

ANNUAL REPORT

on the Activities of the
ICPDR in 1999



icpdr

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Information

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Imprint

Owner: ICPDR- International Commission for the Protection of the Danube River / Permanent Secretariat, **Design and Production:** p:matter Vienna, e-mail: p_matter@hotmail.com;
Editing/Proofreading: Parole Language Services, Croatia; **Print:** Print Tech Ltd., Hungary

Foreword



The Danube River Basin is not only the geographical catchment area of the second largest river of Europe, but it has played in the past and still plays today an important role as a cultural and historical center of political, social and economic development in Europe. The hydrological and environmental cooperation in this river basin has a long-term history and the first institutional framework for the joint measures for protecting the water environment was established under the Bucharest Declaration in the eighties.

However, a common quality and protection policy at the multilateral level was for a long time inhibited by political barriers. With the political changes in 1989 it was possible to develop an international water resources protection strategy in the Danube catchment area. On the basis of the UN/ECE Convention on the Protection and the Use of Transboundary Waters (Helsinki Convention) a corresponding agreement relating to international law for the Danube River Basin – the Danube River Protection Convention (DRPC) - was developed. The signing of the DRPC in June 1994 and its entry into force in October 1998 created a legal frame for cooperation of the contracting parties to assure environmental protection of ground and surface waters and aquatic ecosystems in the Danube River Basin. To support the implementation of the targets and regulations of the DRPC the International Commission for the Protection of the Danube River (ICPDR) was established. 1999 was the first working year of the ICPDR.

It can be stated that within the short time of about 10 years since the opening of the "iron curtain" the cooperation on transboundary water management has been increased and specific knowledge has been developed. In the frame of the Environmental Programme for the Danube River Basin, the European Union with the Phare multi-country programme and Tacis as well as the UNDP/GEF have supported the initiatives of the Danube countries in creating common mechanisms and structures for water protection and monitoring. Due to the intensive co-operation under the DRPC and by utilizing the working potential of the ICPDR Expert Groups, new approaches to the basin-wide water protection have been developed leading to positive expectations for the future basin-wide co-operation in water management.

Prof. Dr. Wolfgang Stalzer
President of the ICPDR

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Preamble



The tasks of the International Commission for the Protection of the Danube River (ICPDR) are mandated by the “Convention on Cooperation for the Protection and Sustainable Use of the Danube River” (Danube River Protection Convention, DRPC). From this Convention also derive the responsibilities of the ICPDR aimed at ensuring its implementation and enhancing the cooperation between the Contracting Parties fulfilling their respective obligations.

This report by the ICPDR on its activities is the first one given after the termination of a four years interim implementation phase. It reflects the results of the first working year based on the DRPC entry into force on 22 October 1998. This report fulfils the obligation of the ICPDR pursuant to its Statute (Annex IV Article 9, DRPC) to submit to the Contracting Parties an annual report. At the same time it is to be made available to the public for information and increased public participation.

The report is intended to meet both the mandates given by the DRPC and the expectations the addressees are presumed to have. As to the particular working year 1999 referred to, the report reflects the activities performed, the co-operation embarked on, the developments in progress and the results achieved. From this, it is linked with all other reporting activities already running under the DRPC, which provide specific basis and input.

1. Operational and institutional framework conditions

The basis for all activities of the ICPDR is found in the Convention to be implemented, in particular in the objectives and principles of cooperation and the additional scope relating to the planned activities and the ongoing measures. The main objective is to achieve close cooperation between all Contracting Parties aimed at the protection and sustainable use of the Danube River and all waters within its catchment, particularly in the transboundary context. The Contracting Parties have committed themselves to taking all appropriate legal, administrative and technical measures to maintain and improve the current environmental and water quality conditions.

The ICPDR is mandated to – through its activities and decisions – steer, develop and coordinate this implementation including the possibilities for the enforcement of compliance. To this end, the legal and administrative basis is specified according to the DRPC provisions through the key regulatory documents such as the Rules of Procedure and the Financial Rules. Institutional framework conditions are created in order to support the implementation and to assist the ICPDR in coping with its tasks and responsibilities.

The progress previously made in implementing the DRPC was achieved thanks to both the efforts made by the Contracting Parties towards cooperation and domestic execution as well as to the substantial external support provided by donors and International Organizations (UNDP/GEF, EU Phare/Tacis)

1.1 ICPDR's mandate and its executive response

In the framework of the objectives, principles and scope defined under Articles 2 and 3 of the DRPC, the International Commission is mandated with responsibility for the entire implementation. This particularly includes:

- all steering and decision-making functions except those held by the Conference of the Parties;
- specification and interpretation of the legal and administrative basis;
- establishment and further development of the institutional framework conditions, particularly the mandate to hold standing and ad-hoc Expert Groups;
- enhancement of joint activities and mutual cooperation between the Contracting Parties including the exchange of experience and information;
- encouragement and enforcement of compliance regarding the obligations set before the Contracting Parties for domestic implementation, including their reporting obligations;
- cooperation with other organizations or bodies which are engaged in the protection and management of the Danube River water or experienced in related issues.

Moreover, the ICPDR deals with all other affairs by mandate from the Contracting Parties. This authority includes a general mandate for all types of development projects. This mandate allowed the ICPDR, in the working year 1999



including end 1998 (after the DRPC entry into force), to make progress and report the following achievements:

- The Permanent Secretariat (PS) was established in October 1999 under the ICPDR Statute and was made operational;
- The Programme Management Task Force (PMTF) was established and made operational; it ensures close coordination between the ICPDR, the Donors and IFIs as well as the NGOs, based on specific ToRs and Rules of Procedure;
- The first Yearbook on the water quality conditions in the Danube River Basin for the year 1996 was prepared based on the monitoring and evaluation resulting from the Trans National Monitoring Network (TNMN);
- The Pollution Reduction Programme for the Danube River (DPRP) was finalised and approved by the Steering Group;
- The Revised Draft of A Common Platform for the Development of National Policies and Actions for Pollution Reduction under the DRPC – a policy document supporting the DRPC implementation, in particular measures requiring investments – was finalised;
- The Black Sea – Danube Memorandum of Understanding – a declaration of policy and cooperation between the ICPDR and the International Commission for the Protection of the Black Sea (ICPBS) was prepared;
- The Information System of the ICPDR (DANUBIS) was established;

○ Steps were taken to prepare the ICPDR for assuming the tasks of river basin management and integrated water management under the DRPC with special emphasis on strong links to the EU/Water Framework Directive.

1.2 Existing structures and bodies supporting the ICPDR and contributing to its achievements

The existing expert structure emerged in a step-by-step process as the ICPDR was responding to current needs and priorities. MLIM and AEPWS Expert Groups had been established under the EC Environmental Programme for the Danube River Basin (EPDRB) and were integrated into the ICPDR following the entry into force of the DRPC. In 1999 three standing and one ad-hoc Expert Groups dealt with technical issues arising from the implementation of the DRPC:

- The Monitoring, Laboratory and Information Management Expert Group (MLIM/EG) dealt with the problems of water quality assessment and classification in the Danube River Basin. With respect to these tasks the Expert Group was also involved in solving the technical details of transnational monitoring, laboratory analysis and monitoring data distribution.
- The Accidental Emergency Prevention and Warning System Expert Group (AEPWS/EG) was involved in the operation of the Danube Accidental Warning Alarm System with an emphasis on the communication of alarm/ warning messages during accidental pollution incidents. As an additional task, this EG was respon-

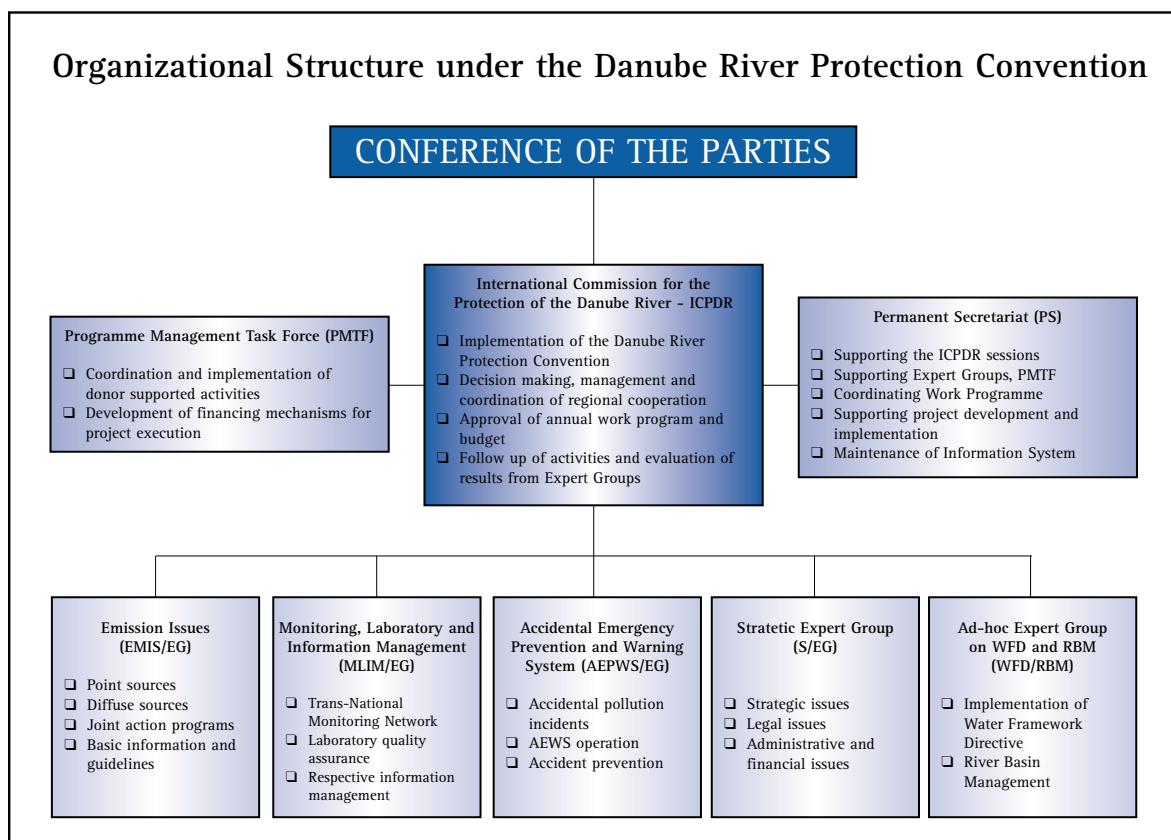
1. Operational and institutional framework conditions

sible for pollution prevention and precautionary control in the whole river basin.

○ The main objective of the activities of the Emission Expert Group (EMIS/EG) was the reduction of pollution resulting from emissions into the Danube and its tributaries. Priority was given to harmonisation with the EU water policies, e.g., compliance with the EU/WFD list of priority substances. The necessary steps for the preparation of the 2001 – 2005 Draft Joint Action Programme (JAP) in 2000 were taken by EMIS/EG in 1999.

○ The ad-hoc Strategic Expert Group (S/EG) was mandated to deal with the administrative and financial matters in the development phase of the ICPDR.

The Programme of Work for the year 1999 was carried out mainly by the three technical Expert Groups: MLIM/EG, AEPWS/EG and EMIS/EG in close cooperation with the Permanent Secretariat. Considerable input was received via the related activities performed with the support of Phare/Tacis and GEF/UNDP.





1.3 Programme Management Task Force (PMTF)

The role of the PMTF is to provide a close coordination between the ICPDR, the Donors and IFIs as well as the NGOs. The PMTF met three times in 1999. However, the participation of the donor community was rather limited: only US-AID, UNDP/GEF and the WB (WB/GEF plus WB system) participated in the meetings; other members, including EU-Phare (from CEC Services at Brussels), were absent.

The meetings served to report on the developments in the period between the meetings – both on the side of the ICPDR and the side of the donors – and to look at the funding possibilities among the donors. Since the participation of national representatives and NGOs at PMTF meetings differed only slightly from their participation at the ICPDR Meetings in 1999, and given that the agendas of the meetings overlapped, the ICPDR will reconsider future operation of the PMTF.

1.4 Financial contribution and Budgetary arrangements

The final form of the budget contribution keys for the year 1999 was proposed by the Steering Group of the Interim International Commission in their 8th meeting held at Budapest on 26 to 27 May 1998. The 1st Plenary Meeting of the ICPDR, held in Vienna on 27 to 28 October 1998 amended this proposal and accepted the final version of the Budget Contributions of 9,829,357.00 ATS for the year 1999. This annual Budget is based on three groups of contribution keys, where the Con-

tracting Parties with a higher GDP make bigger contributions. The budgetary expenditures for the year 1999 were also approved by the 1st Plenary Session. They break down as follows:

1. Staff	6.581.779,00
2. Services	1.480.028,00
3. Equipment	333.500,00
4. Other	600.300,00
5. Operational Costs	833.750,00
Overall Total	9.829.357,00

In the course of 1999, Bulgaria and Moldova joined the Commission, and their contributions were to be kept in a Working Capital Fund of the Budget that was foreseen for extra emergency expenses. Due to administrative problems, the two new CPs were not able to pay their contributions by the end of the year. The status of the Budget Expenditures shows a comparatively high positive balance due to the relatively late start of the operation of the Permanent Secretariat (October 1999) and due to the positive balance from the Interim Secretariat.

The Permanent Secretariat received a Special Contribution from Germany and Austria to finance a Study on Bio-indicators. The preparation of this study started but no funds were used in 1999.

2. Water quality and hydrological situation of the Danube River Basin

The long-term daily mean flow of the Danube River is about 6500 m³s; this represents an average annual discharge of 207 km³. The mean flow in 1999 exceeded this average long-term value by more than 21% leading to a total water volume discharged to the Black Sea of 250,1 km³.

Hydrological situation

In the upper Danube area, the enormous precipitation rate led to several flood events in late spring and early summer of 1999. In the Alpine region of southern Bavaria, extremely intense rain fell on May 20-22. The highest 24-hour-precipitation was registered as 234 mm, far exceeding the previous maximum value of 137 mm reported in 1940. The resulting high flood was one of the biggest such events of the past 100 years. In Austria, the Bundesländer Styria and Tirol regions suffered from flood events with flows exceeding the 100-years' probability values. This extreme hydrological situation also influenced the Danube flow in its middle part where the highest discharges occurred in May with values by 50% – 60% higher than the long-term mean monthly values (Q_{ma} (1931-80)).

In the lower Danube area, flash floods occurred almost throughout the whole year in many tributaries, especially in those with small reception basins. During the winter and spring seasons, the significantly increased discharges in Romania and Bulgaria resulted mainly from the superposition of rain precipitations and rapid snowmelts. Such an extreme regime caused a large flood in the Jantra river basin on 11-13 February. In the summer of that year, intense

precipitation also led to intensive floods in several sub-basins in Romania.

Pollution accidents

Altering hydrological conditions in 1999 only slightly influenced the water quality status in the upper part of the Danube river basin. Contamination by oil and suspended solids containing, e.g., phosphorus and heavy metals occurred in the course of the year; however, the risk posed by the chemical substances was usually reduced by their dilution due to an increased flow. In the lower part of the Danube, only a few small-scale accidents were registered without any impact on water quality in the main streams.

Water quality trends

Reduction in discharges belongs to the primary actions taken with a view to improving the Danube water quality. In Germany, technical improvements aimed at N-reduction were performed at several plants. A remarkable reduction in loads was attained at the two City of Munich WWT Plants. In Austria, a reduction in nutrients in the Mur (Mura), the Drau (Drava) and the Danube Rivers was achieved through technical measures (enlargements; nutrient-removal) at the urban wastewater treatment plants of the cities of Graz, Klagenfurt and Linz (Asten). Several improvements of waste water treatment plants in the Czech part of Morava River Basin resulted in decreased discharges of organic and nutrient substances in the receiving waters. In Slovakia, the total annual BOD₅



discharge was reduced by 5% and the total annual CODCr was reduced by 4% when compared to 1998. The reduction or termination of industrial activities from several major polluters in Romania had led to a general improvement in water quality over the previous decade, causing the percentage of streams with degraded water quality (according to Romanian classification) to decrease from 22% in 1989 to 9% in 1999 and the ratio of streams with first class water quality (according to Romanian classification) to increase from 35% in 1989 to 59% in 1999. This improvement was also influenced by a stricter inspection and permit granting policy pursued by the Romanian water authorities. Similarly, the consequences of the transition period in Bulgaria caused an improvement in the water quality of the local tributaries of the Danube River.

In general, it can be stated that the Danube water quality in the year 1999 had not changed significantly in comparison with 1998. A simplified example of the water quality status in 1999 can be demonstrated by the concentration ranges of nutrients measured in the middle Danube reach (km 1718,8 - 1873,5, Slovak part of the Danube, downstream of the cities of Vienna and Bratislava):

Parameter	Lowest concentration 1999 (mg/l)	Highest concentration 1999 (mg/l)
N-NO3	1.04	3.12
Total P	0.043	0.21

The impact of NATO intervention in Yugoslavia

The impact NATO intervention had on the Danube water quality was examined carefully. In Romania, in the 1079 - 830 km Danube stretch, increased concentrations of heavy metals and polychlorinated biphenyls in water, sediment and biota were reported. However, owing to the irregular monitoring of the micropollutants in this reach in the past, it is not possible to ascribe this concentration increase to NATO intervention. In Bulgaria, the quality of all samples collected in potentially impacted area corresponded to the standards for surface water quality according to local regulations. The high levels of heavy metals in the sediments were found only near the mouth of the Timok River as a result of a long-term contamination from the Bor mine in the territory of Yugoslavia.

Transnational Monitoring Network

The discrepancies in results of water analyses obtained at the local level in the Danube area in the past indicated the need for a long-term, regular and appropriately tailored monitoring in the Danube River Basin including the analytical quality assurance. Availability of water quality data from the Danube River Basin is ensured in the future with the official launch of the Transnational Monitoring Network (TNMN) in 1999. The TNMN became fully operational following its launching ceremony held in Bratislava in June 1999. The first Yearbook of the TNMN covering the 1996 test year was prepared in 1999.

3. Work towards harmonised emission policies in the States of the Danube Basin

Several Articles of The Danube River Protection Convention (DRPC) contain provisions based on the emission principle. Therefore, the Work Programme of the ICPDR in 1999 also dealt with items leading to *Harmonised Emission Policies in the States of the Danube Basin*.

Emission inventories of municipal and industrial discharges, by States and by River Sub-Basins

A first version of the inventories of municipal and industrial discharges by States existed already in the fall of 1998. With the support of Phare funding, updated inventories for both municipal and industrial discharges were elaborated in 1999; these inventories are structured according to the Danube Basin States and 15 river sub-basins. The ICPDR has yet to decide in what way these inventories will be made publicly available in the Information System of the ICPDR (DANUBIS).

In the case of municipal discharges, the objective was to assess those plants / discharge points whose discharges added up to 75% of the raw national COD load transported into the Danube River Basin via sewers, irrespective of the type of treatment that may range from no treatment at all or mechanical treatment to the removal of organic carbon, phosphorus and nitrogen. Information was also received that the percentage of population linked to public sewer systems varied from 14% (Moldova) to 90% (Germany). Taking into account the previous figure (75% of the raw national COD load), this means that e.g. in Moldova only 11% of the pollution generated by the population in the

area belonging to the Danube Basin was assessed, whereas e.g. in Germany 68% of the respective pollution was assessed. The relevant values for other Danube Basin States are between these two values. The inventory data for Hungary, Moldova and Slovenia are based on the assessment of more than 75% of the raw COD load transported via sewers. This inventory also covers indirect industrial discharges into municipal sewers. The reference period of the inventory was 1996/97, with the exception of Bosnia-Herzegovina. In some cases it also includes data for 1998.

The quality of data sources relied on for this 1st ICPDR inventory of municipal discharges varied. It contains estimated yearly loads for individual plants based on repeated measurements, on permit values, on estimates without prior measurements taken at the national level, as well as similar estimates undertaken by a Phare-supported consultant. Further, this inventory covers all Danube Basin States with state areas in the basin bigger than 2,000 km², with the exception of the Federal Republic of Yugoslavia. Under such circumstances, misunderstandings may occur as to whether the indicated loads relate to the territory of a State or to a river sub-basin, especially when such "national emission loads" or "sub-basin emission loads" are cited by lay persons and publicly compared.

The inventory covers a total of 580 discharge points, out of which 513 are wastewater treatment plants. The assessed emission loads discharged within the Danube Basin into its river network added up to 375 kt/a of BOD₅, 671 kt/a of COD, 97.0 kt/a of totN and 20.0 kt/a



of totP. The large number of current discharges with treatment also indicates that plant rehabilitation will be a main task in the future. Due to connections to larger plants, the number of discharges with treatment will slightly decline. Due to investment into treatment, the number of treated discharges will increase to 553 by 2005. Based on this inventory, the following load reductions are predicted for the selected part of the municipal discharges in the 1996/1997-2005 period: Σ 49% for BOD₅; Σ 16% for COD; Σ 8 % for totN; Σ 32 % for totP.

The inventory on industrial discharges is the result of an attempt to assess certain types of industrial activities (food; chemical; pulp and paper; fertilizer; mining; iron and steel; metal surface treatment; textile, leather; large agricultural; other), based on the exceeding of loads discharged. The arrangement in the inventory is similar to the “current state” of the municipal discharges. No predictions were required. A total of 216 discharge locations were assessed, some of which are – same as loads – already covered in the municipal inventory.

Recommendation concerning the Treatment of Municipal Wastewater

This Technical Recommendation contains suggestions for the design of municipal wastewater treatment plants and their technical equipment. It proposes the implementation of those parts of EC’s Urban Waste Water Treatment Directive that relate to technical aspects of wastewater treatment, but does not set a schedule for compliance. It should also be noted that this Recommendation proposes that in the

implementation of nutrient removal priority should be given to phosphorus, but that nitrogen removal should also be considered already in the planning phase. It also proposes that the discharge of sludge to surface waters should be phased out, that sludge should be re-utilised to the highest possible extent, and that sludge disposal should be subjected to general rules or authorisation. It further recommends that inventories of municipal discharges or wastewater treatment plants bigger than 10,000 p.e. be compiled by the Contracting Parties every second year, beginning one year after the adoption of this Recommendation, and that this Recommendation be rediscussed in 2004, in the light of possible new developments.

Summary of National Practices concerning the Monitoring of Wastewater Discharges

The data / information represent the status as of 1998 in 11 Danube Basin States (Austria; Bulgaria; Croatia; the Czech Republic; the Federal Republic of Germany; Hungary; Moldova; Romania; Slovak Republic; Slovenia; Ukraine), and as of 1991 (i.e. before the war) in Bosnia-Herzegovina.

Guidelines for the Monitoring of Wastewater Discharges

The Guidelines were drafted on the basis of the Summary of National Practices concerning the Monitoring of Wastewater Discharges, with a view to arriving at a harmonised approach to the way the monitoring of wastewater dis-

3. Work towards harmonised emission policies in the States of the Danube Basin

charges should be carried out in the future in the States of the Danube Basin. They cover monitoring by an outside authority, self-monitoring, the storing of samples, the use of standards for sampling and analyses, the parameters municipal and industrial discharges should be

analyzed for, and the way to use the collected data. The Guidelines further recommend that the Contracting Parties to the DRPC should report on the implementation of this Recommendation every five years, beginning with 2003.

4. Operation of the Danube Accidental Emergency Warning System



The work program of the AEPWS EG for 1999 was presented at the 2nd meeting of the ICPDR Steering Group in March 1999. The major task of the EG in 1999 was to operate the Accidental Emergency Warning System in the Danube River Basin.

In 1999 the Accidental Emergency Warning System (AEWS) covered almost the entire Danube basin, except the territories of Bosnia-Herzegovina and Yugoslavia. Ukraine and Moldova were in the process of implementing

the standard AEWS computerised tool. Some problems were encountered in the establishment of the AEWS PIAC in Austria, related to the country's federal structure. In the course of 1999, AEWS transmitted information on five serious accidents, while some local incidents of minor importance were not a matter of an international exchange. The general conclusion was that the system was functioning well. The exchange of messages was prompt and secure. Brief information about pollution accidents on the Danube in 1999 is given below:

Site of accident / Date	Affected river	Pollutant	International satellite messages	Tranboundary impact
Bulgaria (and Romania) 13.01.1999	Danube (common river stretch)	Oil	PIAC09→PIAC08 PIAC08→PIAC09 Warnings (BG, RO)	BG: Yes (pollution was observed by one of the parties only)
Romania (and Bulgaria) 15.01.1999	Danube (common river stretch)	Detergents	PIAC08→PIAC09 Warning (BG)	RO: Yes BG: Yes
Slovakia (and Hungary) 26.01.1999	Danube (common river stretch)	Oil	PIAC04→PIAC05 Request for Information (HU)	HU: None (pollution was observed by one of the parties only)
Romania 12.03.1999	Cricul Repede Sebes Körös	Oil	PIAC08→PIAC05 Warning, End (RO)	RO: Yes
Austria 21.05.1999	Leitha/Lajta	Phenols	PIAC02→PIAC05 Warning, End (A)	A: Yes

The Danube Basin Alarm Model (DBAM) is an operational model for the simulation of the transport and decay of substances released during accidental spills in the case when data on the location, release and kind of substances are available. The model supports the Danube AEWS in the assessment of the consequences of accidental

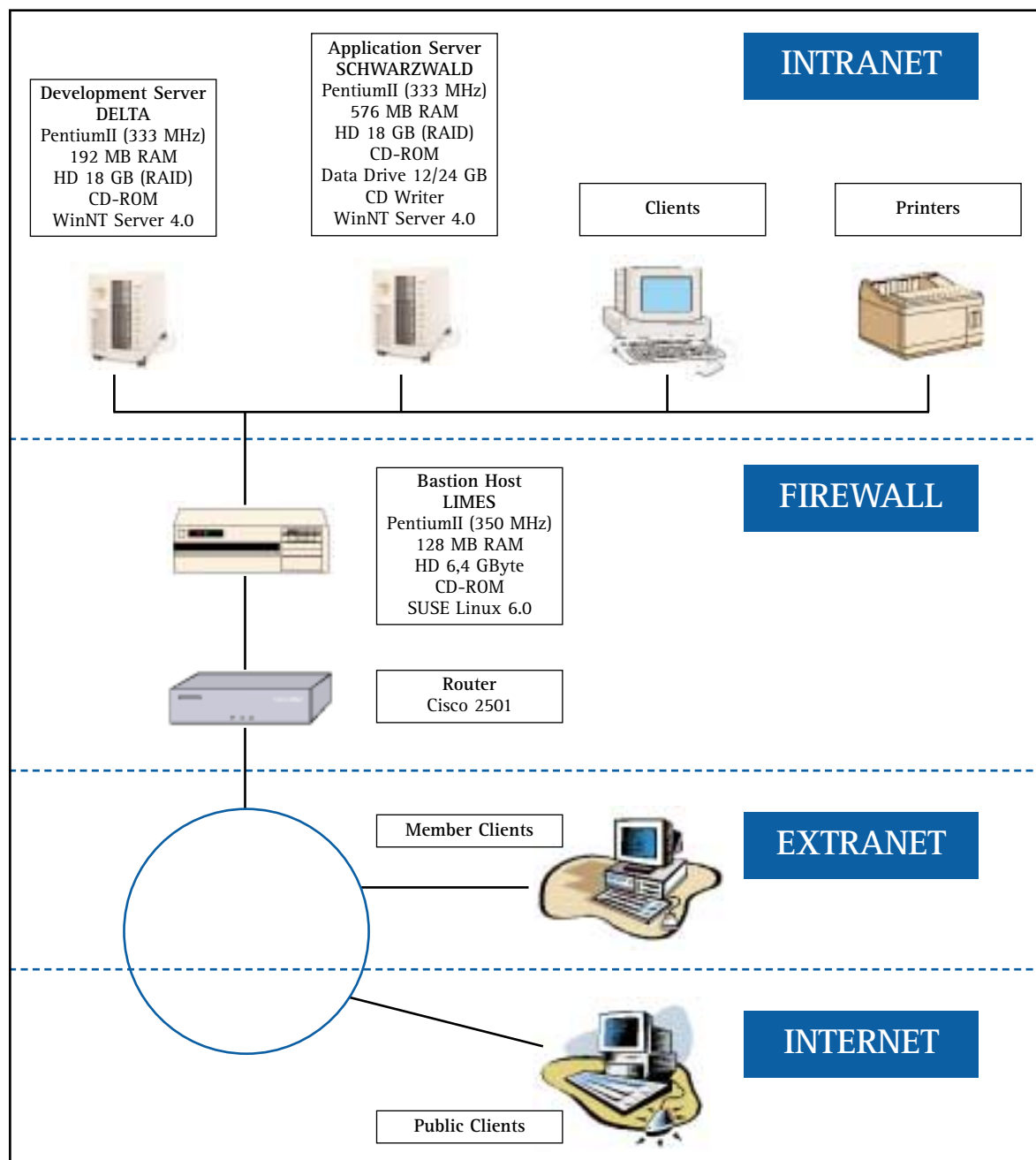
spills. The model is used by PIAC staff to help to evaluate the expected concentration of a pollution plume and its time of arrival at a particular point downstream. This supports the decision-making process in the countries on the probability of an incident having transboundary effects.

5. Information system of the ICPDR

The original technical architecture for the secure software-protected INTRANET/INTERNET solution, designed by International Society for

Environmental Protection (ISEP) is shown in Figure 1 below.

Figure 1





This architecture guarantees that external clients (e.g. PUBLIC USERS in the Danube Basin countries) are denied access to the internal level of the system used only by REGISTERED USERS (e.g. Expert Groups). This set-up was used during the design and testing period of the Information System. After its completion and transfer to the Permanent Secretariat of the ICPDR (ICPDR/PS) at the Vienna International Centre (VIC), this set-up will be slightly modified to fit in the different environment at the VIC.

The FIREWALL protects the internal layer of the ICPDR Information System. LIMES Bastion Host is the only internal host "visible" from outside. Any flow of data between the internal network (intranet) and outside network (extranet, internet) is checked. The firewall software provides packet-filtering, allowing only specific packets to leave or enter the intranet and redirecting them to the appropriate destination based on a set of rules. In the current set-up, only http-requests (e.g. web requests) are allowed to enter from outside.

The Information System has acquired a basic level of water-related information from the countries situated in the Danube River Basin. The important results of the Danube Pollution Reduction Programme have been made avail-

able to the ICPDR and its Expert Groups in textual form. Further reports from related programmes and projects (e.g. Environmental Programme for the Danube River Basin, technical assistance projects supported by the PHARE programme) can be found in the updated Danube Environment Library.

In addition, 1999 National Reviews were analysed and used for the creation of an interdisciplinary database (Danube Basin Projects Database). The database is focussed on socio-economic analysis related to the impact of water pollution, financing mechanisms for projects implementing pollution reduction measures, legislation, ambient water quality and investment projects for pollution reduction measures and their expected effects.

The Information System also contains information on addresses of involved institutions and on relevant meetings of experts. Available results from the current work of the Expert Groups have also been integrated into the Danube Basin Projects Database. The integration of national information is supported by the ICPDR.

The internet address of DANUBIS is <http://www.icpdr.org/DANUBIS>

6. International cooperation

6.1 UNDP/GEF Pollution Reduction Programme

The project entitled "Developing the Danube River Basin Pollution Reduction Program" represents a contribution of the Global Environment Facility (GEF) to phase two of an Environmental Programme for the Danube River Basin (EPDRB), created in 1992. The project followed the two previous GEF projects in the frame of the EPDRB, which supported the ratification of the Danube River Protection Convention and the establishment and development of the ICPDR respectively.

The Programme was carried out in the Danube River Basin in the 1997-99 period, and its results will support the activities of the ICPDR through a program of action for the implementation of the DRPC. The Programme is a major international response to the degradation of surface and ground water quality in the Danube River Basin (DRB) and eutrophication of the Black Sea. It has generated the following outputs:

- A Transboundary Analysis (TA) was carried out to obtain a complete knowledge base concerning priority pollution loads and environmental issues in the Danube River Basin. A new planning approach was used in order to collect comprehensive information that would facilitate further analysis. Basic data were gathered from the National Reviews (prepared in 1998) and from the National Planning Workshops (1998-99). Furthermore, the main pollution sources were identified in the frame of the TA and a List of Hot Spots was drafted.
- The Danube Water Quality Model (DWQM) was designed for estimating and evaluating the flow of pollution – in particular Nitrogen and Phosphorus – through the Danube into the Black Sea.
- A Wetland Study was prepared to support the TA.
- Thematic Maps were made showing 15 Sub-river Basins in terms of river basin management and identifying 51 Significant Impact Areas.
- A revised Strategic Action Plan (SAP) was prepared as a review of the policy for the protection of the Danube River Basin, on the basis of the existing analytical documents – National Review Reports and National Planning Workshop Reports. Since the revised SAP had been developed outside the framework of the ICPDR, it was extensively discussed within the ICPDR, amended and then used as the basis for another ICPDR document entitled "Common Platform for the Development of National Policies and Actions for Pollution Reduction under the DRPC".
- A Memorandum of Understanding between the Danube and the Black Sea Countries was drafted based on the results of the Danube-Black Sea Joint Ad Hoc Technical Working Group.
- The project provided support to NGOs, in particular in developing the Danube Environmental Forum (DEF) regional body.
- A Small Grants Programme reinforced NGO participation in pollution reduction measures and awareness-raising projects.



- The development of the ICPDR Information System was supported.
- A Feasibility Study on the possible new regional financing mechanisms resulted in a proposal for the creation of a Danube Environmental Financing Facility (DEFF).
- The Project Database includes the PRP Investment Portfolio available to financing institutions and donor organizations in the future. The Database currently contains 421 projects covering 246 hot spots in the Danube River Basin, comprising 192 municipal, 113 industrial, 67 agricultural and 29 wetland restoration projects as well as 20 projects classified as general measures.

The results and products of the Pollution Reduction Programme are being transferred to the ICPDR and all information gathered during the project is available through the ICPDR Information System.

6.2 EC Phare / Tacis Multicountry Programme

Based on the Phare 1996 budget, a project entitled "Water Quality Enhancement in the Danube River Basin" was run. The important project components were:

- A Feasibility Study for Regional Centres for the Training of Managers and Operators of Wastewater Treatment Plants;
- Support to MLIM (Classification / Character-

isation of Water Quality; Provision of Stable and Effective Quality Control Programme; Optimisation of the Transnational Monitoring Network; Feasibility Study for a Joint Danube Survey);

- Technical Assistance to EMIS/EG (improvement of the inventory of municipal and industrial wastewater discharges, including their breakdown by country and river sub-basins; maps for these inventories; cost estimates for municipal wastewater treatment plants; best available technologies for the most important industrial branches, incl. a survey of mills; review of the discharges of nutrients from non-point sources);

- Water Quality Monitoring and Assessment in parts of the Danube Basin (support to the UNECE-Working Group on Monitoring Guidelines).

Based on the Phare 1997 budget, the following projects and activities were launched, some of them extending into and completed in 1999:

- Funding of meetings and PCU management;
- International Cooperation in the Danube River Basin Management, with an emphasis on the Tisza as the largest sub-basin (run predominantly at the level of the beneficiary countries);
- Transboundary cooperation in wetland conservation (run predominantly at the level of the beneficiary countries);
- Transfer of skills, exchange and training in the AEW-System, as support to AEPWS/EG;

6. International cooperation

- Morphological changes downstream of the Iron Gate and methods for problem solving (run predominantly between the downstream countries concerned);
- Improvement and maintenance of the PCU Homepage;
- Shipborne oily waters and wastes (run in support of the Danube Commission);
- Sustainable management of manure from animal farms and dissemination of information on sustainable agriculture (run at the level of the beneficiary countries concerned).

The following activities were launched under the Tacis 1997 Interstate Programme:

- SIP activities for Moldova and Ukraine;
- Clean production technologies;
- Vulcanesti waste dump, where DDT had been disposed of during Soviet times;
- International wetland management in the lower Prut region;
- Participation in the Tisza River Basin management.

The following activities were launched under the Tacis 1996 Cross-border cooperation:

- Implementation of the activities needed to run the 'AEW-System' (activities dealt with by

AEPWS/EG) and to participate in the work leading to the TNMN Year book (activities dealt with by MLIM/EG).

6.3 Cooperation with the UNEP/OCHA Balkan Task Force

In accordance with the agreement between UNEP/Habitat Balkans Task Force and the ICPDR, an international expert team conducted a sampling campaign in the vicinity of the war-damaged sites along the Danube and near Kragujevac. During the sampling the expert team was accompanied by a team of Yugoslavian experts, also providing the boats needed for the sample collections.

Four main areas were identified for pollution monitoring, three of them along the Danube river itself, such as the Novi Sad area between 1260-1252 rkm, Pancevo area between 1155-1149 rkm and the upper area of the Iron Gate reservoir at 1077 rkm, and one in the catchment of the Lepenica and the Morava rivers, tributaries emptying into the Danube in the vicinity of Kragujevac,.

The targeted pollutants were those thought to be still released, such as the EDC (1,2-Dichloroethane), or those that might accumulate in the sediment and/or biota. Accordingly, petroleum hydrocarbons, including PAHs, PCBs and mercury were also analysed. Water, sediment and biota (abundant mussels) were selected as target matrices. In addition to the determination of the chemical pollutants, macrozoobenthic community was studied to determine the



overall quality of life in the sediment, and pollution stresses were assessed. Furthermore, in order to improve the understanding of the accumulation of various pollutants in the bottom sediment, core samples were collected to assess the rate of recent and historical pollution in the subsurface bottom sediment layers, and the layers were dated using radiochemical tracing (Cs-137 relevance to the Chernobyl incident).

On the basis of the findings of the BTF Danube Mission, the following conclusions were adopted:

○ The pollutants released during NATO bombings are basically the same (e.g., petroleum hydrocarbons, mercury) as those released during normal industrial operations in the pre-war period. Although some of these pollutants were released in a significant amount, it is difficult to differentiate between the pre-war and war-related inputs;

○ EDC (1,2-dichloroethane) is considered as the only pollutant originating from the war and still continuously released most likely from deposits

in the Pancevo wastewater canal.

○ The sediment in the Pancevo canal has a significant concentration of various pollutants, primarily petroleum hydrocarbons, mercury and PCBs, which calls for action. Since this sediment can be considered as hazardous waste, there is a need for mitigation by dredging and for a safe disposal of the contaminated sediment.

At the 2nd Plenary Session of the ICPDR in Sinaia in November 1999, the ICPDR adopted a resolution expressing its appreciation of the work carried out by the Balkan Task Force, fully agreeing with the recommendations on the environmental impacts and calling for an immediate international support in the framework of the humanitarian aid provided for the region in order to clean up the identified hot spots as quickly as possible.

7. Cooperation between the ICPBS and the ICPDR

In the beginning of 1999, the Ad-hoc Technical Expert Group set up jointly by the International Commission for the Protection of the Black Sea (ICPBS) and the International Commission for the Protection of the Danube River (ICPDR), forwarded to both bodies a concept for a Draft Memorandum of Understanding. The Draft was

discussed within the ICPDR and was adopted during its 2nd Plenary Meeting in Sinaia. The Memorandum of Understanding will be forwarded to the ICPBS for evaluation and approval.

The strategic goals of this MoU are given in Annex 4.

8. Reinforcement and coordination of the donor engagement



In order to develop adequate financial mechanisms for the implementation of the PRP in Danube countries, an ICPDR/PMTF donor meeting was held in Vienna on 10 December 1999. Presentations given by all participants followed by an extensive discussion led to the following conclusions:

○ Implementing agencies such as KfW, the European Bank or the World Bank are not sufficiently present and engaged in the region, and they are the only ones that give the 'needed stamp of quality'. ICPDR and SECI should address the donors active in the region in order to research in more detail further possibilities.

○ WB/IFC, KfW, EB, EBRD, ISPA, SAPARD, Phare/Tacis, GEF, USAID, Austrian Kommunal-kredit, etc., were identified as the institutions worth addressing, and others would surely be willing to cooperate in the funding of projects, including the overcoming of obstacles during the early implementation phase.

○ Arriving at "a stamp of quality" could be achieved by placing programme officers in the region who are working with IFIs. Such approach is based on the good experience gained by the PPC. In addition, bilaterally active donors should bring in consultants to push projects locally.

Annex 1: Composition of the ICPDR in 1999

PRESIDENT:

*Wolfgang STALZER, General Director,
Bundesministerium für Land- und
Forstwirtschaft, Sektion IV, Stubenring 12,
A-1010 Vienna, Austria*

HEADS OF THE DELEGATIONS:

*Germany: Fritz HOLZWARTH, Deputy
Director General, Bundesministerium für
Umwelt, Naturschutz und Reaktorsicherheit*

*Austria: Richard STADLER, Deputy Head of
Department, Bundesministerium für Land- und
Forstwirtschaft, IV*

*Czech Republic: Jaroslav KINKOR, Director of
the Water Protection Department, Ministry of
the Environment*

*Slovakia: Milan MATUSKA, Director of the
Water Protection Department, Ministry of the
Environment*

*Hungary: Béla HAJÓS, Deputy State
Secretary, Ministry of the Transport,
Communication and Water*

*Slovenia: Franci STEINMAN, State Secretary,
Ministry of the Environment and Physical
Planning*

*Croatia: Zeljko OSTOJIC, Senior Adviser on
Water Protection, State Water Directorate*

*Romania: Liliana MARA, Director General,
Ministry of the Water, Forests and Envi-ron-
mental Protection*

*Bulgaria: Emil MARINOV, Deputy Minister,
Ministry of the Environment*

*Moldova: Ion Ilie DEDIU, President, National
Academy of Ecological Sciences*

*Ukraine: Anatoly YATSYK, Deputy Minister,
Ministry of the Environmental Protection and
Nuclear Safety*

*European Community: Timo MÄKELÄ, Head
of Unit, DG/Environment DG XI. A.5
European Commission*

PERMANENT SECRETARIAT:

*Joachim BENDOW, Executive Secretary;
(since August 1, 1999)*

*Hellmut FLECKSEDER, Technical Expert for
Water Management and Pollution Control
(since October 1, 1999)*

*Igor LISKA, Technical Expert for Water
Management and Water Quality (since October
1, 1999)*

*Károly FUTAKI, Information Management and
Administration Officer (since October 1, 1999)*

Marcela FABIANOVÁ, GEF Technical Support

*Julia KÖBLINGER, Support Staff, Finance &
Relation with Host Country Services*

Heike WARMUTH, Support Staff, Secretary

Annex 1: Composition of the ICPDR in 1999



CHAIRMEN OF THE EXPERT GROUPS AND SUBGROUPS

Emission EG

*Bernd MEHLHORN, Head of the Unit,
Umweltbundesamt, Bismarckplatz 1, D - 14193
Berlin, Germany*

Monitoring, Laboratory and Information Management EG

*Liviu POPESCU, Head of the Department, ICIM
Research & Engineering Institute for
Environment, Spl. Independentei nr 294, Sec-tor
6, RO - 77703 Bucharest, Romania*

Monitoring ESG

*Milan MATUSKA, Director of the Water
Protection Department, Ministry of the
Environment Nam. L. Stura 1, SK - 812 35
Bratislava, Slovak Republic*

Laboratory Management ESG

*Péter LITERÁTHY, Director, Water Resources
Research Centre, VITUKI RT, Kvassay Jenő ut 1,
H - 1095 Budapest, Hungary*

Information Management ESG

*Ivica RUZIC, Professor, "Ruder Boskovic"
Institute, Bijenicka 54,
HR-10000 Zagreb, Croatia*

Accidental Emergency and Prevention EG

*György PINTÉR, (until May 1999) Senior
Scientist, Water Resources Research Centre,
VITUKI RT, Kvassay Jenő út 1, H - 1095
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*Dobri DIMITROV, (since May 1999) Senior
Scientist, National Institute of Meteorology &
Hydrology, Forecasting Dept., 66 Tzarigradsko
Shose boul., BG - 1784 Sofia, Bulgaria*

Strategic EG

*Knut BEYER, BMUNR, WA I 6B, Bernkasteler
Straße 8, D - 53048 Bonn, Germany*

Annex 2: Observer Status as of 31.12. 1999

Danube Commission

(for inland navigation), (CD)

*Mr. Danail NEDIALKOV, Director General
Benczúr utca 25, H-1068 Budapest*

World Wide Fund for Nature (WWF International)

Mr. Philip WELLER, Director, Danube

Carpathian Programme

Ottakringer Str. 114-116, A - 1160 Vienna

International Association for Danube Re- search (IAD; in the framework of SIL)

*Dr. Herta HEGER, General Secretary
Schiffmühlenstr. 120, A - 1220 Vienna*

Annex 3: Financial situation

In accordance with the decision of the 1st Plenary Meeting of the ICPDR held in Vienna in October 1998, Transitional Contribution Keys for national contributions to the ICPDR in 1999 were as follows:

BUDGET FOR THE YEAR 1999		
Contributions		
Austria	16.06%	1,578,479.00
Germany	16.06%	1,578,479.00
Hungary	13.19%	1,296,608.00
Slovakia	13.19%	1,296,608.00
Romania	12.06%	1,185,247.00
Czech Republic	8.60%	845,614.00
Croatia	8.60%	845,614.00
Slovenia	8.60%	845,614.00
EC	2.47%	242,879.00
Total	98.84%	9,715,142.00
Balance 1998	1.16%	114,215.00
Overall Total	100.00%	9,829,357.00

The ICPDR budget for the year 1999 was approved by the 1st Plenary Session and is given below:

EXPENDITURES (ATS)	
A. Administrative Costs	
1. Staff	6.581.779,00
2. Services	1.480.028,00
3. Equipment	333.500,00
4. Other	600.300,00
Sub-Total A	8.995.607,00
B. Operational Costs	833.750,00
Overall Total	9.829.357,00

Annex 4: Draft Memorandum of Understanding



Draft Memorandum of Understanding between the International Commission for the Protection of the Black Sea (ICPBS) and the International Commission for the Protection of the Danube River (ICPDR) on common Strategic Goals

- The “International Commission for the Protection of the Black Sea (ICPBS)” was established to implement the “Convention on the Protection of the Black Sea against Pollution”. This Convention is a “shoreline convention”, i.e. it itself holds no power over the inland activities of the States within the hydrographic drainage area discharging into the entire Black Sea (Black Sea proper; Sea of Azov).
 - The “International Commission for the Protection of the Danube River (ICPDR)” was established to implement the “Convention on Cooperation for the Protection and Sustainable Use of the Danube River”. This Convention is a “hydrographic basin convention”, i.e. it itself holds power over the transboundary impact via the drainage network of the River Danube Basin (valid only for Contracting Parties to this Convention).
 - This Memorandum of Understanding becomes effective as soon as it has been agreed upon in the respective Meetings of both Commissions mentioned and an exchange of letters has taken place. It loses its effectiveness as soon as one of both the International Commissions mentioned notifies the other.
 - This Memorandum of Understanding constitutes a framework for implementing common strategic goals.
- Representatives of the ICPBS and the ICPDR with the assistance of UNDP/GEF and UNEP set up on December 8 and 9, 1997, a Joint Ad-hoc Technical Working Group (“the Group”) in a Meeting at Constanta, Romania. The following elements of this Memorandum of Understanding correspond with the results of “the Group”:
- The term “overall Black Sea” encompasses the Black Sea proper and the Sea of Azov as water bodies receiving inputs via inland waters. Both the Black Sea proper and the Sea of Azov are in regard to their ecology and their response to discharged pollution completely different water bodies.
 - The term “Black Sea ecosystem” refers to ecosystems in both Seas.
 - The term “wider Black Sea Basin” refers to the basin determined by the hydrographic boundary of all inland waters discharging to the overall Black Sea and the surface area of the overall Black Sea. For the sake of convenience and until decided otherwise between both Commissions the outer border of this basin is looked upon to be the Strait of Bosphorus.
 - The results of studies on the “Ecological Indicators of Pollution in the Black Sea”, carried out in the frame of the activities of the Joint Ad-hoc Working Group, have given evidence of recovery in Black Sea ecosystems. However, the ecological status of the 1960s – which is deemed to be the goal to aim for – is not yet reached.
 - There is in general agreement that the status of Black Sea ecosystems is largely affected by nutrients discharged within the wider Black Sea Basin, and to a large extent by the riverine input into the

Annex 4:

Draft Memorandum of Understanding

overall Black Sea. Information of a possible role of other sources of pollution and their impact on Black Sea ecosystems was not yet available.

○ The size of the pollution loads reaching the overall Black Sea (dispersion both in time and in space for the Black Sea proper and the Sea of Azov) are either not known, or information is missing on the comparability of the data available.

○ “The Group” was aware of the decline of the economic activities in the countries in transition, the possible impact of them on the discharge of pollution, and the reversal of such a trend in case of future economic development (concerning in particular agricultural and industrial activities).

○ The data available to “the Group” to undertake its assessment ended at best with values for the year 1997.

In order to help to safeguard the Black Sea from a further deterioration of the status of its ecosystems the “Commission for the Protection of the Black Sea against Pollution” and the “Commission for the Protection and Sustainable Use of the Danube River” agreed to achieve the following common strategic goals:

○ The long-term goal in the wider Black Sea Basin is to take measures to reduce the loads of nutrients and hazardous substances discharged to such levels necessary to permit Black Sea ecosystems to recover to conditions similar to those observed in the 1960s.

○ As an intermediate goal, urgent control measures should be taken in the wider Black Sea Basin in order to avoid that the loads of nutrients and

hazardous substances discharged into the Seas exceed those that existed in the mid 1990s. (These discharges are only incompletely known.)

○ The inputs of nutrients and hazardous substances into both receiving Seas (Black Sea proper and Sea of Azov) have to be assessed in a comparable way. To this very end a common Analytical Quality Assurance (AQA) system and a thorough discussion about the necessary monitoring approach, including the sampling procedures, has to be set up and agreed upon between the ICPBS and the ICPDR.

○ The ecological status of the Black Sea and the Sea of Azov has to be further assessed, and the comparability of the data basis has to be further increased.

○ Both the reported input loads as well as the assessed ecological status will have to be reported annually to both the ICPBS and the ICPDR.

○ Strategies for economic development have to be adopted to ensure appropriate practices and measures to limit the discharge of nutrients and hazardous substances, and to rehabilitate ecosystems which assimilate nutrients.

○ Based on the annual reports and on the adopted strategies for the limitation of the discharge of nutrients and hazardous substances, a review shall be undertaken in 2007. It will have to focus on the further measures that may be required for meeting the long-term objective.

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