

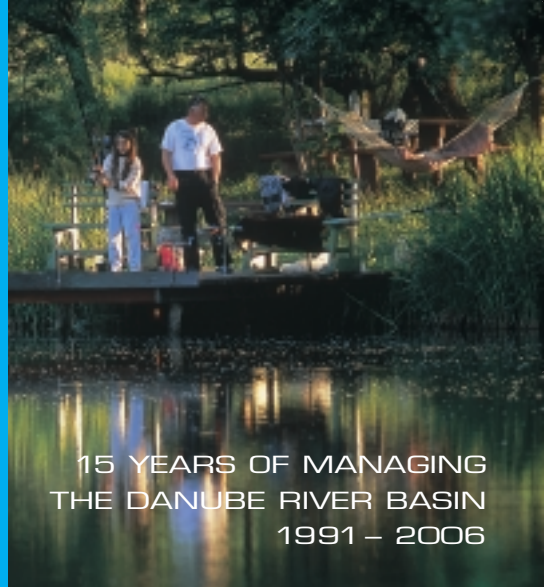


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15 YEARS OF MANAGING THE DANUBE RIVER BASIN 1991 – 2006



FOREWORD

WIN WIN DANUBE RIVER BASIN MANAGEMENT

In 2007, the first International Waters regional programme to have received funding from the Global Environment Facility (GEF) will end. Targeted in the Danube River Basin and begun in 1991, this programme is a flagship model of good practice for applying integrated river basin management (IRBM) to other transboundary river basins across the globe.

Before massive political changes transformed Central and Eastern Europe, Danube countries had experienced minimal IRBM collaboration. After 1990, the need for increased cooperation and political will to lay the foundations for IRBM became clear. The Danube was not only the most international river basin in the world shared by 19 countries – over the last 150 years, it had also sustained numerous damages and yet preserved incredible biological assets. Environmental threats continued including toxic and nutrient pollution to the Black Sea into which the Danube flows.

From the start, international donor interventions were essential as a catalyst for progress, especially from GEF/UNDP and the European Commission. Initial efforts focused on assessing information, building capacities and institutions and supporting the creation of the legally binding Danube River Protection Convention.

In time, the accession of many of the Danube countries to the EU and the requirement that they fulfil EU directives (laws) became the main drivers and incentives for improved multi-country IRBM in the Danube Basin in addition to the key transboundary concerns related to GEF-funded interventions. After 2000, the main priority of the Danube Convention's implementing body, the International Commission for the Protection of the Danube River (ICPDR) created in 1998, became the implementation of the EU Water Framework Directive.

The interventions of GEF/UNDP continued to be critical in helping to drive the accession process and in fulfilling Danube country obligations, from enhancing the IRBM capacities of institutions to advising on national legislative reform to testing best agricultural practices and supporting public participation. Clearly, after 15 years of IRBM development in the Danube Basin, a win-win situation had resulted between the GEF/UNDP, ICPDR, EU and the Danube countries and their diverse peoples.

This document presents the key political decisions made and their results – from the development of new programmes, institutions and the convention to environmental progress. Lessons learned in applying IRBM will be presented with the hope of their transferability to other basins, as will the Danube outlook for the next 15 years.

Shaped by two institutions that took a lead role in facilitating the creation of an IRBM framework for the Danube, this document celebrates the upcoming end and outputs of GEF/UNDP efforts in the Danube Basin. It also presents the strong foundations for the future work of the ICPDR which is sure to achieve progress in managing this internationally shared river and continue providing valuable lessons learned for other international waters projects.



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DANUBE RIVER BASIN



THE MOST INTERNATIONAL RIVER BASIN IN THE WORLD



THE MOST INTERNATIONAL RIVER BASIN IN THE WORLD

GEOGRAPHY

The Danube River Basin is Europe's second largest with a total area of 801,463 km². Now including the territories of 19 countries, it is the world's most international river basin. It is also home to 81 million people with a variety of languages and historical backgrounds.

The Danube River stretches 2,780 km from Germany's Black Forest to the Danube Delta. Countless other rivers drain from the basin into the Danube River such as the Inn River in Austria and Germany; the Morava in the Czech Republic, Austria and Slovakia; the Tisza in Hungary, Romania, Slovakia, Serbia and Ukraine; the Sava in Slovenia, Croatia, Bosnia and Herzegovina, Serbia and Montenegro; and the Prut River in Romania, Moldova and Ukraine.

The basin is divided into upper, middle and lower basins. The Upper Basin extends from the source of the Danube in Germany to Bratislava, Slovakia. The Middle Basin is the largest, extending to the dams of the Iron Gate Gorge on the border between Serbia and Romania. The lowlands, plateaus and mountains of Romania and Bulgaria form the Lower Basin. Finally, the river divides into the three main branches of the Danube Delta, with an area of about 6,750 sq km, before entering the Black Sea.

ENVIRONMENTAL ASSETS

The basin shows a tremendous diversity of habitats and ecosystems through which rivers and streams flow including glaciated high-gradient mountains, forested midland mountains and hills, upland plateaus and plains and wet lowlands near sea level. Some remain relatively untouched with species and habitats of outstanding ecological value, constituting a unique heritage to be preserved. In many cases, the level of biodiversity is higher in the lower reaches of the river.

Floodplain forests, marshlands, deltas, floodplain corridors, lakeshores and other wetlands are essential components in the basin's biodiversity and hydrology. Many are transboundary in nature and represent valuable drinking water reserves for millions of people. The 675,000 ha Danube Delta is the most important wetland in the basin and is a transboundary UNESCO World Heritage Site and Man and Biosphere Reserve.

HUMAN IMPACTS

Over the last 150 years, Danube aquatic ecosystems, biodiversity and water quality and quantity have been significantly impacted by human activities. For example, some 80% of the Danube's wetlands and floodplains have been lost since the end of the 19th century, threatening habitats of key species such as pelicans in the Danube Delta and beavers in the Upper Danube.

Pollution remains a serious problem, especially from organic substances and nutrients. In the 1970s and 1980s, excessive nutrient pollution resulted in a severe ecological imbalance in, and the large-scale eutrophication of, tens of thousands of sq km of waters in the western Black Sea, as the depletion of oxygen decreased biodiversity and worsened water quality.

A large proportion of this originated from the Danube Basin through agriculture, municipal wastewater (human waste and detergents) and industry. Toxic substances are a key threat, made worse by mining and chemical accidents. The occurrence and negative impacts of floods continues to increase in the region.





Navigation, hydropower dams, river channelling, gravel extraction, groundwater exploitation and climate change also pose key threats to the Danube environment.

The significant decline in industry and farming following the political transition after 1989 reduced human pressures on the Danube Basin and the Black Sea. However, the potential for pollution to increase as economies recover still requires introducing good practices that minimise the impacts of farming and industrial activities. The inefficiency or absence of wastewater treatment plants in the middle and lower Danube countries also still pose a significant threat.

THE NEED FOR IRBM

Given the complexity of the Danube River Basin – the many countries, differences in economic performance, biological assets, past damages and continued threats from human impacts – it was clear that one overall framework or mechanism was required to sustainably manage the basin environment.

Increasingly, 'integrated river basin management', otherwise known as IRBM, gained acceptance as the primary mechanism to address the issues and their impacts.





A photograph showing the silhouettes of several people on a rocky riverbank at sunset. One person in the foreground is bent over, possibly handling gear. A bicycle is parked nearby. A long fishing rod extends diagonally across the frame. The background features a calm river reflecting the golden light of the setting sun, with a hazy, mountainous landscape in the distance.

THE DANUBE'S 'MANAGERS'

THE DANUBE'S 'MANAGERS'

From 1991 to 2006, major efforts were made by the following Danube 'managers' to help lay the foundations for IRBM in the Danube Basin: Danube country governments, ICPDR, GEF/UNDP, EU and NGOs.

DANUBE COUNTRY GOVERNMENTS

The following 13 countries are all 'Contracting Parties' to the Danube River Protection Convention: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Romania, Slovenia, Slovakia, Serbia and Montenegro and Ukraine. In 2006, Serbia and Montenegro divided into two countries – efforts are now underway to secure the accession of Montenegro to the Convention.

THE INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE DANUBE RIVER

The International Commission for the Protection of the Danube River (ICPDR) is a trans-national body, established October 27, 1998 to ensure the sustainable and equitable use of waters and freshwater resources in the Danube Basin. It is mandated to implement the Danube River Protection Convention (DRPC), the major legal instrument for cooperation and transboundary water management in the Danube Basin, as well as the Water Framework Directive of the EU. It is the legally responsible institution for further development of Danube water management and regional cooperation in Danube IRBM.

It is formally comprised of the Delegations of all Contracting Parties to the DRPC. Representatives from ministries, civil society and the scientific community also cooperate in the ICPDR. Technical expert groups provide the ICPDR with technical information and strategic input. The Permanent Secretariat performs functions to administer the Convention and realise the ICPDR programme.

GEF/UNDP

The Global Environment Facility (GEF), established in 1991, helps developing countries, and those in economic transition, to fund projects that protect the global environment. Since 1991, GEF has provided grants for more than 1,300 projects in 140 countries. The GEF International Waters (IW) focal area targets transboundary water systems. Examples of concerns addressed include water pollution, protection of fishery habitats and balancing competing water uses.

GEF projects help countries to learn to work together on key transboundary concerns, set priorities for joint action and to implement those actions. It plays a catalytic role in helping nations make the full use of policy, legal and institutional reforms and investments necessary to address their complex concerns.

The Danube Basin was a first for GEF IW – site of the first IW regional programme ever funded by the GEF in 1992. The United Nations Development Programme (UNDP), well established in the region before 1989, has implemented GEF projects supporting the Danube. Over time, Danube Basin countries identified reducing nutrient pollution as one of the basin's key transboundary water concerns.





EUROPEAN UNION

The European Union (EU) has been a main driver for IFBM in the Danube since 1991. The European Commission (EC) is also an original Contracting Party to the DRPC. As time went by, EU accession and the fulfilment of the EU's environmental directives became, as it is today, the main driving force for environmental change in the Danube Basin.

While Germany was one of the founding members of the EU, Austria acceded in 1995. Most of the post-communist Danube states began processes to join the EU soon after transition began between 1994 and 1996. In 2004, four Danube Basin countries joined the EU – the Czech Republic, Hungary, Slovenia and Slovakia. Two more Danube countries, Bulgaria and Romania, joined in 2007. Croatia applied in 2003 and has begun EU accession negotiations, bringing the total number of Danube countries in, or expected to soon join, the EU to nine. The five Danube countries of Bosnia and Herzegovina, Serbia, Montenegro, Ukraine and Moldova have not yet made any formal application to accede to the EU.

Membership to the EU obliges a country to fulfil the EU's package of laws or 'directives', including environmental directives. The first step is for a country to develop institutional capacity and harmonise EU laws. The second is implementation, a costly process and one where meeting environmental directives has been the most expensive.

EU water protection legislation came in three waves. The first wave, starting in 1975, set binding water quality targets for drinking water and other uses and limits on emissions. The second wave in the early 1990s led to the Urban Waste Water Treatment Directive (UWWTD) and Nitrates Directive. The third wave in the mid-1990s resulted in the Water Framework Directive (WFD) (2000) and Drinking Water Directive (1998).

In response, significant technical and financial support for the accession process came, and continues to come, from international donors such as GEF/UNDP and the EC.

In December 2000, the EU adopted the WFD – a new and effective tool for water management. The operational tool of a thoroughly restructured European Water Policy, it sets objectives for water protection well into the 21st century and is seen by many as the strongest water protection legislation in the world.

Covering surface and ground waters (fresh, transitional and coastal), it aims to achieve a 'good status' for all European waters and ecosystems by 2015. It obliges Member States and accession countries to use a river basin approach for managing water resources. It requires cross-border cooperation and encourages multi-stakeholder cooperation, with NGOs and local citizens included. It also obliges every EU river basin, including the Danube, to develop a 'River Basin Analysis' by 2004, followed by a 'River Basin Management Plan (RBMP)' by 2009 which specifies the 'Programme of Measures' required to meet the 2015 objectives.

DANUBE NGOs

Prior to 1990 in the former communist countries, civil society representation and non-governmental organisations (NGOs) were almost non-existent. Upstream, Germany and Austria experienced NGO participation in environmental decision-making and as government and private sector 'watchdogs'.

After 1991, international NGOs such as WWF began to participate in Danube-related matters. National and local Danube NGOs also began to take shape to the point that NGOs were involved in key decisions and programmes from the start, sharing the table with Danube country governments, GEF/UNDP and the EC.

With time, the Danube Environmental Forum (DEF) was created and is today the umbrella organisation for the largest network of NGOs in the Danube Basin with 174 member organisations.



THE HISTORY -
15 YEARS OF BUILDING
DANUBE MANAGEMENT



THE HISTORY - 15 YEARS OF BUILDING DANUBE MANAGEMENT

KEY POLITICAL DECISIONS

From 1991 to 2006, Danube countries, international organisations and other partners negotiated key political decisions that led to agreements, conventions and work programmes based increasingly on IRLM approaches. The result of these was a number of institutional and environmental outputs and achievements.

1991 - 2000

In 1985, Danube countries had agreed on the 'Bucharest Declaration on Water Management of the Danube River' to coordinate water management activities. The goals were ambitious but the political and economic situation in the region at the time hindered effective implementation.

Not long after the massive regional political changes affected Central and Eastern Europe (CEE), the idea to create a 'Danube River Protection Convention [DRPC]' was supported by Danube countries at the first UNECE 'Environment for Europe' conference held at the Dobris Castle in the Czech Republic in June 1991.

Building on this momentum, 24 countries, GEF/UNDP, EC and NGOs met in Sofia, Bulgaria in September 1991 to plan next steps. The result was the birth of the jointly agreed 'Environmental Programme for the Danube River Basin [EPDRB]', a framework initiative for regional cooperation in water management that would initiate priority studies and actions supporting the establishment of the DRPC.

The EPDRB was managed and mainly funded by the EU Phare Multi-Country Programme for Environment and UNDP, which planned to draw funds from the emerging Global Environment Facility (GEF) to implement EPDRB activities. The EPDRB was extremely important in that it was the first regional programme ever to be approved by both organisations.

The need for a DRPC was further driven by Danube countries becoming Parties to the new UNECE Convention on the Protection of Transboundary Rivers and Lakes signed in Helsinki in March 1992. It obliged Parties to prevent transboundary impacts on watercourses and encouraged them to cooperate through river basin management agreements. In effect, the 'Helsinki Convention' would become the basis for the DRPC.

On June 29, 1994 in Sofia, Bulgaria, 11 Danube countries (Austria, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Romania, Slovakia, Slovenia and Ukraine) and the EC signed the DRPC. It became the overall legal framework for protecting and sustainably using water and other shared ecological resources. The DRPC came into force on October 22, 1998. Days later, the International Commission for the Protection of the Danube River (ICPDR) and its Permanent Secretariat were established. Between 1998 and 2000, the ICPDR, chiefly through its Expert Groups, cooperated with GEF/UNDP and the EC in implementing the EPDRB.



2000 - 2006

In 2000, the EPDRB officially ended. This proved to be a major milestone whereby the lead in managing the Danube Basin shifted from donors to the ICPDR and the Danube countries themselves, with GEF/UNDP support.

Also in 2000, the ICPDR Heads of National Delegations agreed that the implementation of the EU's Water Framework Directive (WFD) should become the highest priority for the ICPDR for the coming years. Ministers from all of the Danube countries gave their full commitment to back the decision, including members of the EU, prospective members and non-members. They further pledged to develop a single, basin-wide Danube River Basin Management Plan (DRBMP) and nominated the ICPDR as its coordination body. The decision made sense given that both the WFD and ICPDR were based on using IRBM.

Begun in 2001, through its Danube Regional Project (DRP), GEF/UNDP continued to support the ICPDR with its WFD efforts and in strengthening cooperation between Danube countries. A second key focus of the DRP was on reducing nutrient pollution in the Danube Basin and thereby the ecologically damaged Black Sea. The DRP and significant involvement of the GEF/UNDP in Danube Basin management end in 2007.

Internal conflicts between some of the former nations of Yugoslavia prevented their formal participation in either the DRPC or ICPDR processes. After the wars, the DRPC went into force in Serbia and Montenegro in 2003 and in Bosnia and Herzegovina in 2005. By 2005, all of the Danube Basin's 13 biggest countries had become Parties to the DRPC.





PROGRAMMES AND ACTIVITIES

1991 - 2000

The first programmes from 1991 to 2000 were primarily donor-driven by institutions such as GEF/UNDP and the European Commission (EC). In September 1991, following their decision to create the Environmental Programme for the Danube River Basin (EPDRB), participants at the Sofia meeting also agreed to create a Task Force to guide the programme and a Programme Coordination Unit (PCU) to manage daily operations.

The main role of the Task Force was to support the programme until the earlier proposed DRPC came into effect. The EC, asked to chair the Task Force, was seen as a neutral party that could guarantee a balance of interests between upstream Danube countries and economically weaker downstream ones. EC participation was also seen by many countries in transition as a clear signal that they would be included in the future enlargement of the EU, thereby adding incentive to their active participation.

The PCU was established to coordinate and implement the EPDRB and support the Task Force. A new venture for international operations, it was jointly managed and funded by GEF/UNDP and the EU.

The programme goal was to establish an operational basis for strategic and integrated management of the Danube Basin environment, focusing initially on priority environmental issues. It was intended to collect all available information and fill gaps, build networks for cooperation, and carry out institutional strengthening and capacity building activities to set the stage for later implementation and investments.

The main activities for the PCU included support for water quality monitoring, early warning systems for accidents, information

management, donor coordination and establishing an effective NGO network.

By 1994, donors and countries were anxious to move from planning to implementation. To fill the gap, a Strategic Action Plan (SAP) would identify objectives, targets and priority actions and give overall strategic guidance – no easy job, as there was no global precedent in preparing a SAP for a large multi-country river basin programme.

In December 1994 in Bucharest, Danube ministers and the EC accepted the SAP. Its four strategic goals were: the improvement of aquatic ecosystems and biodiversity in the basin and the reduction of pollution loads entering the Black Sea; maintaining and improving the quantity and quality of water; control of damage from accidental spills; and the development of regional cooperation in water management.

The necessary measures needed to meet the above goals were: construction of municipal sewer systems and wastewater treatment plants; reductions of industrial wastewater, harmful substances from agriculture and the risks of accidents; restoration of wetlands and floodplains; and integrated water management.

Working in cooperation with the new ICPR, the SAP led to two main projects: the GEF/UNDP-led Danube River Basin Pollution Reduction Programme (DRPP) and the Phare-led Strategic Action Plan Implementation Programme.

DRPP efforts led to the preparation of the first GEF 'Transboundary Diagnostic Analysis' (TDA) for the Danube Basin with a focus on nutrient pollution. This analysis would become an important building block for subsequent Danube analyses.

2000 - 2006

As planned back in 1991, the Danube PCU and EU Phare programme for the Danube ended when the Danube Convention went into force and responsibilities were handed over to the new ICPDR Secretariat.

In 2000, the results from the EPDRB and the Danube River Basin Pollution Reduction Programme were transferred to the ICPDR to prepare its Joint Action Programme (JAP). The JAP, corresponding to a 'Strategic Action Plan' in GEF terminology, built on the GEF TDA prepared earlier in 1999.

The JAP outlined the steps to be taken between 2001 and 2005 to achieve the DRPC's environmental objectives. They included measures to reduce water pollution, promote nature conservation and restore ecosystems. Joint action by countries was seen as essential to reduce the flow of pollutants from agricultural, domestic and industrial sources into the Danube and Black Sea.

Also in 2000, Danube countries had agreed that the first priority of the ICPDR for the coming years should be implementation of the EU Water Framework Directive (WFD) using IRBM as the guiding approach. While the non-accession countries of Bosnia and Herzegovina, Croatia, Moldova, Ukraine and Serbia and Montenegro were not legally required to abide by any EU directives, they all formally and voluntarily agreed to undertake WFD implementation. By this decision, the timeline for the next 15 years of the ICPDR's main activities, and for Danube IRBM, were largely determined, in having to meet the EU's ambitious deadlines for WFD implementation.

The first key deadline to be met, in 2004, was the development of the Danube River Basin Analysis, the first comprehensive characterisation and pressure/impact analysis of the entire basin, and the biggest step towards developing the Danube River Basin Management Plan (DRBMP) by 2009. By 2006, the WFD required the establishment of an international monitoring network, and by 2015, the meeting of the WFD objectives.

The DRBMP will include information on the: characteristics of the Danube Basin; significant pressures and impacts of human activities on the status of surface water and groundwater; monitoring networks; environmental objectives; economic analysis of water use; programme of measures; and public information and consultation measures taken.

The Danube Black Sea Task Force (DABLAS) was set up in 2001 to provide a platform for cooperation to ensure the protection of water and water-related ecosystems in the Danube and the Black Sea. It comprises Danube country representatives, ICPDR Secretariat, Black Sea Commission, International Financing Institutions (IFIs), the EC, interested EU Member States, other bilateral donors, other regional/international institutions and civil society representatives. Its primary goal was to develop financing mechanisms for the implementation of investment projects for pollution reduction and the rehabilitation of ecosystems.

On December 1 2001, the five-year Danube Regional Project (DRP) was launched - the last phase of GEF/UNDP long-term support for IRBM in the Danube Basin, executed through UNOPS. Its main goal was to strengthen the capacity of the ICPDR and Danube countries to cooperate in fulfilling their commitments to implement the Danube Convention and EU WFD. It would build on the GEF TDA prepared in 1999 and the ICPDR's JAP of 2000 to help develop the 2004 Danube River Basin Analysis and eventually the Danube River Basin Management Plan.

Reducing nutrient pollution was especially important for the DRP given the expanded interest of GEF in downstream eutrophication problems in the Black Sea. Furthermore, nutrient reduction activities would benefit all Danube managers including GEF/UNDP, EC, ICPDR and the Danube countries given the fact that nutrient pollution was one of four key issues that Danube countries risked in not being able to meet the WFD's requirements. Countries were also obliged to reduce their nutrient loads to meet other EU directives including the Urban Waste Water Treatment Directive (UWWWT) and Nitrates Directive.



Other key DRP targets included introducing best agricultural practices, conserving wetlands, improving the financial operations of water and wastewater utilities, reducing phosphate use in laundry detergents, improving public awareness and strengthening public participation and NGOs.

The DRP is part of the larger USD \$95 million 'GEF Strategic Partnership for Nutrient Reduction in the Danube/Black Sea Basin' approved in 2001. It targets assistance in Danube and Black Sea countries to address transboundary concerns from nutrient pollution. One of GEF's largest and perhaps most ambitious water-related projects in the world, its long-term objective is for countries to take measures to reduce nutrient pollution levels and other hazardous substances to such levels necessary to permit Black Sea ecosystems to recover to similar conditions as those observed in the 1960s.

Its intermediate objective includes the implementation of urgent control measures by the countries to reduce nutrient discharges to the Black Sea to levels at or below those observed in 1997. The Partnership also aims to put in place sustainable governance and investment frameworks to prevent the renewed ecosystem deterioration that might occur with expected future economic improvement in DRB and Black Sea countries.

The Partnership includes three components. The first is the DRP. The second is the 'Black Sea Ecosystem Recovery Project' for the six Black Sea littoral countries. The third is the 'Investment Fund for Nutrient Reduction' implemented by the World Bank, geared to supporting single-country, single-sector investment sub-projects for nutrient reduction as well as wetland and floodplain restoration.



A scenic landscape featuring a large body of water, likely a lake or river, framed by lush green trees. In the foreground, there is a field of vibrant red poppies. The scene is bright and natural, with the text 'ACHIEVEMENTS' overlaid in the center.

ACHIEVEMENTS

ACHIEVEMENTS

INSTITUTIONAL ACHIEVEMENTS

- 1 Meeting EU requirements
- 2 Mature regional coordinating institution
- 3 Water quality monitoring system
- 4 Accident early warning system
- 5 Reducing pollution emissions
- 6 Reducing nutrient pollution
- 7 Conserving wetlands
- 8 Enhanced public participation and communications
- 9 Sub-basin IFBM
- 10 Flood management



1 MEETING EU REQUIREMENTS

As the years went by, accession to the EU and the fulfilment of its water protection legislation became the main drivers for improving Danube IFBM. Political and economic incentives for environmental compliance thus supplemented requirements to abide by the Danube Convention. To date, many Danube countries have already acceded to the EU, and others will join soon. They are on track in meeting most EU environmental directives.

A model example is the Danube River Basin Analysis. Building on the earlier TGA and JAP, successfully coordinated by the ICPR, completed in 2004 and delivered to the EU in March 2005, the analysis met the first significant reporting requirement of the WFD. It includes the characterisation of surface waters and groundwater; an inventory of protected areas, an economic analysis, public participation activities and a future outlook.

Its key conclusion was that pollution by organic, nutrient and hazardous substances, as well as hydromorphological alterations, are the future key water management issues in the basin. For example, some 85% of the basin was found to be at risk of not meeting the WFD's objectives due to nutrient pollution. In effect, these issues became the focus for developing the DRBMP by 2009, also now on track, and again coordinated by the ICPR with GEF/UNDP support.

The capacity of the Danube countries to continuously meet the EU's accession and legislative challenges were significantly strengthened by all of the decisions, programmes, activities, outputs and achievements resulting from 15 years of building an IFBM framework in the basin. The Danube's 'managers' were highly prepared for, and in a state of excellent readiness, to meet EU requirements, perhaps more so than any other river basin in Europe. They continue to be so.



Throughout the 15 years, GEF/UNDP targeted interventions played a catalytic role in helping the Danube countries and ICPDR to reach this state of readiness, including providing detailed information for the Danube Analysis. A sure sign of the win-win situation that had resulted between the GEF/UNDP, ICPDR, EC and Danube countries – in April 2005, the EU highlighted the DRP as a model for transboundary waters governance in its report to the U.N. Commission on Sustainable Development.

2 MATURE REGIONAL COORDINATING INSTITUTION

Since its creation, the ICPDR has grown into one of the largest and most active international bodies of experts on IRBM in the world, promoting policy agreements and setting joint priorities and strategies to improve the basin. The permanent, financially sustainable body is now vital to maintaining continuity, momentum and country commitment.

All Danube countries have actively participated in ICPDR expert groups. It has encouraged public participation in its decision-making, expert group and planning processes, including representatives from academia, the private sector and NGOs. Some key successes thus far include the coordination of inputs from all Danube countries into the Danube River Basin Analysis 2004, annual Danube Day events, the Joint Action Programme 2001-2005 and the Flood Action Programme.

The ICPDR also has a Memorandum of Understanding with the Black Sea Commission. This includes agreement on both sides to cooperate through a Joint Technical Working Group to monitor, and develop indicators for, impacts from activities in the Danube River Basin on the Black Sea.

3 WATER QUALITY MONITORING SYSTEM

After the Bucharest Convention in 1985, a series of monitoring stations and a programme of sampling and analysis were created for the basin. Stations focused mainly on boundaries between nations and a limited range of chemical determinands.

After 1992, efforts focused on developing the Trans-National Monitoring Network (TNMN) and adding sampling stations and determinands to be monitored. The main objective of TNMN was to provide an overall view of pollution and long-term trends in water quality and pollution loads in the major rivers of the Danube Basin. It would also ensure comparable data and techniques to exchange information in a common format.

Formally launched by the ICPDR in June 1998 in Bratislava, Slovakia, the TNMN network now comprises over 75 water quality monitoring stations. Ultimately, it gave decision-makers data to make the right policy and investment decisions to improve water quality. Monitoring upgrades supported by GEF/UNDP will help ensure the TNMN will meet the WFD requirements, especially by broadening its scope to consider biological monitoring.





4 ACCIDENT EMERGENCY WARNING SYSTEM

The first stage of the Accident Emergency Warning System (AEWS) was made operable in April 1997. Its objective was to enable national authorities to protect water users against accidental pollution and other emergency situations. A web-based communication system ensures the quick transmission of messages between countries to help authorities downstream put environmental and public safety measures into action. In January 2000, the AEWS proved highly effective in warning downstream countries of an approaching large cyanide spill from Romania.

A data bank of dangerous chemicals and the Danube Basin Alarm Model assist experts to assess the environmental impacts of accidental pollution. In 2001, the first leg of the Accident Risk Spots Inventory was finalised by the ICPDR, encompassing operational industrial sites associated with a major risk of accidental pollution.

5 REDUCING POLLUTION EMISSIONS

The identification of measures to reduce polluting emissions was initiated in 1995 through the EPORB. Early successes included identifying the most significant types of water pollution; preparing inventories of municipal, agricultural and industrial discharges; making proposals for appropriate measures including guidance for the best available technologies; a list of priority pollutants to be reduced or eliminated; and evaluations of the pollution loads from non-point sources (e.g. nutrients from agriculture).

New production methods and technologies leading to reduced industrial pollution were implemented at three industrial hot-spots including a leather tannery in Bulgaria, pulp and paper plant in Romania, and chemical plant in Slovakia.

The GEF/UNDP Danube Pollution Reduction Programme later developed a Transboundary Diagnostic Analysis (TDA) of pollution loads in the basin and their effects. Main pollution sources were identified and a list of 'hot spots' was drafted. The programme's report of 1999 gave an overall view of the most important on-going and planned measures for the reduction of pollution in the basin.





6 REDUCING NUTRIENT POLLUTION

The ICPR's Joint Action Programme, with DABLAS support, prepared a prioritised list of investments for nutrient pollution reduction. The estimated total costs of these projects were in excess of 4,000 M USD with expected reductions of nitrogen emissions by 50 kilotonnes/year and of phosphorus emissions by 9 kilotonnes/year.

A model (MONERIS) was developed with support from Germany, the EC and GEF/UNDP to estimate nutrient loads in rivers. It helps to fill in data gaps resulting from trans-national and national monitoring programmes in the basin.

Over the last 15 years, GEF/UNDP and EC programmes made significant interventions to reduce nutrient pollution. It was both necessary and strategically important for GEF programmes to build on the efforts of the EC, given that EU processes became the main driving force for getting DRB countries to improve their environmental performance. In effect, through their respective nutrient pollution reduction efforts, both GEF/UNDP and the EU helped meet each other's goals. Related legal, policy and institutional reforms were facilitated and transboundary nutrient pollution reduction strategies were mainstreamed into national strategies and plans.

All Danube and Black Sea countries will have implemented one or more new policies and legislation supporting nutrient pollution reduction. Three countries declared all surface water resources sensitive under the EU Urban Waste Water Treatment Directive, thus requiring nitrogen and phosphorus removal for wastewater plants in communities of over 10,000 inhabitants. The ICPR is also actively encouraging a wider introduction of banning phosphate-free detergents in the basin.

NUTRIENT POLLUTION AND AGRICULTURE

Significant efforts were geared to reducing nutrient pollution from agriculture. In the early years, awareness was raised, new tools were developed, and procedures for appropriate fertiliser applications, manure handling and organic farming were tested at demonstration farms to help reduce nutrient loads.

In 2004, the ICPR's Danube River Basin Analysis found agriculture to be the biggest source of nitrogen in the Danube Basin with a 38% share, and the second biggest source for phosphorus emissions with a 32% share. More recently, it was observed that, while the EU Common Agricultural Policy (CAP) has historically been a key driver for intensive agricultural practices that contributed to excess nutrient pollution, recent CAP reform now provides opportunities for supporting EU water protection efforts.

Since 2001, successes include assessments of the use of nutrient fertilisers, manure and pesticides in the basin and identifying bad agricultural practices and their environmental impacts. Recommendations were made regarding the implementation of best agricultural practices (BAP) and of EU and national policies and legislation that could support agricultural reform. Furthermore, GEF, through the World Bank, supports agricultural pollution control projects in five Danube countries.

BAPs are currently being tested at demonstration farms in Serbia, the results of which have been transferred to other Danube countries through national training workshops. A total of 53 NGOs in the Danube River Basin have received DRP financial grants to support activities in disseminating information about and applying BAPs.



NUTRIENT POLLUTION AND MUNICIPAL WASTEWATER TREATMENT

While sufficient wastewater treatment has already been developed in Germany and Austria, major efforts are still required for central and lower Danube countries. EU legislation and local demands are driving them to expand treatment capacity. The EU Urban Wastewater Treatment Directive (UWWTD) is designed to protect the environment from the adverse effects of wastewater from cities and the agro-food industry.

Building on earlier DABLAS efforts, an inventory of municipal wastewater treatment plants is being compiled by the ICPDR to provide information such as location, pollution loads, treatment technologies and cost efficiencies. This data will help to identify the future measures needed in the DRBMP such as expanding utility capacity.

Given that the UWWTD may be the most expensive EU water quality requirement to implement, many utilities need help in making the right price and investment decisions to pay for cleaner water. A DRP sub-project is raising awareness among Danube River Basin wastewater utility managers about reforms to reduce internal costs, providing financial tools to assist in making decisions about investing in expansions, and testing new products at demonstration sites in Croatia and Romania.

NUTRIENT POLLUTION AND PHOSPHATES IN LAUNDRY DETERGENTS

Recommendations are being provided to Danube national governments on how to react to the use of phosphates in household laundry detergents and how consumers and industry can switch to alternative phosphate-free products. Early studies found detergent phosphates to be a major urban contributor to nutrient pollution, and that their removal would be the fastest and cheapest way for significant reductions of phosphorus currently released into the basin.

7 WETLANDS

Early efforts raised the importance of wetland rehabilitation. The Morava Floodplain Restoration Project in particular had promising results in one of the most valuable wetland areas in Europe. It contributed in 1999 to the establishment of a Trilateral Ramsar Platform headed by environment ministries. It also helped point the way for additional rehabilitation projects to be supported by the ICPDR. The Project was complemented by an GEF/UNDP activity that identified 17 priority wetland and floodplain rehabilitation sites between Bavaria and the Danube Delta.

The next milestone in wetland conservation was the development of an inventory of the most important water-related protected areas for species and habitat protection in the Danube Basin, many of which were wetland areas.

After 2000, a key focus of GEF/UNDP efforts was on assessing the potential of wetlands to absorb nutrient pollution. Danube water managers were targeted by raising their awareness of the need to conserve wetlands as part of their overall IRBM activities. This included promoting the multiple benefits of wetlands through various products and activities such as guidance documents, training and demonstration projects.

Support for Danube NGO wetland conservation efforts included help for the international campaign of the Danube Environmental Forum (DEF), a basin-wide NGO network, and DEF national efforts in Croatia, Serbia, Slovakia and Slovenia.



8 ENHANCED PUBLIC PARTICIPATION AND COMMUNICATION

Raising awareness about Danube issues and solutions through information dissemination and strategic communications, and encouraging public participation in environmental decision-making, have been key features of building IRBM in the basin.

For example, NGOs were included in the landmark 1991 Sofia meeting and helped to develop the EPDRB. Soon after, they (e.g. WWF and IUCN) were involved with the EPDRB Task Force – a novel idea and groundbreaking decision to equate NGO status with that of government representatives at the table. The active involvement of the public in sustainable water management was later recognized as a core principle with the 1994 signing of the Danube River Protection Convention and the WFD.

Early achievements included the first 'Danube Watch' quarterly news bulletin in 1994, financial grants to NGOs and the establishment of DEF. After 2000, the cooperation of NGOs was essential for achieving the goals of the ICPDR and GEF/UNDP.

INTERNATIONAL COMMISSION FOR THE PROTECTION OF THE DANUBE RIVER (ICPDR)

Given that the EU WFD requires public involvement in IRBM, the ICPDR defined a 'Danube River Basin Strategy for Public Participation in River Basin Management Planning 2003 – 2009' to be implemented by Danube countries with ICPDR guidance.

Activities were aimed at raising awareness about IRBM and opportunities for public involvement and developing networks for public participation experts and media.

Today, 'Danube Watch' continues to be the official quarterly magazine of the ICPDR. International Danube Day, launched by the ICPDR on 29 June 2004 to celebrate the 10th anniversary of the signing of the DRPC, is now an annual event paying tribute to the Danube and its tributaries. It is celebrated by organisations at every level of society through a diverse range of activities to create stronger connections between Danube people, the basin and its biodiversity, and to mobilise them to take action.

The expanded ICPDR website includes comprehensive and detailed information on a wide range of issues affecting the Danube and ICPDR. To date, 12 organisations are observers to the ICPDR including NGOs and private sector water users (e.g. hydropower). The ICPDR has also been proactive in involving the public and stakeholders in conferences and workshops and in developing numerous brochures and technical publications on a wide range of IRBM issues in multiple languages.





GEF/UNDP
DANUBE REGIONAL PROJECT
(DRP)

Considerable DRP resources were provided to the ICPDR for its communications activities including assistance for workshops, Danube Watch publications, Danube Day activities and media support.

Particular attention was also given to strengthening the capacities of the Danube Environmental Forum (DEF), created earlier through GEF/UNDP interventions. Today, the DEF is the umbrella organisation for the largest network of NGOs in the basin with a strong Secretariat, 174 member organisations and national focal points from 13 Danube countries. The DRP helped strengthen the DEF through extending the network, communication support, training and support for public awareness-raising activities.

The DRP Small Grants Programme was the DRP's main vehicle for engaging local stakeholders. 120 National Grants and 10 Regional Grants were distributed to NGOs in 11 countries. Many projects were geared to solving nutrient and toxic pollution problems through direct pollution reduction, improved monitoring systems and increased public awareness. Other examples include Sava Basin NGOs pushing for public participation in the development of the Sava RBMP, and an NGO in Sarajevo, Bosnia and Herzegovina, raising local awareness about phosphates in detergents.

The DRP used communications as a strategic tool to help reach project goals and target audiences. This included widespread media outreach, encouraging national decision-makers to endorse DRP products and training trainers at the national level.

In 2004, the DRP initiated a component to build the capacities of government authorities to provide water-related information to the public. Demonstration projects at selected local pollution hot spots are 'road testing' reinforced community involvement in solving water pollution issues. The project also aims to strengthen the capacities of the ICPDR to provide public information.



9 SUB-BASIN IRBM

Given the immensity and internal complexities of the entire Danube Basin, efficiencies can be gained by managing smaller areas based on natural sub-river basins. Sub-basin initiatives also provide lessons for strengthening IRBM and the implementation of the EU WFD. Early efforts helped develop a framework for collaboration between the five countries sharing the Tisza sub-basin. Another effort strengthened stakeholder participation for the Yantra River Basin Council in Bulgaria.

Since 2000, activities have supported the enhancement of IRBM at the sub-basin level, especially for the Tisza and Sava river basins, and more recently for the Danube Delta and Prut River Basin, under the umbrella of the ICPDR. For example, the Sava Basin countries are being assisted in developing a Sava RBM Plan under the coordination of the new Sava River Basin Commission and in reporting to the WFD.

10 FLOOD MANAGEMENT

The devastating floods impacting the Danube Basin since 1997, from the Morava to the Tisza, triggered a process of rethinking fundamental attitudes – from dominating nature to co-existence with floods. In response, ICPDR efforts were accelerated in co-ordinating basin-wide actions with inclusion of the issue in its Joint Action Programme (JAP).

In December 2004, the Action Programme for Sustainable Flood Protection for the Danube was released by the ICPDR. Its four basin-wide targets are: improvement of flood forecasting and early flood warning systems, inter-linking national or regional systems; support for the preparation of and coordination between sub-basin-wide flood action plans; creating forums for the exchange of expert knowledge; and a common approach in the assessment of flood-prone areas and the evaluation of flood risk.



ENVIRONMENTAL ACHIEVEMENTS

Danube countries and international institutions were successful in establishing programmes and carrying out activities to support IRBM. One of the key results coming from the effective application of IRBM should assumedly be environmental progress.

In the Danube Basin, there are already signs of environmental improvement. There is also still much to be done. Over 150 years prior to 1990, human activities caused significant damage to the river, its tributaries and ecosystems. The old adage therefore applies well here – it takes much longer to rebuild something than to damage it. Nonetheless, the necessary framework and foundations have been put in place so more improvements are expected soon.

Most importantly, all of the Danube countries, with ICPDR assistance, are on track in meeting EU WFD requirements. The first significant milestone was the completion of the Danube River Basin Analysis in 2004. Work is now well under way to develop the Danube River Basin Management Plan (DRBMP) by 2009. Efforts are on track with the hope that by 2015, the DRBMP and its Programme of Measures (geared to rectifying problems and avoiding threats in the basin) will have been implemented throughout the basin, with the result that Danube waters meet WFD requirements, including good ecological status.

At the same time, many of the observed positive environmental trends in both the Black Sea and the Danube Basin stem from the impacts of the economic downturn following the collapse of the former Soviet Union in the 1990s and associated reductions in fertiliser use, livestock-raising and industrial emissions.



IMPROVED BLACK SEA ECOLOGICAL STATUS

Having cooperated in numerous joint efforts, the GEF Strategic Partnership, ICPDR, EC and Danube countries can take credit for recent measurable improvements in the Black Sea's northwest shelf. Nowhere on Earth have such demonstrable water quality and ecosystem improvements been observed in a large river and adjacent sea as in the Danube and Black Sea ecosystems over the last decade. The Black Sea is showing initial evidence of recovery.

Nowhere has such nitrogen and phosphorus pollution reduction been achieved as to reverse the documented dead zone of oxygen depletion in the Black Sea's northwest shelf. Oxygen depletion in the lower levels of the sea observed in the 1970s and 1980s has been virtually eliminated, with oxygen levels now at or near saturation in most areas. Significant progress was made toward achieving and even exceeding (for phosphorus) the objective of stabilising nutrient loads to the Black Sea at 1997 levels. In the Danube Basin, nitrogen emissions have decreased by 20% and phosphorus almost by 50% over the last 15 years.

The frequency of algae blooms has decreased markedly compared to levels in the 1980s, and surface chlorophyll concentrations have also shown measurable decreases. The number of benthic species observed in the early 2000s was 1.5x - 2x higher than levels found in the late 1980s, but still more than 1.5x lower than conditions in the 1960s.





NUTRIENTS REMOVED IN THE DANUBE BASIN

The table below represents the summaries of fully financed projects that were underway or completed recently, total investments and nutrients removed according to time period.

Timeframe	Number of Projects	Total Investment Mio. USD	Nutrient Removal, t/a	
			Nitrogen	Phosphorus
Completed by Dec 2003	56	803	5,300	1,000
Completed in 2004 & 2005	35	475	4,500	800
Completed after 2005 (fully financed)	50	1,365	>10,000	>2,000
World Bank	8	214	5,500	375
Total	149	2,857	>25,300	>4,175

Among the 149 fully financed projects, 128 are situated within the EU member countries: Austria, Germany, the Czech Republic, Hungary, Slovakia, and Slovenia. Municipal sector projects account for the majority of the fully financed projects, and national co-financing provided more than 50% of total municipal investments. Most GEF-WB investments were instead concentrated on non-EU countries and the agricultural sector.

Total emissions to the Danube Basin, prior to taking the projects into account, were estimated as 700 kilotonnes/year (kt/a) for nitrogen and 70 kt/a for phosphorus, with the measured loads to the Black Sea estimated as 400 kt/a for nitrogen and 12 kt/a for phosphorus.

REDUCED RISK IN UPPER DANUBE REACHES

Most of the upper reaches of the Danube are no longer considered 'at risk' of not achieving the EU WFD objectives for hazardous substances, nutrients and organic loads. This can largely be attributed to the widespread construction or improvement of wastewater treatment utilities, driven by country obligations to meet the EU Urban Wastewater Treatment Directive.



LOCAL IMPROVEMENTS


Numerous environmental improvements were made at the local level, especially where demonstration and pilot projects were implemented during various programmes and sub-projects. Concrete local results also came from NGOs that received financial grants.

As examples, nutrient pollution was reduced through demonstration projects testing best agricultural practices (BAPs) in north Serbia. About half of all of the DRP Small Grants went to NGOs performing agriculture-related activities, some of which had concrete reductions.

Regarding phosphates in detergents, measurable reductions resulted through NGO efforts in Sarajevo, Bosnia and Herzegovina. Concrete gains in wetland rehabilitation and protection were also made.

In January 2000, messages sent by Romania to Hungary through the AEWS drove Hungary to open sluices to significantly dilute the massive plume of cyanide entering the country from a Romanian mining accident, thus reducing the impacts of the toxins.





LESSONS LEARNED
FUTURE OUTLOOK



LESSONS LEARNED

Lessons have been learned in implementing IRBM in the Danube Basin. Some are transferable to other river basins worldwide. Some are Danube-specific, the result of political and economic processes occurring within the Danube Basin over the last 15 years (e.g. EU accession). It is therefore important to consider every basin as different.

Two key pre-conditions were required to make it work. One, Danube countries had the political will to cooperate with each other and apply IRBM. Two, international donor assistance was valuable in helping the countries lay the early foundations, as was the importance of ensuring donor coordination to maintain strategic focus and benefits, and a win-win situation, for all 'Danube managers'. These pre-conditions catalysed the development of the following 'building blocks' required for Danube IRBM to function:

- 1 Regional legal framework
- 2 Regional coordinating institution
- 3 Joint programmes and actions
- 4 Evidence-based information
- 5 Best technologies and practices
- 6 Public participation and communications

Therefore, in other river basins where the political will exists to apply IRBM, donors such as GEF/UNDP can facilitate the development of the necessary building blocks.

1 REGIONAL LEGAL FRAMEWORK

The political will of the Danube countries, and of the EU, was needed to jointly sign and ratify the Danube River Protection Convention. The agreement legally bound countries to co-operate on fundamental water management issues by taking "all appropriate legal, administrative and technical measures to at least maintain and where possible improve the current water quality and environmental conditions of the Danube river and of the waters in its catchment area, and to prevent and reduce as far as possible adverse impacts and changes occurring or likely to be caused."

All Danube countries that had already become EU members or which had begun their EU accession process also became obliged to meet EU environmental water-related directives, most notably the Water Framework, Nitrates and Urban Wastewater directives. Even non-accession countries agreed to abide by the Water Framework Directive (WFD). In effect, all Danube countries were to be guided by one common overarching regional water-related legal framework.

2 REGIONAL COORDINATING INSTITUTION

Again, it was the political will of the Danube countries that led to their agreeing to the creation of one regional institution mandated to coordinate and provide guidance for their joint efforts, especially to implement the DRPC and EU WFD.

Today, the multi-country cooperation and coordination reached through the ICPDR is a great success for the most international river basin in the world.



3 JOINT PROGRAMMES AND ACTIONS

The regional legal framework and coordinating institution that were put into place by 1997-98 depended on the preparations made and milestones achieved in the preceding seven years. This time period was dominated by the EPDRB and its sub-programmes which had been jointly agreed on by the Danube countries, GEF/UNDP, EC and other key partners such as NGOs.

The early development of a Strategic Action Plan and then Joint Action Programme provided significant benefits through improving the understanding about issues and assessing solutions. The JAP will be 'transformed' under the WFD to become part of the Programme of Measures of the Danube River Basin Management Plan (DRBMP).

Exceptional cooperation between the GEF/UNDP and EC ranged from their agreement to jointly manage the EPDRB to their support of the Danube River Basin Analysis. Even though they had

different technical assistance priorities, they shared the same overall objectives. This became a successful model for the implementation of other trans-boundary projects worldwide (e.g. Black Sea, Caspian Sea).

It was shown that environmental programmes should include a mix of strategies, activities and policies to be effective. For example, to reduce nutrient pollution, short-term point-source investments in improved wastewater treatment and policies regulating phosphates in detergents should be mixed with longer-term strategies aimed at reducing non-point pollution from agricultural sources.

The need to ensure programmatic and sectoral inter-linkages also increased, especially between upstream and downstream countries, the Danube and Black Sea Commissions, and environment and agriculture ministries.



4 EVIDENCE-BASED INFORMATION

Effective IBM begins with quality information about the status of the environment and pressures impacting it. From 1991, numerous efforts were made to improve and harmonise data collection among all 13 countries of the basin. Significant information-related outputs were achieved such as the Danube River Basin Analysis 2004, the international water quality monitoring system, the DANUBIS electronic information system, and countless reports, maps and inventories.

The attention given to the production of quality information is now being channelled by the ICPDR and Danube countries to the development of appropriate evidence-based measures, or strategies, that will be most effective in improving water body health in order to meet EU WFD requirements by 2015, to be presented in the DRBMP by 2009.

5 BEST TECHNOLOGIES AND PRACTICES

In many cases, the availability of quality data and information depends on the use of best technologies and practices. In the Danube Basin, technologies have continuously been enhanced to provide the best information possible, from those involved in the international water quality monitoring system to progress with the web-based accident early warning system.

Wastewater treatment utility managers in the basin will have access to a mathematical tool, 'ASTEC', that enhances their ability to make crucial cost, pricing and investment decisions. Another example is the demonstration sites testing best agricultural practices to help farmers in seven countries reduce nutrient inputs.

6 PUBLIC PARTICIPATION AND COMMUNICATIONS

Information about major decisions and programmes was regularly disseminated to Danube stakeholders through various formats. Information added transparency to processes and important public input. NGOs enhanced information collection, incorporated local level realities, raised local awareness and mobilised local action.





FUTURE OUTLOOK

After 15 years of building IRBM, the Danube Basin now attracts major interest both within the EU and worldwide. Within the EU, it is seen as a model for how to effectively apply IRBM through the Water Framework Directive (WFD). 'All eyes are on the Danube' as water managers apply lessons to managing their own water bodies.

Given that the WFD is probably the most comprehensive and integrated water legislation in the world, this also makes the Danube a global flagship model for how to get IRBM right, especially for GEF and for reducing nutrient pollution. Ultimately, GEF/UNDP efforts in the Danube-Black Sea area could become a progressive model for expanding public awareness of the threats from nutrient pollution worldwide.

Therefore, the pressure is on for the Danube to have concrete results. The next 15 years will continue to see challenges. IRBM is now commonly accepted as the best means to ensure

that gains from the last 15 years are not reversed, and that economies grow without environmental destruction. To help pave the way, wise strategies and continued collaboration between the ICPCR, Danube countries and donors is needed.

WFD implementation is on track. Next steps include improving the international water quality monitoring network, preparation and agreement on the DRBMP and its Programme of Measures, and implementing the measures to meet the WFD by 2015.

Regarding agriculture, economic improvements could lead to an increase in fertiliser and pesticide use by farmers, and thus water pollution, even though EU agricultural reforms are intent on reducing subsidies for intensive farming. In response, Danube managers should continue efforts to increase farmer awareness and the application of 'best agricultural practices (BAPs)', and BAPs need to be promoted by governments.





POTENTIAL ACTIVITIES

OVER THE NEXT 15 YEARS INCLUDE:

- > Increased investments in middle and lower Danube wastewater treatment
- > Continued efforts to reduce nutrient pollution in the Danube-Black Sea region
- > Accident prevention, especially of toxic pollution
- > Implementation of the Action Programme for Sustainable Flood Protection
- > Increasing awareness, protection and restoration of wetlands
- > Enacting a ban on the use of phosphates in detergents
- > Overall enforcement of existing and new policies and legislation
- > Expansion of sub-basin initiatives (e.g. Prut, Danube Delta)
- > Development of a Danube GIS and continued production of the 'Danube Watch' magazine and coordination of Danube Day
- > Improved collaboration between the Danube and Black Sea Commissions, as well as between national agriculture and environment ministries

Finally, the maturity of the ICPDR as the coordinating body for Danube IRBM now requires sustainable financing for its activities. Financial support comes from direct financial or in-kind contributions from Contracting Parties, EC research funds and corporate sponsors (e.g. The Coca-Cola Company and Coca-Cola HBC, Alcoa Foundation). A concept is also being developed for a 'Friends of the Danube Fund' to increase external financial support for IRBM activities.

The good news is that the last 15 years of achievements in the basin, as presented in this document, should provide an excellent incentive for more 'friends' to join up and help ensure the future health of the Danube Basin for the next 15 years and beyond.

GLOSSARY OF ACRONYMS

AEWS	Accident Emergency Warning System	IUCN	The World Conservation Union
ASTEC	Accounts Simulation for Tariffs and Effluent Charges	IW	International Waters Programme
BAP	Best Agricultural Practices	JAP	Joint Action Programme
CAP	Common Agricultural Policy	JDS	Joint Danube Survey
DABLAS	Danube Black Sea Task Force	MONERIS	Modelling Nutrient Emissions Into River Systems
DANUBIS	Danube Information System	NGO	Non-governmental organisation
DEF	Danube Environmental Forum	PCU	Programme Coordination Unit
DPRP	Danube Pollution Reduction Programme	SAP	Strategic Action Plan
DRP	Danube Regional Project	TDA	Transboundary Diagnostic Analysis
DRBMP	Danube River Basin Management Plan	TNMN	Trans-National Monitoring Network
DRPC	Danube River Protection Convention	WFD	Water Framework Directive
EC	European Commission	UNDP	United Nations Development Programme
EPORB	Environmental Programme for the Danube River Basin	UNECE	United Nations Economic Commission for Europe
EU	European Union	UNESCO	United Nations Educational, Scientific and Cultural Organization
GEF	Global Environmental Facility	UNOPS	United Nations Office for Project Services
GIS	Geographical Information Systems	UWWT	Urban Waste Water Treatment Directive
ICPDR	International Commission for the Protection of the Danube River	WB	World Bank
IRBM	Integrated River Basin Management	WWF	World Wide Fund for Nature

