality and to prevent any significant and sustained upward trends in the concentrations of pollutants in groundwater.
- ⇒ Implementation of the management objectives described for organic and nutrient pollution of surface waters (see above).
- ⇒ Increase of the wastewater treatment efficiency and level thereafter.
- ⇒ Implementation of Best Available Techniques and Best Environmental Practices.
- ⇒ Reduction of pesticide/biocides emission in the DRBD.

In addition, for EU Member States:

- ⇒ Implementation of the principle concerning prevention/limitation of pollutants inputs to groundwater according to the EU Groundwater Directive (GWD, 2006/118/EC).
- ⇒ Implementation of the EU Nitrates Directive (91/676/EEC).
- ⇒ Implementation of the Plant Protection Directive (91/414/EEC) and the Biocides Directive (98/8/EC).
- ⇒ Implementation of Urban Wastewater Treatment Directive (91/271/EEC).
- ⇒ Implementation of the Integrated Pollution Prevention Control Directive (96/61/EC), which also relates to the Dangerous Substances Directive 76/464/EEC.

4.2.2. Alterations of groundwater quantity in the DRBD

The ICPDR's basin-wide vision is that the water use is appropriately balanced and does not exceed the available groundwater resource in the Danube River Basin District, considering future impacts of climate change.

Basin-wide Management Objectives – Quantity of Groundwaters

The way towards the vision will be achieved through the implementation of the following management objectives by 2015:

EU Member States, Accession Countries and non EU MS:

⇒ Over abstraction of GW-bodies within DRBD is avoided by sound groundwater management.

In addition, for EU Member States:

⇒ Implementation of WFD (2000/60/EC) requirements that the available groundwater resource is not exceeded by the long-term annual average rate of abstraction.

4.3. Organisation of Work

The DRBM Plan and the JPM will largely consist of measures at the national level, which will be compiled in a systematic way respecting the management objectives for each SWMI. Further, related information from activities towards river basin management plans at the sub-basin level will be integrated into the Joint Programme of Measures (i.e. Tisza River Basin Management Plan, Sava River Basin Management Plan). As outlined in chapter 3.3 (JPM) the first step towards the JPM is to compile the relevant measures from the national level on the Roof level. Annex 1 outlines the needed input from the countries and the preparatory steps, which will be undertaken towards the DRBM Plan.

National data for the DRBM Plan and JPM will be collected until the end of 2008. A document describing the status of preparations for the Danube River Basin Management Plan will be compiled on the basis of available information by December 2008 to support national public participation efforts. In addition, the public consultation phase on the international level for the draft Danube River Basin Management Plan will start in June 2009 and will last until October 2009. Comments will be integrated and a revised draft will be presented at a public consultation workshop in the end of October 2009.⁹ Based on this a final draft version of the DRBM Plan will be presented at the 12th Ordinary Meeting (December 2009). The final DRBM Plan should be endorsed in the frame of a Ministerial Meeting in January 2010.

Measures within the JPM, which will be coordinated/performed on the basin-wide level (via top-down approach) will be addressed and planned specifically. The approaches will be in line with the overall DRBM Plan strategy and will be coordinated with the RBM EG, relevant ICPDR Task Groups and other ICPDR EGs. Such measures on the ICPDR level include e.g. the restoration of longitudinal continuity and wetland/floodplain reconnection.

The organisation of work will be guided by the issue papers on the SWMIs and this SWMI document. With support of the other ICPDR EGs, the RBM EG will coordinate all needed actions and the compilation of the information into the final DRBM Plan/JPM. Detailed tasks will be performed by the other ICPDR EGs and respective Task Groups.

4.4. Feedback mechanism on the international and national level – public consultation

The overall process towards the final Danube River Basin Management Plan includes full public participation and consultation. All important documents including this SWMI document, the draft Danube River Basin Management Plan and the Joint Programme of Measures will be provided to the

⁹ The timeline for public participation and public consultation might still be revised after the publication of this document due to the discussions and respective developments during 2008

wider public for information and comments. Therefore, during the public consultation phase, feedback can be provided to the ICPDR regarding the respective issues addressed on the basin-wide scale¹⁰. Other river basin management issues shall be addressed within the public consultation process on the national scale.

The content and objectives Danube River Basin Management Plan and Joint Programme of Measures will be harmonised between the international and national level to ensure its respective implementation to achieve the basin-wide objectives.

5. Synopsis and Outlook

According to EU WFD requirements river basin management plans need to be developed by 2009 in order to achieve the environmental objectives. The development of an international river basin management plan – like for the Danube River Basin District – requires the implementation of a specific approach, which is taking all issues that characterise a large basin into account. Catchment scale, implementation time, national measures and their translation to the international level have to be addressed specifically. The development of long-term management perspectives and visions, tailor made management objectives and targets are crucial to compile an effective Joint Programme of Measures.

This document includes a first outline of the DRBM Plan related to each Significant Water Management Issue including groundwater describing the way towards 2009. Cross cutting issues are outlined to provide a common basis of understanding towards the final DRBM Plan by 2009.

The chapter on crosscutting issues address the interrelationship between the Part A and Part B of the RBM Plans, explains the character of the JPM and describes the basin-wide approach and its benefit for the international as well as national level. Financial issues are addressed being aware that the socio-economic situation in the DRB needs to be taken into account within all development and implementation steps of the DRBM Plan.

The included visions and management objectives guide the Danube countries towards a commonly agreed aim. They are the criteria for the future management in the DRB to achieve the WFD objectives and enable the evaluation of the implementation success of the JPM. Further, the document includes necessary preparatory actions and needed input from the countries into the DRBM Plan/JPM within the next years.

The document briefly describes the involvement of the public in the development of the DRBM Plan by outlining the public consultation process, from which respective inputs for the improvement/adaptation of the DRBM Plan are expected.

The next steps within the DRBM Planning will be based on the issues outlined in this document and will focus on their practical implementation to enable the DRBM Plan.

6. Annex

Annex 1 – Table on the approach foreseen for all SWMIs which will be part of the DRBM Plan, including an outline on the needed input and preparatory process.

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Annex 1 to the Significant Water Management Issue Document



Table on issues for all SWMIs which will be part of the DRBM Plan including an outline on the needed input and preparatory process.

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//// Deutschland //// Österreich //// Česká republika //// Slovensko //// Magyarország //// Slovenija //// Hrvatska //// Bosna i Hercegovina //// Srbija //// Crna Gora //// România //// България //// Moldova ////

Imprint

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1.1. Table on issues for all SWMI which will be part of the DRBM Plan including an outline on the needed input and preparatory process.

HYDROMORPHOLOGICAL ALTERATIONS	Input for DRBM Plan	Preparatory Process
Current HYMO Pressures	The subsequent deliverables will be part of the DRBM Plan and will include a list of national projects (planned measures) – with or without available financing:	
<i>Morphological Alterations: Interruption of longitudinal continuity of rivers</i>	<ul style="list-style-type: none"> a. Construction of fish migration aids to ensure the longitudinal continuity on the basin wide scale b. Connection of disconnected tributaries by e.g. constructing natural and/or technical fish bypass channels, reconstructing existing ramps and artificial differences in level, etc. 	<ul style="list-style-type: none"> – Compilation of a register of longitudinal continuity interruptions/migration barriers in the DRB and evaluation regarding their basin wide impact. – Danube states are asked to provide a list of national measures – with or without available financing - regarding the restoration of longitudinal river continuity/fish migration to the ICPDR PS. – The Significant Water Management Issues (including the deliverables for the PoM) will be provided for review to the public by the end of 2007. Integrating the review results, the first draft of the Danube River Basin Management Plan will be available by the end of 2008. – Performance of a feasibility study regarding the restoration of longitudinal continuity of the Iron Gate I & II.
<i>Morphological Alterations: Interruption of lateral connectivity of rivers</i>	<ul style="list-style-type: none"> a. Reconnection of former floodplains b. Breach of dikes or mitigate effects of dikes c. Stop maintenance of dams/dikes (e.g. where dikes are no longer needed - no repairs, no removal of dead wood) d. Restoration of respective habitats. 	<ul style="list-style-type: none"> – Compilation of a comprehensive register of dis-connected floodplains/wetlands and evaluation regarding basin wide impact. – Danube countries are asked to provide a list of national measures – with or without available financing - regarding the re-connection of dis-connected floodplains and the restoration of respective habitats to the ICPDR PS. Information on the reason for re-connection measures (achievement of good status, flood event management, nutrient reduction) should be provided.
<i>Hydrological Alterations</i>	<p>Due to existing data and information gaps further analysis are needed and will focus on</p> <ul style="list-style-type: none"> a. Water abstraction (hydropower, industry, agriculture) and corresponding pressures/impacts b. Water supply and corresponding pressures/impacts 	<ul style="list-style-type: none"> – Performance of an analysis related to hydrological pressures/impacts in the DRB by the end of 2007 (?) to be an addendum to the Danube Basin Analysis 2004 (see approach of Tisza Basin Analysis as an example). – However, Danube states, which already set national measures (PoM) regarding hydrological impacts, are asked to provide these projects – with or without available financing - to the ICPDR PS.

HYDROMORPHOLOGICAL ALTERATIONS	Input for DRBM Plan	Preparatory Process
Other Hydromorphological Alterations	The DRBM Plan will include an addendum and a future management approach related to the issue of sediment transport and contamination ¹ . The respective information will support the future decision whether sediment transport and contamination represents a further key water management issue in the DRB. Other issues like climate and land use change may be part of the 2 nd DRBM Plan.	Pressure/impact analysis on the basin wide scale need to be performed for the below issues: <ul style="list-style-type: none"> - Sediment transport/contamination: A respective issue paper is available¹. - Climate change (may be part of the 2nd DRBM Plan) - Land use change (may be part of the 2nd DRBM Plan)
Future Pressures	Where appropriate, the ICPDR will develop guidelines and recommendations related to future infrastructure projects in order to ensure the achievement and conservation of the good ecological and chemical status of the waters in the DRB. Specifications on best available techniques and best environmental practices will be elaborated to support this objective. The DRBM Plan will include these recommendations.	<ul style="list-style-type: none"> - Further development of the list on future infrastructure projects in the DRB (Roof Report 2004, Annex) for inclusion in the DRBM Plan. - Development of ICPDR guidelines and recommendations related to future infrastructure projects taking the key drivers (navigation, hydropower, flood defence) into account. Specification on best available techniques and best environmental practices will be elaborated in one or more documents for the following issues: <ul style="list-style-type: none"> - Hydropower operation management (hydropeaking, discharge of residual water) <ul style="list-style-type: none"> - Development of criteria for minimum discharges for uses and services (residual water) - Review of current maintenance practices related to river engineering - Floodplain management - Information exchange regarding the ICPDR process to develop a ‘Joint Statement on Inland Navigation and Environmental Sustainability in the Danube River Basin’ <ul style="list-style-type: none"> - Integration of relevant outcomes into the JPM and DRBM Plan - Application of gained experience (e.g. best environmental practice, best available techniques) for the other sectors (hydropower, flood defence)

¹ ICPDR Issue Paper IC/WD/266 on *Management Problems of Sediment Quality and Quantity in the Danube River Basin - this is a living document.*

HYDROMORPHOLOGICAL ALTERATIONS	Input for DRBM Plan	Preparatory Process
Improvement methodologies and data availability	<p>Description of activities and related achievements to be part of the DRBM Plan.:</p> <ol style="list-style-type: none"> Harmonisation and development of assessment system for eco-morphology and/or hydromorphological alterations. Final designation of HMWBs. Economic approaches related to measures. Illustration of implementation success 	<ul style="list-style-type: none"> - Development of harmonised assessment systems on eco-morphology and/or hydromorphological alterations in the DRB. - Development of an approach and criteria to designate HMWBs. - Economic approaches – development of tools for practical application (cost effectiveness, ecosystem services, etc.). - Development of indicators for the appropriate illustration of implementation success (including the link to measures and monitoring).
Economics & Hydromorphology	<p>Cost effectiveness analysis and other relevant economic considerations will be performed for the deliverables/measures of the DRBM Plan. The economic analysis will enable the decision which measures/combination of measures will achieve an improvement of the ecological status in the most cost efficient way.</p>	<ul style="list-style-type: none"> - Development of an appropriate approach by the Task Group for Economics in cooperation with the Task Group for Hydromorphology and respective ICPDR EGs. - Performance of an appropriate workshop in the second half of 2007.
Environmental objectives and exemptions	<p>Development of environmental objectives and visions on the basin-wide level for specific hydromorphological pressures</p>	<ul style="list-style-type: none"> - Longitudinal continuity interruption: Development of a vision regarding the environmental objective for the sturgeon and other migratory species for integration into the DRBM Plan. - Interruption of the lateral connectivity of rivers: Development of a vision regarding the environmental objective for disconnected floodplains and wetlands on the basin-wide scale. To ensure a holistic approach, this vision shall take both other issues of flood protection (retention areas) and nutrient reduction into account.

ORGANIC POLLUTION	Input for DRBM Plan	Preparatory Process
Current organic pressures	The subsequent deliverables will be part of the DRBM Plan and will include a list of national projects (planned measures) – with or without available financing:	
<i>Urban point sources (Urban wastewater discharges)</i>	<p>a. Basic measures:</p> <ol style="list-style-type: none"> i. Implementation of the UWWT Directive ii. Construction/extension/rehabilitation of sewerage networks; iii. Construction/upgrading of waste water treatment plants; iv. Construction/rehabilitation of sludge disposal/treatment facilities. <p>b. Supplementary measures:</p> <ol style="list-style-type: none"> i. Additional decreasing thresholds of BOD and COD for discharges; ii. Additional increasing the efficiency of the UWWTPs; iii. Extension of the UWWTD requirements on the agglomerations < 2,000 p.e. iv. Treatment of rain water; v. Educational projects; vi. Research, development and demonstration projects. 	<ul style="list-style-type: none"> • Collection of all pressures (data for up-dating the emission inventories for municipal point sources of pollution); • In 2006, the Danube states were asked to fill in the templates on agglomerations with more than 10,000 p.e. (including data on wastewater treatments plants and their discharging points). • In 2007 the data of the agglomerations between 2,000 and 10,000 p.e has been collected. The aim is to compile an overview of the situation and development of the municipal wastewater treatment on an agglomeration level that falls under the scope of the Urban Waste Water Directive (i.e. > 2000 p.e). This includes an estimation of the pollution loads discharged from the agglomerations to the Danube catchment. • Collection of status of the EU related legislation (UWWTP Directive) implementation process (targets, timelines and transition periods). • The Significant Water Management Issues (including the deliverables for the PoM) will be provided for review to the public by the end of 2007. • Collection of national measures (basic and supplementary) – with or without available financing. • Integrating the review results, the first draft of the Danube River Basin Management Plan will be available by the end of 2008.
<i>Industrial and agricultural point sources (Industrial and agricultural wastewater discharges)</i>	<p>a. Basic measures:</p> <ol style="list-style-type: none"> i. Construction/upgrading of waste water treatment plants; ii. Implementation of UWWT Directive (for food industry); iii. Construction/rehabilitation of sludge disposal/treatment facilities; iv. Implementation of the IPPC Directive; v. Implementation BAT (for EU and accession countries); vi. Implementation Danube BAT (for non EU or accession countries). 	<ul style="list-style-type: none"> • Collection of all pressures: the national contributions on the reporting requirements for IPPC Directive implementation (European Pollution Emission Register - EPER II) will be collected. For the non-EU countries, the inventories of emission for industrial and agricultural point sources will be also used. • Collection of status of the EU related legislation (IPPC Directive) implementation process (targets, timelines and transition periods).The Significant Water Management Issues (including the deliverables for the PoM) will be provided for review to the public by the end of 2007. • Collection of national measures (basic and supplementary) – with or without available financing.

ORGANIC POLLUTION	Input for DRBM Plan	Preparatory Process
	<p>vii. Implementation of Nitrate Directive.</p> <p>b. Supplementary measures:</p> <p>i. Decreasing thresholds for organic substances discharged (emission controls);</p> <p>ii. Re-using the proper treated wastewater for irrigation;</p> <p>iii. Additional reduction of volumes of wastewater discharged;</p> <p>iv. Implementation BAT (for non EU or accession countries);</p> <p>v. Economic or fiscal instruments;</p> <p>vi. Negotiated environmental agreements;</p> <p>vii. Educational projects;</p> <p>viii. Research, development and demonstration projects.</p>	<ul style="list-style-type: none"> Integrating the review results, the first draft of the Danube River Basin Management Plan will be available by the end of 2008.
Future Pressures	<p>Any specific future project (new municipal facilities, new industrial plants, new large animal farms) must be subject to an Environmental Impact Assessment and/or a Strategic Environment Assessment during the planning phase which takes account of the pressures and impacts to the aquatic environment and ensures that the conditions of Article 4 are met.</p> <p>The new operating plants (sources of pollution with organic substances: UWWTPs, industrial plants, farm discharges) have to respect at least the EU legislation (e.g. UWWT Directive). Other additional requirements (e.g. decreasing thresholds of BOD and COD for discharges) could be asked from the start of operation.</p> <p>For those future pressures with possible transboundary impact, the information exchange</p>	

ORGANIC POLLUTION	Input for DRBM Plan	Preparatory Process
	and transparency have to be ensured.	
Improvement of methodologies and data availability	Description of activities and related achievements to be part of the DRBM Plan: a. Harmonised methodology for collecting and prioritising measures to address organic pollution; b. Economic analysis related to measures; c. Illustration of implementation success.	<ul style="list-style-type: none"> • Development of harmonised methodology for collecting and prioritising measures to address organic pollution (e.g. basin-wide significance criteria); • Development of economic approaches tools related to measures (scenarios development for a set of different measures addressing organic pollution, selection the most cost effective combination of measures, cost – benefit analysis); • Development of indicators/criteria set to illustrate the implementation success of the proposed measures.
Economics & Organic Pollution	Cost effectiveness analysis and other relevant economic considerations will be performed for the deliverables/measures of the DRBM Plan. The economic analysis will enable the decision which measures/combination of measures will achieve an improvement of the ecological status in the most cost effective way.	<ul style="list-style-type: none"> • Development of an appropriate approach by the Task Group for Economics in cooperation with the respective ICPDR EGs. • Organise of an appropriate workshop in the second half of 2007.
Environmental objectives and exemptions	Development of environmental objectives and visions on the basin-wide level for specific organic pollution pressures	<ul style="list-style-type: none"> • Definition of improvement related to environmental objectives. Scenarios with differing environmental benefits due to organic pollution reduction measures in line with EU policies and the related timetable of individual countries (respecting transitional periods) will be designed and evaluated. The baseline accounts for the effect of existing measures on water quality currently implemented in the DRB. Additional voluntary action could lead to wider adoption of specific best practice implemented in the DRB. • Agreement on quantitative improvement in relation to the findings of the Roof Report. • Discussion on exemptions and development of corresponding criteria.

NUTRIENT POLLUTION	Input for DRBM Plan	Preparatory Process
Current nutrient pressures	The subsequent deliverables will be part of the DRBM Plan and will include a list of national projects (planned measures) – with or without available financing:	
<i>Point Sources of Pollution from Settlements, Industry and Agriculture</i>	<p>a. Basic measures:</p> <ul style="list-style-type: none"> i Implementation of the UWWT Directive (or Non-EU countries the appropriate ICPDR-Recommendation, alternatively, see http://www.icpdr.org/icpdr-pages/municipalities.htm). ii Connection of settlements to the public sewers iii Upgrade of the wastewater treatment plants with respect to N and P removal iv Construction of combined sewage network and rainwater treatment v Implementation of BAT on the agro-industrial units <p>b. Supplementary measures:</p> <ul style="list-style-type: none"> vi Reduction of volumes of wastewater directly discharges from combined sewerage systems to the rivers vii Economic instruments to reduce pollution viii Research, training, educational programs, advisory services, etc. 	<ul style="list-style-type: none"> - Collection of all pressures (data for up-dating the emission inventories for municipal point sources of pollution) including the pollution loads discharged from the agglomerations to the Danube catchment - Determine what basic measures are already in place (UWWTP Directive etc.) - Assessment of the ongoing process of implementation of basic measures (not already in place in some countries) - Determine what supplementary measures (according to the definitions of the WFD) are already in place - Assessment of supplementary measures that will have to be introduced - Development of Recommendations for implementation and of appropriate policy approaches - Perform cost-effectiveness analysis of the selected combination of measures. - Development of a list of indicators to evaluate the implementation progress - The Significant Water Management Issues (including the deliverables for the PoM) should be provided for review to the public by the end of 2007. Integrating the review results, the first draft of the Danube River Basin Management Plan should be available by the end of 2008
<i>Diffuse Sources of Nutrient Pollution</i>	<p>a. Basic measures:</p> <ul style="list-style-type: none"> i Implementation of the Nitrates Directive (or Non-EU countries appropriate BAP, alternatively). ii Implementation of the Action Programme according to the Nitrates Directive (or Non-EU countries appropriate BAP, alternatively) iii BEP for farmers linked to CAP 	<ul style="list-style-type: none"> - Collection of basic measures in use and planned templates - Collection of supplementary measures in use and planned templates - Description of each supplementary measure: <ul style="list-style-type: none"> - preconditions for its use - analysis of its strength, weaknesses and effectiveness - information on the cost-effectiveness - implementation criteria (administration, enforcement and control) - Assessment and selection of supplementary measures using general basin wide agreed tools for evaluation and prioritisation - Development of a list of indicators to evaluate the implementation

NUTRIENT POLLUTION	Input for DRBM Plan	Preparatory Process
	iv Reduction of field manure application rates v Prevention and control of soil erosion. b. Supplementary measures: vi Instruments and policy measures to support and implement the WFD vii Compensation payments for changing land use management etc. viii Ensuring integration between River Basin Management Plans and Land Use Planning ix Wetland creation and restoration x Voluntary adoption of the Phosphate Detergent ban	progress – The Significant Water Management Issues (including the deliverables for the PoM) should be provided for review to the public by the end of 2007. Integrating the review results, the first draft of the Danube River Basin Management Plan should be available by the end of 2008.
Future Nutrient Pressures	a. The selection of future measures is influenced by the prognosis of population and economic development, future legislation requirements and the assessment of the results of already planned measures. b. For new activities having a possible transboundary effect there will EIA be concluded. c. Scenarios calculations for a set of different measures will be developed for the total Danube basin as well as for individual sub basins or countries, based on MONERIS scenarios calculation.	– Investigations of how the current CAP measures have, may or could potentially contribute to deliver the WFD objectives (there will be some influences due to the trends and developments in the agricultural sector, which can cause future pressures) – Exploration of the extent that measures of the CAP (e.g. cross-compliance and agri-environmental schemes) will deliver the WFD objectives, will be of no relevance or even cause negative effects – Identification of those farm practices and related measures not explored under the current pressures that contribute significantly to reducing or increasing water pollution from agriculture – Definition of pilot approaches to educate and inform farmers (and the public) on issues related to agricultural pressures – Identification of successful measures, including those taken under CAP schemes – Economic analysis in line with the Article 4.7 of the WFD related to cost effectiveness

NUTRIENT POLLUTION	Input for DRBM Plan	Preparatory Process
Improvement of methodologies and data availability	a. Harmonised methodology for collecting measures to address nutrient pollution b. Guidelines for scenarios calculation for a set of different measures addressing nutrient c. Methodologies related to economic approaches for selection of the most cost effective combination of measures d. Other methodologies or guidelines useful for economic analysis, as appropriate e. Set of criteria to assess the success of the implementation of measures	<ul style="list-style-type: none"> - Economic analysis for assessing cost and benefits linked to different measures, as well for the cost effectiveness of different combination of measures (cost – benefit analysis) - Use of information from the ICPDR Joint Action Program 2001 – 2005 on the cost of measures - Further support is expected from the future Task Group on Economics
Economics & Nutrient Pollution	Cost effectiveness analysis and other relevant economic considerations will be performed for the deliverables/measures of the DRBM Plan. The economic analysis will show which measures/combination of measures will achieve an improvement of the ecological status in the most cost efficient way.	<ul style="list-style-type: none"> - Compare estimates of overall costs to analyses of overall benefits; - Identify which costs are likely to be covered by basic measures - Analyse the comparative cost-effectiveness of potential approaches in delivering the remaining required changes and their performance against certain criteria, including their use in conditions of uncertainty - Development of an appropriate approach by the Task Group for Economics in cooperation with the respective ICPDR EGs. - Performance of an appropriate workshop in the second half of 2007.
Environmental objectives and exemptions	a. Development of environmental objectives and visions on the basin-wide level for specific nutrient pollution pressures b. Scenarios with differing environmental benefits due to nutrient reduction measures in line with EU policies and the related timetable c. Criteria for exemptions	<ul style="list-style-type: none"> - Definition of improvement related to environmental objectives. Scenarios with differing environmental benefits due to nutrient pollution reduction measures in line with EU policies and the related timetable of individual countries (respecting transitional periods) will be designed and evaluated. The baseline accounts for the effect of existing measures on water quality currently implemented in the DRB. Additional voluntary action could lead to wider adoption of specific best practice implemented in the DRB. - Agreement on quantitative improvement in relation to the findings of the Roof Report. - Discussion on exemptions and development of corresponding criteria
Monitoring and JPM	TNMN monitoring results in relation to the JPM	<ul style="list-style-type: none"> - Assessment of the success of measures to improve the ecological status

NUTRIENT POLLUTION	Input for DRBM Plan	Preparatory Process
		<p>using operational monitoring results (Evaluation of the ecological efficiency of nutrient measures)</p> <ul style="list-style-type: none"> - Assessment of status in order to clarify if respective water bodies are at risk using operational as well as surveillance monitoring results (Validation of the risk assessment according to Article 5) - Illustration of the improvement of status (implementation success)
Financing DRBM Plan	<ul style="list-style-type: none"> a. LIFE, the Cohesion Fund and the Structural Funds are the most important funding schemes for environmental projects b. Funding of organic farming in order to reduce nitrogen and pesticide application c. Restoration of wetlands (habitats and species) identified as protected zones, d. LEADER+ programmes referring to water issues 	<ul style="list-style-type: none"> - In the next financing period, Member States should provide for specific agri-environmental measures to support the objectives of the WFD. Of all tools of the CAP, agri-environment seems the most useful for helping implementing the WFD - Exploration of other funding instruments based on the results of the Joint Action Program - Allocation of sufficient funding to this issue to meet the requirements of the implementation of the WFD

HAZARDOUS SUBSTANCES POLLUTION	Input for DRBM Plan	Preparatory Process
Current Pressures	The subsequent deliverables will be part of the DRBM Plan and will include a list of national projects (planned measures) – with or without available financing:	
<i>Hazardous Substances pollution from point sources</i>	<p>Basic measures: Implementation of Directive 96/61/EC (IPPC) and the Directive 76/464/EEC:</p> <ol style="list-style-type: none"> a. stop, by 2015 at the latest, all discharges of untreated wastewater from towns with more than 10,000 inhabitants and from all major industrial installations; b. phase out entirely the discharge of those substances which are identified as constituting the highest risk to the aquatic ecosystems in the Danube basin and to reduce significantly the discharge of other pollutants; c. all installations discharging hazardous substances into the environment have to have permits containing emission limit value based on BATs; d. full implementation of the IPPC directive for EU Danube countries; e. fulfil the ICPDR BAT Recommendations in non EU Danube countries (see http://193.138.94.60/icpdr-pages/industry.htm); f. wide use of the integrated pollution prevention and control principle in permitting of industrial activities (not only for IPPC installations); g. local and regional level pollution reduction plans for reaching the EQS goals with the most appropriate combination of measures taking into consideration the subsidiarity 	<ul style="list-style-type: none"> – Compilation of national measures including implementation targets regarding industrial discharges (timelines). <i>The information will be collected using appropriate templates</i> – The positive effect of the national measures will be translated to the basin wide level to analyse if the environmental objectives are achieved

HAZARDOUS SUBSTANCES POLLUTION	Input for DRBM Plan	Preparatory Process
	<p>principle</p> <p>Supplementary measures:</p> <ol style="list-style-type: none"> effective authority pollution (emission) control activities; self monitoring programs of dischargers; establish an inventory of emission, discharges and losses; carry out the review of the permits identified in water bodies affected by discharges of priority substances. 	
<p><i>Hazardous Substances pollution from diffuse sources</i></p>	<p>Management of diffuse pollution sources will focus on prevention measures – through:</p> <p>Basic measures:</p> <ol style="list-style-type: none"> application of rules defined in: <ul style="list-style-type: none"> - Directive 91/414/EEC – on The Plant Protection Products - Directive 86/278/EEC – on the Sewage Sludge - 75/442/EEC – Waste Framework Directive <p>Supplementary measures:</p> <ol style="list-style-type: none"> Immediate pesticide ban for the most hazardous priority pesticides in non-EU countries Promotion of BAP regarding pesticides input from agriculture linked to CAP Reasonable measures to prevent industrial accidents Improve the Danube Accident Emergency Warning System and in particular to 	<ul style="list-style-type: none"> - Compilation of List of national measures for diffuse sources, including implementation targets (timelines). - Compilation of national BAP regarding to pesticide input <p><i>The information will be collected using appropriate templates</i></p> <ul style="list-style-type: none"> - The positive effect of the national measures will be translated to the basin wide level to analyse if the environmental objectives are achieved.

HAZARDOUS SUBSTANCES POLLUTION	Input for DRBM Plan	Preparatory Process
	<p>strengthen further the synergies with regional and national systems</p> <p>f. Emission and process controls to reduce losses during the production of chemicals and during their subsequent incorporation into other products. Restrictions on the marketing and use of chemicals, including authorization and approval procedures, can further reduce the potential contamination of the environment;</p> <p>g. Full account of the objectives and provisions of other Community legislation, in particular the chemicals policy including REACH and the Pesticides Directive, the IPPC Directive and the Thematic Strategies (eg. sustainable use of pesticides).</p>	
Future Pressures	<p>Future pressures by hazardous substances pollution and their impact of water bodies is not possible to forecast at present.</p> <ul style="list-style-type: none"> - The future projects must fulfil the conditions set out in Article 4 - specific future projects must be subject to an EIA and/or a SEA - a licence for operation of future plant has to respect combined approach - effective use of wide range of instruments available and in place, from product controls (e.g. restriction on marketing and use), to process controls (e.g. best available techniques, emission limit values) and economic instruments (e.g. pesticide taxes). 	

Improvement methodologies and data availability	Description of activities and related achievements to be part of the DRBM Plan: a. Refinement of emission data b. Identification of main pathways of heavy metals from the Danube river basin c. Economic approaches related to measures d. Illustration of implementation success	<ul style="list-style-type: none"> - Improvement of ICPDR emission inventory in line with E-PRTR - National contribution for the emission inventories - National contribution on implementation IPPC Directive - Possible future application of the model MONERIS on Danube specific heavy metals - Economic approaches – development of tools for practical application (cost effectiveness, ecosystem services, etc.). - Development of indicators for the appropriate illustration of implementation success (including the link to measures and monitoring).
Economics & Hazardous substances pollution	General conclusion of EU impact assessment is that the most cost-effective way to achieve the EQS objectives for priority substances is to leave the level and combination of measures, mainly based on existing EU legislation, to be decided by Member States.	<ul style="list-style-type: none"> - Development of an appropriate approach by the Task Group for Economics in cooperation with respective ICPDR EGs.
Environmental objectives and exemptions	a. Agreement on basin-wide environmental objective for hazardous substances - as concentration level of the environmental quality standards b. Agreement on a tool to express the level of success reaching the environmental objectives. c. Scenarios with differing environmental benefits due to hazardous substances reduction measures in line with EU policies and the related timetable d. Criteria for exemptions	<ul style="list-style-type: none"> - ICPDR will initiate discussion and exchange information on application of exemption.
Monitoring and JPM	Validation of the risk assessment performed according to the Article 5.	<ul style="list-style-type: none"> - Collecting data on chemical status based on results of operational as well as surveillance monitoring (both – TMNM and national) - Collecting data on chemical status based on results from the Joint Danube Survey (JDS II) (chemical status will be based on new environmental quality standards (Directive Proposal 5408/07))