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PROJECT BRIEF

ON A

PROPOSED GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US\$ 4.55 MILLION

TO THE

GOVERNMENT OF ALBANIA
AND THE GOVERNMENT OF MONTENEGRO

FOR A

LAKE SKADAR-SHKODER INTEGRATED ECOSYSTEM MANAGEMENT PROJECT

May 8, 2007

Sustainable Development Unit
Europe and Central Asia Region (ECSSD)

CURRENCY EQUIVALENTS

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70.33 CSD = USD 1

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ABBREVIATIONS AND ACRONYMS

BLMC	Bilateral Lake Management Committee (Albania and Montenegro)
CAS	Country Assistance Strategy
CETI	Center for Ecotoxicological Research (Montenegro)
EAR	European Agency for Reconstruction
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency (Montenegro)
EU	European Union
FAO	Food and Agriculture Organization (United Nations)
GEF	Global Environment Facility
GoA	Government of Republic of Albania
GoM	Government of Republic of Montenegro
GTZ	Gesellschaft für Technische Zusammenarbeit (Germany)
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IUCN	World Conservation Union
KAP	Kombinat Aluminijska Podgorica
KFW	Kredit für Wiederaufbau (Germany)
MEFWA	Ministry of Environment, Forests and Water Administration (Albania)
MESTAP	Montenegro Environmentally Sensitive Tourism Areas Project (World Bank)
MTEP	Ministry of Tourism and Environmental Protection (Montenegro)
MOU	Memorandum of Understanding
NIVA	Norwegian Institute for Water Research
NGO	Non-governmental Organization
OP	Operational Policy (World Bank)
PAD	Project Appraisal Document
PDF-B	Preparation Development Facility –B grant (GEF)
PENP	Public Enterprise for National Parks (Montenegro)
PA	Protected Area
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
REC	Regional Environment Center
SAP	Strategic Action Plan
SNV	Netherlands Development Organization
SLMNR	Shkoder Lake Managed Natural Reserve
SLNP	Skadar Lake National Park

TDA Transboundary Diagnostic Analysis
TA Technical Assistance
UNDP United Nations Development Program
UNESCO United Nations Educational, Scientific and Cultural Organization
USAID United States Agency for International Development

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ALBANIA AND MONTENEGRO
Lake Skadar-Shkoder Integrated Ecosystem Management Project

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I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

1. Lake Skadar-Shkoder, the largest lake on the Balkan peninsula, is located on the border between Montenegro and Albania, south of the Dinaric Alps. The lake measures 60 km by 15 km at its longest and widest points and has an average surface area of 475 km². It is a particularly fragile water body due to its shallowness and the karstic geology of its basin: the lake's water quality and ecology are highly sensitive to the quality and volume of inflow from numerous rivers/streams and groundwater. The lake's outlet is to the Adriatic Sea through the Buna-Bojana River. Due to the flat topography and shallowness of both lake and river, when the river is particularly high as a result of heavy rains the flow reverses temporarily and it becomes an inlet rather than outlet of the lake. Numerous springs located around the periphery of the lake and hydrologically connected to it are used for drinking water and irrigation in surrounding areas.

2. The proposed project area consists of the lake itself and adjacent areas directly served by the lake and its associated springs. The total population of the project area in Albania is about 170,000, living in seven municipalities and rural communes, within three Regions of the Shkodra District. In Montenegro the project area falls within three municipalities with a population of about 12,500 people distributed among 40 small settlements (the larger watershed of the Lake in Montenegro has a population of about 250,000). The lake is part of a large, geographically and ecologically connected complex of wetlands (together with the Velipoja Reserve, Domni marshes, Buna-Bojana River delta and Veluni Lagoon) and has been identified as one of the 24 transboundary wetland sites of international importance known as "Ecological Bricks Sites"¹. Both sides of the lake have been declared as wetlands of international importance under the Ramsar Convention and there are proposals to establish a transboundary Biosphere Reserve in view of the lake's significance as a refuge for migratory birds among other values. Both the Albanian and Montenegrin sides of the lake and immediately surrounding land areas fall within legally designated Protected Areas (PAs): the Shkoder Lake Managed Natural Reserve (SLMNR) in Albania and the Skadar Lake National Park (SLNP) in Montenegro. These factors indicate both the importance of, and the bilateral commitment to, making environmental protection and sustainable natural resource use core development and management objectives for the lake.

3. The recent economic history in the project area reflects that of the two countries as whole, with severe economic decline during the 1990s accompanied by the collapse of many industries and large agricultural enterprises within the Lake Skadar-Shkoder watershed. While creating hardships for the population, this has had a positive impact on the lake ecology through decreased industrial pollution, as demonstrated by water quality monitoring data. Both governments are now seeking to revive the economic base in the area. Tourism is proposed as a major economic driver but there are also active efforts on both sides of the border to attract private investment to restore the industrial and agricultural enterprises. In Albania there is also rapid population growth, accompanied by illegal construction in lakeside areas. In Montenegro there have been recent sales of lakeshore land by the Municipality to private buyers despite the

¹ (Europe's Environment, Dobris Assessment, 1995

fact that new construction is currently legally prohibited inside the boundaries of the National Park. .

4. There is at present an important window of opportunity to put in place strategic, coordinated planning for the Lake Skadar-Shkoder basin, to set it on a path of ecological and economic sustainability. Both governments are striving to harmonize their policies, legislation and practices with European Union instruments, such as the Water Framework Directive which sets standards for water quality and calls for integrated watershed management and transboundary cooperation. A Memorandum of Understanding between the two Ministries of Environment was signed in 2003². The MoU calls for joint monitoring of air, water and soil quality and pollution, cooperation in environmental impact assessment, common strategies for clean industrial and energy development, cooperation for protection of the natural environment, creation of joint regulation for controlling international commerce of industrial and toxic wastes, other dangerous substances and endangered flora and fauna, joint educational and training activities, and creation of working groups and an Action Plan for implementation of the MoU. In early 2007 work began on a more concrete bilateral Agreement³ which will serve as the legal instrument for bilateral cooperation for protection and management of the lake, including implementation of the joint Strategic Action Plan described below.

5. A Transboundary Diagnostic Analysis (TDA) was carried out during project preparation to identify major trends and factors affecting the water quality and ecology of the lake as well as the status of its natural and economic resources. The TDA notes that there are many gaps and inconsistencies in the available data, underscoring the need for more systematic and targeted monitoring as a basis for making key management decisions concerning the lake, the surface and groundwater sources that maintain it and its valuable natural resources. However, the existing data do clearly indicate some problems and significant threats to the lake's water quality and hydrology. The main findings of the TDA concerning water quality and use can be summarized as follows (see Annex 1 for additional details):

- Records prior to the 1990s show excessive levels of heavy metals, PCBs and other pollutants at a number of locations within Lake Skadar. By contrast the lakewide water quality at present is generally good, probably resulting from a sharp reduction in inflowing industrial effluents and agricultural run-off (owing to collapse of industries and large agricultural enterprises in the basin), coupled with the rapid flushing of the lake through the Buna-Bojana River to the Adriatic Sea;
- There are, however, localized pollution "hotspots," for example near inflowing river mouths, concentrations of residences and businesses, and inlets which are not as regularly and efficiently flushed as the rest of the lake. Of these, the greatest negative impacts are likely to be from contaminated sediments and an unlined, open waste dump (mixed

² Memorandum of Understanding for Cooperation in the Field of Environment Protection and Sustainable Development Principle Between the Ministry of Environment of the Republic of Albania and the Ministry of Environment Protection and Physical Planning of the Republic of Montenegro

³ Agreement Between the Government of the Republic of Montenegro and the Council of Ministers of the Republic of Albania for the Protection and Sustainable Development of the Lake of Shkodra (Skadar) and its Watershed.

hazardous and non-hazardous materials) associated with the KAP aluminum plant near Podgorica; effluents from the steelworks at Niksic; untreated wastewater and solid waste from cities and towns on inflowing rivers and from lakeside municipalities and villages; and runoff and leaching of agrochemicals from some surrounding agricultural areas. The agricultural runoff is likely aggravated by loss of buffering natural vegetation along the lakeshore.

- Economic development proposals in both countries which involve alternative uses of the waters of the lake basin present major potential threats to the lake ecosystem. These include proposals for hydropower development on the Moraca River in Montenegro and for dredging the Buna-Bojana River to increase its navigability. Both of these projects could seriously affect the lake level and hydrology, including its characteristic rapid flushing, which would undermine its ecological integrity and water quality. In addition, economic revitalization and growth in the lake basin (industrial, agricultural, tourism development) can be expected to lead to a substantial increase in these pollutants, returning to the pre-1990's condition and beyond;
- Preventive action is needed to counter these existing and imminent threats and maintain the hydrology of the lake (including maintaining water levels needed to ensure continued rapid outflow through the Buna-Bojana), and to protect the lake from a likely increase in pollution and other environmental degradation in the context of expected future economic renewal and physical development in surrounding areas.

6. The TDA also summarizes evidence suggesting that populations of some fish species, including commercially valuable migratory species, are declining. This may be due in part to a large increase in the number of active fishermen, particularly on the Albanian side, since 1990 (many of them using illegal methods such as electrical shock and fish traps), and partly to impacts of localized pollution and habitat destruction. There are also concerns over declines in resident and migratory waterfowl on the lake.

7. Based primarily on the TDA, a joint (bilateral) Strategic Action Plan (SAP)⁴ has been prepared through a participatory process involving a wide range of stakeholders in both countries. The SAP establishes a long-term vision for management and sustainable development of the lake, focusing on five core strategic objectives:

- reduction and prevention of pollution of the lake water, and pollution control systems to maintain EU water quality standards;
- strengthening of the legal and institutional framework for environmental protection, sustainable natural resource management and transboundary cooperation and exchange. establish a joint monitoring system covering key elements of the ecosystem;
- establish effective systems for sustainable management and local use of natural and cultural resources, through effective management of the two Protected Areas;
- promoting joint sustainable tourism development;

⁴ Available on Government of Albania, Government of Montenegro, and GEF/International Waters websites

8. The SAP outlines a 10-year plan of action which includes both ongoing activities financed by the central and municipal governments and others (bilateral and multilateral financing institutions, NGOs) and activities which the governments intend to undertake through a combination of budgetary resources and external assistance.

9. The project aims to deal with current and imminent threats to the lake's water and ecosystem in two key ways: first, by building political commitment for sustainable management at national and local levels, and second, through direct interventions to reduce pollution from point and non-point sources. In both cases, the project will build upon and supplement existing initiatives of the two governments and other donors, primarily by strengthening the transboundary dimension.

B. Rationale for Bank involvement

10. The project builds on and complements existing World Bank programs in both countries to support environmental protection and economic development based on sustainable management of water and related natural resources, at national and transboundary levels. In Albania this includes the recently completed GEF-financed Lake Ohrid Conservation Project which supported the establishment of cooperation between Albania and Macedonia for joint environmental management of the Lake Ohrid watershed. This included developing the institutional, legal and regulatory framework for environmental management, establishing a monitoring program and public awareness-raising. The Integrated Water and Ecosystems Management project and Coastal Zone Management Project are supporting innovative wastewater treatment approaches and promoting integrated ecosystem management for coastal areas in Albania, which are in many ways very similar to the extensive Lake Skadar-Shkoder coast. The Fishery Development project is supporting increased local participation in the management of fish resources in Lake Skadar-Shkoder, and the Natural Resources Development project aims to reduce erosion in the lake's upper watershed areas to reduce downstream sedimentation. In Montenegro, ongoing activities and projects under preparation include the Sustainable Tourism Development project, which will support use of water from Lake Skadar and wastewater management at the coast, and the Tara and Lim River Basin Management project, which will introduce integrated watershed management in the northern and central part of the country. A Strategic Environmental Assessment of the Montenegro draft Energy Sector Development Strategy (funded by a grant from the Bank-Netherlands Water Partnership Program) will be focusing on the implications of proposed hydropower development on the Moraca River and evaluating the trade-offs involved in hydropower vs. other uses of this river, which is one of Lake Skadar-Shkoder's main tributaries. The Bank also brings the benefit of experience in implementation of projects for protection of transboundary waters and cooperation in tourism development and natural resource management the ECA Region and elsewhere in the world. At the same time, the Bank can transfer experience gained in this project to other countries and regions.

11. The project contributes to the objectives of the Country Assistance Strategies (CAS) in both countries by strengthening public institutions responsible for the protection and management of Lake Skadar-Shkoder and providing an enabling environment for private sector development in the tourism sector. The CAS for Montenegro also calls strengthening regional

cooperation and Montenegro's constitutional commitment to be an ecological state. The Albania CAS focuses on governance, and identifies the need to build institutional capacity for law enforcement among other elements. The project will help to strengthen regulation of water, land and natural resource uses which affect the water quality and economic value of the lake and contribute to improvement of environmental public services in relation to wastewater treatment. The project also represents part of a broader Bank effort to assist Montenegro and Albania move towards harmonization of their environmental and natural resource management regulations and practices with the EU *environmental acquis*.

12. At a regional level, the project supports implementation of the joint World Bank/German Government "Petersberg Process," which aims to facilitate debate on the problems of transboundary water management and the development of an integrated approach to resolving them. Phase II of the Petersberg Process (launched in December 2005) focuses on operationally oriented cooperative activities, particularly in the smaller catchment basins of southeastern Europe.

C. Higher level objectives to which the project contributes

13. Both Montenegro and Albania have identified the Lake Skadar-Shkoder area as a priority for environmental protection, sustainable natural resource management and nature/culture-based tourism development, in a number of national and local strategies and plans (e.g., in Montenegro the Environmental Action Plan, the Strategy for Sustainable Development, the draft National Spatial Plan, the Master Plan for Tourism; in Albania the National Environmental Action Plan, the National Strategy for Socio-Economic Development (2003), the National Biodiversity Strategy and Action Plan, the Shkodra Region Area Based Development Program, and the Law on the Protection of Transboundary Lakes). They have also recognized the need for transboundary coordination to achieve these objectives, as reflected in the 2003 Memorandum of Understanding between the respective Ministries responsible for environment and the bilateral legal Agreement currently being finalized, which will be signed by both governments. The information to be generated under Component 1 will be essential for prioritizing threats to the lake's waters and ecosystems, including both Government policies (e.g. regarding hydropower development) and development trends in the greater lake basin. The transboundary institutional structures to be established and strengthened will provide an essential mechanism for ensuring that the implications of these policies and trends are explored and addressed at a coordinated, lake-wide level.

14. Both sides of the lake have been designated by the respective governments as wetlands of international importance under the Ramsar Convention, and both countries are signatories to a number of relevant international agreements and conventions (see above). This project directly supports the realization of these national strategies and plans and fulfillment of these international obligations as well as implementation of the 2003 MoU. The project also contributes to the countries' common objective of harmonizing policy, legislation and practice with the European Union environmental *acquis*, particularly the Water Framework Directive, which calls for cooperation in managing transboundary water bodies and resources through a coordinated, integrated watershed level approach.

Fit to GEF Focal Area and Operational Program:

The project is presented under OP 9, to assist Albania and Montenegro in accelerating the implementation of the Strategic Action Program for the protection of Lake Shkodra, which the two countries have recently adopted. As such, the project is fully consistent with Strategic Objective 1 of the IW 2007-2010 Interim Strategy: to catalyze implementation of agreed reforms and on-the-ground stress reduction investments to address transboundary water concerns. The project can also be considered on the whole consistent with the draft IW Strategy for GEF 4, in particular with Strategic Objective 2 (SO-2: To play 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), and the IW Strategic Program 3 (Balancing over-use and conflicting uses of water resources in transboundary surface and groundwater basins). The project in fact attempts to introduce ecosystem-based approaches and Integrated Water Resources Management to help reconcile development needs (e.g.: increased tourism, hydropower) with ecosystem sustainability. Large freshwater lakes such as Lake Skadar-Shkoder deliver a large number of environmental services which are dependent upon sufficient “environmental flow” of water, in terms of both quality and quantity. Both excessive withdrawal and pollution of surface and groundwater sources which feed the lake represent conflicting uses of the water because they undermine the potential for delivering these environmental services. Lake Shkodra, because of its shallowness and of the karstic geology of its basin, is particularly vulnerable to the impacts of conflicting uses of the surrounding land (recharge areas of the karstic aquifers feeding the Lake), and of the waters flowing into the Lake.

Countries' Eligibility for GEF:

Albania and Montenegro are both members of the GEF and the World Bank. Both countries are signatories to key international conventions relating to coordination and cooperation for protection and management of transboundary waterbodies and watersheds, including the Barcelona Convention and its protocols and have developed programs within the framework of the Mediterranean Action Plan (relevant because Lake Skadar-Shkoder drains directly into the Adriatic Sea through the Buna-Bojana River) and the Espoo Convention on Environmental Impact Assessment in a Transboundary Context and the Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes. (Again, in the case of Montenegro, the signatory was the Union of Serbia and Montenegro). A 2003 Memorandum of Understanding signed by the respective Ministries responsible for environmental protection provides a specific framework for cooperation for protection and sustainable development of Lake Skadar-Shkoder. The next step, finalization and approval of a formal bilateral Agreement is in process. A Transboundary Diagnostic Analysis (TDA) completed during project preparation identified objectives and high priority issues on a lake-wide basis, and a joint Strategic Action Plan based on the TDA has been approved by both Governments.

II. PROJECT DESCRIPTION

A. Lending instrument

GEF Grant

B. [If Applicable] Program objective and Phases

N/A

C. Project development objective and key indicators

Project Development Objective:

15. To maintain and enhance the long-term economic value of Lake Skadar-Shkoder and its natural resources

Global Objective:

16. To enhance transboundary cooperation for managing the sources and impacts of potentially conflicting development objectives and activities affecting the waters of the Lake Skadar-Shkoder basin.

Key Indicators:

- Bilateral Lake Management Committee and Working Groups are established and operating, with costs increasing met by Governments
- Predictive hydrological model of Lake Skadar-Shkoder is completed and being used by decision-makers in both countries to analyze likely impacts of policies and proposed investments;
- Coordinated monitoring underway, providing information into a publicly accessible database
- Successful completion/water quality impacts of priority interventions to reduce surface and groundwater sources of pollution in the lake (specifics to be confirmed at Appraisal)
- Four pilot projects for ecological restoration of lake buffer areas successfully completed
- At least a 20% increase in the number of project area residents earning \$ 1000 or more/year from lake-based tourism enterprises

D. Project components

17. The project aims to deal with current and imminent threats to the lake's water and ecosystem in two key ways: by building the political commitment, institutional mechanisms and technical knowledge required for sustainable management; and through direct interventions to reduce pollution from point and non-point sources. In both cases, the project will build upon and supplement existing initiatives of the two governments and other donors, primarily by strengthening the transboundary dimension. The project approach is based on four pillars:

- Improving information and understanding of the lake’s ecosystem, and of the current and potential impacts of developments in the lake basin which on the quality and quantity of inflowing ground and surface waters;
- Strengthening institutional mechanisms for coordination and cooperation among stakeholders/water users at all levels, with a particular emphasis on transboundary linkages;
- Reducing existing pollution sources through direct investment and by providing demonstrations and incentives as well as strengthening regulatory capacity; and
- Promoting sustainable use of the lake and its natural resources, as a preferred alternative to existing non-sustainable practices and to help counter pressures for incompatible development.

18. The project is based upon the joint Strategic Action Plan (SAP) for Lake Skadar-Shkoder, which represents a long-term program of ongoing and proposed activities financed by the two governments and by external donors. Some of the activities to be financed by the project will be implemented jointly by the two countries through a bilateral Lake Management Committee (BLMC) and associated Working Groups. Other activities will be carried out by and in only one country, but have lake-wide benefits. A breakdown of the proposed project activities indicating GEF and other financing is provided in Annex 5. Annex 17 presents the summary action table of the SAP, indicating governments’ and other donors’ financing for other SAP activities (i.e., not included in this project).

Component 1: Understanding and Managing the Lake Skadar Ecosystem (Total: US\$ 3.36; GEF: US\$ 2.04 million)

Subcomponent (i) Strengthening institutional structures for cooperation

19. The bilateral Agreement calls for establishment of a high level bilateral Lake Management Committee (BLMC), including Government and civil society members to serve as the main steering mechanism for implementation of the SAP and a forum for reaching concrete agreements on lake management issues. The BLMC will convene Bilateral Working Groups to facilitate coordination and action on specific issues. Initially, six Working Groups are envisaged, based on priorities identified in the Strategic Action Plan: Planning, Legal, Monitoring & Research, Communications/Outreach, Tourism and Water Management. The BLMC and Working Groups will be served by a small Secretariat (based in Albania), and a one-person technical support unit for each country which will be responsible for implementation of joint activities and will also assist the respective government agencies in implementation of GEF-financed activities. The two governments will be responsible for establishing the BLMC and Working Groups and will provide in-kind (personnel) and some cash contributions for their operation. GEF funds will support long term and short term Technical Assistance, equipment and materials, and incremental operational costs on a declining basis during the life of the project.

Subcomponent (ii) Transboundary Research and monitoring:

20. The two Governments already undertake routine water and ecological monitoring and research in the lake, in accordance with national policy and legislation, and they are in the process of enhancing their monitoring programs to harmonize with the EU Water Framework Directive. GEF support is sought for incremental activities to bring in new approaches and to build a transboundary dimension. This includes: (a) creating a predictive hydrological model of the whole lake basin; (b) incremental research and monitoring aimed at improving understanding of the impacts of changes in inflowing water quantity and quality; and (c) coordinating and harmonizing monitoring on both sides of the lake, including establishment of a publicly accessible joint database. Albania is targeted to get somewhat more support than Montenegro, in order to help close the capacity gap and facilitate more effective technical collaboration between the two countries.

Subcomponent (iii) Implementation of activities commissioned by BLMC and Working Groups:

21. This subcomponent will support a number of joint activities identified in the SAP, under the guidance and coordination of the bilateral Working Groups and BLMC. In addition to the joint research and monitoring described above, these include preparation of a lake-wide zoning and management plan, a public awareness-raising/education program, coordinated tourism planning and marketing, etc. Lead responsibility for implementation of these joint activities will be assigned to either Albania or Montenegro (the basic division to be decided during Appraisal) and the funds involved will be included in the respective GEF grants to the two countries. Jointly prepared lake-wide plans (zoning, tourism, etc.) will be implemented by integrating them into national-level spatial and sectoral plans which serve as the technical and legal basis for development decisions, government budgetary allocations and permitting. GEF funding under this subcomponent will be used mainly for local and international technical assistance and for stakeholder consultation processes.

Component 2: Enhancing Sustainable Use of the Lake Ecosystem (Total: US\$ 5.14 ; GEF US\$ 0.86 million)

22. This component aims to promote the adoption of more sustainable approaches to economic development of the lake and its natural resources. It focuses primarily on two aspects (tourism and fishing) where there is a high potential for economically significant sustainable use, but current unsustainable practices are threatening the ecological integrity and long-term economic value of the lake and the livelihoods of local communities. Ensuring the economic viability of environmentally sustainable uses of the lake is essential to counterbalance pressure for incompatible development in the lake basin and watershed.

Subcomponent (i) Sustainable tourism development:

23. National and local governments and local residents in both countries look towards tourism as the main engine for economic development of the Lake Skadar-Shkoder area, and national spatial and sectoral strategies identify it as a priority “special interest” area for development of nature, culture, and recreation-based tourism. A growing proportion of the local

population is also involved in tourism-related enterprises. These are positive factors for building support and commitment for environmental protection, as such this type of tourism depends on environmental quality as a key part of the tourism “product.” Properly planned and regulated tourism is therefore a preferable alternative to many other economic activities. At present, however, tourism is growing rapidly in the Lake Skadar-Shkoder area in an unplanned and unregulated way which makes it an increasingly serious threat to the lake, through inappropriate construction, untreated wastewater, poor solid waste management, etc. The project will support development of more environmentally and socially sustainable tourism by improving nature- and culture-based facilities and attractions (e.g. hiking trails, cultural sites); public awareness-raising and providing information and Technical Assistance to local residents to help them engage in appropriate tourism enterprises; and strengthening regulatory capacity to stop illegal construction and other negative practices. GEF will help to build an enabling environment for development of sustainable tourism by supporting small scale infrastructure development and rehabilitation (e.g., hiking trails and signage, birdwatching towers, rehabilitation of cultural and historical sites, etc.). The GEF funds will complement other, mainly nationally-focused funded projects (see Annex 2) by emphasizing support for transboundary coordination and joint action, based on the lake-wide tourism plan (see Component 1).

Subcomponent (ii) Natural resource management:

24. Fish are by far the lake’s most significant natural resource in terms of contribution to local economies and employment. Their mobility also makes transboundary cooperation essential for sustainable management. Some of the lake’s most valuable fish species are currently threatened by over-exploitation and habitat degradation. Both Governments have institutions and personnel in place to regulate fishing, but there is a lack of information, mechanisms and capacity to manage the fisheries on a lake-wide basis. As in the case of tourism, the project will complement other government and donor-funded initiatives for sustainable fisheries management at the national level (see Annex 2), by providing the information and means for better bilateral coordination. This includes integrating the results and recommendations of the lake-wide stock assessment and fisheries management plan (Component 1) into national plans, regulations and programs. The project will also provide support and incentives for fishermen who are currently operating illegally to become licensed and to stop using illegal fishing methods. At the same time, it will help to strengthen the governments’ regulatory and enforcement capacity to stop unlicensed boats and the use of illegal fishing methods. If the stock assessment and monitoring confirm that the present level of fishing is excessive and unsustainable, the governments may need to place some currently used fishing areas off-limits and/or to reduce the number of boats and fishermen. Annex 10 discusses the Resource Access Restriction Process Frameworks which have been prepared to address the potential negative socio-economic impacts of such restrictions.

Component 3: Investments to Protect Water Quality (Total: US\$ 7.21 million; GEF: US\$ 1.65 million)

25. This component will support on-the-ground investments to help address existing sources of pollution identified in the TDA. GEF funds will complement investments by the two

governments and other donors (see Annex 15), addressing transboundary issues and demonstrating innovative approaches. The component includes three subcomponents:

- (i) Small scale, innovative wastewater treatment for lakeside villages and tourist facilities (Albania and Montenegro)
- (ii) Shielding groundwater from hazardous wastes at the KAP Aluminum plant (Montenegro)
- (iii) Pilot ecological restoration of lakeside vegetation buffer areas (mainly Albania)

Subcomponent (i) Small scale wastewater treatment:

26. Several donor-funded programs are supporting construction or upgrading of sewage collection and wastewater treatment facilities in large urban areas connected in the lake basin (e.g., Shkodra Municipality, Podgorica). The GEF project will target the problem of wastewater from small villages, residences, restaurants, etc. which present a growing source of pollution. The objective is to demonstrate practical, environmentally friendly solutions for such situations which can be replicated at other sites. On the Montenegro side, a pilot project for wastewater treatment, possibly based on constructed wetlands, is proposed for the village of Vranjina. On the Albania side GEF funds are proposed to provide incentives and assistance for installation of individual wastewater treatment facilities at more than 30 lakeside restaurants.

Subcomponent (ii) KAP hazardous waste containment:

27. Improperly stored wastes at the Kombinat Aluminijuma Podgorica (KAP) aluminum plant (along the Moraca River) has been identified as one of the main threats to the lake, specifically as a source of heavy metals, PCBs and other toxic pollutants which have been detected in the lake water and adjacent springs and wells, as well as in some fish. Data from monitoring wells suggest these materials are leaching from the site through groundwater to the Moraca River. The likely source is a large, unlined and uncovered dump site containing a mixture of non-hazardous and hazardous wastes which have been accumulating since the early 1970's. The GoM intends to construct an EU-compliant landfill for the hazardous waste⁵ and has budgeted an initial USD 5 million for this purpose. However, the full cost can only be determined once the waste has been properly inventoried and a feasibility study and design for the landfill have been completed. GEF funds will support TA for the inventory and feasibility study, and contribute to on-the-ground implementation of the proposed solution. The precise nature of the GEF contribution will be determined after the feasibility study is completed, but will in principle be targeted to preventing leaching of hazardous and toxic materials into the groundwater. This may take the form of co-financing of the landfill or associated investments (e.g., monitoring/pumping wells at the perimeter where groundwater from the site enters the Moraca River).

Subcomponent (iii) Pilot buffer vegetation restoration:

⁵ Probably for all the waste, as separation may not be possible. In this case, Government and the KAP owner would share the cost of construction

28. Excessive tree cutting, over-grazing and destructive construction practices have eliminated or degraded the vegetative buffer that helps to protect Lake Skadar-Shkoder from non-point-source pollution and siltation from adjacent and upstream agricultural areas. The SAP identifies priority areas for pilot ecological restoration activities, including (in Albania) erosion control measures on inflowing streams of Taraboshi Mountain and strips of wetland vegetation around key fish nursery sites in Kamic and Shiroke, and (in Montenegro) controlled grazing in lakeside grasslands around Virpazar. The project will support Technical Assistance, equipment and operating costs for pilot/demonstration restoration projects.

E. Lessons learned and reflected in the project design

29. Project preparation is benefiting from the experience of several recent Bank-financed projects and other programs for coordination of transboundary water bodies and other natural areas. There are numerous parallels between the proposed project and the recently completed, GEF-financed Macedonia/Albania Lake Ohrid Management project, which established a bilateral Watershed Management Committee and Secretariat, and a bilateral Agreement for protection and sustainable development of Lake Ohrid and its watershed. Some specific lessons from Lake Ohrid that are being applied to the present project include:

- The need to identify critical data needs early, to tailor ecological monitoring around them, to use concrete performance-based indicators that are clearly linked with desired outcomes, and to use a partnership approach taking advantage of existing capacity and activity in the local scientific community. According to the project Implementation Completion Report, closer attention to these aspects would have helped the Lake Ohrid project establish a more practical and sustainable monitoring program and avoid financing infrastructure and equipment that was not essential or duplicated existing facilities. In the present project, GEF-funded monitoring of specific lake-wide water quality and associated ecosystem parameters will complement routine ecological monitoring carried out in both countries. Both Albania and Montenegro ultimately aim for a comprehensive ecological monitoring program as called for in the EU Water Framework Directive and Ramsar Convention, but this will need to be achieved in a phased manner as capacity is developed.
- The importance of early, intensive efforts in public awareness and education, which can pay off in stronger stakeholder involvement and active participation in project activities.
- The collaboration, compromise and consensus-building necessary for joint decision making depends upon open dialogue, goodwill and trust among the main stakeholders, and this takes time to develop. However, the project can facilitate this process by supporting joint activities, exchange visits, etc. The present project includes a substantial budget for bilateral meetings, events, study tours, etc., and for jointly designed and implemented public communications and outreach (through the Communications/ Outreach Working Group).
- GEF support can play an important catalytic role in leveraging spin-off projects (e.g., financing of major infrastructure investments), which greatly enhance project impact.

Even modest GEF grant funds can raise visibility, and robust analyses and concrete action plans developed during project preparation can help bring other donors to the table. The Strategic Action Plan, which was developed as part of project preparation is expected to play this role for Lake Skadar-Shkoder. The SAP reflects that there are already considerable funds being provided by other donors, particularly for planning and wastewater/solid waste management, but there remain important gaps which the GEF funds will help to fill through pilot projects to demonstrate appropriate technologies and approaches.

30. Other GEF and WB projects involving international waters (e.g., Baltic Sea; Caspian Sea, Serbia Danube Enterprise Reduction) also provide important lessons, such as the importance of combining “bottom-up” planning and implementation (as well as local economic benefits) with “top-down” (e.g., policy level) support; and the value of high-visibility transboundary agreements, institutions, and programs for creating an enabling environment for national authorities to carry out their regulatory responsibilities. The Albania Coastal Zone Management, Fisheries Development, and Natural Resources Development projects provide a source of directly relevant experience relating to the importance of, and mechanisms for involvement of local communities in planning and sustainable natural resource management.

31. During project preparation, a study tour to the transboundary Lake Neusiedl-Ferto (shared between Austria and Hungary) generated useful ideas and potential models for incorporation in to project design. For example, it demonstrated the possibility of achieving effective cooperation despite substantial differences in the institutional structures for protected area management in the two countries. It also highlighted the importance of creating a supportive environment for local economic development, suggested innovative mechanisms for involving people from nearby communities in day-to-day management of the lake, and illustrated the value of restoring nearby terrestrial habitats to help maintain aquatic ecosystems. International consultants involved in the Transboundary Diagnostic Analysis and project preparation were also able to expose the national project teams to a variety of other institutional structures and models for cooperative management of transboundary lakes (e.g., the International Commission for the Protection of Lake Geneva; the Lake Constance Environmental Council; Estonian-Russian Transboundary Water Commission, etc.).

F. Alternatives considered and reasons for rejection

32. A project covering much or all the watershed of Lake Skadar-Shkoder (and perhaps extending along the Buna-Bojana River to the Adriatic Sea) was considered because both Montenegro and Albania have policies to implement a River Basin approach as called for by the EU Water Framework Directive. However, with such a large geographic area, the level of resources available would not allow for meaningful investments on the ground. The TDA and SAP do cover the larger watershed area, providing a framework for attracting and coordinating other donors and programs.

33. Initially it was anticipated that the project would focus even more of its resources on direct investments to clean up the lake and eliminate sources of pollution. However, the TDA indicated that at present water quality is generally good and that the focus should be on putting in

place institutional structures and systems to preserve water quality and ecosystem health in the face of anticipated economic revitalization and development in the near future. The project will include investments to address some localized pollution sources and “hotspots” which the TDA identified as being high priority, including the open waste dump at KAP. The TDA also highlighted uncontrolled construction and unsustainable natural resource use (particularly excessive and illegal fishing) as issues which present an immediate threat to the economic value of the lake. This highlighted the importance of strengthening the capacity of authorities responsible for management of the lake to address these issues, both through outreach and education and through improved vigilance and enforcement.

34. Project preparation teams in both countries expressed a strong interest in including direct financial support (small grants or micro-credit program) to local communities to help them establish or expand small economic enterprises involving sustainable use of the lake and its natural resources, including tourism. However, this would inevitably add greatly to the complexity of a project. Furthermore, a number of socio-economic factors (e.g., lack of social cohesion and organization, weak local institutions, high immigration rates) would make it particularly difficult to implement such a program in this area. Given the short time frame of the project, it is very unlikely that the participatory processes and management structures that would be needed for success could be put in place. Therefore, it was agreed that this project would not include a micro-credit or small grants program but would instead focus on awareness raising, TA and specific skills training to assist interested local community members to enter into sustainable use types of activities. It will also provide incentives for unlicensed fishermen to obtain licenses and participate in local user associations.

III. IMPLEMENTATION

A. Partnership arrangements (if applicable)

35. In addition to GEF/World Bank, a number of other donors and NGOs have programs to support environmental protection, sustainable natural resource management, and sustainable tourism in the Lake Skadar-Shkoder area (see Annexes 2 and 15). The joint Strategic Action Plan for the lake being prepared under the GEF PDF-B Grant will serve as a framework to enhance coordination, collaboration and partnership among these initiatives and parties. This is expected to include substantial co-financing of some specific activities included in the proposed GEF project.

36. The Netherlands Government (SNV) directly supported project preparation by providing technical, logistical and financial assistance to the national teams preparing the Strategic Action Plan, in close coordination with the WB. It is anticipated that this partnership will continue into the implementation phase in the form of ongoing on-the-ground facilitation and co-financing for some activities under Component 1. At this time, only this SNV support is being considered as project co-financing *per se*, as it is directly leveraged by the GEF grant. However, many of the other donor-funded activities described in Annexes 2 and 15 contribute directly to the project objectives and therefore could be considered co-financing. For example, GTZ is supporting the preparation of detailed urban plans for some lakeside towns (an essential step towards bringing order to the current plague of unregulated construction), and for development of small scale

economic enterprises in the lake basin. GTZ also supported preparation of the Master Plan for Tourism in Montenegro which defined nature- and culture-based tourism as the main development objective for the Lake Skadar basin. The project will cooperate closely with an ongoing Regional Environment Center (REC) project to promote cross-border communication and cooperation. REC has also been actively involved in some aspects of project preparation, such as providing data and background documents for the Transboundary Diagnostic Analysis and organizing and co-financing public awareness-raising activities such as the first transboundary “Lake Skadar Day.” While UNDP is not directly engaged in activities relating to Lake Skadar-Shkoder, UNDP support for preparation of a Strategy for Sustainable Tourism Development in Northern and Central Montenegro (including Lake Skadar), a national Sustainable Development Strategy and a country-wide GIS mapping and capacity building have contributed greatly to an enabling environment for this project.

37. The estimated US\$ 30 million of “Associated Financing” for the project also includes programs funded by the World Bank (IDA), KfW, the European Agency for Reconstruction, USAID, Austria, Italy, and the Norwegian Research Council. An estimated \$10 million will come from RUSAL, the owner of the KAP aluminium plant, representing about half of the estimated cost of its program to clean up the KAP site and improve environmental performance (some of the program addresses air pollution, energy efficiency, etc. and is not counted as associated financing). Other less direct but important sector-level support (not counted as associated financing for the project) includes a European Union project which is helping to establish the new Environmental Protection Agency in Montenegro, and several initiatives financed by the World Bank and others to promote sustainable tourism development and ecosystem-based management in Montenegro and Albania. As noted above, a Strategic Environmental Assessment of the draft Energy Sector Strategy, with direct implications for use of waters feeding Lake Skadar-Shkoder, is being prepared under the Bank-Netherlands Water Partnership Program.

38. More broadly, the Bank has partnered with the German government (Ministry for the Environment, Nature Conservation and Nuclear Safety) to launch and support the “Petersberg Process.” This initiative stems from the 1998 “Petersberg Round Table on Trans-boundary Waters.” During Phase I, four Round Tables were organized to facilitate an open debate on the problems of transboundary water management and the development of an integrated approach to resolving them. Participants have included ministers, senior policy makers, academics, representatives of international organizations and NGOs. Phase II, which was launched in December 2005 will focus on cooperative operationally oriented activities concerning transboundary water management, concentrating on smaller catchment basins of Southeastern Europe (including Lake Skadar-Shkoder). Phase II of the Petersberg Process will complement the Stabilization and Association process of the European Union (EU) and other ongoing initiatives in the region, such as the Athens Declaration, the Global Water Partnership - Mediterranean (GWP-MED) and European Union Water Initiative/Mediterranean Component.

B. Institutional and implementation arrangements

39. The Albanian Ministry of Environment, Forests and Water Administration (MEFWA) and the Montenegrin Ministry of Tourism and Environmental Protection (MTEP) will have overall responsibility for implementation of the project, in coordination with partners including

sectoral Ministries, local governments and Universities. MTEP and MEFWA are directly responsible for on-the-ground management of the lake and immediately surrounding areas, because the entire area on both sides of the border falls within formally established Protected Areas (PAs). In Albania, MEFWA is also the Ministry responsible for water management and for fisheries. In Montenegro, water management in general falls under the Ministry of Agriculture, Forestry and Water Management, but Lake Skadar-Shkoder represents a special case due to its PA status. MTEP and MEFWA will each assign a Project Manager and representatives to serve on the bilateral Lake Management Committee and Working Groups.

40. In Albania, day-to-day implementation will be the responsibility of the Secretariat for the Bilateral Lake Management Committee (for activities under Component 1), the Management Unit for the Shkoder Lake Managed Nature Reserve (Component 2 activities) and the SLMNR Management Unit together with Shkodra Municipality (Component 3 activities). The SLMNR Management Unit is newly created and not yet complete: appointment of appropriate senior management for the Unit will be a condition of disbursement for activities falling under the Unit's responsibility. In Montenegro, the implementing agencies will be the MTEP with technical and administrative support from the BLMC Secretariat (Component 1), the Public Enterprise for National Parks --specifically by the management and staff of the Skadar Lake Skadar National Park, under the direction of the SLNP Director-- (Component 2) and the Environmental Protection Agency which is in the process of being established under MTEP (Component 3). The joint Secretariat for the Bilateral Lake Management Committee (comprised of one person, with office and operating budget) will be based in Albania and funded through the GEF grant to Albania, and will report for administrative purposes to MEFWA. The Secretariat will be supported by two project-financed Technical Specialists (one in Albania, one in Montenegro), and will have funds to engage specialized consultants to meet specific implementation needs (e.g. procurement, financial accounting, database and website management, etc.) on a part-time basis. Monitoring and research activities under Component 1 will be contracted to well-established local institutions such as the Center for Eco-toxicological Research, the Republican Hydro-Meteorological Institute, Institute for Protection of Cultural Monuments, Nature Protection Institute and the University of Montenegro (Montenegro), and the Hydro-meteorological Institute, Natural Sciences Museum and Fishery Research Institute and University of Shkodra (Albania), among others. Where other government departments, agencies or organizations (e.g. Municipalities, NGOs) are involved in implementing project activities, they will do so under the terms of Memoranda of Understanding signed with MTEP or MEFWA.

41. The GEF funds will be divided based on the breakdown of activities and associated costs, with separate GEF grants to each country. Implementation responsibility for joint activities under Component 1 will be agreed upon during Appraisal (assigned to Montenegro or to Albania) and the associated funds will be included in the respective GEF grants accordingly.

42. A project Operational Manual, to be completed prior to project effectiveness, will provide details of implementation and reporting processes and responsibilities. This will include details regarding implementation and monitoring of project- and activity-level Environmental Management Plans and the Resource Access Restriction Process Framework. All activities will be carried out with an emphasis on regular and substantial involvement of stakeholders, particularly local communities and NGOs.

43. MEFWA and MTEP will also coordinate with a number of other institutions which will not have a direct role in implementation but are important actors and stakeholders. For example the Drin– Bunë River Basin Administration (chaired by the Prefect of Shkodra) covers the entire Lake Shkoder watershed in Albania, and under the new water law in Montenegro the Water Administration Agency will have a lead role in implementing integrated water management in line with the EU Water Framework Directive. The specific division of responsibilities among these various institutions will be clarified through an institutional analysis to be completed during project preparation.

C. Monitoring and evaluation of outcomes/results

44. Monitoring of project implementation will be the responsibility of the Project Coordinators in MTEP and MEFWA and of the Secretariat for the bilateral Lake Management Committee (for joint activities under Component 1). As the core objective of the project is to establish mechanisms and build commitment for preventing pollution and degradation of the lake ecosystem, standard water quality parameters will be tracked on a lakewide basis to determine whether they show signs of falling below current (acceptable) levels. Data collection will largely be done by existing scientific institutions in each country, such as the Center for Ecotoxicological Research, the Republican Hydro-Meteorological Institute, Institute for Protection of Cultural Monuments, Nature Protection Institute and the University of Montenegro (Montenegro), and the Hydro-meteorological Institute, Natural Sciences Museum and Fishery Research Institute and University of Shkodra (Albania), among others. However, significant changes in these parameters would not really be expected to occur during the short period of project implementation except in the immediate vicinity of pilot water clean-up projects (see below). Therefore, Component 1 outcomes focus on the establishment and activities of new bilateral institutional structures, mainly the Lake Management Committee, its Secretariat and its associated Working Groups.

45. The effectiveness of the Committee will be measured by its proactivity in establishing Working Groups and in approving reports and proposals submitted to it, and by the two Governments' approval of its outputs and their integration into national policies and programs. For example, the lake-wide management plan should be prepared in consultation with all significant stakeholders and then incorporated into urban plans and Protected Area management plans on both sides of the lake. The effectiveness of the Committee and Working Groups will also be reflected in the extent to which the Governments make use of these bodies to assess and resolve transboundary issues or conflicts that may arise; however, it is difficult to set advance targets for this. Sustainability of the Committee will be measured by the willingness of the Governments to cover an increasing proportion of its basic costs (meetings and communications) over the life of the project.

46. For Component 2, annual work plans/procurement plans agreed between the Governments and the Bank will set targets for physical elements such as completion of small-scale tourism infrastructure and total areas re-vegetated in ecological restoration pilots. Progress in non-physical elements such as public outreach and communications, reduction in illegal fishing and building, and socio-economic impacts will be measured through surveys whose

results will be compared with those of baseline studies carried out during project preparation or the first year of implementation. Data collection will be carried out by the staff of the respective PA management units and by contracted third parties.

47. For Component 3, the impacts of pilot small-scale waste-water treatment installations will be measured by improvement of water quality at those sites. Impacts of groundwater protection measures at the KAP site will also be monitored through sampling wells, although it is not certain whether they will be completed in time to make an impact by the end of the project. Ecological restoration of buffer vegetation should also help protect water quality in the long term but impacts are not expected to be measurable in the time frame of the project; therefore, monitoring will focus on physical progress of restoration work.

48. A Monitoring and Evaluation Plan for the project, reflecting the above elements, will be included in the Project Operational Manual, including specific responsibilities, timeframes and reporting formats. Project supervision will monitor implementation of mitigation measures identified in the Environmental Assessment/Environmental Mitigation Plan.

D. Sustainability

49. The project derives sustainability from the fact that it will support Government priorities. Both Albania and Montenegro have policies and recently adopted/enacted laws which directly support the objectives of this project, as well as national strategies and spatial/development plans which identify environmental preservation and sustainable development as the primary management objectives for Lake Skadar-Shkoder. They have also made international commitments, such as designating both sides of the lake as Ramsar sites. Both countries are also actively working to harmonize their legal and institutional frameworks with the EU *environmental acquis* and Directives, including adoption of a coordinated, integrated watershed approach to managing transboundary water bodies. Finally, both countries are committing substantial budgetary resources and assistance from other donors for activities that directly or indirectly support the project's activities and objectives.

50. The institutions responsible for implementation are either existing organizations (Government Ministries and agencies; national research institutes) or bodies that the Governments are committed to maintaining over the long term (the BLMC). The bilateral Working Groups are not necessarily intended to be permanent institutions, so at the close of the project they may continue, terminate or be changed to focus on other priorities depending on the Governments' priorities and available resources. Component 1 will help to set up these institutional structures and will cover associated costs on a declining basis in order to enhance sustainability. One frequent issue for projects involving environmental protection and management is whether monitoring activities carried out under the project will continue over the longer term, when incremental project support ends. In this case, the project will support the inclusion of specific parameters which are particularly significant in a transboundary context, but the annual costs of carrying out monitoring will continue at approximately the current levels rather than being artificially increased for the life of the project. Component 2 aims to promote more sustainable tourism and natural resource use, in contrast to current unsustainable practices. Component 3 will help the Government of Montenegro to find a permanent solution for the

problem of KAP legacy wastes, will demonstrate economically and environmentally sustainable small scale stewart treatment approaches, and restore degraded buffer habitats which will then be self-sustaining. For all these reasons, the likelihood of project outputs and outcomes continuing beyond the life of the project is high.

51. There are a growing number of examples around the world of international cooperation for managing transboundary water bodies and their watersheds. While each situation has its own particular features, there is a great deal of interest and value in testing new models and exchanging experiences. For example, Albania’s experience with initiating cooperation with Macedonia for Lake Ohrid, ongoing initiatives to develop integrated management of the Adriatic coast, and a brief study tour during project preparation to Lake Neusiedl-Ferto (Austria/Hungary border) provided important lessons and ideas for this project. Lake Skadar-Shkoder in turn will provide useful lessons for others.

E. Critical risks and possible controversial aspects

RISK	MITIGATION
<p>Insufficient government commitment to preserve the lake ecosystem in the face of pressure for non-compatible economic development, and/or to cooperation for lake management</p>	<p>Both governments have made international commitments to preservation and sustainable management of the lake and have approved development strategies and spatial plans which identify the lake as an area to be maintained for natural values, sustainable natural resource use and nature- and culture-based tourism. While there are some proposals for development projects which could have serious negative impacts on the lake, both countries have up to date Environmental Impact Assessment legislation requires the identification and mitigation of potential ecological impacts as well as public disclosure and debate. The high visibility of Lake Skadar-Shkoder as a nationally, regionally and internationally important natural area (further enhanced by the present project) should help to guarantee that any such proposal would attract strong international criticism and resistance. The present project’s support for public awareness raising and sustainable use should help to build such resistance at the local level as well. The Government of Montenegro’s recent rejection of the proposed Buk Bijela hydroelectric dam (which threatened a part of the Tara River Canyon) is an encouraging example of the influence carried by local and international opinion. The two governments have demonstrated interest in cooperating with one another and with other neighbors in the area of transboundary environmental protection and management. The bilateral Agreement is expected to be approved by both Governments at high level, will soon be appro, and both have prioritized Lake Skadar-Shkoder for this purpose. The recent creation of the Managed Nature Reserve and Ramsar site on the Albanian side was due in part to the Government of Albania’s interest in harmonizing management objectives with Montenegro.</p>

<p>Rate of tourism growth at national and/or local levels less than expected, thereby reducing political and local support for maintaining the lake. Alternatively, tourism growth is rapid but does not follow a sustainable path.</p>	<p>Tourism is a priority sector for both Governments and growth has been strong in both countries over the past few years. Both governments have identified the Lake Skadar-Shkoder as a priority both because of its tourism development potential and as economically depressed areas requiring development support. Tourism development in and around natural areas is always a mixed blessing, with strong potential positive linkages but also serious risks. Strengthening planning and regulation, putting in place monitoring systems to identify potential problems at an early stage, and raising public awareness and working with rather than against private sector partners are key elements of a strategy to manage and steer tourism development into sustainable and productive directions.</p>
<p>Weak implementation capacity in relevant institutions in both countries</p>	<p>The project mainly supports existing actors to improve, expand or reorient activities they already are undertaking. The project will provide incremental technical and administrative assistance to support the Project Managers within the respective Ministries in implementation of project activities (e.g. procurement, planning, M&E). In Montenegro the Environmental Protection Agency (EPA) is being newly established but will be made up primarily of experienced staff from the MTEP. In Albania the newly created SLMNR Management Unit will be strengthened at the senior management level as a condition of disbursement, and it will benefit from working in collaboration with the well-established SLNP Management Unit.</p>

F. Loan/credit conditions and covenants
TO BE COMPLETED AT APPRAISAL

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

52. Incremental Cost Assessment is provided in Annex 15. An economic assessment of the project focused on non-GEF funded elements will be completed during appraisal.

B. Technical,

[TO BE COMPLETED AT APPRAISAL]

C. Fiduciary

[TO BE COMPLETED AT APPRAISAL]

D. Social

53. Two social assessments were conducted for the project, one in Montenegro and one in Albania. In addition, the project Environmental Assessment covered some social aspects as did other preparation studies such as the survey on fishing practices. The various studies involved a number of local workshops as well as the use of questionnaires, focus groups and individual interviews with an extensive sample of communities on both sides of the lake. The social assessments included stakeholder analysis which encompassed central government, local government, regional associations, user groups and NGOs active in the project area. The environmental NGO sector is weak in both countries, although some groups do exist (e.g., Greens of Montenegro; ecological clubs in Albania) and could be strengthened through participation in the project. The joint public outreach/communication/education program under Component 1 of the project will make use of the extensive information collected on the identities and circumstances of these different stakeholder groups.

54. In Albania, local authorities were identified as key stakeholders because they are responsible for preparing and implementing local level urban, economic, environmental and social plans in the context of national strategies. Other stakeholder groups include Regional associations (e.g., Water Boards), Hunters and Fishermen's associations, an association of organic agriculture (OKSFAM), groups involved with collection and sale of medicinal plants, the Albanian Association for Environmental Education, individual restaurant and hotel owners, tourism operators and other businessmen/women, and religious authorities.

55. The population of the areas surrounding the lake on the Montenegro side is much smaller, consisting mainly of widely dispersed, small settlements. The main stakeholders were listed as central government (MTEP and several other sectoral ministries with local offices), municipal governments, municipal level tourist organizations, the SLNP Administration, and one fishermen's association and some loosely organized local fishermen's groups. The Montenegro social assessment noted a general lack of local level organizations (those of the socialist era having been dissolved and not replaced).

56. The social assessments identified patterns of demographic change in the vicinity of the lake. On both sides of the border social organization is constrained by social and demographic trends such as depopulation (and aging) of villages on the one hand and a substantial recent influx of immigrants (in some cases refugees) to urban areas (particularly Shkodra) on the other. Recent immigrants to the Shkodra municipal area are generally poorly integrated into social networks, creating a significant divide between newcomers and long-time residents. On the other hand, the social assessments reported little evidence of conflicts based on ethnicity despite the fact that the area is populated by Montenegrins, Serbs, and Albanians.

57. Information from the various studies are somewhat conflicting on the subject of fishing as a local economic activity (including commercial fishing, fishing for household use and sport fishing as a recreational activity for both locals and tourists). The two country social

assessments indicate that fishing has declined as main source of livelihood activity; with agriculture supplanting it as a primary activity. By contrast, the survey on fishing practices on the Albanian side reported much greater reliance on fishing for own use and for sale. At this time it is not known whether or to what extent fishing pressure will need to be reduced for sustainability of the resource, this will require obtaining much better information about fish populations and distributions. However, a more in-depth socio-economic survey will be conducted during the first year of the project to determine the extent of possible negative impacts should tighter restrictions on fishing need to be put in place.

E. Environment

58. Environment Category: The project currently falls under Category B, as the activities are expected to have limited impacts, which are for the most part either environmentally neutral (e.g., establishing transboundary institutions, research and monitoring) or positive (wastewater treatment, ecological restoration, improved enforcement of regulations). If the feasibility study for the KAP waste dump mitigation (to be carried out in Year 1) indicates that it would be appropriate for the project to contribute to construction of a hazardous waste landfill or any other investment involving the handling, moving, treatment or containment of hazardous or toxic materials, a full (Category A) EIA will be carried out for that activity.

59. Both Montenegro and Albania have been actively revising sectoral policies and legislation with the objective of harmonizing with EU policies and Directives (e.g., environmental acquis; Water Framework Directive). This includes recently updated legislation on Environmental Impact Assessment (including Strategic Environmental Assessment), environmental protection, Protected Areas, and protection and management of water and living natural resources. National and local government in both countries have also made considerable progress in re-establishing a regulatory presence after the chaotic period at the beginning of the 1990's. However, enforcement of laws relating to land and resource use remains weak due in part to institutional constraints (small and often inadequately trained staff) and in part to a lack of political will (including pandering to local interests to gain political support in an unstable and conflictual political environment. Uncontrolled and unregulated construction is a major threat, particularly on the Albanian side (although there are a growing number of examples on the Montenegrin side as well). There are also issues of conflicting and overlapping mandates of different sectoral agencies and between central and local government levels. An additional concern is lack of support from the judicial system, with local courts reportedly reluctant to prosecute or convict violators for offenses such as fishing without a license or with illegal methods.

F. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[x]	[]
Natural Habitats (OP/BP 4.04)	[x]	[]
Pest Management (OP 4.09)	[]	[x]
Cultural Property (OPN 11.03 , being revised as OP 4.11)	[x]	[]
Involuntary Resettlement (OP/BP 4.12)	[x]	[]
Indigenous Peoples (OP/BP 4.10)	[]	[x]
Forests (OP/BP 4.36)	[]	[x]
Safety of Dams (OP/BP 4.37)	[]	[x]
Projects in Disputed Areas (OP/BP 7.60)*	[]	[x]
Projects on International Waterways (OP/BP 7.50)	[x]	[]

60. *Environmental Impact Assessment:* An Environmental Impact Assessment has been carried out and a draft will be publicly disclosed prior to Appraisal. It is in the form of a Framework EIA because the on-the-ground investments have not been specifically identified (e.g., locations and technologies for small-scale wastewater treatment; disposal/containment solution for hazardous wastes at KAP). The EIA will describe the potential activities and outline the process by which environmental screening and assessment for such investments will be undertaken in accordance with Government and World Bank policies and procedures. The EIA will: review the relevant legislative and regulatory frameworks and implementation/enforcement capacity in each country and assess the extent to which these are compatible with and sufficient to meet WB requirements; evaluate the project's potential environmental risks and impacts in its area of influence, including transboundary aspects and international obligations; examine the project alternatives; identify the ways to improve project selection, siting, planning, design and implementation by preventing, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts; include the process of mitigating and managing adverse impacts by developing environmental monitoring and mitigation plans (EMP), which will be implemented as a part of the project execution. The EIA will be incorporated into the project Operational Manual which will also spell out review processes and responsibilities. All project activities will be designed in such a way to incorporate (i) relevant EU standards; (ii) standards of good engineering practice, and (iii) EU guidebooks on Best Available Techniques (BAT) where these exist.

61. *Natural Habitats:* this OP is triggered because the project area is comprised of legally designated PAs and Ramsar sites, and because some on-the-ground works will be financed (e.g., hiking trails, birdwatching platforms) and the overall objectives include increasing tourist numbers. Project impacts are expected to be positive, through improved monitoring of lake conditions and strengthened capacity on the part of the agencies responsible for managing the lake (the management units of the two Protected Areas). The lake-wide zoning and management

* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

plan will be integrated with, and add an essential transboundary element to, the two PA-level management plans.

62. *Cultural Property*: this OP is triggered because there are legally designated cultural heritage sites within the project area (e.g., old monasteries), some of which will be rehabilitated for touristic and educational purposes. The risk of negative impacts of increased tourism on cultural sites, and measures to mitigate this risk, are being addressed in the EIA.

63. *Involuntary resettlement*: the project will not finance or be associated with any taking of land or physical relocation of people. However, the TDA indicated that over-fishing and fishing in inappropriate areas or with inappropriate methods probably represents a significant threat to the sustainable use of this very valuable element of the lake ecosystem. This remains to be confirmed through a more detailed study of the fish resources during the first year of the project. If it is confirmed that fishing pressure needs to be reduced, this could result in economic hardship for some of the current users. Anticipating this possibility, Resource Access Restriction Process Frameworks were prepared for both countries during project preparation in accordance with WB OP/BP 4.12. The Process Frameworks will be publicly disclosed together with the draft EIA.

64. *International Waterways*: Lake Skadar-Shkoder empties into the Adriatic Sea via the transboundary Buna-Bojana River. There will be no abstraction of water and the only interventions will be environmentally positive (reducing pollution inputs to the lake). However, in accordance with Bank policy and practice, this OP is triggered because investment in new wastewater treatment infrastructure is envisioned. Notification of the Adriatic states will be done through UNEP, which serves as the Secretariat for the Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution.

G. Policy Exceptions and Readiness

TO BE COMPLETED AT APPRAISAL

Annex 1: Country and Sector or Program Background

Project Area, Economic and Social Trends

Description of the lake and project area

Lake Skadar-Shkoder is located on the border between Montenegro and Albania, south of the Dinaric Alps. The lake is oriented lengthwise from northwest to southeast, paralleling the Adriatic coast from which it is separated by a 10 km wide span of the Tarabos and Rubia mountains. Skadar-Shkoder is the largest lake on the Balkan peninsula, in terms of surface area, averaging 475 km² (varying between about 370 km² in summer and 540 km² in winter). It is a relatively shallow lake, with an average depth of 8 m, but with some deeper funnel-shape depressions (“oko”) where groundwater wells up. The coastline is 168 km (110.5 km in Montenegro and 57.5 km in Albania) and numerous elongated islands are found along the coast.

The physical-chemical characteristics of the lake water are the result of inflow from its tributaries (particularly the Moraca and Crnojevica Rivers), inflow from karstic springs, exchange between the sediments and overlying waters, and chemical exchange between the waters and the extensive beds of aquatic macrophytes. Water circulation and mixing in the lake are high due to high in/out flow. The average water residence time is about 120 days. There is no stratification and therefore little habitat differentiation within the lake except around the shoreline. Average water temperatures are high due to the mild climate and the lake’s low elevation and shallowness. This results in high rates of decomposition as well as an important refuge for birds in winter (no freezing).

The lake’s most important tributaries enter from the north: the Moraca, Crnojevica, Orahovstica, Karatuna and Baragurska Rivers in Montenegro, and the Rjolska and Vraca Rivers in Albania. . River deposits and the lower edge of plain have created a wide marsh belt that is regularly flooded. The lake’s level is particularly strongly related to inflow from the Moraca River. Many small streams enter on the western site. The lake area is tilted to southeast, and the lake drains through Buna-Bojana River to Adriatic Sea. Floods in the mid 1800s diverted the Drin River in Albania westward into the Buna-Bojana River, a few hundred meters from the lake outlet, with a large deposition of sediments that raised the river bed. The outward flow of the lake is impeded when there is high flow in the Drin river, usually in the period from December to February, depending on water released from three hydropower dams constructed in the 1960s/1970s upstream on the Buna-Bojana River. This raises water level in the lake temporarily. The river has a low transport capacity for sediment due to the low gradient of its channel, and sediments accumulate around the intake leading to frequent flooding of nearby land. The outlet has also been narrowed in recent years due to landfilling for new construction.

Precipitation and groundwater from the Zeta plain Quaternary aquifer in the north/northeast, karstic springs particularly on the southwestern side, and the “oko” groundwater upwellings also contribute significantly to the water inflow to the lake. Most of the springs are at or below the surface level of the lake. The groundwater depth on the Zeta plain near the lake are at about 8-10 m below the ground, with a flow gradient from northeast to southwest. Recharge

(normally around 5 m³/s) is mainly through infiltration from rainwater, river water (particularly the Moraca, Cijevna and Ribnica Rivers) and karstic aquifers. The Zeta plain aquifer, karstic springs at the edge of the plain and the lake water are all hydraulically connected. Groundwater in the lake area is used for drinking, irrigation and industry. Karstic spring, some of which comes from karstic aquifers up to 60 m deep, is of particularly good quality and is used for drinking.

Table XX: Tentative water balance of Lake Skadar-Shkoder

	Lake Inflow: 10⁹ m³/year	Lake outflow: 10⁹ m³/year
Rainfall	0.9	
Moraca River	6.3	
Other Rivers	1.0	
Groundwater	2 (?)	0.2 (?)
Evaporation		0.5
Buna-Bojana River		9.5
TOTAL	10.2	10.2

Source: Transboundary Diagnostic Analysis, 2006 (Royal Haskoning)

Socio-economic and demographic factors

There are approximately 500,000 people living in the greater Lake Skadar-Shkoder watershed, with two thirds in Montenegro and one third in Albania. Sixty percent of the population is urban and lives in a few cities: Shkodra in Albania and Podgorica, Niksic, Danilovgrad and Cetinje in Montenegro. The rural population is thinly spread in small villages and communes. The proposed project area is considerably smaller, consisting of the lake itself and immediately surrounding areas. In Albania, it falls within three Regions of the Shkodra District (Shkodra, Malesia e Madhe and Puka), although the territory of Puka Region does not directly contact the lake. The total population of the project area in Albania is about 170,000, living in seven municipalities and rural communes (72% of the population rural, 28% urban). The Albania poverty profile identifies the Shkodra prefecture as among the four in the country with the highest poverty headcount, with over one third of the population living below the poverty line. The population also suffers from a lack of access to basic public services. In Montenegro, the lake and surrounding areas fall entirely within the Lake Skadar National Park, which includes parts of the territories of three municipalities (Podgorica, Bar and Cetinje). The total population of 40 settlements inside or at the edge of the park in Montenegro is about 12,500. Of these, only about 550 (4% of the total population) live in the relatively urbanized settlements of Virpazar and Rijeka Crnojevica, while the remainder (96%) live in rural areas. Unemployment rate in this region is about 40% higher than in 1991, and is increasing (e.g. since 2003 the number of unemployed in Krjina and Crmnica has increased by 25% and 40% respectively).

Migration is changing the demographic profile of settlements in the area on both sides of the border. The trend is reduction and aging of populations in rural villages as young people migrate to urban areas. Pensioners account for about 15% of the population in rural settlements in Montenegro, with figures over 30% in some villages. While most of the project area shows a decline, the population in the agricultural Zeta plain (one of the most intensively cultivated areas of Montenegro) has increased by 2.5 since 1990. In Albania the rural village population has declined by 18 percent over the same period, while small towns and urban areas have increased by 8.7 percent.

The recent economic history in the project area reflects that of the two countries as whole, with severe economic decline during the 1990's with associated collapse of many industries within the watershed. While creating hardships for the population, this has had a positive impact on the lake ecology through decreased industrial pollution. Both governments are now seeking to revive the economic base in the area. A wave of housing construction, particularly on the Albanian side in the areas surrounding Shkodra city, reflects the influx of money from remittances (and in some cases smuggling).

Tourism is proposed to be a major economic driver. For example, the Montenegro Master Plan for Tourism Development designates Lake Skadar as a tourism development zone, with cultural tourism and sailing, walking and fishing as the main potential attractions. Similarly, the Strategy and Action Plan for the Development of the Albanian Tourism Sector Based on Cultural and Environmental Tourism (2005) outlines a new orientation towards cultural and environmental tourism with an emphasis on nature and cultural heritage. The Strategy of Economic Development of Shkodra Municipality (2005) identifies tourism development as a priority strategic objective and sets out action plans for eco-tourism development based on the lake and cultural attractions. However, to achieve these objectives the current trend of uncontrolled construction of residences, restaurants and other facilities along the lake shore will have to be replaced by well planned development and effective regulation. The challenges are similar to those of the coastal areas in both countries, but at a less advanced and perhaps more manageable stage.

Policy and Institutional factors

Both Montenegro and Albania have updated or are in the process of updating policies and laws relating to natural resources (water, forests), nature protection and Protected Areas, environmental assessment and environmental management. While there have not been explicit efforts to harmonize the laws on either side of the border, there is convergence as both are trying to harmonize with EU policies and regulations. There is also a strong similarity in that enforcement of these laws remains relatively weak due in part to constraints of institutional capacity. Political issues also intervene as political structures and agendas remain somewhat unsettled in both countries, as reflected for example in regular shifts of power among parties in local and national elections. The need to capture support among volatile local voters can make it difficult for politicians to take a hard line on illegal activities.

The entire lake together with immediately surrounding areas falls within Protected Areas (PAs) on both sides of the border. In Montenegro, the Lake Skadar National Park (LSNP) was

established in 1983 and declared a wetland of international significance under the Ramsar Convention in 1995. In Albania, the Shkoder Lake Managed Nature Reserve⁶ (SLMNR) was designated in November 2005, and declared a Ramsar site in February 2006. Altogether, the combined protected area covers 900 km² of which about half is the lake itself. Both PAs are multiple-use areas rather than exclusive nature reserves. They contain substantial settlements and privately owned as well as public lands, and their resources (fish, gravel, pastures, etc.) are exploited for both subsistence and commercial purposes. As noted above, tourism is already a well established use of the area and expected to grow rapidly.

The PA status confers a number of advantages. At the policy level it establishes nature conservation and sustainable use of natural resources as the core management objectives and provides a legal framework for the government (MTEP and Public Enterprise for National Parks in Montenegro; Directorate for Nature Protection under MEFWA in Albania) to establish and enforce regulations for access and for land, water and natural resource use. In both countries the PAs are designated as special planning areas for which detailed spatial plans are to be developed, which are approved by Government and can supercede local/municipal level plans. The PA laws also call for the preparation of PA management plans, but these are approved internally and do not have the same legal standing. The PAs have designated Management Units with the mandate to enforce regulations and to approve or disapprove development proposals, land purchases, etc. based on their spatial and management plans and the PA legislation. Given the nature of their responsibilities, these are the logical implementing agencies for many of the project activities (particularly under Component 2, also some Component 1 activities). The Management Unit of the LSNP in Montenegro is well established and experienced, with a modern Headquarters building, management team of XX [Director, others] and XX staff. The Management Unit of the SLMNR in Albania has been legally established but at present consists only of 10 fisheries rangers, one of whom has been designated as the acting Head of the Unit. Strengthening this Unit is a high priority both for realizing the objectives of the PA and for project implementation. The designation of both halves of the lake as wetlands of international importance under the Ramsar convention adds another dimension of protection by acknowledging the area as a global asset in which the international community (not only local residents or citizens of the two countries) has a legitimate interest.

Trans-boundary Diagnostic Analysis

A TDA was carried out during project preparation to identify major trends and underlying causes in the ecology of the lake and its natural and economic resources. It provided the basis for the Strategic Action Plan which in turn provided the basis for the components and activities of the proposed GEF project. The findings of the TDA are recognized to be indicative rather than conclusive, given the significant gaps and inconsistency in data both within and between the two countries. In addition, trends in physical and chemical parameters of water quality show a high degree of seasonal variation, as well as swings over time reflecting major economic, political and social changes in surrounding areas. It was clear from the TDA exercise that a broad-based and systematic trans-boundary monitoring program needs to be established as soon as possible, and that many key management decisions concerning the lake and its resources can

⁶ IUCN Category IV

only be made once key baseline studies have been updated or undertaken. Bearing these constraints in mind, some key findings of the TDA were:

- The water quality of Lake Skadar-Shkoder is generally good (in most cases meeting EU standards for drinking water), and is better today than in previous decades. This is most likely due mainly to reduced industrial and agricultural pollution inflows following the collapse of most industries in the early 1990s, together with rapid turnover of the water (the entire contents of the lake being replaced about every 120 days on average). The main challenge therefore is not cleaning up existing pollution, but protecting the lake from a likely increase in pollution and other environmental degradation in the context of expected future economic renewal and development, both in the immediate area and in upstream urban centers.
- There are however some localized pollution “hotspots” which present ecological and health hazards and should be remediated as soon as possible. These include both areas of the lake itself (e.g., at mouths of the main inflowing rivers and adjacent to main agricultural areas) and groundwater which is hydrologically connected to the lake.
- There is some evidence of decline in populations of some fish species, particularly commercially valuable migratory species, and possibly in the numbers of resident and migratory waterfowl.
- There is little history of coordination or cooperation between Montenegro and Albania for managing the lake and its resources.

The following sections elaborate on findings of the TDA which are particularly relevant to the proposed project.

Lake Skadar-Shkoder Description and Hydrology

Lake Skadar-Shkoder is the largest lake on the Balkan Peninsula in terms of water surface, varying (in dry vs. wet periods) between 353 km² and 500 km², with total water volumes varying between 1.7 Km³ and 4 km³. The lake’s surface varies from 5-10 m above sea level. At its maximum dimensions it is 44 Km long and 13 km wide and up to 8 m deep, with.

Lake Water Quality

Note on data sources: While data for the period prior to 1990 are limited and fragmentary in both countries, various studies and reports suggest that the lake and surrounding areas have experienced significant pollution in past decades, mainly from industrial sources and untreated wastewater discharges from lakeside and upstream cities and towns⁷. The Moraca River is identified as the main source of pollution. Since 1990 on the Montenegro side the Hydrometeorology Institute and Center for Ecotoxicological Research (CETI) carry out fairly systematic monitoring of a wide range of chemical and physical parameters (surface and

⁷ The most comprehensive pre-1990 analysis of the lake water and its tributaries is in Karaman and Beeton, 1981. The TDA used data from that study as a basis for evaluation and comparison.

groundwater samples 8 times/year). This began with a fairly comprehensive baseline study during 1990-1991 which included soil and groundwater samples at various locations around the Kombinat Aluminjuma Podgorica (KAP) aluminum plant (see below), the mouth of the Moraca River and lake sediments, as well as fish and lake vegetation. In 1992-1996, an environmental study of the Zeta Plain examined groundwater, river waters, soil, lake sediments and air quality, with an emphasis on areas likely to be affected by the KAP. In Albania the Hydrometeorological Institute also carries out regular sampling and analysis at several stations approximately twice a year, complemented by various studies by the Institute and by the University of Shkodra. Due to limited facilities, the analysis covers only basic physical and chemical parameters (e.g. temperature, pH, conductivity, transparency, dissolved oxygen, ammonia, nitrites, nitrates, phosphates, total phosphorus). Since 2000, a multi-national consortium of Universities (Universities of Heidelberg, Graz, Shkodra, Tirana and Montenegro) have been carrying out environmental studies within the framework of the "Integrated Monitoring of Shkodra Lake project. In the past few years, the Universities of Shkodra and Montenegro have been using innovative technologies such as semi-permeable Membrane Devices to test for the presence of toxic hydrophobic organic pollutants such as poly nuclear aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) as well as other pollutants such as fluorine, naphthalene, etc.

While the lack of continuous data makes it difficult to establish long-term trends, the TDA formulated certain conclusions regarding lake water quality and pollution sources. In the 1970's the lake's water quality (in some samples) had unacceptable levels of a number of parameters, including heavy metals, PCBs, and PAHs, and concentrations were above detection limits between 1990 and 1995. In the most recent samples (2000-2005) water quality in most of the lake was greatly improved, with these and other contaminants now below detection levels or well within international standards for drinking water (but see below regarding groundwater and sediments). Most lake water samples show heavy metals (As, Cd, Cr, Ni, Pb, Zn and Hg) values to be at low concentration (Class 2), with moderate to high concentration (Class 3) at a few sites. However, the concentration of pollutants such as ammonia and nitrites/nitrates is higher in the north/northwestern part of the lake and near the mouth of the Moraca River and the Zeta plain. Eutrophication is not yet an issue, due to the high turn-over rate of the water, but stagnant corners near the Moraca delta and Zeta plain are at risk. The Moraca delta also continues to show elevated levels of mercury and other heavy metals. There is also seasonal variation, such as lower dissolved oxygen levels during the summer.

The following monitoring parameters are proposed to be used for the purpose of the project (see Monitoring Table, Annex 3), as they are good indicators of pollution from KAP and municipal wastewater. The overall target is to maintain these parameters within acceptable limits (drinking water standard) lake-wide (center of lake sampling), and to improve specific indicators at pilot project sites.

[NOTE: TABLE TO BE COMPLETED AT APPRAISAL, WITH DATA FROM PROPOSED WWT PILOT PROJECT SITES]

Parameter	Location: Vranjina		Location: Center of Lake		Comparison Standards		
	1998-2002	2005	1998-2002	2005	USEPA	WHO	Other
BOD	1.0		2.1				1-2
Cd (mg/l)	0.002		0.002		0.005	0.003	
CR (total) (mg/l)	0.002		0.005		0.1	0.05	
CN (free) (mg/l)	0.000		0.000		0.2	0.07	
Pb (mg/l)	0.002		0.011		0.015	0.01	
Fluoride (mg/l)					4	1.5	
Hg (Mg/l)	<0.05		<0.05		0.002	0.001	
Zn (Mg/l)	0.09		0.01				5 (Canada)
Nitrate (mg/l)	0.89		0.002		10 (as nitrogen)	50 (as NO ₃ -)	
Nitrite (mg/l)	0.21		0.007		1 (as nitrogen)	3 (as NO ₂)	
PCB (mg/l)	0.000		0.000		0.0005		.0002 (EU)
PAH (mg/l)	0.000		0.000		0.0007 (Benzo(a)pyrene)		.0002 (EU)
Aromatic hydrocarbons					0.0007 (Toluene) 0.01 (Benzene)		1 (BTEX, Swiss)
Aliphatic hydrocarbons							1-2 mg/l
Mineral oils	0.011-0.247		0.0				
Phenols	0.0025-0.003		0.001-0.003				

USEPA National Primary Drinking Water Standards

WHO Guidelines for Drinking Water Quality

BTEX = Benzene, Toluene, Ethylbenzene and Xylene (4 major aromatic compounds usually analyzed as proxy for all aromatic hydrocarbons)

Swiss = Schweizerisches Lebensmittelbuch, 2005

BOD 1-2 mg/l = general value for very clean water

Lake Sediments

Contamination of lake sediments presents a direct and lasting threat to the aquatic ecosystem, particularly the benthic flora and fauna. Many toxic and persistent pollutants become adsorbed to sediments and soils and can become incorporated into aquatic food webs. Data on sediments in Lake Skadar-Shkoder are limited and fragmentary, but indicate the presence of trace elements, metals, PCBs, PAHs and organochlorine pesticides. Sediment sampling carried out in 2005 showed that in Montenegro, PB was <5.0 mg/kg, while Hg reached 1.77 mg/kg (exceeding EU standards at four of the eight sampled locations). Ni exceeded EU standards at

two of the eight locations. On the Albanian side, Pb was somewhat higher (maximum value 27.3 mg/kg) while Hg was lower (< 0.5 mg/kg). Levels of Pb were somewhat higher on the Albanian side of the lake, and Ni exceeded EU standards at seven out of ten locations, while Hg levels were lower than on the Montenegrin side. In 1993-1995 samples, PCBs and PAHs in the sediments were higher at the entry points of the Moraca River (0.3-0.5 µ/kg and 0.8-100.7 µ/kg respectively). However, these values were reduced in 2005 (0.09 µ/kg PAH; < 0.01 µ/kg PCB), again possibly due to containment measures taken at the KAP site.

Lake Pollution Sources

The main pollution sources discussed in the TDA are: the KAP upstream on the Moraca River; steelworks in Niksic, untreated or inadequately treated wastewater from cities and towns, municipal (solid) wastes from cities and towns, mineral waste oils in the Zeta plain, and agriculture in the Zeta plain. Of these, the KAP and untreated wastewater are the main target of the present project.

KAP Aluminum Plant:

The TDA identified the KAP Aluminum Plant, located about 2 km from the Moraca River, about XX km upstream of Lake Skadar, as a major source of pollutant inputs into the lake, and specifically as the most likely source of most PCBs, PAHs and heavy metals found in the lake. The plant has been operating since the early 1970's. It constitutes an environmental hazard due to a combination of its production technology (which generate a variety of toxic and hazardous substances as waste products), the inadequate manner in which it has dealt with these waste products since it began operation in the early 1970's; and the geographic, hydro(geo)logical and hydrographic setting of the plant site. The electrolytic process and anode production of the plant causes significant air pollution (fluoride, phenols, SO₂, NO_x, particulates), and solid/liquid wastes including phenolic compounds, PAHs, and mercury (PCBs are also generated as a waste product from the operations, though not specifically from the aluminum production process). The factory is situated on a floodplain made up by fluvial sediments, about 2 km from the Moraca. Both in the KAP area and between KAP and the Moraca River the prevalent substrate is coarse grained, sandy gravel. It is highly permeable, with K values estimated in the 10⁻³ to 10⁻⁴ m/s range. The entire area is karstic in nature with numerous interconnecting water systems. Groundwater is found 12.5 m below ground and gravel pits at the level of the river contain standing water. There is likely a groundwater gradient from the KAP site to the river, with groundwater flowing south/southeast is clearly communicating with the river. Overall, an efficient pathway for pollutant transport from the KAP site to River Moraca River must be assumed.

Two facilities at the KAP site have raised particular concern: (i) the red mud basins⁸, which contain the residue of the bauxite raw material following extraction of alumina; and (ii) a large uncovered, unlined, solid waste dump site (estimated 500,000 m³ of material, covering an area of over 100,000 m²), containing an unsorted mix of non-hazardous wastes (construction rubble, scrap metal, etc.) and hazardous wastes (cathode residue/spent pot linings, anode scrap, slags...). Of the two, the red mud basins are lower priority as a potential threat to the lake. The

⁸ One unlined, the other lined but the liner believed to be leaking

red mud itself is not toxic (mainly residue from bauxite beneficiation). The main issue is high pH due to the residual leaching agent (NaOH), which, however, is toxicologically relatively harmless. In addition, there is probably little seepage of water-borne chemicals into the groundwater, due to the fine grain size and low permeability of the mud. This is supported by the groundwater analyses from boreholes located south and southeast of the red mud ponds. It should also be noted that under the privatization contract, upgrading the red mud basins for greater capacity and safety is the responsibility of United Company RUSAL (the new KAP owner). The Government would be responsible for addressing past environmental issues associated with the red mud basins, but these are unlikely under the circumstances.

By contrast, the waste dump raises serious concerns. The facility lacks a base liner, lateral barriers, a cover system and a drainage and water treatment system. This results in exposure to precipitation, percolation of rainwater through the waste, mobilization and transport of contaminants into the underlying and adjacent soils and into the groundwater. Water samples from two boreholes located directly downstream from the waste dump also showed elevated pH and toxins:

Parameter/substance	Borehole samples	Drinking water guideline value
pH	11.86	6.5-8.5 (USEPA)
Fluorides	6.2 mg/l	1.5 mg/l (WHO)
Lead	0.05 mg/l	0.01 mg/l (WHO)
Mercury	0.007 mg/l	0.001 mg/l (WHO)

An analysis of soil samples taken immediately to the south (downstream/downhill) of the dumpsite also showed elevated pH values and high concentrations of F⁻, Hg, CN⁻, PAH, NH₃ and PCB. Investigations in 1991-1996 showed significant PCB and PAH contamination of groundwater in the Zeta plain and in the Plavnica, Gostiljska Rijeka, Velika i Mala Mrka Rivers and Podgdhumin Hum Bay. However, groundwater samples taken at the same sites between 1998-2004 showed almost no traces of PCBs. The difference has been ascribed to the removal and containment of some polluted soil and old barrels of Pyralen on the KAP site, coupled with rapid washing of the soil given the prevailing conditions of very permeable (sand and gravel) substrate and heavy rains.

The Government and RUSAL are jointly responsible for addressing the problem of the waste dump (Government for hazardous wastes and UC RUSAL for non-hazardous, but the materials are highly mixed and it is unlikely that they can be separated. Therefore, the entire volume will likely have to be treated as hazardous waste). The proposal is to construct an EU-standard hazardous waste landfill on the site of the current dump, of sufficient size to accommodate both the legacy material and the future disposal needs of the plant (newly produced hazardous and non-hazardous wastes are now being separated). A waste inventory and categorization exercise, followed by a feasibility study, will indicate the technical feasibility and estimated costs of this proposed solution (which would have to involve transport of large amounts of clay to the site as the ground is too porous). Based on the study, the best use of the approximately \$500,000 of GEF funds tentatively allocated for mitigating the dump site problem will be determined. This may be co-financing of the proposed secure landfill, or other measures

such as installation of combined monitoring/pumping wells to detect and interrupt the groundwater transport pathway for materials leaching from the site into the river and lake.

The presence of a number of metal scrap yards near the dumpsite are also potentially a cause for concern; however groundwater data do not presently indicate a significant presence of mineral oil compounds in the local aquifer.

Municipal Wastewater

Millions of cubic meters of untreated or poorly treated municipal wastewater are discharged into the inflowing rivers (particularly the Moraca and Crnojevica Rivers) and (in the case of Shkodra city, and lakeside villages and communes) the lake itself annually, contributing to contamination of the water with suspended matters, bacteria and oxygen depleting substances, nitrates, nitrites, mineral oils, sulphides, phenols and phosphates⁹. Wastewater treatment facilities are gradually being improved for the larger urban areas (e.g., Podgorica; Shkodra Municipality) with assistance from the EU and bilateral donors, but at present nothing is being done about effluents from smaller villages and the scattered but increasingly numerous restaurants and private residences located directly on the lake shore.

Upstream Water Development Proposals¹⁰

Montenegro: The draft National Spatial Plan, the Water Resources Master Plan and the draft Energy Sector Strategy all include proposals for hydropower development on the Moraca River, with one proposal involving transfer of water from the Tara River into the Moraca River. The project is highly controversial both within Montenegro and internationally and at present is not moving forward but has also not been abandoned. The potential impacts on the hydrology and ecology of Lake Skadar-Shkoder are not well understood, and urgently need to be clarified in order to inform the debate. The predictive hydrological model to be prepared under Component 1 should provide the technical basis for this analysis.

Albania: The Bushati hydropower project involving the Drin River, under preparation since 2002 (intake already built, but construction presently ceased), is equally controversial. The water of the Drin would be almost completely diverted southwest to the powerplant to be constructed on the Zadrima plain, and then redirected to the Buna-Bojana River or directly to the Adriatic Sea. A portion of the Drin river bed would be left almost empty, with linked effects that would result in a substantial lowering of the lake level. An associated proposal is to dredge the Buna-Bojana River, lowering the lake even further (up to 1.5 m), converting a substantial portion of the lake on the Montenegrin side into dry (proposed agricultural) land. This dredging would also potentially open up the river as a passageway for larger boats to pass from the Adriatic to the lake. Again, the hydrological and ecological impacts of these changes (e.g. on the groundwater regime and the sublacustrine springs (and biological communities linked to them),

⁹ Annex 5 of the TDA provides the available data

¹⁰ A third proposal discussed in the TDA – extraction of water from the Bolje sestre spring on the northwestern side of the lake to supply towns on the Adriatic coast, is moving forward with financing from the World Bank among others. The Environmental Impact Assessment for the project determined that the amount of water offtake will have a negligible effect on the lake level.

lake flushing, pollution buffering, water temperatures, fish migrations, etc.) need to be much better understood by decision makers and local stakeholders.

Flora and Fauna (Fisheries)

Available information on the flora and fauna of Lake Skadar-Shkoder and surrounding areas are summarized in the TDA. In the present document the focus is on fish, both as a potential indicator of changes in the lake's water quality and hydrology and because fish are the principle commercially used natural resources of the lake ecosystem. For a relatively warm lake, the number of fish species is unusually large. About 10 species are commercially exploited, with carp, bleak and eel the most valuable. Both primary and secondary productivity of the lake are good (sufficient food supply).

The history of fishing on the lake can be divided into three periods:

- Up to 1990, fishing was organized and tightly controlled by a State enterprise, with (on the Albanian side) about 150 fishermen organized into 9 groups and assigned to fishing grounds. All fish species were exploited, with low value species used for cattle fuel. Fyke nets, light seiners and bottom trawling were banned in 1989 after a sharp decline in the catches of Twaide shad. There was very little illegal fishing.
- 1991-2001: with the sudden collapse of state authority, uncontrolled and irresponsible fishing grew rapidly as did the number of fishermen (due to high levels of unemployment arising from closing of industries and agricultural enterprises). High value species (carp, shad, etc.) were over-exploited, as reflected in changes in catch composition.
- 2001 – present: In Albania: the Government began to intervene in 2001. A Fisheries Development Project (World Bank, FAO and Cooperazione Internazionale-Italy) was initiated to organize and strengthen Fishery Management Organizations (presently there are two, involving 540 fishermen and 260 boats operating in 24 areas of the lake). There are two fishing inspectors. However, the number of fishermen continues to grow (now about 800, of which about 40% are unlicensed). In Montenegro, the number of fishermen is far lower (as is the overall population). There is one local organization but many fishermen do not belong to it. A new licensing law will soon distinguish between profession and leisure fishing.

As in the case of water quality, data on fish populations and distributions are limited and discontinuous. For the Albania side, data on fish (populations of migratory, autochthonous and exotic species) are relatively reliable for the period 1961-1990, because catch, production and distribution of fish was centrally organized and well controlled during the socialist era. From 1990 onwards the data are not reliable. In Montenegro, fish data are reliable up to 1987, but only estimates are available after that. Within the limits of the available data, and based on interviews with Albanian fishermen, the TDA made the following tentative observations:

- a significant decline in catch of migratory fish in recent years (particularly a sharp decline since 1980 in Twaide shad (*Alosa alosa*), and a less dramatic decline in Mugilidae spp.;

- a decline of autochthonous fish (e.g., carp, bleak) in the 1980's, possibly with some recovery since then;
- an increase in populations of exotic species particularly after 1980.

The declines are generally attributed to over-fishing, and destructive fishing methods (fishing during reproductive seasons and in spawning grounds, use of large stationary nets all along the Buna-Bojana River to capture migrating fish, small net mesh sizes, use of electricity and other illegal methods). Selective fishing for more valuable species may be responsible for observed changes in the composition of the catches (e.g., proportionate decline of salmonids and bleak). Damage to spawning grounds is also considered to be a factor, particularly for sturgeon. There are no hatcheries at the lake to supplement natural reproduction.

Tourism status and development

[TO BE ADDED AT APPRAISAL]

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

[Guideline:

(Recommended length 1 page.)

This annex should summarize recent projects supported by the Bank and other international agencies in the country in the same sector or related sectors. For each project listed, indicate which of the sector issues discussed in A.1 have been or would be addressed. For Bank-financed projects completed in the last five years, OED's rating should be provided. For ongoing Bank-financed projects, the IP and DO ratings from the latest Project Status Report should be shown.]

[TO BE UPDATED AND COMPLETED AT APPRAISAL]

Regional Environment Center (2000 -) (\$0.6 million): activities include: (i) institutional capacity building to promote cross-border communication and collaboration (especially for communities and NGOs), (ii) public awareness activities, including preparation of promotional materials for ecotourism, (iii) a small amount of equipment for Skadar Lake NP

Norwegian Research Council (NIVA) DRIMON project: Total cost = ?; estimated proportion for Lake Skadar = Euro 70,000. Project objective: Establish nutrient budgets and address siltation challenges for the lake basins, and assess the status of the lakes through dose-response relationships between nutrients and sediment inputs and their effects in the lakes; Suggest environmental goals for lakes Prespa and Skadar, based on information on their trophic status and evidence of their reference (or natural) conditions, in dialogue with stakeholders. First year's work: conduct baseline studies and identify monitoring indicators based on EU Water Framework Directive. Implemented by each country's Hydrometeorological Institute

GTZ:

(1) "*Physical Planning and Transboundary Management*": covers both MN and AL.

E 500,000 over 18 months. Approved and soon to begin. Includes preparation of detailed urban plans for 6 pilot lakeside villages (needed to reduce illegal building, support well regulated residential and tourism development), some small ecotourism-related infrastructure, TA to help develop a framework strategy for preparation of Lake-wide Management Plan (we propose to count the latter as co-financing for GEF, since GEF project will support preparation of the Lake Mgmt. Plan itself).

(2) "*Improving Touristic Offer of LSNP*" – finances small tourism-related infrastructure such as signs, trails etc. inside the NP; promotional materials. Under implementation, but unknown what will be total funding because it's based on GTZ approval of proposals submitted. In first 6 months of 3 year project, LSNP got E 30,000 so we multiplied by 6 to get estimated total of **E 180,000**.

GTZ and ADA (Austria): **E 250,000** approval expected this month. Finance small/medium infrastructure to make area more tourist-friendly, e.g. rehabilitation of Virpazar market.

USAID: Under country-wide program to support democratization through local development (implemented in Lake Skadar area by IRD). USAID funds always get matched with some

Govt/local community contribution. 2 projects approved, 3rd project proposed and likely to be approved:

(1) Support for birdwatching tourism (4 bird observation towers, buoys to mark off ornithological reserves within Lake, promotional materials) **E 55,000 of which E 40,000 from USAID**

(2) Lake Clean-up project (various types of support for local trash collection **E 55,000 of which E 10,000 from USAID**

(3) Construction of thematic visitor centers at Bar and Cetinje: **E 100,000 of which E 60,000 from USAID**

Heidelberg University: \$150,000 Montenegro and Albania: joint research project to evaluate methodologies for testing toxicity of polluted sediments to fish

UNDP: No on-ground activities at Lake Skadar, but 2 relevant activities which might count as baseline:

(1) preparation of Sustainable Tourism Development Strategy for Northern and Central Montenegro (includes Lake Skadar; project completed in 2006). Total cost **E 50,000**

(2) Capacity building for GIS for natural resource management – covers whole country. 3 phases totaling **E 410,000**. First phase soon to finish, next 2 phases likely to be completed within next 4-5 years.

European Agency for Reconstruction has ongoing project of \$ 200,000 to rehabilitate existing wastewater plant for Podgorica

Austria: \$ (Euros?) 8 million (possible additional \$ 8 million) for drinking water supply and wastewater treatment in Shkodra city.

KFW: \$ 7 (Euros?) million for wastewater treatment in Shkodra city

WB:

Albania Fisheries Development Project (IDA/IBRD?) \$5.6 million

Albania Natural Resources Development Project (IDA/IBRD?) \$12 million/GEF \$ 5 million

Albania Integrated Water and Ecosystem Management Project GEF \$ 4.87 million

Albania Water Resources Management Project (IDA/IBRD?) \$ 35 million/ GEF \$ 15 million

Albania Integrated Coastal Zone Management Project Phase 1: (IDA/IBRD) \$37 million; \$ 1 m

Montenegro Environmentally Sensitive Tourism Areas Project (IDA/IBRD?) \$???

Montenegro and Albania Capacity Building for Strategic Environmental Assessment (Bank-Netherlands Partnership Program): \$???

Annex 3: Results Framework and Monitoring

Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
<p>To maintain and enhance the long-term economic value and environmental services of Lake Skadar-Shkoder and its natural resources</p>	<p>Lake water quality and ecological indicators are maintained or improve in the context of continued economic development</p>	<p>Data from national-level and joint lake monitoring will indicate whether project-financed and complimentary investments are on track to succeed in protecting lake waters and natural resources from contamination and over-utilization. Data and analyses will be presented to the bilateral Lake Management Committee, which will report to the respective Governments, and will be made publicly available through the Committee website. Indications of continuing decline in key parameters will trigger renewed efforts to identify causes and build commitment for resolving them.</p>
GO		
<p>To enhance transboundary cooperation for managing the sources and impacts of potentially conflicting development objectives and activities affecting the waters of the Lake Skadar-Shkoder basin.</p>	<p>Development and water use decisions and actions affecting Lake Skadar-Shkoder ecosystem are guided by bilateral objectives, agreements and institutional structures</p>	<p>The Joint Strategic Action Plan, Bilateral Agreement specifying Governments' responsibilities and Commitments, lake-wide management plans and other key documents will be available to the public through website and other media, increasing the accountability of decision makers to a wide range of stakeholders in both countries and internationally</p>

Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
<p>Component 1: Bilateral Lake Management Committee and Working Groups are operational and implementing priority joint activities identified in SA).</p>	<p>Predictive hydrological model of Lake Skadar-Shkoder completed</p> <p>Lake-wide monitoring data base established, operational and readily accessible to all stakeholders</p> <p>Lake-wide zoning and management plan approved by both Governments according to their respective laws Joint tourism development plan approved by both Governments</p>	<p>The hydrological model of the lake will be used to analyze the likely impacts of various proposed development projects and investments in the lake basin, making it possible to engage in informed debate about trade-offs at both national and transboundary/regional levels</p> <p>Publicly accessible monitoring data will enable all stakeholders to track progress and impacts of implementation of the Strategic Action Plan and to identify and raise issues. It will also indicate willingness on the part of the Governments and research/monitoring institutions to place transboundary cooperation above short-term commercial interests.</p> <p>Lake-wide zoning and management plan will provide the legal basis for controlling and regulating development, natural resource use and pollution sources in and around the lake; bilateral approval of the plan by local and national authorities will demonstrate their commitment to long-term protection and sustainable use.</p>
<p>Component 2. Infrastructure, regulatory capacity and community awareness in place</p>	<p>Targeted tourism infrastructure renovations and construction completed</p>	<p>Data on numbers of new illegal construction sites will demonstrate whether public</p>

<p>to support sustainable tourism development and natural resource utilization</p>	<p>(visitor centers, cultural sites, trails, etc.)</p> <p>Reduction in new illegal lakeside construction starts, and any new starts halted at early stage</p> <p>Reduction in numbers of unlicensed fishermen and use of illegal fishing methods</p> <p>Socio-economic/attitude surveys indicate increased local understanding of, and engagement in, sustainable tourism and natural resource management</p>	<p>awareness/outreach activities and enhanced enforcement are succeeding in creating support for SAP objectives and an enhanced “culture of compliance.”</p> <p>A good record in stopping illegal construction at an early stage, reduction in unlicensed and illegal fishing, and increased local participation in sustainable tourism development will be important indicators of the effectiveness of the capacity building element of the project. Failure to achieve these goals would highlight the need to re-assess the capacity building strategy.</p>
<p>Component 3: Decrease in toxic and non-toxic pollutants entering into Lake Skadar-Shkoder</p>	<p>Reduction in concentrations of heavy metals, PCB, PAH in ground water at KAP site</p> <p>Reduction in BOD, NO2 and NO3 in lake water at pilot wastewater treatment sites</p> <p>Area of water protection/buffer vegetation restored in pilot areas</p>	<p>GEF-supported monitoring activities will be designed to determine whether project interventions are effective in improving quality of water entering the lake through surface and underground routes and in alleviating specific problems and “hotspots” identified in the SAP. If the problems persist despite implementation of Component 3 activities, it would indicate the need for further research to identify priority pollution sources.</p>

Arrangements for results monitoring

Project Outcome Indicators	Baseline	Data Collection and Reporting						Responsibility for Data Collection
		YR1	YR2	YR3	YR4	Frequency and Reports	Data Collection Instruments	
Lake water quality and ecological indicators maintained and improved	Key water quality indicators (BOD, Ammonia, Nitrite, Nitrate, CN, Zn, Pb,Cr,Hg, PAH, PCB) at multiple sampling sites all below detection or within Class 1A water quality parameters (see Annex 4); Key Ecological indicators To Be Determined	All indicators at baseline levels or better	All indicators at baseline levels or better	All indicators at baseline levels or better	All indicators at baseline levels or better	Annual	Water quality monitoring and analysis equipment	METP/MEFWA; Designated national scientific institutions
Development and water use decisions/actions are guided by bilateral objectives, agreements and structures	2003 MOU signed; Draft Bilateral Agreement in process of Government approval No bilateral structures in place	Bilateral Lake Management Committee and 6 Working Groups formally established; Working Groups complete vision statements and draft work plans	Working Groups submit to BLMC drafts of bilateral plans called for in SAP (tourism, communications/ outreach, monitoring) 10% of costs of Bilateral Lake Management Committee covered by Government Budgets	BLMC approval of bilateral plans Specific policy and action measures for bilateral adoption identified 30% of costs of Bilateral Lake Management Committee covered by Government Budgets	SAP updated based on bilateral plans Bilateral Agreement updated based on Working Group/BLMC recommendations 50% of BLMC costs covered by govt. budgets	Semi-annual	Project progress reports; public Annual Reports of BLMC; BLMC website	METP/MEFWA; BLMC Joint Secretariat;
Intermediate Outcome Indicators								

Component 1 Understanding and managing the Lake Skadar Ecosystem								
Predictive hydrological model of Lake completed	None	TORs and consultant selection completed	Draft hydrological model completed	Final hydrological model completed	Hydrological model used to analyze impacts of at least 2 proposed water-related developments in lake basin		Project progress reports; BLMC website	BLMC Joint Secretariat
Joint Lake-wide monitoring database operational	None	Bilateral monitoring program design developed/approved; database hardware and software purchased	Database operational; historical data entered	Database regularly updated with monitoring data from both countries	Database regularly updated with monitoring data from both countries		Project progress reports; BLMC website	MTEP/MEFWA; BLMC Joint Secretariat and Research & Monitoring Working Group
Lake-wide zoning and management plan completed	None	Planning Working Group approves TOR for plan preparation	Draft zoning/management plan completed	Zoning/mgt plan approved by BLCM following stakeholder consultations			Project progress reports; BLMC website	MTEP/MEFWA; BLMC Joint Secretariat and Planning Working Group
Component 2: Enhancing the economic value of the Lake ecosystem through sustainable use								
Targeted tourism infrastructure completed	N/A	Designs completed (visitor centers, hiking trails, cultural sites)	25% of rehabilitation/construction work completed	75% of work completed	100% of work completed	Annual	Project progress reports	MTEP/MEFWA; joint BLMC Secretariat
Reduction in illegal lakeside construction activity	Info to be provided at appraisal (average annual increase in illegal	Existing illegal lakeside construction mapped in both countries Public awareness campaign initiated			All illegal construction starts identified and stopped within 2 weeks of initiation	Regular	SLNP and SLMNR reports	MTEP/MEFWA

	buildings)							
Reduction in numbers of unlicensed fishermen/illegal fishing methods	Estim. 350 unlicensed (43% of total); 814 cases of illegal methods reported in 1 week survey		Unlicensed fishermen not exceeding 30% of total Not more than 400 cases of illegal methods observed during 1 week survey period		Unlicensed fishermen not exceeding 10% of total Not more than 100 cases of illegal methods observed during 1 week survey period	Every 2 years	Field survey (repeat of survey undertaken during preparation)	MTEP/MEFWA
Increased engagement of local community members in sustainable tourism	Insufficient data regarding households engaged in tourism	Completion of survey, providing: (i) baseline figure for % of total households sampled which earn minimum \$1000/year from tourism-related enterprises; (ii) index reflecting local communities' understanding of concept and issues of sustainable tourism		Attitude survey shows at least 30% increase in index measuring local understanding of concepts/issues of sustainable tourism	20% increase in proportion of households sampled earning minimum \$1000/year from tourism-related enterprises	Year 1 and Year 3/4	Socio-economic survey	MTEP/MEFWA
Component 3: Investments to Protect Water Quality								
Reduction in toxic materials in KAP site groundwater	Elevated levels of Hg, Pb, CN, NH3, PAH, PCB in groundwater and soil samples (see Annex 4)	Waste categorization and feasibility study completed; waste containment/groundwater protection measures identified	Waste containment/groundwater protection measures implemented		Hg, Pb, CN, NH3, PAH, PCB levels in groundwater exiting KAP site within acceptable limits by Montenegrin law	Quarterly	Water quality monitoring reports	MTEP/MEFWA; contracted institutions; BLMC Secretariat
Reduction in BOD, NO2, NO3 levels in	To be determined, following	Baseline water quality parameters recorded at pilot sites; feasibility	Pilot WWT measures under implementation	Pilot WWT measures completed	BOD, NO2, NO3 at discharge sites	Quarterly	Water quality monitoring	MTEP/MEFWA; contracted institutions;

water entering lake at pilot WWT sites	confirmation of pilot sites	studies and designs for small scale WWT pilots completed			within acceptable limits by Montenegrin law		reports	BLMC Secretariat
Water protection/buffer vegetation restored in pilot areas	Areas and specific indicators for restoration to be determined		25% of restoration work completed		100% of restoration work completed	Annual	Project Progress Reports	MTEP/MEFWA

Annex 4: Detailed Project Description

The Transboundary Diagnostic Analysis of Lake Skadar-Shkoder indicated that the lake has experienced significant pollution in the recent past, but water quality has generally improved since the early 1990's as a result of reduced industrial and agricultural activity in the lake basin (and therefore reduced pollution inflows) coupled with rapid turn-over of the water. It stressed the need for better information to understand the lake's hydrology and ecology and the potential impacts of revitalized economic development that is envisaged for the region, including recovery of some industries and agriculture, but with a strong push towards tourism as a major economic activity. It also highlighted the need to address some continuing pollution sources and to improve regulation of activities such as construction, waste disposal, fishing and hunting.

A joint Strategic Action Plan (SAP) for Lake Skadar-Shkoder, based on the TDA has been prepared and approved by both Governments. Some of the principles underlying the SAP are:

- Lake Skadar-Shkodra is a single, uninterrupted and unified ecosystem which requires a holistic approach for its conservation and development;
- The greatest challenge is to find the appropriate balance between the legitimate requirements of local people for development and better living conditions and the conservation and enhancement of environmental conditions.
- The support of local people is crucial for the successful implementation of the activities. Local communities must be involved in all the decision-making process for development of the area. There is also a need for immediate visible measures and tangible results, so people can see the difference and understand the importance of nature conservation.
- Several institutions/agencies have (sometimes overlapping or unclear) roles in managing the natural resources and development activities in the area, and it is necessary to clarify their functions and responsibilities.

The SAP defines four Strategic Goals: (i) joint lake planning and management; (ii) monitoring and research; (iii) improved management of the lake and its natural resources at a national level through strengthening the two level Protected Areas which together encompass the lake and its surrounding area; and (iv) realization of urgent environmental investments. It lays out a long-term program of ongoing and proposed activities financed by the two governments and by external donors. Some of the activities to be financed by the project (mainly under Component 1) are considered to be joint activities, while others will be carried out by and in only one country, but provide lake-wide benefits. Joint activities will be directed and overseen by the Bilateral Lake Management Committee through its Secretariat, usually with one or the other country having lead responsibility for implementation (GEF funds will be allocated accordingly between the two grants). A breakdown of the proposed project activities by joint vs.

“unilateral” and indicating GEF and other financing is provided in Annex 5. Annex 18 presents the summary action table of the SAP, indicating governments’ and other donors’ financing for other SAP activities (i.e., not included in this project). All project activities are drawn from the SAP, although there is not always a one-to-one correspondence: for example, several related SAP activities have sometimes been combined into a single project activity.

The project addresses key SAP priorities through support for four pillars:

- Improving information and understanding of the lake’s ecosystem and of the current and potential impacts of developments in the lake basin which can affect the quality and quantity of inflowing ground and surface waters;
- Strengthening institutional mechanisms for coordination and cooperation among all stakeholders/water users, particularly for transboundary linkages;
- Promoting sustainable use of the lake and its natural resources, as a preferred alternative to existing non-sustainable practices and to potential incompatible development; and
- Reducing existing pollution sources through direct investment by providing demonstrations and incentives and by strengthening regulation.

Through these interventions, the project aims to deal with current and imminent threats to the lake’s water and ecosystem in two key ways: first, by building political commitment for sustainable management at national and local levels, and second, through direct interventions to reduce pollution from point and non-point sources. In both cases, the project will build upon and supplement existing initiatives of the two governments and other donors, primarily by strengthening the transboundary dimension

The long-term quality and sustainability of the Lake Skadar-Shkoder ecosystem depends on there being sufficient interest and commitment at both national and local levels to invest in protective measures and to counter-act pressures for incompatible development. In order to build this commitment, the environmental services provided by a healthy lake ecosystem must be well understood and must be seen to generate concrete and meaningful benefits for local and national stakeholders. It is also important for the lake to be recognized as a bilateral and regional asset, whose status and management are issues that supercede local and national interests, making decision-makers accountable to a wider constituency. In order for the commitment to be translated into effective action, institutional mechanisms must be put in place to enable the diverse water users/stakeholders in both countries to coordinate and cooperate to manage the water resources in the most widely beneficial and sustainable way.

Component 1: Understanding and Managing the Lake Skadar Ecosystem (Total: US\$ 3.36; GEF: US\$ 2.04 million)

Subcomponent (i) Strengthening institutional structures for cooperation:

The bilateral Agreement which is in the process of being finalized and approved by both Governments, calls for the establishment of a high level Bilateral Lake Management Committee (BLMC), which will serve as the main steering mechanism for implementation of the SAP as well as the key forum for discussing and reaching agreements on issues affecting the management and use of the lake and its resources. The BLMC will be comprised of the following members from each country: a representative of central government, a representative of local government, and a representative of civil society. In view of the international significance of Lake Skadar-Shkoder (e.g., as a refuge for migratory birds), one non-voting member representing the international community (e.g., Ramsar Convention or UNESCO) is also envisaged.

The Committee will convene bilateral Working Groups to facilitate discussions on specific issues and to steer implementation of joint programs. Initially, six Working Groups are envisaged: Planning, Legal, Monitoring & Research, Communications/Outreach, Tourism and Water Management. These Working Groups will agree on objectives and work programs in their respective areas of responsibility. They will directly oversee the design and implementation of joint activities (see Subcomponent (iii)), and influence “unilateral” national-level project-funded activities. It is expected that they will also provide a mechanism for exchange of technical information and coordination outside the parameters of the project.

The two Governments will be responsible for appointing the members of the BLMC and Working Groups. Members who are civil servants will not be paid for their participation (receiving only expenses for meetings, etc.). Non-civil servants asked to serve on these bodies may receive honoraria for specific services provided such as attending scheduled meetings and reviewing documents. The Committee and Working Groups will be served by a small Secretariat (based in Albania), and a one-person technical support unit for each country which will assist the Governments in implementation of GEF-financed activities. To facilitate the establishment and operation of these new bodies, the GEF funds will support long term and short term Technical Assistance, equipment and materials, and incremental operational costs (e.g. travel and subsistence costs for meetings, office facilities, communications, etc.) on a declining basis during the life of the project.

Subcomponent (ii) Transboundary Research and monitoring: A lack of reliable and continuous data on water quality parameters, flora and fauna and use of lake resources presents a serious problem to understanding the lake ecosystem and identifying trends of either degradation or recovery. Data which were collected with some regularity prior to 1990 are now difficult to find, with the exception of a few published compendia, and there was little regular monitoring in the early and mid 1990’s particularly in Albania. This has now changed, and both Governments have restored some basic water

quality and ecological monitoring, which is implemented through contracts with local research institutions. The eventual objective is harmonize with EU water and ecological monitoring practices. However, each country monitors and studies only its own side of the lake and there is little coordination between them either in terms of types of data collected or research conducted, except in the context of some short-term projects which are externally funded and led by external partners which bring in institutions from both countries (e.g. University of Heidelberg; NIVA). This makes analysis of ongoing lake-wide parameters and trends difficult. Furthermore, there is very little information exchange as the data collected by the research institutes is often treated as proprietary and is either not made available at all to external users (including transboundary counterparts) or is available only at a high cost.

Under the project, basic, routine monitoring will continue to be the responsibility of the two governments and their institutional partners, in some cases with support from other donors. GEF support is sought for incremental monitoring activities to establish effective transboundary cooperation and to improve understanding of the nature and impacts of specific sources of ecological stress, as identified in the TDA. The GEF grant will support Technical Assistance, equipment (e.g., automatic and inter-connected water quality monitoring stations; computer hardware and software) and operating costs (e.g., for database management and reporting). The types and levels of support provided to each country will depend on the responsibilities it undertakes for implementation of joint activities, and on its particular capacity-building needs (one objective of the project is to help reduce differences in technical capacity in order to facilitate effective cooperation between the two countries):

- (i) Creating a predictive hydrological model of the lake and lake basin, which can be used to analyze existing and expected impacts of different development activities and proposals. This model will need to take into account the complexities of the multiple sources of water and potential transport routes for pollutants into the lake, including the complex underlying karstic systems and the interconnections among the lake, its tributaries and groundwater. The model is expected to be mainly a computer simulation but may also have a physical element. (The Monitoring and Research Working Group will be given an opportunity to become familiar with such models from different countries in order to choose what is best suited for this purpose).
- (ii) Establishing a coordinated, collaborative lake-wide monitoring system for key chemical and physical parameters that are important for management purposes. The objective is to use the same technology, sampling regimes and reporting formats in both countries. The project will also support the establishment of a joint database which is publicly accessible. This will facilitate information exchange between Montenegrin and Albanian researchers and resource managers, as well as giving other stakeholders (e.g. local NGOs) the information they need to contribute knowledgeably and effectively in decision-making processes concerning the lake.

(iii) Incremental research and studies to clarify specific issues and questions identified by the Bilateral Lake Management Committee and its Working Groups. This includes, in the first year, a detailed socio-economic study to improve baseline information regarding local communities' use of and reliance on the lake's resources.

Subcomponent (iii) Implementation of activities commissioned by BLMC and Working Groups: The SAP identifies a number of joint activities which are to be coordinated and steered by the Working Groups under the overall direction of the BLMC. In addition to the joint research and monitoring described above, these include preparation of a lake-wide management plan (which will be integrated into the relevant national level spatial and Protected Area management plans which form the legal basis for regulating land, water and natural resource use in Lake Skadar and its surroundings; maintenance of a common database, development and implementation of public awareness-raising and tourism marketing campaigns, etc. GEF funding is sought for implementation of these activities. Lead responsibility for implementation of these activities will be assigned to either Albania or Montenegro (basic division to be decided during Appraisal) and the funds involved will be included in the respective GEF grants to the two countries. In both countries the project will contribute, along with several other World Bank-financed projects, to the cost of providing a small team of consultants to assist the Governments with specific aspects of implementation (e.g. procurement; financial management of the GEF grants).

Component 2: Enhancing sustainable use of the Lake ecosystem (Total: US\$ 5.14 ; GEF US\$ 0.86 million)

This component aims to promote the adoption of more sustainable approaches to economic development of the lake and its natural resources. It focuses primarily on two aspects (tourism and fishing) where there is a high potential for economically significant sustainable use, but current unsustainable practices are threatening the ecological integrity and long-term economic value of the lake and the livelihoods of local communities. Ensuring the economic viability of environmentally sustainable uses of the lake is essential to counterbalance pressure for incompatible development in the lake basin and watershed.

(i) *Sustainable tourism development:* Lake Skadar-Shkoder is located close to the Adriatic coast, which is already popular with both local and international tourists, and offers a number of unique attractions. National and local governments and local residents in both countries look towards tourism as the main engine for economic development of the Lake Skadar-Shkoder area, and national spatial and sectoral strategies identify it as a priority "special interest" area for development of nature, culture, and recreation-based tourism. In addition, a growing part of the local population is engaging in tourism-related activities to supplement income from agriculture and/or fishing. These are positive factors for building support and commitment for environmental protection, as such this type of tourism depends on environmental quality as a key part of the tourism "product." Properly planned and regulated tourism can therefore be both economically

rewarding and environmentally sustainable, having much lower impacts on the lake ecosystem than many alternative economic activities. At present, however, tourism is growing rapidly in the Lake Skadar-Shkoder area in an unplanned and unregulated way which makes it an increasingly serious threat to the lake, through inappropriate construction, untreated wastewater, poor solid waste management, etc.

The project will support development of more environmentally and socially sustainable tourism by: improving nature- and culture-based facilities and attractions (e.g., hiking trails, cultural sites); public awareness-raising and providing information and Technical Assistance to local residents to help them engage in appropriate tourism enterprises; and strengthening regulatory capacity to stop illegal construction and other negative practices. Investments under this sub-component will be guided by joint tourism development planning coordinated by the Working Groups on Planning and Tourism. There are a number of existing and planned government and donor-funded projects to support tourism development in the area at a national level (see Annex 2). The GEF funds will complement these projects by emphasizing support for transboundary coordination and joint action, based on the lake-wide tourism plan (see Component 1). GEF will support small scale infrastructure development and rehabilitation (e.g. hiking trails and signage that link the two sides of the lake, birdwatching towers, rehabilitation of cultural and historical sites to create a transboundary circuit, etc.). The overall objective is to support public investment to provide an enabling environment and attraction to catalyze private sector enterprises. GEF funds will also support TA for effective marketing of the crossborder Lake Skadar area as a tourism destination, and to help prospective entrepreneurs identify and develop appropriate, compatible business ideas. The project will not provide direct financing for private entrepreneurs but may assist them to access funds from government and donor programs.

(ii) *Natural resource management:* while local communities traditionally use and market (locally) a number of natural resources from Lake Skadar-Shkoder (e.g. willows for basketry, medicinal plants, wild fruits), fish are by far the most significant in terms of local economies and employment. Their mobility also makes transboundary cooperation essential for sustainable management. Some of the lake's most valuable fish species are also currently threatened by over-exploitation and habitat degradation (the number of fishermen on the Albanian side of the lake has increased from 160 prior to 1990, to about 800 today). Both Governments have institutions and personnel in place to regulate fishing, but there is a lack of information, mechanisms and capacity to manage the fisheries on a lake-wide basis. As in the case of tourism, there are a number of government and donor-funded initiatives supporting various aspects of fish management on the national level (see Annex 2), and this project will complement them by filling gaps and by providing the means for better bilateral coordination. A lake-wide stock assessment and fisheries management plan will be a key first year activity under Component 1. This subcomponent will help support the integration of these outputs into national plans and regulations and implementation of some aspects. It will also provide support and incentives for fishermen who are currently operating illegally to become licensed and to stop using illegal fishing methods. At the same time, it will help to

strengthen the governments' regulatory and enforcement capacity to stop unlicensed boats and the use of illegal fishing methods.

The stock assessment and monitoring activities will help to establish whether the present level of fishing is excessive and unsustainable. If so, there may be a need to place some currently used fishing areas off-limits and/or to reduce the number of boats and fishermen. Two Resource Access Restriction Process Frameworks (one for each country) have been prepared to address the potential for economic displacement (see Annex 10).

Component 3: Investments to Protect Water Quality (Total: US\$ 7.21 million; GEF: US\$ 1.65 million)

This component will support on-the-ground investments to help address existing sources of pollution which were identified in the TDA. GEF funds will complement investments by the two governments and other donors (see Annex 15), addressing transboundary issues and demonstrating innovative approaches. The component includes three subcomponents:

- (iv) Small scale, innovative wastewater treatment for lakeside villages and tourist facilities (Albania and Montenegro)
- (v) Shielding groundwater from hazardous wastes at the KAP Aluminum plant (Montenegro)
- (vi) Pilot ecological restoration of lakeside vegetation buffer areas (mainly Albania)

(i) *Small scale wastewater treatment*: Several large donor-funded programs are supporting construction or upgrading of sewage collection and wastewater treatment facilities in large urban areas with positive impacts on Lake Skadar-Shkoder (e.g., Shkodra Municipality, Podgorica). The GEF project will target the problem of wastewater from small villages, residences, restaurants, etc., which are too widely scattered for a collector-based approach. At present, untreated sewage from these settlements and facilities flows directly into the lake, causing localized eutrophication and unsightly and unsafe conditions. The objective is to demonstrate practical, environmentally friendly solutions for such situations. On the Montenegro side, a pilot project for wastewater treatment, possibly based on constructed wetlands, is proposed for the village of Vranjina, on the northern shore of the lake. On the Albania side GEF funds would fill an important gap by providing incentives and assistance for the owners of more than 30 lakeside restaurants to construct individual wastewater treatment solutions.

[NOTE: FURTHER INFORMATION ON THE PILOTS – E.G. SCALE, POSSIBLE TECHNOLOGIES, TO BE ADDED DURING APPRAISAL]

(ii) *KAP hazardous waste containment*: As described in Section and Annex 1, the Kombinat Aluminijuma Podgorica (KAP) aluminum plant on the Moraca River is considered to be one of the major point sources of pollution affecting the lake, mainly

through contamination of groundwater by a large volume of various toxic materials (heavy metals, PCBs, etc.) inappropriately stored on the plant site. This unlined, open-air dump site, covering about ha, contains all the hazardous and non-hazardous wastes from aluminum processing generated by the plant since it began operations in the early 1970's. Under the 2005 privatization contract, the GoM is responsible for disposing of the hazardous wastes and the new owner (RUSAL) the non-hazardous wastes¹¹. However, the materials are so fully mixed together that it is unlikely they can be separated. Instead, the GoM and RUSAL are likely to collaborate on and co-finance a solution that deals with all the waste together. This is expected to be a secure (EU-standard) hazardous waste landfill to be constructed on the present dump site. While the location is far from ideal for a hazardous waste landfill (highly permeable substrate, directly upstream of Lake Skadar-Shkoder, etc.) constructing the landfill elsewhere and transporting the waste to it is not regarded as practical. Transporting such a large volume of hazardous waste material would be expensive and dangerous, particularly given the poor quality of much of the country's road network. In addition, based on experience in trying to establish even non-hazardous municipal landfills, public resistance (the NIMBY¹² phenomenon) will probably make it impossible to locate such a facility on any site other than the existing one (which is located on land owned by KAP/RUSAL, and where construction of a secure landfill can be presented as an improvement of the current situation).

The Government has tentatively budgeted USD 5.16 million for the construction of this landfill, to be supplemented by an as-yet-undetermined contribution from RUSAL and a proposed contribution of USD 500,000 from GEF. However, the actual cost and timetable for constructing the facility can only be estimated once the waste pile has been properly inventoried and a feasibility study and technical design for the landfill have been completed. For example, given the nature of the terrain and substrate at the KAP site, it is likely that a thick layer of clay will have to be put in place, adding considerably to construction costs (there is no clay in the immediate vicinity, so it would have to be brought in by truck or train from elsewhere in the country).

GEF funds will facilitate expeditious action to address this urgent threat to the lake. As a first step, the project will support TA for the waste inventory and feasibility study. Funds (USD 400,000) are also allocated in principle for making a contribution to implementing the recommended solution, but the precise nature of the GEF contribution can only be determined after the feasibility study is completed. As a matter of principle the GEF support will be targeted specifically for preventing the leaching of hazardous and toxic materials into the groundwater. At present this is anticipated to be through a direct contribution to the construction of the landfill. However, if the feasibility study shows that a permanent solution will require a very large investment which can not be implemented in the short to medium term, the allocated GEF funds could be used to put in place interim measures to reduce and monitor groundwater contamination. This may

¹¹ RUSAL has already begun a process of moving the material to an immediately adjacent area where concrete flooring and walls have been constructed as a containment measure. However, this is only a very temporary solution as the concrete is not an effective barrier to the leaching of water-soluble materials.

¹² Not in My Backyard

include, for example, establishment of a first cell of the landfill to contain some particularly toxic and mobile elements of the waste which can be separated out, or constructing monitoring/pumping wells at the perimeter where groundwater from the KAP site enters the Moraca River.

(iii) Pilot buffer vegetation restoration: Natural vegetation along the lake shore and the banks of inflowing rivers provides an important buffer protecting Lake Skadar-Shkoder from pollution and sedimentation from agricultural areas and inflowing river deltas. Excessive tree cutting, over-grazing and destructive construction practices have eliminated or degraded this vegetative buffer in many places. Ecological studies have identified several areas where this has particularly important impacts, such as degrading important spawning and nursery areas for fish. These include the banks of streams which flow to the lake from Taraboshi Mountain and coastal areas around fish nursery sites in Kamic and Shiroke (Albania) and grasslands around Virpazar (Montenegro). The project will provide Technical Assistance, equipment and operational costs to support pilot ecological restoration activities at several priority sites. [NOTE: FURTHER DETAILS ON SITES, RESTORATION METHODS TO BE ADDED DURING APPRAISAL]

Annex 5: Project Costs
SOUTH EASTERN EUROPE AND BALKANS

Project Cost By Component and/or Activity	Local US \$million	Foreign US \$million	Total US \$million
TO BE COMPLETED AT APPRAISAL			
Total Baseline Cost			
Physical Contingencies			
Price Contingencies			
Total Project Costs¹			
Interest during construction			
Front-end Fee			
Total Financing Required			

¹Identifiable taxes and duties are US\$m ____, and the total project cost, net of taxes, is US\$m ____. Therefore, the share of project cost net of taxes is ____%.

**GEF Grant Allocation by Component and Country
(US\$ millions)**

	GEF for Montenegro	GEF for Albania	GEF for Joint Activities	TOTAL
COMPONENTS				
Understanding/Managing Lake Ecosystem	.07	.20	1.78	2.04
Enhancing Sustainable Use of Lake Ecosystem	.38	.48		0.86
Water Protection Investments	1.21	.43		1.65
Total	1.66	1.11	1.78	4.55

*To be divided between Albania and Montenegro grants during Appraisal

**Project Components by Source of Funds
(US\$ millions)**

Project Cost By Component	GEF	Govt. of Montenegro	Govt. of Albania	Other Donors and Direct Co-Financiers	TOTAL
Understanding/Managing Lake Ecosystem	2.04	.86	.17	.29	3.36
Enhancing Sustainable Use of Lake Ecosystem	0.86	3.54*	.57*	.17	5.14
Water Protection Investments	1.65	5.16	0.4	0	7.21
Total	4.55	9.56	1.14	.46	15.71

*Includes cash and in-kind contributions

Annex 6: Implementation Arrangements
SOUTH EASTERN EUROPE AND BALKANS

TO BE COMPLETED AT APPRAISAL

Annex 7: Financial Management and Disbursement Arrangements

SOUTH EASTERN EUROPE AND BALKANS

1. [*All sub-sections must have a continuous paragraph numbering for the entire document per institutional standard.*]
- 2.

Annex 8: Procurement Arrangements

SOUTH EASTERN EUROPE AND BALKANS

[The following standard text should be used. Insert additional text as needed per the instructions in brackets.] [All sub-sections must have a continuous paragraph numbering for the entire document per institutional standard.]

A. General

1. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Loan/Credit, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

2. **Procurement of Works:** Works procured under this project would include: *[Describe the types of works]*. The procurement will be done using the Bank's Standard Bidding Documents (SBD) for all ICB and National SBD agreed with or satisfactory to the Bank. *[Indicate any special requirements specific to the project.] [If the project involves procurement carried out by communities, indicate where details can be found in the Project Implementation Manual or similar documents.]*

3. **Procurement of Goods:** Goods procured under this project would include :*[Describe the types of goods]*. The procurement will be done using the Bank's SBD for all ICB and National SBD agreed with or satisfactory to the Bank. *[Indicate any special requirements specific to the project.]*

4. **Procurement of non-consulting services:** *[Provide a general description of non-consulting services to be procured under the project and information on the bidding documents to be used for the procurement.]*

5. **Selection of Consultants :** *[Provide a general description of the consulting services from firms and individuals required for the project.]* Short lists of consultants for services estimated to cost less than \$_____equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. *[If applicable, provide any information regarding engaging universities, government research institutions, public training institutions, NGOs, or any special organizations.]*

6. **Operating Costs:** *[Describe the operating costs which would be financed by the project and procured using the implementing agency's administrative procedures which were reviewed and found acceptable to the Bank.]*

7. **Others:** *[Describe if any special arrangements for scholarships, grants etc.]*

8. The procurement procedures and SBDs to be used for each procurement method, as well as model contracts for works and goods procured, are presented in the *[name the Project Implementation Manual or the equivalent document.]*

B. Assessment of the agency's capacity to implement procurement

9. Procurement activities will be carried out by *[name of the Implementing Agency]*. The agency is staffed by *[describe the key staff positions]*, and the procurement function is staffed by *[describe the staff who will handle procurement]*.

10. An assessment of the capacity of the Implementing Agency to implement procurement actions for the project has been carried out by *[name of the procurement staff]* on *[date]*. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement Officer and the Ministry's relevant central unit for administration and finance.

11. The key issues and risks concerning procurement for implementation of the project have been identified and include *[describe the risks/issues]*. The corrective measures which have been agreed are *[Describe the corrective measures]*.

12. The overall project risk for procurement is *[give the risk rating]*.

C. Procurement Plan

13. The Borrower, at appraisal, developed a procurement plan for project implementation which provides the basis for the procurement methods. This plan has been agreed between the Borrower and the Project Team on *[date]* and is available at *[provide the office name and location]*. It will also be available in the project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

14. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended *[frequency]* supervision missions to visit the field to carry out post review of procurement actions.

E. Details of the Procurement Arrangements Involving International Competition

1. Goods, Works, and Non Consulting Services

(a) List of contract packages to be procured following ICB and direct contracting:

1	2	3	4	5	6	7	8	9
Ref. No.	Contract (Description)	Estimated Cost	Procurement Method	P-Q	Domestic Preference (yes/no)	Review by Bank (Prior / Post)	Expected Bid-Opening Date	Comments

(b) ICB contracts estimated to cost above [fill in threshold amount] per contract and all direct contracting will be subject to prior review by the Bank.

2. Consulting Services

(a) List of consulting assignments with short-list of international firms.

1	2	3	4	5	6	7
Ref. No.	Description of Assignment	Estimated Cost	Selection Method	Review by Bank (Prior / Post)	Expected Proposals Submission Date	Comments

(b) Consultancy services estimated to cost above [fill in threshold amount] per contract and single source selection of consultants (firms) for assignments estimated to cost above [fill in threshold amount] will be subject to prior review by the Bank.

(c) Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than [fill in threshold amount] equivalent per contract, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Annex 9: Economic and Financial Analysis
SOUTH EASTERN EUROPE AND BALKANS

1. [*All sub-sections must have a continuous paragraph numbering for the entire document per institutional standard.*]
- 2.

Annex 10: Safeguard Policy Issues
SOUTH EASTERN EUROPE AND BALKANS

1. [*All sub-sections must have a continuous paragraph numbering for the entire document per institutional standard.*]

TO BE COMPLETED

Annex 12: Documents in the Project File

SOUTH EASTERN EUROPE AND BALKANS

[All sub-sections must have a continuous paragraph numbering for the entire document per institutional standard.]

1.

Annex 13: Statement of Loans and Credits
SOUTH EASTERN EUROPE AND BALKANS

Project ID	FY	Purpose	Original Amount in US\$ Millions				Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF			Orig.	Frm. Rev'd
Total:			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SOUTH EASTERN EUROPE AND BALKANS
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
Total portfolio:		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic.
Total pending commitment:		0.00	0.00	0.00	0.00

Annex 14: Country at a Glance
SOUTH EASTERN EUROPE AND BALKANS

Annex 15: Incremental Cost Analysis

SOUTH EASTERN EUROPE AND BALKANS

Project Development Objective and Baseline Scenario

1. The project development objective is to maintain and enhance the long-term economic value of Lake Skadar-Skhoder and its natural resources. The baseline funding in support of the project amounts to \$40.2 million. The baseline scenario and corresponding funding with regards to each project component are described below.

LAKE ECOSYSTEM MONITORING AND MANAGEMENT

2. In the past, both Montenegro and Albania have pursued lake management from a predominantly national perspective. Little transboundary environmental co-operation took place. There is no institutional structure for co-ordinating protection and management. As such, under a forward-looking baseline scenario, it would prove increasingly difficult for managers to address mounting challenges to lake sustainability during the planned project period.

3. This situation began to change with the creation of a project involving the two Governments together with the Regional Environment Center (**REC**) and with the move to develop a GEF project. Launched in 2000, the REC project has a total budget of \$600,000, of which \$170,000 will be spent during the project period. REC project activities include: (i) institutional capacity building to promote cross-border communication and collaboration (especially for communities and NGOs), (ii) public awareness activities, including preparation of promotional materials for ecotourism, (iii) a small amount of equipment for Skadar Lake NP.

4. While the REC project focuses on community/local communication, it does not support high-level government coordination, nor does it implement activities on the ground to make the cooperation concrete. Thus, while the REC project continues to be very valuable in instilling the idea of transboundary cooperation, it cannot fund its realization.

5. A fair amount of environmental quality monitoring within the lake basin currently takes place in both countries and will continue at a similar rate of expenditure under the baseline scenario. However, this scenario has the following shortcomings: (i) the same monitoring approaches and data collection methods are not being used by each country, which means that the data gathered are not inter-comparable; (ii) there is no common database with open and efficient exchange of information; (iii) data gathering and analysis is not necessarily being carried out based on priorities concerning the lake as a whole; (iv) the parameters measured are not necessarily those which will provide the greatest utility for underpinning lake-wide management decisions; (v) research is

somewhat donor-driven, reflecting the priorities of the respective funders, (vi) data are not readily available within either country because data collection is done by semi-autonomous institutions which often charge high fees for it, and; (vi) technical capacities to analyze and interpret data are limited, particularly in the case of Albania.

6. As a result of the above, it is currently very difficult, if not impossible, to obtain accurate and up-to date information on the status and trends of key elements of the lake's ecosystem. However, such information is essential for effective management and to achieve both national and transboundary priorities. These drawbacks tend to limit both national and transboundary benefits from monitoring.

7. Estimated baseline spending for environmental monitoring in the lake area during the project period is \$675,000 in the case of Montenegro¹³ and \$68,000 for Albania. The nature and purpose of some of this spending will be reoriented under the GEF Alternative in order to increase and capture transboundary benefits.

8. As part of baseline funding, data from a transformed programme of monitoring will be complemented by a transboundary research project funded by the Norwegian Research Council (NIVA). The three-year DRIMON¹⁴ project involves Montenegro, Albania and Macedonia and covers Lakes Skadar-Shkoder and Prespa. Total funding for Lake Skadar-Shkoder is estimated at \$237,500. Project activities include: (i) establishing nutrient budgets and addressing siltation challenges for the lake basins, (ii) assessing the status of the lakes through dose-response relationships between nutrients and sediment inputs and their effects; (iii) suggesting environmental goals for the lakes, based on information on their trophic status and evidence of their reference (or natural) conditions, in dialogue with stakeholders. This study will provide essential management-related data which would otherwise need to be obtained through GEF support, were it not being financed by NIVA.

9. In addition, GTZ will finance complementary activities under the “*Physical Planning and Transboundary Management*” project that covers both Montenegro and Albania. The project, which has been approved and is expected to begin shortly, will provide \$625,000 over 18 months for preparation of detailed urban plans for six pilot lakeside villages (needed to reduce illegal building, support well regulated residential and tourism development), some small ecotourism-related infrastructure.¹⁵ The province of Pisa, Italy is also financing urban planning activities in cooperation with the Municipality of Shkodra for approximately \$612,000.

LAKE SKADAR-SKHODER WATER AND NATURAL RESOURCES MANAGEMENT

¹³ Based on an annual figure of 1.6 million Euro for country-wide environmental monitoring and an estimate that 10% of spending takes place within the lake basin and is therefore relevant to the lake's environmental quality.

¹⁴ Interdisciplinary Assessment of Water resource Management in Two Transboundary Lakes in South Eastern Europe

¹⁵ An additional activity under this project is considered as incremental support and is presented below under the Alternative GEF Scenario.

10. At present, there is no zoning or management plan in the areas surrounding the lake, with the result that most areas are legally accessible to tourists and fishermen. Local and commercial use of the lake natural resources is allowed everywhere, including fishing, hunting, recreation (boating, hiking, etc.). Ensuring that these resources are used sustainably and limiting their ecological impacts is an essential and challenging part of lake management. However, realization of these objectives is undermined by capacity constraints in both countries, as evidenced by problems such as high levels of illegal fishing and hunting and by pressure from alternative uses of the lake waters that promise localized short-term gains. Local authorities have limited experience with modern, integrated and participatory approaches to management of natural resources.

11. In the case of Montenegro, an estimated \$1,875,000 in baseline support will be provided during the full project period,¹⁶ to cover the annual operational budget of the project implementation entity (the Lake Skadar National Park administration), awareness raising and government counterpart funding for USAID and Council of Europe (CoE) projects.

12. In the case of Albania, the lake area received area status only in 2006, near the end of the project preparation period. The move to initiate transboundary co-operation, including the anticipation of international (GEF and others') support for this objective, has been an important impetus underlying the establishment of the PA and the creation of an associated budget. In the absence of GEF support, baseline spending by Albania under this component would have been zero.

13. The following donor support is being provided under the baseline scenario for natural resource management in the project area:

GTZ is working in Montenegro supporting the “*Improving Touristic Offer of LSNP*” project and is financing small tourism-related infrastructure such as signs, trails, promotional materials, etc. The total financing is estimated at \$225,000. GTZ, together with Austrian Aide (ADA), is providing \$340,000 to support small/medium infrastructure to make the area more tourist-friendly, e.g. rehabilitation of Virpazar market in Montenegro.

USAID, Council of Europe and Government of Montenegro: Together these donors are providing financing for various activities aimed at tourism development based on natural and cultural heritage, including bird watching tourism, a lake clean-up project, construction of thematic visitor centers at Bar and Cetinje, and activities supporting cultural heritage & local traditions, with special emphasis on promoting social inclusion. Total financing: \$340,000

UNDP: UNDP does not support on-the-ground activities at Lake Skadar, but does have a national project to develop GIS for natural resource management. A three-phase project

¹⁶ During the PDF-B Phase, \$225,000 was invested by GoM in PA infrastructure to rehabilitate the National Parks HQ and visitor center at Lake Skadar. This investment was made in conjunction with, the PDF-B Phase and is reflected as such in the attached incremental cost matrix.

totaling \$512,500, it is expected to provide \$50,000 of geographically relevant support during the project period.

WATER QUALITY PROTECTION INVESTMENTS

14. Important baseline investments are being made to control pollution within the lake watershed, much of which has hitherto been reaching the lake. These include hazardous wastes, solid wastes and wastewater.

15. In the area of *wastewater collection and treatment*, there remain up till now major challenges, particularly on the Albanian side where wastewater from the city of Shkodra flows largely untreated into the lake. Overall baseline financing includes the following:

- \$17 million from KfW and Austria to Albania to help provide Shkodra city with wastewater collection and treatment facilities
- \$200,000 from the European Agency for Reconstruction (EAR) to assist Montenegro with the rehabilitation of an existing wastewater treatment plant for Podgorica (presently a significant source of pollution through the Moraca River).
- \$100,000 from the government of Montenegro for piloting small-scale wastewater treatment along the side of the lake. Some of this financing will be re-directed towards innovative approaches under the GEF Alternative.

16. In the area of *hazardous wastes*, the contract for privatization of Montenegro's State-owned KAP aluminum plant was awarded to RUSAL, a private Russian company. This contract includes a requirement that "legacy" hazardous and non-hazardous waste on the KAP grounds must either be removed or contained in EU-standard sanitary land fill by 2010. Under the agreement, RUSAL is responsible for non-hazardous wastes (with an estimated financing of \$10 million), while GoM is responsible for the hazardous waste component.

Hazardous waste from KAP presents a particular threat to Lake Skadar as it is contaminating groundwater which enters the lake, primarily through the Moraca River. Addressing the KAP hazardous waste issue will have important national and transboundary benefits by removing a significant threat to lake environmental quality. In conjunction with GEF support, the Government of Montenegro is providing baseline financing of \$100,000 for the feasibility study and \$5.16 million to clean up the site.¹⁷

17. Management of *solid waste* represents an important task for lake managers and local governments in both countries. Domestic solid waste is recognized as a serious and growing problem in many parts of the lake basin. Wastes from settlements and tourism facilities near the lake and in river basins are blown into the lake and collect at the mouths of rivers, where it interferes with ecological functions, have negative impacts on local health, and undermine tourism prospects by diminishing the aesthetic appeal of the area. Shkodra city has an established (though inadequate) waste collection system, but there are none in villages and communes on either side of the lake.

¹⁷ The GEF incremental cost contribution of \$1.2 million to the KAP cleanup is described below in para. 35.

18. Baseline spending in this area includes the following:

- IDA-financed Montenegro Environmentally Sensitive Tourism Project (MESTAP) is funding two regional municipal solid waste landfills, one of which covers Bar municipality which borders the Lake, and is therefore significant for Lake Skadar. Relevant baseline costs at this site are estimated at \$300,000.¹⁸
- Baseline spending for the city of Shkodra in Albania is estimated based on an ongoing \$500,000 annual contract for solid waste collection and disposal. It is estimated that some 10% of that contract is collecting waste from areas in close proximity to the lake, and therefore reducing the risk of solid waste entering the lake. Thus, \$200,000 of baseline spending is estimated over the four-year life of the project.

Global Environmental Objective and Alternative Scenario

19. The project global environmental objective is to enhance transboundary cooperation for managing the sources and impacts of potentially conflicting development objectives and activities affecting the waters of the Lake Skadar-Shkoder basin.

20. The total cost of the alternative scenario is \$46.6 million. This consists of \$ 40.2 million of baseline investments and \$6.5 million in incremental finance. The proposed project, with a total financing of \$15.7 million including a GEF contribution of \$5 million, covers all incremental activities as well as key baseline activities financed by the two governments. It addresses major gaps in baseline activities and is aimed at achieving a variety of global, transboundary and national benefits.

COMPONENT 1: UNDERSTANDING/MANAGING THE LAKE ECOSYSTEM

21. Under the alternative GEF scenario, \$2.8 million of incremental support will be provided to enhance and solidify a long-term programme of integrated environmental management of the lake. This represents a key step towards the establishment and operation of a permanent institutional structure for lake management. The additional support will support for the establishment of a Bilateral Lake Management Committee (BLMC) and several bilateral Working Groups to coordinate implementation of key actions called for in the Strategic Action Plan. Working Groups will be set up for:

- (i) coordinating legal and institutional frameworks;
- (ii) coordinated planning, including development of a lake-wide zoning and management plan (to be integrated into relevant national and local spatial and Protected Area plans);
- (iii) designing and overseeing a lake-wide research and water quality monitoring program;
- (iv) coordination and conflict resolution relating to water management issues;

¹⁸ This figure is based on an estimate that 10% of the total spending is relevant for the lake.

- (v) developing and overseeing a joint public awareness-raising and education program; and
- (vi) preparing a coordinated strategy and plan to promote sustainable tourism development.

22. The project will also finance a small Secretariat to support the BLMC and Working Groups and to coordinate and facilitate implementation of joint project activities.¹⁹

23. Accurate and up-to date information on the status and trends of key elements of the lake's ecosystem is essential for effective protection and management. For a transboundary lake it is important that the same monitoring approaches and data collection methods are used by each country, that a common database is established with open and efficient exchange of information, and that analysis is carried out based on priorities concerning the lake as a whole.

24. Incremental support under this component leveraged by the GEF is as follows:

- (i) Government of Montenegro will provide \$160,000 for the BLMC and Working Groups; \$25,000 for public outreach and communication, and \$67,000 for monitoring
- (ii) Government of Albania will provide \$100,000 for the BLMC and Working Groups and \$7,000 for monitoring.
- (iii) SNV Netherlands, which is providing \$112,500 for institutional strengthening, stakeholder participation and co-operation between the two countries.
- (iv) GTZ will provide approximately \$20,000 in technical assistance to develop a framework strategy for preparation of the Lake-wide Management Plan.

25. In addition to the above, \$2,330,000 in incremental support is being requested from the GEF for the following elements:

- (i) Technical assistance, training, equipment and support for incremental operating costs (on a declining basis) will be provided to support the establishment of the BLMC and Working Groups to enable them to carry out their responsibilities. This includes the establishment of a small Secretariat for the BLMC and 1-person technical support units in each country, as well as the costs of regular meetings and communications.
- (ii) Technical assistance, equipment and support for incremental operating costs will be provided for implementation of joint activities designed and overseen by the Working Groups. These will mainly consist of studies, targeted research and monitoring, and preparation of spatial and development plans, as well as the development and implementation of a public outreach and education program. Lead responsibility for implementation of these joint activities will be assigned to

¹⁹ Implementation of the programs developed by the WGs will mainly be financed through other components.

either Montenegro or Albania, based on the capacity of their implementing agencies and their priorities. An important part of the monitoring program will be to establish and maintain a common, publicly accessible data base and networks for information exchange. .

COMPONENT 2: ENHANCING SUSTAINABLE USE OF THE LAKE SKADAR-SHKODER ECOSYSTEM

26. The total cost of the GEF Alternative under Component 2 is \$6.4 million. This total consists of \$4.9 million in baseline support and \$1.5 million in incremental support. Incremental support from GEF totalling \$1.025 million will include the following:

- Technical assistance, training, equipment and materials, and some incremental operating costs to strengthen the capacity of the local administrations responsible for management of the lake and its natural resources, including both improved communication and partnership with local governments and communities and more effective enforcement of regulations (e.g. against illegal construction and illegal fishing).
- Technical assistance, civil works and equipment and materials to support development of of sustainable tourism as the best alternative for the use of the lake ecosystem. This includes small scale infrastructure such as hiking trails and signage, birdwatching platforms, rehabilitation of cultural heritage sites to enhance their touristic and educational value;
- Technical assistance and equipment and materials to build capacity and provide incentives for sustainable use of natural resources. This may include, for example, legal and technical assistance for local fishermen's and other resource users' associations, improved market facilities accessible to registered fishermen, training in handicrafts based on local resources, etc. .

27. An incremental budget of \$420,000 is leveraged from the government of Montenegro and \$60,000 from the government of Albania in support of this component.

COMPONENT 3: URGENT INVESTMENTS TO PROTECT WATER QUALITY

28. The total cost of the GEF Alternative under Component 3 is \$34.7 million. It includes \$32.5 million in baseline support and \$2.2 million in incremental support. The incremental support of GEF is estimated at \$1.6 million and will be directed towards addressing urgent pollution hot-spots, as follows:

- Hazardous waste: GEF will provide incremental support for addressing the hazardous waste problem at KAP. GEF funding of \$ 1 million is requested for: carrying out an initial inventory and categorization of the wastes; co-financing of a feasibility study; and on-ground investment -- either as co-financing for a secure landfill or to implement other measures to prevent movement of toxic

materials through the groundwater and into the Moraca River (depending on the findings of the feasibility study).

- Wastewater treatment: GEF support is being requested to help address the growing problem of untreated domestic wastewater flowing directly into the lake from lakeside villages and communes, and private residences and touristic facilities (e.g. restaurants) which have been built on the lakeshore during the past few years. Specifically, based on the priorities identified in the SAP, GEF would contribute to the installation of a small scale, environmentally and economically sustainable wastewater collection and treatment system in one village on the Montenegro side and appropriate waste treatment of containment facilities for about 30 restaurants on the Albania side. The proposed GEF contribution to this effort is \$365,000.
- Lake buffer vegetation restoration: GEF will finance TA and various investments (equipment, materials, labor) to restore tree groves, control stream bank erosion and fish nursery buffer vegetation at priority sites on both sides of the lake for an estimated cost of \$ 280,000.

29. An incremental budget of \$520,000 is leveraged from the government of Montenegro and \$20,000 from the government of Albania in support of this component.

Incremental Cost Analysis Matrix

Component	Category	Amount USD	Domestic Benefits	Global Benefits
1. Understanding/Managing the Lake Skadar Ecosystem	Baseline	2,743,200	Updated national and local environmental policies and laws and efforts to harmonize policies, legislation and practices with EU instruments, but little coordination for lake management 2003 MOU for cooperation is followed by a bilateral agreement but no concrete measures taken to implement agreements in MOU. Some ecological monitoring done in both countries separately but no mechanism in place to foster transboundary institutional and technical cooperation. Decisions concerning the future of the lake driven more by local short-term economic gain than basin-wide, long-term environmental and economic sustainability	-
	Alternative	5,545,000	Institutions responsible for lake basin planning and management are strengthened and their decisions are based on understanding the impacts of changing water conditions of the lake and their costs and benefits in the short- medium and long terms both for environmental sustainability and economic development. Monitoring plans and databases are managed with input from both countries and accessible to the public.	Governments coordinate and cooperate across the border to jointly address the lake's transboundary environmental and socioeconomic issues Systems for coordination and cooperation at basin level are operational and sustainable to secure an integrated approach to environment and water issues that takes into account long-term environmental benefits against short-term economic gains. Governments and scientific institutions recognize the importance and value in establishing and share information, allowing them to cooperatively develop and transboundary ecosystem-based lake management.
	Increment	2,801,800		

Component	Category	Amount USD	Domestic Benefits	Global Benefits
2. Enhancing Sustainable Use of the Lake Ecosystem	Baseline	4,895,500	Economic growth linked to tourism potential of the lake basin and watershed with limited public understanding and appreciation of the importance of environmentally sustainable management of the lake and its resources and of their role in achieving long-term environmental and economic sustainability.	
	Alternative	6,395,5000	Public education and public information increases awareness on sustainable use of the lake resources including tourism development that improves socio-economic conditions in the lake basin while maintaining ecological systems and quality	Environmentally sustainable tourism development and effective implementation of the zoning and resource management plans, including sustainable use of land and fish resources in the lake basin will reduce water quality degradation and improve the transboundary ecosystem health and value.
	Increment	1,499,500		
3. Investments to Protect Water Quality	Baseline	32,524,000	Some pollution ‘hotspots’ have been identified as existing or developing problems and both governments are making effort to remediate and mitigate the sources with donor support especially in sewage collection and waste water treatment and hazardous waste management	
	Alternative	34,705,000	Government and donor support is complemented and extended with innovative and low-cost environmentally-friendly solutions that address unsafe and unsightly localized conditions.	Interventions for water pollution control, chemicals and hazardous waste management and erosion control will reduce the environmental stress on the lake ecosystem and improve water quality
	Increment	2,181,000		

Component	Category	Amount USD	Domestic Benefits	Global Benefits
	Baseline Total	40,162,700		
	Increment Total	6,482,300		
	GEF Increment	4,550,000		
	Non-GEF Increment	1,932,300		
	Total Project	15,710,000		
	GEF financing	4,550,000		
	Co-financing	11,160,000	From Government of Montenegro and Albania, SNV and tbd	
	Associated financing	30,942,000	From REC, NIVA, GTZ, Italy-Pisa province, ADA, USAID, COE, GOM, WB, KFW, EAR, RUSAL, IDA	

Annex 16: STAP Roster Review

SOUTH EASTERN EUROPE AND BALKANS

ANNEX C – STAP ROSTER REVIEW

STAP ROSTER TECHNICAL REVIEW OF THE PROPOSED GEF-IW PROJECT: “LAKE *SKADAR-SHKODRA INTEGRATED ECOSYSTEM MANAGEMENT*”

(ALBANIA, MONTENEGRO)

by J. A. Thornton PhD PH CLM

Managing Director

International Environmental Management Services Ltd – United States of America

Introduction

This review responds to a request from The World Bank (WB) to provide a technical review of the proposed International Waters project entitled *Lake Skadar-Shkodra Integrated Ecosystem Management*.

I note that I am a designated expert on the STAP Roster of Experts with particular experience and knowledge concerning watershed management and land-ocean interactions. 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 (USA), 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 assess contaminant loads to aquatic ecosystems from land-based activities, and to develop appropriate and affordable mitigation measures to reduce such loads and minimize their impacts on the aquatic environment, both freshwater and marine.

This review is based upon a thorough review of the project document, consisting *inter alia* of the Project Document (22 pages plus Annexes 1, 3-5, 8 and 17); the Project Executive Summary and GEF Council Work Program Submission inclusive of Annex A; and, the (Draft) *Lake Shkoder Transboundary Diagnostics Analysis* (TDA). Other, relevant documents served as reference sources, including the GEF *Operational Strategy, Agenda 21*, and related materials establishing the necessity and priority of land-based activities to control marine pollution as set forth in the Global Program of Action for the Protection of the Marine Environment from Land-Based Activities.

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. Overall, the project appears to be scientifically and technically sound. The approach proposed, which includes an on-going diagnostic and demonstration project-based program, adequately addresses the needs to initiate actions to (1) create a binational mechanism to jointly manage the shared water resources of Lake Skadar-Shkodra, (2) quantify the risks associated with a legacy of historic water quality degradation and current threats to the biodiversity and ecology of the Lake, (3) strengthen the existing national mechanisms for management of land- and water-based activities within the drainage basin tributary to the Lake, and (4) encourage implementation of urgent environmental management actions through provision of incremental financing of remedial actions to address identified “hotspots”. The need for both a land- and water-based approach is documented in the *Lake Shkoder Transboundary Diagnostics Analysis* that was completed during the preparation of this project. The TDA also identified a number of priority interventions that could be considered as recipient activities under Component 4, targeting priority environmental concerns within the Lake Skadar-Shkodra Basin.

A review of the Components set forth in the project document suggests that the primary focus of this proposed project will be on capacity building and institutional strengthening; to wit, Component 1 focuses on the institutional and human resources necessary to manage and monitor the water resources of Lake Skadar-Shkoder at the binational level, Component 2 focuses on research and monitoring necessary to complete and refine the data available to substantiate the management measures employed, and Component 3 primarily focuses on the human resources necessary to undertake the management of the resource at the national level. In addition, Component 4 will provide important “on-the-ground” experience in problem solving. These needs are adequately documented in the TDA, especially for management actions at both the national and binational levels where the countries appear to have utilized a primarily passive and country-based management strategy, rather than a holistic approach to managing the shared resources of the Lake.

From a scientific standpoint, providing a framework within which the two countries can assemble a shared data base comprised of similar variables, measured in a consistent manner, and stored in an accessible form is an essential first step toward creating the baseline from which disturbances can be measured and assessed. Such a data base will also facilitate both individual and joint enforcement of regulations and standards by the countries within the shared basin. In addition, disseminating these data to interested parties, including citizens, nongovernmental organizations, and corporations, through an accessible data base will help to ensure timely action to correct problems, be they concerns regarding overexploitation of the living resources of the Lake, pollution from lakeshore development, or impacts related to human activities within the drainage basin tributary to the Lake.

With regard to creating an appropriate regulatory framework, an understanding of the current status of the Lake waters is also useful in determining whether or not conditions of impairment continue to exist, and in identifying emerging issues that could potentially adversely affect the Lake ecosystem. Appropriate data will permit a realistic evaluation of the standards likely to be applied by regulators at the country and local government levels. Further, the upgrading of the laboratories and enhancing of the institutional capacities to utilize shared methodologies, implemented by trained and competent staff in the Basin countries, is a necessary element in the shared enforcement process. Joint action of this nature can overcome the possibility that operations could be shifted between Basin countries in order to avoid regulations at the country and local levels.

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 establishes a framework within which to address the major causes of environmental stress within the aquatic environment of Lake Skadar-Shkodra; namely, the historic legacy of contamination, the current threat of overexploitation of aquatic resources, and the likely future risk of uncontrolled development in the drainage area, including the inputs of contaminants washed off the land surface and into the aquatic ecosystem.*

The legacy of contamination stems from the presence of aluminium and steel plants in the drainage basin, as well as from ongoing discharges of wastewater from the human settlements in the Basin. While the data gathered during the TDA suggest that the legacy of the aluminium and steel processing plants has been mitigated by the rapid flushing rate of the Lake, the threat of ongoing degradation from wastewater discharges from urban and agricultural operations within the drainage basin remains. If unchecked, these discharges threaten the globally significant ecosystems of the Lake, including Ramsar sites in both countries, and downstream areas of the Adriatic Sea. These ecosystems, in addition to be transboundary aquatic systems in their own rights, are either directly or indirectly connected to the transboundary waters of the Mediterranean Large Marine Ecosystem (LME). Consequently, true global benefit is presumed as a result of the connection of the Mediterranean Sea with the North Atlantic Oceanic circulation.

The project is consistent with the goals and objectives of OP 8,²⁰ contributing to the global effort to address environmental concerns arising from industry, agriculture, fishing, and exploitation of the natural environment for tourism and recreation insofar as it relates to Lake Skadar-Shkodra. A regional approach is essential, and provides the basis for GEF participation, given that each country may need to engage in an additional level of effort beyond that required under their current national legal framework.

²⁰ Operational Program 8 (OP 8) includes as indicative activities, *inter alia*, global pollutant projects which are designed to “help countries collaboratively address damaged and seriously threatened waterbodies, and the most imminent transboundary threats to their ecosystems....[by modifying] the ways in which human activities are conducted in different sectors so that the waterbody and its international drainage basin can sustainably support human activities.” “Imminent transboundary concerns that seriously threaten waterbodies include pollution, overexploitation of living and non-living resources, habitat degradation, and nonindigenous species.” This Operational Program is intended to play a catalytic role in leveraging public- and private-sector resources, and engender cooperation among the GEF Implementing Agencies.

In this regard, the participation of a broad cross-section of governmental, nongovernmental and civil organizations with interests in the Lake and its drainage basin would be an important element in ensuring the implementation of the project outcomes, even though the outcomes, in the global sense, are environmental in nature. Currently, this participation is provided through the relevant national agencies. Establishment of the various working groups and secretariat, and the stakeholder involvement, as proposed in the project document, will contribute to achieving this objective, and add the necessary community and transboundary dimensions to the management of this resource. Unfortunately, the civil society organizations are not listed in the project document, so it is not possible to gain a full understanding of the extent or nature of the proposed stakeholder involvement in the project.

This project is complementary to other GEF initiatives within the eastern Mediterranean region, including the Lake Ohrid project. Given the GEF aim of incrementally funding projects that contribute to sustainable economic development in a replicable manner, the current proposal and its companion proposal would seem to be well-suited to achieving such an aim.

Key issue 3. Regional context. The participation in this project of the two countries in the Lake Skadar-Shkodra Basin argues persuasively that adequate and appropriate consideration has been given to the regional context of the project. Notwithstanding, the project team noted that a Basin-wide approach to water resources management, which would have significantly increased the area of influence of the project, was discounted due to the size of this larger geographic unit and the fact that the available financial resources would be insufficient to bring about meaningful change in such a large area. It was noted, however, that one reason for discounting this larger project area was the fact that the Basin would be incorporated into the River Basin planning and management program mandated by the European Union (EU) Water Framework Directive. Further, this larger drainage basin was included in the TDA and resultant Strategic Action Program (SAP), which should ensure that actions undertaken within the Lake Skadar-Shkodra ecosystem management project are fully integrated into this larger Basin framework.

Actions proposed to better integrate the national regulatory initiatives into a regional program are fully consistent with the development of a sustainable regional approach to managing this waterway. These actions are supported within the proposed project by complementary actions to strengthen the national regulatory programs and institutions. To this end, however, this reviewer notes that the project funds are expected to be allocated to each country as well as to the regional working group. It would seem advantageous, however, to further strengthen the binational entity by channeling the funds to each country through the binational organization. This would provide greater surety that the projects undertaken are truly regional in scope, even if located within the national territory of one or other of the Basin countries. By so doing, this financial management mechanism also would create a more substantial role for the binational authority and potentially accelerate the creation of a permanent binational commission tasked with jointly managing the shared water and ecological resources of Lake Skadar-Shkodra.

The proposal clearly indicates an intention to disseminate information and results on a regional basis, both within the Basin and elsewhere in the region. Such a regional (European) effort has been initiated during the project development process through the exchange visits to

Lake Geneva and Lake Constance, amongst others. In part, this dissemination process will utilize the proposed binational secretariat as a repository and focal point for information on the protection and conservation of the ecosystem. As suggested above with respect to the fiscal arrangements for the project, delegation of such responsibilities to the Secretariat should help to hasten and strengthen the process of formation of a truly binational commission for the management of the Lake.

Key issue 4. Replicability. The implementation of demonstration projects as a key feature of this project clearly contributes to the potential for replication of beneficial practices and techniques. Further, the inclusion of mechanisms for disseminating information and results achieved fosters replication of effective and successful measures throughout the region, and especially within the participating countries. As identified through the Global International Waters Assessment process and related initiatives such as the Lake Basin Management Initiative of the International Lake Environment Committee Foundation (ILEC), GEF International Waters projects are a primary means by which basin-scale management practices are being developed and implemented through the world. These initiatives have endorsed the development and implementation of information sharing mechanisms at both the regional and global scales—in part, through the global IW-LEARN initiative. This endorsement underlines the importance of information sharing and dissemination between projects, a fact that is adequately and clearly identified within the project brief for this project. Nevertheless, it is recommended that this project seek to ensure the dissemination of lessons-learned in the broadest possible manner.

The project document suggests that the proposed activities will continue to embrace the concept of project twinning as one mechanism to enhance exchange of knowledge and experience. As recognized within the project brief for this project, there is considerable complementarity between this project and the projects currently being implemented in the eastern Mediterranean Basin. The inclusion within the Project Document of establishment of explicit linkages between projects is wholly consistent with this concept. Such communication will enhance the replicability of the project outputs and the results of the project, significantly contributing to the coordinated and comprehensive management of the Aegean Sea and Mediterranean Sea basins.

Key issue 5. Sustainability of the project. The project executive summary indicates that a significant element of the sustainability of the project supported interventions rests upon the implementation of the EU Water Framework Directive and related initiatives. In addition, country-level actions in support of the project are identified as indicative of a commitment to ongoing support of project actions and activities, beyond the immediate period of project implementation with GEF support. The project brief acknowledges a number of incentives for the participating countries to provide the necessary resources beyond the project period, including their participation as signatories to the Ramsar Convention. Further, the project proposes to address another key element in the provision of adequate resources to ensure the future sustainability of the project-supported interventions; that is, the availability of information, the development of a trained cadre of individuals, and the strengthening of appropriate institutions with the knowledge and ability to implement actions to protect the Lake environment. To this end, the project document sets forth an array of financial and other mechanisms, both in-hand and proposed, to ensure the sustainability of the land- and water-based

elements proposed to be developed during the project. These mechanisms include various bilateral financing arrangements as well as grass roots activities designed to sustain the project actions beyond the period of application of GEF funds. To a great extent, the to-be-determined stakeholder participation element will be critical to the long-term sustainability of the project, particularly those relating to future environmental challenges and threats.

Key issue 6. Targeted Research Projects. Targeted technical demonstration and capacity building projects are key features envisioned within the GEF International Waters Waterbody-based Operational Program. These activities are clearly included as major elements of this proposed project, primarily under Component B which is focused on the use of targeted surveys as the means of determining and identifying appropriate and applicable management measures to quantify emerging issues (such as avian influenza that is in part spread by waterfowl), and Component C which is focused on improved environmental management.

There is also provision within the project brief for creating and implementing an on-demand small-grant program that would support creation of capacity and strengthening of academic and research institutions in the Basin. Implementation of these provisions is strongly recommended. The interventions, funded in part by the GEF, strive for sustainability and the continuation of successful interventions beyond the project period. For this reason, it is most important that the lake and watershed management measures identified by the project be internalized within the appropriate ministries such that they continue to be implemented over the longer term. Likewise, it is equally important that the demonstration projects continue to be monitored, and the results reported using the information dissemination mechanisms previously identified, beyond the project period. Such continuity is totally consistent with the catalytic nature of the GEF, and an essential element to the sustainability of the project. Capacity building and trainer training, envisioned in the project brief, thus become the basic building blocks upon which this project will succeed or fail, both from the point of view of its sustainability and from its scientific and technical integrity.

Secondary Issues

Secondary issue 1. Linkage to other focal areas. This project is formulated as an International Waters project under OP 8 of the GEF *Operational Strategy*. While no specific cross-cutting areas are identified, the project clearly has linkages to the cross-cutting area of land degradation in terms of its focus on land-based activities and to the protection of aquatic biodiversity in terms of its focus on fisheries.

Secondary issue 2. Linkages to other proposals. The project recognizes the complementarities between the management of Lake Skadar-Shkodra and other GEF-related initiatives in the region. Indeed, actual linkages were explored and strengthened during the period of project formulation. Specific linkages with these projects are proposed and identified in the project brief. Where such linkages are based upon project development initiatives, this reviewer recommends that the project team seek to maintain ongoing contacts with relevant sister institutions during the period of project implementation and beyond. As noted above, such linkages include contacts with the Lake Geneva and Lake Constance organizations, among others.

In addition, the project proposes to make use of IW-LEARN. Such an overt linkage provides a high degree of sustainability and connectivity to this project, and contributes to the likelihood that lessons learned can and will be transferred beyond the project boundaries to other, similar situations and locations within the Mediterranean region and beyond.

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 articulated above, and include the identification of alternative methods for achieving a high quality lake environment through targeted interventions that address both chronic land-based sources and catastrophic lake-based events that contribute to the degradation of the Lake and its resources. The provision of trained staff and institutional capacities needed to enforce and enhance existing environmental protection regulations, and the dissemination of successful management measures further contribute to the benefit of the Lake and its drainage basin. All of these benefits accrue not only within the project area, but, as a result of their wider dissemination using the electronic and other media provided, also to the wider river basin and beyond.*

Secondary issue 4. Degree of involvement of stakeholders in the project. Component C of the project is geared toward the involvement of stakeholders. Involvement of the wider public is catered for through an information system established by the Regional Environment Center and other media. Active stakeholder participation is encouraged through the committee and working group structure to be created under Component A. Unfortunately, there are few additional details as to the participants proposed to be included. That said, the project brief does allude to the participation of the relevant regulatory agencies and ministries in the execution and implementation of the project activities, and the project explicitly indicates support for capacity building and institutional strengthening with respect to these organizations. Such involvement is in addition to the current level of involvement of the country- and local-level institutions, and is critical to the sustainability of the project and its expansion into areas not specifically involved in the demonstration projects.

Secondary issue 5. Capacity building aspects. Components A through C are aimed in part at the acquisition and dissemination of information on the successful measures to protect the Lake environment through the creation of appropriate institutions (Component A), conduct of targeted research and monitoring (Component B), and the training of agency staff and strengthen institutions (Component C). In addition, Component A, in part, seeks to encourage dissemination of lessons learned with respect to lake and watershed management practices. These elements should be implemented in conjunction with complementary GEF International Waters initiatives, including the best practices data base being compiled by the United Nations Environment Programme (UNEP) and the IW-LEARN initiatives being executed by the United Nations Development Programme (UNDP). These efforts will enable wider dissemination of knowledge of practices that have positive effects. Such knowledge is an essential element in building capacity and strengthening institutions in the region.

In addition to the dissemination of knowledge and information, the proposed development of standard methods for analysis and impact assessment will benefit institutions and

staff throughout the region. In this regard, Component B contains work elements that are likely to be aimed at establishing a certification process for laboratories, common standards, and reinforced 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 governing the protection of the Lake environment, within the context of an integrated land- and water-based management program, demonstrates a strong desire that the results and outputs of this project reflect the state-of-the-art with respect to the integration of lake management and economic development in transboundary inland lakes. By creating and strengthening the appropriate human resources, institutions, data acquisition and dissemination systems, and shared management mechanisms, the project team has clearly attempted to develop a management program that will be accepted by the basin governments and stakeholders. While many of the actions and approaches reflect state-of-the-art practice, their application in the Lake Skadar-Shkodra Basin will significantly advance current practice in that specific Basin as well as within the region as a whole. In this manner, the project promotes innovation and development of regionally applicable remedial practices and experiences.

General Conclusion and Recommendations

Overall, it is the conclusion of this reviewer that the proposed project, with the goal of “*Lake Skadar-Shkodra Integrated Ecosystem Management*”, is wholly consistent with the GEF International Waters operational program, its broader philosophy, and funding criteria. Consequently, this project is recommended for funding.

In completing the Project Executive Summary and GEF Council Work Program Submission, the reviewer recommends that each of the Components be elaborated so as to clearly summarize the following elements of each activity; namely, (1) the objectives of the Component, (2) the results or outcomes that this Component is intended to achieve, (3) the outputs or deliverables to be generated by the activities carried out under the Component, (4) indicative activities to be conducted, (5) the costs broken out as GEF funds requested, local share provided, and total cost of the Component, and (6) an indication of the likely stakeholders targeted to be participants in executing the activities. This information, to the extent that it is presented, is currently scattered throughout the document or indicated as an expected outcome of the project Appraisal process. The likely participants are not clearly identified, and the activities and component costs are shown in some detail only in Annex A, the Incremental Cost Analysis.

In implementing this project, the GEF Implementing Agency is enjoined to give consideration to strengthening the role of the binational Secretariat by centering project management, including financial management, and monitoring within this Committee. Such strengthening could accelerate the ability of the countries to create a River Basin Authority, pursuant to the EU Water Framework Directive, and contribute to the creation of lasting working relationships between the binational entity and the national ministries having responsibilities for the management of Lake Skadar-Shkodra.

IA RESPONSE TO STAP REVIEW:

[NOTE: the above STAP review relates to an earlier project design and many aspects are no longer directly relevant to the current project proposal. The following responses to the STAP review also pre-dated the redesign of the project.]

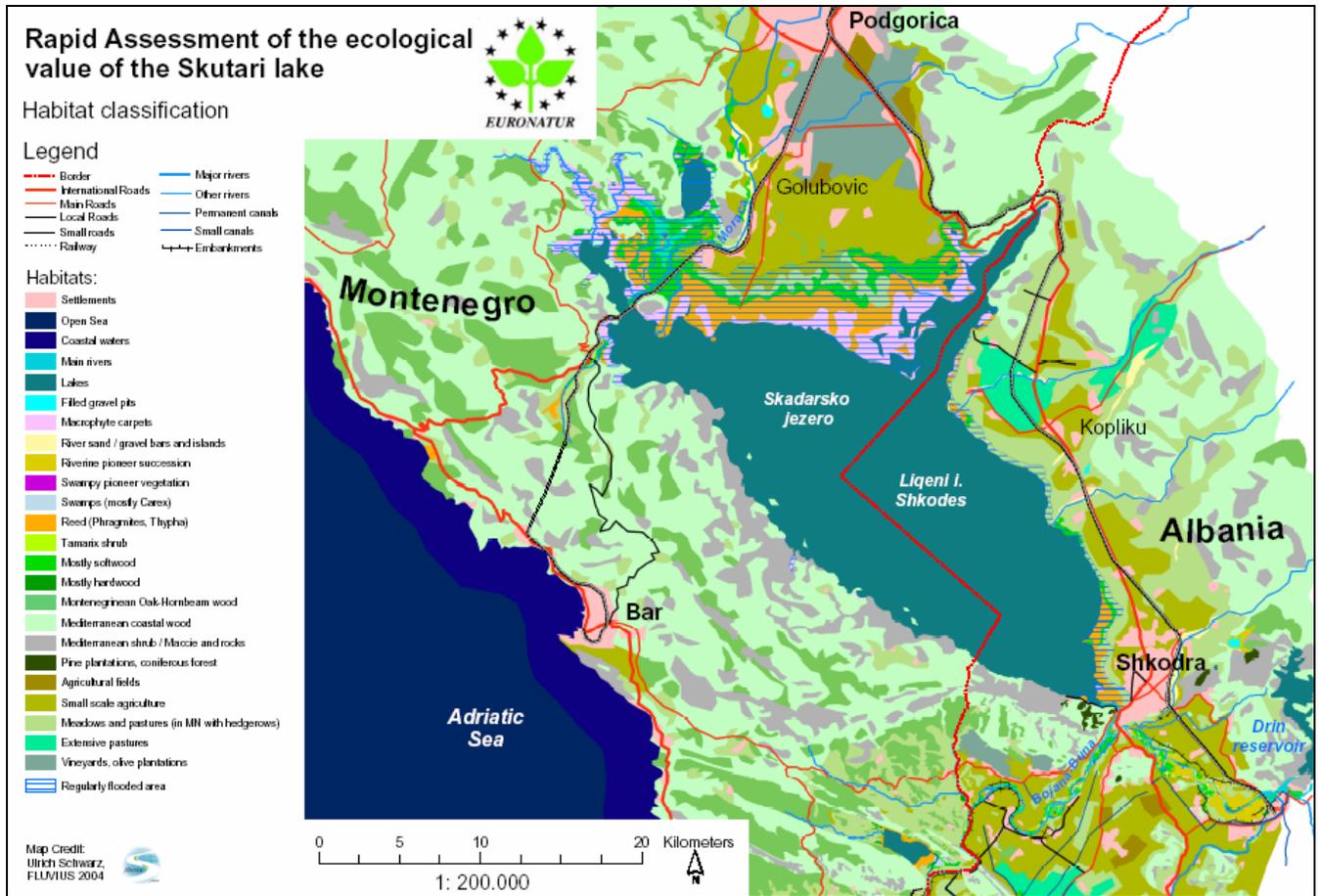
The STAP Reviewer's main suggestion is that all GEF funds should be channeled through the binational Secretariat, rather than just the funds that will finance jointly implemented activities. The proposal is that this would strengthen the Secretariat and potentially accelerate the creation of a permanent transboundary institution. While the objective is good, the proposal to channel all funds through the Secretariat is not realistic. This Secretariat does not currently exist and it is not certain what legal standing it will have, particularly during the early part of the project. During project preparation it has been agreed that establishment of transboundary institutional structures needs to be done through a phased approach, giving them successively greater mandate and responsibilities as their specific roles are clarified, agreed and approved by the two Governments. It should also be borne in mind that the permanent institutional structure may be a formal coordination mechanism, rather than an implementing body. Finally, it is now Bank policy to mainstream project implementation responsibilities within regular government structures and to avoid the creation of independent "Project Implementation Units." We believe we can make a successful case for giving the bilateral Secretariat responsibility for implementing some activities in order to achieve coordination and efficiency (e.g. procurement of equipment which will be the same for both countries), but according to WB policy the bulk of national level activities should be implemented by the respective responsible government agencies.

The STAP Reviewer also noted that the PAD could include more information regarding civil society organizations and other stakeholders which will participate in the project. We have included some more information on this aspect in Sections 3B and 4D of the PAD, to reflect some of the information from the Social Assessments already carried out in both countries during preparation. These assessments provided a starting point by identifying some relevant formal and informal local organizations (e.g. fishermen's associations, religious organizations), and by raising awareness about the project through public meetings and focus group interviews. The PAD will be further strengthened based on the continued public discussions of the proposed project, which will take place prior to Appraisal.

We note that the "small grants program" referred to on p. 6 of the STAP Review is actually the competitive research grants program under Component B.

We have revised the Project Description section and the Results Framework to more clearly identify the objectives, outputs, deliverables, activities and financing (GEF vs. other) for each component, as indicated on p. 8 of the Review. However, we note that in keeping with WB procedures, the PAD includes a Results Framework rather than a LogFrame, and that the former does not call for a detailed breakdown of project activities. Detailed activity and cost breakdowns are not normally part of a WB PAD, but they have been prepared and were used as the basis for the more general descriptions and aggregate project cost tables presented in the PAD.

Annex 17: Maps
SOUTH EASTERN EUROPE AND BALKANS



The basin of Lake Shkoder (source: HMI Tirana) (Taken from TDA: Figure 3.11)

Habitat map of the Lake Shkoder surroundings (From TDA, Figure 3.25)

ANNEX 18

Strategic Action Plan Summary Actions Table

					AI (USD)	MN (USD)	ongoing foreign co-financing (USD)	another financing resources (USD)
1. Joint Lake Planning and Management								
1.1 Strengthen legal framework and improve law enforcement capacities to regulate and control development activities in the area	1.1.1	Improve legal framework regulating management of the area and development activities	1.1.1.1	Support a study to analyse existing legal framework for the management of natural resources in Albania and identify gaps and provide recommendations for improvement				15,000
			1.1.1.2	Support approximation of legislation between both countries to facilitate joint management of the Skadar/Shkodra lake				30,000
1.2 Strengthening the institutional framework for environmental protection and sustainable development	1.2.1	Operational transboundary co-operation and co-ordination system	1.2.1.1	Define and set up working groups for different transboundary activities as zoning, monitoring, tourism, fishing, agriculture, basin management, boating and traffic				150,000
			1.2.1.2	Establish and support Skadar/Shkodra Lake Commission				50,000
			1.2.1.3	Establish a joint secretariat for assisting Skadar/Shkodra Lake Commission		10,000		120,000
1.3 Support joint effective trans-boundary management of the Skadar/Shkodra Lake protected area.	1.3.1	Implement pilot activities in transboundary management	1.3.1.1	Develop and establish a joint vision on the Skadar/Shkodra lake, including issuing a joint Newsletter on conservation activities (three monthly and three lingual – support for 4 years) and the creation and promotion of a common label for the trans-boundary protected area / lake region		10,000		150,000
			1.3.1.2	Explore the importance of potential international designations as international RAMSAR site to promote and develop the protected areas and the lake region				40,000
			1.3.1.3	Creation of joint management plan for the lake, based on national strategic documents in Montenegro and Albania		2,000		40,000

2. Monitoring and Research								
2.1 Strengthen and development of structures and facilities for monitoring the ecological state of Skadar/Shkodra Lake	2.1.1	Establish a jointly working monitoring system with stations for the whole lake	2.1.1.1	Establishment of monitoring unit at Shkodra Lake in Albania.	30,000			250,000
			2.1.1.2	Automatic stationary monitoring stations for measurements for general elements (physical-chemical) in accordance with WFD (3 stations in Montenegro)				400,000
			2.1.1.3	Establish two automatic monitoring stations for measurements of general physical-chemical elements of the water (in western coast – Shiroka and in north-eastern coast – Koplík) .				250,000
			2.1.1.4	Upgrade the existing biological laboratories for research and monitoring of biodiversity in AL and MN				130,000
	2.1.2	Provision of a database for the monitoring of the ecological status of the lake	2.1.2.1	Setting up an information database and a networked system of monitoring including software development				40,000
2.2 Promote the monitoring of the water quality and water regime to detect changes in the ecosystem	2.2.1	Establish regular water quality sampling system	2.2.1.1	Joint manual for the monitoring program of Skadar/Shkodra Lake and data distribution				40,000
			2.2.1.2	Implementation of the monitoring for 4 year, based on monitoring program	67,500			120,000
2.3 Establish habitat and biodiversity monitoring to identify describe the ecological state of the lake	2.3.1	Strengthen capacities for monitoring of habitat and biodiversity						
			2.3.1.1	Monitoring of the vegetation of the lake, focused mostly on macrophytes (map of submerse vegetation);				25,000
			2.3.1.2	Monitoring of the fish population especially autochthonous species and important species of fish market (carp, eel, bleak, mullet...) and their important habitats for spawning and nursery				45,000
			2.3.1.3	Monitoring of the of the state of bird populations and their nesting habitats including facilities at the lake;				75,000
			2.3.1.4	Monitoring of the state of rare and endangered species and habitats				20,000
			2.3.1.5	Monitoring of benthos at specific sites				25,000
2.4 Specific research to preserve the good ecological state of the lake and detect potential threats	2.4.1	On-site research, specific water and environmental studies and educational programme	2.4.1.1	Implementation of bio-testing to detect environmental threats				50,000
			2.4.1.2	Development of hydrological model of the Skadar/Shkodra Lake				250,000
			2.4.1.3	Develop a study on the water quality of the springs, underground waters and superficial water of the lake (consultancies, field work, data analysis, stipulation of urgent measurements for improvement of the quality of lake water) and indicate the importance to local communities				37,000
2.5 Monitoring of socio-economic conditions in the lake area	2.5.1	Periodic studies of trends in well-being of the population; income, productivity, employment, etc	2.5.1.1	Periodic studies of trends in local resource use including the support demographic study of demographic development in Lake area				105,000

3. Protected areas and Natural Resource Management									
3.1 Supporting protected areas management and zoning	3.1.1	Establish zoning for both protected areas and the whole lake	3.1.1.1	Making of a zoning plan, including info gathering, consultation, and adoption of the zoning				50,000	
			3.1.1.2	Implement the zoning system (signalisation) at and on the lake				40,000	
	3.1.2	Establish management plans for the protected areas and the whole lake	3.1.2.1	Updating or development of the management plans for the protected areas				40,000	
	3.1.3	Strengthen protected area management in Albania	3.1.3.1	Designing and creating of an administration of the protected area in Albania	20,000			52,000	
			3.1.3.2	Develop and / or update regulations and by-laws for the protected area management in Albania and approval				32,000	
	3.1.4	Develop physical plans for Skadar/Shkodra Lake settlements	3.1.4.1	Preparation of urban, territorial and development planning for each of the villages around the lake.			100,000		
			3.1.4.2	Develop a landscape and building architecture identity based on local tradition. Establish basic rules for building in the area (type and size of buildings, village extension areas) and support removal of illegal activities.			10,000	70,000	
	3.1.5	Develop capacities for PAs staff	3.1.5.1	Develop and implement training programmes for PAs staff				60,000	
			3.1.5.2	Provide equipment for PAs staff		10,000		80,000	
			3.1.5.3	Improve human capacities of NPSL in terms of staffing		60,000		25,000	
3.2 Development of viable and sustainable village economies	3.2.1	Restore or improve the livelihoods of people whose access to resources is or will be restricted	3.2.1.1	Promotion of village economies based on "wise use" of natural resources (trainings, including inventory of resources, identification of groups, and criteria on economy and positive environmental impact)			20,000	170,000	
			3.2.1.2	Identify and promote pilots in commodity chain development that reduce pressure on natural resources and promote economic development	56,000	20,000	500,000		
		3.2.2	Integrated fishery management	3.2.2.1	Making of a fishery stock assessment				30,000
				3.2.2.2	Making of a fishery management plan, including quota management system				10,000
				3.2.2.3	Identify, support, and invest in incentives to legal fishing				10,000
				3.2.2.4	Provide mechanism by which fishermen can identify and address issues of common concern				20,000
		3.2.3	Promotion of sustainable agriculture of the transition zone buffering the lake	3.2.3.1	Identify, define and implement sustainable agricultural pilots in transition zone	210,000	50,000		
3.3 Protection, restoration and adaptation of cultural heritage	3.3.1	Protection, restoration and adaptation of cultural heritage	3.3.1.1	Inventory of cultural heritage sites	10,000			20,000	
			3.3.1.2	Implement two pilot renovations and provide required equipment	20,000			160,000	
3.4 Institutional investments and strengthening of PAs management	3.4.1	Construction of park facilities to mitigate impacts and to raise public awareness	3.4.1.1	Master plan for informational infrastructure			10,000		
			3.4.1.2	Implement park signalisation			80,000	40,000	
			3.4.1.3	Rehabilitation of existing structure to serve as visitor centre			150,000	50,000	

			3.4.1.4	Support for the establishment of information and education infrastructure (build an information and education centre in Shiroka; visitor centres in western and eastern coast of the lake; watch towers in Vraka, Kalldrun, Kamice, Shegan; cycling routes; signing and info desks along the road Buna Bridge – Zogaj and Grile – Shegan)	30,000			200,000
			3.4.1.5	Establishment of a small natural museum (exhibition) of Shkodra Lake (Flora, Fauna, Palaeontology, Archaeology).				50,000
			3.4.1.6	Support for the establishment of the facilities for cultural activities (theatre, amphitheatre, temporary stages in Shiroka and Koplik).	200,000			
			3.4.1.7	Making infrastructure for "eco camping" site				50,000
	3.4.2	Implement habitat restoration	3.4.2.1	Projects for restoration and enlargement of the areas with autochthon vegetation, especially forests (willow, ash, poplar) in the east coast of the lake (Pilot project for 6 ha in Koplik).				60,000
			3.4.2.2	Controlled grazing Virpazar				10,000
			3.4.2.4	Support erosion control measures on streams of Taraboshi Mountain (pilot project for the most problematic streams).				110,000
			3.4.2.5	Maintain controlled cattle grazing as a tool for management of habitats (Pilot project for preservation of a pasture area in Shegan)				30,000
			3.4.2.6	Stipulation of the measurements for protection of important habitats for fish reproduction and nursery (5 Ha Kamice and 2-3 Ha in Shiroke)				20,000
	3.4.3	Develop bird preservation and observation programme	3.4.3.1	Study unit for bird preservation at the lake (Vranjina)		20,000		50,000
			3.4.3.2	Platform for nesting of pelicans and other selected endangered bird species				45,000
			3.4.3.3	Building of platform and two towers for birdwatching and wardening				45,000
	3.4.4	Promotion of Skadar/Shkodra Lake	3.4.4.1	Promotion programme for sustainable tourism				30,000
			3.4.4.2	Educational awareness programme		10,000		30,000
			3.4.4.3	Producing of promotional materials		10,000		125,000
3.5 Promotion of sustainable tourism at the Skadar/Shkodra lake based on the natural and cultural values	3.5.1	Prepare of joint approach for tourism developmet at the lake	3.5.1.1	To produce a tourism master plan in Montenegro			20,000	
			3.5.1.2	To produce a tourism master plan in Albania				30,000
	3.5.2	Pilots in sustainable tourism development	3.5.2.1	Public pilots (construction of water sports center, construction of small marina in Shiroka, set up small scale tourist infrastructure)	150,000			
			3.5.2.2	Private pilots (creation of tourist facilities, development and promotion of Shiroka, educational projects in Shiroka and Koplik)	180,000			
	3.5.3	Create an enabling environment for tourism	3.5.3.1	Activities from Regional Development Plan	525,000			

4 Urgent environmental investment								
4.1 Reduce impact from sewage waters on groundwater, tributaries and parts of the lake	4.1.1	Supporting of constructing waste water treatment facilities in Skadar/Shkodra Lake area	4.1.1.1	Waste water treatment of Cetinje municipality and of settlements from around the Lake in Montenegro (e.g. Karuc, Vranjina)		50,000		
			4.1.1.2	Waste waters treatment facilities for Skadar/Shkodra Lake settlements			200,000	
			4.1.1.3	Pilot projects for wastewater treatment using environmental friendly technologies for the touristic buildings (bars, restaurants and hotels) in the areas Shiroke – Zogaj and Shegan.			400,000	
			4.1.1.4	Establishment of the wastewater plant of Shkodra			875,000	
			4.1.1.5	Asses the feasibility for introducing wastewater fee to businesses				5,000
4.2 Reduce impact of solid waste on landscape (clean-up of wild dumps) and environment	4.2.1	Reinforce solid waste collection to mitigate impacts on landscape and environment	4.2.1.1	Support for National park and local municipality in organization of the collection and disposal of the solid waste (containers, garbage bins, equipments...) and support activities for cleaning the existing solid wastes along the whole lakeshore			20,000	120,000
			4.2.1.2	Support a project for raising awareness of the local community for the economic benefit (tourism, fishery, agriculture) from reducing and controlling the pollution (consultancies, seminars, publications).				12,000
	4.2.2	Establish landfills to deposit solid waste properly	4.2.2.1	Establishment of a landfill for the urban wastes of Shkodra and Koplik	125,000			
			4.2.2.2	Develop studies for the establishment of landfills for the urban wastes of Bajza and Koplik (feasibility study, planning)				15,000
4.3 Reduce impact of hazardous waste on water, groundwater and environment	4.3.1	Remove threat of KAP legacy	4.3.1.1	Inventory of hazardous waste on KAP waste disposal and categorization of waste on hazardous waste disposal in KAP		50,000		300,000
			4.3.1.2	Project design for hazardous waste disposal in accordance with EU regulations		100,000		300,000
			4.3.1.3	Co financing of Construction of the hazardous solid waste disposal		3,000,000		400,000