ANNUAL REPORT

on the Activities of the ICPDR in 2003

icpdr

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Foreword

Philip Weller

Looking back, the past year has been a year of consolidation and strengthening of the ICPDR.

Fritz Holzwarth

The integration of two new Contracting Parties to the Commission, Ukraine and Serbia and Montenegro, was an important step for the ICPDR towards becoming the major international organization for coordinating water management in the Danube River Basin. With thirteen member countries the family of Danube countries is now almost completely gathered under the roof of the ICPDR. Only Bosnia i Herzegovina has not yet become a full member.

The joining of Serbia and Montenegro is of special importance since it eliminates the "white spot" on the map of international cooperation in the middle of the Danube River Basin. With Ukraine, we welcome a country which is not only an important partner for addressing water management problems in the Danube River Basin but which can also help to further develop the links between the Danube River and the Black Sea. We look forward to working together with our Serbian and Ukrainian colleagues in strengthening cooperation and aiming at full implementation of the objectives set forth in the Danube River Protection Convention.

When I started the ICPDR presidency, I committed myself to travel to some of the downstream Danube countries to gain a personal insight into the concerns and problems that prevail in those countries, and also to emphasize the important role of the ICPDR as the platform for jointly addressing those problems and concerns. I am hopeful that these visits paved the way for key decision-makers to better understand that the cooperation in the framework of the ICPDR is beneficial for their respective countries; but that they also raised awareness of the fact that all partners need to feel responsible and contribute to the common work. I admit that for me the visits to Romania, Moldova, Bulgaria and Serbia and Montenegro were an outstanding personal experience. I learned a lot about the countries themselves, their people, and the important role the Danube River plays in their country.

In 2003, the major focus of the ICPDR Working Groups and the Secretariat has been the preparation of coordinated reports as required by the EU Water Framework Directive (WFD). The ICPDR has proved its capacity for effectively coordinating the response of the Danube countries (EU

Foreword

Members States, Applicant Countries and other European countries) to the WFD, which is not an easy task taking into account the number and variety of the countries involved. What needs to be pointed out in particular is the serious commitment and full engagement of non-accession countries, which are not obliged to apply the WFD, and of those countries, which will join the EU in future years. Not just by chance has the well functioning cooperation in the Danube River Basin attracted the attention and appreciation in international and global fora.

The year 2003 also marks the starting-point of a more strategic approach by the ICPDR towards active information and involvement of the public and participation of non-governmental organizations. First elements of a public participation strategy - including the celebration of the international Danube Day - were endorsed and are now being implemented; the web-site was improved and the ICPDR magazine "Danube Watch" became much more attractive to a wider public.

Critical to these achievements and developments has been the continued support of the UNDP/GEF Danube Regional Project. It assists the ICPDR in supporting the countries in their efforts and activities aiming to enhance the knowledge and the understanding of the activities needed for the improvement of the ecological status of the Danube River and Black Sea. We are grateful for the support provided by UNDP/GEF and look forward to Phase 2 of the Danube Regional Project, which will solidify the efforts made so far.

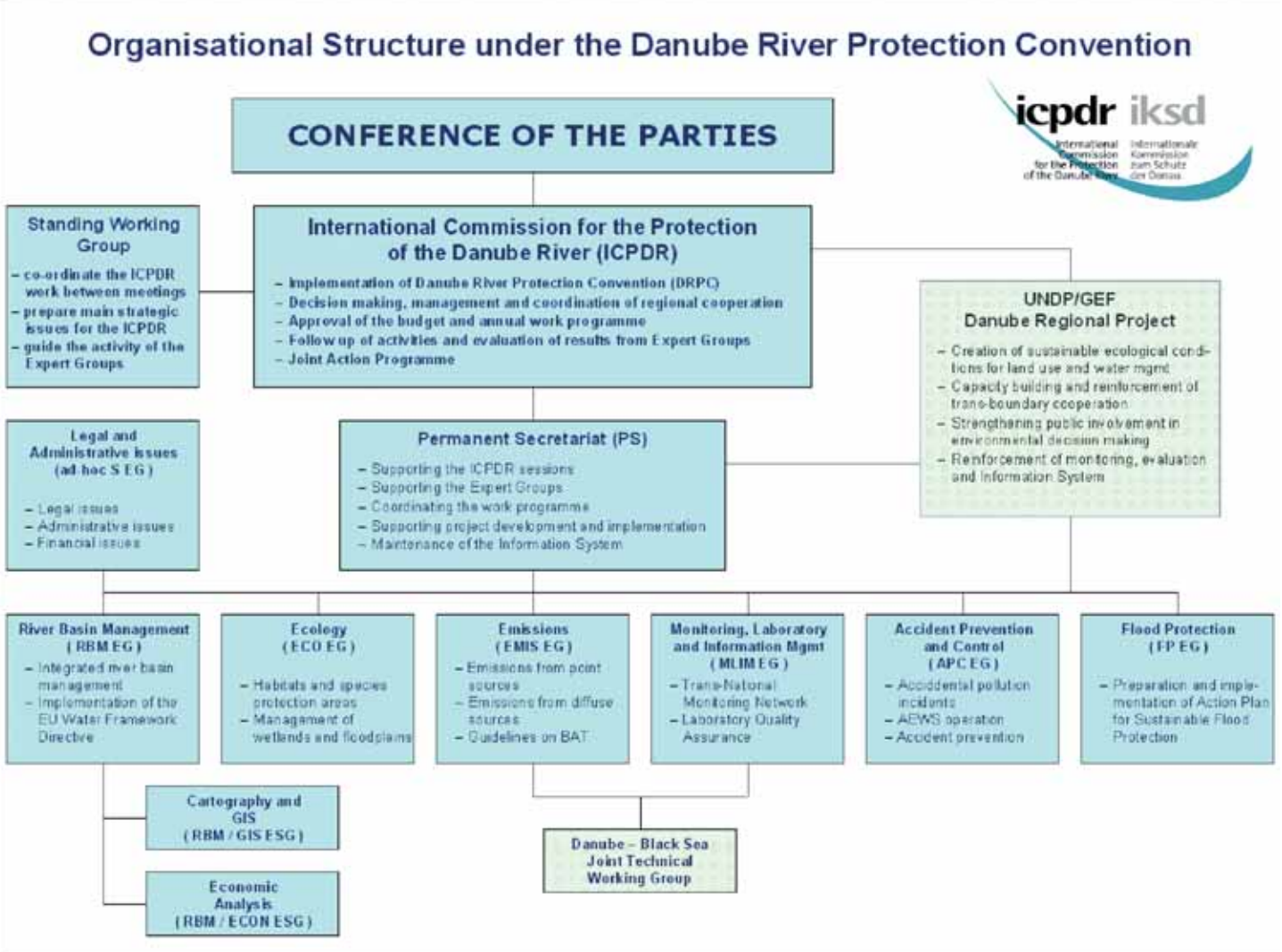
2003 was also a year of change for the Secretariat: in August 2003 Philip Weller took over the responsibilities as Executive Secretary from Joachim Bendow, who retired after a successful four-year term during which he contributed significantly to make the ICPDR and its Secretariat a highly acknowledged and reputable organization.

Fritz Holzwarth
President of the ICPDR 2003

1. Operational and Institutional Framework

In 2003 the ICPDR was strengthened through the addition of two new Contracting Parties: Ukraine (13 March) and Serbia and Montenegro (19 August). With the addition of these new members, the ICPDR now has 13 Contracting Parties. Therefore all Danube countries, with the exception of Bosnia i Herzegovina, having a share of more than 2,000 km² in the Danube River Basin, have joined the Danube River Protection Convention (DRPC).

The organisational structure of the ICPDR in 2003 is shown below:



1. Operational and Institutional Framework

Further efforts were made to ensure the active participation of all Contracting Parties in the work of the ICPDR and particularly in the Expert Groups. The Expert Groups are essential to the operation of the ICPDR and rely upon the inputs and contributions of experts from the Contracting Parties. In 2003, six Expert Groups and two Expert Sub-Groups dealt with technical issues, and one ad-hoc Expert Group addressed administrative and legal matters arising from the implementation of the DRPC. Specifically:

• Expert Group on River Basin Management (RBM EG) defined and prepared the work necessary for the implementation of the EU Water Framework Directive in the Danube River Basin, in particular finalising the Roof Report 2003 and developing the Roof Report 2004. The work of the RBM EG was supported by two Expert Sub-Groups, namely:
- Expert Sub-Group on Cartography and Geographical Information System (GIS ESG), which dealt with establishing an overview map for the Danube River Basin, and developing the Strategic Plan for a Danube River Basin Geographical Information System;
- Expert Sub-Group on Economic Analysis (ECON ESG), which dealt with establishing economic indicators to be used within the Roof Report 2004;

• Expert Group on Ecology (ECO EG) was established to support the ICPDR activities related to the conservation, restoration and sustainable management of aquatic ecosystems and those terrestrial ecosystems and wetlands directly dependent on them. This Expert Group has also contributed to the implementation of the ecological provisions of the WFD;

• Expert Group on Emission (EMIS EG) focuses its activities on the reduction of pollution resulting from point and diffuse sources of emissions into the waters of the Danube and its tributaries. A priority issue is harmonization with the EU directives (WFD, Nitrate Directive, IPPC Directive);

• Expert Group on Monitoring, Laboratory and Information Management (MLIM EG) was responsible for issues concerning water quality assessment and classification including the operation of the Trans-National Monitoring Network and Analytical Quality Control. In 2003, special activities of this Expert Group related to the implementation of the WFD in the Danube River Basin;

• Expert Group on Accident Prevention and Control (APC EG) was responsible for the improvement and operation of the Accident Emergency Warning System and the communication of alarm/warning messages during accidents. An additional task of this Expert Group lies in pollution prevention and precautionary control in the whole Danube River Basin. Special working groups under the APC EG deal with the preparation of inventories, specifically an inventory of potential accident risk spots and of old contaminated sites in potentially flooded areas;

• Expert Group on Flood Protection (FP EG) has the responsibility to develop and implement an action plan for sustainable flood protection in the Danube River Basin.

Specialised Working Groups dealt with the following issues:

• the UNESCO/IHP Water Balance Working Group is preparing the water balance of the Danube River for the ICPDR;

1. Operational and Institutional Framework

• the Working Group on the Sava River Basin Management Plan, established in 2002, was converted into the Interim Sava Commission, and now cooperates closely with ICPDR expert bodies;

• the Danube-Black Sea Joint Technical Working Group coordinates the work of the ICPDR and the International Commission for the Protection of the Black Sea (BSC) aimed at nutrient reduction and pollution control to ensure recovery of the Black Sea ecosystem.

In 2003, the Secretariat of the ICPDR underwent changes with the retirement of the Executive Secretary Joachim Bendow. This post was taken over by Philip Weller in August.

As a result of the expanding scope of activities, related particularly to implementation of the WFD, the 5th Ordinary Meeting of the ICPDR in November 2002 decided to provide the Secretariat with further technical support. Therefore, in 2003, the following external experts began working for the ICPDR:
- Expert on Ecology dealing with the work of the ECO ESG;
- Expert on Cartography and GIS dealing with the work of the GIS ESG;
- Expert on Economics dealing with the work of the ECON ESG;
- Expert on Hydrology dealing with the work of the FP EG and water balance.

Having recognised the necessity for active information for the public, and to raise awareness about the work of the ICPDR, a full-time but limited-term expert position on Public Participation and Communication was established.

	Country / Organization		Status	Since
	Austria	AT	Contracting Party	22-Oct-98
	Bulgaria	BG	Contracting Party	02-Aug-99
	Croatia	HR	Contracting Party	22-Oct-98
	Czech Republic	CZ	Contracting Party	22-Oct-98
	Germany	DE	Contracting Party	22-Oct-98
	Hungary	HU	Contracting Party	22-Oct-98
	Moldova	MD	Contracting Party	29-Aug-99
	Romania	RO	Contracting Party	22-Oct-98
	Serbia and Montenegro	CS	Contracting Party	19-Aug-03
	Slovakia	SK	Contracting Party	22-Oct-98
	Slovenia	SI	Contracting Party	22-Oct-98
	Ukraine	UA	Contracting Party	13-Mar-03
	European Union	EC	Contracting Party	22-Oct-98
	Bosnia i Herzegovina	BA	Participant with consultative status	17-Jul-97

2. Financial Contributions and Budgetary Situation

Regular budget

The 4th Plenary Session of the ICPDR (Vienna, Austria 29 to 30 November 2001) approved the budget for the year 2003 of 813,502.18 €.

Recognising the financial difficulties of Moldova, the 4th Plenary Session had decided that all Moldova's outstanding contributions should be revoked, provided that the full contributions were paid from 2002 onward. However, considering Moldova's continuous economical problems, the 1st Standing Working Group Meeting (Prien am Chiemsee, Germany, 12 to 13 June 2003), has taken note of Moldova's request to reduce the contribution key to 1%, an amount of 8,135.02 €. Moldova was unable to fulfil its full engagement, and still has an outstanding amount of 2,135.02 €.

The annual contributions actually paid by the Contracting Parties therefore amounted to a total of 778,777.25 €, 34,724.93 € short of the projected figure. Consequently, expenditures were reduced by this amount.

A slight revision of the budget was necessary and was effected on 20 November 2002 and approved by the ICPDR President. The final breakdown of regular expenditures per budget line is as follows:

Budget Chapters	Amount in €
1. Staff	387,941.-
2. Services	112,835.-
3. Equipment	14,520.-
4. Other	88,450.-
5. Operational costs	175,031.-
Overall total	778,777.-

Special funds

In addition to the regular budget, special funds, provided by various donors or funders, have allowed the ICPDR to undertake special activities in support of the Convention beyond those possible through the regular budget.

All financial contributions to the ICPDR are shown separately in the ICPDR account.

Joint Danube Survey

The financial arrangements related to the Joint Danube Survey conducted in 2002 were finalized in 2003. The Austrian and German government funding of 99,110.- € and 458,262.- € respectively was almost entirely used, with the exception of 1,881.72 €, which was refunded to Germany on 2 December 2003, and the account closed.

Joint Danube Survey - Investigation of the Tisza River

The ICPDR-organized investigation of the Tisza River as a technical follow-up to the JDS was partly financed by the European Commission (approx. 95,000 €) and partly by in-kind contributions of the participating countries (approx. 56,500 €).

Partners in the project included VITUKI Plc of Budapest, Hungary (total contractual amount of 54,280.- €), Hessisches Landesamt für Umwelt und Geologie of Wiesbaden, Germany (21,720.- €) and the Federal Hydrometeorological Institute of Belgrade, Serbia and Montenegro, formerly Federal Republic of Yugoslavia (14,000.- €). The account for the project had a positive balance of 4,654.57 € at the end of 2003 which is needed to cover the final payments to the FHMI, Belgrade, when the final invoice is submitted.

2. Financial Contributions and Budgetary Situation

Analytical Quality Control - 2003

In order to assure quality control among laboratories, the ICPDR has been receiving voluntary contributions from Contracting Parties since 2001. Voluntary contributions were offered by Hungary (11,000.- €), Slovakia (2,000.- €), Romania (2,300.- €), Germany (4,500.- €) and Austria (2,200.- €) for 2003 costs. While the Hungarian, Slovak and Romanian contributions were directly transferred to VITUKI Plc, the German and Austrian contributions were paid through the ICPDR Secretariat.

The final report was approved by the MLIM EG and the final invoice paid on 18 December 2003. Thus the account was closed.

Danube - Black Sea Task Force (DABLAS Task Force)

The DG Environment of the European Commission asked the ICPDR Secretariat in 2002 to update the database on municipal investments for wastewater treatment in the Danube River Basin and to create a list of projects - with particular attention to nutrient reduction - that could attract financing, especially from international finance institutions (IFIs). Financial support for these activities was also provided by the European Commission to the amount of 57,435.60 €, out of which 54,096.- € was awarded to consultants in the Danube River Basin. After approval of the final report the account was closed.

ALCOA Foundation

In 2003 the ICPDR began a new type of partnership with the private sector - the Alcoa Foundation. The foundation donated a Total Organic Carbon/Total Nitrogen Analyser for the Marine Research Institute in Constanța, Romania, for supporting the monitoring of pollution from the Danube to the Black Sea. An amount of 32,771.40 € was transferred into the ICPDR account and later used to cover the cost of purchasing and installing the instrument in Constanța. The handover took place on 24 July 2003, after which payment was made and the account closed.

ICPDR Information System - re-design of public website

The website of the ICPDR has become an increasingly important source of information for the general public on Danube River Basin issues and on the activities of the ICPDR. In order to meet this increasing demand for information by the public, the public website of the ICPDR needs to be revised and reorganized. The German government has financed this activity (which will be completed in 2004) with a grant of 15,000.- €.

Danube Day 2004

In order to celebrate the first Danube Day event on 29 June 2004, joint effort is being made by all Danube countries. Beyond its basic coordination role, the ICPDR also contributes financially to the event. Based on the decision of the ICPDR President, the amount of 10,000.- € out of the regular budget 2003 was reserved for this purpose.

Ministerial Meeting 2004

Ten years after the signing of the Danube River Protection Convention in Sofia, the ICPDR will for the first time convene an Ordinary Meeting at Ministerial level. This Ministerial Meeting will take place in Vienna on 13 December 2004. To cover the organisational costs of this event, an amount of 10,000.- € was reserved in the ICPDR regular budget 2003.

2. Financial Contributions and Budgetary Situation

• Financial Situation

Regular Budget 2003[1]

Contributions[2]

Contracting Parties	Contribution Keys in %	Contributions in €	
		Planned	Actual
Germany	13.91	113,175.45	113,175.45
Austria	13.91	113,175.45	113,175.45
Czech Republic	10.94	88,976.71	88,976.71
Slovakia	8.95	72,844.46	72,844.46
Hungary	10.94	88,976.71	88,927.00
Slovenia	10.94	88,976.71	88,976.71
Croatia	8.95	72,844.46	72,844.46
Bulgaria	5.00	40,675.11	40,675.00
Romania	8.95	72,844.46	72,844.46
Moldova	5.00	40,675.11	6,000.00
European Union	2.50	20,337.55	20,337.55
Total Contributions	100.00	813,502.18	778,777.25

Expenditures[2]

	Approved budget	Expenditures	Engagements	Totalcharges	Status as of 31-Dec-2003
A. Administrative costs in €					
1. Staff	432,000.00	387,941.36	0.00	387,941.36	44,058.64
2. Services	166,000.00	91,347.02	21,488.45	112,835.47	53,164.53
3. Equipment	35,000.00	6,585.54	7,934.23	14,519.77	20,480.23
4. Other	80,000.00	85,517.16	2,932.44	88,449.60	-8,449.60
Sub-total A	713,000.00	571,391.08	32,355.12	603,746.20	109,253.80
B. Operational costs	100,502.18	153,191.05	21,840.00	175,031.05	-74,528.87
Overall total (A + B)	813,502.18	724,582.13	54,195.11	778,777.25	34,724.93

[1] *Serbia and Montenegro and Ukraine joined the DRPC during 2003*
[2] *Minor differences are due to rounding*

3. Progress in the implementation of the EU Water Framework Directive in the Danube River Basin

Focus of work in 2003

The countries cooperating under the Danube River Protection Convention have agreed to use the ICPDR as the coordinating platform for the implementation of the EU Water Framework Directive (WFD) in the Danube River Basin. The River Basin Management Expert Group (RBM EG) was created to prepare the necessary activities. The work of the RBM EG focussed on the following issues in 2003:
1) WFD Roof Report 2003 (Art. 3.8 and Annex I);
2) preparation of the WFD Roof Report 2004 (Art. 5 and Annexes II, III);
3) public participation in the frame of WFD.

WFD Roof Report 2003

According to Art. 3.8, WFD "Member States shall provide the Commission with a list of their competent authorities and of the competent authorities of all the international bodies in which they participate" at the latest by 22 June, 2004. The requested information includes the delineation of the river basin district and the description of the international relationships established for WFD implementation. The report will consist of two parts: 1) the Roof Report dealing with all issues of basin-wide importance (Part A); and 2) the national reports dealing with all national issues and those that have been coordinated bilaterally (Part B). The Roof Report was compiled by the ICPDR in cooperation with the members of the RBM EG and approved in its final draft by the ICPDR Contracting Parties and Bosnia i Herzegovina in December 2003. It describes the particular situation in the Danube River Basin, lists the competent authorities for WFD implementation, and describes the cooperation mechanisms at the basin-wide level. It also defines the boundaries of the Danube River Basin District and identifies the surface waters that are of basin-wide importance, including:

- all rivers with catchments larger than 4000 km^2
- all lakes, reservoirs and lagoons with a surface area of at least 100 km^2
- the main canals (see Figure 3.1: Danube River Basin District overview map)

Preparation of WFD Roof Report 2004

The reporting obligation under Art. 5 WFD covers the characterisation and analysis of the river basin district. It is necessary to define the typology and the reference conditions of surface waters, to review the environmental impacts of human activity on surface water and groundwater, and to carry out an economic analysis of the water uses. The Report 2004 will also consist of two parts, the Roof Report (Part A) and the national reports (Part B). The RBM EG has developed an outline for the Roof report 2004 defining what information should be given at the roof level. In cooperation with other expert groups of the ICPDR, the different parts of the analysis have been prepared. These issues, being highly interrelated, necessitated close cooperation between the different groups, which was greatly facilitated through the support provided by the UNDP/GEF Danube Regional Project.
The following results were achieved in 2003:

Characterisation and analysis of surface waters

• Typology and reference conditions

Since the Danube flows through or borders on the national territory of 10 countries, it was necessary to develop a *typology for the Danube River* in an overall approach. The Danube typology was developed using the abiotic parameters of System B, and was then validated with biological data that had been collected during the Joint Danube Survey in 2001 (see Figure 3.2: Typology of the Danube River). The development of the Danube typology was carried out in cooperation with the MLIM EG

3. Progress in the implementation of the EU Water Framework Directive in the Danube River Basin

and with the support of the UNDP/GEF Danube Regional Project. The typology was discussed and agreed with all countries concerned.

In addition, the Danube River Basin countries are developing the *typologies for the surface waters* on their national territories. At the 2nd Surface Water Workshop in September 2003 the Danube River Basin countries presented the current status of their national typologies, which gave an excellent overview of the tremendous progress made.

• Pressure analysis

The WFD stipulates the identification of the significant pressures in the river basin district. The emission inventories of the ICPDR are the basis for the pressure analysis of *point sources*. These have been finalised with the data for 2002 for municipal, industrial and agricultural sources. In addition, EMIS EG has established criteria to define what significant pressure means on the basin-wide level for municipal, industrial and agricultural point sources. These criteria will be applied to the emission inventories in the year 2004 in preparation of the Roof Report.

A description of the pressures from *diffuse sources* will be based on the nutrient model MONERIS, which was completed for the Danube River Basin in 2003. In addition, the results of the EU-funded daNUbs Project will be an important source of information for the Roof Report.

For the analysis of significant *hydromorphological alterations* a study was carried out to identify major impacts resulting from significant water abstraction, significant water flow regulation and from significant morphological alterations (with the support of UNDP/GEF Danube Regional Project). From this analysis it became clear that the main pressures on the Danube originate from hydropower generation, from hydraulic works and from navigation.

Other anthropogenic pressures that will be addressed in the Roof Report include pressures resulting from accident pollution, from navigation and from invasive species.

• Intercalibration

According to Annex V of the WFD, the comparability of the biological monitoring results must be ensured. For this purpose an intercalibration exercise will be carried out in 2005/2006 which will be used to revise and establish by 2006 the appropriate monitoring systems. In order to intercalibrate the results in a meaningful way, geographical intercalibration groups have been created. The Danube River Basin will fall almost completely into the Eastern Continental Intercalibration Group. Germany and almost all of Austria, however, will be part of the Central Group. For the Eastern Continental Group, common intercalibration types have been defined and reported to the European Joint Research Centre, which is organising the intercalibration process and hosting the draft register of intercalibration sites. EU Member States and accession countries entered their intercalibration sites into the intercalibration register. The draft register was approved by the WFD Committee in Brussels in November 2003. Further amendments will be possible in 2004 before its final approval in December 2004.

Characterisation and analysis of groundwater

The WFD stipulates an initial characterisation of all groundwater bodies, which includes their identification and an analysis of the pressures, to which these bodies are liable to be subject. The Roof Report will deal with those groundwater bodies of basin-wide

importance. These are the transboundary groundwater bodies that are larger than 4000 km^2, or some smaller transboundary ones that are of great importance. The importance of the groundwater body needs to be bilaterally agreed according to defined criteria. At the 2nd Groundwater Workshop in May 2003 countries reported on the identification of groundwater bodies in their countries, on the pressure analysis and on existing monitoring programmes. In addition, the contents of the Roof Report were defined.

Protected areas for species and habitat protection

The ECO EG contributed to the development of an inventory of protected areas for species and habitat protection. Since the WFD requires de facto an inventory of water related Natura 2000 sites, the final selection of areas cannot take place before the European Natura 2000 network is completed. Therefore as a first step countries were asked to identify/list protected areas of international importance, i.e. the national parks, biosphere reserves, Ramsar sites and other important "water-related" national protected areas. The draft inventory contains 237 sites nominated by the countries. A core data set has been established with connections to Natura 2000/Emerald and Ramsar inventories. The database and an overview map on a scale of 1:1.5 million are available in a draft version (see Figure 3.3: Map of protected areas for species and habitat protection).

Economic analysis of water uses

The ECON ESG is coordinating the implementation of the economic elements of the WFD. With the help of the UNDP/GEF Danube Regional Project, national scoping studies were carried out on the availability of economic data for conducting economic analysis. Two workshops have taken place which have provided crucial input into the work of the Econ ESG:

- 1st Economics Workshop: 3-4 February 2003 in Vienna
- 2nd Economics Workshop: 10-11 July 2003 in Budapest

A major milestone in the work undertaken by the Econ ESG was developing a list of indicators, which will be the basis for the chapter on economic analysis in the Roof Report. The Roof Report will give information on the assessment of the economic importance of water uses and on projecting trends in key economic indicators and drivers up to the year 2015. The description of the current levels of cost recovery of water services will be dealt with in the national reports (Parts B), since this is country- and region-specific and cannot be meaningfully compared on the basin-wide level.

Public participation in the Danube River Basin

Public involvement is not only a core element of the WFD, but is the "modus operandi" of the ICPDR. However, due to the growing political importance of public participation - especially for implementation of the WFD - a Public Participation Expert Group has been formed under the RBM EG to strategically plan community involvement in the ICPDR. As a result, the "Danube River Basin Strategy for Public Participation in River Basin Management Planning 2003-2009" was defined and adopted by the ICPDR in June 2003. Based on this Strategy, an Operational Plan has been developed, which outlines the activities, including a timetable and a workplan (covering a 12-18 months period, until the end of 2004) at the Danube Basin level. Further details on these two documents can be found in Chapter 11 (Public Participation).

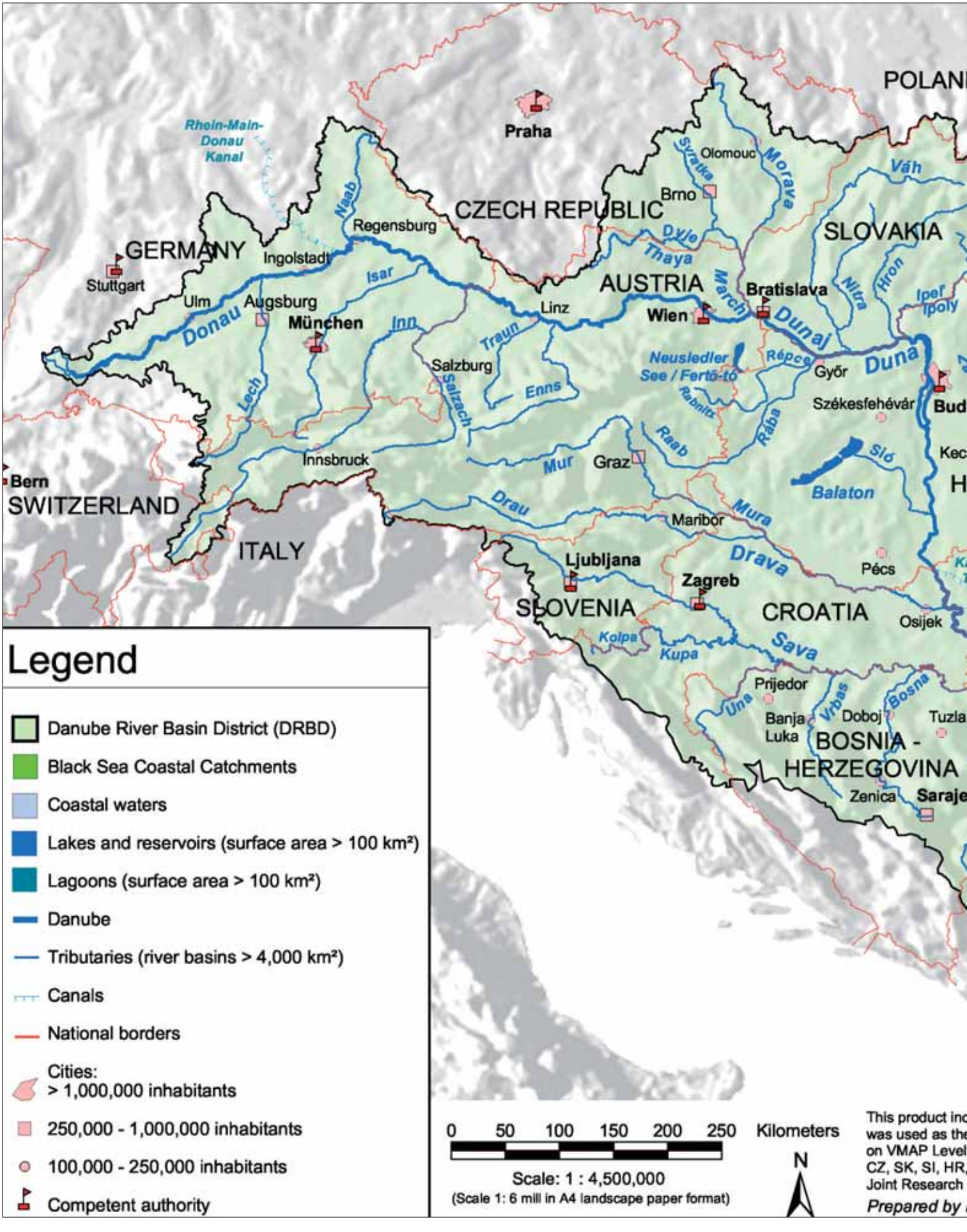


Figure 3.1 Danube River Basin District Overview Map

ludes geographical data licensed from European National Mapping Agencies. EuroGlobalMap v1.0
basic topographic layer for DE, AT, CZ, IT, SI and HR. The data for the other countries is based
0 data from NIMA. The outer border of the DRBD is based on national information from DE, AT, CH,
BA, CS, BG, RO, UA and MD. For PL, AL, MK and IT the data of the European Commission,
Centre was used.

FLUVIUS, Vienna, May 2004

3. Progress in the implementation of the EU Water Framework Directive in the Danube River Basin

section type	1	2		3	4		5			6			7	8	9	10
section type borders	confluence of Brigach and Breg - Neu Ulm	Neu Ulm - Passau		Passau - Krems	Krems –Gönyü/ Klizska Nemá		Gönyü/Klizska Nemá - Baja			Baja - Bazias			Bazias - Turnu Severin	Turnu Severin - Chiciu/ Silistra	Chiciu/ Silistra - Isaccea	Isaccea - Sulina
river km (from - to)	2786 - 2581	2581 - 2225		2225 - 2001	2001 - 1791/1790		1791/1790 - 1497			1497 - 1071			1071 - 931	931 - 378	378 - 100	100 - 0
name of reach	Upper Course of the Danube	Western Alpine Foothills Danube		Eastern Alpine Foothills Danube	Lower Alpine Foothills Danube		Hungarian Danube Bend			Pannonian Plain Danube			Iron Gate Danube	Western Pontic Danube	Eastern Wallachian Danube	Danube Delta
sub-section type borders		Neu Ulm - Regensburg	Regensburg - Passau		Krems - Devin	Devin-Gönyü/Klizska Nemá	Gönyü/Klizska Nemá-Esztergom	Esztergom - Nagymaros/Visegrád	Nagymaros/Visegrád - Baja	Baja - tr. Drava	tr. Drava - tr. Sava	tr. Sava - Bazias				
river km (from - to)		2581-2376	2376-2225		2001-1880	1880-1791/1790	1791/1790-1719	1719-1695	1695-1497	1497-1379	1379-1170	1170-1071				
ecoregion	9	9	9	9	11	11	11	11	11	11	11	11	10	12	12	12

Sommerhäuser, Robert, Birk, Moog, Stubauer & Ofenböck 2003

Figure 3.2 Typology of the Danube River

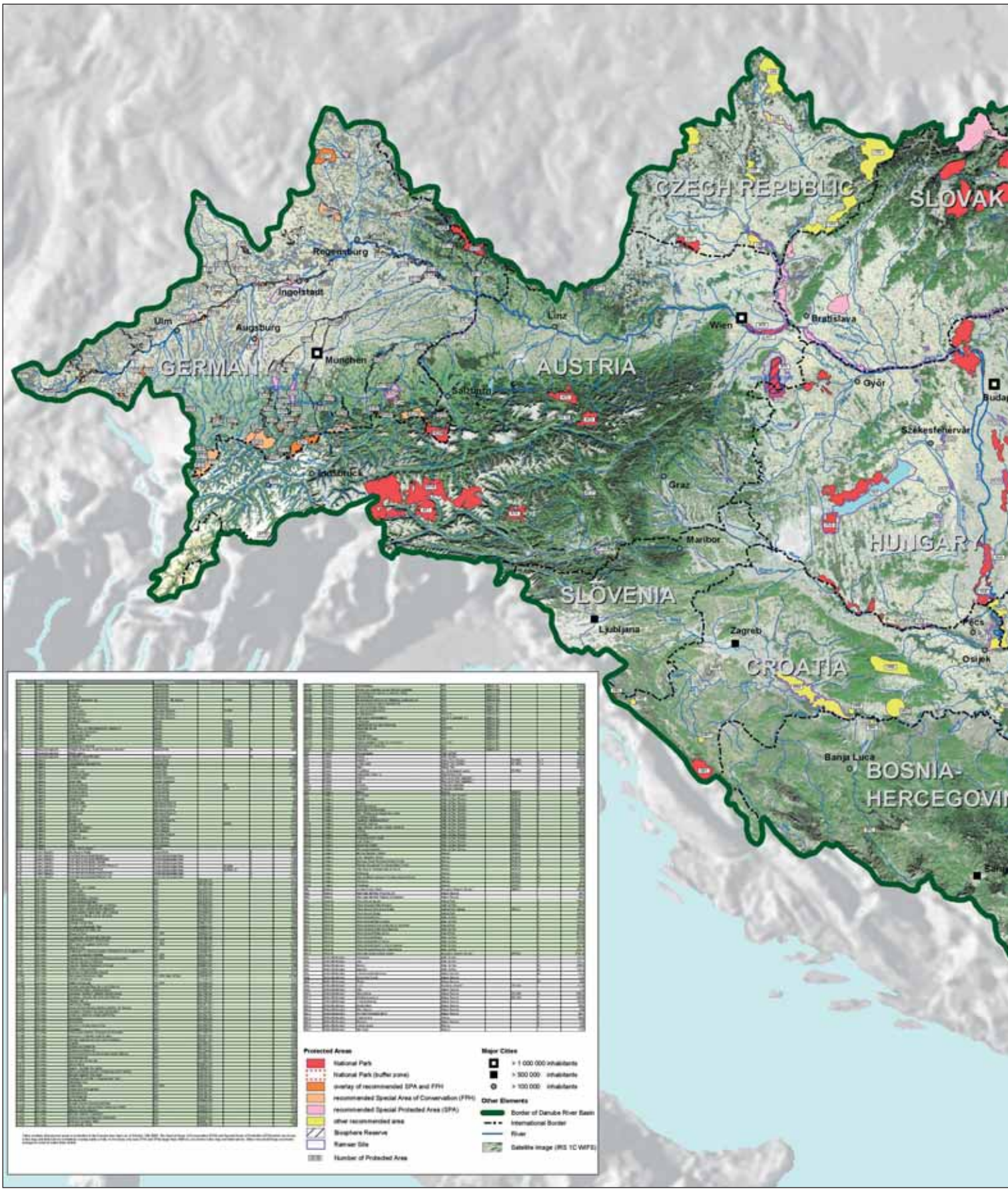
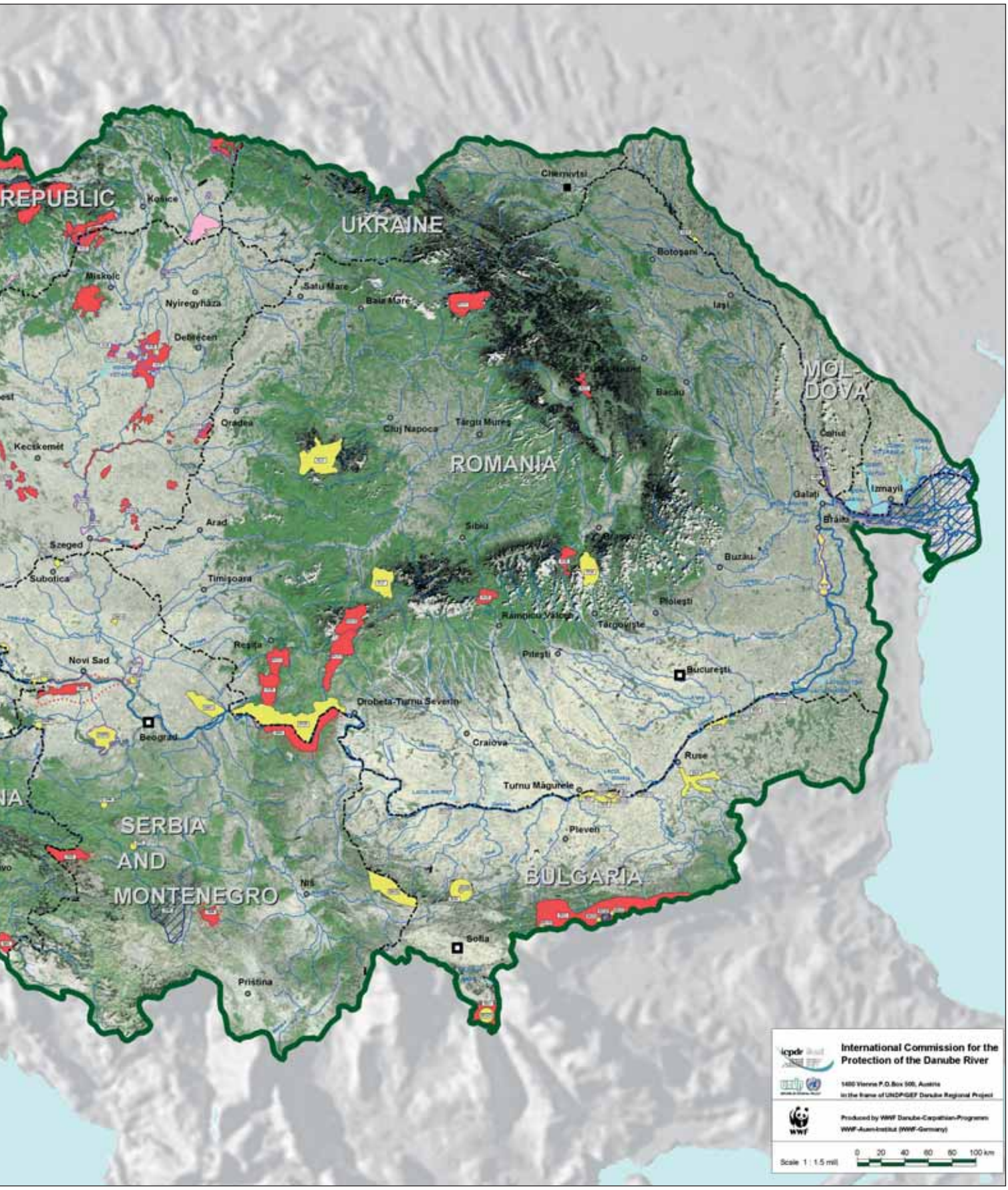


Figure 3.3 Relevant Protected Areas for the Future Inventory of Areas Designated for the Protection of habitats or Species for WFD Purposes within the DRB, October 2003


REPUBLIC
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UKRAINE
Chernivtsi
Botoşani
Miskolc
Satu Mare
Baia Mare
Nyiregyháza
Iaşi
Debrecen
MOL-
DOVA
Bacău
Oradea
Cluj Napoca
Târgu Mureş
Kecskemét
ROMANIA
Galaţi
Izmayil
Brăila
Arad
Sibiu
Szeged
Buzău
Subotica
Timişoara
Ploieşti
Râmnicu Vâlcea
Târgovişte
Reşiţa
Novi Sad
Piteşti
Bucureşti
Drobeta-Turnu Severin
Beograd
Craiova
Ruse
Turnu Măgurele
SERBIA
AND
MONTENEGRO
Pleven
Niš
BULGARIA
Sofia
Priština
International Commission for the
Protection of the Danube River
1400 Vienna P.O.Box 500, Austria
in the frame of UNDP/GEF Danube Regional Project
Produced by WWF Danube-Carpathian-Programm
WWF-Auen-Institut (WWF-Germany)
Scale 1 : 1.5 mil
0 20 40 60 80 100 km

4. Water Quality and Hydrological Situation in the Danube River Basin

The long-term daily mean flow of the Danube River is about 6500 m^3s^{-1}, which represents an average annual discharge of 207 km^3. The discharge in 2003 was 158.5 km^3 (76.6 % of the average annual discharge).

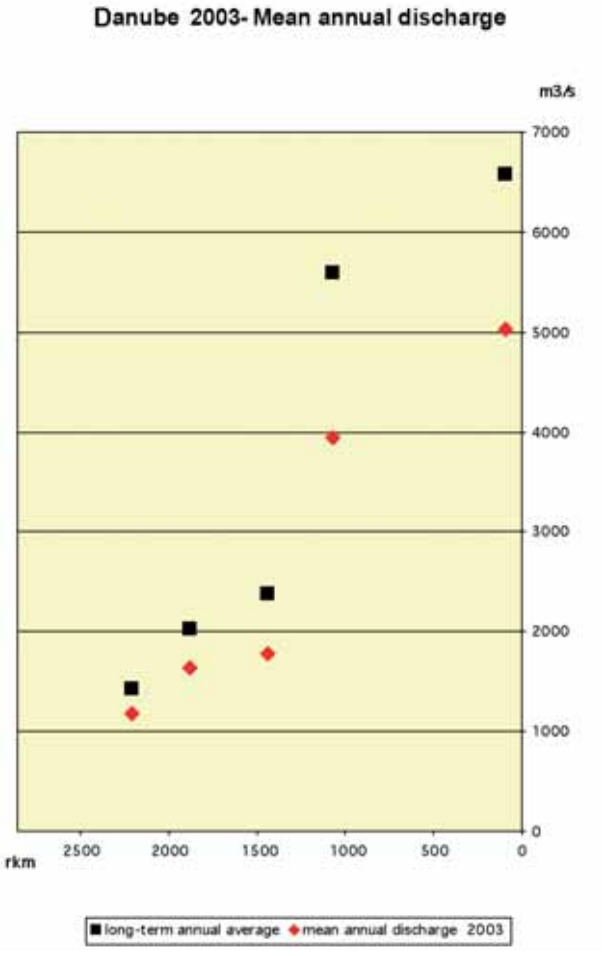


Figure 4.1 The Danube - Mean annual discharges in 2003

Hydrological situation

In contrast to the previous year a remarkable precipitation deficit in 2003 was reported by the Danube countries. In Germany a long-term drought between February and September was caused by the accumulation and stability of anticyclone weather conditions ("Ω exposure" of the atmospheric circulation over Central Europe). Hence the air temperature and sunshine duration exceeded the annual mean values and in total ten months of the year were drier than average. Many gauging stations in Germany recorded the hottest summer for the entire observation period. In the other upstream countries low precipitation and excessive temperatures were reported in 2003 as well. The overall water deficit in the upper Danube was partly compensated by increased glacial water due to excessive melting in the alpine regions.

In the lower part of the Danube River Basin the weather was also warmer compared to the average climatic pattern, as can be seen from the example showing monthly average temperatures in Romania (Fig.4.2, see page 19).

This influenced the temperature of surface waters. In the summer period, the monthly average water temperature of the Danube at Bezdan in Serbia and Montenegro exceeded the maximum-recorded values. The elevated air temperatures were accompanied by a precipitation deficit in the downstream countries as well. In Hungary the dry season caused significant decrease of water levels in the two biggest natural lakes - Lake Balaton and Lake Velence. Decreased precipitation was recorded also in Serbia and Montenegro and Romania.

The values of the total precipitation in 2003, as well as the relative precipitation in the same

year when compared to a long-term annual average in selected countries, are shown in the following table:

Country	Total annual precipitation in 2003 [mm]	Relative annual precipitation in 2003 [%]
Germany	714	71
Austria	760	74
Czech Republic	547	76.5
Slovakia	573	75
Hungary	570	95
Slovenia	1024	73
Serbia and Montenegro	587	88
Romania	522	80.7

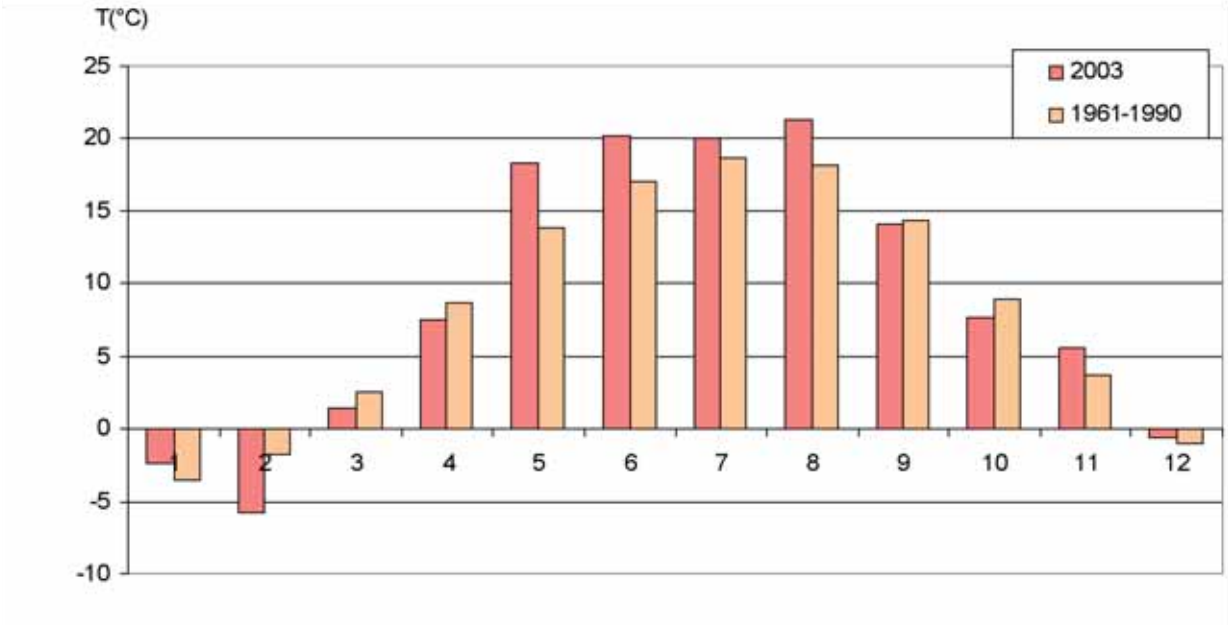


Figure 4.2 Average monthly air temperature variation in Romania in 2003 compared to the long-term average pattern (1961-1990)

4. Water Quality and Hydrological Situation in the Danube River Basin

Pollution due to accidents

In 2003, only minor accidents in the Danube mainstream were reported, with no significant impacts on the Danube River water quality. Most of these accidents were caused by oil pollution mainly originating from navigation.

In Germany the effects of the infiltration of hexachlorobutadiene (HCBD) into the river Inn which occurred in 2001 have further diminished. The rehabilitation activities, however, still continue.

In Serbia and Montenegro increased Atrazine concentrations were detected in the Sava River in January 2003 and increased concentration of ammonium ions together with a poor oxygen regime were detected on the river Tisza in July 2003.

Accidents which triggered the Danube Accident Emergency Warning System (AEWS) are reported in the Chapter 6.

Improvements in wastewater treatment

In the upper Danube countries, intensified efforts have been continued to achieve nutrient reduction in wastewater treatment plants (WWTPs). In the Czech Republic the reconstruction of three WWTPs (Tebič, Uherské Hradište and Vsetín) was finished in 2003 and, at present, these plants are in a test operation. Three other WWTPs that had been reconstructed earlier (Vyškov, Hodonin and Hranice na Moravě) are already in full operation.

However, nutrient reduction is not the only focus of the authorities' efforts. In Germany, actions were set to obtain bathing water quality in the Isar River (Danube tributary). Therefore, in 2003, six wastewater treatment plants were improved with UV-disinfection. A similar upgrade is planned for the other eight plants in 2005.

The development of the sewerage systems and wastewater treatment in municipalities has a high priority in Hungary. Under the National Municipal Sewerage and Wastewater Treatment Programme, altogether 113 projects were supported in different municipalities and the total value of implemented investments was about 227 million € in 2003.

The Hungarian capital Budapest with its 1.7 million inhabitants produces the highest pollution load along the whole Hungarian stretch of the Danube because insufficiently treated wastewaters are being discharged into the river. An important step forward was made in 2003, when the Hungarian government decided to build the central WWTP in Budapest. This complex project includes building of the main collecting sewer on the Buda side, which will transport wastewaters under the Danube River to the new treatment plant on the other side of the river. The estimated costs of this project are approx. 416 million €. Completion of the WWTP is expected in 2008.

Also, in the lower Danube River Basin, attention is being given to the upgrade of WWTPs. In Bulgaria the wastewater treatment plants in Sofia and in three other cities are under reconstruction. In Romania 13 WWTPs were modernized in 2003.

4. Water Quality and Hydrological Situation in the Danube River Basin

Water quality trends

In Germany the warm weather conditions in 2003 resulted in higher water temperature and slight decline in dissolved oxygen concentrations. Due to considerable deficit of surface and drainage water, the pressures resulting from diffuse emissions (nutrients and pesticides) decreased to a minimum. This resulted in reduced concentrations of nutrients, degradable organic substances and pesticides in Bavarian rivers. Hence the nutrient loads reported in the German part of the Danube River Basin in 2003 were the lowest since the start of the water quality monitoring. On the other hand, the point pressures became more important, especially in small catchments with low flow regimes.

A similar phenomenon of attenuated point-source pressures was also observed in the other Danube countries. Due to the hydrological deficit, temporary water quality problems were caused on some small watercourses in Hungary as a result of overloading by the effluents from municipal sewage treatment plants. Analogous problems were recorded in the channel network and small streams in Serbia and Montenegro, where an increased number of polluting events leading to the oxygen deficit was detected as a consequence of elevated temperatures and droughts.

In general, compared to the previous year, no significant changes in the water quality of the Danube mainstream were observed in Austria, Slovakia, Hungary, Croatia, Serbia and Montenegro and Bulgaria. A slight improvement in water quality was detected in Romania, most probably the result of an improving efficiency of enforcement of environmental legislation.

5. Pollution Control Strategy in line with WFD Requirements

An essential task for the ICPDR is the evaluation and assessment of pollution sources to the Danube River and its tributaries. In 2003 an update of the Emission Inventory (EMIS Inventory) in the Danube River Basin was undertaken (based on 2002 data) and is providing important information for the implementation of Danube River Protection Convention, as well as providing a basis for pollution control strategies under the Water Framework Directive (WFD).

The 2002 EMIS Inventory provides policy makers and the public with an understanding of the key polluting sources, or "pressures". Information is available on how these sources have changed with economic growth and how they are likely to contribute to pollution in the future. This understanding is essential for a focused "response" to the problems associated with water pollution and in meeting the demands of achieving sustainable development.

The 2002 Emission Inventories (EMIS Inventory)

To upgrade the EMIS Inventory a standard methodology was developed which incorporated important additional information to the previous inventory in 2000. Owners or operators of point sources are required by environmental authorities to maintain records and report on emissions (discharges) into national waters. These data, in addition to the information provided by national authorities in the emission inventories templates, are the basis for the point source discharge summaries for countries of the Danube River Basin.

This updated basin-wide EMIS Inventory of pollutants released into the water from municipal, industrial and agricultural dischargers, for reference year 2002, was made publicly accessible in 2003. The EMIS Inventory has expanded in scope to collect data from all settlements having more than 10,000 inhabitants, and provided information on industrial pollution-prevention activities as well as agricultural discharges. The recent trends in preventive environmental management and water pollution required adjustments in the information in the inventory and in particular consideration of the implementation results of the IPPC Directive, the use of best available techniques (BAT), introduction of Cleaner Production and Environmental Management Standards, and incorporation of the ICPDR preliminary list of priority substances.

This updated information in the 2002 EMIS inventory will assist the ICPDR and the countries when complying with Article 5 of the WFD, which requires, for each river basin district, information to be listed and assessed on the type and scale of significant anthropogenic pressures, including point and diffuse sources of pollution.

Preliminary analysis of the municipal and industrial emission inventory 2002 has revealed a significant decrease in pollutant emissions. The reasons for this are the decrease in production at key facilities polluting the environment, increased investments both from governmental and private resources to the water sector, and an increase in pollution charge rates, which have reached a level that motivates polluting sources to decrease emissions.

Further refinements in the inventory are planned for future years in order to harmonize reporting in line with the newly established EU pollution registry “European Pollution Emission Register” (EPER http://www.eper.cec.eu.int).

5. Pollution Control Strategy in line with WFD Requirements

Controlling agricultural pollution

It is considered that the ongoing enlargement of the EU across the Danube River Basin will initiate a new period of more intensive farming, especially in the more fertile areas of the region, which in turn will increase agricultural pollution. This calls for the development of a long-term strategy to address the problems of pollution, and especially diffuse pollution from agriculture. Diffuse pollutants include nutrients from the over-application of fertilizers, from soil erosion, and from pesticide use.

A summary of measures to control diffuse water pollution from agriculture has been concluded for the Danube countries by the UNDP/GEF Danube Regional project. The assessment of diffuse water pollution from agriculture was based on the available evidence from previous projects, studies and demonstration projects, and includes cost-effective and proportionate policy measures aiming to reduce the agricultural pollution to levels that meet existing commitments and encourage sustainable farm practices in the Danube River Basin.

Work will continue within the ICPDR on using these. A better understanding of agricultural pollution is provided through the first agro-industrial point sources inventory contained in the 2002 EMIS Inventory.

Use of MONERIS in addressing diffuse sources of pollution

Of great benefit for future work by the ICPDR, the Leibniz Institute of Freshwater Ecology and Inland Fisheries in Berlin/Germany compiled a harmonized inventory for point and diffuse sources of pollution using the model MONERIS (MOdelling Nutrient Emissions in RIver Systems) to estimate the nutrient emissions into surface water of Danube River Basins. The model uses data on river flow and water quality as well as digital maps. MONERIS estimates the different pathways of pollutants using existing and new approaches developed especially for modelling in the medium and large spatial scale. Seven pathways are considered: point sources; atmospheric deposition; erosion; surface runoff; groundwater; tile drainage; urban surface water runoff.

Proportional distribution by country, in the total catchment area of the Danube, as well as phosphorus and nitrogen discharges by point and diffuse pathways, are presented in Fig. 5.1 (see page 24).

For phosphorus (P) a total emission by point and diffuse sources of 67780 t/a P was estimated for the period 1998-2000. A total of 35 % of the P-emissions originated as discharges from municipal waste water treatment plants and industrial waste water; 37 % of the total P-emissions were caused by erosion and 13 % by discharges from urban areas and households not connected to wastewater treatment plants (WWTP`s) and sewer systems. P-emissions into the surface water by groundwater and natural interflow as well as surface runoff contributed 7 % and 6 % respectively to the total P-emissions. Other sources are of minor importance for the P-emissions into the river system of the Danube. The proportion of the different pathways to the total P-emissions varies widely between the sub-catchments of the Danube. Point source P-discharges of more than 50 % were estimated for Pannonian Danube, Banat-Eastern Serbia, Velika Morava, Iskar and Arges. These are mainly catchments in which the large cities of Budapest, Belgrade, Sofia and Bucharest are located.

5. Pollution Control Strategy in line with WFD Requirements

MONERIS allows the estimation of nutrient emissions to the surface water on a very large geographical scale and provides quantification of nutrient emissions to the surface water at the catchment level (rather than administrative units), in order to optimally support the river basin approach.

Intermediate results of nutrient management in the Danube Basin and its impact on the Black Sea Project (daNUbs)

Another useful contribution to the understanding of the water quality situation in the Danube has been the work conducted under the daNUbs Project, which presented important results in 2003. The general objectives of the daNUbs Project include:

• to improve knowledge on the sources, pathways, stocks, losses and sinks of nutrients in the Danube;
• to develop, improve and combine management tools for nutrients in the Danube Basins;
• to develop scenarios and prognoses for nutrient management and its effect on water quality and their consequences on the socio-economic development in the Danube countries.

Initial results confirm that the loads of nitrogen, phosphorus and silica transported by the Danube to the Black Sea have been significantly reduced since the 1980s. It has also been estimated that nutrient levels are low in comparison to other river basins.

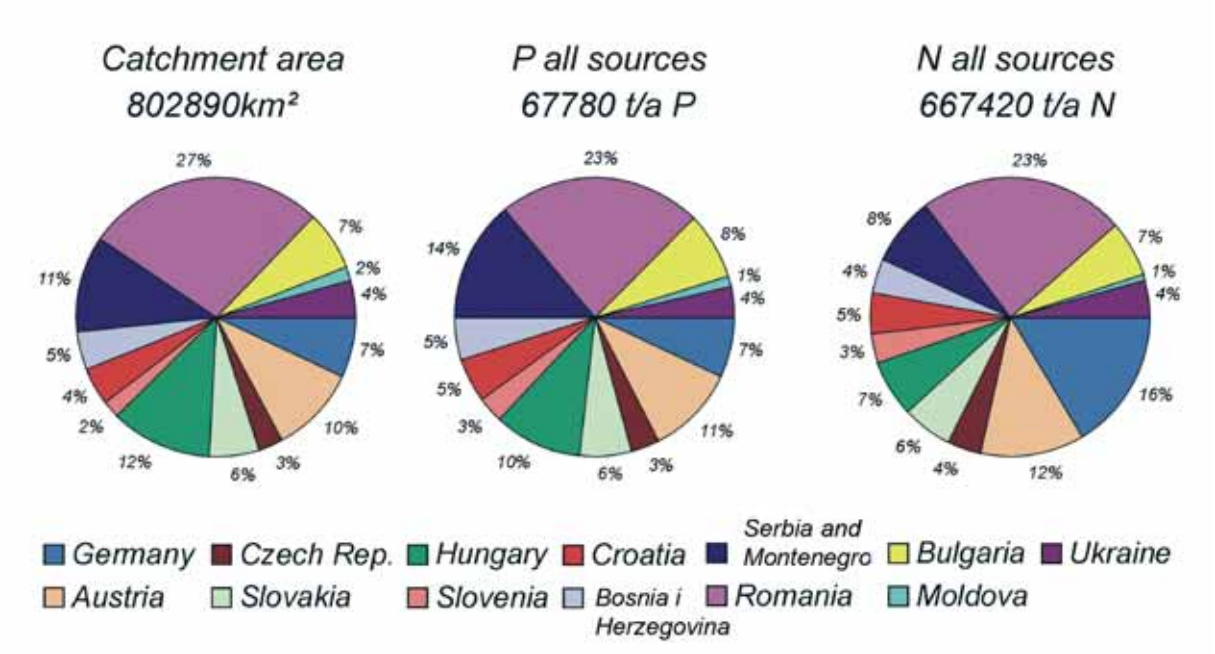


Fig 5.1. Proportion of the countries in the total catchment area of the Danube and the P and N discharges by point and diffuse pathways.

6. Operation of the Danube Accident Emergency Warning System

In 2003 the Accident Emergency Warning System (AEWS) was activated by four accidents. An overview of accidents in the Danube River Basin in 2003 is given below.

Upgrade of AEWS

A substantial upgrade of AEWS was carried out in 2003 with the support of the UNDP/GEF Danube Regional Project to make the whole warning system more effective and cost-efficient. The satellite-based communication was replaced by web-based communication via Internet and SMS messages to become an integral part of the ICPDR information system (DANUBIS). A series of tests of the web-based system was performed in summer/autumn 2003 in all Danube countries to debug the software, to check the technical setup of national GSM operators and to train the staff of Principle International Alert Centres. An official launch of the new system is expected in 2004.

Site of accident Date	Affected river	Primary pollutant	International satellite messages	Transboundary impact
Croatia (Serbia and Montenegro) 28.02.2003	Sava (from rkm 200)	Atrazine	PIAC-13 ➪ PIAC-07: “Request for Information”	CR: Yes
Slovakia (Banska Bystrica- Salkova) 18.07.2003	Hron (from rkm 181 to rkm 165)	Ammonium	PIAC-04 ➪ PIAC-05 SK: No ”End of Alert”	
Ukraine (Slovakia) 17.09.2003	Latorica (from rkm 180) Failure of the oil-pipeline Druzba in the Latorica catchment (tributary of River Bodrog)	Mineral oil	PIAC-05 ➪ PIAC-04 and 11: “Request for Information” PIAC-04 ➪ PIAC-11: “Request for Information” PIAC-04 ➪ PIAC-05 "Warning - Pollution"	UA: No
Ukraine (Slovakia) 24.12.2003	Uh (from rkm 16.6) (tributary of River Laborec)	Mineral oil	PIAC-04 ➪ PIAC-05 UA: Yes "Warning - Pollution" PIAC-04 ➪ PIAC-11: “Request for Information” PIAC-04 ➪ PIAC-05 ”End of Alert”	SK: No

Note: The indicated “Yes” notice in the column ”Transboundary impact” means that accidental water pollution entered into the downstream country.

7. Flood Protection in the Danube River Basin

Disastrous floods occurred in August 2002 in the Danube and Elbe river basins and accelerated the efforts of the ICPDR in the field of flood control. At the 5th ICPDR Ordinary Meeting in 2002 the Contracting Parties decided to establish an Expert Group on Flood Protection (FP EG). The new expert body was charged with the task of elaborating an Action Programme for Sustainable Flood Protection in the Danube River Basin until October 2004. The national flood experts started their joint activities in early 2003. The FP EG had two meetings in 2003, at which the Expert Group members discussed the content of the basin-wide Action Programme. The developed Table of Contents of the Action Programme, as well as a detailed time plan, including required actions and milestones, was then agreed by the ICPDR. In autumn 2003 flood experts organized the preparation of this important policy document which will outline the actions necessary to safeguard sustainable flood protection in the Danube River Basin. It is foreseen that the Action Programme will be presented at the ICPDR Ministerial Conference in 2004.

Table of contents of the Action Programme
for Sustainable Flood Protection in the Danube River Basin
(as agreed at the 6th ICPDR Ordinary Meeting, 1-2 December 2003)

1) Introduction
2) Floods and flood defence in the Danube River Basin
3) Basic principles and approaches
4) Targets of the Action Programme (basin-wide targets)
    i) Improvement of flood forecasting and warning
    ii) Harmonization of design criteria and safety regulations of the structures at border sections
    iii) Creating forums for exchange of expert knowledge
    iv) Recommendations on the structure and the content of the AP at sub-basin level
    v) Increased awareness of flooding on basin-wide scale
5) Measures
6) Economic and organisational conditions of implementation

8. Implementation of the Joint Action Programme (JAP)

The Joint Action Programme (JAP) 2001-2005 identifies the need to reduce the pollution loads originating from municipal, industrial and agricultural sectors as immediate priority. Since 2001 the Contracting Parties have undertaken activities to address the priorities under the water management strategy of the ICPDR. In 2003 work continued in all Danube countries. A mid-term report on the JAP will be available in 2004.

The specific efforts related to improving wastewater infrastructure in urban and rural areas through developing water resources and providing services for human and industrial water supply have been of significance. An updated list of municipal investment projects in the Danube River Basin addressing nutrient reduction goals was prepared within the framework of the EU DABLAS project (Danube - Black Sea Project). This project was financially supported by the European Commission - DG Environment. A total of 158 investment projects for municipal wastewater treatment for 11 Danube River Basin countries (not including Germany and Austria) were identified, of which 45 are fully funded to the amount of 622 €. The total investment required for the remaining 113 projects is 2,567 €.

The current DABLAS database for investment projects in the Danube River Basin countries is accessible in DANUBIS.

9. Accident Prevention in the Danube River Basin

Inventory of accident risk spots in the Danube River Basin

The accidental spills in the Tisza River Basin in 2000 proved that inadequate prevention measures at Accident Risk Spots (ARS) could lead to harmful effects on humans as well as the environment. That is why the Accident Prevention and Control Expert Group (APC EG) elaborated a basin-wide inventory of potential accident risk spots in 2001. For estimation of a real risk at a particular site a set of checklists was elaborated and made available to the Danube countries. In 2003 the existing ARS Inventory was supplemented by data from Austria and Bosnia i Herzegovina. To advance with the risk estimation a pilot project on demonstration of ARS checklists application is expected to start in 2004.

Inventory of contaminated sites in flood-risk areas

The floods in August 2002 identified that, despite implementation of precautionary measures against accidental spill at a particular landfill or any other chemical storage facility, the inundation of this site during floods can lead to contaminated releases. The response of the ICPDR to this problem was to elaborate an inventory of contaminated sites in flood-risk areas in the Danube River Basin. The preparatory activities for this inventory started in 2002 and work was completed in 2003. For an initial risk assessment of all "candidate" sites identified, the M1 methodology was developed. This methodology is based on assessment of toxic potentials of soil or waste, taking into consideration harmful substances to be expected in a certain type of waste or in a specific industrial branch. In addition, the size of the contaminated area is taken into account. When applying the M1 methodology a draft ranking list of contaminated sites was prepared based on the results of national inventories.

The second step of the risk assessment will follow in 2004 - evaluation of flood risk at the sites which passed through the M1 methodology. The appropriate methodology for flood risk assessment (M2 methodology) is under development. After the finalization of the M2 methodology a list of sites posing a high risk of contamination of water bodies during floods will be available.

Safety requirements for contaminated sites in flood-risk areas

Contaminated sites in flood-risk areas represent a danger to the environment. A preliminary survey of contaminated sites in the Danube catchment area has revealed the relevance of this problem for the Danube River Basin and has emphasized the need for further action. For this reason the APC EG initiated the development of safety requirements for contaminated sites located in flood-risk areas in order to improve the safety level of those sites.

At its 6th Ordinary Meeting in December 2003, the ICPDR approved the Safety Requirements for Contaminated Sites in Flood-risk Areas and recommended their application at national level. In principle, the Safety Requirements are considered as a living document that will be further developed based on future experience gained by the Danube countries in this sector.

In addition to the adoption of the safety requirements, and taking into account the relevance of a general precautionary principle, the ICPDR also encouraged the Danube countries to establish the policy framework and take the necessary measures to prevent any future contamination of sites in flood-risk areas.

10. Information management

Information management (collection and presentation of information about the Danube) continued to be an important aspect of the work of the ICPDR in 2003. The ICPDR Information System (DANUBIS), set up in 2000, continued to fulfil its original goal of supporting the work of the delegations and expert bodies, as well as informing the general public about the activities of the ICPDR. After four years of operation, a decision was taken in 2003 to revise the goals and objectives of the system to meet the new challenge of implementing the EU Water Framework Directive, and the increasingly important demand for publicly accessible information about the Danube, particularly through the internet. In addition to these new functions, the system will continue to serve as the general platform providing the Contracting Parties and work groups with the information needed for their work under the Danube River Protection Convention.

Development of a new public website

The ICPDR website was not originally set up with the primary purpose of communicating information to the public in a user-friendly way. In order to meet the increasing demand to provide information to the public, a process of revision and reorganization was begun in 2003. The German Government and the UNDP/GEF Danube Regional Project, together with the ICPDR Secretariat, ensured that financial resources are available for this work, the bulk of which will be carried out in 2004.

Geographical Information System

Responding to the need for collection of geographical based information, the ICPDR has developed a Strategic Plan for the Danube River Basin Geographic Information System (GIS) in 2003. The plan, prepared by the Cartography and GIS Expert Sub-Group (GIS ESG), addresses organizational, technical and financial issues of, and defines a planning procedure for, the establishment of a common Danube River Basin GIS. The development of a common, consistent and harmonized Danube River Basin GIS was initiated to help provide a basis for the coordination of data collection between Danube River Basin countries. The Strategic Plan for the Danube River Basin Geographic Information System is being prepared by the GIS ESG. A decision about the system will be made in 2004.

Emission Inventories (EMIS Inventory)

The EMIS Inventory 2002 is available on the public website and presents the information (with predefined reporting formats) both by country and by river basin, and also through click-on maps. Generation of tabular reports of main pollutants, detailed data of the emission sources, and bar charts of annual loads for selected pollutant by river basin are also possible.

Trans-National Monitoring Network Database (TNMN Database)

Data for the years 1996 through 2001 are available. Users can generate pre-defined reports for:

• overview data (annual average, minimum and maximum values of a selected determinand and/or for selected monitoring point);

• results of analysis at monitoring points (detailed data of samples and analysis at selected monitoring points);

• TNMN monitoring points, determinands and analytical methods.

Charts are also available for:

- average values;
- determinand values by date of sampling.

The collection, checking and processing of 2002 data is under way.

Library system and electronic publishing of ICPDR documents

All official documents of the ICPDR were placed on the public website. In addition several publications appeared in 2003, including:

- Annual Reports on the activities of the ICPDR in 2001 and 2002;
- Danube Watch Magazine 1/2003 and 2/2003;
- TNMN Yearbooks 1999 and 2000.

Other activities

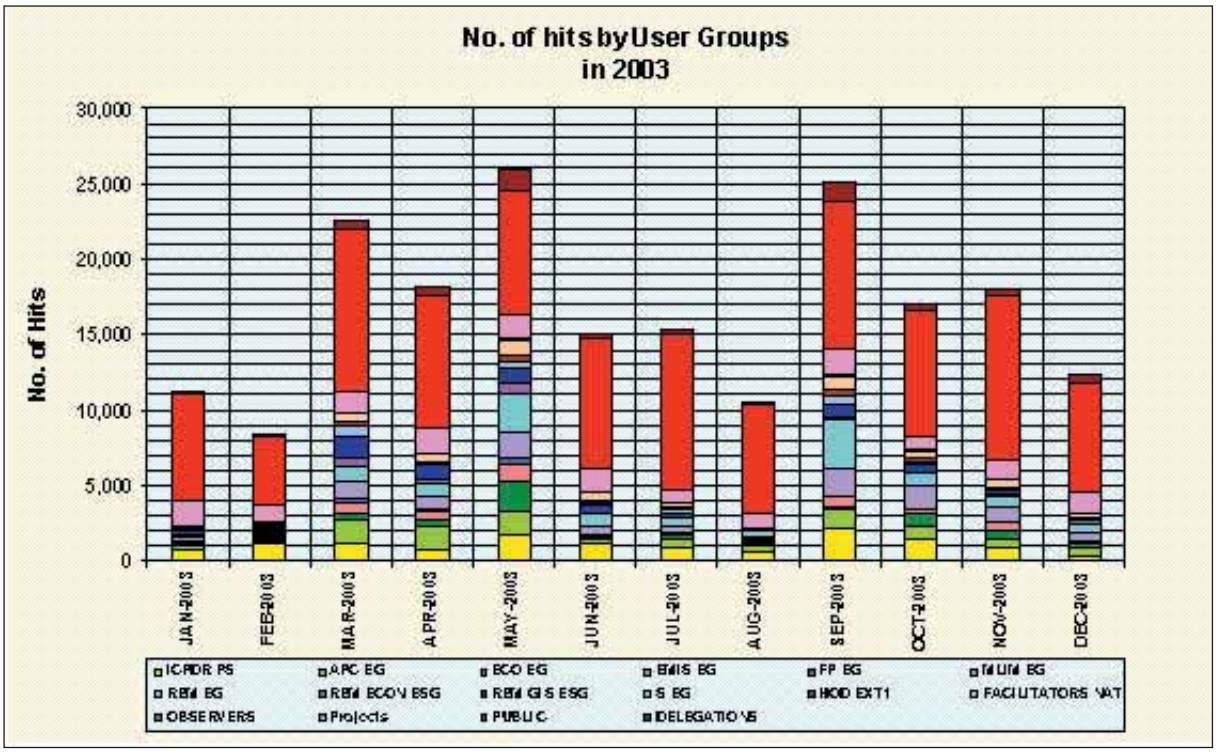
User training

The training programme for all internal DANUBIS users, which was launched in December 2002 with the support of the UNDP/GEF Danube Regional Project, has been continued and completed in 2003, and involved a series of training programmes for members of the Expert Groups.

User management

There were 416 registered users by the end of 2003. The activities of the most important user groups are shown in the figure below.

A new End-User License Agreement was launched in 2003 to facilitate users who are not members of any internal user group to use database information



for scientific purposes. These users are now registered and agree to use data downloaded from the different ICPDR databases only for the specified scientific purpose. In addition, researchers send one electronic copy of the paper or publication they have prepared.

Assessment of Danube Watch

Danube Watch, as the magazine for the Danube basin, was launched 10 years ago with support of PHARE and as part of the Danube Environment Programme

Following a period of UNDP support, the ICPDR took over full responsibility for Danube Watch in 1998. Throughout these years, Danube Watch has been a major information tool used to spread information and knowledge about sustainable river and water management in the Danube River Basin. Several editions of Danube Watch have been published so far and distributed to decision-makers and the interested public.

In 2003, in support of the ICPDR, the UNEP/GEF Danube Regional Project funded nine consultants who reviewed Danube Watch and carried out research among readers and other stakeholders to determine the public's views on the magazine's effectiveness and on how it could be improved.

The outcome of the analysis was encouraging, since it clearly showed that readers find Danube Watch informative, useful and topical. What they find most valuable are practical case studies, summaries of progress, features about how problems were addressed, and information on concrete measures and project results which can be applied to other cases.

However, the analysis also revealed areas for improvement, which will be reflected in the design and further production of Danube Watch. This feedback is important, as the ICPDR will increasingly take on a stronger financial responsibility for the magazine. For the moment, however, the production of Danube Watch will be continued, financially supported by the UNDP/GEF Danube Regional Project, and strengthened by all the positive feedback received from its readers.

11. Public Participation in the ICPDR

The active involvement of the public is a core principle in sustainable water management. This basic fact was recognised when the Danube River Protection Convention (DRPC) was developed and signed 10 years ago. The DRPC already included the involvement of the organized public in the framework of its implementation. To date, 10 organizations have taken this opportunity and have been granted observer status to the ICPDR. These organizations include NGOs such as the Danube Environmental Forum (DEF), International Association for Danube Research (IAD), Global Water Partnership (GWP), WWF International, semi-governmental organizations such as REC, representatives of private industry such as the International Association of Water Supply Companies in the Danube River Catchment Area (IAWD), and other inter-governmental organizations such as the Danube Navigation Commission, the Black Sea Protection Commission, the International Hydrological Programme of the UNESCO and the RAMSAR Secretariat. This cooperation, which grants observers the full right to participate at decision-making meetings and Expert Group meetings of the ICPDR, has proven to be successful in ensuring that different aspects and approaches could influence and shape the current water management in the Danube Basin.

This approach of involving the public has even been enlarged by the requirements of the EU Water Framework Directive (WFD). The ICPDR has taken this new challenge as a basis for reviewing its ongoing practice, and has decided to start an active process towards defining a Danube River Basin Strategy for Public Participation.

Based on Article 14 of the WFD, the objectives of this Strategy are:

• to ensure public participation in the implementation of the WFD in the Danube River Basin, especially in the first instance concerning the development of the Danube River Basin Management Plan;
• to facilitate the establishment of effective structures and mechanisms for public participation in the Danube River Basin which will continue operating beyond the first cycle of River Basin Management planning;
• to provide guidance to national governments on how to comply with their obligations under the WFD, by providing them with practical support and guidance in addressing public participation in River Basin Management Planning;
• to inform key stakeholders about the structures for public participation and public involvement at the various levels.

One edition of Danube Watch 2003 has been dedicated to Public Participation and to describing ongoing participation processes in the Danube Basin.

11. Public Participation in the ICPDR

This process began with an ICPDR Issue Paper on Public Participation, which was developed by GWP and WWF in 2002. The Issue Paper was a first draft of the policy background highlighting key issues requiring attention to ensure that contributions from stakeholders and from the public can be incorporated when implementing the WFD in all of the Danube countries. Based on this document and with support from UNDP/GEF Danube Regional Project, the work of defining this Strategy began and cumulated in the holding of a basin-wide workshop on public participation in Bratislava in April 2003. At this workshop, more than 40 participants from the Danube countries (representing governments and NGOs), the EC, the WFD CIS Drafting Group on Public Participation, the ICPDR, including members of RBM EG, and other international organizations took part and developed the pillars of the Danube River Basin Strategy for Public Participation, which was endorsed by the Standing Working Group Meeting of the ICPDR in June 2003.

As a next important step, the Strategy had to be enlivened, and detailed activities at the Danube Basin level had to be developed. This work has been carried out under the guidance of the RBM EG and is summarised in an Operational Plan. This Plan provides a detailed description of the activities at the roof level, including a timetable and a workplan (covering a 12-18-month period until the end of 2004). The Operational Plan is seen as a planning document which is regularly adjusted to the needs of the ICPDR.

One important activity of the Operational Plan, which should be carried out during the year 2004, is the celebration of Danube Day on June 29, marking the 10-year anniversary of the signing of the Danube River Protection Convention, and aiming to postulate a “Danube Solidarity” through celebrations of the Danube, from the Black Forest to the Black Sea. The Danube Day will be used to show the importance of trans-border cooperation in water management, and stimulate the public to become involved in this important undertaking.

Despite universal agreement that public participation is of key importance for implementing the WFD, no other major international river basin has yet produced a basin-wide Strategy for Public Participation. The Danube is one of the first major river basins to embark on this process. Therefore it represents a unique opportunity for the Danube countries to take the lead, but it is also a major challenge.

Also visit the Danube Day website at www.danubeday.org, to find out what became of the wild idea to unite the 80 million Danube people through one Danube Day.

DANUBE DAY

12. International Cooperation

Danube-Black Sea Joint Technical Working Group

Cooperation with the Black Sea Protection Commission continued in 2003 under the framework of the Danube-Black Sea Joint Technical Working Group. A detailed work-plan for the implementation of the Memorandum of Understanding (MoU) between the two commissions was prepared in 2002, and on the occasion of the 3rd Danube-Black Sea Joint Technical Working Group (JTWG) meeting (19 to 20 May 2003, Kiev), the work programme was revised to respond to the tasks related to the "Implementation of WFD requirements in regard to achieving the good status of coastal waters in the Black Sea". This work programme has been approved by the 1st Standing Working Group meeting of the ICPDR (June 2003, Priem /Germany).

A central task of the JTWG is agreement on reporting formats for measures undertaken to reduce nutrients and hazardous substances in the Danube River Basin in line with Joint Action Programme (JAP), and in the Black Sea Protection Convention area in line with the Strategic Action Programme. In addition, proposals for reporting on the agreed indicators for ecological conditions have been developed and must be discussed in detail at the next meeting in 2004.

Strengthening cooperation between the Danube and Black Sea Commission Secretariats

Strengthening and further development of the relationship between the ICPDR and BSC was achieved at a consultation meeting held in Istanbul, Turkey (23 to 24 September 2003) between the Executive Secretary of the ICPDR, representatives of the Black Sea Secretariat, and the Project Manager of the UNDP/GEF Black Sea Project. Both organizations have agreed to improve their mutual coordination and cooperation (to facilitate their work in the implementation of the MoU and WFD. It was agreed that a consultation and coordination meeting should take place in Vienna on 10 November 2003 between the UNDP/GEF Danube and Black Sea Projects on the one side, and the Danube and Black Sea Secretariats as the beneficiaries on the other side. To facilitate the consultation and coordination process, a discussion paper has been prepared, taking into account the various project components and activities from UNDP/GEF Danube and Black Sea Projects.

DABLAS Task Force (Danube Black Sea Task Force)

The ICPDR continued its participation in the DABLAS Task Force, which was formed as a platform for cooperation and to develop financing mechanisms for the implementation of investment projects for pollution reduction in the Danube and Black Sea area. In 2002 a priority list of projects for funding was developed and International Financing Institutions support has been secured for some of the projects on this list.

The ICPDR submitted to DABLAS a proposal to support the further evaluation of financing needs for pollution control projects, and to evaluate implementation of pollution control efforts. This project was approved at the end of 2003 and will be undertaken in 2004 with the funding support of the EU.

12. International Cooperation

Cooperation with Alcoa Foundation

In 2002/2003 a new partnership developed between the ICPDR and the Alcoa Foundation. This partnership has broken new ground for the ICPDR in relations with the private sector and has served as a learning basis for future joint activities with the business sector.

Specifically, Alcoa has supported the ICPDR in its transboundary monitoring efforts by providing financial support for a Total Organic Carbon/Total Nitrogen analyser to the National Institute for Marine Research and Development in Constanta, Romania. This analyser has been essential in providing the capacities to measure important aspects of Danube pollution and the contribution of the Danube to the pollution of the Black Sea. The Aloca company, the world's leading producer of primary and fabricated aluminium, has seen this support as a contribution to the communities and countries in which it operates.

A follow-up proposal has been discussed with Alcoa for additional support in strengthening transboundary cooperation between Romania and Hungary. This proposal would specifically facilitate procurement of new equipment and capacity building which will assist the local branch (Oradea) of the National Administration "Apele Romane", to run an integrated monitoring system in order to fulfil the monitoring requirements of the Danube River Protection Convention under the Transnational Monitoring Network (TNMN). In addition the project will enhance the ability of the water authorities in Romania and Hungary to respond to WFD implementation tasks, in particular in identification and assessment of biological, chemical, and physical data for basin-wide planning and public participation.

The Alcoa Foundation supports a range of national, international and policy organizations emphasizing various interests and Areas of Excellence. The specific objectives of the requested grant fit within Alcoa's specified area of excellence, "Conservation and Sustainability".

13. International Cooperation UNDP/GEF Danube Regional Project: Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin

The UNDP/GEF Danube Regional Project

The UNDP/GEF Danube Regional Project (DRP), "Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin", is actually one of three components of the 95 million USD GEF Strategic Partnership for Nutrient Reduction in the Danube / Black Sea Basin - GEF's largest and perhaps most ambitious water-related project in the world. Together with the UNDP/GEF Black Sea Ecosystems Recovery Project and the World Bank Investment Fund for Nutrient Reduction, it supports the intermediate goal of the Commissions for the Danube and Black Sea to reduce nutrient and toxic loads in the Black Seas to mid-90s levels, and their long-term goal to reduce nutrients and toxic substances to the levels necessary to allow Black Sea ecosystems to recover to conditions in the 1960s.

The overall objective of the Danube Regional Project is to complement the activities of the ICPDR required to provide a regional approach and global significance to the development of national policies and legislation, and the definition of priority actions for nutrient reduction and pollution control, with particular attention to achieving sustainable transboundary ecological effects within the DRB and the Black Sea area. In this context, the Project supports the ICPDR, its structures and the participating countries, in order to ensure an integrated and coherent implementation of the Strategic Action Plan 1994 (SAP 1994), the ICPDR Joint Action Programme (JAP) and the related investment programmes in line with the objectives of the DRPC.

The first phase of the project (2002-2003) is specifically focused on preparation and initiating of basin-wide capacity building activities, with particular attention to the development and implementation of policies for pollution reduction, effective legal and economic instruments, mechanisms for monitoring and evaluation, the creation of inter-ministerial committees, and the development of programmes for public participation and NGO strengthening. Altogether 20 project components with a number of activities are being carried out, thereby establishing a solid base for the implementation of Phase 2 of the Project.

The second phase of the project (2004-2006) will set up institutional and legal instruments at both national and regional level to ensure nutrient reduction and sustainable management of water bodies and ecological resources, involving all stakeholders and building up adequate monitoring and information systems.

Progress in 2003

In 2003 the project continued according to the Project Implementation Plan, prepared in 2002. The overall effort was focused on implementation and completion of the project activities. As of December 2003, almost all project components are in their final stage of execution by project subcontractors and international or national consultants. Only two project components will have to be contracted in 2004, and their implementation will take place during the first half of 2004. Minor changes (time-frame and outputs) in respective project components' work plans were entailed by the development of the programmes and requirements of the ICPDR Expert Groups.

Preliminary results have been thoroughly discussed and agreed with the major stakeholders, including the ICPDR and its Expert Groups. The

project team has been participating in ICPDR Expert Group Meetings, and the respective components were implemented using a participatory approach. All project activities were harmonized with the ICPDR EG Work Plans. Many of the project activities supported the implementation of the EU WFD, being one of the major priorities for the ICPDR.

In the framework of Project Objective 1: Creation of sustainable ecological conditions for land use and water management, the project activities focused on economic analysis, typology, ecological classification, GIS, groundwater assessment and public participation, as well as on preparation of concepts and methodologies relating to polices and legal instruments for agriculture, industry, wetlands restoration and analysis and concepts for water tariffs and charges. A number of workshops were organized to ensure involvement of the project stakeholders in the project implementation in key project components, e.g. Public Participation Workshop (April 2003), Groundwater Workshop (May 2003), Workshop on Best Agricultural Practices (October 2003), Stakeholder Analysis Workshop (December 2003). The activities of Project Objective 2: Capacity building and reinforcement of transboundary cooperation for the improvement of water quality and environmental standards in the Danube River Basin were focused on the improvement and strengthening of the existing ICPDR tools and structures. Based on the DANUBIS User Survey (2002), the project supported the hardware upgrade of the Information System at national level, and a user training programme was conducted in 11 countries ensuring a regionally consistent approach towards information management within the various activities of the ICPDR. Capacity building at regional level continued with a workshop on Facilitation Skills held in May 2003, and will be further extended in the second phase of the project.

Activities relating to the TNMN (Trans-National Monitoring Network), EMIS Inventory Harmonization (Danube pollution inventories) and Accident Emergency Response (Danube Accident and Early Warning System) - launched in the last quarter of 2002 - were finalized by the end of 2003 as the basis for full implementation of improvements to the respective systems in Phase 2.

Project Objective 3: Strengthening of public involvement in environmental decision making and reinforcement of community actions for pollution reduction and protection of ecosystems is designed mainly to support and strengthen the Danube Basin NGOs. In this context the Danube Environment Forum (DEF), the umbrella network of NGOs, continued implementing their strategy and work plan to improve cooperation among the NGOs. The project supported activities of the DEF Secretariat, in particular the preparation of further DEF publications and the organization of 11 national DEF meetings, held between April and June 2003, including training on nutrient reduction measures.

The Small Grants Programme (SGP) is carried out by a sub-contractor, the Regional Environmental Centre (REC), with involvement of regional NGOs, in particular the DEF. The first call for proposals was ready in March 2003. By November 2003, the national and regional projects were selected and ready for full implementation in all 11 countries with funding that should be made available

13. International Cooperation UNDP/GEF Danube Regional Project: Strengthening the Implementation Capacities for Nutrient Reduction and Transboundary Cooperation in the Danube River Basin

in Phase 2. In total, 58 national grants and 5 regional grants were awarded.

Activities on Communication and Public Awareness were initiated. In 2003 the project supported the publication of Danube Watch. In addition, an assessment of Danube Watch was carried out in order to make it a more effective communication tool in the future.

In the framework of Project Objective 4: Reinforcement of monitoring, evaluation and information systems to control transboundary pollution, and to reduce nutrients and harmful substances, the appropriate methodologies for the monitoring of nutrient reduction in wetlands were assessed and guidelines prepared as the basis for establishing pilot monitoring programmes in phase 2. The project also initiated preparatory activities for development of the monitoring and evaluation system and identification of indicators, harmonized with EU WFD and GEF requirements, in order to evaluate environmental effects of policy and programme implementation.

Preparation of Project Phase II

Based on the Project Brief Tranche 2, approved in May 2003 by the GEF Council, the Project Document was prepared based on Phase 1 preliminary results, inputs from the ICPDR Expert Groups, and other inputs from consultants and various stakeholders. A new project component 3.4 on "Enhancing Support of Public Participation in Addressing Priority Sources of Pollution ('hot spots') through Improved Access to Information in the Frame of the EU Water Framework Directive" has been added to the DRP Phase 2, focusing on Bosnia i Herzegovina, Bulgaria, Croatia, Romania and Serbia and Montenegro. The Project Document for Phase 2 was submitted to UNDP for final review at the beginning of October 2003. It will be circulated for signature by the President of the ICPDR and government representatives of the beneficiary countries in 2004.

A key challenge for Phase 2 implementation will be to ensure that non-EU Accession countries (Bosnia i Herzegovina, Croatia, Moldova, Serbia and Montenegro and Ukraine) can and will participate in implementing the EU WFD and in particular project-related activities. The DRP will place special emphasis on cooperation with these countries in Phase 2 to strengthen their abilities to participate on an equal basis within the regional framework.

The overview on the implementation of project components as of December 2003 is shown in the following table:

Ref.	Component	Status		
		finalized	continue in 2004	start in 2004
1.1-1, 1.1-5	GIS- Danube Basin District Map, needs assessment and conceptual design for a DRB GIS System	✓		
1.1-3	Applying EU Economic Guidelines for economic analysis to the DRB	✓		
1.1-2,1.1-6, 1.1-7	Stress/pressure and impact analysis, typology of surface waters and ecol. classification	✓		
1.1-8	Characterization and Analysis of Transboundary Ground Water Bodies	✓		
1.1-9	Pilot River Basin Plan in the Sava	✓		
1.2, 1.3	Policies for the control of agricultural point and non-point sources of pollution; pilot projects on agric pollution reduction	✓		
1.4	Integrated land use assessment and inventory of protected areas	✓		
1.5	Industrial reform and development of policies and legislation for reduction of nutrients and dangerous substances		✓	
1.6, 1.7	Assessment and development of water and waste water tariffs and effluent charges designs		✓	
1.8	Recommendations for the reduction of phosphorus in detergents			✓
2.1	Inter-ministerial Coordination Mechanisms	✓		
2.2	Support for TNMN and EMIS Inventory harmonization	✓		
2.3-2,2.3-3	Accident Risk Spots Inventory and preventive measures	✓		
2.3-4	Support for DBAM	✓		
2.4, 2.3-1	Support for DANUBIS reinforcement	✓		
2.5	Danube - Black Sea MoU / Support for Joint D-BS Working Group	✓		
2.6	Training and consultation workshops	✓		
3.1	Institutional development of NGOs and community involvement	✓		
3.2	Initiating the Small Grants Programme -1st contract	✓		
3.3, 3.3-1	Developing a DRB Communications Strategy	✓		
4.1	Indicators for project monitoring and evaluation	✓	✓	
4.3	Monitoring and assessment of nutrient removal capacities of riverine wetlands	✓		
4.4	Study on pollution trading and corresponding economic instruments for nutrient reduction			✓

14. Glossary / Abbreviations & Acronyms

AEWS	Accident Emergency Warning System
APC EG	Expert Group on Accident Prevention and Control
ARS	Accident Risk Sites
BAP	Best Available Practices
BAT	Best Available Techniques
Danube RBM Plan	Danube River Basin Management Plan
DEF	Danube Environmental Forum
DRB	Danube River Basin
DRP	Danube Regional Project
DRPC	Danube River Protection Convention, short for Convention on Cooperation for the Protection and Sustainable use of the Danube River
ECO EG	Expert Group on Ecology
ECON ESG	Expert Subgroup on Economics
EGM	EuroGlobalMap
EMIS EG	Expert Group on Emission
GIS ESG	Expert Subgroup on Cartography and GIS
FP EG	Expert Group on Flood Protection
GW	Groundwater
GWP-CEE	Global Water Partnership for Central and Eastern Europe
ICPDR	International Commission for the Protection of the Danube River
IFI	International Finance Institution
IPPC	Integrated Pollution Prevention Control
IUCN	World Conservation Union
JAP	Joint Action Programme
JTWG	Joint Technical Working Group
MLIM EG	Expert Group on Monitoring, Laboratory and Information Management
MONERIS	Modelling Nutrient Emissions in RIver Systems
MoU	Memorandum of Understanding
PE	Population Equivalent
PIP	Project Implementation Plan
RBM EG	Expert Group on River Basin Management
REC	Regional Environmental Center for Central and Eastern Europe
TNMN	Trans-National Monitoring Network
WFD	EU Water Framework Directive (Directive 2000/60/EC)
WWF	World Wide Fund for Nature
WWTP	Wastewater Treatment Plant

Annex 1: Composition of the ICPDR in 2003

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