



GEF

REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

THE GEF TRUST FUND

Submission Date: March 7, 2008

Re-submission Date: April 14, 2008

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID:

GEF AGENCY PROJECT ID:

COUNTRY(IES):

PROJECT TITLE:

GEF AGENCY(IES): World Bank,

OTHER EXECUTING PARTNER(S):

GEF FOCAL AREA(S): International Waters, with benefits in Biodiversity

GEF-3 STRATEGIC PRIORITIES: IW-1 AND B-2

GEF-4 STRATEGIC PROGRAM(S): IW-SP2; IW-SP3; B-SP4

NAME OF PARENT PROGRAM/UMBRELLA PROJECT:

Expected Calendar	
Milestones	Dates
Work Program (for FSP)	Aug. 2006
GEF Agency Approval	May 15, 2008
Implementation Start	Sep. 01, 2008
Mid-term Review (if planned)	Mar. 30, 2011
Implementation Completion	Dec. 31, 2013

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective:								
Project Components	Indicate whether Investment, TA, or STA**	Expected Outcomes	Expected Outputs	GEF Financing*		Co-financing*		Total (\$)
				(\$)	%	(\$)	%	
1.					33	4.14	67	6.15
2.					70	0.94	30	3.19
3.					26	6.83	74	9.29
4. Public Participation and Management of Project Implementation	TA	Increase civil society participation in water management decision process and improve local resources management	- some 15 workshops, and an estimated 60 grants to improve local water management	1	50	1.24	50	2.52
Total Project Costs				8.00	38	13.15	62	21.15

* List the \$ by project components. The percentage is the share of GEF and Co-financing respectively to the total amount for the component.

** TA = Technical Assistance; STA = Scientific & technical analysis.

B. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	<i>Project Preparation*</i>	<i>Project</i>	<i>Agency Fee</i>	<i>Total at CEO Endorsement</i>	<i>For the record: Total at PIF</i>
GEF	412,355**	8,000,000	757,111***	9,169,466	N/A
Co-financing	50,000	13,150,000		13,200,000	N/A
	462,355	21,150,000		22,369,466	N/A

* Please include the previously approved PDFs and PPG, if any. Indicate the amount already approved as footnote here and if the GEF funding is from GEF-3. Provide the status of implementation and use of fund for the project preparation grant in Annex D.

** PDF-B funded from GEF-3

*** Agency fee provided under GEF-3 at the time of Council approval of the first tranche of the Mediterranean Sea Partnership Investment Fund.

C. SOURCES OF CONFIRMED CO-FINANCING, including co-financing for project preparation for both the PDFs and PPG. (expand the table line items as necessary)

<i>Name of co-financier (source)</i>	<i>Classification</i>	<i>Type</i>	<i>Amount (\$)</i>	<i>%*</i>
The Government of Croatia	Nat'l Gov't	Cash and in-kind	4,320,000	33
The Government of Bosnia and Herzegovina	Nat'l Gov't	Cash and in-kind		34
Croatia	Beneficiaries	In-kind	200,000	1
Bosnia and Herzegovina	Beneficiaries	In-kind	300,000	2
EU Cards, Italy, Netherlands	Bilaterals/Parellel Financing	Grants	3,930,000	30
Total Co-financing			13,150,000	100

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY(IES) OR COUNTRY(IES)

* No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

<i>GEF Agency</i>	<i>Focal Area</i>	<i>Country Name/ Global</i>	<i>(in \$)</i>			
			<i>Project Preparation</i>	<i>Project</i>	<i>Agency Fee</i>	<i>Total</i>
	IW	Croatia	138,803	1,000,000	102,492	1,241,295
	IW	Bosnia & Herzegovina	273,552	5,000,000	474,620	5,748,172
	Biodiv.	Croatia		1,000,000	90,000	1,090,000
	Biodiv.	Bosnia & Herzegovina		1,000,000	90,000	1,090,000
Total GEF Resources			412,355	8,000,000	757,112	9,169,467

E. PROJECT MANAGEMENT BUDGET/COST

<i>Cost Items</i>	<i>Total Estimated person weeks</i>	<i>GEF (\$)</i>	<i>Other sources (\$)</i>	<i>Project total (\$)</i>
<i>Local consultants*</i>	540	300,000	160,000	460,000
<i>International consultants*</i>				
<i>Office facilities, equipment, and communications**</i>		300,000	1,134,000	1,434,000
<i>Travel**</i>				
		600,000	1,294,000	1,894,000

* Provide detailed information regarding the consultants in Annex C.

** Provide detailed information and justification for these line items.

The project implementation structure is complex given that four project teams are required: one for each country and within Bosnia one for each entity. This is described in more detail in section C of the PD (IMPLEMENTATION). GEF resources will be used to cover part of the salaries of key staff in the four project teams and a portion of the cost of office equipment and supplies, as well as a share of the running costs.

CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<i>Component</i>	<i>Estimated person weeks</i>	<i>GEF(\$)</i>	<i>Other sources (\$)</i>	<i>Project total (\$)</i>
<i>Local consultants*</i>	3,206	2,404,500	250,000	2,654,500
<i>International consultants*</i>	344	1,032,000	400,000	1,376,000
Total	3,550	3,436,500		4,086,500

* Provide detailed information regarding the consultants in Annex C.

G. DESCRIBE THE BUDGETED M&E PLAN:

The project is largely concerned with the building up of institutions, plans and mechanisms that will improve the management of the water resources in the Neretva-Trebnjica basin. As such the main performance indicators of the project are the successful completion and implementation of the various activities financed under the project. Further details on the monitoring framework are contained in annex 3 of the PD. The implementation of the monitoring plan is budgeted at \$100,000 and is included in the project management cost identified above.

PART II: PROJECT JUSTIFICATION

Only the sections that are not fully addressed in the Project Document are described below.

A. DESCRIBE THE PROJECT RATIONALE AND THE EXPECTED MEASURABLE GLOBAL ENVIRONMENTAL BENEFITS:

See Project Document (PD), “STRATEGIC CONTEXT AND RATIONALE” sections 1,2,3 and “PROJECT DESCRIPTION” section 3.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:

See PD “PROJECT DESCRIPTION”, sections 1-4.

DESCRIBE THE CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS:

The project is consistent with the GEF Integrated Land and Water Multiple Focal Area Operational Program, (OP#9) under the GEF International Waters Focal Area and also supports the Coastal, Marine and Freshwater Ecosystem (OP#2) under the Biodiversity Focal Area. The project support GEF-3 IW SP1 (Catalyze resources for implementation of SAP priority reforms and stress reduction measures) and Biodiversity SP2 (Mainstreaming biodiversity in productive land/seascapes). The project is also fully consistent with GEF-4 IW SP2, IW SP3 and B SP4.

The “Neretva and Trebnjica Management Project” is the first project to receive financing from the World Bank-GEF Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership. The GEF–World Bank–UNEP Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (LME) was established to accelerate the implementation of policy reforms and priority investments that address transboundary pollution reduction and biodiversity conservation priorities in hotspots identified in two Strategic Action Programs¹ endorsed by the countries of the Mediterranean Basin at the governmental level within the context of the Barcelona Convention and its Protocols on Land based pollution and on Coastal Zone Management. The Partnership will support capital investments, economic instruments, implementation of policy reforms, strengthening of public institutions and public participation through two complementary components: the Regional Technical Assistance project, implemented by UNEP and executed by the Mediterranean Action Plan (MAP), its

¹ The Strategic Action Program to Address Pollution from Land Based Activities (SAP MED), and the Strategic Action Program for the Conservation of Marine and Coastal Biodiversity (SAP BIO).

regional centers and various partners (FAO, UNIDO, UNESCO, GWP, WWF)², and the Investment Fund, implemented by the World Bank

The main objective of the Bank-GEF Investment Fund for the Mediterranean Sea Partnership is to assist the recipient countries of the Mediterranean Sea basin in implementing their top priority pollution reduction and habitat protection measures and contribute to reversing the degradation of the Mediterranean LME and its coastal areas. The Investment Fund (IF) would primarily finance investments that support pollution reduction and other conservation targets agreed by the basin countries under SAP MED and SAP BIO, including domestic and industrial wastewater treatment. The targets include: wetland restoration and/or construction; improved management of watershed and aquifers for habitat conservation and pollution reduction; protection of endangered natural habitats and sensitive areas. The Investment Fund is expected to bring the following outcomes:

- Transboundary pollution reduction and biodiversity conservation in priority hotspots and sensitive areas of the Mediterranean Sea identified through the TDA-SAP process are achieved.
- In-country replication of pollution reduction and biodiversity conservation investments is initiated.
- Investments for pollution reduction and biodiversity conservation in selected countries are catalyzed.
- SAPs implementation is addressed in World Bank country dialogues.
- Innovative, cost-effective investments in specific country contexts are promoted.
- Measurable pollution reduction and biodiversity conservation in support of the SAP targets are achieved.
- Knowledge-sharing and cross-fertilization of project achievements among SAP partners are facilitated.

As the GEF Implementing Agency of the Investment Fund component of the Partnership, the World Bank is committed to identify, design and implement a critical number of investment projects complying with the Fund eligibility criteria, and to support the overall goals of the Partnership by:

- promoting the Strategic Partnership objectives and SAP targets in the country dialogues and including them in the World Bank Country Assistance Strategies (CASs) as they are updated
- promoting policies that address transboundary pollution reduction and biodiversity conservation as part of country dialogues
- championing and helping to mobilize funds from countries and donors for pollution reduction; project (Regional Component) and individual investment projects and foster replication at a larger scale.

The proposed project is fully consistent with the eligibility criteria of the World Bank- GEF Investment Fund for the Mediterranean Sea Partnership, as described below.

Table 1: Consistency with the Project Eligibility Criteria of the Investment Fund

Eligibility criteria of the Investment Fund	Elements of consistency with the NTMP project
The project focuses on hot spots and sensitive areas and responds to priorities identified by the Mediterranean Sea TDA and the two SAPS (SAP BIO and SAP MED).	Both the 2005 TDA, and SAP MED identify the lower Neretva with the Hutovo Blato wetland, and the delta of the Neretva River as unique eco-systems of priority relevance within the context of the Mediterranean – Adriatic sea.

² Numerous donors contribute to the funding of the regional component: FFM, the Spanish and Italian Governments, the European Commission among them.

<p>The project responds to the priorities identified in the National Action Plan or equivalent strategic documents endorsed by the requesting county.</p>	<p>SAP MED indicates as priorities the “transboundary management plan for the Lower Neretva Valley” and the treatment of “domestic and industrial waste” in the NTRB. These priorities are incorporated into the NAPs of both Croatia and BiH. The project will improve the joint management of the Basin surface and groundwater, with focus on the delta and coastal areas, developing measures to protect and rehabilitate ecosystem integrity, and will implement the following specific N/P reduction activities identified in the NAPs: (a) wastewater treatment improvements in Bileca, Konjic, Ljubuski, Trebinje and Nevesinje municipalities; (b) Industrial Pollution Control in Konjic including by the “SurTec Eurosjaj” and “Unisgal” companies.</p>
<p>The project has secured adequate co-financing for non-incremental components.</p>	<p>The GEF contribution represents 38% of the total project cost, which includes substantial contributions in cash and kind from the countries and bilateral donors.</p>
<p>The project adheres to the principles of the GEF International Waters Strategies, Operational Programs and Strategic Priorities and is formally endorsed by the country’s GEF Focal Point(s).</p>	<p>The project fully conforms to GEF4 IW Strategic Objectives and Programs (see: part A.5) and has been endorsed by the GEF Operational Focal Points.</p>
<p>The project includes piloting and testing alternative methodologies and approaches that are innovative in the country context.</p>	<p>The project includes a pilot project to demonstrate responses to salinity and methods to reduce irrigation water use and contribution to salinization. In addition the project will finance a feasibility study of technical alternatives to remediate saltwater intrusion. Several types of proposed hydraulic structures will be examined and the optimal solution will be proposed. This would potentially result in not only innovative approaches but also eminently transferable approaches to addressing this serious problem.</p>
<p>The project can demonstrate on-the-ground impact and includes provisions and adequate financial resources for monitoring and evaluation activities, and specific indicators consistent with International Waters and Biodiversity frameworks.</p>	<p>It is expected that the project will produce measurable impacts in terms of nutrient releases reduction, of control of saline intrusion in the delta, and of increased environmental flows. Specific stress reduction indicators have been identified and will be monitored during the project implementation (see Component 1, and Annex 3).</p>
<p>The project demonstrates high potential for replication within the country and the Mediterranean basin.</p>	<p>Two aspects of the project, namely the focus on coastal karstic hydrology, and the methods to control saline intrusion along the coastal region, will represent replicable experiences to be disseminated among Adriatic coastal communities, and more broadly throughout the Mediterranean. The project will cooperate with the UNEP Regional Component of the Partnership to enhance awareness and replication.</p>
<p>The requesting country commits to the policy, legal and institutional reforms related to transboundary pollution reduction and coastal-marine ecosystem conservation supported by the project.</p>	<p>Both countries are fully committed to SAP objectives, to the goals set by the Barcelona Convention and its Protocols, and to the principles of the EU Water Framework Directive.</p>
<p>The requesting country(ies) is up-to-date on contributions to the Barcelona convention.</p>	<p>Yes</p>

The NTMP also conforms to the IW Strategic Objectives and Strategic Programming for GEF-4. The NTMP fully

supports the achievement of the IW Strategic Objective 2 that calls for “*a catalytic role in addressing transboundary water concerns by assisting countries to utilize the full range of technical assistance, economic, financial, regulatory and institutional reforms that are needed*”. The NTMP project also conforms with the Strategic Programs 2 and 3 of the IW focal area (see Tab. 2) and supports the Strategic Program 4 of the Biodiversity focal area.

Table 2: Consistency of the NTMP with the GEF-4 IW Strategic Programs

GEF PROGRAM	EXPECTED OUTCOMES AND INDICATORS	THE NTMP PROJECT CONTRIBUTION
<p>IW Strategic Program-2: Reducing nutrient overenrichment and oxygen depletion from land-based pollution of coastal waters in LMEs consistent with the GPA</p>	<p>Initial efforts expected to reduce nutrient land-based pollution in East Asia LMEs and the Mediterranean Sea LME, and to create an enabling environment for action elsewhere.</p> <p>Outcomes: (i) Country commitments to reduce nutrient and other pollution, and adopt ICM (ii) Institutions and reforms introduced to catalyze implementation of policies for coastal pollution reduction and ICM. (iii) Multi-agency partnerships catalyze replication of reforms and innovative investments for nutrient reduction.</p> <p>Indicators: (i) National inter-ministry committees set up, (ii) Ministerially-agreed LME and basin action programs and local ICM plans adopted, (iii) National and local policy, legal, and institutional reforms adopted, (iv) Project evaluations show implementation effectiveness, (v) Monitoring of reduced levels of nutrient releases at demo sites, (vi) Joint action adopted by regional institutions on nutrient reduction, (vii) Incorporation in CAS, UN Frameworks, etc.</p>	<p>This is the first GEF project to address the issue in the Mediterranean LME. It does so in the Adriatic basin, the main hotspot of eutrophication of the whole LME, by addressing key point source nutrients releases in the main basin of the East Adriatic coast, the Neretva basin, and by supporting measures to restore the functioning of the coastal wetlands and the delta ecosystem.</p> <p>The project will strengthen the commitments of the two governments to reduce pollution and sustainably manage the Neretna delta and adjoining coastal areas. Through the Mediterranean Partnership Replication Strategy, the achievements and approaches of the project will be broadly disseminated in areas targeted for replication.</p> <p>The project will facilitate the implementation of the SAP MED, a ministerially agreed action program.</p> <p>The project will produce measurable nutrient reductions, and slowing down of coastal aquifer salinization, and specific indicators will be adopted.</p> <p>The World Bank, as required by the Investment Fund rules, will support the incorporation of nutrient reduction investments and policies, and of other SAP agreements into the Country Assistance Strategies of the two countries.</p>
<p>Strategic Program-3: Balancing overuse and conflicting uses of water resources in surface and groundwater basins that are transboundary in nature</p>	<p>Outcomes (i) Political and legal commitments made to utilize IWRM policies towards sustainable water use (ii) Institutions and reforms introduced to catalyze implementation of policies for basin-scale IWRM and increased water use efficiency (iii) Communities benefit from access to water-related benefits in tests of innovative demonstrations of balancing water uses</p> <p>Indicators (i) Ministerially-agreed action programs and basin IWRM plans adopted (ii) National water resource and IWRM</p>	<p>The major threat to environmental integrity in the basin and its coastal area is represented by conflicting demands on surface and groundwater. The impacts are already serious, in particular in the delta area, where reduced river and groundwater flows are causing saline water intrusion and soil salinization due to hydropower generation.</p> <p>The project will provide the technical basis for balancing water uses, and will strengthen the commitment of the countries to fully implement IWRM practices, and adhere to EU WFD guidance.</p> <p>At a demo site in the delta area, farmers will benefit</p>

	reforms/policies adopted; evaluations show effectiveness (iii) Regional agreements and institutions adopted; project evaluations show effectiveness (iv) Monitoring improved water use efficiency in demonstrations	from new water efficient irrigation practices and other approaches to reduce withdrawal of groundwater. The project will monitor improvement in the adoption of IWRM process indicator, and the stress reduction achieved at demo sites.
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C. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

D. DESCRIBE THE INCREMENTAL REASONING OF THE PROJECT:

See Annex 15 of PD with detailed Incremental Cost Analysis.

E. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:

F. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

See Annex 9 of the PD “Economic and Financial Analysis”


PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. PROJECT IMPLEMENTATION ARRANGEMENT:

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

Not Applicable – project was prepared before the introduction of the PIF. The project is however in line with the GEF project concept reviewed and approved by GEFSec at the time of pipeline entry

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.	
 Steve Gorman Executive Coordinator, World Bank	Project Contact Person Emilia Battaglini, GEF Regional Coordinator, ECA (202) 4733232; ebattaglini@worldbank.org
Date: 4/14/2008	

ANNEX A: PROJECT RESULTS FRAMEWORK

**BOSNIA AND HERZEGOVINA
REPUBLIC OF CROATIA
NERETVA AND TREBISNJICA MANAGEMENT PROJECT**

PDO	Outcome Indicators	Use of Outcome Information
Provide mechanisms for the efficient and equitable water allocation amongst the NTRB users at the trans-boundary level and for enhancing the basin ecosystems and biodiversity through improved water resource management	<p>Increased inter-state cooperation and capacity for transboundary water resource management (process)</p> <p>Reduction of water-born municipal and industrial based pollution in selected municipalities (stress reduction)</p> <p>Improved maintenance of environmental flows and improved ecosystem and natural resources management in the basin (process).</p> <p>Reduction of saline water intrusion as a result of implementation of a Pilot Scheme in Neretva Delta (stress reduction)</p>	<p>Evaluate success or failure of project</p> <p>Adjust scheduling and targeting of activities if needed</p> <p>Replication of trans-boundary cooperation mechanisms</p> <p>Up-scaling of successful pilot activities</p>
Intermediate Results One per Component	Results Indicators for Each Component	Use of Results Monitoring
<p>Component One: Improved transboundary water resource management of the Neretva and Trebisnjica River Basin</p>	<p>Component One: Transboundary River Basin Management Plan completed (process)</p> <p>Comprehensive hydrological measurement and monitoring program, linked to a transboundary water information system, in place (process)</p> <p>Two Water Management Agencies equipped and professional staff trained to fulfill its mandate (process)</p>	<p>Component One: Provision of framework of implementation measures to meet desired water quality and water quantity objectives</p> <p>Collaborative data collection and data exchange will be incorporated into RBMP.</p> <p>Training needs assessment of professional staff</p>
<p>Component Two: Improved ecological status of wetlands</p>	<p>Component Two: Environmental flow requirements</p>	<p>Component Two: Dissemination of good practice to</p>

<p>Improved Water Management Infrastructure</p> <p>Implementation of a Pilot Scheme for mitigation of salinity in Neretva Delta</p>	<p>established and maintained (stress reduction)</p> <p>Water management infrastructure along Bunica and Krupa river in place P (stress reduction)</p> <p>Development of solutions and implementation of pilot scheme to reduce salt intrusion in Neretva Delta (stress reduction)</p> <p>Dynamic reservoir operation model in place (stress reduction)</p>	<p>other river basin</p> <p>Cooperation of states to share information and data on the state of ecosystems</p> <p>Replication to other areas in the Neretva Delta</p>
<p>Component Three: Improved water pollution control</p>	<p>Component Three: Improved quality of discharge of wastewater effluents of municipal and industrial pollutants to international waterways in project sites (stress reduction)</p>	<p>Component Three: Evaluate progress in management of WWT plants and industries and disseminate good practice to other municipalities and industries.</p>
<p>Component Four: Increased public participation in IWRM</p>	<p>Component Four: Increased number of civil society activities which engage stakeholders in river basin management planning and improved use of water resources (process)</p>	<p>Component Four: Provides input to the RBMP</p> <p>Assure sustainability of investment</p>

Arrangements for results monitoring –

Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Increased inter-state cooperation and capacity for transboundary water resource management	Some capacity exists through ISWC	Annual meetings and training	Annual meetings and training	Annual meetings and training	Annual meetings and training	Annual meetings and training	Annual reports	PMT/PIT Quarterly and Annual Reports, Supervision	<ul style="list-style-type: none"> • PMT • Croatia: MAFWM • BiH: MAFWM
Results Indicators for Each Component									
Component 1: Improved Transboundary water resource management of the Neretva and Trebisnjica River Basin									
Adoption of Transboundary River Basin Management Plan	No plan exists	TOR, RFP and selection of consultant	Preparation of plan starts	Draft report	Final report and plan prepared	Adoption of the plan	Once every six months after the project effectiveness	PMT/PIT Quarterly and Annual Reports, Supervision	<ul style="list-style-type: none"> • Croatia:MAFWM/MPPCE • BiH: MAFWM /MOE • PMTs
Comprehensive hydrological measurement and monitoring program, linked to a transboundary water information system	Old hydrological data exist on waterflows and water quality	Updating of data, M&E and dissemination	Updating of data, M&E and dissemination	Updating of data, M&E and dissemination	Updating of data, M&E and dissemination	Updating of data, M&E, and dissemination	Semi-annually from effectiveness, seasonal reports once system is in place	Consultant status reports, later monitoring reports	Drawn from implementation status reports of the Mostar and Trebinje PMT offices

<p>Component 2: Improved Management and Use of wetland ecosystems and biodiversity</p> <p>Environmental water flow requirements established and maintained through use of mathematical model for water management decision making</p> <p>Improved management of wetlands to better process pollutants, reduce outflow to international waterways and improve ecosystem health</p> <p>Restoration of water management infrastructure, including wetlands, river banks, and rehabilitation of Bunica river gate</p> <p>Development of comprehensive plan for management of HPP reservoirs</p> <p>Area developed under the pilot scheme to mitigate salt intrusion in Neretva Delta (total area 400 ha)</p>	<p>Old requirements exist on water quality and flows</p> <p>Few samples are currently collected on water flow and quality</p> <p>Poor management of wetland (quality and quantity)</p> <p>No plans implemented for restoration</p> <p>No plan exists</p> <p>0 ha</p>	<p>Preparation of TOR and RFP</p> <p>Baseline updating</p> <p>Baseline updating</p> <p>Preparation of plans for restoration, including establishing key biodiversity database indicators in Hutovo Blato Nature Park</p> <p>TOR and RFP</p> <p>Preparation of design</p>	<p>Preparation of Model starts</p> <p>Improved sampling and dissemination of data</p> <p>Studies carried out for improved management</p> <p>Implementation of plans</p> <p>Preparation of plan of plan</p> <p>Bidding</p>	<p>Final Report and mathematical model prepared</p> <p>Improved sampling and dissemination of data</p> <p>Improved pollutants processing and reduced outflow</p> <p>Implementation of plans</p> <p>Final plan</p> <p>Start implementation</p>	<p>Environmental waterflows maintained</p> <p>Improved sampling and dissemination of data</p> <p>Improved pollutants processing and reduced outflow</p> <p>Completion 80%</p> <p>Improved management of the reservoirs</p> <p>200 ha completed</p>	<p>Environmental waterflows maintained</p> <p>Improved pollutants processing and reduced outflow</p> <p>Improved management of the reservoirs</p> <p>400 ha Completed. Establish M&E to monitor sustainability and replicability</p>	<p>Semi-annual reports</p> <p>Some data is available and documented in the EA</p> <p>Some data is available and documented in the EA</p> <p>Solutions for salt intrusion and possibility for replicability developed M&E</p>	<p>PMT/PIT Quarterly and Annual Reports, Supervision</p>	<p>MAFWM / MPPCE / PMTs</p>
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<p>Component 3: Improved Water Pollution Control</p> <p>Reduced discharge through wastewater effluents of municipal and industrial pollutants to international waterways in selected municipalities</p> <p>BOD reduction (avg mg O₂/l) N reduction (avg mg/l) P reduction (avg mg/l) Industrial pollution Cr – reduction (avg mg/l)</p>	<p>Wastewater treatment plants need improvements</p> <p>155</p> <p>25</p> <p>8</p> <p>200</p>	<p>Preparation of final design</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>Bidding and start of construction</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>Construction completed O&M</p> <p>100</p> <p>20</p> <p>6</p> <p>100</p>	<p>O&M</p> <p>50</p> <p>18</p> <p>4</p> <p>40</p>	<p>O&M</p> <p>20</p> <p>15</p> <p>2</p> <p>0.5</p>	<p>Once every six months after the project effectiveness through surface and sub-surface water sampling</p> <p>Water and soil sampling reports analyzing samples taken along site drain or run-off</p>	<p>PMT/PIT Quarterly and Annual Reports, Supervision</p> <p>PMT/PIT Quarterly and Annual Reports, Supervision</p>	<p>MAFWM / MPPCE / PMT</p> <p>MAFWM / MPPCE / PMT</p>
<p>Component 4: Increased Public participation in IWRM</p> <p>Increased number of civil society activities which engage stakeholders in river basin management planning and improved use of water resources.</p> <ul style="list-style-type: none"> Number of workshops Number of communities meetings to discuss RBMP Number of small grants for NGOs of activities related to project objectives 	<p>Ad hoc meetings</p> <p>None</p> <p>None</p> <p>None</p>	<p></p> <p>1 workshop</p> <p>5 communities</p> <p>X</p>	<p></p> <p>2 workshop</p> <p>10 communities</p> <p>5 grants</p>	<p></p> <p>3 workshop</p> <p>15 communities</p> <p>10 grants</p>	<p></p> <p>4 workshop</p> <p>20 communities</p> <p>20 grants</p>	<p></p> <p>5 workshop</p> <p>25 communities</p> <p>30 grants</p>	<p>Annual M&E reports</p> <p>Annual</p> <p>Total of 25 communities – 5 yearly</p> <p>Approved grant proposals</p>	<p>Proceedings of Scientific workshops</p> <p>Proceeding of community workshops</p> <p>PMT/PIT Quarterly and Annual Reports, Supervision.</p>	<p>PMT</p> <p>PMT</p> <p>PMT</p>

In addition, the project will rate and monitor the indicators identified in the GEF3 IW simplified Tracking Tool including: Regional Legal Agreement Adopted/Implemented; Functioning & Sustainable Regional Transboundary Waters Institution; On -the-Ground Stress Reduction Results (Demonstrations and Investments); Functional Inter-ministry Committees (IMC).

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

GEFSEC COMMENTS AT CEO ENDORSEMENT

Program and Policy Conformity

The document needs to mention how the project addresses the BD strategy. It seems that the best fit can be made with SP-2 on mainstreaming.... Hence, WB needs to submit the tracking tool for SP-2 in BD.

We have revised the endorsement memo and the GEF Project Document to provide more information on how the project fits under the GEF-3 Biodiversity SP2. Tracking Tool for SP-2 will be provided prior to CEO endorsement.

BD on GEB: The expected global environmental benefits linked to BD focus mainly on the reduced pressure from pollutants and improved water flow to wetland and coastal ecosystems. It would be important to provide some information on the global importance of the targeted ecosystems in terms of species diversity. The identification of key species that are vulnerable to the ecological disturbances will also help on the impact assessment...Pressure indicators are proxies. If there are studies available that have data series linking pressure reduction e.g. to an increase or reduced loss rate of key species or other improved habitat functions, we could readily accept the use of proxies.

The project document has been revised to provide additional information on the global importance of the Neretva Delta ecosystem biodiversity and the links between pollution reduction/ improved water flow and improved biodiversity habitat functions/loss rate reduction. Background information on the biodiversity significance of the area already included in the PD is provided in the Attachment 1 of this memo, for easy reference. "Improved ecosystem health and biodiversity in the basin" has been added as one of the key project performance indicator while the indicator for Component 2: "Improved management of wetlands to better process pollutants, reduce outflow to international waters, and improve ecosystem health: will be measured among other things by the preparation and implementation of plans for restoration that include establishing key biodiversity database indicators in Hutovo Blato Nature Park.

Project design

... it is not clear how the project output on establishment of environmental flows will be maintained through the operation of the Trebesnjica/Neretva dams cascade within the recent operation as well as for the future hydropower projects in the basins.

In addition to reservoir operations modeling and dam rehabilitation the project also includes the preparation of a river basin management plan that both countries have committed to implement as designed. The legal agreement between the World Bank and the two countries include a legal covenant that obliges the two countries to implement the management plan as designed and to seek the Bank's agreement to any change to said management plan.

The river basin management plan will include establishment and maintenance of environmental flows and the link between the development of environmental flows under component 2 and under the river basin management plan component has been made more explicit in the Project Document.

M&E

IW - ... there is a need to utilize also relevant GEF-4 indicators in the project result framework.

The result framework and monitoring arrangements tables include the following indicators that are in line with GEF-4 SP2 and SP3 indicators (GEF-4 indicators are referred to in parenthesis):

Transboundary river basin management plan adopted (SP2 (ii) and SP 3 (i) and (ii)) Increased inter-state cooperation and capacity for transboundary water resource management through the IWSC (SP3 (iii)); environmental water flow requirements established and maintained (SP3 (iv)); improved management and restoration of wetlands (SP2 (v)); reduction of saline water intrusion (SP2 (v) and SP3 (iv)); Reduction of water-born municipal and industrial based pollution in selected municipalities (SP2 (v)).

In addition, the project will rate and monitor the indicators identified in the GEF3 IW simplified Tracking Tool including: Regional Legal Agreement Adopted/Implemented; Functioning & Sustainable Regional Transboundary Waters Institution; On -the-Ground Stress Reduction Results (Demonstrations and Investments); Functional Inter-ministry Committees (IMC).

BD – The logframe needs to make provisions for impact measurement... The project needs to prepare the national/regional agencies to continue measuring impacts after project closure...

The project will set up an M&E system and support local capacity to manage it and monitor the project impact. However after project completion it is expected that the MAP, through the UNEP regional project will take on the responsibility of ensuring countries' commitment to take over this task. Also, the EU will play an increasing role in maintaining the project legacy as part of the EU policy dialogue with the two countries.

Financing

The Project Management Budget/Cost (Table E) indicates \$500,000 GEF funding while the PD Annex 4 indicates \$700,000. Please clarify or correct it.

Management cost has been revised to \$600,000. The M&E plan has been estimated at \$100,000 for a total cost of \$700,000. Table E refers only to management costs while the budget line in Annex 4 includes also the cost of the M&E plan.

Since the project funding is GEF-3, the IA fee should be reduced to 9%.

Fee revised.

STAP ROSTER TECHNICAL REVIEW by J. A. Thornton, PhD PH CLM, International Environmental Management Services Ltd, USA

Introduction

This review responds to a request from the World Bank to provide a technical review of the proposed International Waters project entitled *Integrated Ecosystem Management of the Neretva and Trebisnjica* ..

I note that I am a designated expert on the STAP Roster of Experts with particular experience and knowledge concerning lake and watershed management. I have served as Government Hydrobiologist with the Zimbabwe Government, Chief Limnologist with the South African National Institute for Water Research, Head of Environmental Planning for the City of Cape Town (South Africa), and, most recently, as Principal Environmental Planner with the Southeastern Wisconsin Regional Planning Commission, a position that I hold concurrent with my position as Managing Director of International Environmental Management Services Ltd, a not-for-profit corporation providing environmental education and planning services to governments worldwide. In each of these positions, I have had oversight of projects and programs designed to manage multiple water uses in complex basin, and to develop appropriate and affordable measures to maximize human use of, while minimizing human impacts on, the aquatic environment. I am a licensed Professional Hydrologist in the State of Wisconsin and a North American Lake Management Society Certified Lake Manager.

This review is based upon a thorough review of the project document, consisting *inter alia* of the Project Brief (20 pages), and Annexes 1, 2, 3, 4, 5, 6, 14, 15 and 17. Annexes 7 through 13 are indicated in the project document, but were not available for review. Other, relevant documents served as reference sources, including the GEF *Operational Strategy, Agenda 21*, and related materials.

Scope of the Review

This review addresses, *seriatim*, the issues identified in the Terms of Reference for Technical Review of Project Proposals.

Key Issues

Key issue 1. Scientific and technical soundness of the project. The proposed program builds on the achievements of a previous intervention in the Basin, including ongoing economic development, water supply and water pollution control projects currently being executed by the World Bank in the two countries, and links with efforts associated with the Regional Seas Programme for the Mediterranean Sea. The current intervention seeks to implement key strategic actions for the integrated management of the River. Further, there are numerous ongoing country-specific initiatives being undertaken by the European Union (EU) and others within Bosnia-Herzegovina and Croatia. There is an ongoing GEF biodiversity project being executed in Bosnia-Herzegovina. These are summarized in Annex 2.

The project implementation is complicated by the fact that one of the two countries includes two essentially self-governing jurisdictions: Bosnia-Herzegovina is comprised of the Federation of Bosnia-Herzegovina and the Republic of Srpska. Given that the project, within Bosnia-Herzegovina, is being executed by the Ministry of Physical Planning, Construction and Ecology of the Republic of Srpska, these two subunits of government would appear to have an amicable working relationship. Consequently, the two sub-national governmental units are unlikely to be a concern. Nevertheless, while the overall coordination of the project is proposed to be undertaken by a single project steering committee, the division of work elements into country-specific sections is an issue of concern that could seriously affect data sharing, integrated water resources management of the basin as a whole, and the establishment of the necessary linkages to moderate transboundary threats in an upstream-downstream manner. This two-country approach is further enshrined in the two project implementing agencies defined along country boundaries.

While each project unit is appropriately staffed, there is a risk that the project will develop as two national projects, rather than as one single river basin management program. Note is made in the project document of the existence of the Technical Working Group, comprised of water resources and environmental professionals from both countries. It is not indicated whether this unit exists physically, as an entity, or if this unit functions as a secretariat that can direct and coordinate actions across jurisdiction boundaries. If there is a central project management office, the risk of the project developing in an uncoordinated, country-based manner is minimized. In contrast, though, lack of such a secretariat could result in country-level activities being developed without regard for, or relationship with, initiatives in other areas of the shared river basin. Based upon the information presented, and the break down of component activities by country, this risk would seem to be significant.

This reviewer is sensitive to the need for the Basin countries to develop a climate of trust and cooperation, which climate has been seriously impaired due to recent unrest within the Region. Nevertheless, conducting separate activities in each country, even if under the overall supervision of a joint steering committee and technical working group, has not proven an ideal approach to engendering the necessary trust and confidence necessary to implement a basin management program. Lessons learned from the GEF San Juan River Basin Project (Costa Rica, Nicaragua), for example, would strongly suggest that conduct of activities within individual countries in a shared basin can successfully develop institutional and staffing capacities and result in appropriate actions at the national and local levels, but that management of shared transboundary waters requires joint action through a single management entity. Several models for such transnational entities exist: the Binational Commission for the Bermejo River Basin (Argentina, Bolivia) has representation by the participating countries at the diplomatic as well as technical levels through a shared coordination office; the Intergovernmental Coordinating Commission for the la Plata River Basin (Argentina, Brasil, Bolivia, Paraguay, Uruguay) and the International Joint Commission (Canada, United States of America) have representation by the participating countries solely at the diplomatic level with implementation being the responsibility of the relevant national agencies who assign staff as liaisons.

The project document indicates that the two countries have signed a cooperation agreement. This should provide the basis for closer cooperation, at least at the technical level, between countries in the execution of this project, and help to ensure that actions implemented at the national level are coordinated to a higher degree than would be possible based solely on the periodic steering committee meetings. Consequently, if the technical working group is not a physical, functioning unit, creation of a single project office to facilitate coordination among the national project offices is strongly recommended.

The scientific and technical program is elaborated in Annexes 3 through 6. Overall, the project appears to be scientifically and technically sound. Details of the project activities are provided in Annex 4.

The major scientific element of the project is the development of a water information system for the basin. However, this is proposed to be done piecemeal in the two countries and three jurisdictions that comprise the river system. (The third basin country, Montenegro, is currently maintaining a “watching brief” with respect to the river basin management project, as the contribution of this country to the river system is solely from a small portion of its land surface a ground water inflows. The river system itself is located outside of the territory of Montenegro). It is unclear, aside from the use of common data base development protocols, how the project will actively contribute to the dissemination and sharing of data between portions of the basin. Much of the data base development is being funded through an ongoing EU project, which is considered to provide much of the counterpart contribution for the project. In addition, the proposed GEF funding is to be applied to work elements that directly address the requirements of the EU water framework directive.

It appears that, pursuant to Annex 4, the development of the river basin management plan will be done within national or jurisdictional boundaries. The project document is specific that the output will be “River Basin Management Plan documents.” While multiple documents may ultimately be required in the enabling legislation necessary for each country or jurisdiction to adopt the river basin management plan, it is strongly urged that the river basin management plan be one, single document, jointly adopted by each basin country. Development of separate documents will inevitably lead to tensions that may negate the current framework cooperation agreements signed by the countries.

An interesting element of the project, that is not well developed, is the management of salt water intrusion in the Neretva River and coastal aquifers. This is a concern of many coastal communities and would be a valuable contribution of this project to the GEF IW portfolio. Unfortunately, the proposal focuses on monitoring and possibly without taking the next step in identifying potential responses to such intrusions. As will be noted below, the proposal seeks funding for implementation of wastewater treatment facilities, which is not a GEF eligible cost, such facilities being a national benefit and, hence, a national cost element—although the costs of such facilities can be considered as co-financing or counterpart financing. The GEF funds presently allocated within the project for wastewater treatment facilities should be reallocated to extending the scope of the salt water intrusion project element to consider and develop strategies for mitigating such intrusions.

Key issue 2. Identification of global environmental benefits and/or drawbacks of the project, and consistency with the goals of the GEF. The proposed project addresses the major causes of environmental stress within the aquatic environment of the Neretva River system and its tributary streams, flowing into the Adriatic Sea and thence to the Mediterranean Sea. The fact that this is a regulated river system has important potential consequences for not only the river systems and associated wetlands and floodlands, but also for the nearshore marine system and coastal zone. These impacts can extend well beyond the coastal waters of the basin countries and potentially impair fisheries, coastal wetlands, and biodiversity in a larger area than simply the drainage basin of the specific waterways. Both land and water resources have been identified as being at risk within the Neretva River Basin.

Specific provision in the project is made for the improvement of existing environmentally protected areas and consideration of creation of new protected areas within the Basin.

Within Component 2 of the project, certain subcomponents include the construction of wastewater treatment facilities. While these facilities are clearly likely to be beneficial to the river ecosystem as a whole, it would appear that these facilities are based upon known technologies and would not constitute demonstration projects. Construction of wastewater treatment facilities is not eligible for GEF funding. While such facilities can be included in the project as counterpart or co-financing, application of GEF funds for the construction of such facilities is inconsistent with GEF policies. This would apply to the Hutovo Blato Nature Park, the City of Bileca, the City of Konjic, and the City of Ljubuski treatment plants.

As has been previously noted, certain tensions are created within the project concept as a result of the country focus adopted. These tensions are evident in activities such as completion of the museum display in the Museum of Herzegovina-Trebinje and the rehabilitation of the Bird Museum in Metkovic. These appear to be strictly local undertakings that are outside of the GEF policy of funding the incremental cost of activities of a transboundary nature. Simply indicating that there are numerous bird species in the basin, some of which are migratory, is insufficient justification for GEF involvement in these institutions. Rather, the regional or transboundary role of these institutions should be identified, as has been done in the case of the proposed newsletter, Nasa Neretva, which seems to be proposed to have a regional circulation—although it is unclear whether this is to be a web-based publication or print publication. Likewise, the eco-tourism development subcomponent should focus on the development of activities as demonstration¹⁷

projects able to be replicated elsewhere in the Basin, rather than on the development of specific sites. The concept of demonstration projects able to be replicated elsewhere in the Basin is not well established in Component 3 activities.

Key issue 3. Regional context. The participation in this project of the two riparian countries, and three of the four jurisdictional units (Montenegro, as previously noted, maintaining an observer status in this project) argues persuasively that adequate and appropriate consideration has been given to the regional context of the project. However, the opportunity to action the regional context more effectively is lost as a consequence of the country-level focus of the project. Granted country level units are necessary to implement the project activities; however, as has been noted above, there is a need to better integrate these activities within the framework of the basin through the creation of a basin management unit of some type. Replicating facilities within each country is not the same as integrating these facilities and creating workable linkages with the appropriate national institutions. Inclusion of actions to develop an appropriate and sustainable regional level river management organization is recommended, perhaps as an element of Component 4.

Key issue 4. Replicability. The project as presently conceived lacks indications of how activities could be replicated, either within the Basin or elsewhere, although the clear linkages of the project concept with the Mediterranean Action Plan are identified in the project document. Implementation of specific activities, such as the Museum of Herzegovina-Trebinje and the Bird Museum in Metkovic, which could be justified as demonstration projects in addition to being centres of excellence within the region are not so identified. Likewise, the salt water intrusion project element that does have clear potential for replication is not implemented to the point of generating lesson learned that can be transferred to similar areas of concern elsewhere in the world. These are missed opportunities for creating broader linkages between the project, the region, and other areas of the globe.

Notwithstanding, the project document does clearly identify the relevant national policies, programs and legal/administrative frameworks within which the project is to be conducted. These frameworks appear to fully support the project goals and objectives and should sustain and replicate the project activities. Where there are weaknesses identified in these policies and strategies, the project proposes to strengthen institutions and build capacities to enhance the ability of the countries to fulfill their obligations with respect to management of the shared transboundary resource and adjacent coastal marine waters. Unfortunately, the project stops short of pursuing bilateral or multilateral mechanisms through which to transfer technologies, experiences and lessons-learned either within the Basin or elsewhere. To this end, establishment of the basin organization is indicated and determination of clear linkages of the project with the IW:LEARN project of UNDP is strongly recommended.

Key issue 5. Sustainability of the project. The key aspect of sustainability is poorly addressed in the project document. It is predicated upon the individual commitments of the countries to specific international conventions and upon the framework agreement signed by the countries in 1996. While the project is intended to build the scientific and technical basis necessary for developing more robust regional cooperation mechanisms, the country focus of the project currently limits the likely sustainability of the joint management efforts to the duration of the project. The focus on structural mechanisms to water quality management (i.e., wastewater treatment facilities) and specific activities and economic development opportunities, rather than on the conduct of demonstration projects, *per se*, may result in sustainable outcomes in possibly areas.

Key issue 6. Targeted Research Projects. Successful practices, well documented, will become the basis for replication elsewhere in the Basin and add to the existing best management practices data base being compiled by the GEF-IW focal area within the IW:LEARN program. It is essential that the lessons learned be well documented that both success and failure of specific management measures be recorded. In the realms of lake management, knowledge of what has failed to work is equally as valuable as knowledge of those measures that have proven successful. To this end, the inclusion of environmental monitoring activities within the project can provide the technical and scientific documentation necessary to clearly demonstrate the benefits of interventions and share those outcomes with other river basin managers and basin management authorities worldwide. In this activity, the GEF-IW focal area can be catalytic, and recognition of this role is currently resulting in the compilation of best management practices under the auspices of the IW:LEARN program. As mentioned above, the linkages between this project and the IW:LEARN program should be clearly identified.

Secondary Issues

Secondary issue 1. Linkage to other focal areas. This project is formulated as an International Waters project under OP 9 of the GEF *Operational Strategy*. The project has been specifically linked to the biodiversity focal area, and there are 18

clear linkages to the cross-cutting area of land degradation. The linkages to biodiversity and land degradation are not well developed, even though there is clear reference to the importance of these aspects to the Neretva River Basin in the introductory paragraphs of the project document. This lack of linkage to these very important cross-cutting focal areas should be rectified. The proposed project also has a clear linkage to the Global Program of Action for the Prevention of Marine Pollution from Land-Based Activities.

Secondary issue 2. Linkages to other proposals. The project recognizes the complementarities between the implementation of the strategic actions and related initiatives being carried out in the Mediterranean region. Specifically, the project seeks to develop strong linkages with EU in the execution of the proposed project. While these linkages bring significant international expertise to the project, they also raise the concern that the project may not adequately develop local capacity that is essential to the sustainability of the project in the long term. However, the inclusion of a role for NGOs and local stakeholders in the project could limit any risk in this regard.

SECONDARY ISSUE 3. OTHER BENEFICIAL OR DAMAGING ENVIRONMENTAL EFFECTS. *THE PROJECT HAS NO KNOWN OR OBVIOUS DAMAGING ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE ACTIVITIES PROPOSED TO BE EXECUTED. THE BENEFICIAL IMPACTS OF THE PROJECT HAVE BEEN FULLY IDENTIFIED IN ANNEX 15. UNFORTUNATELY, GIVEN THE COUNTRY FOCUS OF THE PROJECT, THE BENEFITS ACCRUE LARGELY WITHIN SPECIFIC LOCALITIES WITHIN THE PROJECT AREA, ARE NOT PROPOSED FOR WIDER DISSEMINATION, EXCEPT IN THE CASE OF THE TRANSBOUNDARY NEWSLETTER, NASA NERETVA.*

Secondary issue 4. Degree of involvement of stakeholders in the project. Stakeholder involvement includes involvement by appropriate governmental agencies, investments in specific economic activities as identified in Component 3, and participation of NGOs. Unfortunately, specific organizations and partners are not elaborated, creating a weakness in the project design.

Secondary issue 5. Capacity building aspects. Capacity building and institutional strengthening is focused on the creation of systems and activities in the participating basin countries. Development of human resources is limited in some ways to the IWRM training proposed in Component 1, the awareness creation efforts of Component 2, and the stakeholder development activities in Component 3, with the primary focus being on investment in facilities.

Capacity building is indicated for wastewater treatment plant staff, as the implementation of several wastewater treatment facilities is proposed. Similarly, informational programming is indicated through newsletters and the participation of local stakeholders in the project. As noted, these aspects are site specific. Nevertheless, in addition to the dissemination of knowledge and information in these specific situations, the development of standard methods for analysis and impact assessment will benefit institutions and staff throughout the participating countries and the wider region. Work elements are proposed aimed at, *inter alia*, establishing a certification process for laboratories engaged in the analysis and assessment of the aquatic environment. Knowledge of such a certification process engenders confidence in the data generated by participating laboratories as an important element in possibly building institutional capacity within the region. Maintaining such standards and certification requires trained individuals, actively and conscientiously applying their knowledge and skills for the public good.

Secondary issue 6. Innovativeness. Development of appropriate management practices for the integrated management of river basin within the context of its watershed is a continuing process in much of the world. In particular, the issue of salt water intrusion, identified in the project document, is an area where this project could demonstrate innovation that would potentially result in not only innovative approaches but also eminently transferable approaches to addressing this serious problem. The proposed project could demonstrate an appropriate degree of innovativeness in its approach and in its anticipated results if this element of the project is further developed as recommended above.

General Conclusion And Recommendations

Overall, it is the conclusion of this reviewer that the proposed project, *Integrated Ecosystem Management of the Neretva and Trebisnjica River Basin*, is broadly consistent with the GEF International Waters operational program, its broader philosophy, and funding criteria

Notwithstanding, the proposed construction of wastewater treatment facilities falls outside of the scope of GEF involvement, being a purely national benefit. These project elements should be shown as co-financing or counterpart¹⁹

financing and the funding proposed reworked to apply additional funding to addressing the issue of salt water intrusion, to consider and develop strategies for mitigating such intrusions, and to better disseminate the results of this activity to other regions where similar concerns exist.

Further, the GEF Implementing Agency is enjoined to give specific attention to:

- creation of a single project office to facilitate coordination among the national project offices,
- adoption of a regional, rather than country-based, approach consistent with the single project office proposed above,
- preparation of the river basin management plan as one, single document, to be jointly adopted by each basin country,
- inclusion of actions to develop an appropriate and sustainable regional level river management organization, and
- dissemination of results and outputs utilizing a variety of media but especially utilizing the global IW-LEARN network.

Once these issues are addressed, this reviewer recommends that the project be considered for funding under Operational Program No. 9 of the GEF. The project, as refined, will contribute to the creation of a basin organization within the Neretva River Basin that will benefit not only the riparian countries, their people, and the natural environment but also, through the coastal zone, the Mediterranean large marine ecosystem.

STAP Review Comments and Answers

The STAP reviewer comments are generally highly supportive of the project objectives and design and note that the project overall is scientifically and technically sound. The reviewer draws attention primarily to issues to Tran boundary cooperation. Below is a summary of the key comments and the team’s replies. The PD has been revised to address the comments, as needed.

	COMMENTS / QUESTIONS	ANSWERS
KEY ISSUES		
Key Issue 1: Scientific and Technical soundness of the project		
1.	While the overall coordination of the project is proposed to be undertaken by a single project steering committee, the division of work elements into country-specific sections is an issue of concern that could seriously affect data sharing, integrated water resources management of the basin as a whole, and the establishment of the necessary linkages to moderate transboundary threats in an upstream-downstream manner. This two-country approach is further enshrined in the two project implementing agencies defined along country boundaries.	The division of work elements into country specific sections is necessary administratively because there will be two separate GEF grant agreements – one to each country and within BiH possibly, two sub-sidiary grants to each entity in BiH, as is the practice with WB and GEF projects. Responsibility for each grant agreement entails implementation of distinct activities. Similarly, the agency responsible for implementing each grant needs to be clear about their responsibilities. However, both countries fully expect that the overall project is transboundary in nature and have established an interstate structure for oversight of project implementation that is comprised of an interstate steering committee (SC), joint technical working group (TWG) all under the purview of the Interstate Water Committee (ISWC). These bodies will ensure overall coordination of project implementation and transboundary approaches to management and implementation. This structure has been effectively established during project preparation as is evidenced in the agreement of one PD. The PD has been revised to reflect an organizational structure more strongly and to clearly present the roles and responsibilities of the national and international level organizations in regards to project implementation. The operations manual will spell out the joint, inter-state approach that will be taken in implementation.

<p>2.</p>	<p>While each project unit is appropriately staffed, there is a risk that the project will develop as two national projects, rather than as one single river basin management program. Note is made in the project document of the existence of the Technical Working Group, comprised of water resources and environmental professionals from both countries. It is not indicated whether this unit exists physically, as an entity, or if this unit functions as a secretariat that can direct and coordinate actions across jurisdiction boundaries. If there is a central project management office, the risk of the project developing in an uncoordinated, country-based manner is minimized. In contrast, though, lack of such a secretariat could result in country-level activities being developed without regard for, or relationship with, initiatives in other areas of the shared river basin.</p>	<p>The client is invested in ensuring that this is a transboundary project. We have revised the PD to make this clearer.</p> <p>The joint TWG is an inter-state technical body (whose members were appointed by relevant state administration in both of the countries) consisting of representatives of relevant ministries and public enterprises within the sectors of water, agriculture, environment, and energy. The TWG was established for the purpose of supporting project design development in the preparation phase and is now intended to support implementation. The TWG has been actively involved in the project design and was very effective in project coordination across jurisdiction boundaries at the highest administrative levels. The TWG will be one of the main monitoring/evaluation instruments for the project implementation.</p> <p>The implementation structure is based on experience with transboundary projects related to the Danube River, and in terms of the TWG, with the newly established Sava River Commission, a transboundary commission which includes BiH and Croatia (but also Slovenia and Serbia and Montenegro). The client has determined that the most effective mechanism for the transboundary cooperation is the existing Interstate Water Committee (ISWC) and they do not feel a secretariat is necessary. This is because the ISWC has a history, prior to the war, of working effectively and due to the relatively small size of the basin (compared to the Sava) the ISWC is adequate.</p>
<p>3.</p>	<p>The project document indicates that the two countries have signed a cooperation agreement. This should provide the basis for closer cooperation, at least at the technical level, between countries in the execution of this project, and help to ensure that actions implemented at the national level are coordinated to a higher degree than would be possible based solely on the periodic steering committee meetings. Consequently, if the technical working group is not a physical, functioning unit, creation of a single project office to facilitate coordination among the national project offices is strongly recommended.</p>	<p>The PD now includes a description of the treaty that established interstate cooperation and the ISWC. The ISWC will function as the single transboundary unit to oversee the project.</p>

4.	Overall, the project appears to be scientifically and technically sound	
5.	The major scientific element of the project is the development of a water information system for the basin. However, this is proposed to be done piecemeal in the two countries and three jurisdictions that comprise the river system. It is unclear, aside from the use of common data base development protocols, how the project will actively contribute to the dissemination and sharing of data between portions of the basin. Much of the data base development is being funded through an ongoing EU project, which is considered to provide much of the counterpart contribution for the project. In addition, the proposed GEF funding is to be applied to work elements that directly address the requirements of the EU water framework directive.	<p>The respective Constitutions and water management legislation in Croatia and BiH entities require provision of water information systems on country/entity administrative levels and so there are elements that reflect this need. However, the project fully intends, beyond the national level requirements, to support a transboundary water information system which provides complete operational and interchangeable databases which will include:</p> <ul style="list-style-type: none"> • Definitions of procedures in data exchange and common use of all data within the Water Information System between entities and on inter-state level; • Unified cadastre format (introduced the same cadastre format in both BiH entities as in Croatia); • Enabled harmonization of different databases; • A common GIS structure.
6.	The development of the river basin management plan will be done within national or jurisdictional boundaries. The project document is specific that the output will be “River Basin Management Plan documents.” While multiple documents may ultimately be required in the enabling legislation necessary for each country or jurisdiction to adopt the river basin management plan, it is strongly urged that the river basin management plan be one, single document, jointly adopted by each basin country. Development of separate documents will inevitably lead to tensions that may negate the current framework cooperation agreements signed by the countries.	<p>The EU WFD requirements for river basin management planning are the guide to the preparation of the RBMP. Within each country, the Water Law, dictates the requirements for river basin management plans. The Water Law in Croatia will be harmonized (in 2006) with the EU WFD; while the two Water Laws in BiH have already been harmonized with the WFD.</p> <p>According to the WFD, even though the RBMP document which be produced under the project is a single document and relates to the whole NTRB basin, its adoption has to be provided by each of administrative units, i.e. each country and both entities in BiH, because each country is responsible to the EC for its own RBM planning. Countries that share an international river basin, e.g. the Neretva, have to assure the EU that the requirements of the WFD are coordinated on the whole international river basin, and for this purpose may use existing structures resulting from international agreements, e.g. the ISWC. In cases where the international river basin extends beyond the territory of the EU, the relevant states must establish appropriate coordination with relevant non-Member states, but the member state is the one that has to ensure application of the rules of the WFD within their territory. This most likely will be the situation for Croatia in the near future. An output of the project is one River Basin Management Plan that will have been discussed, agreed upon, and ready for approval. The approval process itself for each country will depend upon internal procedures. This is now explained in more detail in the PD.</p>

7.	An interesting element of the project, that is not well developed, is the management of salt water intrusion in the Neretva River and coastal aquifers. Unfortunately, the proposal focuses on monitoring and modeling without taking the next step in identifying potential responses to such intrusions.	Agree. The project has been revised to include a pilot project to demonstrate responses to salinity and methods to reduce irrigation water use and contribution to salinization. In addition the project will finance a feasibility study of technical alternatives to remediate saltwater intrusion. Several types of hydraulic structures which have been proposed will be examined and the optimal solution proposed. It is estimated that the cost of these solutions range from 9-17 million EURO. The project can be effective in identifying financing possibilities for such investments.
Key Issue 2: . Identification of global environmental benefits and/or drawbacks of the project, and consistency with the goals of the GEF		
8.	Within Component 2 of the project, certain subcomponents include the construction of wastewater treatment facilities. While these facilities are clearly likely to be beneficial to the river ecosystem as a whole, it would appear that these facilities are based upon known technologies and would not constitute demonstration projects. Construction of wastewater treatment facilities is not eligible for GEF funding. While such facilities can be included in the project as counterpart or co-financing, application of GEF funds for the construction of such facilities is inconsistent with GEF policies. This would apply to the Hutovo Blato Nature Park, the City of Bileca, the City of Konjic, and the City of Ljubuski treatment plants	The team has discussed this with the reviewer and GEF coordinator and confirmed that the wastewater treatment investments included in the project do meet the GEF criteria for inclusion. The selected sites are on international waterways; the investments are for upgrades and improvements, not new construction; the discharges are impacting globally significant ecosystems and water resources; and the GEF funds are matched by local contributions. These include the facilities at Ljubuski, Bileca, and Konjic – all in BiH. The Croatia Coastal Cities Pollution Control Project is financing wastewater treatment improvements in the two main Croatian municipalities in the NTMP.
9.	Certain tensions are created within the project concept as a result of the country focus adopted. These tensions are evident in activities such as completion of the museum display in the Museum of Herzegovina-Trebinje and the rehabilitation of the Bird Museum in Metkovic. These appear to be strictly local undertakings that are outside of the GEF policy of funding the incremental cost of activities of a transboundary nature. Simply indicating that there are numerous bird species in the basin, some of which are migratory, is insufficient justification for GEF involvement in these institutions. Rather, the regional or transboundary role of these institutions should be identified.	We understand that the activities need to have global impact and have revised the PD to be clearer about the function of the sites and the nature of the activities. These museums are not considered within the project as individual local institutions but as nodes of a future basin biodiversity network, which is to be initiated through the project. They are located in the three different administrative regions, Croatia and both entities of BiH, and thus lay the groundwork for the first tri-lateral cooperation in the science, education and research community in the project region. The activities proposed are topic oriented and not locally oriented.
10.	Nasa Neretva, which seems to be proposed to have a regional circulation—although it is unclear whether this is to be a web-based publication or print publication.	This is planned to be a printed publication (newsletter). A special “Nasa Neretva” page will be included within the project web-site.

11.	The eco-tourism development subcomponent should focus on the development of activities as demonstration projects able to be replicated elsewhere in the Basin, rather than on the development of specific sites. The concept of demonstration projects able to be replicated elsewhere in the Basin is not well established in Component 3 activities.	Agreed. The goals of this activity have been revised. The objective will now be to demonstrate how environmentally unfriendly tourism at sites of ecological value can be revamped to mitigate impacts and to provide an educational experience related to the area's natural and cultural resources. This approach is replicable throughout the region.
Key Issue 3: Regional context		
12.	The participation in this project of two of the three riparian countries, and three of the four jurisdictional units (Montenegro, as previously noted, maintaining an observer status in this project) argues persuasively that adequate and appropriate consideration has been given to the regional context of the project. However, the opportunity to action the regional context more effectively is lost as a consequence of the country-level focus of the project. Granted country level units are necessary to implement the project activities; however, as has been noted above, there is a need to better integrate these activities within the framework of the basin through the creation of a basin management unit of some type. Replicating facilities within each country is not the same as integrating these facilities and creating workable linkages with the appropriate national institutions. Inclusion of actions to develop an appropriate and sustainable regional level river management organization is recommended.	Agreed. The project implementation structure has been revised; implementation arrangements have been developed which are joint in nature and will be detailed in the Operations Manual. As noted above, the project aims to strengthen the ISWC that will, in the long term, support bi-country River Basin Management.
Key Issue 4: Replicability		
13.	The project as presently conceived lacks indications of how activities could be replicated, either within the Basin or elsewhere, although the clear linkages of the project concept with the Mediterranean Action Plan are identified in the project document.	See remarks under #9
14.	Likewise, the salt water intrusion project element that does have clear potential for replication is not implemented to the point of generating lesson learned that can be transferred to similar areas of concern elsewhere in the world. These are missed opportunities for creating broader linkages between the project, the region, and other areas of the globe.	See remarks under #7

15.	The project stops short of pursuing bilateral or multilateral mechanisms through which to transfer technologies, experiences and lessons-learned either within the Basin or elsewhere. To this end, establishment of the basin organization is indicated and determination of clear linkages of the project with the IW:LEARN project of UNDP is strongly recommended	Bilateral/multilateral mechanisms of technology transfer will be obtained through the River Basin Management Plan Sourcebook as part of the GEF International Waterways: LEARN network. The sourcebook will transfer experiences and lessons-learned through the preparation of RBMP in the basin. This will disseminate the knowledge gained through the project.
Key Issue 5: Sustainability of the project		
16.	The key aspect of sustainability is poorly addressed in the project document. It is predicated upon the individual commitments of the countries to specific international conventions and upon the framework agreement signed by the countries in 1996. While the project is intended to build the scientific and technical basis necessary for developing more robust regional cooperation mechanisms, the country focus of the project currently limits the likely sustainability of the joint management efforts to the duration of the project.	Agreed. The PD has been revised accordingly. For every component/activity in the project design (within the PD), a responsible partner has been assigned. Additional mechanisms for joint management have been added and will be detailed in the Operations Manual. A joint workshop has been organized for mid-December 2005 to define implementation procedures that are done jointly, not bilaterally.
Key Issue 6: Targeted research Projects		
17.	Successful practices, well documented, will become the basis for replication elsewhere in the Basin and add to the existing best management practices data base being compiled by the GEF-IW focal area within the IW:LEARN program. It is essential that the lessons learned be well documented that that both success and failure of specific management measures be recorded.	See remarks under #15

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT

LOCAL	Cost/ week	# of weeks	
Water Resources Management Specialists	850.00	480	Development of River Basin Management Plans.
Information Systems Specialists	850.00	96	Design and installation of basin wide information system.
Hydrologists	850.00	384	Development of mathematical model for water management.
Meteorologists	850.00	48	Development of mathematical model for water management, compilation of hydrological study and mapping.
Hydrological GIS data programmers	750.00	144	Design of GIS system.
Surface water hydrological specialists	850.00	136	Compilation of hydrological study and mapping
Groundwater hydrological specialists	850.00	72	Compilation of hydrological study and mapping.
Geologists	850.00	108	Compilation of hydrological study and mapping.
Statisticians	750.00	96	Compilation of hydrological study and mapping.
Water technology specialists	850.00	72	Review and integrate water control structures in model development
Agricultural specialists	750.00	72	Support model development and water prioritization.
Hydro chemical specialists	850.00	96	Water quality standards and monitoring.
Biologists	750.00	248	Biological monitoring of river basin, nature parks and biodiversity
Soil scientists	750.00	72	Assist with determining adequate water requirement of soils in project area
Forestry expert	750.00	60	Support water management model development in relation to forestry.
Community participation specialist	750.00	96	Supporting community grants program delivery
Eco-tourism specialist tourism planner	750.00	47	Coordinate tourism planning with water management planning
Water management economists	850.00	384	Support modules for economic valuation of water management decision
Natural resources economist	850.00	384	Support module design with overall analysis of natural resources use and valuation
Hydro-ecology specialists	850.00	64	Review impact of water management on pollution
Editor, Publishing manager	750.00	48	Review, edit and compile document ready for printing
INTERNATIONAL			
Water Resources Management Specialists	4,000.00	144	Advise on Development of River Basin Management Plans, hydrological study.
Hydrologist	4,000.00	36	Development of mathematical model for water management.
Water Resources & Natural Resources Economist	4,000.00	24	Support modules for economic valuation of water management decision
Information Systems (GIS) Specialist	4,000.00	12	Support design and installation of basin wide information system.
Water technology specialists	4,000.00	36	Review and integrate water control structures in model development, modeling of structures operations.
Specialized hydrologist on EU Water Directives	4,000.00	36	Advise on data collection, development of GIS system and water management model in line with EU Water Directives.
Nature park management specialist	4,000.00	16	Support improved planning and management of nature parks.
Water management specialist on Environmental flows	4,000.00	16	Advise and support development of water management model.

Statistical modeling expert	4,000.00	24	Advise and guide data collection for hydrological study and mapping, and development of statistical modeling.
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ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

A. DESCRIBE IF ANY FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION.

No particular issues have been identified that raise concerns with the implementation of the proposed project

B. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (\$)</i>				<i>Co-financing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To-date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
1. Detailed baseline survey of the project area, including state of the environment, social assessment, stakeholder consultations, development of environmental and socio economic monitoring plan.	Completed	95,000	91,320	0	3,680	7,000
2. Transboundary Diagnosis analysis to include identification and quantification of threats to environment, assessment of natural resources use and management, analysis of competing uses, e.g. hydropower/agriculture.	Completed	85,000		0	0	6,000
Analysis of IWRM and biodiversity conservation practices and lessons learned in transboundary context; international study visits workshops/ seminars to study practices in other transboundary riparian countries.	Completed	70,000		0	0	4,000
Identification of project components and activities; incremental cost analysis; cost tables; development of project implementation plan; auditing.	Completed	50,000	50,000	0	0	

		49,995	48,575	0		5,000
Goods, office equipment, computers, furniture and supplies.		30,065	35,340	0	-5,275	5,000
Incremental Operating Costs		39,910	32,120	0	7,790	7,000
Total	<u>430,000</u>	418,550	412,355	0	6,195	39,000

* Uncommitted amount should be returned to the GEF Trust Fund. Please indicate expected date of refund transaction to Trustee.

Background on Biodiversity

Biodiversity

BiH environmental management: About 50% of BiH is covered by forests and 25% by pastures. The country is mostly hilly and mountainous, with only five percent of territory classified as plains, 24% as hills, 29% as Karst and 42% as mountains. BiH is at a geographical crossroad and includes: 5 types of climate (continental, moderate continental, Mediterranean, modified Mediterranean, mountain), 3 regions (Alpine-Nordic, Euro-Siberian and Boreo-American, Mediterranean), several provinces (e.g., Adriatic, Illyrian, Mesian, Central-European, Dinaric), 6 landscape types (Mountain, Highland, Pannonian, Mediterranean highland, Supra-Mediterranean, Mediterranean) and a great variety of biotopes. BiH is also important for ecological processes: Karstic processes are extensive and among the best examples worldwide; large blocks of forests, large enough to maintain ecological integrity; river dynamics; large carnivore dispersion between Central and South-East Europe.

The most important problems related to biodiversity in BiH are: loss of habitat due to overgrazing; an underdeveloped system of protected areas; and poor land management, including settlements in protected areas. Furthermore, the unfavorable relief (e.g. karst), poor farming practices, minefields, temporary refugee settlements, NATO camps, and municipal waste dumping are the main causes of changes in land use leading to biodiversity loss.

Despite the high diversity of ecosystems and habitats, areas preserved in BiH are relatively small. According to the Entity Laws on Nature Protection, four types of protected areas (protected areas) are defined, which reflect only loosely the IUCN classification system: (a) Nature Protection Areas; (b) National Parks; (c) Natural Monuments; and (d) Landscape Protection Areas. The entities' Laws on the Protection of Nature (adopted in 2002 and 2003 in RS and FBiH respectively and harmonized with the EU requirements) stipulate the revitalization, protection, preservation and sustainable development of landscapes, ecosystems, plants, and animals, as well as functions of nature that are part of the environment. Responsibilities for landscape planning and management generally rest with the Entity Ministries of Environment and Physical Planning and Construction, although in the FBiH some tasks (e.g. preparation of spatial development plans) have been delegated to the cantonal level. In both entities the Ministries in charge of Environment fulfill principal oversight functions for planning and management of protected areas under the first two categories, with the right to delegate competences to other institutions. The management of protected areas is being carried out by specialized public enterprises, which in all instances are constrained by insufficient resources provided via governmental budgets.

Croatia biodiversity management: Unusually rich biodiversity in Croatia is due to its geography, between the Mediterranean and Central-European continental climatic regions, and its geology, which is predominantly karst. Croatia karst ecosystems host 3,500 species of flora (283 endemic), 12 species of amphibians, 36 species of reptiles, 200 species of resident birds, 79 species of mammals, and 64 species of freshwater fish (11 endemic). The Dinarids karst region includes hundreds of sinkholes, chasms, underground streams and some 8,000 caves which represent a global hot-spot of subterranean biodiversity. About 8.2% of Croatia's area is under some form of protection. Threats to biodiversity include lack of systematic inventory and monitoring of the ecosystem, man-induced habitat changes and fragmentation, increasing water and air pollution, extensive exploitation of natural resources and introduction of foreign species. The Law on Nature Protection (2004) provides the framework for management of protected areas and biodiversity conservation, both of which are the responsibility of the Ministry of Culture.

The Ministry for Environmental Protection and Physical Planning (MEPPC) is the central government body responsible for environmental protection. It is, among other activities that fall within its competence, also responsible for administrative and other affairs relating to the general environmental protection policy, with respect to: waste management; air protection, climate and ozone layer protection; environmental impact assessment; environmental contingency plans; and sea and coastal zone protection, soil protection and care for the environment in the Danube area.

Apart from the MEPPC, the other central government bodies that also perform activities relating to environmental protection are: Ministry of Agriculture, Forestry and Water Management (MAFWM); the Ministry of Culture; the Ministry of the Sea, Tourism, Transport and Development; the Ministry of Health and Social Welfare; the Ministry of Economy, Labor and Entrepreneurship; the Ministry of the Interior; the State Meteorological Institute.

Transboundary: At the regional scale, the NTRB region covers three globally significant ecosystems identified by WWF's Global 2000 program and adopted by the Biodiversity Strategy for the Bank's ECA Region: (i) the European-Mediterranean Montane Mixed Forests; (ii) Mediterranean Forests, Woodlands and Scrubs; and (iii) Balkan Rivers and Streams. These also include the Mediterranean Sea and the Karst ecosystem. There are no formal mechanisms for transboundary cooperation in managing protected areas, habitats, or biodiversity conservation. **[From PD]**

Apart from this, nearly two thirds of Neretva Delta is in the Republic of Croatia and represents a very significant area with regard to biodiversity. Due to very intensive irrigation practice, out of twelve former river branches in the Delta, today only three of them remained. Once broad strip of reed, swampland, small lakes and lagoons crucial for hibernation and migration of birds as well as for spawning of fish, nowadays are reduced to small fragments threatened by a wide spectrum of human activities. Although the Ministry for Culture of Republic of Croatia intended for this area of delta to be a natural park, currently there are only five protected locations on the surface of 1,620 ha, which fall into the category of ornithological and ichthyologic preserve. This level of protection is absolutely inappropriate and it practically does not provide the very basic protection level.

Lower parts of Neretva contain some priceless remains of Mediterranean swamp areas, and as such it falls into category of a very rare kind in Europe. The swamp area of delta plays a very important role in managing the overall ecosystem of the NTRB. This area has an international importance because of a very rich diversity of bird and endemic fish species. This area has been included as Ramsar site in the program of Important Bird Areas (IBA), conducted by Birdlife International. The natural park of "Hutovo Blato" in Bosnia and Herzegovina is also a recognized IBA area. In the lower parts of Neretva there is a very rich cultural heritage, containing a large number of castle and settlement remains, which in combination with unique natural beauties of this region makes room for various forms of eco-tourism. Croatian BSAP (Biodiversity Strategic Action Plan) identifies the swamp area of Neretva delta not only as the area with the richest biodiversity in the Mediterranean part of Croatia, but also with the most endangered ecosystem in Croatia. **[From EA]**

Pollution in the Delta: the link to biodiversity

Biodiversity Issues and Water Resources: Pressures on water resources and their associated ecosystems are related and include: conversion of wetlands and other critical natural habitats to agricultural land; illegal land possession/construction in sensitive and/or protected areas; excessive illegal hunting and fishing in the wetlands; unsustainable agriculture practices including over-use of pesticides and lack of crop rotation; interference with the hydrological regime of the NTRB for agricultural, municipal, industrial and hydropower use of water; inadequate flood control; water pollution from point (e.g. municipal and industrial wastewaters, solid waste dump sites) and non-point (agricultural) sources; and lack of public awareness and involvement.

While these pressures represent competing water demands by users, characteristic of many river basins, in the case of the NTRB an additional problem is that demands for water resources are not balanced through any comprehensive and coordinated strategy. The cumulative negative impacts of these pressures include a documented loss of habitat and biodiversity; land degradation and reduced agricultural productivity; sedimentation and erosion leading to reduced efficiency of reservoir operations; salinization; and salt water intrusion **[from PD]**.

The need for improvement of monitoring stations is evident, as well as for their extension to cover both surface and ground water. The salinity penetration in the Neretva Delta area is gradually increasing by a deepening of the river mouth as a consequence of insufficient alluvium due to controlled releases from water reservoirs. This caused changes in biodiversity of the lower Neretva area. **[from EA]**

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