THE WORLD BANK/IFC/M.I.G.A.

OFFICE MEMORANDUM

DATE: October 5, 2000

TO: Mr. Ken King, Assistant CEO, GEF Secretariat
Att: GEF PROGRAM COORDINATION

FROM: Lars Vidaeus, GEF Executive Coordinator

EXTENSION: 3-4188

SUBJECT: **Bulgaria: Wetland Restoration and Pollution Reduction**
PDF Block B Request

Please find attached a PDF Block B request for the above-mentioned project. The project concept entered the GEF pipeline on October 22, 1999. We would appreciate receiving any comments by October 12, 2000.

We are also requesting GEFSEC to issue the CEO's no-objection to the PDF-B at the end of this review period.

Many thanks.

Distribution:

Messrs.: R. Asenjo, UNDP
A. Djoghlaf, UNEP (Nairobi)
K. Elliott, UNEP (Washington, DC)
M. Gadgil, STAP
M. Griffith, STAP (Nairobi)
Y. Xiang, CBD Secretariat

cc: Messrs./Mmes. Shepardson, Albert, Cestti, Canby, Battaglini (ECSSD); Castro (ENVDR); Khanna, Aryal (ENVGM); ENVGC ISC, Relevant Regional Files

Distribution sent? yes
GEF Anchor Notified? yes

TO:	GEF Anchor, GEFSEC, ENVGCISC
DATE:	10/05/2000
NAME:	Emilia Battaglini
REGION:	ECA
COUNTRY:	Bulgaria
PROJECT TITLE:	Wetland Restoration and Pollution Reduction
FOCAL AREA:	International Waters
TYPE:	PDF B - Request for Comments/CEO Endorsement

ATTACH DOCUMENTS HERE:
(Attach electronic copy of cover memo, the document and endorsement letter.)


Bulgaria_WetlandRestoration_Coverm


Bulgaria_WetlandRestoration_PDF_B_Re


Bulgaria_WetlandRestoration_Endor

CC: A. Djoghlaf, UNEP ; Envgc Isc Files; GEF Anchor; GEF Program Coodination ; Marea Eleni Hatziolos; M. Gadgil, STAP ; M. Gichui, UNEP ; M. Griffith, STAP ; Robin Burgess; R. Asenjo, UNDP ; R. Khanna, ENVGC

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GLOBAL ENVIRONMENT FACILITY
PROPOSAL FOR PROJECT DEVELOPMENT FUNDS (PDF)
BLOCK B GRANT

Country:	Bulgaria
GEF Focal Areas:	International Waters and Biodiversity
Operational Programmes:	Integrated Land and Water Multiple Focal Area Coastal, Marine, and Freshwater Ecosystems
Project Title:	Wetland Restoration and Pollution Reduction
Total Project Cost:	US$ 13.5 million
GEF Project Cost:	US$7.5m
PDF Block B Funds Requested:	US$ 350,000
In-kind contributions:	US$ 30,000 (Government of Bulgaria)
Co-Financing	US $90,000 (European Union, Green Balkans, Government of Denmark, tentative;)
Requesting Agency:	World Bank
Executing Agency:	Ministry of Environment and Waters
Project Duration:	5 years
Block A Grant Awarded:	No

I. Project Objectives

The global environmental and project development objective is to assist Bulgaria in meeting its national and international commitments to reduce transboundary nutrient loads and to conserve biodiversity in the Danube and Black Sea Basins through restoration of wetlands and improved management and sustainable use of water resources.

Key performance indicators include:

- Decrease in nutrient loads immediately downstream from the project sites in the Danube due to wetland restoration;
- Sustainable management and use of floodplain wetlands in demonstration sites on the Danube;
- Increased capacity of responsible institutions to formulate water sector-related policies within a framework of sustainable river basin management plan; and
- Globally significant biodiversity protected.

The project is supports the goals and objectives of the Government of Bulgaria and World Bank Country Assistance Strategy (CAS). One of the five pillars of the CAS is protecting and enhancing the environment and ensuring prudent and rational utilization of natural resources. Of special note are (a) pollution problems of the Black Sea; (b) the need for measures to conserve Bulgaria's globally significant biodiversity; (c) assisting the government to implement new legislation which complies with EU environmental directives. This project supports all of these areas. First, it addresses the issue of non-point source pollution by reducing the nutrient load carried by the Danube which alone contributes almost 60% of the nutrient load reaching the Black Sea. Second, the selected wetlands harbor globally significant biodiversity, notably as

spawning and feeding habitats for several endangered species of fish and waterfowl. Third, the project focuses on putting teeth into the newly enacted legislation on wetlands, water quality, and land-based sources of pollution. Project assistance will accelerate the process of meeting EU accession criteria in the water and natural habitats sectors.

II. Global and Regional Significance

The Black Sea, a critical regional resource, suffers severe environmental damage from eutrophication (i.e. choking and collapse of food chains due to loss of oxygen), declining water quality due to insufficiently treated sewage, introduction of exotic species, inadequate resource management, and loss of habitat --all of which have led to long-term ecological change and a decline of its biological diversity. In-depth analytical work points to eutrophication, caused by an increase in nutrient flux down the major rivers, as the most serious problem facing the Danube River and the Black Sea over the medium to long-term. The effects of eutrophication on the northwestern shelf of the Black Sea at the mouth of the Danube have had particularly disastrous impacts on water quality, natural habitat, and fish populations on which both biodiversity and human populations depend.

The Danube River is one of the continent's largest and most important rivers linking Central and Eastern Europe. It flows about 2900 kilometers through ten countries including 300 tributaries, from Germany to the Black Sea, draining 817,000 square kilometers. The lower Danube is also one of Europe's most polluted rivers. It contributes approximately 60% of the nutrients of the Black Sea. Approximately 60% of the nitrogen compounds and about 66% of the phosphorous compounds originate from non-point sources within the Danube watershed.

Role of Bulgaria. The Danube forms the border between Bulgaria and its northern neighbor Romania for 472 kilometers before continuing through Romania to the Black Sea. More than half the area on the Bulgarian bank of the Danube is floodplain, covering 1280 square km. Over the years, the wetlands and floodplain has been drained or dyked to create arable land or as an anti-malaria measure, such that today's wetlands cover only about 10% of the area that existed at the turn of the century and hence cannot perform their original ecological function. Although about half of the country drains into the Danube River, Bulgaria is not the largest contributor of nutrient loads to the river. The Transboundary Diagnostic Analysis (TDA) undertaken by the Black Sea 1993-99 indicates that Bulgaria places third of the Black Sea states in terms of the nitrogen (N) and phosphorous (P) it contributes to the Sea.

Bulgaria's National Biodiversity Strategy (1994) identifies the Danubian wetland complex targeted by the project as the most representative of riverine wetlands and of international importance for waterfowl habitat. It has been proposed as a Ramsar site. Similarly, the Bulgarian National Plan for the Conservation of the Most Important Wetlands (1995) considers the two proposed project sites as high priority areas for restoration. One of the proposed project areas, Belene Island, is of particular international importance such as a breeding habitat for the endangered white-tailed eagle and nesting herons. As well, the project sites serve as nesting places for the Ferruginous Duck (*Aythya nyroca*) and the endangered Dalmatian Pelican (*Pelecanus crispus).*

The Government has requested assistance from the GEF/Bank to undertake an innovative approach to wetland/floodplain restoration linking land use change with sustainable use and

economic development. While acknowledging that restoration should be undertaken in conjunction with other measures such as waste water treatment facilities and industrial water treatment, the critical role wetlands and floodplains can play has been well documented. (Floodplains are high efficiency water purifiers during both flood and dry periods. The self-purification action is a complex interaction of physical (sedimentation, filtration, absorption), microbiological (denitrification) and biological processes (nutrient reduction through aquatic micro and macrophytes and the roots of terrestrial vegetation). According to several studies in similar ecological conditions, floodplains can retain up to 90% of nitrates and up to 50% of phosphorous passing through.).

III. Background: Water Sector Issues in Bulgaria

Bulgaria faces a number of issues as it attempts to comply with its international commitments to reduce nutrients and generally clean up the Danube/Black Sea. The main sector issues are described below:

:

(a) *Water Quality and Nutrient Reduction.* Water in Bulgaria is a scarce resource, with per capita endowment less than half the average for European countries. One third of the country faces permanent or seasonal water shortages. Nitrogen content exceeds drinking water standards in a number of rural settlements. The water scarcity problem is aggravated by pollution from various sources, especially agricultural run-off, inadequately treated urban waste waters, changes in hydrological conditions and the decline of water ecosystems. The underlying causes of the pollution include lack of resources for the construction of waste water treatment plants with appropriate treatment capacity in a number of Bulgarian towns, inappropriate agricultural practices and, to a lesser extent in the present economic situation, industrial pollution. For example, 49% of all waste water generated (incl. 43% of industrial waste waters) are discharged directly into the environment without any preliminary treatment. Nationwide, half of the towns with population over 50,000, and about 75% of the towns with population over 10,000 people have no waste water treatment plants (WWTP). According to the Transboundary Diagnostic Analysis (TDA), Bulgaria contributes approximately 7,500 tons of nitrogen and 720 tons of phosphorous/year into the Danube. For the Black Sea, the numbers are significantly higher: 2,480 tons of N and 693 tons of P from domestic sources, and an additional 2,000 tons of N and 432 tons of P from its rivers flowing into the Black Sea.

(b) Need for effective management of river basin development. Legislation was recently passed requiring watershed-based management system be implemented for the four main river watersheds. Currently, water management responsibilities are split between a number of organizations with different priorities, lacking effective coordination. The Ministry of Environment and Waters (MoEW) is charged with coordinating all environmental issues and implementing environmental policy. The Ministry of Agriculture, Forests and Agrarian Reform (MAFAR) is responsible for irrigation of agricultural land, for land registration, and for forest activities on the Danube islands. The Ministry of Regional Development and Public Works (MRDPW) manages the facilities for water supply and sewerage, while the Ministry of Health is responsible for the use of mineral waters. With the new legislation requiring that river basin authorities be set up, there will be a clear need to clarify roles and responsibilities of each of the actors. To meet EU accession requirements, the basins will need to develop nutrient reduction plans; a first step will be the analysis of the costs, benefits, and major opportunities for nutrient reduction in the short-and medium-term.

(c) Biodiversity Conservation and wetland restoration. Bulgaria is one of the most biodiversity-rich countries on the Danube, particularly along the Danube and Black Sea coasts. The National Biodiversity Strategy (1994) as well as the National Wetland Strategy have identified priority areas for conservation and restoration of wetlands. In its efforts to implement a wetland strategy consistent with EU directives on natural habitats and species, the Government has met with skeptical local community members who do not always appreciate the importance of wetlands for conservating globally significant biodiversity, maintaining water quality, providing flood control and a variety of other environmental services. Public opinion has favored the draining of wetlands for other land uses, which is a direct result of the Government's policy over the last 50 years.

Government Strategy

Bulgaria's strategy with regard to nutrient reduction has two main overarching objectives, namely, to:

(a) *Accelerate the process of EU accession.* Early in its candidacy for membership in the European Union (EU), Bulgaria is evaluating (with Bank and EU assistance) what measures it needs to take to meet eligibility criteria, to analyze the costs, to explore cost-effective measures to meet the European Union accession requirements, and to plan a short and medium-term accession strategy.

(b) *Fulfill its obligations under several international agreements* to which the county is a signatory. The country has committed itself to implement the Strategic Action Plans of the Black Sea and Danube Conventions. This includes participating in the development of a common Danube River Basin Management Plan in the framework of the Danube Convention. Efforts to restore water quality and water ecosystems are also relevant to the Ramsar Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, encouraging sustainable development and wise use of natural resources in wetland areas.

Recent and Planned Government Actions

Actions which Bulgaria might take to address the issue of transboundary pollution have to be matched with a program addressing real national priorities in order to be politically and financially justified. Government and local officials are eager to integrate interventions which address the issue of transboundary pollution and global biodiversity benefits with efforts towards meeting EU Accession requirements related to EU Directives on Water Policy and Environment. Other national benefits include opportunities for sustainable use of aquatic water resources and income generation for local communities. This approach which integrates global and national development objectives increases the likelihood of long-term project success.

Water quality and management. In 1999, the Bulgarian Parliament adopted a new Water Act that reflects to a large extent the requirements of the proposed EU Water Framework Directive. It introduces a more integrated approach to water management based on river basins, ensuring better co-ordination among institutions (with assistance for training and implementation from the French Agence des Eaux, supported by an EU Twinning program.). The objective is to establish a river basin management authority and to train its staff to organize and manage the sector.

Investments in point-source pollution. The government has planned investments from the National Environmental Protection Fund for a small number of priority WWTP, identified according to a set of criteria. Virtually all cities on Danube tributaries are included in the *National Program for the Construction of WWTP for Settlements with More than 10,000 Inhabitants*. These resources, however are far from sufficient. Nutrient reduction investments are not address specifically by the plan. The Government will rely heavily on investment from international donors for the construction of WWTPs, in particular the EU PHARE Program and the EU ISPA instrument of the EC (Environment Strategy for ISPA, 1999). Hence the government is very interested in looking at low-cost technologies such as wetland restoration as a means of reducing nutrient loads and meeting water quality standards near smaller urban areas.

Wetland restoration for biodiversity conservation and nutrient reduction. The Government views wetland restoration as having several benefits: first, as a way to decrease transboundary pollution, second, as a means of preserving globally significant biodiversity, and third, as a possible source of revenue for local communities living in the poorer regions of Bulgaria. By restoring the spawning grounds for fish, the expectation is that the local fishing industry will make a comeback. Their strategy is based on the findings of the Danube TDA which includes an analysis of the potential impacts on the Danube of floodplain and wetland restoration.

IV. Regional Strategic Approach

World Bank/GEF Strategic Partnership for Nutrient Reduction. This project will come under the umbrella of a proposed World Bank/GEF Strategic Partnership for Nutrient Reduction in the Black Sea/Danube Basin. This partnership is intended to help catalyze investment in priority hot spots for nutrient reduction within countries of the Danube and Black Sea Basins. Wetland restoration investments to promote nutrient filtration consistent with this project design, is one of three project types of the Strategic Partnership would promote (the other two are agricultural investments to help control nutrient runoff, and industrial and municipal wastewater investments targeting point source nutrient discharges).

Eligibility criteria for the Strategic Partnership have been agreed to by the GEF Secretariat and the Bank, including replicability, policy reform, and regional priority.

Replicability. As the first wetlands restoration project to be proposed under the Strategic Partnership, the Bulgaria project would play a critical demonstration role within the region and help to promote similar investments in neighboring countries. The Strategic Partnership framework will help ensure lessons learned during implementation of this project will be disseminated to enhance future project designs.

Policy reforms. Bulgaria is at the first stage of long process leading towards EU accession. As discussed in the issues section, the Government has already begun to enact policy changes (through new legislation) consistent with the EU Framework Directive on Water, and several other sectors. This project will assist the government to move quickly in drafting the enabling regulations and building the technical capacity needed to implement the new laws. The key policy change sought is related to the explicit consideration of transboundary impacts in the formulation of national water and land-use policy and reflected in the selection of high priority projects to be financed.

Secondly, the project will facilitate a change in the government —and particularly regional government— framework on land use policy and development planning. Following years of agricultural policy and massive investments in irrigation schemes which hasfavored the drainage of wetlands throughout the country, the challenge will be to demonstrate the economic benefits of wetlands. In particular, the project will help identify more appropriate land use options in wetland areas (e.g. extensive use of regularly flooded lands as meadows and pastures rather than as arable lands, use of biomass from wetlands, and nature-based tourism, etc.) that will be economically acceptable to local stakeholders. Once the economic and environmental impacts of wetlands are evaluated, the Bank would (a) urge the Government to modify its cumbersome procedures for changing land-use category, making it easier for local communities to undertake small-scale wetland restoration programs; and (b) work with the government to give priority to cost-effective measures to improve water quality. A related policy objective is to increase regional government's support and implementation of river basin management, which integrates environmental and economic development objectives in a basin wide approach to planning

Regional priority. This is discussed more fully under section VII. Eligibility. Additionally, it should be noted that actions to address nutrient reduction are listed as the highest priority for both the Danube Strategic Action Plan, and the Black Sea Strategic Action Plan, both of which were adopted by the riparian governments in the late 1990's.

Bulgaria has been joined by its neighboring Danube riparians, Romania, Ukraine and Moldova, in working towards ecosystem restoration. In June 2000, the four governments signed the Lower Danube Green Corridor Protocol, agreeing to work together to restore the integrity of the Danubian habitat. The Ministers of Environment of these countries explicitly recognized the interdependence of the wetlands, particularly for the protection of endangered waterfowl. They have pledged to restoration (and conserve) wetlands found entirely within the boundaries of one country (Romania), as well as transboundary wetland areas such as the ones proposed in this project. External funding is being sought to implement this ambitious plan which will initially include 400,000 hectares of existing protected areas; 100,000 hectares of newly protected areas; and 200,000 hectares of priority sites for restoration, some of which are included in the existing and newly protected areas.

V. Project Description

1. Nutrient Reduction Plan and Policy Analysis.

As part of its strategy to meet its international obligations as well as to comply with EU directives and new national legislation on water, the government is considering creating four river basin authorities. The project will assist in the development of a basin-wide strategy for nutrient reduction, led by the MoEW. The strategy will integrate all of the government's activities in support of nutrient reduction, including *the National Plan for Waste Water Treatment*, its low-impact agricultural programs, and its wetland restoration work. The plan will analyze the potential nutrient reduction impact of each activity (WWTP, agriculture, industrial pollution) undertake a financial analysis of the cost of implementing these measures (similar to the Bank/Government of Poland study, *Meeting the Costs of Accession to the European Union*, but focussing more directly on the water sector). The study will (i) examine cost-effective measures which can be used to improve water quality, (ii) analyze the policy framework hindering introduction and use of cost-effective measures and (iii) recommend changes in those policies to encourage adoption. Other donor

financing, particularly the EU program for accession countries would finance complementary activities and related training *(approximate cost: $1.5m; GEF Contribution: $0.5m)*.

2. Wetland Restoration.

This is the most innovative activity to be financed under the project, and if successful, will have high replication value throughout Bulgaria and the region. The proposed project sites are among the 16 former floodplains with potentially high environment benefits recommended for restoration in the GEF-financed Pollution Reduction Program study of the Danube Commission. The Bulgaria sites all border larger potential restoration areas in neighboring Romania. Selection criteria for the sites targeted under the project included

- ecological potential
- floodplain type
- floodplain width
- current land use , and
- nutrient reduction potential.

The two proposed sites are briefly described below.

(a) Kalimok and Brushlen Marshes (2,000 ha). The site is located about 60 kilometers east of Russe, the administrative capital of the Danube Region near the small town of Tutrakan. Up until the 1950's, the extensive marsh complex near Tutrakan was a key part of the region's valuable fish resources, providing the communities food, breeding grounds and nurseries. In the 1950's, a dyke was constructed between Russe and Tutrakan, cutting fish off from the marshes. Fish ponds were constructed, severely damaging the marsh ecosystem. In 1993, following the collapse of the state farming system, the fishponds were declared bankrupt and the system abandoned. The fishponds were purchased by Green Balkans and will be contributed to this project (560 ha.). The original marshlands are now state-owned, and much of this area has reverted to reed beds. Areas bordering the marshes are privately and municipality-owned and used for agriculture.

(b) the Belene wetland complex upstream from Tutrakan, situated 18 kilometers west of Svishtov. This is an extensive complex of two large islands (Belene Island is 15 km long) and 12 smaller islands. The land belongs to the Ministry of Justice, although MAFAR has the right to maintain plantation forests on the islands. Prior to 1991, the island was home to political prisoners; more recently, it is a regular prison. The island complex has enormous potential for wetland restoration, according to preliminary design work. However, in order to keep land issues as simple as possible, only land belonging to the state which not under agricultural production would be included in this project (approximately 1,000 ha., although the technical feasibility study will investigate options of up to triple this area).

The Kalimok site has the most advanced design prepared by the Green Balkans (Bulgarian NGO) and, financed by both EU Phare and World Wildlife Fund (WWF)/Danube Programme. Other donor financing is being sought to complete the technical design for hydrological work at the site. Under this project, the GEF would finance the civil works, including removal of parts of dikes, construction of sluices for emergency control, removal of existing levees, and reconnection of former river branches to the Danube river dynamics. Similar civil works are needed at the Belene Island which has a preliminary hydrological study and site restoration plan, but will need more detailed design work.

Several studies need to be undertaken during **project preparation** in addition to the detailed technical design work mentioned above. These include an economic valuation study to quantify the economic and nutrient reduction benefits of various flooding scenarios currently under discussion (see technical and social issues section). The land-use and social assessment studies are particularly important because if, as preliminary findings indicate, grazing and meadows are more economically attractive than low-productivity agriculture, the 59 land owners currently owning land on the outskirts of the project area may wish to switch to a different land use more complementary to wetlands, thus allowing the project to purchase these lands and expand the project zone. Secondly, a water modeling study will be undertaken at one site, probably Kalimok, to gain a better understanding of the nutrient stripping potential of wetlands under various management regimes. Final site designs will be agreed to with the local communities based on a synthesis of these study findings.

Management plans, including requirements for ecological viability and measures to ensure sustainable use of the restored site would be developed for each site. The plans will include a monitoring program to regularly assess water quality and ecological health. Once the initial technical design is agreed to, site plans will require detailed engineering designs for restoration (civil works) and maintaining the hydrologic and ecological conditions essential for nutrient uptake. Training for MoEW and local staff in the management of the wetlands will be included. While most training will be conducted on-site, staff will also visit successful restoration sites in Europe to see first-hand how these sites are restored, managed and monitored.

In this first stage, approximately 3,000 ha of government/municipality-owned land with uncomplicated ownership and land use will be restored. Total nutrient reduction potential from this area, using the most conservative estimates of nutrient reduction potential (see technical issues), is approximately 375 tons of nitrogen and 37 tons of phosphorous/year . This projects an incremental cost ratio of $106/ton /year for nutrient reduction under the project.

At the national level, MoEW staff will synthesize and integrate the considerable wealth of information into a wetland restoration strategy and program for the Bulgarian Danube and Black Sea regions. Donor interest and availability of government funds to finance these will be ascertained. With implementation funding secured, initial restoration plans for selected sites will be completed.

At the regional level, the wetland restoration work will benefit from working closely wetland restoration activities proposed in Romania at the Calarasi wetland complex under the Romania Agricultural Pollution Control GEF project. (In addition, the Romanian Balta Graeca floodplain directly across from the Tutrakan site which was highlighted in the Danube TDA recommendations as an exceptionally promising restoration site may also be restored. It is one of the sites included in the WWF Lower Green Danube Corridor Project being submitted for co-financing from European donors. If this happens, a joint management plan for the broader complex will need to be formulated.) The Romanian Danube Delta Authority, which has considerable experience in the management of wetlands and of working with local communities on the Delta has also expressed interest in working with the Bulgarians to share expertise and lessons learned. *(Total cost: $6m; GEF contribution $4m)*

3. Water Quality Monitoring

It will be critical to monitor water quality upstream from the demonstration sites, and just below the wetlands to determine the nutrient reduction and overall improvements in water quality

achieved relative to expectations. A comprehensive, well designed, and functioning monitoring system is needed to enable identification of problems, to evaluate the cost effectiveness of management actions, and to identify the need for future measures. Other impacts, including anticipated biodiversity improvements will also be monitored. This project is setting the precedent and standard for other nutrient load monitoring systems in Bulgaria, and in other Danube/Black Sea countries. The results of this project will directly feed into a wider regional framework bringing together experience from individual country projects participating in the proposed World Bank/GEF Black Sea/Danube Strategic Partnership.

The monitoring system should be compatible with existing systems in Bulgaria, in other countries and particularly with regional standards established by the two Commissions. A water quality monitoring system is in place in Bulgaria—as in most Danube countries—but recent experience has highlighted some of the system's shortcomings. Hence the first step will be to assess the short-falls in the existing system. This will be done as part of project preparation. Additional training in effective data collection, management and analysis of hydrologic data will be needed. *(Total cost: $1.7m; GEF: $1m)*

4. Support for activities to ensure long-term sustainability.
Experience throughout the world, and in particular Eastern Europe, demonstrates that people living in the project areas—and indeed people who are dependent on the natural resources of the area—need to be involved in project decision-making and to benefit from project activities. Otherwise, the long-term financial sustainability of the project sites is in jeopardy. Hence, issues of long-term financial sustainability as well as environmental sustainability need to be addressed immediately and simultaneously.

The management plans for the project sites will include a medium and long-term strategy for sustainable use of the wetlands. In preliminary discussions with local communities and officials in Tutrakan, sustainable development activities mentioned include: sustainable harvesting of bio-mass (including reeds and herbs) for subsistence or small-scale markets; revitalization of fisheries which formerly flourished in the river/wetlands complex; and tourism based on the natural attractions and other amenities that could be developed at each site. Resources would be allocated under the project to finance feasibility studies for economic activities outlined in the management plans. Co-financing from donors for micro-credit schemes and private sector development not eligible for GEF financing is under discussion. *(Estimated total cost: $2.8m; GEF financing: $0.5)*

5. Public Awareness.
Government staff, local officials, and local NGOs with whom the project team has met consistently pointed to the need for public awareness, information, and stakeholder buy-in to project's activities to enhance project sustainability at both the local and national levels. Public awareness campaigns will be directed at the general public to enhance their understanding of the importance of wetlands to Bulgaria's natural heritage, as well as to maintaining their function in water quality, flood control and a variety of other environmental services vital to Bulgaria's wealth. Environmental education will also be directed at local communities adjacent to wetlands to help them realize some of the tangible benefits from sustainable use of the goods and services that healthy wetlands provide. During project preparation, the possibility of establishing a wetland information/training center in one of the two sites will be explored. Information on project activities should be linked to similar activities in nutrient reduction being undertaken across the Danube, in Romania, for possible future collaboration or joint implementation. Funds will be earmarked for exchange visits, joint seminars,

joint scientific ventures, and participation in Basin-wide programs such as Strategic Partnership-suppored exchanges. *(Estimated total cost: $.8m; GEF $0.8m)*

6. **Project Management**. This component will finance activities of local, national, and international coordination required for the implementation and monitoring of project activities. The model proposed by the Government is to establish a Project Coordination Unit within the Water Directorate of MoEW to manage project activities. However, in an effort to build the capacity within each department/agency, technical staff working on project activities (financed by the Government) would remain with the appropriate department. However, the PCU would be responsible for project activities which cut across all components: formulating and coordinating a project training plan; coordinating public awareness activities with NGOs; coordinating cross-border collaboration with Romania and with the Commissions for the Danube and Black Sea. The PCU would also be responsible for project monitoring, financial accounting, and reporting. *(Estimated total cost: $0.7m)*

VI. Description of Proposed PDF Activities

The PDF B Grant will finance the development of a wetland restoration project and ancillary investments for GEF and bilateral financing. The grant would be used primarily to fund technical studies needed to refine the design concepts for wetland restoration, nature conservation and a water quality / nutrient reduction program; develop the implementation strategy of the project; support public consultation and awareness; assess potential environmental and/or social impacts; and support project preparation coordination. Specifically, preparation activities for this program would focus on the following:

Component 2: Wetland Restoration and Management

- *Hydrology / hydraulics and wetland restoration design studies* – including environmental, social and economic analysis of alternative flooding scenarios which will feed into the environmental and social assessments. This study will include (i) assessment of the hydrological conditions around Belene Island and the Brushlen and Kalimok marshes; (ii) number, locations and design of the inlets / outlets needed at the project sites and how existing infrastructure can be incorporated into water management regimes; (iii) height, frequency and probability of flooding and groundwater level changes; (iv) flow optimization between different marsh ecosystems. This study will build about the results of earlier preparation work financed by bilateral trust funds on elevation and geodesic mapping at both sites to be able to determine which land areas are flooded at alternative levels.

- *Analysis of nutrient cycling and trapping of wetlands:* This study will analyze nutrient distribution in the Danube and marsh water, sediments, reeds and typha beds, and wet meadows. This will help to identify the nutrient trapping potential of alternative wetland management (or harvesting) regimes, and ultimately provide input to the monitoring and evaluation system of the project .

- *Management Planning Framework for Nature Park(s):* The Bulgaria National Forestry Board (NFB) is responsible for new nature parks that may be established in the project area. During project identification, there have been several proposals presented regarding the establishment of a new nature park in the project area, including a transboundary nature park across the Danube with Romania. During project preparation, the NFB with the assistance of the MoEW, WWF and local NGOs, will develop alternative proposals for potential GEF financing for the Persina and Kalimok Nature Parks' management and administration units, and coordinate with the Romanian Ministry of Environment, Forest and Water on the potential for transboundary cooperation.

- *Biodiversity Baseline Information and Design of Monitoring System:* compilation of existing biodiversity baseline information, filling in gaps as necessary and designing a system to track changes in biodiversity in the project sites.

Component 3: Water Quality Monitoring

- *Baseline Data and Design System:*Baseline water quality parameters will be collected and existing water quality monitoring systems in the project area evaluated for how they can be used to monitor the project's water quality performance objectives (such as levels of nutrient trapping and aquatic biodiversity). If the existing systems prove inadequate, GEF financing for special sampling stations and parameters may need to be included under this component.

- *Economics of Nutrient Reduction:* A study and consultative process involving the private sector to assess the economic costs and benefits of alternative national-level nutrient reduction plans for the Danube River Basin area. Part of the overall River Basin Management Plan, this study will address (a) government actions needed by to comply over the long-term with the EU directives related to water quality and wetlands; (b) costs associated with compliance;; and (c) phasing of activities to ensure that priority, low-cost actions are taken first.

Component 4: Sustainable Development Activities

- *Alternative Income Development:* A variety of options for sustainable use activities within the proposed Belene and Kalimok wetlands sites have been identified – all which build on the restoration of natural flooding regimes to recapture the ecological goods and services provided by the wetlands in the region. To determine which of the various options are economically feasible for local communities, market feasibility studies will be conducted. Those that emerge as the most promising will then be further developed through more detailed studies and business plans prepared during early stages of project implementation. Co-financing for this activity is expected from the British Know-How Fund and USAID.

Component 5: Public Awareness

- *Public Awareness Coordination and Plan:* In association with the social assessment, the PDF grant will finance the on-going efforts to of public awareness necessary to build support for the project through workshops, public meetings and educational materials. A draft a public awareness strategy for implementation under the project will also be developed.

Additional Project Preparation Activities:

- *Environmental and Social Assessment:* Much of the data needed for the Environmental Assessment has already been collected by local NGOs. This data will be compiled into an EA Report. A social assessment that targets local populations that utilize the area for agriculture, hunting, fishing will be prepared and incorporated into project design and identify potential social risks. An economic household survey will be necessary during preparation to identify, *inter alia*, income sources, crop productivity and yields, etc to serve as not only a baseline for project impact on local communities, but also as input to the design of the Sustainable Development Component of the project. Gaps in either environmental or social data, such as the potential recurrence of malaria, the mosquito nuisance and other issues will need to be identified and addressed. The EA and SA will undergo continuous review through stakeholder workshops and public consultations (in coordination with the public awareness coordination and planning activities).
- *Training needs assessment*: training needs will be identified as part of a training needs assessment undertaken during project preparation. These will likely include training in environmental education, socio-economic analysis, and policy analysis with regard to water policy formulation.
- *Project Preparation and Coordination:* an incremental cost analysis; project planning matrix (LOGFRAME) through a consultative process; project implementation plan; monitoring & evaluation plan; financial management and procurement plans; liasing with relevant national and international agencies.

VII. PDF Block B Outputs

The main output of the project preparation activities will be a Project Appraisal Document detailing project activities and implementation arrangements for the project. It will be fully consistent with GEF eligibility criteria and will satisify all World Bank requirements for financial and procurement management as well as the social and environmental safeguards.

The PDF activities and project preparation will be coordinated and administered by Ministry of Environment and Waters. The Ministry is in the process of selecting three consultants to work as part of the PDF team: a financial specialist, a technical advisor, and a preparation coordinator..

Involvement of primary beneficiaries. The primary beneficiaries of the proposed project are the local communities living on the Danube River in the two project sites. As part of a preliminary social assessment undertaken by the NGO Green Balkans, they have been involved in technical discussions on flooding of land and on issues of management/maintenance arrangements. They have been very vocal about the need to link sustainable livelihood activities to the wetland restoration components. This has refocused the basic objectives of the project to go beyond global objectives of nutrient reduction, national objectives of meeting EU directives, to include activities directly related to poverty alleviation and sustainable development. Local groups will continue to be involved in various roles at all stages of project design and implementation as part of local Management committees and the national Steering Committee.

Participation of local authorities, Government. The project activities have long been identified as top priorities for not only Bulgaria, but for all countries in the Black Sea/Danube Basin. The Strategic Action Plans, formulated using a broad participatory process dating back to 1991 and agreed to by all riparian governments, identify non-point source pollution as a top priority, and

specifically, propose wetland restoration as one of the most effective ways to reduce nutrient loads into the Danube and Black Sea. As the lead agency for project implementation, MoEW has been involved since the earliest stages of project identification which was undertaken by WWF as part of its Lower Danube Green Corridor Program. At the request of the MoEW, the scope of the project was broadened to include national level activities related to nutrient reduction. Given the strong links to a GEF/Bank project in Romania addressing issues of nutrient reduction in the Danube, the project coordination team will work closely with Romanian counterparts to ensure collaboration and complementarity of activities. Joint training with Romanian counterparts will be conducted, and if the Romanians move ahead with a proposed wetland restoration scheme across from Belene (possible Medium-Size Grant), collaboration efforts will be intensified..

VIII. Eligibility

The project is fully consistent with Global Environment Facility (GEF) Operational Program (8) under the International Waters Operational Strategy regarding water bodies. The project addresses the highest priority transboundary problem identified in the Strategic Action Plans (financed by the GEF and the EU) of both the Black Sea and the Danube River. Under the project, the Bulgarian Government will undertake a comprehensive program addressing the problem of nutrient loads in the basins. The increased capacity of the Government to plan and implement this program of river basin development, the development of a national wetland restoration strategy, and innovative pilot activities in wetland restoration have clear transboundary (global) as well as national benefits. The incremental costs associated with these benefits are additional to other actions which will be taken to reduce nutrient run-off but which have clear domestic benefits such as the construction of waste water treatment plants and introduction of low-impact agricultural practices. Taken together, these global and national benefits will lead to significant improvements in the health of the Black Sea.

Under the Strategic Partnership, projects with benefits additional to nutrient reduction (biodiversity conservation, improvement in drinking water, increases in land productivity) will be given priority. Since the primary objective of wetland restoration is nutrient stripping, the governement did not consider trade-offs between conservation of existing wetlands (which are already performing ecosystem functions) and restoration of former wetlands. Both activities play a role in the government's various strategies aimed at meeting the EU directions. A cost-effectiveness analysis of wetland restoration proposed under this project includes significant improvements in water quality in addition to biodiversity benefits. Since the objectives and benefits are quite different from a simpler wetland conservation program, the two alternatives cannot easily be compared.

Regional and international agreements. In response to growing concerns about the pollution of the Danube, and in recognition of the fact that significant nutrient reduction requires regional commitment, the thirteen Danube River riparian countries joined to draw up the Convention on the Cooperation for the Protection and Sustainable Use of the Danube River, signed in 1994 and entering into force in 1999. Implementation monitoring of the Convention is the responsibility of the International Commission for the Protection of the Danube River (ICPDR). Similarly, the six Black Sea countries decided that joint action to save the Black Sea was urgently needed, and in 1992, signed the Bucharest Convention for the Protection of the Black Sea Against Pollution (ratified in early 1994). The Bucharest Convention was given additional impetus in 1993 by the

Odessa Ministerial Declaration on the Protection of the Black Sea Environment, also endorsed by Bulgaria. Nutrient reduction is the highest priority issue for both programs.

Bulgaria ratified the Convention on Biological Diversity on April 17, 1996. The project has significant biodiversity conservation benefits, consistent with eligibility criteria outlined in the GEF Operational Strategy OP2: conservation of coastal, marine, and freshwater biodiversity. Restoration of the original water flow patterns to wetlands and floodplains will help recreate natural habitats and conserve existing ones in three sites with globally significant biodiversity.

Expected benefits. The main global benefit is the reduction of transboundary pollution. Based on conservative estimates of 100 kg/ha/yr reduction of nitrogen, and 10 kg/ha/yr of phosphorous, 375 tons of N and 39 tons of P could be reduced yearly. This accounts for approximately 5% of Bulgaria's total nutrient contribution to the Danube. As described earlier, significant biodiversity benefits are expected, particularly with regard to ecosystem health and restoration of breeding and nesting areas for several endangered bird species. The primary beneficiaries are Bulgarians living downstream from the wetlands, other downstream riparians, and littoral states of the Black Sea who will benefit from cleaner water.

IX. National Level Support

The Government of Bulgaria has taken a lead role in efforts to establish a network of wetland and floodplain sites in the Lower Danube. The Ministry of Environment which represents Bulgaria on the Danube Commission has worked closely with WWF to prepare the restoration program s Lower Danube Program. Subsequently, the Bank joined WWF and the Ministry to move forward on investment operation which met the criteria for inclusion in the GEF/Bank Strategic Partnership for Nutrient Reduction.

The project scope expanded from the original request focussed on wetland restoration to include national level activities for improved water resources management, assistance in developing national restoration and rehabilitation strategies and policy formulation/implementation for nutrient reduction. The Government views these as an integrated package of measures needed to address water and land-use issues at their interface, and has asked the Bank, through the GEF, for assistance.

Implementation arrangements for the project will need to be further developed during the course of project preparation. The government has suggested that a project coordination unit (PCU) be established within the Ministry of Environment and Waters to oversee day-to-day management of the project. Given the number of ministries (MoEW, Agriculture, Justice), municipal governments, and NGOs who will be involved in the implementation of the project, the Government has proposed that a Steering Group consisting of key agencies as well as representatives of the local communities and other donor agencies which are funding complementary activities be created. The Group would meet regularly to review project implementation and recommend adjustments as necessary. While MoEW is the lead implementation agency, the active participation of several other Ministries, agencies, local government and scientists will be critical to its success. In this context, the composition and mandate of the Steering Committee is important and will be given close consideration during project development

X. Justification

PDF financing is critical needed to complete the preparation work for this project. Early preparation work was financed by WWF/Danube Carpathian Programme, the UNDP/GEF Danube Pollution Reduction Project, by DANIDA, and by Green Balkans, a Bulgarian NGO. The Government has asked the Bank/GEF to work with them to bring together the findings and recommendations of these various studies and proposals in a coherent program aimed at nutrient reduction and wetland restoration in the Danube. Since this project is the first of the wetland restoration projects to be financed under the Strategic Partnership, the methodology used to develop, implement, and monitor this project will be useful throughout the region; hence, it is worth putting in the time and effort to develop a solid prototype.

XI. Timetable

PCD Approved by Bank Country Department	February, 2000
PDF Block B Approved	October, 2000
Activities Commence	November, 2000
Initial study results available	March 2001
Draft PAD prepared	April, 2001
Submission to GEF Council	May 2001
Appraisal	May/June 2001
Negotiations	July, 2001
CEO Endorsement	August, 2001
Bank Board Approval	September, 2001

XII. Estimated Project Preparation Budget (in US$)

Project Component	GEF PDF	Government	NGOs Bilateral Donors
1. Wetland Restoration and Management/ Nature Park	170,000	15,000	50,000

2. Water Quality	60,000		15,000
3. Sustainable Development	20,000		25,000
4. Public Awareness	10,000		5,000
5. Environmental and Social Assessments	40,000		
6. Project Preparation and Capacity Building	50,000	15,000	
TOTAL	350,000	30,000	95,000

XII. Implementing Agency Task Manager(s)

Jocelyne Albert, ENV (until November, 2000); Rita Cestti, ECSSD (after November 2000); Task Team: Kerstin Canby, Robert Robelus, Marea Hatziolos

REPUBLIC OF BULGARIA

MINISTRY OF ENVIRONMENT AND WATER

March 15, 2000

Mr. Andrew Vorkink
Country Director, Bulgaria
World Bank
1818 H. St. NW
Washington, DC

Dear Mr. Vorkink:
As you know, Bulgaria has been actively involved in national andregional activities to reduce transboundary pollution in the Black Sea and in the Danube. In fact, Bulgaria is currently the sitting chair of the International Commission for the Protection of the Danube (ICPDR).

Bulgaria is also very much moving towards accession to the European Union. To this effect, we have recently passed laws which will lead to compliance with the EU Framework Directive on Water.

We have been working with staff from the World Bank to identify projects which will address the problems of transboundary nutrients in the Black Sea/Danube, to help us meet our commitments under the Danube and Black Sea Conventions, as well as to assist us in complying with EU regulations. We have identified a Wetland Restoration and Nutrient Reduction Project in the Danube River Basin which is eligible for financing under the GEF Operational programs for biodiversity and international waters. It falls under the proposed GEF/World Bank Strategic Partnership for Nutrient Reduction.

We are writing to request your assistance in financing the GEF Wetland Restoration and Nutrient Reduction Project. This is will serve as a pilot program which will then be replicated not only throughout Bulgaria, but in other countries of the region.

Thank you very much for your consideration.

Yours sincerely,

Deputy Minister:

(Neno Dimov)

1000 Sofia, William Gladston Str. 67 tel.+3592 940 6222; fax986 25 33