

---

# The Danube River Basin Management Plan 2009-2015

---

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

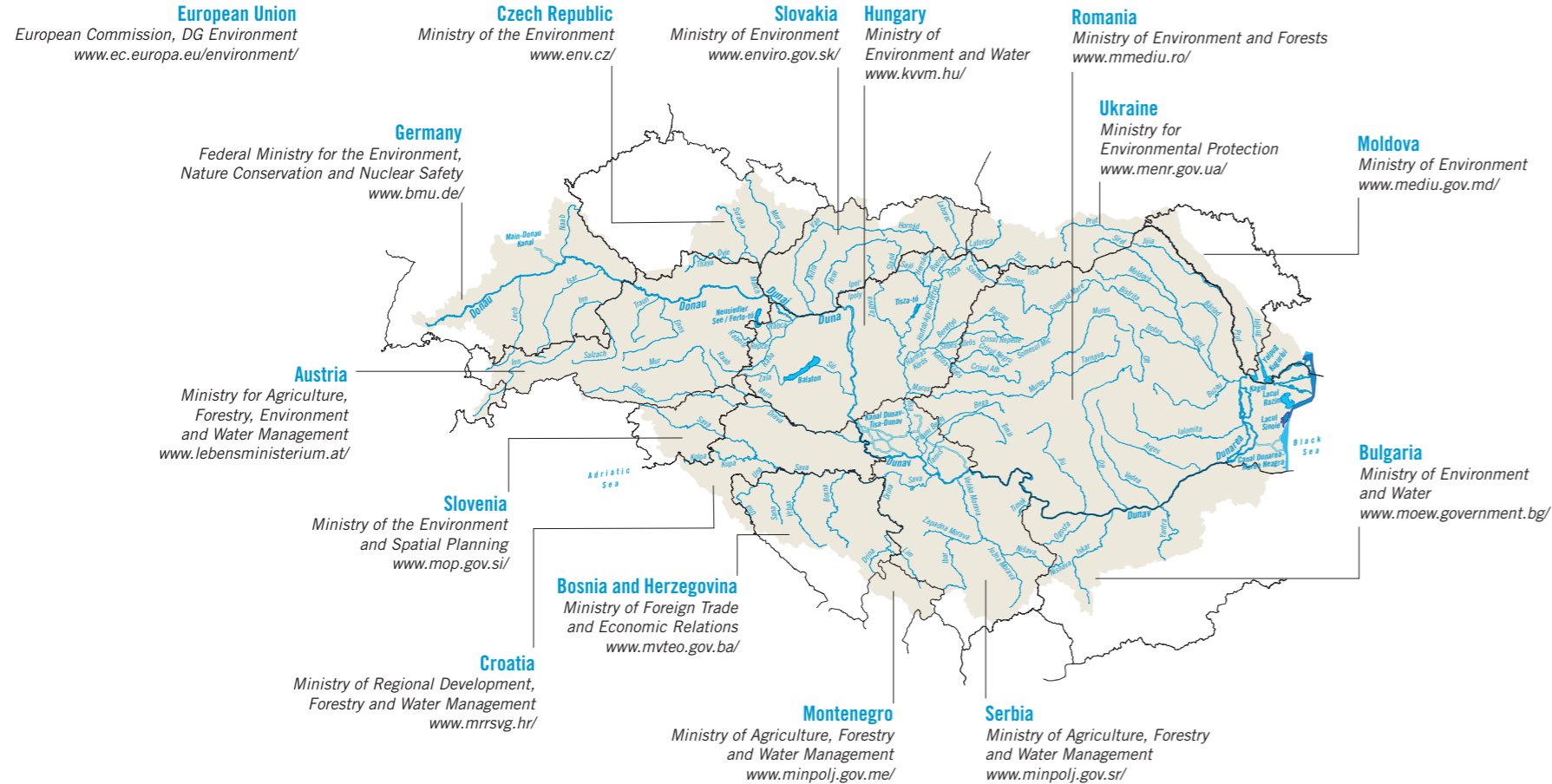
Summary – The sustainable future for the Danube waters





**“In 1994, we set out on our voyage of international respect and cooperation. We first had to work out where we were and what it was like. With the publication of the Danube River Basin Management Plan in 2009, we now also know exactly where we are going and how to get there. This is a major landmark on our journey to a sustainable Danube Basin.”**

Mitja Bricelj, Secretary of the Ministry of Environment and Spatial Planning of Slovenia and President of the International Commission for the Protection of the River Danube 2010



The Danube River Basin is the most international basin in the world. It includes the territories of 19 European countries, is home to 80 million people and comprises a globally important natural environment. Some 14 countries contain major Danube rivers, and with the addition of the European Union, make up the 15 signatories to the Danube River Protection Convention (1994). The International Commission for the Protection of the Danube River (ICPDR) is the facilitating platform between the 15 contracting parties.

Such a complex river system needed one of the most comprehensive water resource analyses ever attempted to map out a future for the water environment – one that addresses the needs of the people and nature of the region and in doing so meets the requirements of the **EU Water Framework Directive (WFD)**. The Plan represents a huge step forward in the way in which we will safeguard and improve our water environment.

One of the most comprehensive river studies ever undertaken in the world ... of the most international river basin in the world:

## The Danube River Basin Management Plan

### Ambitious plans for an ambitious future

Nine years in the planning, the Danube River Basin Management Plan (DRBM Plan) is one of the most comprehensive analyses ever attempted of the status and management options for a major river system. Involving over 200 experts from 14 countries and the EU, as well as hundreds of people living in the region, this is the document that will secure the future of the Danube rivers for future generations. It provides a detailed overview of the basin and sets out a Joint Programme of Measures, guiding activities across the 25,117 km of investigated river network. Taking a source-to-sea approach, it facilitates the sustainable use of the Danube's resources and addresses key requirements of the EU Water Framework Directive (WFD).

The DRBM Plan was a particular challenge in a basin as large and diverse as the Danube. Its publication reflects the major effort made by the 15 contracting parties to the 1994 Danube River Protection Convention, as well as the coordinating body, the International Commission for the Protection of the Danube River (ICPDR). Non EU countries, not bound by the WFD, agreed to work towards the Directive's objectives so that the basin as a whole can implement those objectives. Enormous effort was needed to apply new sampling methods and classification systems. It has been a journey of cooperation, with every country focusing their inputs to achieve shared goals. In addition to the DRBM Plan, which provides a coordinated strategy for the basin as a whole, detailed National Management Plans have been developed. Everyone benefits from a healthy water environment and the rivers of the Danube Basin are at the heart of the region's economic, social and environmental well-being. Achieving the WFD goals will have the added benefit of safeguarding the environment's ability to support economically important uses and supply clean drinking water. It will protect ecosystems, increase fish stocks (including endangered sturgeon populations) and contribute to sustainable transport,

flood protection and our resilience to climate change. Drawing up the Plan is part of a long process, but arguably the most important stage, as it defines where we are now, where we need to go and how to get there. It maps out actions that will change the way we do things across the board ... and for the better.

### The International Commission for the Protection of the Danube River

The ICPDR is the facilitating platform between the 15 contracting parties of the Danube River Protection Convention (1994). It is charged with coordinating the conservation, improvement and rational use of Danube waters. With this ambitious remit, it's the largest body for river basin management in Europe. It is made up of high level delegates from Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Serbia, Slovakia, Slovenia, Ukraine and the European Union, plus technical, scientific and civil society representatives. It is responsible for coordinating work towards the WFD requirements at the basin level and has prepared the DRBM Plan as part of this. Working closely with contracting parties, the ICPDR has consulted extensively with land managers and users, business representatives, NGOs and other individuals with an interest in the water environment.

"Adoption of the Danube River Basin Management Plan is an historical moment for all Danube countries and a very concrete contribution to an efficient EU Danube Region Strategy."  
*Philip Weller, Executive Secretary of the ICPDR*

## The EU Water Framework Directive (2000)

With increasing threats to European waters, the EU has made water protection a major priority. The WFD is the most substantial piece of water legislation ever produced by the European Commission. It establishes, for the first time, a framework for the protection of all waters (rivers, lakes, estuaries, ground and coastal waters) and the ecosystems that depend on them. It aims to protect and enhance all water bodies<sup>1</sup> to the level of *good status (ecological, chemical and quantitative – the latter referring to groundwater)* by 2015.

Focusing on entire river basins, it requires the coordination of all aspects of water management via a River Basin Management Plan (reviewed every six years) with a Programme of Measures, consisting of policies, strategies and actions to allow all water bodies to achieve and maintain *good status*. Meaningful public participation and the integration of economic approaches are integral. The WFD is the major driver for achieving sustainable water management in the Danube Basin and across Europe for many years to come. The outcome will be a healthy environment that takes due account of environmental, economic and social considerations.

<sup>1</sup> A water body is defined as a discrete and significant element of surface water such as a distinct stretch of river or coastal water, a lake, reservoir, or a distinct volume of groundwater within an aquifer.



# Where we are now

## The ecological and chemical status of the rivers of the Danube Basin

Although many gaps and uncertainties exist, we now have a good picture of the condition of the entire Danube Basin for the first time, based on national data, the ICPDR's Transnational Monitoring Network (since 1996) and the Joint Danube Surveys (2001 and 2007).

### Rivers

Some 39% (9,835 km) of the rivers of the Danube Basin have been designated as heavily modified, so much so that *good ecological status* cannot be achieved in these stretches. This includes 56% of the Danube River alone.

Of the entire 25,117 km of the investigated river network, 22% (5,494 km) is of *good ecological status/potential* and 45% (11,180 km) of *good chemical status* (Where a water body has been heavily modified as a result of human activity, so much so that *good ecological status* cannot be achieved, an objective of *good ecological potential* is used). Some 53% is of *moderate or worse ecological status/potential* and 27% fails *good chemical status*.

### Lakes and coastal waters

Of the six major lakes analysed (including Lakes Balaton, Jalpuk, Razim and Neusiedlersee), three achieved *good ecological status* and two *good chemical status*. None of the coastal areas achieved *good status*.

### Groundwater

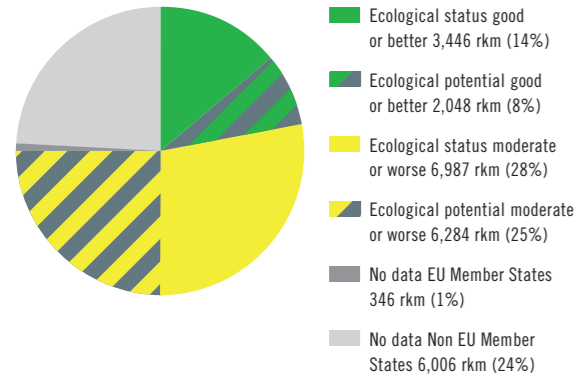
Of 11 transboundary groundwater bodies analysed, 8 were of *good chemical status*. One was found to be entirely of *poor chemical status* as were parts of a further two, all due to nitrate pollution. Nine bodies showed adequate water levels as regards abstraction levels (*good quantitative status*) and parts of the remaining two also met this standard.



### Ecological status and ecological potential

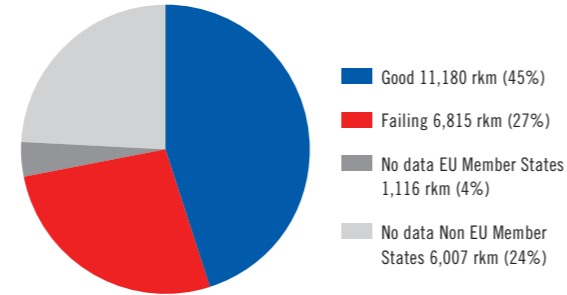
#### for river water bodies in the Danube River Basin

indicated in length (km) and relation to total length of river water bodies



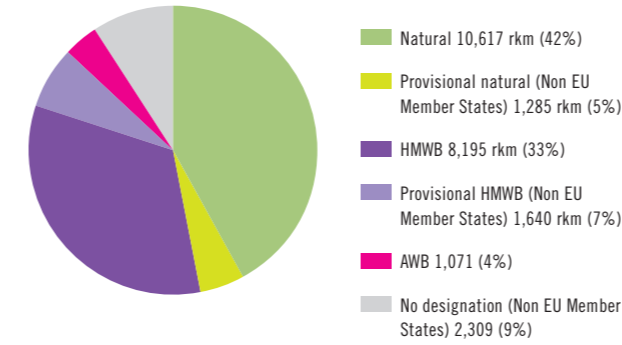
### Chemical status of river water bodies in the Danube River Basin

indicated in length (km) and relation to total length of river water bodies

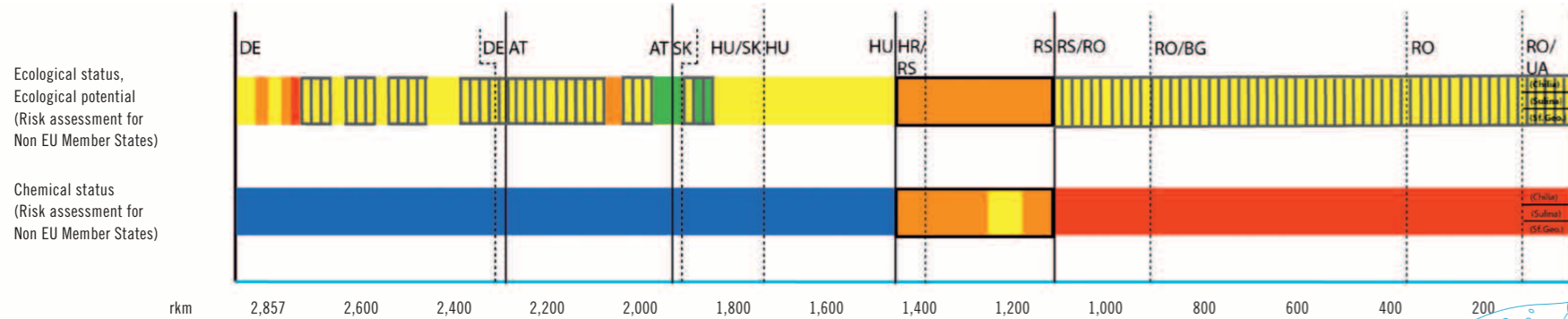


### Heavily modified water bodies (HMWB), artificial water bodies (AWB) and natural river water bodies

indicated in length (km) and relation to total length of river water bodies



### Status classification for the Danube River represented as continuous bands



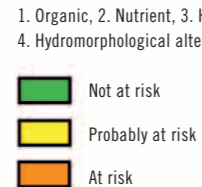
#### Ecological status:



#### Ecological potential:



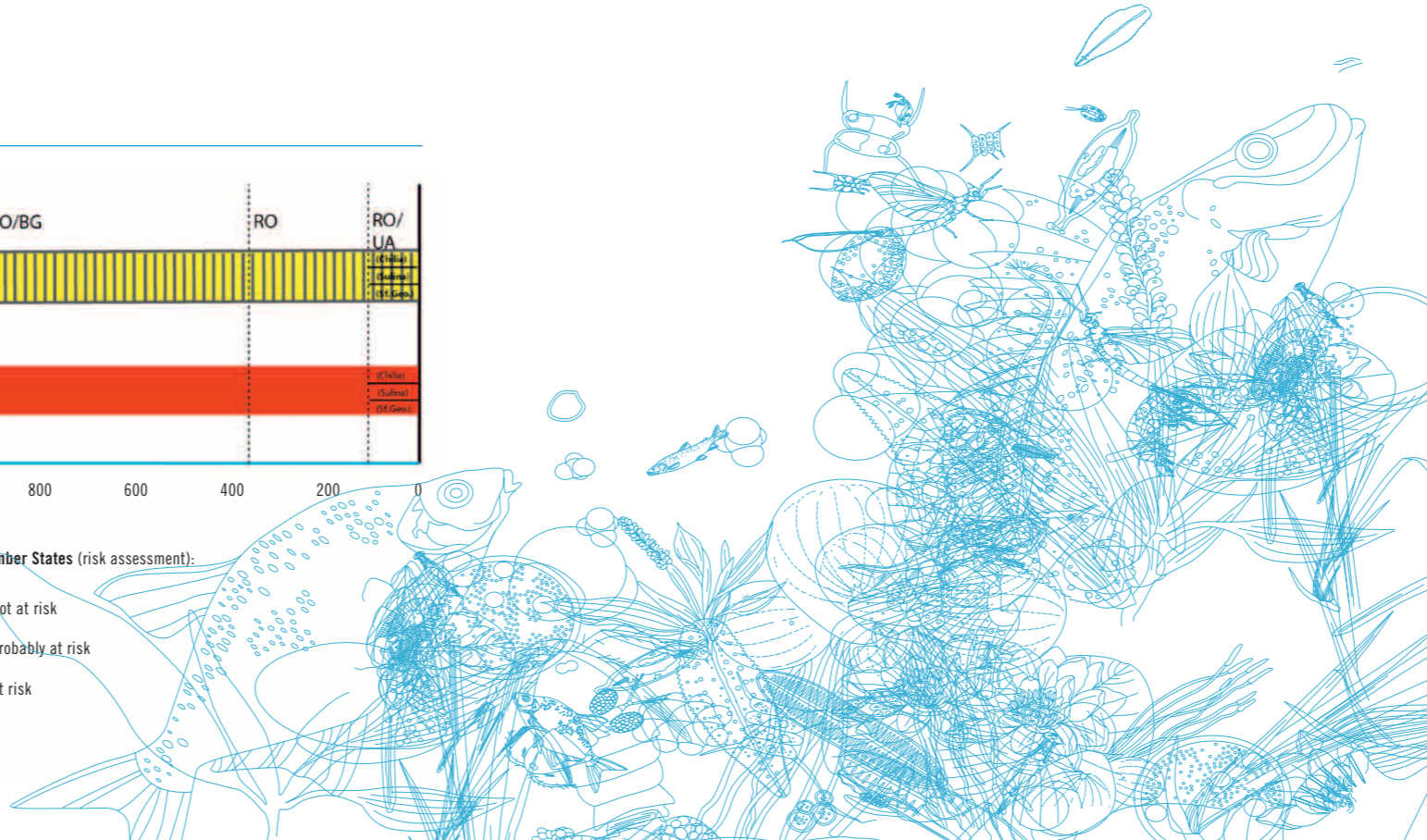
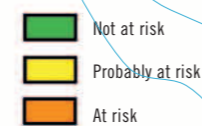
#### Non EU Member States (risk assessment, worst case assessment based on 4 risk categories: 1. Organic, 2. Nutrient, 3. Hazardous substances, 4. Hydromorphological alterations):



#### Chemical status:



#### Non EU Member States (risk assessment):





# Where we need to go... together

## The visions of the Danube River Basin Management Plan

The EU WFD requires that all waters reach at least good status by 2015 (or at the latest by 2027). The DRBM Plan focuses on the main transboundary problems, the Significant Water Management Issues, that can directly or indirectly affect the quality of rivers and lakes as well as transboundary groundwater bodies, namely pollution by organic substances, pollution by nutrients, pollution by hazardous substances and hydromorphological alterations. Based on the detailed picture we now have of the Danube Basin waters, the DRBM Plan outlines visions for each issue to achieve an improved and sustainable water environment.

### Organic pollution

An excess of organic matter, emanating from untreated wastewater from communities, industry and agriculture, which can harm aquatic populations and water status.

**Vision for organic pollution:**

**Zero emissions of untreated wastewater into the basin's rivers.**

### Nutrient pollution

High levels of nutrients (nitrogen and phosphorus) from inadequately treated wastewater, agricultural practices, industry and transport result in eutrophication, where harmful growths of algae produce 'dead zones' in water bodies.

**Vision for nutrient pollution:**

**Balanced management so neither the waters of the Danube Basin nor the Black Sea are threatened or affected by eutrophication.**

### Hazardous substances

Man-made chemicals, metals, oil and its compounds, pesticides and medications stemming from industry, storm water overflow, agricultural practices, mining operations and accidental pollution; often very persistent and harmful in low concentrations.

**Vision for hazardous substances pollution:**

**No risk or threat to human health or the aquatic ecosystem.**

### Hydromorphological alterations

Changes to the natural course of rivers which interrupt river and habitat continuity, disconnect wetlands and change water quantity and flow conditions – with serious impacts for the Danube environment, water quality and fish now and in the future.

**Vision for river/habitat continuity:**

**Balanced management of structural man-made changes so aquatic ecosystem functions holistically with all native species represented.**

**Vision for wetlands:**

**Reconnection and restoration of wetlands throughout the Basin.**

**Vision for water quantity and flow:**

**The natural development and distribution of the aquatic ecosystem are not negatively influenced by altered water quantity and flow conditions.**

**Vision for future infrastructure projects:**

**Projects are conducted transparently using best environmental practices and best available techniques. Negative transboundary effects are fully prevented, mitigated or compensated.**

### Groundwater

A major drinking water source in most Danube countries, which requires protection from pollution and over-use.

**Vision for groundwater:**

**Emissions of polluting substances do not cause any deterioration of groundwater quality. Water use is appropriately balanced and does not exceed the available resources.**

## Working together: public participation and the DRBM Plan

Effective river basin management can only take place when the people who use the water resources are actively involved. The WFD requires Member States to encourage the active involvement of all interested parties, giving them the opportunity to influence the management of their waters, and this is also enshrined in the principles of the ICPDR. The ICPDR has used a strategic approach to make public participation central to the development of the Plan.

**“If you wish to go fast, go alone – if you wish to go far, go together.”**

This African proverb, used by Ana Grobicki, Executive Secretary of Global Water Partnership in her opening statement at the ICPDR Stakeholder Forum, perfectly summarises the spirit of the public participation process.

Following the publication of the draft DRBM Plan in May 2009, an open invitation went out to all to provide further input, comments and criticisms. Multiple channels for communication were set up, including a Stakeholder Forum, organised under the ICPDR Presidency of Slovakia at the end of June. A new ICPDR ‘Participate’ website enhanced transparency by making all relevant reports available and included an online questionnaire. Visited by more than 3,000 people, the site helped raise over 300 water issues (from hormone pollution to infrastructure projects), nearly all of which will be used in the further process. Of the questionnaire respondents, 80% supported international cooperation even if it meant countries and user groups may need to accept compromises

in their water and resource use. People stated a willingness to undertake individual measures, with over 95% ready to pay more for water services if it improves wastewater. Each issue has been discussed further by the respective ICPDR experts. Some have been included straight away, others, such as details on climate change, will be an issue for future implementation cycles. This public input helps balance environmental, economic and social priorities. River basin management is an opportunity for us all to work together to improve the quality of every aspect of our water environment, creating an environment we can utilise and enjoy. The process is ongoing, so if you would like to be involved, visit [www.icpdr.org](http://www.icpdr.org).



# How we get there... together

## Management objectives and WFD compliance en-route to a sustainable Danube environment



In order to move towards the Danube visions, a Joint Programme of Measures outlines specific actions and scenarios at the basin-wide scale and their likely outcomes by 2015 and beyond. It is firmly based on the national programme of measures of each Danube country, which shall be implemented at the latest by 2012. Going further, it indicates where the proposed measures remain insufficient to meet the WFD requirements on a basin-wide scale and proposes additional actions. It illustrates where action is needed and also where further monitoring effort is required. To achieve the WFD requirements, where *good status* is currently achieved, that status must be maintained, in addition to making improvements to water bodies not yet in *good status*.

The WFD provides for exemptions to the general objectives that allow for an extension of the deadline beyond 2015, less stringent environmental objectives or the implementation of new projects, provided a set of conditions are fulfilled. **For the 681 river water bodies of the Danube River Basin, such exemptions are applied for 289 river water bodies (approx. 40%).**





# Management objectives and WFD compliance

## Organic pollution

The measures agreed to be carried out by 2015 will result in a considerable reduction in organic pollution but will not meet the WFD 2015 requirements.

The Plan considers that measures to meet these requirements are not able to be fully implemented for economic, administrative and technical reasons by 2015. Significant further effort (identified in the Plan) is required for the next river basin management cycles (2015-2021, 2021-2027). The technical implementation of the EU Urban Waste Water Treatment (UWWT) Directive and Integrated Pollution Prevention Control (IPPC) Directive, and an equal level of measures in non EU countries, will significantly contribute to addressing the problem of organic pollution. In general, upstream countries have almost completely achieved overall treatment efficiency; less has been accomplished in the middle/lower Danube countries but extensive efforts are underway. Implementation of the EU Sewage Sludge Directive will ensure that contaminated sludge does not contribute to organic pollution from agriculture.

## Nutrient pollution

The planned measures will considerably reduce nitrogen and phosphorus emissions to water but fall significantly short of the stated target of 1960s levels regarding inputs to the Black Sea and, crucially, the WFD 2015 requirements.

Reductions will be assisted by the implementation of the Nitrates Directive and greater use of Best Available Practices regarding agricultural emissions. However uncertainties over the level of economic and agricultural development in middle/lower Danube countries makes impacts on pollution levels hard to quantify. Significant reductions will be achieved via the UWWT Directive. But commitment to additional measures (such as the cost-effective introduction of a washing detergent phosphate ban in 2012/2015; coordinated measures to tackle nitrogen pollution from atmospheric deposition and studies of Danube-Black Sea inter-linkages) is also required.

## Groundwater

Preliminary findings show that nitrate contamination is a key obstacle to achieving good chemical status. The measures outlined, in particular the EU Nitrates Directive and UWWT Directive, will reduce nitrates but by what amount is difficult to quantify. Where it's not yet the case, an effective regulatory framework should be put in place at the national level to ensure that pollutants are not discharged into groundwater (including monitoring) and that abstraction levels and impoundment of surface waters are subject to control.

## Hazardous substances

Proposed actions will result in significant improvements but are unlikely to be sufficient to meet WFD requirements or DRBM Plan objectives by 2015. The implementation of the Dangerous Substances Directive, the IPPC and UWWT Directives and the widespread use of best practices will improve, but not solve, the problem of hazardous substances. Further necessary measures include the appropriate treatment of priority substances from industrial discharges; strengthening of prevention and safety measures at contaminated sites and the continued upgrading of wastewater treatment plants. Gaps in knowledge and understanding hamper a full assessment and further monitoring is essential.

## Hydromorphological alterations

The proposed measures will improve river continuity, the reconnection of floodplains and hydrological impacts, but overall the WFD requirement of good ecological status/potential will not be achieved by 2015. In many cases an extension of the 2015 deadline will be applied and significant further effort in the following WFD cycles will be necessary.

Regarding barriers to fish migration, of the 932 currently impassable, 108 will be made passable for fish by 2015. The Plan sets out priorities for tackling these including proposals for the Iron Gate dams. Plans are set out for the reconnection and/or improvement of 62,300 ha of wetlands by 2015, with further enhancements beyond this date. The cumulative impact of these requires further analysis. Considering water quantity and flow conditions, the measures outlined are unlikely to meet WFD requirements by 2015. Significant pressures will be reduced by implementing the actions, but the larger part will only be addressed by measures outlined for 2021 and 2027.

## Joint Statement on Inland Navigation and Environmental Protection

Inland navigation can negatively affect river environments and jeopardise WFD goals, while at the same time contributing to making transport more sustainable, particularly where it reduces road freight. Recognising this conflict, the ICPDR, the Danube Commission (which deals with navigation issues in the Danube River) and the International Commission for the Protection of the Sava River began an intense discussion process involving relevant stakeholders, which resulted in the Joint Statement on Guiding Principles for Development of Inland Navigation and Environmental Protection in the Danube River Basin. The statement outlines principles and criteria for environmentally sustainable navigation, including maintenance of existing, and creation of future, waterways. It facilitates integration of economic development and environmental standards and provides for potential win-win situations. The ICPDR intends to take a similar approach to other sectors e.g. best practice guidelines for hydropower generation.

For future infrastructure projects, 91 are likely to have a negative transboundary effect and 87 are expected to provoke deterioration in water status. The Plan calls for measures to reduce or prevent impacts on good ecological status/potential, stating that the use of best practice and full consideration of environmental requirements at the earliest planning stage are crucial. The ICPDR intends to develop guidelines on such issues. Such a process is already taking place in the navigation sector where significant efforts to reduce impacts arising from new navigation projects - and also current maintenance works - have made solid progress (see above).



# Where do we go next?

Work is ongoing to understand the complex nature of the Danube Basin. The impact of measures at the basin-wide scale is not yet directly linked to the status assessment of individual water bodies; follow-up work will investigate this further. Additional studies on sediments, invasive species, water quantity issues and the impacts of climate change are also crucial, as are further improvements in the overall monitoring process. As regards the WFD timetable, the next stage is the introduction of pricing policies, ensuring the true cost of water use is calculated. **2012 is the deadline for implementing the Joint Programme of Measures, followed in 2015 by the deadline for achieving good status in all water bodies.**

---

**“The work on the Danube River Basin Management Plan has produced a plan we can all be proud of. Now is the time to put our plan into action!”**

*Philip Weller, Executive Secretary of the ICPDR*

---

The further development of this DRBM Plan and its implementation will guide developments in the basin over the next two decades and beyond. **Putting the Plan into action is a challenge for everyone involved in managing or using the waters of the Danube Basin. For national and local governments, the Plan needs to percolate into every section of decision-making across all sectors.** Public participation will continue to be at the forefront of the work at the national and basin-wide level – this is essential for us to move towards the Danube visions. At the regional, national and local level, public bodies, land and water managers, businesses, voluntary bodies and the general public will need to cooperate closely. Sometimes working together will provide easy win-win solutions that directly benefit all immediately. Other times, difficult decisions will have to be made, water users will need to compromise and relinquish some specific objectives in order for the proposed measures to be transformed into enhancements on the ground. But the overall result will be an improved living and working environment for all.

For centuries, the people of the Danube countries have relied on the resources of the river and its tributaries. Today this dependence is as strong as ever, with the rivers providing domestic drinking water, industrial and agricultural water supply, sewage discharge, hydroelectric power generation, navigation, tourism, recreation and fisheries. The Danube environment is a unique habitat, home to globally important plants and animals. With your involvement, together we can ensure that the Danube rivers continue to support people and ecosystems for the centuries ahead.

**Contact:**

ICPDR Secretariat  
Vienna International Centre, D0412  
PO Box 500, 1400 Vienna, Austria  
Phone: +43 (1) 26060-5738, Fax: +43 (1) 26060-5895  
Email: [icpdr@unvienna.org](mailto:icpdr@unvienna.org)  
Web: [www.icpdr.org](http://www.icpdr.org)

*Text: Suzie Holt, [suzie@wyldwooded.co.uk](mailto:suzie@wyldwooded.co.uk)  
Layout: Büro X Wien, [www.buerox.at](http://www.buerox.at)*

*Photographs: Milorad Drca, Gerfried Koch, János László, Victor Mello,  
Mario Romulic, Milan Vogrin and ICPDR Photos  
The ICPDR would like to thank the organisations and photographers for providing  
the photographs for free.*

**Disclaimer:**

The Danube River Basin Management (DRBM) Plan is based on data delivered by the Danube countries by 14<sup>th</sup> September 2009. Where countries did not deliver data, other data sources have been used where available. Sources other than the competent authorities have been clearly identified in the Plan.

A more detailed level of information is presented in the National River Basin Management (RBM) Plans. Hence, the DRBM Plan should be read and interpreted in conjunction with the National RBM Plans. Where inconsistencies may have occurred, the National RBM Plans are likely to provide the more accurate information.

Where data has been made available, it has been dealt with and presented to the best of our knowledge. Nevertheless, inconsistencies cannot be ruled out.

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