



INTERNATIONAL WATERS RESULTS NOTES

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The Black Sea Environmental Programme; Strategic Action Plan; and Ecosystem Recovery I & II

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Project Status: Completed



Key results:

1. A Transboundary Diagnostic Analysis (TDA) was prepared, leading to a Black Sea Strategic Action Plan, and both were revisited after 10 years and updated in Phase II of the project.
2. All six Black Sea countries developed National Strategic Action Plans.
3. The key issue identified in the TDA/SAP – the need to reduce nutrient inputs to the Black Sea, especially from the Danube – was addressed through investment, policy and regulatory reform, capacity building, scientific research, and public outreach, resulting in reduced Danube pollution loads and clear signs of recovery of the Black Sea ecosystem, including the elimination of the NW shelf hypoxic zone.

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PROJECT OBJECTIVE

This Results Note covers a series of GEF IW projects dating from 1993 for the Black Sea that together represent one of the most extensive and consistent interventions in the GEF IW portfolio.

The Black Sea is the world's most isolated sea, connected to the Oceans via the Mediterranean Sea through the Bosphorus, Dardanelle and Gibraltar straits. The catchment area is six times greater than the surface area of the Sea, with drainage from a 2 million square kilometre basin - about one third the area of continental Europe. Europe's second, third and fourth largest rivers: the Danube, Dniro, and Don respectively, all flow into the Black Sea. Thus, the Black Sea is very vulnerable to pressure from land-based human activity and its health is heavily dependent on the state of and impacts from the coastal and in-land areas of its basin.

The commons and coastal environment of the Black Sea have been in a seriously compromised state, with consequences for the coastal economies of the six Black Sea countries: Bulgaria, Georgia, Romania, Russia, Turkey, and Ukraine. 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; an uncoordinated approach towards coastal zone management; and a massive invasion a comb jelly, *Mnemiopsis leidyi*.

The purpose of the Black Sea Environmental Programme (BSEP) was to create and strengthen regional capacities for managing the Black Sea ecosystem; develop an appropriate policy and legislative frameworks for the assessment, control and prevention of pollution and the maintenance and enhancement of biodiversity in the context of facilitation of sound environmental investments.

The BSEP started with an initial commitment of the Black Sea countries to jointly address contemporary ecosystem-based management challenges. Faced with a rapidly deteriorating environment and water quality, the six countries decided to act in concert to revert the degradation. Inspired by the Regional Seas Conventions which emerged after the 1972 Stockholm Conference on Environment and Development, representatives of the Black Sea countries drafted their own "Convention for the Protection of the Black Sea Against Pollution" (the Bucharest Convention), with technical advice provided by preliminary missions of UN specialized agencies. The Convention was signed in Bucharest in April 1992 and ratified by all six legislative assemblies by early 1994. The Bucharest Convention includes a basic framework agreement and three specific Protocols: on the control of land-based sources of pollution, the dumping of waste, and joint action in the case of accidents (such as oil spills). A Ministerial Declaration was signed in Odessa in 1993 to provide guidelines for policy and concrete actions that would complement the Bucharest Convention.

Political changes within the region at the time favorably credited the initiative and created an unprecedented opportunity for joint action at the regional and international level. Building upon this momentum, a request was presented to the GEF to financially support a programme of assistance for the Black Sea. This led to the first project in the series, the "*Black Sea Environmental Programme*" (BSEP). The BSEP consisted of a Preparatory Assistance Project; Environmental Management and Protection; Development of a Self-Sustaining Mechanism; and Formulation of the Strategic Action Plan.

The BSEP 'label' served an important function of making the various interventions coherent and comprehensible to the public and to the governments. It is also attracted donor interest to the increasingly popular cause of 'Saving the Black Sea', to which the BSEP label became closely associated.

The second project in the series was "*Developing the Implementation of the Black Sea Strategic Action Plan*" (BSSAP). The project's most important achievements were to support the countries in preparation of National Strategic Action Plans and in identification of priority national investments needed to improve the Black Sea environmental situation.

The final project in the series was the “*Black Sea Ecosystem Restoration Project*” (BSERP), which was launched in two phases and titled “*Control of Eutrophication, Hazardous Substances and Related Measures for Rehabilitation of the Black Sea Ecosystem, Phases I & II.*”

The BSERP sought to ensure the provision of a suite of harmonised legal and policy instruments for tackling the challenges faced by the ecosystem. An important feature of the project was its encouragement of a much broader stakeholder participation and engagement. Integrating on a larger scale, BSERP was a partner in the Black Sea - Danube Strategic Partnership. The project supported a plethora of regional aspects of the Black Sea Partnership for Nutrient Control and it assisted and strengthened the role of the Black Sea Commission (of the Bucharest Convention).

RESULTS: PROCESS

BSEP ran from 1993 through 1996 and achieved the following results:

- Black Sea technical and advisory networks were established in the thematic areas of emergency response; pollution monitoring; biodiversity; integrated coastal zone management and fisheries. Corresponding activity institutions were strengthened to become regional centres of competence.
- Reference laboratories were fully equipped with modern and up-to-date instrumentation; and pilot and routine pollution monitoring activities were carried out.
- Formal and on-the-job training of some 500 experts was provided in: the use and installation of equipment; the identification of issues and the development of appropriate strategies to address them; assessment methodologies; and the management of assistance projects.
- Data management and information tools were developed.
- Public awareness materials were produced and disseminated.
- A network for exchange of experience and integration and streamlining of efforts among Black Sea non governmental organizations was established.
- A total of 88 national and regional thematic assessments were produced, fueling the preparation of the Black Sea Strategic Action Plan.
- A Transboundary Diagnostic Analysis was prepared.
- A Black Sea Strategic Action Plan was developed and signed by the ministers of the environment of the six Black Sea countries.
- A portfolio of urgent priority investments was identified and six pre-feasibility studies were implemented.
- Innovative financial mechanisms to sustain environmental management of the Black Sea were developed.

BSSAP ran from 1997 to 2000 and achieved the following results:

- The project successfully helped countries to develop and draft National SAPs and adopted a basin-wide approach for co-ordination of activities for Black Sea protection.
- Steps were taken toward development of a specific portfolio of investments, in a format ready for presentation to international financing institutions, to establish a Black Sea Fund which would finance the BSSAP.
- The basis for collaboration between the Black Sea and Danube GEF IW programs was established.
- The project played a positive role in consolidation of the network of national Black Sea conservation institutions; actualization of the protection legislation; national investment in Black Sea protection; countries' involvement in progressing toward Black Sea protection; and information exchange among the countries.
- A 16-page Black Sea Newsletter was published in seven languages to foster public involvement in the implementation of the Black Sea Strategic Action Plan.

BSERP ran from 2002 to 2008 and achieved the following results:

- Operational structures and management tools of the Black Sea Commission were strengthened, including an Institutional Strengthening Review and an Exit Strategy.
- The TDA was both updated and renewed, reflecting updated GEF 'best practices'. The TDA was published as a report and on the BSC website.
- The SAP was revised, with the principle innovation being the introduction of Ecosystem Quality Objectives and a series of accompanying phased, step-by-step short, medium and long term targets.
- The Protocol for Land-based Activities (LBA) was concluded and adopted as a draft and was being facilitated through the national and regional negotiation process.
- A leaflet "Land-based Sources of Pollution in the Black Sea - Protecting our sea" was published in all six Black Sea languages and in English.
- Integrated Coastal Zone Management (ICZM) was strengthened in line with EU Directives. Romania and Bulgaria implemented national laws and management instruments specifically on ICZM, while Georgia and Ukraine had draft ICZM laws in hand and Turkey carried out an ICZM pilot.
- A draft Legally Binding Document on Fisheries was approved by the BSC in 2004.
- Maps from each of the countries, together with supplementary reports setting out fish nursery and spawning grounds, were compiled and added to Annex IV of the Biodiversity Protocol.
- Mykolayiv City's water treatment utility was assisted in developing a proposed short term investment program (STIP), incorporating recommendations for financial and operational performance improvement. A technical, financial and institutional review of the Crimean Water Supply and Sewerage Sector was completed, including a STIP proposal, and terms of reference for further technical assistance were developed.
- The Black Sea Integrated Monitoring and Assessment Programme (BSIMAP) became operational in all six riparian countries, providing indicators, tools, manuals, and pilot monitoring exercises to evaluate changes over time in the coastal and marine environment.
- In the sphere of oil spill prevention and remediation, sensitive areas have been mapped; a Contingency Plan has been developed; and dry run exercises implemented on a regular basis. During accidents in the Kerch Straits in 2007, the contingency protocols and communication routes were utilised and considered effective. VTOPIS (Vessel Traffic Oil Pollution Information System) software has been installed on computers in the Bulgarian Marine Administration as a demonstration project.
- Four research cruises were carried out to assess input of nutrients and hazardous substances in the Black Sea.
- BSERP facilitated (including financially) the First Biannual Scientific Conference: "Black Sea Ecosystem 2005 and Beyond."
- NGO registries were developed for each of the six countries. In 2006, 30 NGOs from all six Black Sea countries participated in an NGO workshop sponsored by BSERP to identify and prioritise NGO activities in the region and identify NGO capacities and skills. The following year NGO training sessions were held in all countries except Russia to promote environmental education, raise awareness on environmental issues in the Black Sea region, improve NGO networking, and improve communications skills.
- Two GEF-funded Small Grants Programmes supported community actions for awareness of nutrients and hazardous substances in the marine ecosystem. Tens of thousands of pages of information materials were published and disseminated in more than 100 public events and dozens of local community actions, triggering hundreds of media reports.
- The 2006 Black Sea Day was a major success with over 200 events and activities; media coverage reaching an audience of 8 million; significant in kind contributions from NGOs, local companies and media; and the distribution of 27,000 branded items. The 2007 Black Sea Day continued to successfully draw attention to Black Sea ecosystem and water quality issues.

RESULTS: STRESS REDUCTION

- Net reduction in nitrogen loads from the Danube to the Black Sea was estimated to be 36,000 mt/year, between the 1988-1996 average (364 kt/year) before the UNDP-GEF involvement, and the average over the 1999-2008 GEF period of 328 kt/year.
- Inorganic phosphorus loads from the Danube to the Black Sea dropped 5-6 kt/year against their mid-nineties highs of around 10-12 kt/year.
- Municipal BOD₅ emissions from Ukraine have fallen by about one-third and from Romania by about two-thirds since the late 1990s.
- Regional numbers of livestock decreased by about one third between 1988 and 1997, with a similar level of decrease between 1997 and 2003. During 2003 inorganic fertiliser application rates in Romania were about one third of the level applied in 1998. Inorganic fertilizer application rates in Turkey were higher than in other Black Sea countries, with medium levels applied in Bulgaria, Georgia and Romania. The lowest fertiliser application rates were found in Russia and Ukraine.
- With policy advisory support from the BSERP as well as the UNDP-GEF Danube Regional Project, and driven by various international commitments, most Danube and Black Sea countries have taken important steps to reform and implement their nutrient management policies and legislation (fertiliser use, manure management, etc.). Reduction in nutrient loads to the Black Sea will continue over time as the very high level of accumulated fertiliser and manure nitrate in Danube basin groundwater gradually diminishes with improved management practices.

RESULTS: WATER RESOURCE AND ENVIRONMENTAL STATUS

- The NW Shelf hypoxic zone has been virtually eliminated and the Black Sea ecosystem as a whole shows clear signs of recovery.
- Oxygen levels in bottom waters of the NW Shelf of the Black Sea increased from 150-200 μMol (hypoxic) in the 1980's to 250-300 $\mu\text{Mol O}_2/\text{l}$ in 2005 (yearly averages, Romanian waters), and the severity and number of fish kill events were reduced substantially.
- Phytoplankton biomass in the NW shelf of the Black Sea was reduced from over 6 mg/m³ in 1983-1990 to about 4 mg/m³ in 2001-2005.
- Total fish landings increased gradually from the early 1990s. Substantial increases in the catches of some species (e.g. anchovy, sprat and bonito) coincided with decreased catches of other species, e.g. spiny dogfish and whiting).
- The key benthic species 'phyllophora' range was returning from reduced levels.
- Many species that were considered locally extinct were also returning: the number of macrozoobenthos species off Constants, Romania increased to 43 from about 20 in the 1990s (there were about 60 in the 1960s).

KEY LESSONS LEARNED

1) BSEP and BSSAP corresponded to the countries' priorities and were implemented at the onset of the regional co-operation towards the Black Sea protection. Thanks to these merits, the projects achieved remarkable results--some of them of historical importance--despite challenges. Both projects illustrate well-conceived development concepts, and are examples of the importance that timely implementation of a project has long-standing impacts on beneficiaries.

2) The multifaceted nature of IW projects means that a variety of skills are needed in project teams, including the "diplomatic" skills required to coordinate with senior government officials, to push legislative recommendations, and to provide training and capacity building. In addition to ensuring these skills receive prominence during team selection, there may be benefit from developing a Project Managers manual, with advice for teams as they begin.

3) The BSERP utilized an independent scientific body (the BSERP International Study Group) to identify the agenda for applied research through the joint research cruises. This concept should be considered

for replication in other projects. An ISG enables top scientists in the region and world-wide to engage with the project. It can ensure that applied research efforts are science rather than policy driven, with results duly informing national decision-making process. A key challenge in this approach is to develop a clear set of agreed objectives and timetables for ISG deliverables, closely aligned to the overall project objectives.

4) While deployment of Country Team Leaders (CTLs) by the BSERP has been seen by many stakeholders as being beneficial to its implementation, there are associated downside risks to this approach. It imposes an administrative cost to the project, reducing available funds for demonstration projects and other technical assistance. Also, while the intent is to increase country ownership and engage with national stakeholders, if the countries are not financially responsible for in-country management, ownership may lag and long-term sustainability becomes at risk. To counter the second risk, the BSERP devised a phase out strategy over the final 18 months to scale back CTL financial support – with the expectation that the countries would escalate their support.

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