



COMMISSION ON THE PROTECTION OF THE BLACK SEA
AGAINST POLLUTION

Report

To the Danube – Black Sea Basin Stocktaking Meeting

Bucharest, 10 – 12 November, 2004

Table of Contents

Introduction	1
1 Mandate, Role and Objectives of the Commission on the Protection of the Black Sea Against Pollution	2
1.1 Brief history	2
1.2 Objectives of the Commission on the Protection of the Black Sea Against Pollution	4
1.3 Institutional and Organizational Structure of the Commission on the Protection of the Black Sea Against Pollution.....	5
2 Contracting Parties to the Convention	6
2.1 Financing the Convention on the Protection of the Black Sea Against Pollution.....	6
2.2 Balance Sheet.....	6
2.3 Country contributions to the Budget of the Commission on the Protection of the Black Sea Against Pollution.....	8
3 Institutional Mechanism of the Convention on the Protection of the Black Sea Against Pollution	10
3.1 The Permanent Secretariat	10
3.2 Advisory Groups.....	10
3.3 Activity Centers	11
4 Mechanisms for Regional Cooperation with the ICPDR	12
4.1 General Information.....	12
4.2 Recent developments	12
5 Implementing the Convention on the Protection of the Black Sea Against Pollution - Development of Policies and Regulatory Measures	14
5.1 Common Principles.....	14
5.2 Regional Initiatives	15
5.3 European Initiatives	15
5.4 Global Initiatives.....	16
5.5 Road Map.....	17
6 Implementation of the Black Sea Strategic Action Plan	19
6.1 Negotiation with Contracting Parties for stepwise reduction of pollution and nutrient loads from LBS	19
6.2 Reduction of pollution from vessels and dumping	21
6.2.1 <i>Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping</i>	21
6.3 Contingency planning and emergency response.....	21
6.3.1 <i>National Level Measures</i>	21
6.3.2 <i>Regional measures implemented in 2003-2004:</i>	23
6.4 Assuring biological diversity and sustainable management of living resources (fisheries and protection of habitats and landscapes)	23

6.4.1	<i>National measures implemented in 2003-2004</i>	23
6.4.2	<i>Regional Actions:</i>	24
6.5	Biodiversity and Landscape Protection:	24
6.5.1	<i>National Measures</i>	24
6.5.2	<i>Regional actions</i>	25
6.6	Black Sea Integrated Monitoring and Assessment Program.....	25
6.7	Establishing harmonized institutional and policy/regulatory mechanisms for ICZM (including sustainable agriculture, wetlands restoration and management and tourism development).....	27
6.8	Sustainable Human Development.....	27
6.8.1	<i>Environmental Impact Assessment</i>	27
6.8.2	<i>Integrated coastal zone management</i>	27
6.8.3	<i>National Activities</i>	27
6.8.4	<i>Regional Policy Measures:</i>	28
6.9	Development of sustainable aquaculture and tourism	28
6.10	Involving the public in environmental decision making.....	29
7	Implementation of the Black Sea Investment Programme	30
7.1	Funding sources for investment in the environment.....	30
7.2	Priority Investment Projects.....	31
7.3	Estimated project cost:.....	31
7.4	Project Prioritization Criteria.....	32
7.5	Project database	32
	Annex 1 Advisory Groups to the Commission on the Protection of the Black Sea Against Pollution	33
	Annex 2 Institutional Set Up of the Danube/Black Sea Joint Technical Working Group	36
	Annex 3 Preliminary Results of the Monitoring and Assessment	47
	Annex 4 Prioritization Criteria	49
	Annex 5 Priority Investment Project Database	66

Table of Figures:

Figure 1: Organnigram of the Black Sea Commission 5
Figure 2: Financing scheme of the Black Sea Commission 6
Figure 3: Country Contributions to the Budget of the Commission on the Protection of
the Black Sea Against Pollution 8
Figure 4: Projected Cash Contributions to the Black Sea Commission for 2005/2006/2007
(USD)..... 8
Figure 5: Monitoring Stations of the BSIMAP 26

Tables:

Table 1 : Signing and ratification of the Convention for the Protection of the Black Sea
Against Pollution 2
Table 2: Balance Sheet of the Black Sea Commission as per 01 Sep 2004..... 7
Table 3: Country Contributions to the Budget of the Commission on the Protection of the
Black Sea Against Pollution 9
Table 4: Projected Cash Contributions to the Black Sea Commission for 2005/2006/2007
(USD)..... 9

Introduction

The Black Sea is widely recognized as one of the regional seas most damaged by human activity. Almost one third of the entire land area of continental Europe drains into this sea. It is an area, which includes major parts of seventeen countries, thirteen capital cities and some 160 million persons. The second, third and fourth major European rivers, the Danube, Dnieper and Don, discharge into this sea while its only connection to the world's oceans is the narrow Bosphorus Strait. The Bosphorus is as little as 70 meters deep and 700 meters wide but the depth of the Black Sea itself exceeds two kilometers in places. Contaminants and nutrients enter the Black Sea via river run-off mainly and by direct discharge from land-based sources. The management of the Black Sea itself is the shared responsibility of the six coastal countries: Bulgaria, Georgia, Romania, Russian Federation, Turkey, and Ukraine.

In a period of only three decades (1960's-1980's), the Black Sea has suffered the catastrophic degradation of a major part of its natural resources. Particularly acute problems have arisen as a result of pollution (notably from nutrients, fecal material, solid waste and oil), a catastrophic decline in commercial fish stocks, a severe decrease in tourism and an uncoordinated approach towards coastal zone management. Increased loads of nutrients from rivers and coastal sources caused an overproduction of phytoplankton leading to extensive eutrophication and often extremely low dissolved oxygen concentrations. The entire ecosystem began to collapse. This problem, coupled with pollution and irrational exploitation of fish stocks, started a sharp decline in fisheries resources.

The transboundary nature of most of these problems, coupled with earlier political realities, was the main reason for the insufficiency of previous control measures. The problems themselves also have important extra-regional and global dimensions. One of the main environmental factors of concern has been the introduction of alien species leading to a decline of Black Sea fisheries, the quantities of persistent pollutants, known as "persistent organic pollutants", reaching the Black Sea basin, nutrients input and reduction of their input in the Black Sea is an essential part of a global strategy to control them. Finally, the conservation of biodiversity in the Black Sea as well as the preservation of Black Sea habitats, vital for endangered migratory bird populations, has an important global significance.

1 Mandate, Role and Objectives of the Commission on the Protection of the Black Sea Against Pollution

1.1 Brief history

The Convention on the Protection of the Black Sea Against Pollution was signed in Bucharest in April 1992, and ratified by all six legislative assemblies of the Black Sea countries in the beginning of 1994. Also referred to as "Bucharest Convention", it is the basic framework of agreement and three specific Protocols, which are:

- (1) the control of land-based sources of pollution;
- (2) dumping of waste; and
- (3) joint action in the case of accidents (such as oil spills).

The implementation of the Convention is managed by the Commission for the Protection of the Black Sea Against Pollution (also sometimes referred to as the **Istanbul Commission**), and its Permanent Secretariat in Istanbul, Turkey.

Table 1 : Signing and ratification of the Convention for the Protection of the Black Sea Against Pollution

	Country	Signed	Ratified	Entry into force
1	Bulgaria	21-04-1992	23-02-1993	15-01-1994
2	Georgia	21-04-1992	01-09-1993	15-01-1994
3	Romania	21-04-1992	10-11-1993	15-01-1994
4	Russian Federation	21-04-1992	16-11-1993	15-01-1994
5	Turkey	21-04-1992	29-03-1994	29-03-1994
6	Ukraine	21-04-1992	14-04-1994	14-04-1994

The basic objective of the Convention on the Protection of the Black Sea Against Pollution is to substantiate the general obligation of the Contracting Parties to prevent, reduce and control the pollution in the Black Sea in order to protect and preserve the marine environment and to provide legal framework for co-operation and concerted actions to fulfill this obligation.

In particular:

- To prevent pollution by hazardous substances or matter; Annex to the Convention
- To prevent, reduce and control the pollution from land-based sources; Protocol to the Convention
- To prevent, reduce and control the pollution of the marine environment from vessels in accordance with the generally accepted rules and standards;
- To prevent, reduce and control the pollution of the marine environment resulting from emergency situations; Protocol to the Convention
- To prevent, reduce and control the pollution by dumping; Protocol to the Convention

- To prevent, reduce and control the pollution caused by or connected with activities on the continental shelf, including exploration and exploitation of natural resources;
- To prevent, reduce and control the pollution from or through the atmosphere;
- To protect the biodiversity and the marine living resources; Draft Protocol on the biodiversity
- To prevent the pollution from hazardous wastes in transboundary movement and the illegal traffic thereof; Draft Protocol to the Convention
- To provide framework for scientific and technical co-operation and monitoring activities.

In order to set the goals, priorities and timetable needed to bring about environmental actions, a Ministerial Declaration on the Protection of the Black Sea Environment was signed by all six Ministers of the Environment in Odessa in April 1993 (known as the Odessa Declaration).

In order to make an early start to environmental action and to develop a longer-term Action Plan, the Black Sea countries requested support from the Global Environment Facility, GEF, a fund established in 1991 under the management of the World Bank, the UN Development Programme and the UN Environmental Programme. In June 1993, a three-year Black Sea Environmental Programme was established.

The GEF assistance began by organizing local and international expertise to identify and systematically analyze the root causes of environmental degradation in the Black Sea, how they relate to country specific sectoral activities, policies and institutions. The analysis of the root causes named the Transboundary Diagnostic Analysis (TDA). As required by GEF Operational Strategy on the basis of the transboundary water-related environmental analysis a Strategic Action Plan was developed to indicate the clear transboundary priorities as well as provide a realistic baseline for environmental commitment by the Black Sea countries. Thus the **Black Sea Strategic Action Plan** was developed, subsequently adopted by all Black Sea countries, and providing a basis for future concerted action.

The Commission on the Protection of the Black Sea Against Pollution (also referred to as the Black Sea Commission, or the Istanbul Commission) is established as per the provisions in the Convention on the Protection of the Black Sea Against Pollution, (Article XVII). Its permanent operative body is the Permanent Secretariat, stationed in Istanbul, Turkey.

The Black Sea Commission comprises one representative of each of the Contracting Parties (Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine) to the Convention on the Protection of the Black Sea Against Pollution. It is chaired on a rotation principle. The Black Sea Commission meets at least once a year and at request of any one of the contracting parties at any time. It delegates its operational activity to its Permanent Secretariat.

1.2 Objectives of the Commission on the Protection of the Black Sea Against Pollution

The main objectives of the Black Commission's functions are defined in Article 18 of the Convention as:

1. Promote the implementation of this Convention and inform the Contracting Parties of its work.
2. Make recommendations on measures necessary for achieving the aims of this Convention.
3. Consider questions relating to the implementation of this Convention and recommend such amendments to the Convention and to the Protocols as may be required, including amendments to Annexes of this Convention and the Protocols.
4. Elaborate criteria pertaining to the prevention, reduction and control of pollution of the marine environment of the Black Sea and to the elimination of the effects of pollution, as well as recommendations on measures to this effect.
5. Promote the adoption by the Contracting Parties of additional measures needed to protect the marine environment of the Black Sea, and to that end receive, process and disseminate to the Contracting Parties relevant scientific, technical and statistical information and promote scientific and technical research.
6. Cooperate with competent international organizations, especially with a view to developing appropriate programmes or obtaining assistance in order to achieve the purposes of this Convention.
7. Consider any questions raised by the Contracting Parties.
8. Perform other functions as foreseen in other provisions of this Convention or assigned unanimously to the Commission by the Contracting Parties.

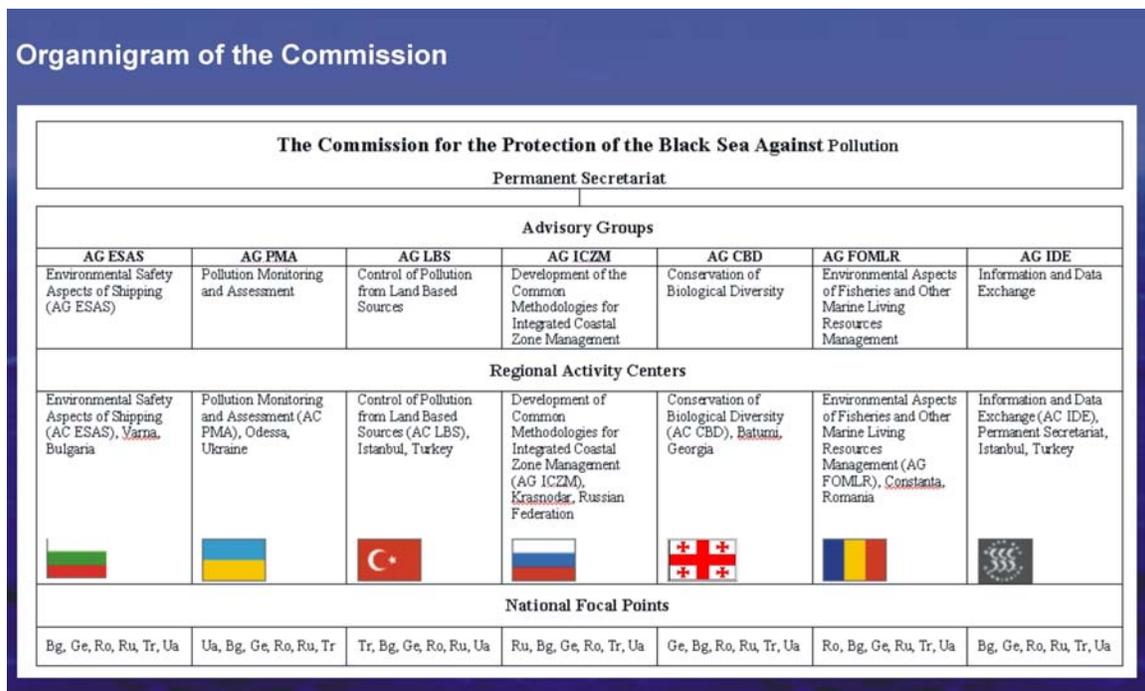
1.3 Institutional and Organizational Structure of the Commission on the Protection of the Black Sea Against Pollution

The Commission on the Protection of the Black Sea Against Pollution comprises the following organs:

- Commission on the Protection of the Black Sea Against Pollution;
- Permanent Secretariat;
- Advisory Groups;
- Activity Centers;
- National Focal Points.

The structure is presented below:

Figure 1: Organnigram of the Black Sea Commission



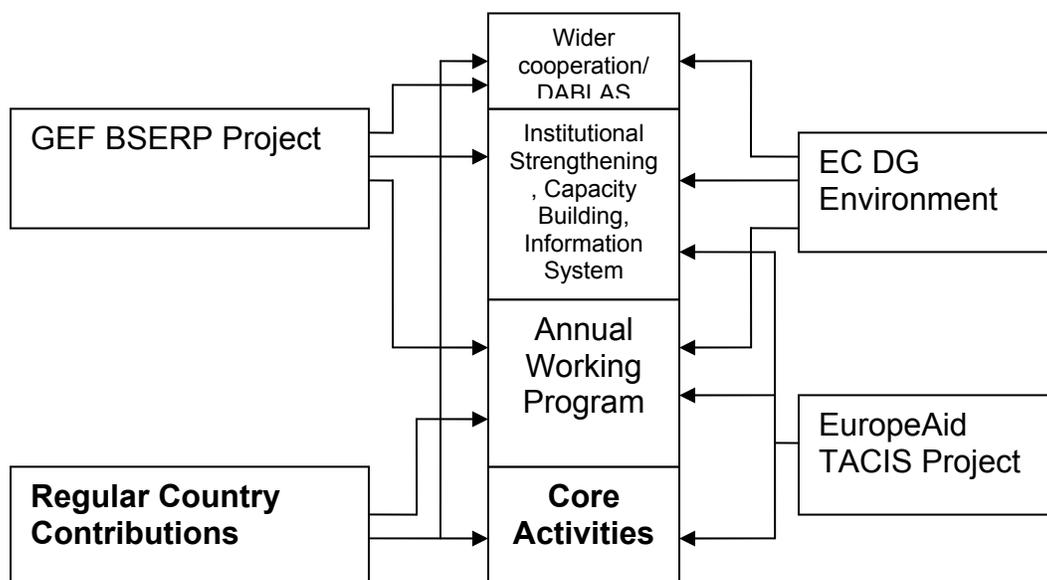
2 Contracting Parties to the Convention

2.1 Financing the Convention on the Protection of the Black Sea Against Pollution

The financing of the activities undertaken under the Bucharest Convention in a wider sense would include direct and indirect financing of all activities undertaken by the Black Sea countries, including national investment, donor/IFI aided projects etc. The concrete activities of the Black Sea Commission, operating through its Permanent Secretariat are financed through annual cash contributions of the Contracting Parties to the Convention to the Budget of the Commission on the Protection of the Black Sea Against Pollution. Additionally some activities of the Permanent Secretariat are financed, and in some cases co-financed by GEF (namely GEF “Black Sea Ecosystems Recovery Project”. In its cooperation with third parties the EC DG Environment has supported the institutional strengthening of the Permanent Secretariat, build up of its information network, as well as DABLAS related projects. Activities of the Black Sea Commission as well as its institutional network and Permanent Secretariat personnel received extensive support through EC funded EuropeAid Programme.

The overall financing scheme is presented below, and includes both **direct cash payments to the Permanent Secretariat** and **indirect payments**:

Figure 2: Financing scheme of the Black Sea Commission



2.2 Balance Sheet

The Balance Sheet of the Commission on the Protection of the Black Sea Against Pollution, is presented below. The Balance sheet discloses all funding sources of the Black Sea Commission and its institutions since the start of operations (15 October 2000):

Table 2: Balance Sheet of the Black Sea Commission as per 01 Sep 2004

Balance Sheet

As at 01 Sep 2004

A. Assets

\$ 1,978,671.69

1 Cash on hand and bank

\$ 210,612.33

2 Accounts receivable

\$ 453,491.86

3 Fixed Assets

-

4 Tangible and non-tangible assets

\$ 239,062.28

5 Expenditures

\$ 1,075,505.28

B. Liabilities

\$ 1,978,671.69

1 Funding sources

\$ 1,644,024.06

1.1 Country contributions

\$ 1,349,914.50

1.2 Interest

\$ 16,083.49

1.3 Contributions from partners (EU DG Env)

\$ 184,874.07

1.4 Contributions from partners (EruopeAid)

\$ 329,391,89

1.4 Contributions from partners (Arena)

\$ 1,935.20

1.4 Contributions from partners (GEF BSERP)

\$96,399.33

2 Accounts payable

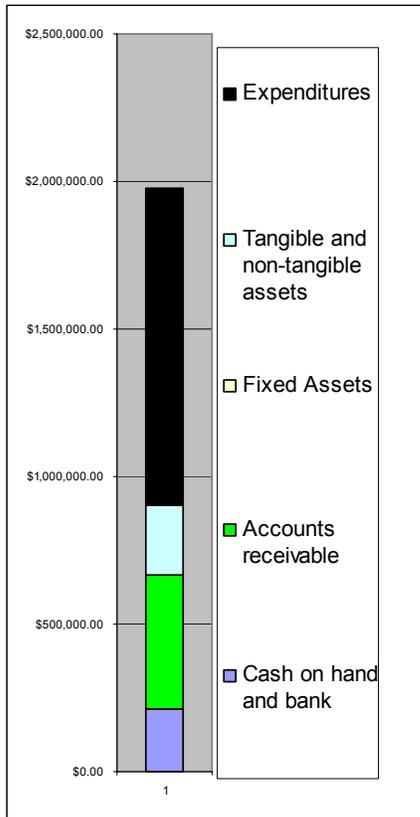
-

3 Foreign Exchange Rate Difference

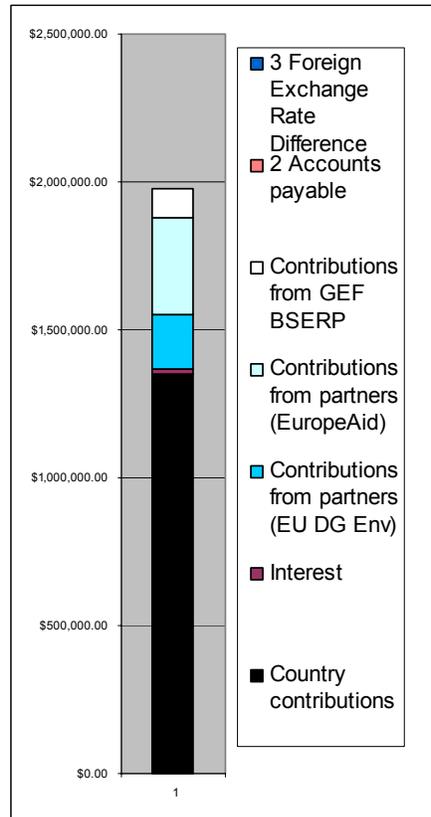
\$ 73.21

Source: Annual 2003/2004 Auditor's Report

Assets:



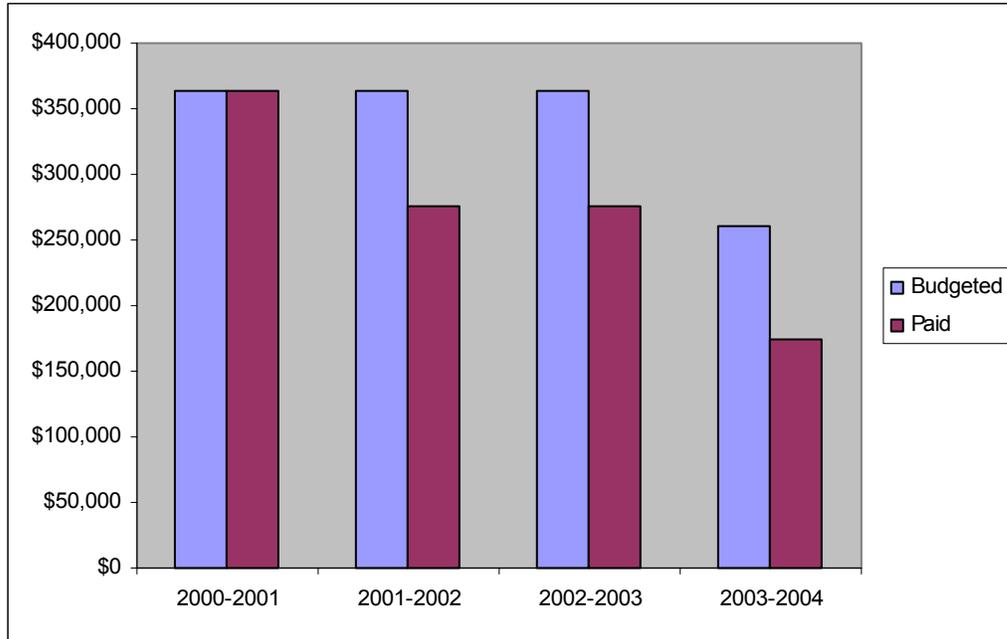
Liabilities:



2.3 Country contributions to the Budget of the Commission on the Protection of the Black Sea Against Pollution

The core financing source of the activities of the Commission on the Protection of the Black Sea Against Pollution are annual contributions from the countries, signatories to the Bucharest Convention: Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine. The table below shows the committed and actually paid in country contributions as per 01 November 2004:

Figure 3: Country Contributions to the Budget of the Commission on the Protection of the Black Sea Against Pollution



(see Table below for data)

Figure 4: Projected Cash Contributions to the Black Sea Commission for 2005/2006/2007 (USD)

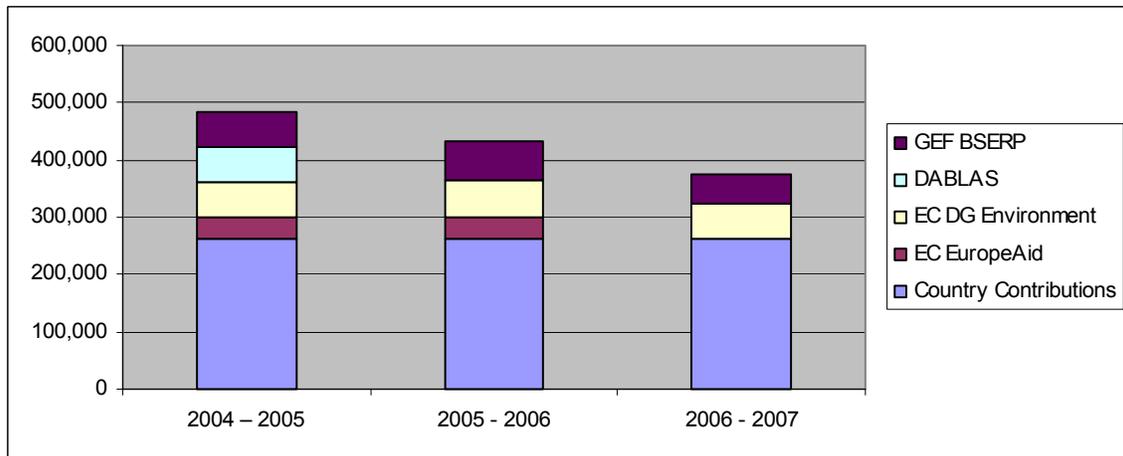


Table 3: Country Contributions to the Budget of the Commission on the Protection of the Black Sea Against Pollution

Status of Country Contributions to the Budget of the Commission on the Protection of the Black Sea Against Pollution as per 31 Aug 2004 (USD)										
Country	2000 - 2001		2001 - 2002		2002 - 2003		2003 - 2004		Total	
	Budgeted	Paid	Budgeted	Paid	Budgeted	Paid	Budgeted	Paid	Budgeted	Paid
Bulgaria	43,560	43,540	43,560	43,560	43,560	43,550	43,560	-	174,240	130,650
Georgia	43,560	-	43,560	-	43,560	-	43,560	-	174,240	-
Romania	43,560	43,550	43,560	43,560	43,560	43,550	43,560	43,550	174,240	174,210
Russian Federation	43,560	-	43,560	130,680	43,560	43,560	43,560	43,554	174,240	174,234
Republic of Turkey	145,200	144,914	145,200	145,200	145,200	145,200	43,560	43,560	479,160	435,314
Ukraine	43,560	43,467	43,560	-	43,560	-	43,560	-	174,240	43,467
Totals	363,000	275,471	363,000	363,000	363,000	275,860	261,360	130664	1,350,360	957,875

Source: Annual 2003/2004 Auditor's Report, amended as per 01 Nov 2004

Table 4: Projected Cash Contributions to the Black Sea Commission for 2005/2006/2007 (USD)

Funding Sources	2004 – 2005		2005 - 2006		2006 - 2007		Totals
	Projected	Actual	Projected	Actual	Projected	Actual	Projected
Country Contributions							
Bulgaria	43,560		43,560		43,560		130,680
Georgia	43,560		43,560		43,560		130,680
Romania	43,560	43,560	43,560		43,560		130,680
Russian Federation	43,560		43,560		43,560		130,680
Republic of Turkey	43,560	43,560	43,560		43,560		130,680
Ukraine	43,560		43,560		43,560		
Sub-Total Country Contributions	261,360		261,360		261,360		784,080
EC EuropeAid	38,640	38,640	40,040	40,040			78,680
EC DG Environment	62,000		62,000		62,000		186,000
DABLAS	62,000						62,000
GEF BSERP	60,000		70,000		50,000		180,000
TOTAL	484,000		433,400		373,360		1,290,760

3 Institutional Mechanism of the Convention on the Protection of the Black Sea Against Pollution

The institutional structure of the Convention on the Protection of the Black Sea Against Pollution comprises the Commission on the Protection of the Black Sea Against Pollution with its Permanent Secretariat, established Advisory Groups pursuant to articles 22, 23 and Annex 1 of the Convention. The Advisory Groups each elect a Chairperson and act with the mandate of the Black Sea Commission and their respective Terms of Reference.

3.1 The Permanent Secretariat

The Permanent Secretariat is established to assist the Commission on the Protection of the Black Sea Against Pollution (as defined in the Convention on the Protection of the Black Sea Against Pollution, Article XVII) and is stationed in Istanbul, Turkey. The Black Sea Commission appoints its Executive Director and other officials of the Secretariat. The Executive Director appoints the technical staff in accordance with the established rules. The Secretariat is composed of nationals of all Black Sea States. The Permanent Secretariat's core staff is currently the Executive Director, a Pollution Monitoring and Assessment Officer, a Biodiversity Officer, and a Technical Assistant.

The Permanent Secretariat represents the Commission in all relevant local, regional and international events such as workshops, meetings and other events.

The Permanent Secretariat implements the Annual Work Programs of the Commission on the Protection of the Black Sea Against Pollution in implementation of the Convention on the Protection of the Black Sea Against Pollution, The Black Sea Strategic Action Plan. Concrete activities are the result of coordination with related or relevant national and regional projects/activities, International Financing Agencies and donors, national and regional policy measures and overall efforts of the countries to restore and preserve the environment of the Black Sea.

3.2 Advisory Groups

The following Advisory Groups are established

ESAS – Advisory Group on the Environmental Safety Aspects of Shipping

ICZM - Advisory Group on the Development of Common Methodologies for Integrated Coastal Zone Management

PMA - Advisory Group on the Pollution Monitoring and Assessment

CBD - Advisory Group on the Conservation of Biological Diversity

LBS - Advisory Group on Control of Pollution from Land Based Sources

FOMLR - Advisory Group on the Environmental Aspects of the Management of Fisheries and other Marine Living Resources

IDE - Advisory Group on Information and Data Exchange

The Advisory Groups carry out the following activities in their respective sector:

1. Draft recommendation and provide policy advice to the Black Sea Commission
2. Act as regional consulting bodies for their sector of activity
3. Coordinate regional training exercises, quality monitoring and control and,
4. Provide data and report to the Black Sea Commission within the framework of the established reporting mechanism.

3.3 Activity Centers

Black Sea Activity Centers are regional organs based on existing national organizations in the Contracting Parties, being specialized in a different fields of scientific research or administration and having extensive knowledge, scientific, research and/or management capacity as well as experience with the environmental problems of the Black Sea.

The Activity Centers coordinate the work of the Advisory Groups and have the required capacity to carry project activities related to the implementation or achieving the objectives of the Convention on the Protection of the Black Sea Against Pollution.

4 Mechanisms for Regional Cooperation with the ICPDR

4.1 General Information

The regional cooperation with the ICPDR is based on the MoU signed in 2001 and using the mechanisms of direct consultations between the permanent secretariats of the two regional conventions and regional projects, regular meetings of the Danube/Black Sea Joint Technical Working Group, established reporting formats and mechanism based on commonly agreed sets of indicators for the pollution load and the response of the Black Sea ecosystem.

The Convention on the Protection of the Black Sea Against Pollution, being a ‘shoreline’ convention, i.e. holding no power over the inland activities of the signatory countries, whereas the Convention on Cooperation for the Protection and Sustainable Use of the Danube River, implemented by the International Commission for the Protection of the Danube River (ICPDR) holds power over the transboundary impact originating from the Danube River drainage basin.

There is general agreement that nutrients discharge within the wider Black Sea basin (a term used to indicate 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) largely affect the Black Sea ecosystems, of which a significant amount is attributed to the riverine input of rivers discharging into the Black Sea. Recognizing this, the understanding of the sharing of common strategic goals between the Black Sea Commission and the ICPDR emerged and a Memorandum of Understanding was signed.

The Memorandum of Understanding acknowledges the common strategic goals, defines the range and scope of cooperation and establishes a practical mechanism for immediate implementation – the creation of a Joint Technical Working Group named “Danube-Black Sea Joint Technical Working Group.

The Danube-Black Sea Joint Technical Working Group overall objective is to “to create a common base of understanding and agreement on the changes over time of the Black Sea ecosystem, and the causes of these changes, and to report to both commissions on the results, recommending strategies and practical measures for remedial actions”. It has adopted a work program with a timeframe for implementation of these objectives,

The Terms of Reference, Work Program and Reporting Format of the Danube-Black Sea Joint Technical Working Group are presented in the annexes.

4.2 Recent developments

During the last year further implementation of the ICPDR/BSC MoU has been a basic task for the Commission. After the adoption of the work plan and the Terms of Reference of the Black Sea/Danube Joint Working Group a series of consultations between the two secretariats and the two regional projects took place. A meeting of the JTWG was hosted by the ICPDR with the objectives to:

- assess availability of information on the indicators for the state of the Black Sea as agreed by the Group;
- refine the Work Program of the Group;
- report on the progress in the development of the monitoring and assessment in the two commissions;
- share information on the DABLAS activities in the both commissions.

The main reason for the modification of the Work Program was the need to reflect the requirements of the EC WFD that should be observed at least by two countries in the Black Sea region.

The Group made a number of important practical decisions and clarifications on the indicators, reporting procedures, and also adopted the respective reporting formats. It was decided that the next report will contain data for year 2002, 2001 and 1997 as a reference year. Based on the annual reports, a five-year report will be prepared following common structure, and containing information on trends, natural variability, target values and reference conditions. The first five-year report for the Black Sea will be released in 2006.

Information on the policy measures and investment activities was also presented at the meeting by the two secretariats.

Within the working out of the first Annual Report on the Implementation of the Black Sea Strategic Action Plan on the Rehabilitation and Protection of the Black Sea the pollution load data as well as the values of response indicators were presented. As it is a pilot phase for this type of reporting, the results are to be considered as preliminary ones and a lot of the data require validation. As the first emerging issue that appears from the comparison of the reported data with data presented by ICPDR is to clarify the role of Danube Delta and assess the share of nutrients retained by the Delta. Improvements are needed for assessing total load of nutrients into the Black Sea as well as development of assessment models/schemes taking into account the development of the European Marine Strategy and EU Water Framework Directive. Further work is needed for quantifying quality objectives/target values for the Black Sea along with setting up efficient quality assurance/quality control system for the Black Sea in particular regarding biodiversity indicators.

For the time being data on the pollution in the Danube arms in the Delta reported to the BSC have been used. Starting 2005 the assessment will be based also on the information presented by the ICPDR related to the Reni sampling station before the Delta. The preliminary conclusions seem to be positive, but a detailed analysis and interpretation of the information is expected within the 2005 report.

The pollution data and the data on the Black Sea response are presented in Annex

5 Implementing the Convention on the Protection of the Black Sea Against Pollution - Development of Policies and Regulatory Measures

In implementation of the Convention on the Protection of the Black Sea Against Pollution the policy measures are summarized in a Position Paper relating the Water Framework Directive and the Black Sea Strategic Action Plan.

5.1 Common Principles

Common principles are needed in order to coordinate the efforts of the Black Sea states to improve the ecological status of the Black Sea. An effective and coherent water policy must take account of the vulnerability of aquatic ecosystems located near the coast and estuaries or deltas or in gulfs or relatively closed seas, as their equilibrium is strongly influenced by the quality of inland waters flowing into them. Protection of water status within **river basins** will provide economic benefits by contributing towards the protection of fish populations, including coastal fish populations.

Promoting *sustainable use* and *conserving marine ecosystems* should become the main objective of the strategy for protection and conservation of the marine ecosystem of the Black Sea taking into account the variety of pressures affecting the marine environment like: commercial fishing, oil and gas exploration, shipping, water borne and atmospheric deposition of dangerous substances and nutrients, waste dumping, physical degradation of the habitat due to dredging and extraction of sand and gravel and possible future effects of climate change.

In this context, at regional level is important to preserve, protect and improve the quality of the marine environment through policies based on the **precautionary principle** and on the **principle of preventive actions** that should be taken – environmental damage should be rectified at source, and that the **polluter should pay**.

There are diverse conditions and needs which require different specific solutions. This diversity should be taken into account in the planning and execution of measures to ensure protection and sustainable use of water in the framework of the river basin. Decisions should be taken as close as possible to the locations where water is affected or used.

The **principle of recovery of the costs** of water services, including environmental and resource costs associated with damage or negative impact on the aquatic environment should be taken into account in accordance with, in particular, the **polluter-pays principle**. The use of economic instruments may be appropriate as part of a program of measures.

The success of policies relies on **close cooperation and coherent action** at international, regional and local level, as well as on information, consultation and involvement of the public, including users.

Although most of these principles are stated in the Black Sea SAP, they are not quite explicitly connected to proposed policy measures and even less with targets and objectives. In particular the Chapter on Sustainable Human Development shall be improved and reflect the Black Sea needs and realities taking into account national, European and global initiatives.

5.2 Regional Initiatives

The **Strategic Action Plan for the Rehabilitation and Protection of the Black Sea** was signed in 1996 in the spirit of the United Nations Declaration on Environment and Development (**Rio Declaration**) and **Agenda 21**, reaffirming the States commitment to the rehabilitation and protection of the Black Sea ecosystem and the sustainable development of its resources as expressed, in particular, in the **Bucharest Convention** and the **Odessa Declaration**.

The five year experience (1996- 2000) of the Commission on the Protection of the Black Sea Against Pollution in implementing the Black Sea Strategic Action Plan showed that the Black Sea Coastal States slowly but steadily move towards the goals of the Bucharest Convention and Black Sea Strategic Action Plan although they were too ambitious in setting the BSSAP timeframe. Upon the recommendations of the Black Sea Commission the changes in the BSSAP timeframe were approved by the Ministers of the Environment of the Contracting Parties to the Bucharest Convention on June 14, 2002 in Sofia, Bulgaria.

However the dynamic political and economic changes in the Black Sea coastal states over recent period require corresponding changes in regional Black Sea priorities and actions and their subsequent reflection in the Black Sea SAP with clearly stated and scientifically justified objectives and targets.

5.3 European Initiatives

During recent five years the European Community policy underwent significant development and a Framework for Community Actions in the Field of Water Policy the **Directive 2000/60/EC** of the European Parliament and of the Council has been approved in October 2000.

The purpose of the WFD Directive is “to establish a framework for the protection of inland surface waters, **transitional waters**, **coastal waters** and groundwater which:

(a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;

(b) promotes sustainable water use based on a long-term protection of available water resources;

(c) aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the

priority hazardous substances;

(d) ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and

(e) contributes to mitigating the effects of floods and droughts “

In a line with BSSAP principles the basin wide approach that was fostered by the European Commission through the Ministerial Declaration (Brussels, 2001) and its DABLAS Task Force is being pursued by the Black Sea Coastal States and need wider reflection in the Black Sea Strategic Action Plan.

In order to promote the sustainable use of the seas and conservation of marine ecosystems, including sea beds, estuarine and coastal areas, paying special attention to sites holding a high biodiversity value, the European Commission proposed in 2002 the *Marine Strategy* which should constitute a contribution to the Community Strategy for Sustainable Development and to establish a mechanism for cooperation with non-EU states in order to have a holistic approach to the Black Sea ecosystem.

Possibility for harmonized approach to marine issues between EU Member states and non-EU states shall be taken into consideration and thorough analysis during update process for BSSAP.

5.4 Global Initiatives

The **World Summit on Sustainable Development**, held on Johannesburg in 2002, reaffirmed the central role of **sustainable development**, underling the necessity of **global action** to combat poverty, **depletion of natural resources** and **active protection** of the **environment**. In its implementation plan, the Summit agreed, *inter alia*,

- encourage the application by 2010 of the ecosystem approach to oceans;
- maintain or restore fish stocks to maximum sustainable yields with the aim of achieving these goals for depleted stocks on an urgent basis and where possible before 2015;
- implement the FAO plan for managing fishing capacity by 2005;
- implement the FAO plan to prevent illegal fishing by 2004;
- establish a regular UN process for assessing the state of the marine environment by 2004.

The above targets and the corresponding policy measures that could be undertaken jointly by the Black Sea coastal states shall be incorporated in the updated BSSAP

A variety obligations of the other international legally binding and non-binding agreements to which the Black Sea Coastal States are Contracting Parties shall be harmonized with clear division of responsibilities between Parties involved in order to avoid duplication and overlapping.

5.5 Road Map

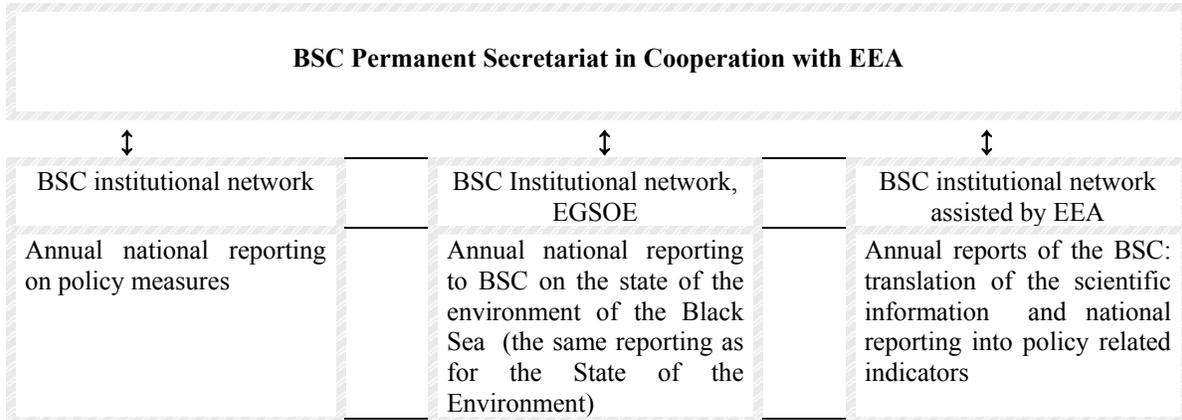
The carefully planned and implemented process of updating the BSSAP will result in comprehensive and ambitious document timely and well prepared for the Meeting of the Contracting Parties of 2007.

1. Under coordination of the Permanent Secretariat to organize the as early as December 2004 expert groups in order to finalize creation of the Black Sea Information System and fine tune data sets and establish data validation procedure for the Black Sea Information System in order to produce indicators for evaluation of BSSAP.
2. In cooperation with European Marine Strategy, EEA, and sister-conventions agree on assessment scheme of the different components of ecosystems and ecosystem phenomena (February-March, 2005) and to propose system of the indicators for these assessments schemes as well as test policy-relevant indicators of EU in the Black Sea
3. Prepare annual sectoral indicator-based reports (July 31, 2005) from which the Annual Report of the Black Sea Commission 2005 will be drafted with clear indication of information and knowledge gaps
4. To the extent possible to fill in information gaps attracting additional expert pool and initiate formulation of research needs and policy needs for the Black Sea Commission March 2006.
5. Prepare the first draft of updated BSSAP (May 2006)
6. Prepare the second draft of update BSSAP (September 2006)
7. prepare improved sectoral annual reports and the five year report on Implementation of the Strategic Action Plan For Rehabilitation And Protection of The Black Sea (SAPIR) 2001-2006.
8. submit the Draft updated SAP to the Black Sea Commission for national consultations September 2006.

Reporting Requirements of the Black Sea Commission as adopted by the 10th Meeting of the Black Sea Commission.

IMPLEMENTATION OF THE STRATEGIC ACTION PLAN FOR REHABILITATION AND PROTECTION OF THE BLACK SEA (SAPIR)
2001-2006

1. SAPIR Information flow



2. Timetable

<i>Activity</i>	<i>Deadlines</i>	<i>Leading Institution</i>	<i>Financial sources</i>	<i>Compliance with deadlines</i>
Fine tuning the reporting formats to BSC on policy measures	April, 2004	BSC institutional network, GEF	BSC, GEF BSERP, TACIS	Delayed due to delays in development of BSIS
Annual national reporting to the BSC on policy measures	September 1 st of each year, starting from 2004	National focal points through BSC member	In – kind contribution by Black Sea Coastal States	Partially, needs improvement
Annual national reporting to BSC on state of the environment (the same as for SOE)	September 1 st of each year, starting from 2004	National focal points through BSC member	In – kind contribution by Black Sea Coastal States	Implemented, needs improvement
Establishing mechanism for cooperation with on-going and emerging projects	March, 2004	EEA, BSC	EEA, BSC	Established close cooperation with EEA, JRC, HELCOM
Preparation of indicator-based annual reports	Starting from 2004	BSC PS, BSC institutional network EEA for the year 2004	BSC PS, EEA, GEF, TACIS	Postponed due to delay with development of BSIS and data collection
Preparation of indicator based five years report in the Implementation of BS SAP 2001-2006	December, 2006	EEA, BSC PS, BSC institutional network	BSC PS, EEA, GEF	
Printing of indicator based five years report in the Implementation of BS SAP 2001-2006	March, 2007	EEA	EEA, BSC	

6 Implementation of the Black Sea Strategic Action Plan

6.1 Negotiation with Contracting Parties for stepwise reduction of pollution and nutrient loads from LBS

The legal basis for cooperative actions and measures in combating pollution of the Black Sea from land-based sources is established in the Protocol on Protection of the Black Sea Marine Environment Against Pollution from Land Based Sources to the Convention on the Protection of the Black Sea Against Pollution and Chapter A: Reduction of Pollution.

During recent years an obvious progress in pollution reduction is observed in the Black Sea coastal states that is clearly seen from the national reporting to the Black Sea Commission. A number of policy measures at the national level that resulted in this improvement are implemented. To the great extent the introduction of river basin management principles widely recognized in the Black Sea coastal states contributed to the process. The implementation of European Water Framework Directive and introduction WFD principles in water management of the Black Sea coastal states gave an additional momentum to pollution reduction as well as provided better basis for cooperation among Black Sea coastal. Specifically by countries the following actions implemented:

Bulgaria	defined river districts and implements European Water Framework Directive
Georgia	intends to apply the principles of EU Water Framework Directive
Romania	defined river districts and implements European Water Framework Directive
Russian Federation	works Federal and regional programs
Turkey	Preparation of National Action Plan for Pollution of Land Based Sources Project. Total amount 85,000,000,000 TL and 90,000,000,000 TL in 2004
Ukraine	defined river districts under the National Program on Development of Water Sector; the National Program on National Program for Rehabilitation and Protection of the Azov and Black Seas, National Program for Rehabilitation Dnipro River and Improvement of Drinking Water Quality, National Program for Rehabilitation and Protection of the Azov and Black Seas;

A vast amount of new legislative and regulatory measures is adopted in the Black Sea coastal states, more specifically improved and newly adopted national legislation on water management and environmental protection in 2002-2004:

Bulgaria:	Environmental Protection Law 25.09.2002; Directive 76/160/EEC transposed in Bulgarian Regulation №11 of 25 February 2002 on the quality of bathing water (State Gazette No.25/08.03.2002); Directive 75/442/EEC on waste transposed in Bulgarian Law on Waste Management (State Gazette No 86/2003); Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ; Regulation № RD-27/17.01.2002 for the establishment of the Basin Directorates in Bulgaria; Regulation № RD – 970/28.07.2003 for determination of sensitive areas in water bodies; Regulation for the activities, organization of work and the staff of the Basin Directorates from 29.01.2002
Georgia:	the Sanitary Code (2003)

Romania:	Order of Ministry of Water , Forestry and Environment Protection no.2781/97 for approving framework methodology for elaboration of preventing and fighting against accidental pollution in using potential polluting waters; GD 730 173/2000 for approval NTPA – 001, which contained regulation, administration and control of pollutants in industrial and municipal waste waters; GD 118/2002 for approval Action Program for reducing aquatic environment pollution from discharged dangerous substances; GD 202/2002 – Ordinance for integrate management for costal zone
Russian Federation:	Federal Law “On Environmental Protection”; Water Code of Russian Federation (11.1996, 167-FZ, amended 08.2004 by Federal Law 122-FZ); Federal Program “South of Russia”, Federal Program “Ecology and Natural Resources of Russia. 2002-2010; Water Code of Russian Federation (11.1996, 167-FZ), article 143; Federal Law "On sanitary and epidemiological well-being of population" (03.1999, 52-FZ, amended 12.2001, 01.2003, 06.2003)
Turkey:	implements the 8 th National Annual Plan; National Environmental Action Plan (NEAP); Accession process to EU Harmonization/Transposition of Legal and Regulatory Framework with the EU Directives; Environmental Impact Assessment Regulation (16.12.2003)
Ukraine:	ratified the Protocol “Water and Health” to the Convention on Protection and Use of Transboundary Water Courses and International Lakes; Implements the National Program on rehabilitation and Protection of the Black Sea ; implemented a project “Inventory of the point sources of pollution in the Azov and Black sea coastal zone (2003); Ukraine: ratified the Protocol “Water and Health” to the Convention on Protection and Use of Transboundary Water Courses and International Lakes (2003); adopted Rules on the protection of the marine water against pollution (2002); National Program of the Reformation of Housing and communal services (2004); the Law of Ukraine on entering the ammendments to some legislative acts of Ukraine to meet ecological requirements in the process of privatisation (2004); the Law of Ukraine on Drinking Water and Water Supply (2003).

The Black Sea Coastal states agreed to use methodological approach to assessment of pressures/impacts on the environment of the Black Sea. In 2003-2004 the BSC institutional network supported by Europe Aid and GEF BSERP initiated and conducted collection of information on pressures/impacts in unified format in agreement with indicators used by EEA. The indicator-based annual report will be published in November 2005 following the implementation of MOU between BSC and EEA. In parallel the ad hoc BSC Working Group on EU Water Framework Directive is working on elaboration of mechanism for using the European WFD directive principles for the purposes of cooperation of candidate and non –EU Black Sea coastal states.

Initiated by GEF BSERP analysis of implementation of the LBS Protocol was implemented by UNEP Global Plan of Actions. Revised version of LBS Protocol and Work Plan for its implementation was drafted and submitted to the Black Sea Commission for consideration.

An essential issue at this stage is practical enforcement of adopted legislation and proper financing of adopted strategies and action plans. The new and realistic investment portfolio shall be proposed to the Black Sea coastal states that fully consider their national priorities and meet their national interests.

6.2 Reduction of pollution from vessels and dumping

6.2.1 Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping

In all Black Sea coastal states dumping of wastes is prohibited by national legislation of the Black Sea coastal states. The dredged spoils are the only wastes that are allowed for dumping by national legislation and by the Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping. Initial screening of the current situation of the dumping operations, initiated by the institutional network of the Black Sea Commission, showed that in all Black Sea coastal states that allow dumping of dredged spoils national legislation exercises environmental impact assessment and have special procedures for organizing dumping sites in marine environment. The Advisory Group made recommendations to the Black Sea Commission to elaborate amendments the Protocol in light of current knowledge and London Dumping Convention. The OSPAR Guidelines for the Management of Dredged Material that fully reflects provisions of London Dumping Convention is tested in the Black Sea. The assistance and advice from IMO will be sought in 2005.

6.3 Contingency planning and emergency response

The Black Sea coastal states and the Black Sea commission pay a special attention to the implementation of the Protocol on Cooperation in Combating Pollution of the Black Sea Marine Environment by Oil and Other Harmful Substances in Emergency Situations.

The increasing amount of oil cargo (information on amount of oil transported through the Black Sea is being validated) and harmful substances (subject for regional study) call for implementation of precautionary principles and readiness to abate accidental pollution.

In 2003 the Black Sea Coastal States: Bulgaria, Romania, and Turkey signed Black Sea Contingency Plan to the Protocol on Cooperation in Combating Pollution of the Black Sea by Oil and Other Harmful Substances in Emergency Situations: Volume I Response to Oil Spills. In Ukraine the Black Sea Contingency Plan was submitted to the Parliament of Ukraine and its approval is expected by the end of year 2004. The signing the Black Sea Contingency Plan is negotiated in the Russian Federation.

6.3.1 National Level Measures

Bulgaria – The Bulgarian National Oil Spill Contingency Plan was revised in terms of the communications. The respective flowchart displaying communications among different institutions, as well as the Annex 19 “Telephone Directory” were revised. All of the revisions were made also into the Black Sea CP at the time of its adoption by the Bulgarian parliament.

Georgia – prepared and awaiting approval of Parliament. Delay with approval is explained by political changes in Georgia; Parts of National Contingency Plans on oil spills are being implemented on practical level by Maritime Transport Administration and port regulation; all Georgian ports have oil spills combating plans even before final approval of the national plan by the Government of Georgia

Romania – the national contingency plan prepared and is being implemented, communication will be improved following the experience of the exercise on combating oil spills.

Russian Federation – the Federal Contingency Plan was approved in July 2003. The Russian Regional Contingency Plan for the Black Sea was updated in line with requirements of IMO and is waiting approval by the Head of Krasnodar Kraij and Rostov Oblast.

Turkey – draft law of “Response and Coverage of Damages in Emergency Conditions of Marine Environment Pollution by oil and other harmful Substances” was submitted to National Assembly for approval and National Contingency Plan will be further developed for its practical implementation.

Ukraine –The national Black Sea contingency plan will be developed after approval of the Black Sea Contingency Plan to the Protocol on Cooperation in Combating Pollution of the Black Sea by Oil and Other Harmful Substances in Emergency Situations: Volume I Response to Oil Spills. At the practical level each port has its own contingency plan and all necessary equipment for handling oil spills.

In promoting implementation of Black Sea Contingency Plan the Advisory Group on Environmental Aspects of Shipping in 2005 will initiate preparation of Black Sea Oil Spill Response and Preparedness exercise tentatively scheduled for 2006. Coordination with all institutions and Black Sea agreements concerned needs to be established and to be focused on practical training exercises and preparedness of national forces.

The whole Black Sea is declared as MARPOL Sensitive Area. Mapping of national MARPOL sensitive areas was supported by GEF BSEP and completed for Bulgaria, Georgia, Romania, and Turkey. The work in Ukraine and the Russian Federation is expected to be finalized by the end of 2004. The maps will be discussed by corresponding Advisory groups and included in the Black Sea Geographic Information System and work of the Black Sea Commission and promoted for introduction into national legislation and practical work.

In realization of the precautionary principle the compliance with requirements of the Memorandum of Understanding on Port State Control in the Black Sea Region (BS MOU), negotiation and signing of which was facilitated by the Black Sea Commission, the regular inspections of ships is conducted in all Black Sea Ports. of 3200 ships inspected in 2002 in ports of Bulgaria, Georgia and Ukraine 2 vessels were detained for a reason of risk of environmental pollution; 3 vessels were detained for the reason of environmental risk in Bulgarian ports in 2003-2004. The Secretariat of MOU on Port State Control conduct regular trainings of the national authorities responsible for port state control in all Black Sea coastal states.

The economic instruments for pollution reduction from vessels were introduced by all Black Sea Coastal States and implemented in the Black Sea coastal states. Harmonization of these economic instruments and Black Sea environmental charges for pollution was discussed and work plan to harmonize them were proposed by the BSC Advisory Group on Environmental Aspects of Shipping.

6.3.2 Regional measures implemented in 2003-2004:

- Elaboration of new Draft Protocol on Pollution Control from Land-Based Sources and draft Work Plan for its implementation
- Elaboration of draft Black Sea Action Plan for implementation of Draft Protocol on Pollution Control from Land-Based Sources
- Establishment of BSC reporting on land-based pollution sources as an integral part of the Black Sea BSC Information System for monitoring of progress in eliminating Black Sea hot spots and overall reduction of pollution from the point land-based sources
- Mapping of MARPOL Sensitivity Area supported by GEF BSERP is done for Bulgaria, Georgia, Romania and Turkey
- Upon positive experience of Romania in application of OSPAR Guidelines on Dredged Materials Management it was recommended by AG ESAS to recommend these guidelines to all Black Sea countries
- Collection of regional information on dumping and elaboration of proper forms for reporting is being conducted

6.4 Assuring biological diversity and sustainable management of living resources (fisheries and protection of habitats and landscapes)

An abrupt reduction of fish stock of the Black Sea under a severe pressure of eutrophication, over fishing and invasion of *Mnemiopsis leidyi* heavily affected the fisheries sector of the Black Sea as well as living of the population depending on fisheries. Absence of agreed Black Sea policy on fishing, insufficient knowledge on fish stocks, in particular its Black Sea scope, lack of Black Sea biological safety limits for fishing make it difficult to implement responsible fisheries in the Black Sea. Meanwhile at the national level the following implemented measures are reported:

6.4.1 National measures implemented in 2003-2004

The following national measures were implemented in 2003-2004:

Bulgaria	Bulgaria Law on Biological Diversity (State Gazette No 77/2002);
Georgia	Basic legislation in place
Romania	Emergency Ruling no. 76/13.06.2002 – modification and completion of the Law no. 192/2001 for fishing facility, fishing and aquaculture; Order no. 277/04.07.2002 – regulation for structure and functioning of the National Company for Fishing Facility Administration; Order no. 330/07.25.2002 for the identification of fish disembarkment points; Order 849/08.29.2002 – regulation for structure and functioning of the Fishing Inspection; Order no. 233/04.04.2003 – instructions for structure and functioning of the fishing facility leasing procedure by auction; Order 553/08.26.2003 – for the obligation of elaboration of bills for fish and other aquatic organisms selling; Order no. 938/11.19.2003 – for structure and functioning of fishery product prices monitoring system; Annual prohibition orders (140/2002; 247/2003; 207/2004).

Russian Federation	more then 25 ship surveys for fish stock assessment ant definition of TAC (Total Allowable Catch) for the Azov and Black seas, TAC are enforced annually by national authorities;
Turkey	Amendments to the Law on Fisheries on penalty, 2004;
Ukraine	annual quotas, prohibition of fishing during spawning periods; prohibition of fishing harmful gears

6.4.2 Regional Actions:

- the Draft Legally Binding Document on Fisheries is finalized and submitted to the Black Sea Commission for the national negotiations
- draft List of Species Whose Exploitation Should be Regulated is finalized and submitted to the Black Sea Commission for national negotiations
- Harmonization of methodologies for stock assessments is initiated and as expected will be finalized in 2005
- Tentatively Black Sea fish stock assessment is planned for 2006 if proper funds will become available

6.5 Biodiversity and Landscape Protection:

In order protect and preserve unique species, habitats and landscapes of the of the Black Sea , the Black Sea coastal states implemented and continue to implement a number of measures; only in 2003-2004 the Black Sea coastal states reported on the following activities and measures:

6.5.1 National Measures

The following national measures were implemented in biodiversity and landscape protection:

Bulgaria	Bulgaria adopted the Biological Diversity Act, Promulgated State Gazette No 77/9.08.2002; adopted the Law on Fishing and Aquacultures, Promulgated State Gazette No 41/24.04.2001; regularly carries out seasonal ship surveys at the R/V "Prof. Valkanov", seasonally by fishing boats in the transects Kaliakra, Galata, Emine, Maslen cape. And by boats up to 6 miles from the shore: Shabla town, Biala town, Tzarevo; monthly at the Cape Galata profile, up to 6 miles from the shore. A National Plan for Cetacean Conservation is in preparation in Bulgaria in the framework of the ACCOBAMS activities.
Georgia	
Romania:	Law no. 451/07.08.2002 for ratification of European Convention for Landscape, adopted at Florence, 10/20/2000; conducted systematic observations ship surveys, aircraft, and other assessing distribution and abundance of cetaceans at the level of 902 in the Romania coastal waters and adjacent sea; data are being processed and analyzed; National Action Plan for Conservation of Marine Mammals was prepared in Romania
Russian Federation	The Russian Federation implemented out 4 projects in cooperation with Ukraine on assessment of abundance and distribution of cetaceans in the Kerch Strait and in the north part of the Black Sea ; 20 ship cruises on assessment of state of plankton and benthic communities in the Azov and Black Seas

Turkey	ratified Black Sea Biological Diversity and Landscape Conservation Protocol on August 12, 2004; ratified Cartagena Protocol on Biosafety on October 24, 2003, ratified European Landscape Convention on June 10, 2003; ratified the Regulation for Conservation of Wetlands (2002); In 2003; introduced the Regulation for Conservation of Wetlands (2002); the a Black Sea stranding network was established by non-governmental organizations. Experts from Sinop, Trabzon and Rize have started to provide data to the network
Ukraine	ratified the Agreement of the conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (2003), ratified European Landscape Convention; carried out 11 projects aimed at assessment of state and conservation of cetaceans as a result of national and bilateral (Ukraine and Russia) initiatives; national program ; Law of Ukraine of 07.02.2002 № 3055-III On Red Book of Ukraine; Degree of the President of Ukraine of 21.02.2002 № 167/2002 On the Territories and Objects of Nature Protection Funds of State Importance; Resolution of the Cabinet of Ministers of Ukraine of 29.04.2002 № 581 On the Approval of the State Program “Forests of Ukraine” for Years 2002 – 2015; Resolution of the Cabinet of Ministers of Ukraine of 29.08.2002 № 1286 On the Approval of the Terms of Reference on Green Book of Ukraine; the Law of Ukraine on ecological network (2004).

Biodiversity and landscape conservation also generously covered by number of international agreements, including Convention on Biodiversity, European Landscape Convention, Bern Convention, RAMSAR Convention, ACCOBAMS, Pan-European Biodiversity and Landscape Strategy and other equally important. The strong coordination of activities is required. In developing and implementing measures for conservation of biodiversity and landscapes the Black Sea Commission

6.5.2 Regional actions

- elaborated draft Strategic Action Plan for Black Sea Biological Diversity and Landscape Conservation Protocol
- elaborated draft Annex II “List of Species of the Black Sea Importance” to the Black Sea Biodiversity and Landscape Conservation Protocol
- elaborated draft Annex IV “List of Species Whose Exploitation Should Be Regulated” to the Black Sea Biodiversity and Landscape Conservation Protocol
- prepared an overview of landscape conservation activities in the Black Sea coastal states

6.6 Black Sea Integrated Monitoring and Assessment Program

The Black Sea Integrated Monitoring and Assessment Program serves as a tool for assessment of efficiency of the national and regional policy measures in rehabilitation and protection of the Black Sea ecosystem.

The main approaches used in the BSIMAP:

- Holistic approach to the Black Sea Ecosystem
- Phased Approach to the BSIMAP Development
- Orientation towards regional decision making (application of DPSIR model)
- Integral Part of the National Monitoring and Assessment Systems

The main objectives set up for BSIMAP development:

- By the year 2005 to establish an optimal monitoring and assessment program with a complete set of technical guidelines, harmonized criteria and quality objectives
- By the year 2007 to prepare a five years scientific report the "State of the Environment of the Black Sea" based on the national monitoring data and scientific studies carried out in the Black Sea

Figure 5: Monitoring Stations of the BSIMAP



The Black Sea Monitoring and Assessment Program of the Black Sea Commission in its first phase is being successfully implemented by the Black Sea Coastal States. In addition the compilation and assessment of national historical information on driving forces, pressures and state of the Black Sea environment and functioning of its ecosystem shall be completed in 2005.

The assessment schemes for basic components of the Black Sea Ecosystem are discussed and the expected drafts will be produced in 2005 in order to use them in preparation of the State of the Environment Report 2006. The development of such assessment schemes is included into the work plan of the Advisory Groups of the Black Sea Commission, 2004-2005. This work will be conducted in close cooperation with sister conventions. The example of such cooperation could be a Joint Workshop on Eutrophication between scientists and experts of institutional networks of the Black Sea Commission and Helsinki Commission initiated by Joint Research Center, Ispra, Italy, held in Istanbul, in April 2004. As a result of such cooperation the proposal for Pan-European Eutrophication Assessment Scheme was produced and will be proposed for European Marine Strategy. Another example could be cooperation with ICPDR in producing eutrophication indicators for assessment of the Danube impact of the Black Sea ecosystem

The collection of regional information as well as the GEF BSERP Pilot Monitoring Exercise on eutrophication indicators showed that setting up Quality Assurance/Quality Control System is the top priority for the Black Sea Integrated Monitoring and Assessment Program. The first inter comparison exercise under auspices of the Black Sea Commission will be organized in 2005.

The monitoring network of the Black Sea Monitoring and Assessment System could be found at the BSC website. It is planned that based on the regionally harmonized information, this monitoring network will be updated and improved in 2005.

6.7 Establishing harmonized institutional and policy/regulatory mechanisms for ICZM (including sustainable agriculture, wetlands restoration and management and tourism development)

6.8 Sustainable Human Development

6.8.1 Environmental Impact Assessment

The environmental impact assessment is a well recognized and widely used tool in the Black Sea coastal states. Only in Turkey 27 positive decisions were issued on environmental impact assessments in 2003-2004. At the same time the Black Sea procedures and arrangements for environmental impact assessment for projects with transboundary impacts needs to be developed. The BSC Advisory Groups that work on harmonization of assessment criteria and their quantitative expression agreed to use baseline level of the state of the Black Sea environment as an initial step towards elaborating such criteria. The first draft of such criteria is expected in 2005 after analysis of collected historical information and scientific data obtained in a number of GEF cruises.

6.8.2 Integrated coastal zone management

The diverse human activities at the Black Sea coasts often results in environmental conflicts and require special attention of policy and decision making. Initial concept and the first approaches as well as the first analysis of the coastal problems were conducted in 1993-1996 in a framework of the GEF BSEP. It took almost 10 years to convert the principles of integrated coastal zone management from debated issues into practical actions at the national level..

6.8.3 National Activities

The following actions were undertaken in 2003-2004 in the Black Sea countries:

Bulgaria	transposition of EU Water Framework Directive
Georgia	World Bank Project on Coastal Management
Romania	Law on Integrated Coastal Zone was adopted and Inter Sectoral ICZM Commission established in Romania

Russian Federation	Methodology for Spatial Planning Within Integrated Coastal Zone Management were developed and Pilot project based on it is implemented for the territory of resort Gelendzhik; ICZM curriculum for universities was prepared and new specialty “Nature Management” in Kuban State University was introduced due to support provided by Europe Aid project. Courses on ICZM were started at the Kuban State University
Turkey -	feasibility studies for transposition of EU Water Framework Directive
Ukraine –	Draft Law on Coastal Zone prepared and distributed for through the public hearings and inter-sectoral consultations; GIS decision support system containing some components of ICZM are created in Crimea, Ukraine; Law “On Ecological Audit” (2004)

At the regional level the following results were achieved by the Black Sea Commission and the Advisory Group on Development of Common Methodology for Integrated Coastal Zone Management:

6.8.4 Regional Policy Measures:

- Draft Black Sea ICZM Strategy is prepared and distributed for national consultations by the ICZM Activity Center. Its development was supported by Europe Aid TACIS
- ICZM Tools and Techniques is submitted for the approval of the Black Sea Commission
- Draft Guidelines for preparation of National Code of Conduct for Coastal Zones were prepared. Countries were supplied with European Code of Conduct for Coastal Zones (English and Russian versions) for the information.
- Guidelines on drafting the National Coastal Codes of Conduct is produced by ICZM Activity Center with support of EuropeAid Technical Assistance to the Black Sea Environmental Program
- Compilation of national information on the state of the Black Sea coast for the Black Sea Information System, organized by the Permanent Secretariat and supported by Europe Aid TACIS and GEF BSERP

In addition Draft English-Russian Glossary of Legal Terms on Integrated Coastal Zone Management was developed; analysis of ICZM legislation for Russia and Ukraine related to the coast and nature conservation completed and recommendations for improvement were proposed; 2 workshops for representatives of 6 Black Sea coastal states were organized and supported by Europe Aid project

6.9 Development of sustainable aquaculture and tourism

The development of sustainable aquaculture and tourism in the Black Sea Coastal came in agenda of the Black Sea coastal states after GEF BSEP Studies 1993-1996. This concept was included into the BSSAP (Chapter C. Sustainable Human Development) but did not receive a proper attention in the work of the Black Sea Commission. At the national level the proper legal and regulatory instruments are introduced in order to promote this concept. The Environmental Impact Assessment is a common procedure for tourist industry, although in some countries it is applied to all projects (Ukraine) in other - to projects that exceed certain capacity (Turkey).

The concept of Blue Flag beaches evolves in the region

Country	<i>BG</i>	<i>GE</i>	<i>RO</i>	<i>RU*</i>	<i>TR</i>	<i>UA</i>
Number of beaches	21	12	16	545	52	49
Blue flag beaches	7	None	none	none	2*	none
Monitoring Frequency	<i>fortnightly</i>	<i>fortnightly</i>	<i>fortnightly</i>	<i>In 10 days</i>		<i>weekly</i>

2* - status of Blue Flag beaches is given for the year 1996. The status of Blue Flag is awarded annually, information for 2003 Blue Flag beaches is not available

The collected historical information on tourism development and its environmental implications will be included in pressure/impact analysis. In particular carrying capacity of beaches and quality of bathing waters should be addressed. By the end of 2004 the information about Black Sea beaches will be uploaded at the BSC webpage for informing the wider public on the quality of bathing waters in the Black Sea.

The aquaculture sector is not well developed in the Black Sea coastal states. In 2001 Black Sea coastal states reported on 2 enterprises in Georgia, 2 enterprises in Romania, 11 enterprises in Turkey, more than 10 enterprises in Ukraine. Most of these enterprises are fish rearing farms (sturgeon, turbot, grey mullet, trout, etc.). The data on production, species, technologies used in aquaculture, etc are included in the national reporting to BSC. The impact of their aquaculture enterprises on biodiversity of the Black Sea shall be a separate feasibility study for the region.

Any aquaculture project as any human activity with possible environmental impact is a subject for environmental impact assessment in all Black Sea coastal states. The investment projects included in the GEF BSERP studies on sustainable aquaculture were not realized in the region. The results of demonstration projects implemented under TACIS and PHARE programs (1996-2001) were not disseminated among the Black Sea Coastal states

6.10 Involving the public in environmental decision making

The importance of involving public into decision and policy making is recognized and at the national level public hearings on environmental projects, legislations, and other measures are provisioned in the national legislation in all Black Sea Coastal States. The Black Sea Commission granted a status of BSC observer to the Black Sea NGO Network. The Black Sea NGOs actively involved and dedicate many activities to the International Black Sea Day – October 31. As a rule each Black Sea regional project have a small grants program for supporting NGOs activities.

The main tool of informing public on activities of the Black Sea Commission employed by the Black Sea is the BSC webpage www.blacksea-commission.org. A number of projects aimed at rehabilitation and protection of the Black Sea, development of educational as well as public awareness materials were implemented, elaborated or published in 2003-2004 due to support of GEF BSERP and Europe Aid Technical Assistance to the Black Sea Environmental Program. The Booklet on Responsible Fisheries development of which was supported by GEF BSEP and Turkish NGO TUDAV will be published in all Black Sea languages before end of 2004.

7 Implementation of the Black Sea Investment Programme

7.1 Funding sources for investment in the environment

The Black Sea countries Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine although having different levels of GDP per capita, and having made different progress in market reforms all share a two common financing sources for the financing environmental projects and programs: (a) the countries' centralized national budgets, (b) regional or municipal funds. For investments in the environmental sector, however, co-financing from IFI's, donors and other agencies is required. Bankability of environmental projects as well as ensuring that technical and environmental performance standards are met greatly increases the possibilities for attracting donor funding and loans. This is also closely related with the countries' overall progress on the path of economic and structural reforms, economic growth and stability.

A summary of financing sources is presented below:

Country	National Budget	Regional/ Municipal Budget	Specialized National Funds	International Financing
Bulgaria	Yes	Yes	National Environmental Protection Fund, Municipal Environmental Protection Funds	EC Pre- accession funds IBRD; GEF; UNDP, other EBRD; EIB; USAID, other
Georgia	Yes	Yes		IBRD; GEF; UNDP, other USAID, other
Romania	Yes	Yes	Under development with the aid of USAID	EC Pre- accession funds IBRD; GEF; UNDP, other EBRD; EIB; USAID, other
Russian Federation	Yes	Yes	Yes	Yes
Turkey	Yes	Yes		IBRD; GEF; UNDP, other EBRD; EIB; USAID, other
Ukraine	Yes	Yes	State Environmental	IBRD; GEF; UNDP, other

Country	National Budget	Regional/ Municipal Budget	Specialized National Funds	International Financing
			Fund (grants); State Fund for Environmental Incentives (loans)	EBRD; EIB; USAID, other

7.2 Priority Investment Projects

The priority investment projects for the Black Sea countries as identified in a DABLAS study (2002/2003), their environmental effect, expressed in terms of nutrient reduction are summarized below:

Countries	Number of projects	Average reduction of:			
		BOD	COD	N	P
Bulgaria	16	70%	69%	71%	75%
Georgia	6	84%	56%	75%	79%
Romania	8	88%	61%	79%	8%
Turkey	26	53%	53%	90%	90%
Ukraine	19	71%	81%	73%	74%

7.3 Estimated project cost:

The estimated project costs are presented below:

Country	Bulgaria	Georgia	Romania	Turkey	Ukraine
Structural/ non- structural	15/0	5/0	6/0	26/0	19/0
Total value (mil. EUR)	111+	113+	37+	to be estimated	131+
Co-financing schemes proposed	✓	✓	✓	✓	✓
Population connected (million)	0.4	0.3	0.1	6.0	
Population benefiting (million incl. downstream)	1.2	0.5	0.8	8.6	

7.4 Project Prioritization Criteria

The First Meeting of the DABLAS Working Group on Prioritization, Brussels, 18 April 2002 developed further elaborated on during the Second Meeting of the DABLAS Prioritization Working Group project prioritization criteria. The criteria were finalized and corresponding weights were assigned to each factor in subsequent work of the DABLAS Task Force.

Following the refinement and grouping into four criteria groups by the The ICPDR and the Black Sea Permanent Secretariats into:

<ul style="list-style-type: none"> • Environmental criteria 	based on health impacts, effects on the aquatic environment, Aesthetics & landscaping, biodiversity conservation, downstream benefits: BOD & COD load reduction, Sensitivity of the receiving water body, proposed treatment techniques, EIA status, and effects of the project
<ul style="list-style-type: none"> • Black sea impact 	The Black Sea impact criteria include mainly the load reduction in N and P
<ul style="list-style-type: none"> • Economic/financial criteria 	The economic and financial criteria were derived from (a) direct cost effectiveness criteria and (b) wider expected economic benefits. The Bankability of a project is not easily be derived from the data gathered and data availability in the countries. For one, economic and financial internal rates of return where calculated, have varying representation, thus obscuring comparability. e meaning of this may vary due ro . and to this end indirect indicators such as income per capita and tariff structure information (as far as this was available), international donor commitment and allocation of local (national, regional and municipal) funds were used
<ul style="list-style-type: none"> • Compliance criteria 	The compliance criteria include national/regional/accession priority(ies). In evaluating this criteria the distance to the national border was also taken into consideration in view of transboundary pollution issues and compliance with transboundary pollution reduction commitments of the countires

7.5 Project database

A project database was designed and developed for the purpose of compiling and systematizing project fact sheets. The database allows accessing and analyzing the data through a familiar Microsoft Office ® interface (i.e. the data may be extracted, analyzed and manipulated in Microsoft Excel spread sheets, reports may be developed and presented in Microsoft Word ®). Further an interface was developed for assessment of the sensitivity of criteria to project fact sheet data. Detailed information on the structure and use of the data is available in the annexes to this report.

Annex 1

Advisory Groups to the Commission on the Protection of the Black Sea Against Pollution

The Black Sea Strategic Action Plan defines the Advisory Groups, their sector of responsibility as follows:

1. *Advisory Group on the Environmental Safety Aspects of Shipping coordinated by the Activity Centre in Varna, Bulgaria.*

The Group will coordinate the regional approach to emergency response, particularly the international response to accidents involving the extraction, maritime transport, handling and storage of oil and, where relevant, hazardous chemicals. It will also coordinate, on behalf of the Commission, regional aspects of implementation of the MARPOL Convention defined in the BS-SAP. Furthermore, it will assist with the elaboration of port-state-control procedures defined in the BS-SAP. Particular attention will be paid to developing a strong working relationship between Ministers of Environment and Transport both internationally and within corresponding national focal points. It will collaborate closely with all relevant institutions and governmental bodies, international organizations (such as IMO, WMO, IOC) and the private sector (shipping, oil and gas industries).

2. *Advisory Group on Pollution Monitoring and Assessment coordinated by the Activity Centre in Odesa, Ukraine*

The work of this Group shall focus upon the establishment of a regionally coordinated network of National Status and Trends monitoring programmes and the subsequent development of Environmental Quality Objectives. Specifically, the Group shall provide the following services: (1) Quality Assurance/Quality Control services for environmental chemical analysis (2) Coordination of pilot monitoring activities (3) Coordination of regional training exercises in monitoring (4) coordination of regional multi-disciplinary expert consultations to develop common environmental objectives and standards for different water uses in the Black Sea. The Group shall collaborate closely with the Advisory Group on the Environmental Aspects of the Management of Fisheries and other Living Marine Resources for the development of a region-wide programme for monitoring the biological effects of pollution to be incorporated in the regional monitoring strategy. The Group shall collaborate with National Monitoring Networks and research institutions in all Black Sea countries, international research programmes and projects and bodies such as IAEA's Marine Environmental Laboratory, IOC's Expert Groups, UNEP, WHO and WMO. (5) the coordination, in close cooperation with WHO of programmes to monitor the quality of bathing waters and beaches and to assess the human health implications of the information gathered.

3. *Advisory Group on Control of Pollution from Land Based Sources coordinated by the Activity Centre in Istanbul, Turkey*

The Group will provide technical support for actions related to the assessment and control of discharges of pollution from land-based sources (direct discharges, river inputs

and diffuse sources, including atmospheric deposition). It will cover the following areas: (1) the development and diffusion of improved methodology for measuring discharges of pollutants; (2) the gathering of data from National Focal Points regarding discharges; (3) the coordination of activities to improve permitting procedures; (4) the development/harmonization of pollution discharge models and scenarios in order to assist with the establishment of scientific criteria for setting permit levels/emission standards; and The major partners of the Group shall be regional inspectorates of pollution (or their equivalent) and, at an international level, the Secretariat of the Global Programme of Action for Protection of the Marine Environment from Land-based Activities.

4. *Advisory Group on the Development of Common Methodologies for Integrated Coastal Zone Management coordinated by the Activity Centre in Krasnodar, Russia*

The Group will facilitate the exchange of information and experience on ensuring sustainable resource use, including recreational use by tourists in the coastal zones of Black Sea countries, and develop methodologies for coastal zone management, with particular reference to threats to the environment arising from the transition to market economies. The Group will coordinate and supervise the elaboration of draft recommendations of the Commission in the field of integrated coastal zone management and, based on common methodology, assist with the introduction of contemporary principles of environmental management, such as “Best Available Technology” and “Best Environmental Practices”. On the basis of the agreed common principles and the achievements and experience gained in the Black Sea countries, the Group will coordinate the preparation of Regional Integrated Coastal Zone Management Programme as well as to provide assistance for the preparation of national programmes. This Group will work in very close cooperation with the OECD and any other appropriate international institutions.

5. *Advisory Group on the Conservation of Biological Diversity coordinated by the Activity Centre in Batumi, Georgia*

The Group will provide coordination and technical support for actions taken to protect biological diversity in the Black Sea according to the provisions of the Odesa Declaration, Black Sea Strategic Action Plan, the UN Convention on Biological Diversity and the Pan-European Strategy on Landscape and Biological Diversity. The Group will prepare inventories of the biodiversity and regularly update them, in order to evaluate the trends and recommend remedial actions. It will also gather historical records of changes in biological diversity (a large amount of information is available for the Black Sea). The Group will elaborate a Regional Biological Diversity Conservation Strategy as well as Draft Biological Diversity and Landscape Protection Protocol to the Convention on the Protection of the Black Sea Against Pollution. The Group will coordinate the preparation of a Red Data Book on the endangered species.

6. *Advisory Group on the Environmental Aspects of the Management of Fisheries and other Marine Living Resources coordinated by the Activity Centre in Constanta, Romania*

The Advisory Group will basically function to coordinate activities and provide technical support for the protection and restoration of marine ecosystems. However, pending the adoption of the Fisheries Convention, the Advisory Group will gather the basic source of

information related to the fisheries capture, stock, installed capacity and aquaculture projects. The data will be gathered from all national authorities and should include historical records in order to document past changes in the production and stock in the region and its relationship to changes in marine ecosystems. It will provide the basic source of information for future management strategies and for the implementation of the future Fisheries Convention. The Group will develop proposals and, where appropriate, coordinate the following: (1) harmonization at the regional level of a legal and institutional framework aimed at sustainable use of living marine resources; (2) improvement of Black Sea fisheries resource assessment based on a regional approach; (3) development of projects for the protection and rehabilitation of living resources; (4) development of specific projects for aquaculture techniques which do not harm biological diversity. The Group will collaborate with regional and international institutions (such as GFCM) governmental bodies and the private sector.

7. Advisory Group on Information and Data Exchange to be coordinated by the Commission Secretariat

This Group shall focus its work on the improvement of information flow and data exchange. It will be responsible for the following specific tasks: (1) Updating of the existing Black Sea Information System and Black Sea Geographical Information System, (2) Updating of the Black Sea Bibliography, (3) Strengthening of the e-mail network and improvement of Internet connection to the Web Server services for principle data centres and Ministries of Environment for the exchange of information and data, including exchange of meta data, (4) Development of the regional Internet facility comprising meta level information on environmental data (how to locate the data), sets of the new data obtained from various international programmes, including those of the Commission, copies of historical data opened for public use, data sets from main World data centres such as WDC, GRID and others, (6) Cooperation and data exchange with different international programmes in the Black Sea region (such as NATO-TU, EROS-21, CoMSBlack, etc.), (7) Cooperation and data exchange with the NGO Network, (8) Organization of training on data exchange, and (9) Assistance to other networks in the region.

All Advisory Groups' Terms of Reference, outlining their Institutional Status, , tasks, responsibilities, interaction within the \Black Sea institutional Structure, cooperation with other parties and stakeholders and reporting requirements, developed and endorsed by the Black Sea Commission may be viewed at the Commission's web page (www.blacksea-commission.org).

Annex 2

Institutional Set Up of the Danube/Black Sea Joint Technical Working Group

Terms of Reference for the Danube-Black Sea Joint Technical Working Group

1. Scope of the Working Group

The mandate of this 'Joint Technical Working Group' between the Black Sea Commission and the ICPDR is to reinforce the cooperation and to develop appropriate mechanisms for the implementation of the MoU between the BSC and the ICPDR on common strategic goals.

2. Objective of the Working Group

To create a common base of understanding and agreement on the changes over time of the Black

Sea ecosystem, and the causes of these changes, and to report to both commissions on the results, recommending strategies and practical measures for remedial actions.

3. Key Activities of the Working Group

1. Description and assessment of existing monitoring systems in the Black Sea Convention area (institutional responsibilities and data availability at the national and regional levels, etc.)
2. Development of a regional monitoring programme for the Black Sea Convention area.
3. Development of ecological status indicators in the Black Sea Convention area.
4. Review methodology and update assessment in the Black Sea Convention area.
5. Development and update (when necessary) of reporting format and procedures for the annual report to both commissions on the input loads and assessed ecological status (based on identified indicators) in the Black Sea Convention area
6. Draft annual report to both commissions in line with procedures set out in #5.
7. Development of reporting format and procedures for periodic reporting (5 years) on measures undertaken for the reduction of nutrients and hazardous substances in the DRB in line with JAP and in the Black Sea Convention area in line with the SAP.
8. Draft report to both commissions in line with procedures set out in #7.
9. In relation to the findings, draft recommendations, taking into account the outputs/results of economic analysis of nutrient reduction measures done under GEF Projects on appropriate measures to limit discharge of nutrients and hazardous substances.
10. Develop mechanism for enhancing information sharing on strategic goals and programmes for reduction of nutrients and hazardous substances in the DRB and the Black Sea Convention area.

4. Definition of the Working Group and its Reporting Obligations

This 'Joint Technical Working Group' will be constituted upon agreement of both the BSC and the ICPDR. The results and recommendations prepared by the Group will serve to provide guidance for decision-making at the level of the Commissions.

All reports of the Joint Technical Working Group will be prepared in line with the work programme and will be submitted to both Commissions for approval and further action and to the GEF.

To fulfil its mandate the Joint Technical Working Group will take into account the strategies and measures of the ICPDR JAP and the BS SAP.

The Working Group activities will be supported by both the Danube and the Black Sea GEF Regional Projects.

5. Composition of the Working Group

The composition of the Joint Technical Working Group is as follows:

For the ICPDR:

1. The Chairman of the MLIM EG (Monitoring, Laboratory and Information Management),
2. The Chairman of the EMIS EG (Emission),
3. Representative of the Permanent Secretariat with expertise in technical and scientific issues;

For the Danube/BS countries (contracting parties to both conventions):

Experts with technical/scientific expertise from Bulgaria, Romania and Ukraine, proposed by both the respective Head of Delegation to the ICPDR and the Black Sea Commission member.

For the Black Sea Commission:

Experts with technical/scientific expertise from Georgia, Russian Federation and Turkey and representatives (3) of the Permanent Secretariat/Advisory Group to the BSC.

For the UNDP-GEF Projects – the Project Manager or his/her representative.

The Working Group may consult other groups and individuals as it deems necessary to carry out its tasks.

Chairmanship – The Joint Technical Working Group will select the Chairman amongst its members. The chairmanship shall alternate on an annual basis between the representatives of the ICPDR and the BSC.

6. Time Frame of the Working Group

The Group will begin its work after approval of the Terms of Reference and the Work Programme by both Commissions.

The time frame of the activities of the Joint Technical Working Group is part of the Work Programme as follows.

Activity	Timeframe
1. Description and assessment of existing monitoring systems in the Black Sea Convention area (institutional responsibilities and data availability at the national and regional levels, etc.)	Nov 2002
2. Development of a regional monitoring programme for the Black Sea Convention area including:	
a. Monitoring programs for load inputs (riverine, coastal point sources and diffuse sources incl. airborne pollution)	Sep 2003
b. Monitoring programmes for ecological status in the Black Sea (incl. remote sensing)	Sep 2003
c. Analytical quality assurance system	Sep 2003
3. Development of ecological status indicators in the Black Sea Convention area	Nov 2002
4. Review methodology and update assessment in the Black Sea Convention area on:	Meth.: May 2003 Assess: Dec 2004
d. point and non-point sources of pollution (cause)	
e. ecological status of the Black Sea incl. eutrophication (effect)	
5. Development and update (when necessary) of reporting format and procedures for the annual report to both commissions on the input loads and assessed ecological status (based on identified indicators) in the Black Sea Convention area	Nov 2002
6. Draft annual report to both commissions in line with procedures set out in #5.	Jun 2003, (data 2000/2001)
7. Development of reporting format and procedures for periodic reporting (5 years) on measures undertaken for the reduction of nutrients and hazardous substances in the DRB in line with JAP and in the Black Sea Convention area in line with the SAP with particular attention to:	Jun 2004
f. Implementation of policy measures addressing reduction of nutrients and hazardous substances from diffuse sources of pollution	
g. Implementation of investment projects addressing reduction of nutrients and hazardous substances from point sources of pollution	
h. Analysis of results on monitoring of loads and ecological status.	
8. Draft report to both commissions in line with procedures set out in #7.	Jun 2007
9. In relation to the findings, draft recommendations, taking into account the outputs/results of economic analysis of nutrient reduction measures done under GEF Projects on appropriate measures to limit discharge of nutrients and hazardous substances	As appropriate
10. Develop mechanism for enhancing information sharing on strategic goals and programmes for reduction of nutrients and hazardous substances in the DRB and the Black Sea Convention area.	continuously

Reporting Format of the Danube Black Sea Joint Technical Working Group

The following text shows what should be included in a annual and five years reports to the Black Sea Commission and ICPDR. The annual report will enable the both Commission to assess ecological trends in the Black Sea and trends in nutrients and pollution. Presentation of proposed table by charts and graphs will be discussed if sufficient information will be presented in proposed tables.

- **Introduction**

The goal and function of the annual and five years reports shall be an assessment of Danube influence on the Black Sea environment and functioning of the Black Sea ecosystem of the Black Sea due pollution reduction measures and response of the Black Sea ecosystem to this reduction.

- **Geography and scope**

The geographical boundaries and scope (i.e. the environmental features and anthropogenic activities to be covered) clearly defined at the beginning of the report. The definition of boundaries should the coastal zone of the Black Sea, including its extension into rivers and catchments areas, as well as marine boundaries.. For the Danube river the extension into the river and its catchments areas shall be reported by ICPDR.

The environmental features to be addressed should encompass the major components of the sea (i.e. seawater, sediments and biota) as well as ecological conditions of Danube delta (ICPDR).

- **Hydrography and climate**

In this chapter a brief description of the morphological changes in Danube delta supported by the satellite images of the Danube morphological feature3s and plumes should be given in comparative manner for reported years.

Water Discharges of the Major Rivers into the Black Sea, th.m³/year

Years	Danube	Bulgarian Rivers	Romanian Rivers	Russian rivers	Turkish Rivers	Ukrainian Rivers
2001						
2000						
1997						

Discharge of suspended matter into the Black Sea, th.t per year

2001						
2001						
1997						

Transparency (Secchi disk) of marine coastal waters in the Black Sea

2001						
2001						
1997						

Transparency (Secchi disk) of Danube waters at the entrance into the Black Sea

2001						
2001						
1997						

Brief description of the role of climate change in the overall Danube river discharges, major flood events, etc should be reported

- **Chemistry**

In this chapter data for river inputs of nutrients and priority pollutants should be presented in compatible manner

Nutrients and Pollutants

Nutrients Discharges from Major Black Sea Rivers

Country	Year	Danube**	Bulgaria*	Georgia	Romania*	Russian Federation	Turkey	Ukraine
N-NH4	2001							
	2000							
	1997							
N-NO3	2001							
	2000							
	1997							
N-NO2	2001							
	2000							
	1997							
N-inorg.	2001							
	2000							
	1997							
N-org.	2001							
	2000							
	1997							
N-total	2001							
	2000							
	1997							
P-PO4	2001							
	2000							
	1997							
P total	2001							
	2000							
	1997							
Si-SiO3	2001							
	2000							
	1997							
BOD5	2001							
	2000							
	1997							

** reported by ICPDR

* except of Danube

Direct Discharge of Nutrients from the Land-Based Point Pollution Sources into the Black Sea

Country	Year	Bulgaria	Georgia	Romania	Russian Federation	Turkey	Ukraine
N-NH4	2001						
	2000						
	1997						

N-NO3	2001						
N-inorg.	2001						
N-total	2001						
	2000						
	1997						
P-PO4	2001						
	2000						
	1997						
P total	2001						
	2000						
	1997						
BOD5	2001						
	2000						
	1997						
Si (SiO4)	2001						
	2000						
	1997						

Concentrations of Nutrients in the coastal waters of the Black Sea

Country Nutrient	Year	Bulgaria	Georgia	Romania	Russian Federation	Turkey	Ukraine
N-NH4	2001						
	2000						
	1997						
N-NO3	2001						
	2000						
	1997						
N-NO2	2001						
	2000						
	1997						
N-inorg.	2001						
	2000						
	1997						
N-org.	2001						
	2000						
	1997						
N-total	2001						
	2000						
	1997						
P-PO4	2001						
	2000						
	1997						
P total	2001						
	2000						
	1997						
BOD5	2001						
	2000						
	1997						
Si-SiO3	2001						
	2000						
	1997						

Inputs of the Black Sea Priority Pollutants from Hot Spots in the Black Sea Heavy Metals

Pollutant	Years	Bulgaria	Georgia	Romania	Russian Federation	Turkey	Ukraine
Cd	2001						
	2000						
	1997						
Cu	2001						
	2000						
	1997						
Pb	2001						
	2000						
	1997						
Hg	2001						
	2000						
	1997						

Inputs of heavy metals from rivers of the Black Sea

Pollutant	Years	Danube	Bulgaria*	Georgia	Romania *	Russian Federation	Turkey	Ukraine
Cd	2001							
	2000							
	1997							
Cu	2001							
	2000							
	1997							
Pb	2001							
	2000							
	1997							
Hg	2001							
	2000							
	1997							

* - all rivers discharging into the Black Sea, excluding Danube

Concentrations of Heavy Metals in coastal waters, bottom sediments and biota of the Black Sea

Country	Cd			Co			Pb			As		
	2001	2000	1997	2001	2000	1997	2001	2000	1997	2001	2000	1997
Water												
Bulgaria												
Georgia												
Romania												
Russian Federation												
Turkey												
Ukraine												
Bottom Sediments												
Bulgaria												
Georgia												

Country	Cd			Co			Pb			As		
	2001	2000	1997	2001	2000	1997	2001	2000	1997	2001	2000	1997
Romania												
Russian Federation												
Turkey												
Ukraine												
Biota												
Bulgaria												
Georgia												
Romania												
Russian Federation												
Turkey												
Ukraine												

Inputs of Organic Pollutants from the land-based point pollution sources into the Black Sea

Country	Yeas	Bulgaria	Georgia	Romania	Russian Federation	Turkey	Ukraine
DDT	2001						
	2000						
	1997						
HCH	2001						
	2000						
	1997						
PCB	2001						
	2000						
	1997						
PAHs	2001						
	2000						
	1997						
Hydrocarbons	2001						
	2000						
	1997						
Phenols	2001						
	2000						
	1997						
Detergents	2001						
	2000						
	1997						

Concentrations of Organic Contaminants in the coastal waters, bottom sediments and biota of the Black Sea

Country Media	DDT			HCH			PAHs			PCBs		
	2001	2000	1997	2001	2000	1997	2001	2000	1997	2001	2000	1997
Water												
Bulgaria												
Georgia												
Romania												

Country Media	DDT			HCH			PAHs			PCBs		
	2001	2000	1997	2001	2000	1997	2001	2000	1997	2001	2000	1997
Russian Federation												
Turkey												
Ukraine												
Bottom Sediments												
Bulgaria												
Georgia												
Romania												
Russian Federation												
Turkey												
Ukraine												
Biota												
Bulgaria												
Georgia												
Romania												
Russian Federation												
Turkey												
Ukraine												

Country	Hydro carbons			Phenols			Detergents		
	2001	2000	1997	2001	2000	1997	2001	2000	1997
Water									
Bulgaria									
Georgia									
Romania									
Russian Federation									
Turkey									
Ukraine									
Bottom Sediments									
Bulgaria									
Georgia									
Romania									
Russian Federation									
Turkey									
Ukraine									
Biota									
Bulgaria									
Georgia									
Romania									
Russian Federation									
Turkey									
Ukraine									

Assessment of Danube impact

The final subsection should distinguish between the specific impact of substances originated from the Danube river, from the influence of particular anthropogenic activities (e.g. dredging) in the Black Sea, and from the effects naturally observed on the marine environment

- **Biology**

In the first part of this chapter chlorophyll a concentrations and their relationship with nutrient concentrations and nutrient inputs from Danube along with total biomass and number of species shall be analysed. The composite satellite images of chlorophyll-a shall be presented and discussed in order to incorporate spatial coverage in the Black Sea.

	Years	Bulgaria	Georgia	Romania	Russian Federation	Turkey	Ukraine
Chlorophyll - a	2001						
	2000						
	1997						
Phytoplankton biomass	2001						
	2000						
	1997						
Number of phytoplankton species	2001						
	2000						
	1997						
Zooplankton biomass	2001						
	2000						
	1997						
Number of zooplankton species	2001						
	2000						
	1997						
Zoobenthos biomass, total	2001						
	2000						
	1997						
Number of zoobenthos species	2001						
	2000						
	1997						

- **Key Species**

The key species of phytoplankton, zooplankton and benthos shall be discussed. The spatial and temporal variation in the populations of key species of phytoplankton, zooplankton and benthos is relationship with nutrient concentrations and fluxes should be presented. An attempt should be made to distinguish between natural perturbations and those that might result from anthropogenic activities. In order to prove that the negative effects observed in the Black Sea ecosystem are not related with pollution and nutrient fluxes from

Danube, the similar information on biological components and chemical pollution are required for the Danube delta as the final section of the Danube river. If no disturbance of ecosystem is observed in the Danube delta, the negative effects of the Black Sea ecosystem in particular in coastal and transitional waters might be caused by other factors.

- **Overall Assessment**

The overall assessment should consist of a discussion and an analysis of the national reporting within the context of Danube impact on the Black Sea environment and ecosystem and assessment of likely improvement of the Black Sea ecosystem in response to nutrient reduction if such reduction will be reported by ICPDR and the Black Sea coastal states. It should identify deficiencies in the scientific and socio-economic information necessary to resolve these problems and concerns, and to improve the predictive capability and assessment of risks

Annex 3 Preliminary Results of the Monitoring and Assessment

Following the reported information on inputs of nutrients from rivers, land-based point pollution sources the remarkable progress is observed. Response of the Black Sea ecosystem followed the reduction of inputs progressively. This progress could be demonstrated by the satellite images on chlorophyll a, kindly provided to the Black Sea Commission by the Joint Research Center of European Commission, Ispra, Italy.

Reduction of Pollution:

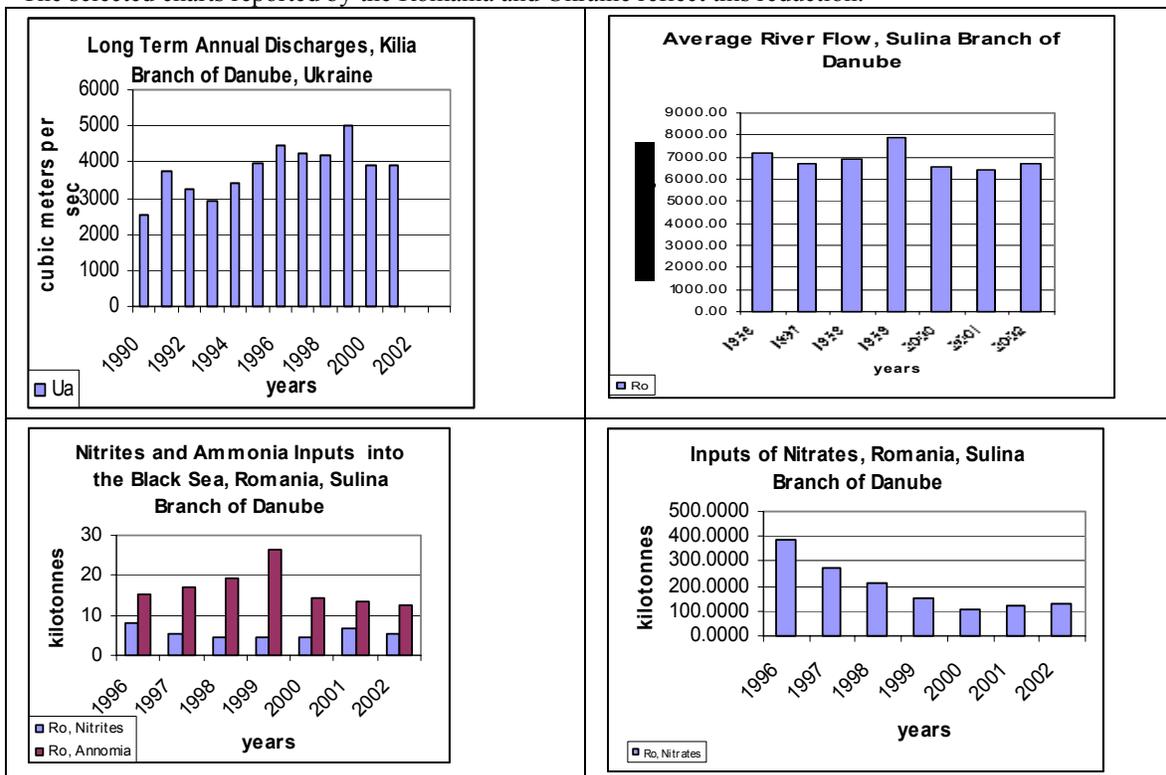
The BSC Institutional network and the Permanent Secretariat supported by Europe Aid Technical Support to the Black Sea Environmental Program and GEF BSERP conducted collection of historical information on pressures on the Black Sea environment. The purpose of this collection was three dimensional:

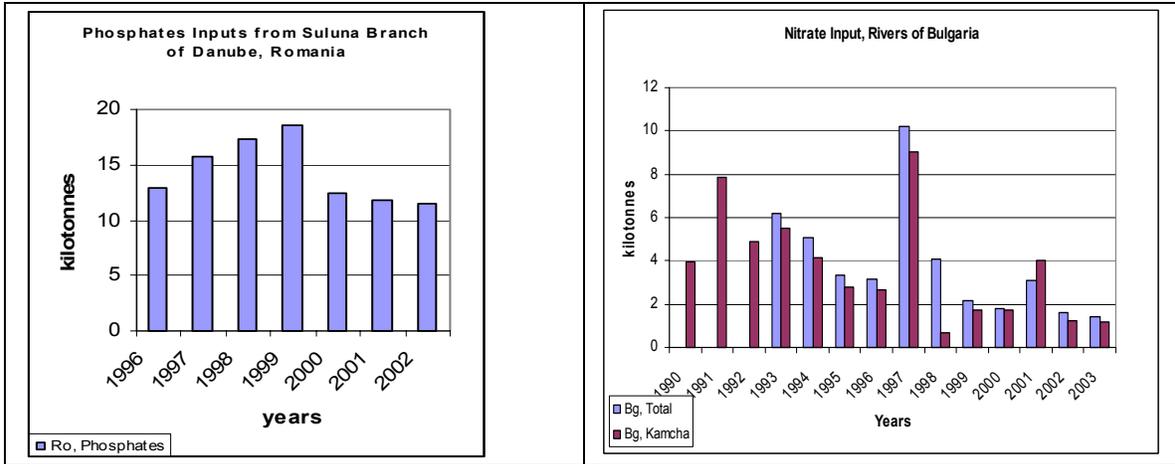
- Assess comparability of the statistical and scientific information available in the Black Sea coastal states on driving forces, pressures, impacts and state of the Black Sea
- Assess trends in major driving forces , pressures and states on the Black Sea environment
- Elaborated criteria for assessment of impact on the Black Sea environment and indicators on pressure reduction for policy and decision making (target values, quality objectives, etc.)

Each policy measure is illustrated by information of selected countries. Complete assessment of pressures/impacts will be conducted in 2004-2005.

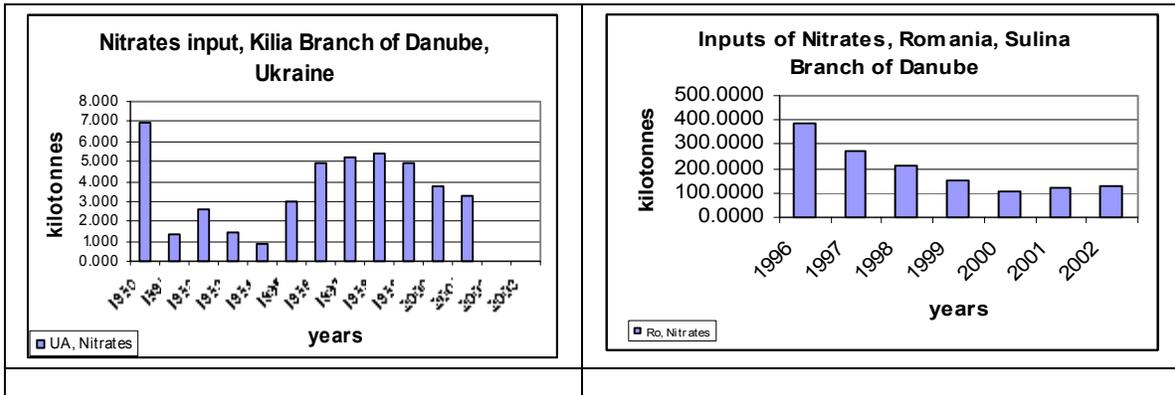
Inputs with rivers:

Rivers draining into the Black Sea represent a variety of pressures originating from the vast Black Sea basin. Of 14 most important rivers the Danube river continues to bring the biggest share of nutrients to the Black Sea although during recent years the inputs of nutrient with Danube waters is progressively reducing. The selected charts reported by the Romania and Ukraine reflect this reduction.





While Ukraine reports for nitrate discharge about 5 kilotons through Kilia branch and Romania reported that through the Sulina branch of the Danube the Black Sea receives up to 100 kilotons of nitrates, total nitrate load estimated by ICPDR reported by ICPDR input of nitrates in 2001 constituted 437 kilotons.



A preliminary estimation suggests that the wetlands of Danube delta could retain at least 25% of nitrates.

Annex 4 Prioritization Criteria

Introduction

The first meeting of the DABLAS Prioritization Working Group identified the need to review and update existing project lists of the Danube and the Black Sea Commissions, and to select priority projects in the field of municipal wastewater treatment.

A data gathering exercise was carried out by employing national consultants from the Black Sea countries to collect, verify, systematize data on priority investment projects, and to determine the national, regional and local authorities' commitment to these projects.

The data was gathered in standardized fact sheets, containing basic and extended information to allow quantification and analyses of the data.

Development of Criteria for Project Ranking

The outline for development of criteria was adopted at the First Meeting of the DABLAS Working Group on Prioritization, Brussels, 18 April 2002 and further elaborated on during the Second Meeting of the DABLAS Prioritization Working Group, Brussels, 07 October 2002. The DABLAS Working Group Meeting to be held on the 10 January 2003, Brussels decided on finalizing the weight and selection of criteria.

Following the refinement and grouping into four criteria groups by the The ICPDR and the Black Sea Secretariats into:

- Environmental criteria
- Black sea impact
- Economic/financial criteria
- Compliance criteria

some additional work was still needed after the third meeting of the Prioritization Working Group on the 10th January 2003 to make sure the reports correctly reflect the “bankability” criteria. For this purpose the economic criteria are referred to as Financial/Economic (Bankability)

Country Summaries

The country summaries are based on a total of 67 project sheets were developed for Bulgaria, Georgia, Romania, Turkey and Ukraine. Russia did not respond. Key data is presented below:

Country summaries of selected municipal wastewater treatment projects

	Number of projects	Average reduction of:			
		BOD	COD	N	P
Bulgaria	16	70%	69%	71%	75%
Georgia	6	84%	56%	75%	79%
Romania	8	88%	61%	79%	8%
Turkey	26	53%	53%	90%	90%
Ukraine	19	71%	81%	73%	74%

Environmental Impact Criteria

The environmental impact criteria adopted are based on health impacts, effects on the aquatic environment, Aesthetics & landscaping, biodiversity conservation, downstream benefits: BOD & COD load reduction, Sensitivity of the receiving water body, proposed treatment techniques, EIA status, and effects of the project.

Black Sea Impact Criteria

The Black Sea impact criteria include mainly the load reduction in N and P.

Economic/Financial (Bankability) Criteria

The economic and financial criteria were derived from (a) direct cost effectiveness criteria and (b) wider expected economic benefits. The Bankability of a project is not easily be derived from the data gathered and data availability in the countries. For one, economic and financial internal rates of return where calculated, have varying representation, thus obscuring comparability. e meaning of this may vary due ro . and to this end indirect indicators such as income per capita and tariff structure information (as far as this was available), international donor commitment and allocation of local (national, regional and municipal) funds were used.

Direct Cost Effectiveness Criteria

The direct cost effectiveness criteria comprise a cost effectiveness ratio based on the aggregation of 4 parameters (BOD, COD, Total N, P), the economic and financial viability, the project preparation stage and the project affordability

Indirect Cost Effectiveness Criteria

These include the indirect benefits derived from the project such as recreational value, economic development opportunities, etc.

Recent proposals of the DABLAS Prioritization work group suggest that the financial/economic criteria be renamed to potential financier interest (whereby bankability of the projects is derived from a potential donor survey, willingness to pay and affordability data) and reassign currently used indicators for this group in the Environmental Impact and Black Sea Impact groups. Application of this is pending following explicit agreement on application from all experts.

Compliance Criteria

The compliance criteria include national/regional/accession priority(ies). In evaluating this criteria the distance to the national border was also taken into consideration in view of transboundary pollution issues and compliance with transboundary pollution reduction commitments of the countries.

Summary and scoring

A complex criteria was developed based on several (criteria) components. A summary of the criteria components developed is presented in the table below. Where detailed project data is available these criteria may be expressed in numerical form allowing projects to be prioritized and ranked.

Environmental Impact Criteria Components

Component (Reference)	Notes
1. Distance to national border (Black Sea Coast)	The distance to the Black Sea and the national border was taken into consideration where those closer than 50 km were given 1 point and those further were conditionally scored 0

Component (Reference)	Notes
Description of Project Justification, Health benefits, Aquatic environment, Recreation, Aesthetics/landscaping, Biodiversity conservation	The verbal description and classification as “extremely high”, “high”, “average”, “medium”, used in the project sheets follows uniform guidelines and criteria used by the national consultants, which include: a) significant impact areas, b) number and type of downstream users, c) percentage of population connected to sewers, d) Biodiversity restoration, sanitation benefits, etc.
Wastewater treatment techniques proposed (mechanical treatment, complete biological treatment, N-elimination, Elimination, Sludge treatment)	These were evaluated giving one point each
BOD, COD, P and N Reduction	The reduction of BOD, COD, P, N as evaluated as follows: reduction less than 50% - 0 points reduction of 50% - 70% - 1 point Reduction of 70% - 90% - 1.5 points Reduction of more than 90% - 2 points
EIA Status and results	The availability and results of an EIA was assumed to directly indicate the expected improvements in the environment a completed positive EIA thus scores 2 points and an EIA in progress – 1 point. A non existing EIA was not given any points
Experts statement of effects on project	The verbal description corresponding to previously distributed guidelines was ranked 1 – 4 and the average used in the final score
Description of sensitivity of water body	Points 1 – 3 were given for a tentative scaling of description to compensate lack of data or exact studies

Black Sea Impact Criteria

Component (Reference)	Notes
1. N and P reduction	The N and P scaling ration used above was applied

Financial Economic (Bankability) Criteria

Component (Reference)	Notes
Load reduction per unit cost	The load reduction in BOD, N and P per unit cost for a range of values was adopted. Scaling 0, 1, and 2 for ranges below 0.005, 0.005 – 0.01 and above
Indicators such as income per capita and tariff structure information (as far as this was available), international donor commitment and allocation of local (national, regional and municipal) funds were used.	Countries where affordability was low (cost recovery water/wastewater tariff : average monthly income is greater than 10%) received a score of 0, whereas others - 1

Compliance Criteria

Component (Reference)	Notes
National Priority	Those which were marked as of “urgent” priority in political or other investment documents, National Investment Programs, (or ISPA projects – where applicable) scored 3, those marked as “high” priority projects – 2 and those marked as “medium “1”
Funding from national or municipal sources	It was assumed that if funding from national or municipal budgets was secured then these projects would be of high national priority

Criteria weights and criteria weight normalization

The weights of the above described brutto score may be normalized (to give all criteria equal weight 25%) in the total scoring as baseline comparison for project ranking . This is summarized below

	Environmental	Black Sea Impact	Financial	Compliance	Total
Maximum score	28.7	8	7	12	55.7
Minimum score	0	0	2	8	10
% weight	52%	14%	13%	22%	100%
Normalized weight	25%	25%	25%	25%	100%

Intercomparison with priority investment projects in the Danube river basin ICPDR

The criteria and components are identical to those developed by the ICPDR. To ensure accurate correspondence between project data and criteria values assigned the, raw data row references in the project fact sheets employed by the Black Sea Commission and the ICPDR are presented below.

Detailed Prioritization Criteria/Reference to ICPDR

Environmental Impact Criteria			Black Sea Impact			Economic/Financial			Compliance Criteria		
I			II			III			IV		
Description	Fact Sheet Ref	ICPDR Ref	Description	ICPDR Ref	ICPDR Ref	Description	Fact Sheet Ref	ICPDR Ref	Description	Fact Sheet Ref	ICPDR Ref
Health benefits	1.2.1	I.2	Load Reduction N	II	II	Cost Effectiveness Ration	several	III.1	National/ Accession Priority	1.1.5	IV.1
Aquatic Environment	1.2.2	I.1	Load Reduction P	II	II	Recreational Value	1.2.3		Transboundary Effect		
Aesthetics & Landscaping	1.2.4					Economic Development Opportunities	1.2.6, 1.2.4		Project Implementation	1.4	IV.2
Biodiversity Conservation	1.2.5	I.1				Available Documentation in English	2.1		Priority	1.1.5	IV.4
Downstream benefits: Load Reduction BOD	1.3.5, 1.3.6	I.5				Co-funding			Distance to national border	1.1.21	IV.1
Load Reduction COD	1.3.6	I.5				Economic & Financial Viability	3.5	III.2	Local financial commitment	3.6.4, 3.6.5, 3.6.6	IV.2
Description of the sensitivity of the receiving water body	3.2.4	I.1				Project Preparation Stage	3.6	III.2	EU wastewater discharge requirements	1.1.3, 1.1.5	IV.3
Proposed Techniques	1.5	I.3				Aesthetics & Landscaping	1.2.4				
EIA Status	3.2	I.7				Project Affordability	Other sources	III.4			
Effects of the project	3.3	I.5				Aquatic environment	1.2.2	II			

Summary by Country

The country summaries are presented below:

Bulgaria

Title	BOD	COD	N	P	Investment cost (EUR)
Wastewater treatment plant Meden Rudnik	375	515	0.0841	15	10,206,220
Wastewater treatment plant Veliki Preslav	157	254	18.2784	1.8	2.300,813
Wastewater treatment plant Novi Pazar and Kaspichan	187	299	25.3821	2.6	
Wastewater treatment plant Sunny Beach / Ravda /	110	263	9.52388	0.5	
Wastewater treatment plant Sredez	210	n/a	5026.05	10	1,278,230
Wastewater treatment plant Ahtopol	201	327	2.822545	12	
Wastewater treatment plant Sozopol		n/a	0		
Wastewater treatment plant Pomorie	109	230	0	0.3	
Wastewater treatment plant Targovishte	3723	7 258	0		15235,915
Wastewater treatment plant Shumen	167.8	260,6	155.49	5.05	13662,000
Wastewater treatment plant Asparuhovo, Varna	199	323	0		14318,000
Wastewater treatment plant Dalgopol	202.7	605,2	0		
Wastewater treatment plant Shabla	334	614	9.60461	7.4	749,668.9
Wastewater treatment plant Beloslav	262.2	559,1	0		
Wastewater treatment plant Balchik	200	405	68.406	7.4	30460,000
Wastewater treatment plant Provadia	101	no data	0		

Turkey

Turkey	BOD	COD	N	P	Investment cost (EUR)
Trabzon Deep Sea Outfall					
Samsun Sewerage Project (under loan negotiation for implementation)					
Trabzon Wastewater Treatment Plant					
Zonguldak Wastewater Treatment Plant					
Giresun Wastewater Treatment Plant					
Ordu Wastewater Treatment Plant					

Turkey	BOD	COD	N	P	Investment cost (EUR)
Bafra Wastewater Treatment Plant (biological treatment commissioned)					
Ereğli Wastewater Treatment Plant					
Eskişehir					
Ünye (West) Wastewater Treatment Plant					
Ünye (East) Wastewater Treatment Plant					
Sea Outfall completed in 1996					
Sea outfall completed in 1991					
Sea Outfall completed in 1991					
Treatment Plant of Organised Industrial Zone					
Treatment Plant of Organised Industrial Zone					
Treatment Plant of Organised Industrial Zone					
Bartın Wastewater Treatment Plant					
Georgia	BOD	COD	N	P	Investment cost (EUR)
Improvement of the sewerage system and construction for WWTP of Poti City	780	872	710.532	12	78,000,000
Rehabilitation of the sewerage system and WWTP for Kutaisi city	3061	3628	10806.24	159	44,000,000
Improvement of the sewerage system and construction of WWTP for Kobuleti resort	383	454	1753.57	61	12,900,000
Rehabilitation of the sewerage system and WWTP for Batumi city	2061	2304	4801.5	33	20,000,000
Rehabilitation of oily waste water reception facilities in Batumi port			0		850,000
Construction of oily waste water reception facilities in Poti port			0		250,000

Romania	BOD	COD	N	P	Investment cost (EUR)
SOUR WATER STRIPPING UNITS			181.332	783.96	
BIOLOGICAL WASTEWATER TREATMENT SYSTEM	191.15	427.4	1339.4		

Romania	BOD	COD	N	P	Investment cost (EUR)
WASTE MANAGEMENT IN CONSTANTA PORT – ECOLOGICAL LANDFILL			0		
WASTE MANAGEMENT IN CONSTANTA PORT – INCINERATOR			0		
WASTE MANAGEMENT IN CONSTANTA PORT – WWTP	550	1241	148.6992	0.3	
WASTE WATER MANAGEMENT IN CONSTANTA PORT-Collection ship			0		
Rehabilitation and modernization of WWTP of Medgidia	173	70	0		
Rehabilitation and modernization of WWTP of Poarta Alba, County of Constanta	236	16.569	46548.93	3.0082	
Waste Water Treatment Plant Mangalia					
Waste Water Treatment Plant Constanta Sud					
Waste Water Treatment Plant Eforie Sud					
Waste Water Treatment Plant Constanta Nord					

Ukraine

Ukraine	BOD	COD	N	P	Investment cost (EUR)
Project design and construction of waste water treatment facilities in Kyrlyivka			0		
Construction of sewer pumping station No 5a with high pressure collectors (Kirov Street, Mykolaiv)			0		
Reconstruction and Expansion of the Waste Water Treatment Facilities, Berezanka Settlement	409.5	1055.7	11694.6	0.99	676,690.9
Reconstruction and Expansion of the capacity WWTP and construction of the pressure collector, city of Yepatoria	102.2		4808.255	45.2	181,818.2
Reconstruction and Expansion of WWTP, city of Mykolaiv	887		1906.011	184	630,795.6
Reconstruction of the WWTP and construction of the pressure sewer collection, Karsnopertekopsk, Crimea			0		690,909.1
Completion of Construction of the the tird pipeline of pressure collector from main pumping station to WWTP, city of Yalta, second phase	230.8		5398.35	59.5	502,727.3
Reconstruction of Waste Water Treatment Facilities, city of	36.8		67.16682	8	1254,545

Ukraine	BOD	COD	N	P	Investment cost (EUR)
Gurzuf, Crimea					
Reconstruction and Expansion of the Waste Water Treatment Facilities, Bondarenkivky			0		3,866,909
Reconstruction and Expansion of the Ordzhonikidze Waste Water Treatment Facilities, city of Kerch			0		4,381,818
Reconstruction of Municipal Waste Water Treatment Facilities, city of Saky	399		0	25.6	852,909.1
Reconstruction of waste water treatment facilities of the city of Sudak	35	9	0		1,191,273
Construction of Southern Waste Water Canalization System, City of Odesa	1812		39967.5	233	
Construction of facilities for sludge treatment and discharge of treated waste waters from biological treatment facilities of the WWTP "Pivnichni" and deep sea discharge, City of Odesa			0		8,218,182
Construction of Waste Water Treatment Facilities, City of Belgorod -Dnistrovsky	18		12	2	327,272.7
Reconstruction and Expansion of Waste Water Treatment Facilities, city of Prymorsk	24		0		
Reconstruction and Expansion of Main Pumping Canalization Station, City of Mykolaiv			0		
Construction of drainage system with a station for pumping of ground waters and construction of drainage system for protection of district "Matrosska Sloboda" against raising water table in the city of Berdiansk			0		
Expansion and Reconstruction of Waste Water Treatment Facilities, City of Kherson	154.8267	1548.267	28.52782	140.7515	16,076,764

Projects Ranking

The project ranking was carried out according to a brutto sum ranking and according to normalization of the weights of the criteria.

Project ranking by brutto sum of score

Project Title	Country	Environmental Criteria	Black Sea Impact	Economic/Financial	Compliance	Total score
Reconstruction And Expansion Of The Waste Water Treatment Facilities, Berezanka Settlement	Ukraine	25.4	8	4	12	49.4
Wastewater Treatment Plant Shabla	Bulgaria	26.2	7	5	10	48.2
Wastewater Treatment Plant Meden Rudnik	Bulgaria	28.7	5	4	10	47.7
Wastewater Treatment Plant Ahtopol	Bulgaria	28.7	6	3	10	47.7
Wastewater Treatment Plant Balchik	Bulgaria	28.7	5	4	10	47.7
Wastewater Treatment Plant Veliki Preslav	Bulgaria	25.7	6	4	10	45.7
Wastewater Treatment Plant Shumen	Bulgaria	25.7	4	4	10	43.7
Wastewater Treatment Plant Sunny Beach / Ravda /	Bulgaria	23.7	6	3	10	42.7
Wastewater Treatment Plant Sredez	Bulgaria	22.7	6	4	10	42.7
Wastewater Treatment Plant Asparuhovo, Varna	Bulgaria	28.2	0	4	10	42.2
Waste Management In Constanta Port - Wwtp	Romania	23	4	3	12	42
Expansion And Reconstruction Of Waste Water Treatment Facilities, City Of Kherson	Ukraine	20	7	3	12	42
Reconstruction And Expansion Of Wwtp, City Of Mykolaiv	Ukraine	22.6	7	4	8	41.6
Wastewater Treatment Plant Novi Pazar And Kaspichan	Bulgaria	20.7	6	3	10	39.7
Rehabilitation And Modernization Of Wwtp Of Poarta Alba, County Of Constanta	Romania	20	4	3	12	39
Reconstruction Of The Wwtp And Construction Of The Pressure Sewer Collection, Karsnopertekopsk, Crimea	Ukraine	24	0	3	12	39
Reconstruction Of Waste Water Treatment Facilities, City Of Gurzuf, Crimea	Ukraine	21.6	4	3	10	38.6
Wastewater Treatment Plant Targovishte	Bulgaria	24.2	0	4	10	38.2
Wastewater Treatment Plant Pomorie	Bulgaria	20.7	4	3	10	37.7
Improvement Of The Sewerage System And Construction Of Wwtp For Kobuleti Resort	Georgia	17.1	8	2	10	37.1

Project Title	Country	Environmental Criteria	Black Sea Impact	Economic/Financial	Compliance	Total score
Improvement Of The Sewerage System And Construction For Wwtp Of Poti City	Georgia	17.1	5	2	12	36.1
Reconstruction Of Municipal Waste Water Treatment Facilities, City Of Saky	Ukraine	17.9	2	4	12	35.9
Completion Of Construction Of The The Tird Pipeline Of Pressure Collector From Main Pumping Station To Wwtp, City Of Yalta, Second Phase	Ukraine	17.6	4	4	10	35.6
Wastewater Treatment Plant Beloslav	Bulgaria	22.2	0	3	10	35.2
Rehabilitation Of The Sewerage System And Wwtp For Kutaisi City	Georgia	18	5	2	10	35
Reconstruction And Expansion Of The Capacity Wwtp And Construction Of The Pressure Collector, City Of Yepatoria	Ukraine	14.2	4	4	12	34.2
Wastewater Treatment Plant Sozopol	Bulgaria	20.7	0	3	10	33.7
Rehabilitation Of The Sewerage System And Wwtp For Batumi City	Georgia	15.7	4	2	12	33.7
Project Design And Construction Of Waste Water Treatment Facilities In Kyrlyivka	Ukraine	19.6	0	2	12	33.6
Rehabilitation And Modernization Of Wwtp Of Medgidia	Romania	18	0	3	12	33
Reconstruction And Expansion Of The Waste Water Treatment Facilities, Bondarenkivky	Ukraine	19.4	0	3	10	32.4
Wastewater Treatment Plant Dalgopol	Bulgaria	19.2	0	3	10	32.2
Wastewater Treatment Plant Provadia	Bulgaria	19.2	0	3	10	32.2
Sour Water Stripping Units	Romania	10.4	8	3	10	31.4
Reconstruction And Expantion Of The Ordzhonikidze Waste Water Treatment Facilities, City Of Kerch	Ukraine	18.4	0	3	10	31.4
Construction Of Southern Waste Water Canalization System, City Of Odesa	Ukraine	15.2	4	2	10	31.2
Construction Of Waste Water Treatment Facilities, City Of Belgorod - Dnistrovsky	Ukraine	14.2	2	3	12	31.2
Samsun Sewerage Project (Under Loan Negotiation For Implementation)	Turkey	18	0	3	10	31
Waste Management In Constanta Port - Incinerator	Romania	17.6	0	3	10	30.6
Waste Water Management In Constanta Port-Collection Ship	Romania	17.2	0	3	10	30.2

Project Title	Country	Environmental Criteria	Black Sea Impact	Economic/Financial	Compliance	Total score
Reconstruction And Expansion Of Waste Water Treatment Facilities, City Of Prymorsk	Ukraine	16.2	0	2	12	30.2
Biological Wastewater Treatment System	Romania	14.4	4	3	8	29.4
Waste Management In Constanta Port - Ecological Landfill	Romania	16.2	0	3	10	29.2
Construction Of Facilities For Sludge Treatment And Discharge Of Treated Waste Waters From Biological Treatment Facilities Of The Wwtp "Pivnichni" And Deep Sea Discharge, City Of Odesa	Ukraine	16.2	0	3	10	29.2
Construction Of Sewer Pumping Station No 5a With High Pressure Collectors (Kirov Street, Mykolaiv)	Ukraine	16.4	0	2	10	28.4
Reconstruction Of Waste Water Treatment Facilities Of The City Of Sudak	Ukraine	15.4	0	3	10	28.4
Reconstruction And Expantion Of Main Pumping Canalization Station, City Of Mykolaiv	Ukraine	16.4	0	2	10	28.4
Rehabilitation Of Oily Waste Water Reception Facilities In Batumi Port	Georgia	15.6	0	2	10	27.6
Construction Of Oily Waste Water Reception Facilities In Poti Port	Georgia	15.6	0	2	10	27.6
Eskişehir	Turkey	15	0	2	10	27
Treatment Plant Of Organised Industrial Zone	Turkey	15	0	2	10	27
Treatment Plant Of Organised Industrial Zone	Turkey	15	0	2	10	27
Trabzon Wastewater Treatment Plant	Turkey	14	0	2	10	26
Zonguldak Wastewater Treatment Plant	Turkey	14	0	2	10	26
Giresun Wastewater Treatment Plant	Turkey	14	0	2	10	26
Ordu Wastewater Treatment Plant	Turkey	14	0	2	10	26
Bafra Wastewater Treatment Plant (Biological Treatment Commissioned)	Turkey	14	0	2	10	26
Ereğli Wastewater Treatment Plant	Turkey	14	0	2	10	26
Trabzon Deep Sea Outfall	Turkey	12	0	2	10	24
Sea Outfall Completed In 1996	Turkey	14	0	2	8	24
Construction Of Drainage System With A Station For Pumping Of Ground Waters And Construction Of Drainage System For Protection Of Districk :Matrosska Sloboda" Arint Raising Water Table In The City Of Berdiansk	Ukraine	2.2	0	2	10	14.2

Project Title	Country	Environmental Criteria	Black Sea Impact	Economic/Financial	Compliance	Total score
Ünye (West) Wastewater Treatment Plant	Turkey	0	0	2	8	10
Ünye (East) Wastewater Treatment Plant	Turkey	0	0	2	8	10
Sea Outfall Completed In 1991	Turkey	0	0	2	8	10
Sea Outfall Completed In 1991	Turkey	0	0	2	8	10
Treatment Plant Of Organised Industrial Zone	Turkey	15	0	2	10	
Bartın Wastewater Treatment Plant	Turkey	14	0	2	10	
Rize Wastewater Treatment Plant	Turkey	15	0	2	10	
Sinop Wastewater Treatment Plant	Turkey	14	0	2	10	
Waste Water Treatment Plant Mangalia	Romania	17	2	4	12	
Waste Water Treatment Plant Constanta Sud	Romania	17	5	6	12	
Waste Water Treatment Plant Eforie Sud	Romania	15	3	6	12	
Waste Water Treatment Plant Constanta Nord	Romania	16	4	7	12	

Project ranking by normalized criteria

Project Title	Country	Environmental criteria (normalized)	BSI criteria (normalized)	Financial Criteria (normalized)	Compliance (normalized)	Total
		25%	25%	25%	25%	100%
Reconstruction And Expansion Of The Waste Water Treatment Facilities, Berezanka Settlement	Ukraine	22.12	25	14.28571	25	86.41115
Wastewater Treatment Plant Shabla	Bulgaria	22.82	21.875	17.85714	20.83333	83.38778
Waste Water Treatment Plant Constanta Sud	Romania	14.81	15.625	21.42857	25	76.86193
Waste Water Treatment Plant Constanta Nord	Romania	13.94	12.5	25	25	76.43728
Wastewater Treatment Plant Veliki Preslav	Bulgaria	22.39	18.75	14.28571	20.83333	76.25581
Wastewater Treatment Plant Meden Rudnik	Bulgaria	25	15.625	14.28571	20.83333	75.74405
Wastewater Treatment Plant Balchik	Bulgaria	25	15.625	14.28571	20.83333	75.74405
Wastewater Treatment Plant Ahtopol	Bulgaria	25	18.75	10.71429	20.83333	75.29762
Expansion And Reconstruction Of Waste Water Treatment Facilities, City Of Kherson	Ukraine	17.4216	21.875	10.71429	25	75.01089
Wastewater Treatment Plant Sredez	Bulgaria	19.77352	18.75	14.28571	20.83333	73.64257
Reconstruction And Expansion Of Wwtp, City Of Mykolaiv	Ukraine	19.68641	21.875	14.28571	16.66667	72.51379
Wastewater Treatment Plant Sunny Beach / Ravda /	Bulgaria	20.6446	18.75	10.71429	20.83333	70.94222
Wastewater Treatment Plant Shumen	Bulgaria	22.38676	12.5	14.28571	20.83333	70.00581
Waste Water Treatment Plant Eforie Sud	Romania	13.0662	9.375	21.42857	25	68.86977
Wastewater Treatment Plant Novi Pazar And Kaspichan	Bulgaria	18.03136	18.75	10.71429	20.83333	68.32898
Waste Management In Constanta Port - Wwtp	Romania	20.03484	12.5	10.71429	25	68.24913
Improvement Of The Sewerage System And Construction Of Wwtp For Kobuleti Resort	Georgia	14.89547	25	7.142857	20.83333	67.87166
Rehabilitation And Modernization Of Wwtp Of Poarta Alba, County Of Constanta	Romania	17.4216	12.5	10.71429	25	65.63589
Sour Water Stripping Units	Romania	9.059233	25	10.71429	20.83333	65.60685
Reconstruction And Expansion Of The Capacity Wwtp And Construction Of The Pressure Collector, City Of Yepatoria	Ukraine	12.36934	12.5	14.28571	25	64.15505
Completion Of Construction Of The The Tird Pipeline Of Pressure Collector From Main Pumping Station To Wwtp, City Of Yalta, Second Phase	Ukraine	15.33101	12.5	14.28571	20.83333	62.95006

Project Title	Country	Environmental criteria (normalized)	BSI criteria (normalized)	Financial Criteria (normalized)	Compliance (normalized)	Total
Reconstruction Of Waste Water Treatment Facilities, City Of Gurzuf, Crimea	Ukraine	18.81	12.5	10.71429	20.83333	62.86295
Improvement Of The Sewerage System And Construction For Wwtp Of Poti City	Georgia	14.89547	15.625	7.142857	25	62.66333
Wastewater Treatment Plant Pomorie	Bulgaria	18.03136	12.5	10.71429	20.83333	62.07898
Reconstruction Of Municipal Waste Water Treatment Facilities, City Of Saky	Ukraine	15.59233	6.25	14.28571	25	61.12805
Waste Water Treatment Plant Mangalia	Romania	14.80836	6.25	14.28571	25	60.34408
Wastewater Treatment Plant Asparuhovo, Varna	Bulgaria	24.56446	0	14.28571	20.83333	59.68351
Rehabilitation Of The Sewerage System And Wwtp For Kutaisi City	Georgia	15.67944	15.625	7.142857	20.83333	59.28063
Rehabilitation Of The Sewerage System And Wwtp For Batumi City	Georgia	13.67596	12.5	7.142857	25	58.31882
Reconstruction Of The Wwtp And Construction Of The Pressure Sewer Collection, Karsnopertekopsk, Crimea	Ukraine	20.90592	0	10.71429	25	56.62021
Wastewater Treatment Plant Targovishte	Bulgaria	21.08014	0	14.28571	20.83333	56.19919
Construction Of Waste Water Treatment Facilities, City Of Belgorod - Dnistrovsky	Ukraine	12.36934	6.25	10.71429	25	54.33362
Construction Of Southern Waste Water Canalization System, City Of Odesa	Ukraine	13.24042	12.5	7.142857	20.83333	53.71661
Biological Wastewater Treatment System	Romania	12.54355	12.5	10.71429	16.66667	52.42451
Rehabilitation And Modernization Of Wwtp Of Medgidia	Romania	15.67944	0	10.71429	25	51.39373
Wastewater Treatment Plant Beloslav	Bulgaria	19.33798	0	10.71429	20.83333	50.8856
Wastewater Treatment Plant Sozopol	Bulgaria	18.03136	0	10.71429	20.83333	49.57898
Project Design And Construction Of Waste Water Treatment Facilities In Kyrlyivka	Ukraine	17.07317	0	7.142857	25	49.21603
Reconstruction And Expansion Of The Waste Water Treatment Facilities, Bondarenkivky	Ukraine	16.89895	0	10.71429	20.83333	48.44657
Wastewater Treatment Plant Dalgopol	Bulgaria	16.72474	0	10.71429	20.83333	48.27236
Wastewater Treatment Plant Provadia	Bulgaria	16.72474	0	10.71429	20.83333	48.27236
Reconstruction And Expantion Of The Ordzhonikidze Waste Water Treatment Facilities, City Of Kerch	Ukraine	16.02787	0	10.71429	20.83333	47.57549
Samsun Sewerage Project (Under Loan Negotiation For Implementation)	Turkey	15.67944	0	10.71429	20.83333	47.22706

Project Title	Country	Environmental criteria (normalized)	BSI criteria (normalized)	Financial Criteria (normalized)	Compliance (normalized)	Total
Waste Management In Constanta Port - Incinerator	Romania	15.33101	0	10.71429	20.83333	46.87863
Waste Water Management In Constanta Port-Collection Ship	Romania	14.98258	0	10.71429	20.83333	46.5302
Reconstruction And Expansion Of Waste Water Treatment Facilities, City Of Prymorsk	Ukraine	14.1115	0	7.142857	25	46.25436
Waste Management In Constanta Port - Ecological Landfill	Romania	14.1115	0	10.71429	20.83333	45.65912
Construction Of Facilities For Sludge Treatment And Discharge Of Treated Waste Waters From Biological Treatment Facilities Of The Wwtp "Pivnichni" And Deep Sea Discharge, City Of Odesa	Ukraine	14.1115	0	10.71429	20.83333	45.65912
Reconstruction Of Waste Water Treatment Facilities Of The City Of Sudak	Ukraine	13.41463	0	10.71429	20.83333	44.96225
Construction Of Sewer Pumping Station No 5a With High Pressure Collectors (Kirov Street, Mykolaiv)	Ukraine	14.28571	0	7.142857	20.83333	42.2619
Reconstruction And Expantion Of Main Pumping Canalization Station, City Of Mykolaiv	Ukraine	14.28571	0	7.142857	20.83333	42.2619
Rehabilitation Of Oily Waste Water Reception Facilities In Batumi Port	Georgia	13.58885	0	7.142857	20.83333	41.56504
Construction Of Oily Waste Water Reception Facilities In Poti Port	Georgia	13.58885	0	7.142857	20.83333	41.56504
Eskişehir	Turkey	13.0662	0	7.142857	20.83333	41.04239
Treatment Plant Of Organised Industrial Zone	Turkey	13.0662	0	7.142857	20.83333	41.04239
Treatment Plant Of Organised Industrial Zone	Turkey	13.0662	0	7.142857	20.83333	41.04239
Treatment Plant Of Organised Industrial Zone	Turkey	13.0662	0	7.142857	20.83333	41.04239
Rize Wastewater Treatment Plant	Turkey	13.0662	0	7.142857	20.83333	41.04239
Trabzon Wastewater Treatment Plant	Turkey	12.19512	0	7.142857	20.83333	40.17131
Zonguldak Wastewater Treatment Plant	Turkey	12.19512	0	7.142857	20.83333	40.17131
Giresun Wastewater Treatment Plant	Turkey	12.19512	0	7.142857	20.83333	40.17131
Ordu Wastewater Treatment Plant	Turkey	12.19512	0	7.142857	20.83333	40.17131
Bafra Wastewater Treatment Plant (Biological Treatment Commissioned)	Turkey	12.19512	0	7.142857	20.83333	40.17131
Ereğli Wastewater Treatment Plant	Turkey	12.19512	0	7.142857	20.83333	40.17131
Bartın Wastewater Treatment Plant	Turkey	12.19512	0	7.142857	20.83333	40.17131
Sinop Wastewater Treatment Plant	Turkey	12.19512	0	7.142857	20.83333	40.17131
Trabzon Deep Sea Outfall	Turkey	10.45296	0	7.142857	20.83333	38.42915

Project Title	Country	Environmental criteria (normalized)	BSI criteria (normalized)	Financial Criteria (normalized)	Compliance (normalized)	Total
Sea Outfall Completed In 1996	Turkey	12.19512	0	7.142857	16.66667	36.00465
Construction Of Drainage System With A Station For Pumping Of Ground Waters And Construction Of Drainage System For Protection Of Districk :Matrosska Sloboda" Arint Raising Water Table In The City Of Berdiansk	Ukraine	1.916376	0	7.142857	20.83333	29.89257
Ünye (West) Wastewater Treatment Plant	Turkey	0	0	7.142857	16.66667	23.80952
Ünye (East) Wastewater Treatment Plant	Turkey	0	0	7.142857	16.66667	23.80952
Sea Outfall Completed In 1991	Turkey	0	0	7.142857	16.66667	23.80952
Sea Outfall Completed In 1991	Turkey	0	0	7.142857	16.66667	23.80952

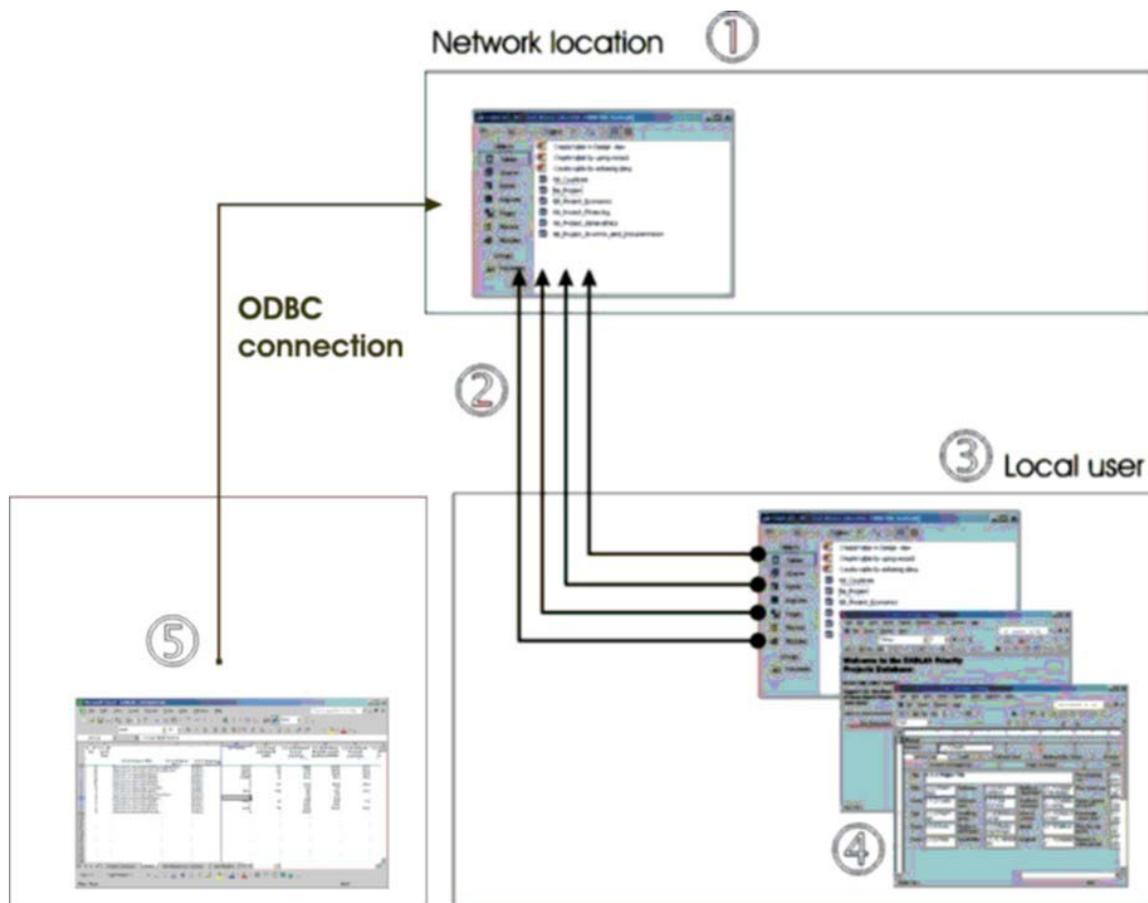
Annex 5 Priority Investment Project Database

This annex contains the highlights of the database specifications intended for acquiring a general understanding of the database design and application architecture.

Database File Format

In line with the requirements of the Terms of Reference of the Contract for the Design and Development of a supporting database for the Prioritization of Investment Projects within the work of the DABLAS Task Force, namely “to ensure platform compatibility, including, but not limited to operating system, computer hardware, office applications in use and to provide ease of integration with other used office applications” the selected database file format is Microsoft Access® version 2000.

The layout and deployment of the database is shown below:

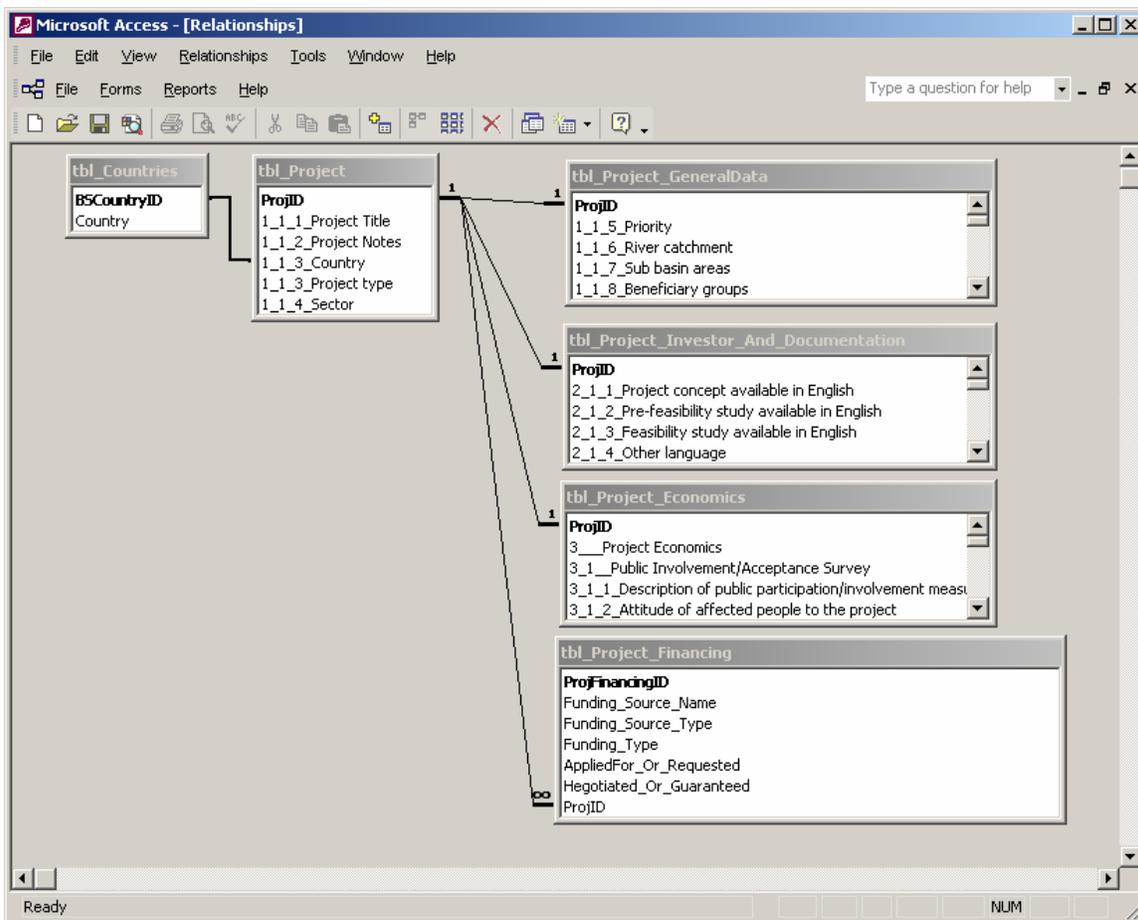


- (1) The database file which may be located on a network location or a local folder
- (2) The connection between the local user interface file;
- (3) The local user interface files serving mainly to communicate with the database; it may be located locally on a PC serving as a client

- (4) Although this is physically the same file – this has somewhat different functionality and contains the forms, tools and reports – it is inseparable from (3);
- (5) This is an Excel Worksheet linked via Open Database Connectivity (ODBC) to a query in the database, which outputs all fields of data. This may also be located on any logical location in a network, provided ODBC access is configured.

Database Tables and Relationships

The database relationships are given below:



Sensitivity analysis interface

A special tool for visualization of the sensitivity was developed, comprising of an Excel worksheet linked to the database. With the aid of macro programming the manual change of parameters immediately shows the cumulative criteria weight. A sample screen shot is presented below

