



Prespa Lakes Basin

Strategic Action Programme

Integrated Ecosystem Management in the Prespa Lake Basin

This publication was produced with technical and financial support from the United Nations Development Programme (UNDP), within the Integrated Ecosystem Management in the Prespa Lakes Basin project.

The Integrated Ecosystem Management in the Prespa Lakes Basin project is implemented by UNDP with financial support from the Global Environment Facility (GEF). Its overall objective is to help the region's people with long term economic and social development, conserve the rich biodiversity and protect the waters of the Prespa Lakes Basin.

ABOUT THE GEF:

The Global Environment Facility unites 182 member governments - in partnership with international institutions, nongovernmental organizations, and the private sector - to address global environmental issues. As an independent financial organization, the GEF provides grants to developing countries and countries with economies in transition for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants. These projects benefit the global environment, linking local, national, and global environmental challenges and promoting sustainable livelihoods.

ABOUT UNDP:

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in 177 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations.

Disclaimer:

The opinions and standpoints expressed in this publication are those of the authors and do not necessarily reflect the official position of UNDP or the GEF.

Prespa Lakes Basin

Strategic Action Programme

Contents

Summary	3
1 Introduction.....	4
1.1 Contents of this Strategic Action Programme.....	5
1.2 Description of the Prespa Lakes Basin.....	6
1.3 The need and purpose of this Strategic Action Programme.....	8
1.4 Approach adopted in the TDA/SAP preparation.....	9
1.5 Summary of the Transboundary Diagnostic Analysis.....	10
1.5.1 Summary of threats to the ecosystem of Prespa Lakes Basin	14
1.5.2 Major Perceived Problems	15
1.5.3 Root Causes of Major Perceived Problems.....	16
1.6 Summary of the 2002 Strategic Action Plan for the Sustainable Development of Prespa Park.....	17
1.6.1 Management of the 2002 Strategic Action Plan	18
1.7 Initiatives from the UNDP/GEF project.....	19
1.8 Other initiatives	19
1.9 Prespa Lake Basin regional co-operation	20
1.10 The 2010 Joint Agreement.....	21
1.11 Vision for Prespa Lake Basin.....	22
2 Strategy for Environmental Protection for Prespa Lakes Basin	24
2.1 Key Management Principles.....	25
2.2 Long-term Environment Quality Objectives.....	27
2.2.1 EQO 1: To preserve and restore the ecological status and values of surface and ground water resources	29
2.2.2 EQO 2: Strengthening land-use planning and management.....	31
2.2.3 EQO 3: To conserve Prespa Lakes Basin's biodiversity and habitats	32
2.2.4 EQO 4: To improve the livelihoods of the local communities by ensuring sustainable forestry, agriculture and fisheries.....	34
2.3 Management targets and tentative priorities to meet EQOs.....	37
2.4 Stakeholder engagement	43
3 Institutional Framework of SAP implementation.....	44
4 Financing the SAP.....	46
5 Monitoring the Implementation of the SAP	48
5.1 Process Indicators	50
5.2 Stress Reduction Indicators	50
5.3 Environmental Status / Socio-Economic Status Indicator	51
6 The Next Steps.....	52
Annex 1 Glossary of Terms used within SAP	54
Annex 2 Ecological Quality Objectives Management Action Table.....	56
Annex 2a Ecological Quality Objective Table	82
Annex 2b Methodology for cost assessment.....	114
Annex 2c The outline financing report for implementing measures for EQOs.....	116
Annex 3 Transboundary Diagnostic Analysis.....	126
Annex 4 References and Bibliography	128

List of acronyms

AL	Albania
asl	Above sea level (in metres)
BAT	Best Available Technique
BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
EC	European Commission
EIA	Environmental Impact Assessment
EQO	Environmental Quality Objectives
Espoo	Convention on Environmental Impact Assessment in a Transboundary Context
EU	European Union
GAP	Good Agricultural Practice
GEF	Global Environment Facility
GIS	Geographical Information System
GR	Greece
ha	Hectares
IPPC	Integrated Pollution Prevention and Control
IRBM	Integrated River Basin Management
IWRM	Integrated Water Resource Management
km	Kilometres
m	Metres
M&E	Monitoring and Evaluation
MPP	Major Potential Problems
NGO	Non Governmental Organisation
PPCC	Prespa Park Co-ordination Committee
PPMC	Prespa Park Management Committee
REC	Regional Environmental Centre
SAP	Strategic Action Programme
SEA	Strategic Environmental Assessment
SPP	Society for the Protection of Prespa
TDA	Transboundary Diagnostic Analysis
TTT	Technical Task Team
UNDP	United Nations Development Programme
UWWTD	EU Urban Wastewater Treatment Directive
WFD	EU Water Framework Directive
WWTW	Wastewater Treatment Works



Summary

This Strategic Action Programme (SAP) establishes a framework on agreed management actions to be implemented that address the key transboundary concerns (or concerns that are shared between the countries) and to preserve the ecosystem values outlined in the Transboundary Diagnostic Analysis (TDA) that was discussed at a tri-lateral stakeholder meeting in November 2009.

The substance of this SAP has been developed by a Technical Task Team (TTT) in discussion with national and regional stakeholders. This SAP builds on the work of the Prespa Park Co-ordination Committee (PPCC) activities in preparing a Strategic Action Plan in 2002. This SAP is also fully supportive of, and integrates a recent 'Joint Agreement' signed by the three countries to manage and protect the Prespa Park Area as well as other activities implemented earlier by the three countries.

This SAP has been prepared following the guidance prepared by GEF International Waters and implemented in many transboundary seas, rivers, lake and aquifers globally. The approach has been adapted to include the terrestrial ecosystem as well as the aquatic environment. The SAP provides a harmonised framework for the future protection of the ecosystem and will need to be supported by three national action plans under the co-ordination of the basin authority. This SAP framework provides an agreed structure to implementing the SAP, the principles which will be followed for management of the ecosystem, and the priority actions that will be required to be implemented.



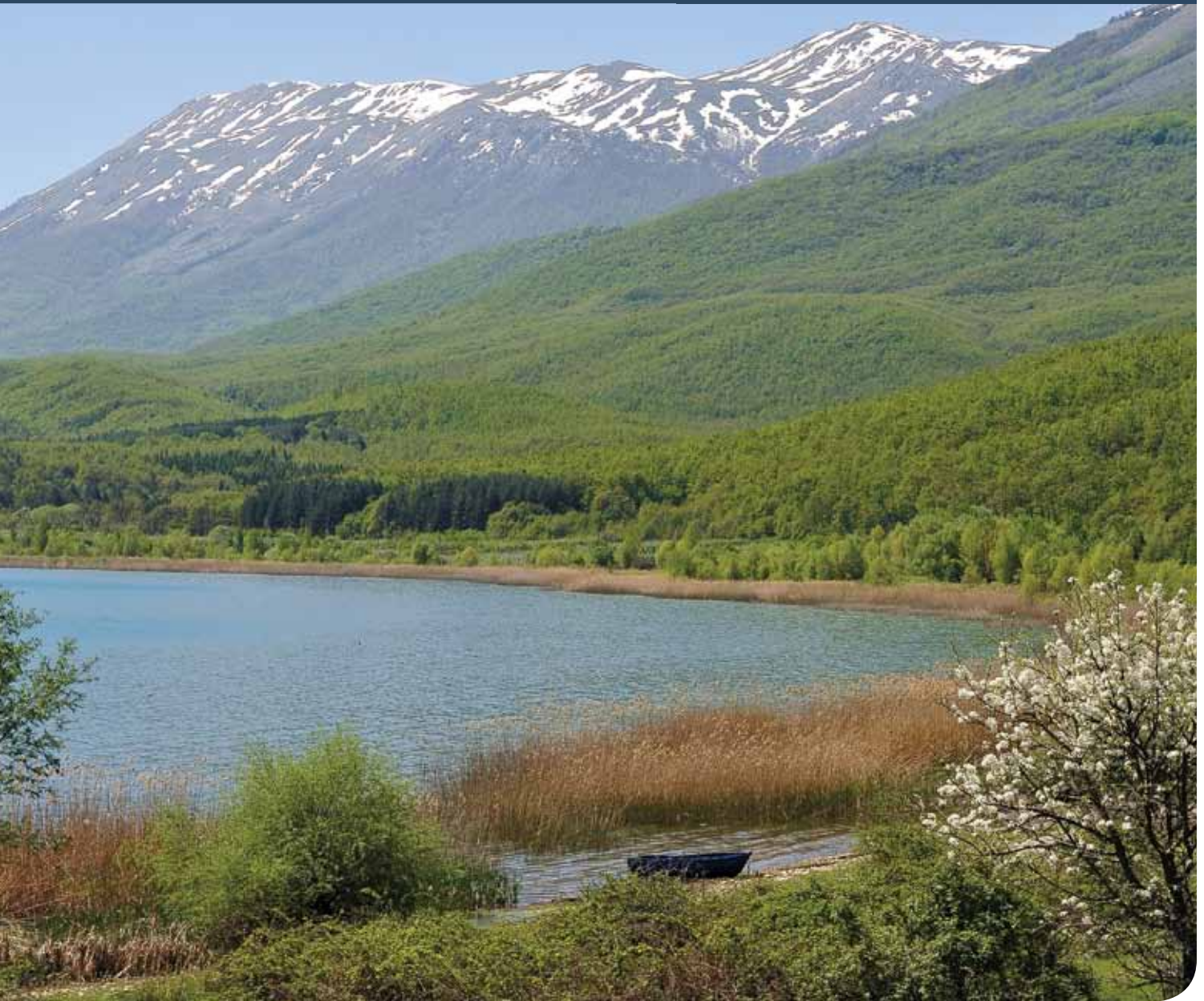
This SAP identifies co-ordinated actions that will be implemented in the next 15 years approximately. The environmental and socio-economic impacts of these actions may take even longer to get positive responses in some cases. In this time it is very likely that priorities and concerns related to the ecosystem and the socio-economic development will evolve and there will be a need to periodically review and update this SAP through an adaptive management approach.

The SAP is consistent with and supports the actions needed by Albania and the former Yugoslav Republic of Macedonia to address the implementation of EU directives that will facilitate the accession process.

The SAP also recognises the challenges of raising finances for implementation. While it is premature to be explicit about specific projects or donors (this will be done through complementary National Actions Plans by the three countries following agreement on the transboundary SAP) it acknowledges the many multi- and bi-lateral donors active in the Prespa Lakes Basin and specific initiatives (for example the Athens Declaration / Petersberg Process) that focuses on the region. The SAP further acknowledges the importance that this is a 'living' document with an expectation that the SAP objectives and management actions will be subject to a continuing review process by the Prespa Lakes Basin Countries under the co-ordination of the Prespa Park Management Committee.

Prespa Lakes Basin

Strategic Action Programme



1. Introduction

This Strategic Action Programme (SAP) establishes a framework on agreed management actions to be implemented, under the co-ordination of the Prespa Park Management Committee (PPMC), that address the key transboundary concerns (or concerns that are shared between the countries) to preserve the ecosystem values outlined in the Transboundary Diagnostic Analysis (TDA) that was discussed at a tri-lateral stakeholder meeting in November 2009.

1.1 Contents of this Strategic Action Programme

This document provides an overview of the key actions that are recommended for the trilateral management of the Prespa Lakes Basin. The SAP builds on the information presented in the TDA with priority management activities that have been discussed by the Technical Task Team at the transboundary and national levels.

The following summarises the key sections to this SAP:

Section 1: Provides a summary of the basin, the findings of the TDA, a summary of the Strategic Action Plan (2002), the regional co-operation (including the recent Joint Agreement and provides a recommended vision for the future of the basin

Section 2: Introduces a strategy for the future management of the basin with the development of Environmental Quality Objectives, summaries of the management actions to achieve these objectives (based on the detailed information provided in Annex 2) and potential targets and priorities for the implementation of the SAP.

Sections 3 and 4: Introduces discusses the institutional arrangements and potential financing options for implementing the SAP

Section 5: Presents a preliminary approach for monitoring and evaluation of the implementation that follows GEF best practices with Process, Stress Reduction and Environmental (and Socio-economic) Status indicators.

Annexes: The SAP references key background documents (specifically the TDA and National Reports – located on the Project website) and includes the detailed Management Action Tables within a report prepared by the Technical Task Team on the developments of the Environmental Quality Objectives.

Prespa Park and Prespa Lakes Basin

These terms are used throughout this SAP to describe the catchment of the lakes that collectively is referred to by the PPCC and the Joint Agreement as Prespa Park Area.

Prespa Lakes Basin

Strategic Action Programme

1.2 Description of the Prespa Lakes Basin

In February 2010 the Minister of Environment, Forests and Water Administration from Albania, the Minister of Environment and Physical Planning of the former Yugoslav Republic of Macedonia and the Minister of Environment, Spatial Planning and Public Works of Greece, together with EU Commissioner for the Environment, issued a Joint Agreement¹ recognising the importance and value of the Prespa Park Area. This Joint Agreement acknowledged that the 'Prespa Lakes and their surrounding basin are a unique natural area whose geomorphology, ecology, biodiversity and cultural significance is of international importance, as a vital habitat for the conservation of numerous rare and/or endemic fauna and flora species, as a nesting place of globally threatened birds, and as depository of significant archaeological and traditional heritage'.



Prespa Lakes are a high-altitude basin (850 masl) with two inter-connected lakes: Micro Prespa (47.35 km², shared between Albania and Greece) and Macro Prespa (259.4 km², shared between all countries). The overall basin catchment is quoted as 2,519.1 km² (Hollis and Stevenson, 1997) although the complex karstic nature of the catchment has resulted in a range of values. The lake is surrounded by high altitude mountains reaching 2,601 m (Mount Pelister).

Micro and Macro Prespa are connected by a short sluice-controlled water course which regulates the level of Micro Prespa. There are four main rivers feeding Macro Prespa with Micro Prespa receiving water from the

¹ *Agreement on the Protection and Sustainable Development of the Prespa Park Area, 2nd February 2010, Pyli*

diverted Devoli River. In addition there are a number of ephemeral water courses. The outflow from Macro Prespa is believed to be to Lake Ohrid through the karstic geology.

All countries of the Prespa Lakes Basin have designated parks and / or protected areas, including a linked trilateral region: The National Park of Prespa (Albania), the National Park of Galicitsa (the former Yugoslav Republic of Macedonia) and the National Prespa Park (Greece).

The basin has significant biological resources that were identified in the National Analysis Reports (see Annex 3), including:

- 23 species of fish (including 2 hybrids and 9 non-native alien species);
- 11 amphibian species reported
- 21 Reptiles
- 27 species of algae are reported
- 42 species of mammals are reported
- >1,300 plant species
- 261 species of birds have been observed in last 50 years including over 90 migratory birds
- Sites of significant ecosystem importance, including the Caves of Treni that are an important bat colony with 9 species
- Wide range of natural land types including extensive forests, sub-alpine grasslands and heaths.



Pygmy Cormorant (Phalacrocorax pygmeus)



Flowering rush (Butomus umbellatus)



European tree frog (Hyla arborea)

1.3 The need and purpose of this Strategic Action Programme

Prior to 2000 there had been little official co-ordination or sharing of information between the three Prespa Lakes Countries. However in 2000 the Prime Ministers of Albania, the former Yugoslav Republic of Macedonia and Greece signed a declaration leading to the establishment of the Prespa Park. With finance provided by Greece four NGOs from the Prespa Countries prepared a Strategic Action Plan in 2002.

The 2002 Strategic Action Plan was a key document in informing the countries on the priority issues to protect the important ecosystem of the Prespa Lakes Basin and guided the design of the UNDP/GEF full-sized project 'Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, the former Yugoslav Republic of Macedonia and Greece' that was endorsed by the countries and GEF in 2006. The objective of the project is 'to catalyse the adoption of integrated ecosystem management in the transboundary Prespa Lakes Basinto conserve globally significant biodiversity, mitigate pollution of the transboundary lakes and provide a sustainable basis for the Basin's further social and economic development'.

The UNDP/GEF project was designed to include two nationally focussed sub-projects (in Albania and the former Yugoslav Republic of Macedonia) and an International Component to address the transboundary issues.

Using the GEF TDA/SAP model this project assessed the ecosystem concerns in the basin leading to this SAP which updates the 2002 Strategic Action Plan in-line with the objectives of the UNDP/GEF project by providing additional evidence of the concerns and outlining a programme of management actions to address these concerns.

In parallel to the finalisation of this SAP, the three countries have successfully achieved a Joint Agreement on the future protection, sustainable development and management of the Prespa Park Area.

This Strategic Action Programme builds on the recommendations in the 2002 SAP that had been adopted by the three countries following consultation with national authorities and is consistent with and supportive of, the aims, objectives and measures indicated in the 2010 Joint Agreement.

1.4 Approach adopted in the TDA/SAP preparation

The TDA and this SAP has been prepared under the guidance of an International Consultant with national expertise provided by a Technical Task Team (TTT). The Terms of Reference for the TTT was developed by the International Consultant and the UNDP/GEF Transboundary Co-ordinator in 2008 following meetings and discussions with regional stakeholders.

The TTT was responsible for undertaking all the detailed data collection, national stakeholder workshops and analysis that led to the National Analysis Reports (2009) presenting the key features and potential concerns in the Prespa Lakes Basin. During the national stakeholder workshops preliminary criteria for assessing transboundary concerns were presented, discussed and evaluated. These were based on the transboundary concerns that were identified during the UNDP/GEF project preparation stage. The International Consultant consolidated the three National Analysis Reports into an 'Executive Summary' that formed the Transboundary Diagnostic Analysis (with the National Analysis Reports as substantive annexes containing the national issues and data).

Following the presentation and discussion of the TDA by national stakeholders in November 2009, the TTT held extensive national discussions to further refine the initial five priority transboundary concerns resulting in three Major Perceived Problems (MPPs). The MPPs were used to develop a series of Environmental Quality Objectives (EQOs) that would address the problems through a series of proposed management actions. The TTT revised both the MPPs and the EQOs to reflect comments from the three countries.

The EQO and the related management actions form the substantive part of this SAP and indicate the national and transboundary measures that are required and will need further elaboration through National Action Plans but are compatible with the expectations of the relevant EU directives.

This SAP is a framework which presents a vision and an outline of the actions needed to fulfil this vision. The National Actions Plans will be required to implement the management actions identified at the transboundary and recommended for national implementation. The formulation of the National Action Plans will be the responsibility of the three countries under the co-ordination of the Prespa Park Co-ordination Committee (PPCC) or the Prespa Park Management Committee (PPMC) – as indicated in the Joint Agreement.

Prespa Lakes Basin

Strategic Action Programme

In preparing this SAP the TTT developed a number of key documents (annexed or referenced in this document) to assist with both the communication of the process and to aid the finalisation of the transboundary concerns and the formulation of the management actions to address these through agreed Environmental Quality Objectives for the Prespa Lakes Basin, including:

- National Analysis Reports
- TDA
- Matrix and resources and activities in the Prespa Park
- Environmental Quality Objectives and management actions
- Outline financing reports for implementing measures to meet the EQOs.

1.5 Summary of the Transboundary Diagnostic Analysis



Black-crowned night heron (Nycticorax nycticorax)



Grey heron (Ardea cinerea)

The Prespa Basin ecosystem, as clearly indicated in the 2002 Strategic Action Plan and the three National Analysis Reports (2009), is of significant international importance offering wide biodiversity and ecological wealth. The aquatic ecosystem provides a habitat for a number species unique to the system and the area is important to over 90 species of migratory birds. Both the terrestrial and aquatic environments are under multiple threats deriving from a range of human activities in the region.

Whilst the ecosystem is under threat from the pressures in the basin this does not imply that this it is a heavily impacted environment necessitating significant remediation, this SAP offers a means to agree actions to prevent further deterioration and to mitigate past damages.

Although there have been a number of studies in the region over the past decade there is still relatively little monitoring data (water quality, biodiversity information, etc.) to enable trends to be determined or for the threats to the ecosystem to be quantified. However, there is significant local expert judgement and experience to identify the main concerns and threats to the ecosystem in the basin.

The main transboundary concerns identified by the TDA impacting the ecosystem, and in particular the biodiversity of the region, are impacting both the terrestrial and aquatic environments. Whilst the focus of this SAP is on transboundary concerns which primarily impact the aquatic environment, it is fully recognised the importance of 'shared concerns'

that are common to all countries that impact the terrestrial ecosystem. The concerns identified are:

1. Water Quality and specifically pollution from:

- Nutrient pollution (nitrogen and phosphorus) leading to eutrophication and low dissolved oxygen concentrations. The main sources being inadequate wastewater treatment from human settlements and inappropriate use of fertilisers on agricultural land. Data is available indicating that this is a significant problem.
- Organic pollution (e.g. material that creates an oxygen demand resulting in high levels of biochemical oxygen demand or chemical oxygen demand – BOD and COD) leading to low dissolved oxygen concentrations. The main sources being inadequate wastewater treatment from human settlements, animals and the inappropriate disposal of excess fruits. Some data and information exists on this issue.
- Hazardous substance pollution leading to accumulations in the water column, sediment and biota from inappropriate use of agrochemicals and industrial processes. Very limited data and information exists on this issue, but a precautionary approach to this problem is considered appropriate.



Prespa Lakes Basin

Strategic Action Programme

2. Land Management and the lack of appropriate spatial planning procedures; specifically:

- Agricultural Practices resulting in the extensive use of mineral fertilisers, pesticides and the lack of 'good agricultural practices'.
- Deforestation and changes in forests resulting from poor management and enforcement. In the past all countries suffered from a loss of forest area. The loss of forest will impact the economic value of the forest in the future and will detrimentally impact the biodiversity dependent on woodland habitats. In addition, these changes can result in erosion and sediment transport concerns.



3. Fishery management is under regulated in the region, leading to depletion of native species and lower competition for exotic species. The pressure on fish stocks also come from other pressures such as pollution, loss of water level (depletion of reeds and shallow areas used for spawning). Some data and information exists on this issue.



4. Loss of water level in Macro Prespa leading to changes in the shore-line habitat. Whilst it is believed that most of the water level change is 'natural' there are clearly steps that be taken to reduce consumptive use of water by agriculture. Some data on water use is available.



5. Sediment transport resulting from inappropriate land management (agriculture and forestry), periodic flood events and changes in river regimes. In addition to the sedimentation that can occur in the lake the process can also transport nutrients and pesticides. Some data and information exists on this issue.



1.5.1 Summary of threats to the ecosystem of Prespa Lakes Basin

Despite the low population density and lack of significant industrial pollution the basin is at risk from further degradation from a number of pollution sources and other pressures that have had a negative impact on all habitats in the Basin. The basin has suffered from minimal ecosystem management in the past when agriculture, fisheries and forests were managed to give high yields with little attention paid to the environment. Water level decline in Macro Prespa is a further risk to both the terrestrial and aquatic ecosystems.

The key sectors and immediate causes impacting the environment are:

- Agriculture – water use, nutrient losses, erosion, hazardous substance waste, organic waste;
- Industry (specifically in the Resen region)
- Fishing – unregulated fishing activities and introduction of alien species;
- Water Management – limited treatment of wastewater (specifically in Albania and the former Yugoslav Republic of Macedonia)

The limited availability of routine monitoring data has necessitated the extensive use and dependence on national expert judgement /risk assessment to confirm the key concerns and threats to the ecosystem. A full assessment of the sources of these concerns is provided in the National Analysis Reports under supporting the TDA. The concerns or threats are not uniform across the basin and this is reflected in the proposed management actions addressing the problems. The following lists the main sources of these threats within the Prespa Lakes Basin.



1 Introduction

Potential threats to the ecosystem

- Land use changes (including intensive agriculture)
- Sediment erosion
- Urbanisation and the lack of integrated land use planning
- Tourism - increased numbers with inadequate infrastructure
- Water level decrease
- Deforestation by grazing and collection for firewood
- Introduction of alien species
- Climate change
- Pollution, including:
 - Point sources (domestic and industrial wastewaters)
 - Diffuse sources (agriculture, solid waste sites, untreated domestic wastewater, etc.)
 - Waste apples
 - Waste agro-chemicals, cleaning of spraying equipment and waste containers for chemicals

1.5.2 Major Perceived Problems

Following the trilateral TDA workshop (November 2009) the concerns identified above were refined through a series of discussions by the TTT with national stakeholders leading to three Major Perceived Problems (MPPs). The MPPs address existing concerns, potential problems and endeavour to address issues that will sustain the important ecosystem in the future.

MPP 1

Decline in water quality and quantity (both surface and ground waters). The impacts on water quality are from agriculture, urban and industry. The impacts on water quantity (and specifically lake water level) are both natural (changes in hydrological regimes occurring over long periods) and as a result of over abstraction for irrigation. Potential changes in climate are also expected to have impacts on both the quality and quantity of the water resources.

MPP 2

Strengthen or implement spatial planning involving the ecosystem. This applies to both the national and the basin-wide levels of spatial planning.

MPP 3

Changes in habitats and loss of biodiversity. These impacts result from anthropogenic impacts, natural variations in water level and climate change impacts. This MPP impacts both the aquatic and terrestrial ecosystems and particularly in the latter compartment represents a significant and shared threat to the basin.

Prespa Lakes Basin

Strategic Action Programme

The transboundary problems and potential solutions are addressed in this SAP. Problems that are common to all countries (for example the shared issues of land use management) are also addressed in this SAP, but it is expected that more substantial details for these would be included in future National Action Plans.

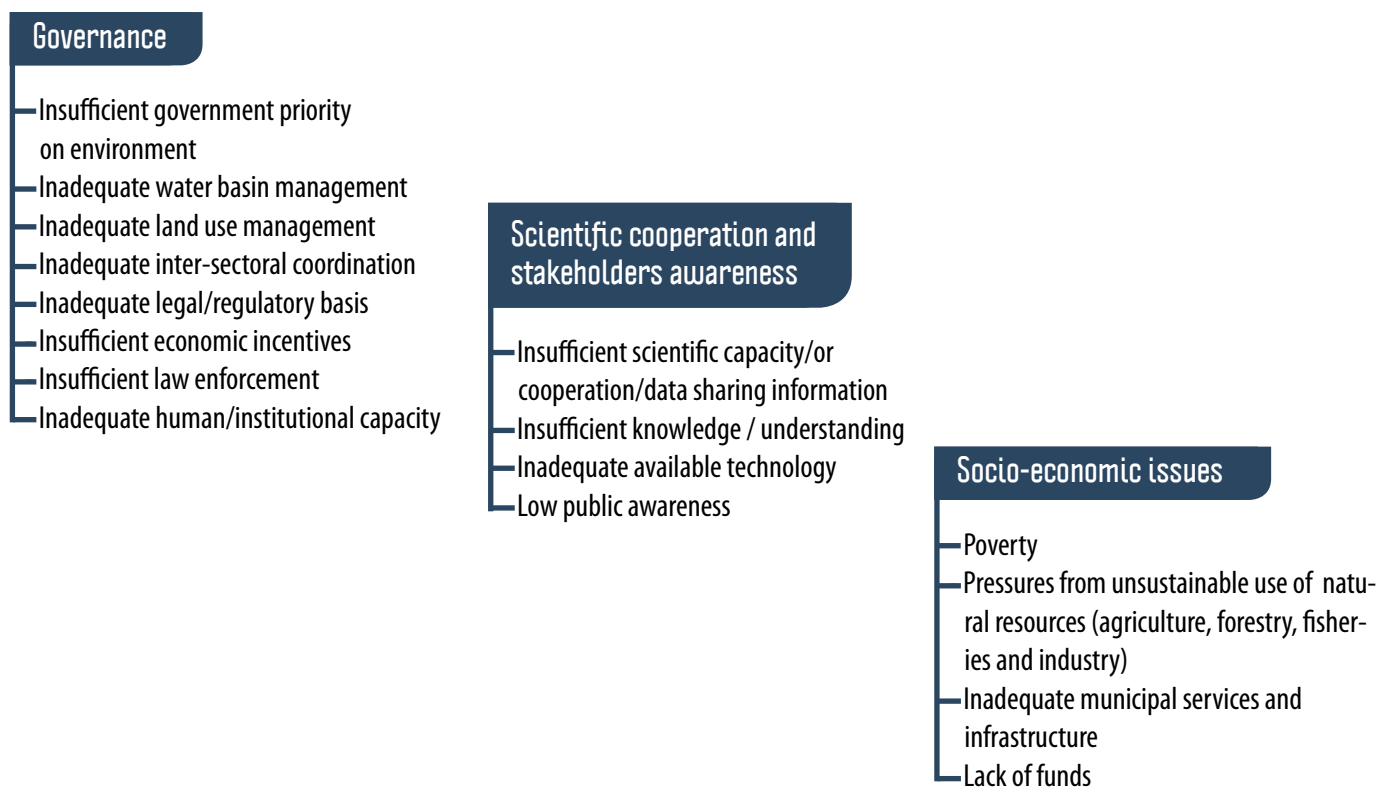
These MPPs were used as the basis to develop the EQOs presented below.

1.5.3 Root Causes of Major Perceived Problems

The TTT undertook a causal chain analysis to identify the immediate, underlying and root causes of the main transboundary concerns during the preparation of the National Analysis Reports leading to the TDA.

The root causes of the environmental problems in the Prespa Lakes basin were identified as related to governance, scientific knowledge and co-operation, stakeholder awareness and socio-economic issues.

Specifically the causes of the transboundary concerns in Prespa Lakes Basin are:



Full details of the causal chain analysis, undertaken by the TTT, is presented in the TDA and National Analysis reports (referenced in Annex 3).

1.6 Summary of the 2002 Strategic Action Plan for the Sustainable Development of Prespa Park

The 2002 Strategic Action Plan was the first tangible output from the tri-lateral co-operation of the transboundary Prespa Park. The Prespa Park was established by the Declaration of the Prime Ministers of Greece, Albania and the former Yugoslav Republic of Macedonia on 2nd February 2000, with the aim of ‘preserving the extraordinary natural and cultural values of the region, as well as the promotion of peace, friendship and co-operation between the three peoples’.

The Strategic Action Plan was funded by the Greek Ministry of Environment, Physical Planning and Public Works and was prepared by the Society for the Protection of Prespa with the collaboration of WWF Greece, the NGO Protection and Preservation of Natural Environment in Albania and the NGO Macedonia Alliance for Prespa. This was the first joint project by three neighbouring countries with close co-operation of the NGOs and independent experts.

The draft document underwent an extensive consultation process in the three countries with participation of central, regional and local authorities and other stakeholders.

The aim of Prespa Park expressed by the Prime Ministers’ declaration led to the definition of four key objectives for the Park.

Objective 1

Conservation of ecological values and functions and of the biological diversity in the Prespa Park area;

Objective 2

Enhance opportunities for the sustainable economic and social development of the local societies and the wise use of the natural resources for the benefit of nature, local economics and future generations;

Objective 3

Preservation of cultural values such as monuments, traditional settlements and traditional human activities and cultural events that promote the sustainable management of the natural resources;

Objective 4

Seek participation, co-operation and involvement in decision-making and in benefit or loss sharing of stakeholders in the three countries.

Prespa Lakes Basin

Strategic Action Programme

The 2002 Strategic Action Plan identified potential difficulties with implementing transboundary co-operation in the Prespa Park as:

- Different laws, policies and protected areas systems and powers of management authorities;
- Different political and administrative structures;
- Different stages of economic development and policy;
- National sovereignty and security considerations;
- Difficult terrain, inaccessibility and lack of transport;
- National political or cultural difficulties that can cause misunderstandings;
- Language barriers; and,
- The pending foreign policy issues between Greece and the former Yugoslav Republic of Macedonia that prohibit formal adoption of new international agreements between the two countries.

The Strategic Action Plan presents clear operational targets and management actions necessary to achieve the objectives with a detailed breakdown of the investments needed leading to the requirement of > 30 M euro for implementation. The concepts of the plan are consistent with those of Integrated Water Resources Management (IWRM) and Sustainable Development with the overall aim of protection the significant ecosystem of Prespa Park.

A comparison has been undertaken by the TTT between the 2002 Strategic Action Plan and this TDA/SAP. The full analysis is presented in the Environmental Quality Objectives report presented in Annex 2.

1.6.1 Management of the 2002 Strategic Action Plan

The 2002 Strategic Action Plan was adopted by the three countries and was a key document in catalysing the co-operation in the region and was an important step in formulating the UNDP/GEF project on integrated ecosystem management in the Prespa Lakes Basin.

It has provided the focus for the work of the PPCC and with UNDP/GEF support assisted with the direction of the technical Working Groups of the PPCC.

Not only did the Strategic Action Plan prepare a detailed and comprehensive analysis of the ecosystem and its values of the region but it laid out the need for a range of scientific studies, the need for a trilateral water resources management plan and local level initiatives.

The management of the Plan's implementation is under the supervision of the Prespa Park Co-ordination Committee (PPCC). Support has been

1 Introduction

provided by the UNDP/GEF project with a number of activities under the working groups of the PPCC.

Whilst there has been no systematic monitoring and evaluation undertaken by the PPCC of the implementation of the 2002 Strategic Action Plan (an issue that is an integral component of this SAP) it is clear that there has been progress towards the overall objective through actions funded from national and international sources..

1.7 Initiatives from the UNDP/GEF project

Through the UNDP/GEF project activities have been supported in Albania and the former Yugoslav Republic of Macedonia that were recognised as important in the 2002 Strategic Action Plan. Specifically:

- Restoration of the Golema Reka (MK)
- Pesticide packaging (MK)
- Sustainable forestry management (MK)
- Reports on socio-economic profile and trends (AL)
- Reports on hydrology, water resources and ecosystem management (AL)

At the transboundary level the UNDP/GEF project has supported key actions for example:

- Transboundary fisheries and fish management
- Transboundary monitoring
- Transboundary water management.

1.8 Other initiatives

The National Analysis Reports (see Annex 3) prepared by the TTT contained details of the many national projects that had been undertaken in support of the 2002 Strategic Action Plan.

These interventions range from very local activities (for example dealing with the protection of local habitats) through the development of local/national policies (National and Local Environmental Action Plans, frameworks for land management planning, etc.) to restoration of the sluice gates between Micro and Marco Prespa which was led by Greece but with considerable consultation with Albanian local authorities and stakeholders. This activity was reported through the PPCC so

all countries were aware of the activities, studies and possible impacts. This approach (led by SPP) should be seen as a model for future interventions involving wide international stakeholder engagement.

1.9 Prespa Lake Basin regional co-operation

The Declaration on the Creation of the Prespa Park and the Environmental Protection and Sustainable Development of the Prespa Lakes and their Surroundings, was adopted by the three Prime Ministers of the former Yugoslav Republic of Macedonia, Albania and Greece, at Aghios Germanos in Greece (2 February, 2000) on occasion of the World Wetlands Day (Ramsar Convention).

With this the Prespa Park is declared the first transboundary protected area in South-East Europe. According to this Declaration, in order to promote coordination among the 3 countries, as well as to achieve environmental protection and sustainable development of the Prespa Lakes and the region, the Prespa Park Coordination Committee (PPCC) was established. This 10 members' body represents the three sectors (government, local community and NGOs) from each country and one representative from Ramsar / MedWet. The PPCC is the main political, administrative and institutional body. Its main responsibilities are to guide future measures, activities and projects carried out in Prespa region.

Although the PPCC has regular biannual and extraordinary meetings, the provisional (informal) status of the PPCC assigns limited powers to this basin-wide authority to make decisions with influence in the three countries.

The role and responsibility of the PPCC has been strengthened by support provided from the International Component of the UNDP/GEF project to assist with the Working Groups established under the Committee.

The main Working Groups relevant to this SAP include:

- Working Group on Monitoring and Conservation
- Water Management Working Group

1.10 The 2010 Joint Agreement



In February 2010 the Ministers of Environment of the Albania, the former Yugoslav Republic of Macedonia and Greece met in Pyli together with the EU Commission for the Environment issuing a statement endorsing the Joint Agreement on the 'Protection and Sustainable Development of the Prespa Park Area'.

The Joint Agreement defines the principles and mechanisms for cooperation between the riparian countries, aiming at ensuring an integrated protection of the ecosystem and the sustainable development of the Prespa Park Area, including the development of integrated river basin and land management plans, according to the international and European Union standards. Thus, the basic obligations and activities for their fulfilment, as well as environmental standards and criteria, deriving from the EU Directives, constitute the backbone of the EQOs and the associated plan of actions.

The Agreement foresees the need to establish a joint management body – the Prespa Park Management Committee (PPMC) to be responsible for implementing the requirements of the Joint Agreement including the monitoring and co-ordination of activities necessary to fulfil the tasks identified in the 2002 Strategic Action Plan.

The PPMC is expected to monitor and co-ordinate the activities carried out for the protection and sustainable development of the Prespa Park Area in the implementation of the Agreement and of the Strategic Action Plan (2002). The Committee is expected to identify and recommend to the Parties and other interested actors next steps and necessary actions, measures and activities for the implementation of the Agreement, and to invite them to co-operate and co-ordinate on joint projects.

The main co-ordination tasks of the PPMC are expected to include:

- Drafting and application of legislation and standards;
- Drafting and coordination upon the implementation of integrated watershed plans: water management, spatial plans and management plans of protected areas;
- Fostering of public participation in decision making;
- Implementation of programmes for effective monitoring of environmental media and activities, as well as record keeping and reporting;
- Publishing annual reports on the state of environment for the Prespa Park;
- Implementation of programmes for scientific research;
- Implementation of programmes fostering the involvement of the civil society in protection of the Prespa Park;
- Monitoring over the implementation of strategies, plans and programmes of transboundary importance;
- Liaise with the Ohrid Management Committee;
- Developing effective funding mechanisms thus leveraging financing from national and international sources;
- Enable the functioning of an early warning system.

This current SAP provides the initial framework to implement joint programmes and measures by identifying specific management actions that will require further support through detailed National Action Plans and co-ordination with other international interventions. Specifically this SAP identifies the need for further co-operation through establishing links through national technical institutions to assist the PPMC with its co-ordination role.

1.11 Vision for Prespa Lake Basin

The biodiversity, the lakes, wetlands and forests are shared assets and resources that cannot be effectively protected and managed by any one side alone, thus the benefits of transboundary co-operation in Prespa are obvious. The cultural heritage of the area is also common and can be best preserved and promoted in co-ordination. The local economy is totally dependent on these resources and its future sustainable development inevitably passes through coordinated planning and mutual support from a basic level. Therefore, a common vision for the future sustainable development of the Prespa Park is to be reflected in national policies and specific interventions.

1 Introduction

During the development of the Environmental Quality Objectives the TTT recommended updating the 2002 Strategic Action Plan vision for adoption by this SAP as:

'By 2025, the Prespa Lakes Basin will represent a healthy ecosystem that supports a sustainable economy'.

As part of the tri-lateral commitment to generating and applying knowledge for social and economic benefit, littoral countries (Albania, the former Yugoslav Republic of Macedonia and Greece) will have in place an integrated policy and regulatory system to ensure the sustainability of the Prespa Park ecosystems while allowing for the rational use of natural resources.

The policy for the protection of the Prespa Park will be driven by an overarching goal to have healthy terrestrial and aquatic ecosystems that sustain indigenous biodiversity and provide for sustainable use of the Lakes' resources. All the countries will be fully compliant with the requirements of EU legislation and international conventions to which they are contracting parties and will be able to demonstrate, through regular reporting on the appropriate environmental assessments, the maintenance of a high quality environment.

All the countries will have developed a Prespa Park's brand identity, with a high quality environment and sustainable economy. This brand will form part of a marketing programme for the tourism, organic agricultural production and other complementary economic sectors.



Prespa Lakes Basin

Strategic Action Programme



2. Strategy for Environmental Protection for Prespa Lakes Basin

2.1 Key Management Principles

The SAP will adhere to two key environmental management principles. These are:

- The Ecosystem Based Management Approach; and
- Integrated River Basin Management (IRBM)/ Integrated Water Resource Management (IWRM)

The Prespa Lakes Basin states share a common desire for the sustainable management of the natural resources and biodiversity of the Prespa Lakes Basin, and recognize their role and responsibility in conserving the global value of these resources. The states have considered and taken into account, where appropriate, the following principles and values when further developing and implementing the SAP recognising that that these principles may be already adopted in some states and should be further promoted.

The principle of **sustainable development** shall be applied such that there is a prudent and rational utilization of living resources and the preservation of the rights of future generations to a viable environment.

The **precautionary principle** shall be applied, such that measures shall be taken when there are reasonable grounds for concern that any activity may increase the potential hazards to human health, harm living resources or ecosystems, damage amenities, or interfere with other legitimate uses of the Prespa Lakes Basin, even when there is no conclusive evidence of a causal relationship between the activity and the effects; and by virtue of which, greater caution is required when information, including scientific information, is uncertain, unreliable or inadequate.

The **polluter pays principle** shall be applied, such that the cost of preventing and eliminating pollution, including clean-up costs, shall be paid by the polluter.

The principle of **anticipatory action** shall be applied, such that contingency planning, environmental impact assessment and strategic impact assessment (involving the assessment of the environmental and social consequences of governmental policies, programmes and plans) shall be undertaken in the future development in the region.

Prespa Lakes Basin

Strategic Action Programme

The principle of preventative action shall be applied, such that timely action shall be taken to alert the responsible and relevant authorities of likely impacts and to address the actual or potential causes of adverse impacts on the environment, before they occur.

Environmental and health considerations shall be included into all relevant policies and sectoral plans and programmes, including, inter alia, urban planning, industrial development, fisheries, aquaculture and tourism.

Use of clean technology shall be promoted when replacing or phasing-out high waste and waste-generating technologies, including the use of Best Available Technique/Technology (BAT).

Use of Sustainable Agriculture shall be promoted in order to replace or phase-out unsustainable agricultural practices, including the use of Good Agricultural Practices (GAP).

Development planning and environmental planning processes should be integrated to the maximum extent. The use of economic instruments that foster sustainable development shall be promoted through, inter alia, the implementation of economic incentives for introducing environmentally friendly technologies, activities and practices; the phasing-out of subsidies which encourage the continuation of non-environmentally friendly technologies, activities and practices; and the introduction of user fees.

The principle of accessibility of information shall be applied, such that information on the pollution of the environment of the Prespa Lakes Basin held by a littoral state shall be provided by that state to all littoral states, where relevant and in the maximum possible amount.

The principles of public participation and transparency shall be applied, such that all stakeholders, including communities, individuals and concerned organizations shall be given the opportunity to participate, at the appropriate level, in decision-making and management processes that affect the Prespa Lakes Basin. This includes providing access to information concerning the environment that is held by public authorities, together with effective access to judicial and administrative proceedings to enable all stakeholders to exercise their rights effectively. Public authorities shall widely disseminate information on the work proposed and undertaken to monitor, protect and improve the state of Prespa Lakes Basin.

In addition the countries of the Prespa Lakes Basin are committed to complying (through existing national legislation in the case of Greece as an EU Member State and by implementing new legislation for Albania and FYR Macedonia) with the appropriate European Union water and environment legislation, including:

- Water Framework Directive – WFD- (2000/60/EC)
- Urban Wastewater Treatment Directive - UWWTD- (92/271/EEC)
- Nitrates Directive (91/676/EC)
- Habitats and Birds Directive (92/43/EEC)
- Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC, 2008/1/EC)

2.2 Long-term Environment Quality Objectives

To achieve the vision for the Prespa Lakes Basin, four Environmental Quality Objectives (EQOs) have been designed that will address the key transboundary concerns identified in the TDA and the Major Perceived Problems presented above. These EQO address both the vision and the Joint Agreement issued by the three Ministers of Environment in January 2010.

EQO 1

— To preserve and restore the ecological status and values of surface and ground water resources

EQO 2

— Strengthening land-use management and planning

EQO 3

— The conservation of Prespa Lakes Basin's biodiversity and habitats

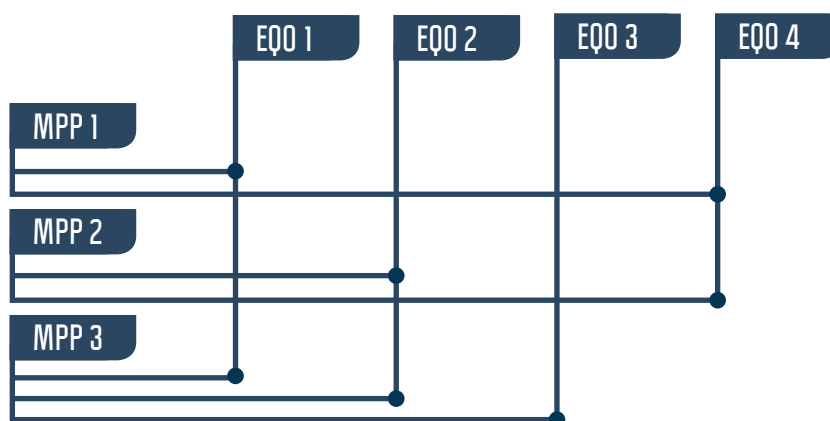
EQO 4

— To improve the livelihoods of the local communities by ensuring sustainable forestry, agriculture and fisheries

Prespa Lakes Basin

Strategic Action Programme

The following summarises the linkages between the Major Perceived Problems (MPP) developed from the TDA and the Environmental Quality Objectives proposed by this SAP as a means to achieving the Vision for Prespa Lakes Basin:



Each Environmental Quality Objective is presented in the following format:

- Expected results (outputs and outcomes), and;
- Planned activities presented for both the transboundary and national activities and which are further divided under the following three categories:
 - Policy actions, education and scientific research, including:
 - Trilateral strategies;
 - Capacity building
 - Institutional reforms/strengthening
 - Information and awareness raising
 - Stakeholder and wider public consultations
 - Education
 - Research
 - Monitoring and data management
 - Investments for infrastructure, demonstration projects, conservation and restoration activities.

A number of cross-cutting activities are applicable to more than one EQO and these are included under where most relevant to avoid repetition. Actions at transboundary level (and also where appropriate, actions common to all countries) are presented together with information on actions for specific countries that complement the SAP transboundary actions. Additional information on the management actions (including the timeframe, estimated costs, potential indicators for success, responsible institutions, uncertainties and expected results are presented for each management target in Annex 2).

2.2.1 EQO 1: To preserve and restore the ecological status and values of surface and ground water resources

Expected Results / Outcomes:

Improved tri-lateral water management resulting in good chemical and biological quality, and reduced stress on groundwaters. To be achieved through the increased knowledge of the Prespa Lakes Basin (including the pressures and impacts from anthropogenic sources and potential impacts from climate change) and the introduction and implementation of agreed policies and practices.

Actions at a transboundary level

Policy, education & research	<ul style="list-style-type: none"> • Develop and implement an integrated water management plan, following the principles of the EU WFD, and incorporating flood and drought management and addressing potential climate change scenarios for Prespa Lakes Basin. • To implement common or joint programmes of measures to address the major transboundary concerns of the region mitigating water quality and quantity pressures from agriculture, urban and industrial activities and ensuring 'good status'. • Establishment and strengthening of transboundary networking of institutions and experts along with the regular exchange of data and information • To provide training programmes and awareness raising for a wide range of stakeholders on: <ul style="list-style-type: none"> • Integrated water management in the Prespa Lakes Basin • Involving the wider public in water management • Assignment of responsible experts for communication and timely reporting of extreme events (including floods, droughts, pollution etc.). • To develop and implement comparable economic instruments to address water use and pollution, recognising the differing economic conditions of the three countries.
Monitoring and data management	<ul style="list-style-type: none"> • To harmonise and ensure comparable results and methods for monitoring, analysis and assessment • To implement transboundary monitoring programmes utilising remote sensing and GIS as a management planning tool
Investments	<ul style="list-style-type: none"> • To implement best environmental practices demonstration projects aimed at reducing use and release of chemicals from agriculture and industry that will also improve awareness of the risks of these chemicals to health and the environment by the users. • To implement a rehabilitation project to alleviate the past negative impacts from hydrological alterations with a initial emphasis on the Devoli River – Lake Micro Prespa system.

Prespa Lakes Basin

Strategic Action Programme

National Actions to complement the transboundary SAP

	Albania	FYR Macedonia	Greece
Policy, education & research	<ul style="list-style-type: none"> • Identification of point and non-point sources of pollution • Develop & enforce regulations on point source discharges • Develop / implement pollution release transfer register 	<ul style="list-style-type: none"> • Develop & enforce regulations on point source discharges • Implement & enforce IPPC licensing • Implement pollution release transfer register 	<ul style="list-style-type: none"> • Continue the enforcement of existing regulations on point source discharges and the identification, assessment and mitigation on point and non-point discharges
Monitoring and data management	<ul style="list-style-type: none"> • Provide equipment and staff to implement national monitoring system • Capacity building of staff 	<ul style="list-style-type: none"> • Provide equipment and staff to implement national monitoring system • Capacity building of staff 	<ul style="list-style-type: none"> • Continue the implementation of WFD monitoring programme including training and equipment
Investments	<ul style="list-style-type: none"> • Reforestation to prevent erosion and to restore catchments and spring source conditions • Rehabilitation of irrigation system using appropriate techniques • Construction of WWTW and collection system • Demonstration projects on rational use of pesticides and fertilisers • Implement demonstration project on solid waste collection • Implement demonstration project on solid waste disposal (including landfill) 	<ul style="list-style-type: none"> • Restoration of the Golema Reka • Improve irrigation schemes (including incentives / demonstrations of drip irrigation methods) • Demonstration projects on rational use of pesticides and fertilisers • Extend WWTW with tertiary treatment • Expand sewerage network and treatment to settlements round Prespa Lake 	<ul style="list-style-type: none"> • Continuing demonstration projects on environmentally friendly farming methods (including incentives) • Continue the operation and maintenance of WWTWs • Continue the adaptive water level management balancing both socio-economic and ecosystem priorities • Continue and enhance the assistance and measures (including incentives) for drip irrigation

2.2.2 EQO 2: Strengthening land-use planning and management

Expected Results / Outcomes:

Improved land management resulting in enhanced ecosystem value and benefits to local communities. To be achieved by the introduction of policies on development restrictions and zoning to protect and ensure the sustainable use of the environment, increased knowledge on the state of land use and future trends and, the development of monitoring and assessment tools (including indicators) to assess changes.

Actions at a transboundary level and actions common to all countries

Policy, education & research	<ul style="list-style-type: none"> • To prepare transboundary spatial plans with a specific emphasise on buffer zones, nutrient protection and water protection zones • To initiate a transboundary study on conservation of the rural landscape including restoration of hedgerows • To develop a common approach to establishing and promoting areas to be maintained as open land and not for development • To enforce regulations prohibiting constructions of housing and other infrastructure outside of existing settlement boundaries • To enforce restrictions on sand and gravel extraction within protected areas and outside dedicated areas • Maintenance of protection zones around water supply sources and protected areas (including wetlands) • To establish and implement transboundary EIA procedures (Espoo Convention) including social impact assessment and Strategic Impact Assessment
Monitoring and data management	<ul style="list-style-type: none"> • To harmonise and to improve the methodology for the collection and processing of management land-use data and the use of remote sensing /GIS for management planning • To implement the agreed transboundary monitoring system
Investments	<ul style="list-style-type: none"> • Development of regional infrastructure and sustainable transportation networks • Reclamation / restoration of abandoned degraded forests, abandoned agriculture land and illegal dumps • To implement municipal and hazardous waste management systems and to enforce restrictions on illegal waste dumping

Prespa Lakes Basin

Strategic Action Programme

2.2.3 EQO 3: To conserve Prespa Lakes Basin's biodiversity and habitats

Expected Results / Outcomes:

Improved condition of habitats through the implementation of a tri-lateral strategy to support the ecosystem values. To be achieved through programmes of restoration, maintenance and improved management involving wide stakeholder and public consultations.



Ezerani protected area



Prespa barbel (Barbus prespensis)

Actions at a transboundary level

Policy, education & research	<ul style="list-style-type: none"> To prepare, adopt and implement a transboundary biodiversity conservation strategy to preserve threatened and rare species and habitats within hotspots identified in the transboundary catchment area. To co-ordinate the development and implementation of protected areas management plans To establish ecologically coherent network on the basis of protected areas (including forests and wetlands), river plains, etc. To introduce and harmonise the principles of sustainable and ecosystem oriented forestry to maintain diversity, forest structure and function To strengthen the scientific basis of conservation policy and to integrate living resource management into other sectors To introduce economic instruments to provide alternative funding sources for the operation of bodies managing protected areas Identification of Prespa threatened, rare and protected species to serve as a basis for further conservation and monitoring programmes Study on benthic communities (especially potential bio-indicators) To establish and strengthen networking between national institutions with exchange of data and information To harmonise transboundary controls, restrictions and legislation impacting forests, wildlife and fisheries To enforce restrictions on illegal logging To prepare agreed delineation for spawning grounds To control illegal fishing (generally and in the closed season) on both lakes To implement pilot projects to assist with restricting the collection of medicinal plants To continue assessing potential climate change and impacts on Prespa Lakes Basin
Monitoring and data management	<ul style="list-style-type: none"> To harmonise and improve methodologies for collection and data processing on priority species as agreed by the Monitoring and Conservation Monitoring Group To monitor the impacts on native flora and fauna from the introduction of alien species
Investments	<ul style="list-style-type: none"> Implementation of model wetland and shoreline management applying the best limnological ecosystem knowledge to address the challenge of managing dynamic systems

National Actions to complement the transboundary SAP

	Albania	The former Yugoslav Republic of Macedonia	Greece
Policy, education & research	<ul style="list-style-type: none"> To implement measures to control the use of forest resources through establishing a licensing system To estimate the capacity of forests to withstand grazing and to review alternative approaches for the protection of pasture from erosion To enforce regulations on over exploitation of forests (wood cutting and grazing) To develop and implement a management plan for Prespa National Park To enforce legislation on illegal hunting and fishing To identify habitats and species on the basis of the EU Birds and Habitats Directive 	<ul style="list-style-type: none"> To implement administrative measures to protect the endemic sub-species of trout To implement programmes to strengthen institutions and through training of national and local stakeholders To identify habitats and species on the basis of the EU Birds and Habitats Directive Preparation of a national list of threatened species Preparation and adoption of a management plan for the Ezerani protected area 	<ul style="list-style-type: none"> Implementation and application of legal framework and management as defined in National Park regulations To implement the new management plan (currently under development) for Prespa National Park To implement administrative and conservation measures to protect the endemic sub-species of trout in the Agios Gemanos River
Investments	<ul style="list-style-type: none"> To rehabilitate and restore forests To implement demonstration projects on reducing the impact of agriculture, land grazing and hunting on the loss of biodiversity 	<ul style="list-style-type: none"> Implementation of measures to protect the Golema Reka spawning grounds Implementation of management interventions in the Ezerani wetland 	<ul style="list-style-type: none"> To update forest management planning (according to the new plan) and pilot projects promoting ecosystem oriented silviculture protecting the forest diversity and maintaining habitats Continue implementation of wet-meadow management activities To continue monitoring, reporting and conservation of habitats and species as defined in the relevant EU directives and national legislation



Large copper (*Lycaena dispar*)



Purple heron (*Ardea purpurea*)



Yellow wagtail (*Motacilla flava*)

Prespa Lakes Basin

Strategic Action Programme

2.2.4 EQO 4: To improve the livelihoods of the local communities by ensuring sustainable forestry, agriculture and fisheries

EQO 4.1: Sustainable and ecosystem oriented forestry

Expected Results / Outcomes:

Forests are managed in a sustainable manner providing multiple benefits to the local community and the ecosystem.

Actions at a transboundary level and actions common to all countries

Policy, education & research	<ul style="list-style-type: none"> To undertake a study on the sustainable management of forests in the Prespa Lakes catchment addressing issues including harvesting, fire fighting/protection, erosion minimisation, flood prevention, etc. To identify all transboundary forest management activities related to carbon storage and release To implement transboundary sustainable forestry policies within national forest management plans To enforce measures limiting illegal wood harvesting and grazing
Monitoring and data management	<ul style="list-style-type: none"> To develop and implement a trilateral database for forest harvest records
Investments	<ul style="list-style-type: none"> Pilot demonstration projects aimed at increasing efficiency (and reducing waste) in lumber processing To initiate or continue programmes to preserve/rehabilitate/restore forests (with a specific emphasis on the Albanian Prespa Park) To assist in the provision of alternative means for household heating (with a specific emphasis on the Albanian Prespa Park)

EQO 4.2: Sustainable Fisheries

Expected Results / Outcomes:

Ensuring long-term fisheries through improved awareness by fishermen of the ecosystem balance and fishing methods resulting in sustainable harvests and improved market conditions for fish and fish products.



Actions at a transboundary level and actions common to all countries

Policy, education & research	<ul style="list-style-type: none"> • To develop a transboundary fisheries management plan • To agree a tri-lateral fishing quotas • To harmonise fishing regulations • To harmonise stocking practices • To strengthen the administrative and environmental capacity of fisher organisations and fishermen • To improve and to share the scientific research on fisheries, especially spawning areas • To improve the economic instruments towards investing into fishing infrastructure, including: storing and processing facilities, sales centres, spawning and nursery grounds, etc. • To review the ecological impacts and commercial benefits of investing in fish breeding stations for restocking the lake • To enforce the use of sustainable fishing methods
Monitoring and data management	<ul style="list-style-type: none"> • To develop and maintain a fish database for managing fish catch and regulating the number of licences (as an element of the transboundary monitoring programme)
Investments	<ul style="list-style-type: none"> • Establishment of fish breeding stations (subject to impact and benefit review)



EQO 4.3: Sustainable agriculture

Expected Results / Outcomes:

Improved agricultural practices resulting in improved land and ecosystem status and sustainable crop production, through the introduction of Best Agricultural Practices.
Elimination of the import, sale and use of banned agrochemicals – specifically pesticides.

Actions at a transboundary level and actions common to all countries

Policy, education & research	<ul style="list-style-type: none"> • To prepare a common operational plan to develop and encourage sustainable best agricultural practices and/or organic farming in the Prespa Lakes Basin • To identify and implement a common approach to integrated pest management • To develop and encourage community-based agriculture (including animal husbandry) networks to assist with knowledge and experience sharing across the basin
------------------------------	--



Prespa Lakes Basin

Strategic Action Programme



Monitoring and data management

- To collate information from national agencies on agricultural production for Prespa Lakes Basin

Investments

- Pilot demonstration projects on Best Agricultural Practices including encouraging the reduction of mono-culture farming through diversification
- Pilot demonstration projects for land consolidation/ co-operatives to enhance technical improvements.

EQO 4.4: Energy consumption and renewable production

Expected Results / Outcomes:

Local communities, farmers and industry have improved access to information and technologies for energy efficiency and use of renewable sources

Actions at a transboundary level

Policy, education & research

- To implement a feasibility study on the potential use of alternative energy sources in the Prespa Lakes Basin

Monitoring and data management

- To collate information from national agencies on green energy production in Prespa Lakes Basin

Investments

- Pilot demonstration projects on the use of technologies to improve energy efficiency and the use of alternative (renewable) sources of energy



EQO 4.5: Cultural heritage and eco-tourism

Expected Results / Outcomes:

The development of sustainable eco-tourism programmes encompassing the common historical and cultural heritage with the ecological values of the basin involving harmonised marketing and providing income benefits to the region's inhabitants

Actions at a transboundary level

Policy, education & research	<ul style="list-style-type: none"> • The implementation of the tri-lateral tourism development strategy • The identification of investment incentives for small scale tourist related activities • Capacity building exercises on alternative tourism for all relevant stakeholders in the basin
Monitoring and data management	<ul style="list-style-type: none"> • To improve the recording of information related to number and origin of tourists to region to assist with future planning and to assess environmental impacts
Investments	<ul style="list-style-type: none"> • Conservation of priority cultural sites • Improvements to road and municipal infrastructure to support local tourism development • Private initiatives to improve tourist accommodation

2.3 Management targets and tentative priorities to meet EQOs

Targets to assess the progress of the SAP implementation are essential in providing both financial sponsors of the work and the wider stakeholder community with updated information. The EQOs and their associated management activities and targets are presented in Annex 1 together with potential indicators for assessing the success of each activity.

During the initial problem identification phase for the TDA, three National stakeholder workshop were held and criteria to determine the potential transboundary impacts were discussed and assessed by the group. The information gained from these stakeholder workshops helped guide the TTT in the assessment of the urgency for each management action and guided the priorities presented below in the tables.

The tables presented below for each Management Target present a preliminary set of priorities and an indication if the target is a short (< 5 years), medium (5 – 10 years) or long-term (>10 years) target.

The following tables indicating the priorities of the management actions to meet the EQOs, have been prepared on the basis the criteria reviewed at national stakeholder meetings and expert judgement to enable a discussion to be held at the trilateral meeting before being finalised. These are presented as a guide for discussion at the planned tri-lateral stakeholder workshop and should be further refined by the PPMC.

Prespa Lakes Basin

Strategic Action Programme

Target 1.1:

To reduce anthropogenic impacts and to improve the environmental conditions to ensure good surface and groundwater status² by 2025

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level				
Prepare an integrated transboundary water management plan including flood and draught management and climate change impacts;	•			H
Develop common programs to reduce impacts of industry, agriculture and animal husbandry upon the water quality and quantity	•			M
Provide training programs in integrated river basin planning	•			M
Development of the hydrological model for Prespa basin and a water balance study;	•			L
Establish and strengthening of networking between national institutions	•			M
Assigning responsible experts for communication and reporting of extreme events		•		H
Design and implement comparable economic instruments to address water use and pollution, recognising the differing economic conditions between the countries		•		L
Implement transboundary monitoring programme	•			H
Albania				
Study on identification, assessment and mitigation of point and non-point sources of pollution;	•			H
Develop and enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry)		•	•	H
Provide necessary equipment and staff for improvement of the national monitoring system;	•			H
Reforestation activities to prevent erosion and to restore critical watersheds and springs	•			M
Rehabilitation of the irrigation systems		•		M
Construction of wastewater collection and treatment facilities around Prespa lakes;		•		M
Implementation of pilot/Programme for demonstration projects on rationale use of pesticides and fertilizers.	•			H
The former Yugoslav Republic of Macedonia				
Develop and enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry)		•	•	H
Implement and enforce IPPC licensing		•		H
Provide necessary equipment and staff for improvement of the national monitoring system;	•			H
Implementation of the programme for restoration of Golema Reka	•			M
Improve the irrigation scheme	•			M
Implementation of pilot/Programme for demonstration projects on rationale use of pesticides and fertilizers	•			H
Extension of the existing WWTP with tertiary treatment		•		M
Construction of wastewater collection and treatment systems in settlements around Prespa Lake,		•	•	M
Maintenance of the existing WWTP	•	•	•	H
Greece				
To continue the management and implementation of relevant legal requirements and the licensing, identification, assessment and mitigation of point and non-point sources of pollution	•	•	•	H
Continue the implementation of legal frameworks (including EU directives) and enforcement of regulations on discharge of effluents from point sources (settlements, industry and farms)	•	•	•	H
Provision of trainings to the farmers on the use of pesticides, GAP / Integrated Management System continuation and expansion to additional agricultural areas;	•	•	•	H
Provide necessary equipment and staff for improvement of the national monitoring system;	•			M

² According to the definition established in the EU WFD 2000/60/EC

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Programme for demonstration projects on environmentally friendly cultivation methods and ecological product labelling	•			H
Maintenance of the existing WWTPs.	•	•	•	H

Target 2.1:

To reduce land degradation by 20% and to delineate valuable land use (high quality agricultural land, protected areas and valuable landscapes) by 2020

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level and common to all countries				
Prepare transboundary land management plan with an emphasis on buffer zones, nutrient protection zones and water protection zones.	•			M
Transboundary study on conservation of the rural landscape and restoration of hedgerows	•			L
To develop a common approach to establishing and promoting areas to be maintained as open areas and not for development	•			M
Enforce regulations prohibiting the construction of housing and infrastructure outside the boundaries of settlements	•	•	•	M
Enforcement of prohibited gravel and sand extraction outside assigned zones	•	•	•	M
Maintenance of buffer / protection zones around water supply sources and protected areas including wetlands	•	•	•	M
Harmonize and improve methodology for collection and processing of data for land use management and use of remote sensing / GIS as a planning tool	•			M
Implement the transboundary monitoring system	•	•	•	H
Development of regional infrastructure and transportation networks		•		M
Reclamation of degraded forest land, abandoned agricultural land and illegal dumps	•	•		H
Implement sound municipal and hazardous waste management systems in order to prevent and mitigate land degradation	•	•		M
Development of priority municipal and local transportation systems	•			L

Target 3.1:

To ensure all key threatened and endemic species are maintained or restored at viable/acceptable levels by 2020

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level				
To prepare, adopt and implement a transboundary biodiversity conservation strategy to preserve threatened and rare species and habitats within hotspots identified in the transboundary catchment area	•			H
Establish ecological coherent network on the basis of protected areas, protected forests, wetlands, and river flood plains that ensure conservation and spatial interrelation between typical and rare components of the environment		•		M

Prespa Lakes Basin

Strategic Action Programme

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Introduce and harmonize the principles of sustainable and ecosystem oriented forestry in order to maintain forest diversity at the stand and landscape level in terms of structure, composition and function.		•		H
Strengthen the scientific basis of conservation policy and integrate aquatic and terrestrial living resources management into other sectors;		•		M
Introduce economic instruments to provide alternative funding sources for operations of bodies managing the protected areas	•			M
Establish and strengthening of networking between national institutions		•		M
Harmonization of transboundary control and restriction modalities as well as legislation (forests, wildlife and fisheries	•			M
Delineation of protected spawning grounds	•			H
Control of illegal fishing during the ban period in May-June in both Macro and Micro Prespa	•	•	•	H
Joint pilot project for phasing out of uncontrolled collection of medicinal plants and switching to cultivation, certification and marketing;	•			M
Establishment of a transboundary EIA procedure (Espoo Convention), including Social Impact Assessment and Strategic Impact Assessment;	•			M
Harmonize and improve methodologies for collection and data processing as being agreed by the transboundary group	•	•	•	H
Develop target monitoring and conservation programmes for endangered and threatened species; Develop inventory, classification and mapping system for Prespa park habitats	•			H
Monitoring of the ecological impact of the introduction of exotic fish species;	•			H
Albania				
Control the use of forest resources by means of a licensing system	•	•	•	H
Estimation of carrying capacity of forests against the grazing and alternative methods for the protection of pastures from erosion.	•			M
Enforce regulations on overexploitation of forests (cutting or grazing	•	•	•	H
Management plan for the Prespa National Park;	•			H
Enforce regulations prohibiting illegal hunting and fishing	•	•	•	H
Rehabilitation and restoration of forests		•		M
Programme for demonstration projects on reducing the impacts of agriculture land, (including the improving the ecosystem and culture diversity) grazing, and hunting on loss of biodiversity	•			H
The former Yugoslav Republic of Macedonia				
Institutional strengthening and capacity building activities for national and local stakeholders	•			M
Implementation of national legislation in the field of EIA and ESPO convention and strengthening regional EIA procedures;				M
Preparation of national lists of threatened species and a list for the Prespa region in regard of Annexes of Bird and habitat Directives	•			L
Preparation and adoption of management plan for Ezerani protected area;	•			H
Implementation of the programme of measures for the protection of Golema Reka, a spawning habitat of significant portion of Prespa fish.	•			H
Implementation of management interventions in the Ezerani wetland	•	•	•	H
Greece				
Implementation of National Park legal framework, reporting and conservation management and protection of Natura 2000 habitats and species according to EU directives and national legal regulations, including the implementation of measures to preserve the endemic subs-species of trout in the Agios Germanos River	•	•	•	H

2 Strategy for Environmental Protection for Prespa Lakes Basin

41

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Continuation and improvement of river buffer management within 50 m – especially in areas with high slope – which include the promotion of sustainable practices for erosion protection measures, regulation of road engineering, wood harvesting and other activities.	•	•	•	H
Promotion of ecosystem oriented silvicultural methods, such as maintaining naturally occurring forest diversity at the stand and landscape level in terms of structure, composition and function, as well as maintaining specific habitats for rare and endangered species of plants and animals	•			H

Target 4.1:

To ensure sustainable and ecosystem oriented forestry

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level and common to all countries				
Study on the sustainable management of forests in the Prespa Lakes watershed (harvesting, fire fighting, anti-erosion, flood prevention)	•			M
Identification of all transboundary forest management activities as related to carbon storage and release		•		L
Implement transboundary sustainable forestry policies into national forest management plans	•			M
Enforce measures against illegal wood harvesting and grazing	•	•	•	H
Programme for demonstration projects to increase efficiency and reduce waste in lumber processing	•			H
Rehabilitation and restoration of forests (with emphasis on Albanian park of the Prespa Park)		•		M

Target 4.2:

To foster sustainable fisheries

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level and common to all countries				
Develop transboundary fisheries management plan	•			H
Decision on fishing quotas for all three states	•			H
Harmonize fishing regulations	•			M
Harmonize stocking practices	•			H
Capacity building of fisher organizations (financially; skills/knowledge; organizationally)		•		M
Enforce the closed season in all the three countries	•	•	•	H
Introduce economic instruments towards investing into storing and processing facilities, sales centres, spawning and nursery grounds for fish stocks	•			M
Enforce the utilization of sustainable fishing technologies	•	•	•	H
Develop and maintain fish database for planning the fish quantity and regulating the number of fishing licensing		•		M
Establish at least three fish breeding stations for restocking of the lake by 2010		•		L

Prespa Lakes Basin

Strategic Action Programme

Target 4.3:

To enhance sustainable agriculture

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level and common to all countries				
To prepare a common operational plan to develop and encourage sustainable best agricultural practices and/or organic farming in the Prespa Lakes Basin	•	•		M
Develop community-based agricultural/ animal husbandry networks for transfer of technology	•			M
Programme for demonstration projects on cultivation varieties in order to reduce the monocultures (e.g. increase of vineyards against the wheat monoculture in Albania)	•	•		H
Pilot projects for land consolidation/co-operative to create technical improvements	•	•		M

Target 4.4:

Sustainable energy consumption and renewable sources

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level and common to all countries				
Feasibility study on the potential for use of alternative types of energy in the Prespa Park basin		•		M
Feed-in tariffs	•			L
Programme for demonstration projects encouraging technologies for energy efficiency and use of renewable energy sources	•	•		M

Target 4.5:

Conserving the cultural heritage and enhancing eco-tourism development

Activity/sub-target	Short-term target	Mid-term target	Long-term target	Priority
Transboundary level and common to all countries				
Implementation of the trilateral tourism development strategy	•	•		M
Capacity building on the alternative tourism for all the relevant stakeholders in the transboundary area	•			M
Implement programmes on the conservation of selected priority cultural sites	•	•		M
Road and municipal infrastructure in support of the local tourism development		•	•	L
Private initiatives towards improving the tourist offer (accommodation capacities and complementary tourist products)	•	•	•	L

2.4 Stakeholder engagement

Full public involvement is required at all levels in order to successfully implement the SAP. This need is clearly acknowledged in Article 11 of the Joint Agreement ‘...promotion of public, NGO and other stakeholders’ participation in the protection of the Lakes...’

Public / stakeholder involvement at national and local levels should be guided also by implementation of national legislation, EU directives and international agreements (e.g. Aarhus Convention) to which all countries are parties. Barriers to public engagement including linguistic, legal, institutional operational, as well as differing perspectives among stakeholders, politicians and policy makers, need to be overcome to achieve a wider public ‘buy-in’ to the aims and achievements of the PPCC (and the PPMC). It should be acknowledged that effective engagement of civil society in planning, management and decision making can only be accomplished by an on-going encouragement, strengthened capacities and financial commitment from the countries and international donors.

Under the Athens / Petersberg Process two capacity building workshops³ have been held in the region which provided overall guidance and approaches from other shared basins.

Public involvement and stakeholder awareness plans and activities should be fully integrated and consistent with the Communication Strategy developed for the PPCC by the UNDP/GEF Project.

³ *Stakeholder involvement in Transboundary water resources management, 25-27 March, 2008. Podgorica*

International Roundtable – stakeholder / public participation for the integrated management of shared water resources – The case of the Mesta / Nestos River Basin. 15-16 April, 2008 Sofia

Prespa Lakes Basin

Strategic Action Programme



3. Institutional Framework of SAP implementation

At the start of this SAP development the work progressed under the assumption that the future co-ordination would be undertaken by the PPCC. The signing of the Joint Agreement in February 2010 that will lead to the formation of a Prespa Park Management Committee with defined roles and financing will aid the sustainability of the work undertaken by the UNDP/GEF project and this SAP.

The Joint Agreement defines the PPMC as having international legal capacity to exercise its functions and specifies the composition of the Committee with the expectations that the Committee will meet twice per year. The PPMC is expected to monitor and co-ordinate the activities carried out for the protection and sustainable development of the Prespa Park Area in the implementation of the Agreement and of the Strategic Action Plan (2002). The Committee is expected to identify and recommend to the Parties and other interested actors next steps and necessary actions, measures and activities for the implementation of the Agreement, and to invite them to co-operate and co-ordinate on joint projects.

The PPMC will be assisted by a Secretariat consisting of one representative of each state and headed by an expert in transboundary co-operation on protected areas and river basin management.

An important management action that was discussed at the final stakeholder workshop was the need to establish (or strengthen) a network of national institutions across that could assist the PPMC with data sharing issues and interpretation on a wide range of topics. This network would assist the technical working groups established under the PPCC (specifically the Working Group on Monitoring and Conservation and the Water Management Working Group) and will provide a valuable resource for conducting joint studies.

At the time of finalising this version of the SAP, there had been no meetings of the PPMC so the future role of the PPMC, the Working Groups and the SAP-recommended Network of National Institutions will need to be further discussed.

As this SAP provides a transboundary framework for actions to protect and preserve the important natural environment of Prespa Lakes Basin it is expected that the PPMC will take a key role in co-ordinating the implementation of the regional SAP and the required development of detailed National Action Plans consistent with the SAP.

Prespa Lakes Basin

Strategic Action Programme



4. Financing the SAP

The sustainability of the SAP interventions will be highly dependent on national sources (both state and private) in all the Prespa countries, however it is expected that both Albania and the former Yugoslav Republic of Macedonia will need considerable international assistance to enable the process of SAP implementation to begin.

There is inevitably an iterative process in developing and financing an agreed SAP. The initial steps are to agree the framework for the SAP pro-

cess (this document) which outlines the values and the threats to the ecosystem against potential actions to mitigate these threats. Following agreement of the principles and outline actions, more detailed National Action Plans, complementary to the SAP, will be required. It is important that these are co-ordinated (ideally by the PPMC) to ensure that the needs of Prespa Lakes Basin are reflected in larger National Plans.

The TTT has prepared an outline financing report for implementing the measures identified to meet the Environmental Quality Objectives (Annex 2). This report indicates the potential sources of finance from both international and national sources.

The main active donors in the region identified by the TTT include:

Multi-lateral	Bilateral and Foundation support
<ul style="list-style-type: none"> — UNESCO World Heritage Programme — GEF Small Grants Programme — NATO Security through Science Programme — EU – Interreg — EU – Cadispa Programme — EU – Petra Programme — ENVISEC 	<ul style="list-style-type: none"> — CRIC — KfW — GTZ — Netherlands Development Organisation — Frankfurt Zoological Society — German Embassy — Norwegian Research Council — SNV — Theseus Programme — SDC — SIDA — Tour du Valat — MAVA Foundation — Henrich-Boll Foundation — Succow Foundation — EURONATUR — WWF

The objectives of the SAP and the work of the PPCC/PPMC should continue to be emphasised at meetings of the Athens/Petersberg Process where potential donors may participate. The Prespa Lakes Basin should also take note of the recent meeting held for donors in Belgrade (18/19th May 2010) on financing the Programme of Measures for the Danube River Basin Management Plan. Lessons learned from this initiative could be a source of guidance for the Prespa Lakes Basin financing.

The financing for the operation of the PPMC is defined in the Joint Agreement.

Prespa Lakes Basin

Strategic Action Programme



5. Monitoring the Implementation of the SAP

Monitoring the implementation of the SAP will be under the co-ordination of the PPMC. The PPMC will collect data from a range of environmental and other parameters to assist with establishing progress. Information on progress will be reported in the PPMC minutes and presented, for wider stakeholder assessment, on the Prespa Park website.

Monitoring and Evaluation (M&E) indicators are tools to assess and verify progress towards the goals of this SAP. GEF has established three types of indicators to monitor the successful outcomes of the EQOs. Preliminary indicators, for Process, Stress Reduction and Environmental / Socio-Economic Status are presented in are given below.

- **Process Indicators** focus on the process or outputs that are likely to lead towards a desirable outcome. They demonstrate actual on-the-ground, political, legislative and regulatory process in resolving trans-boundary problems in the Prespa Lakes Basin. They should assist in tracking the institutional, policy etc. reforms necessary to bring about changes on the ecosystem.
- **Stress Reduction Indicators** relate to project objectives or outcomes. In particular they focus on concrete actions that reduce environmental stress. Stress reduction indicators show the rate of success of specific on-the-ground actions being implemented by the collaborating Prespa Lakes Basin countries.
- **Environmental Status (and Socio-economic Status) Indicators** are goal oriented and focus on the actual improvements of ecosystem quality (or socio-economic improvements). They are the measures of the actual success in restoring or protecting the targeted ecosystem element. There maybe a significant time-lag between stress reduction interventions and the response from the environment.

To adequately measure the environmental status indicators the Prespa Lakes Basin countries will have to fully harmonise their sampling, analysis and assessment methods to ensure comparable data is being recorded which is recognised in the management actions of this SAP and is an on-going activity of the PPCC/PPMC Working Group on Monitoring and Conservation.

A preliminary set of indicators for each management action has been developed by the TTT and is included in Annex 2. This presents the expected timeline for implementation, initial budget estimates (based on national stakeholder discussions as described in the Annex 2), responsible institutions, potential uncertainties and expected results. It is repeatedly stated in this SAP that a framework is presented here that needs further discussion and agreement under the co-ordination of the PPMC and that further National Action Plans will be required to establish the detail of these management interventions.

A key first step to further developing an appropriate M&E approach will be the establishment of baseline values for each indicator and ensuring that the indicators selected are as quantifiable as possible. This will be undertaken during the initial stages of SAP implementation.

A preliminary set of M&E indicators (aimed more at the Transboundary level) to measure the success of the Strategic Action Programme implementation are proposed below.

5.1 Process Indicators

1. Approval / adoption of this SAP by all countries
2. Implementation of the SAP by all countries
3. Agreed baseline established for assessing the indicators in SAP implementation
4. EQO 1: To preserve the ecological values of surface and groundwater resources
 - Adoption and implementation a common transboundary water management plan
 - Adoption of agreed programmes to reduce pollution and water demand from industry and agriculture
 - Implementation of transboundary monitoring programme
5. EQO 2:
 - Harmonising methodology for collection of data for land use
 - Development of priority municipal and local transport systems
6. ECQO 3
 - Agreement on transboundary biodiversity strategy
 - Agreement on network of protected areas
7. EQO 4
 - Implementation of sustainable forest management policies into national plans
 - Agreement on transboundary fisheries management plan
 - Common operational plan for organic farming

5.2 Stress Reduction Indicators

1. EQO 1:
 - Enforcement (prosecutions) on effluent regulations
 - Ha of land reforested
 - Nitrogen/phosphorus and BOD reduction from new/improved wastewater treatment systems
 - Ha of land under Best Agriculture Practices with reduced N/P and pesticide use
 - Cubic metres of water saved through drip irrigation
2. EQO 2:
 - Enforcements on gravel extraction
 - Number and size of buffer strips created
 - Area and number of reclaimed degraded forests, illegal dumps etc.
 - Number of solid waste management systems introduced

3. EQO 3

- Area increase under sustainable forestry
- Number / value of economic instruments providing alternative funding for management
- Control of illegal fishing (prosecutions)
- Pilot projects reducing medicinal plant collection

4. EQO 4

- Demonstration projects to reduce waste in lumber processing
- Area of forests rehabilitated
- Enforcement of fishing practices (net size etc.)

5.3 Environmental Status / Socio-Economic Status Indicator

1. Increase in trophic status
2. Improved (measurable) ecological or biological indices
3. Reduction in alien species
4. Increase in fishing resources
5. Stakeholder awareness raised and documented
6. Improved local community income from fishing, agriculture etc.
7. Reduced number of threatened species

Prespa Lakes Basin

Strategic Action Programme



6. The Next Steps

The future of the SAP and the SAP implementation shall be under the co-ordination of the PPMC as the body recognised by the Joint Agreement. Following the approval of this Strategic Action Programme the detail of the specific management actions identified in Annex 1 will need to be elaborated. These more detailed plans will be at both the transboundary level and through country specific National Action Plans. This will enable a more precise cost estimate to be prepared on the basis of specific proposals and financing options (both international and national) can be advanced.

In summary the recommended next steps to implementing the SAP include:

1. Discussion, revision and adoption of this SAP by the PPMC
2. Assignment of national and regional responsibilities
3. Preparation of National Action Plans corresponding to the expectations of the regional SAP (including detailed costs for management actions)
4. Elaboration of specific proposals identified in the National Action Plans/SAP
5. Implementation of an agreed Monitoring and Evaluation programme under the co-ordination of the PPMC.
6. Establishment of a stakeholder consultative body linked to the PPMC

The Management Action Tables presented in Annex 2 provide an initial indication of the timescale for the proposed interventions, however this will need to be refined under the co-ordination of the PPMC and through the National Action Plans.

Annex 1 Glossary of Terms used within SAP

Major sources of terminology definitions (and citations within)

- EIONET GEMET THESAURUS
<http://www.eionet.europa.eu/gemet/>
- OECD GLOSSARY OF STATISTICAL TERMS
<http://stats.oecd.org/glossary/>
- Environmental Terminology and Discovery Service (ETDS)
<http://glossary.eea.europa.eu/terminology/>

Terms and definitions

1. Urbanization

<http://glossary.eea.europa.eu/terminology/concept_html?term=urbanisation>

Urbanisation is the increase in the proportion of people living in towns and cities. Urbanisation occurs because people move from rural areas (countryside) to urban areas (towns and cities). This usually occurs when a country is still developing.

2. Green Belt

<<http://stats.oecd.org/glossary/search.asp>>

A green belt is a zone near a city that is restricted as regards any further extension of urban area. It serves as a buffer separating sources of pollution from the city population.

3. Greenbelt

<<http://www.eionet.europa.eu/gemet/concept?cp=3754&langcode=en&ns=1>>

1) An area of land, not necessarily continuous, near to and sometimes surrounding a large built-up area. The area is kept open by permanent and severe restriction on building. 2) An irrigated, landscaped, and regularly maintained fuelbreak, usually put to some additional use, such as a golf course, park, or playground. 3) A planning designation that mandates the setting aside of otherwise developable lands for the purpose of creating natural or semi-natural open spaces. Greenbelts are usually linear parkways, tracts, or belts of land running through or around urban conurbations. 4) An area or zone of open, semi-rural, low-density land surrounding existing major urban areas, but not necessarily continuous. The zone is to be kept open by permanent and severe restrictions on new development.

4. Land Consolidation

< <http://www.eionet.europa.eu/gemet/concept?cp=4611&langcode=en&ns=1> >

Joining small plots of land together to form larger farms or large fields.

5. Land Management and Planning

< <http://www.eionet.europa.eu/gemet/concept?cp=13102&langcode=en&ns=1> >

Operations for preparing and controlling the implementation of plans for organizing human activities on land.

6. Physical Planning

< <http://www.eionet.europa.eu/gemet/concept?cp=6225&langcode=en&ns=1> >

A form of urban land use planning which attempts to achieve an optimal spatial coordination of different human activities for the enhancement of the quality of life.

7. Urban Development

< <http://www.eionet.europa.eu/gemet/concept?cp=8804&langcode=en&ns=1> >

Any physical extension of, or changes to, the uses of land in metropolitan areas, often involving subdivision into zones; construction or modification of buildings, roads, utilities and other facilities; removal of trees and other obstructions; and population growth and related economic, social and political changes

8. Urban sprawl

< <http://www.eionet.europa.eu/gemet/concept?cp=7625&langcode=en&ns=1> >

The physical pattern of low-density expansion of large urban areas under market conditions into the surrounding agricultural areas. Sprawl lies in advance of the principal lines of urban growth and implies little planning control of land subdivision. Development is patchy, scattered and strung out, with a tendency to discontinuity because it leap-frogs over some areas, leaving agricultural enclaves.

Annex 2 Ecological Quality Objectives Management Action Table

Technical draft of the EQOs for the Strategic Action Programme on the Protection of the Prespa Park

List of Abbreviations

AEF:	Agency of Environment and Forest
CWRD:	Central Water Resources Directorate (of GRMoECC)
GRMoEECC:	Greek Ministry of Environment, Energy and Climate Change
GRMoRDF:	Greek Ministry of Rural Development and Food
EQO's:	Environmental Quality Objectives
FD:	Forestry Directorate
FS:	Forestry Services
GEF:	Global Environmental Fund
GTZ:	German Technical Cooperation
IEWE:	Institute of Energy, Water and Environment
KfW:	German Development Bank
IUCN:	International Union for Conservation of Nature and Natural Resources
LUAC:	Local Union of Agricultural Cooperatives
MAFCP:	Ministry of Agriculture, Food and Consumer Protection
MAWWE:	Ministry of Forestry and Water Economy
MCWG:	Monitoring and conservation Working Group
ME:	Ministry of Economy
MEFWA:	Ministry of Environment, Forest and Water Administration
MEPP	Ministry of Environment and Physical Planning
METE:	Ministry of Economy, Trade and Energy
MF:	Ministry of Finance
MH:	Ministry of Health
MoP:	Municipality of Prespa
MPP:	Major Perceived Problems
MPWTT:	Ministry of Public Works, Transport and Telecommunication
MTCYS:	Ministry of Tourism, Culture, Youths and Sports
NCW:	National Council of Water
NPO:	Non-for-profit Organisation
PADA:	Prefecture Agricultural Development Agency
PDESP:	Prefecture Directorate of Environment and Spatial Planning
RDESP:	Regional Directorate of Environment and Spatial Planning
PNFMB:	Prespa National Forest Management Body
PPD:	Prefecture Fisheries Directorate
PPCC:	Prespa Park Coordination Committee
RWRD:	Regional Water Resources Directorate
SDC:	Swiss Development Cooperation
TTT:	Technical Task Team
UNDP:	United Nations Development Programme
UNESCO:	United Nations Educational, Scientific and Cultural Organization

1. Introduction

The completion of the Strategic Action Plan (SAP) for the Sustainable Development of the Prespa Park in 2001, has been one of the main early accomplishments of the Prespa Park Coordination Committee (PPCC). The SAP lays down a joint vision for the transboundary protected area, identifies the main management issues and aims to guide future activities in Prespa. What is significant is that the SAP was developed with the participation of experts from all three countries and endorsed following consultations with local, regional and national stakeholders in each side of the basin.

This report is part of the Transboundary Diagnostic Analyses (TDA) / Strategic Action Programme (SAP) which aims, among others, at reviewing the progress and updating the SAP (2001). Quick analysis on the progress of the implementation of the previous SAP has been carried out in view of types of activities and sources of their financing in order to assess the dependence on aid assistance and the possibility to attract a stable, yet diverse funding from national and international sources.

The Transboundary Diagnostic Analysis (TDA) Report was developed as a summary of the detailed national studies and reports prepared by Technical Task Team (TTT) members, which all, with the exception of the Team Leader (a Hungarian Expert) come from the littoral countries of the Prespa Lakes Basin (Albania, Greece and the former Yugoslav Republic of Macedonia). The main topics dealt with these National Analysis Reports were the analyses of the existing data, filling data and information gaps and the identification of Major Perceived Problems (MPP).

The identification and the justification of the Major Perceived Problems (MPP), based on subsequent in-depth analyses, was the key step in the TDA process. As a result, the significance of the MPP was substantiated on environmental, economic, social, and cultural grounds. In addition, the cause-effect chain underlying the identified MPPs, and the determination of their relationship with the deterioration of the basin's water resources was carried out. An outcome of this exercise was a general problem hierarchy matrix, being part of national reports (see attached in Annex X).

The TDA emphasized the transboundary aspect of the Prespa Lakes basin, as a general framework of the Strategic Action Programme (SAP). The SAP will, therefore, entail a number of transboundary interventions focused on the integrated water and land management, as well as conservation of biodiversity, which are to be designed to obtain national, regional and global benefits. As a consequence, the SAP will provide a common framework for further preparation of country specific National Action Plans, the preparation of specific proposals along with more precise cost estimations, as well as the organisation of information provision to monitor SAP implementation, the organisation of stakeholder engagement, etc,

This technical report is bridging between the TDA and SAP. It captures a vision (section 3.1) for the future state of the environment in the Prespa Lakes basin, which provides abundant biologi-

cal and other resources as a base for the sustainable development of the local population. Thus, in order to materialize this vision, the MPPs are converted into positive statements arriving at Environmental Quality Objectives (EQOs) (chapter 3). Recollection of MPPs is presented in section 2.2, along with the key inputs in formulating the EQOs (section 2.1). These key inputs comprise of the analyses of the SAP (see above), the envisaged principles and the institutional framework for ecosystem management in the Joint Statement (2nd February 2010) and the recommendations of the completed and ongoing projects in the scope of the UNDP/GEF transboundary and national projects / components.

The key output of this stage of the process is the framework of EQOs, short term targets (the targets are discussed in section 2.3), activities, timelines, indicators of success, responsible institutions, uncertainties and expected results, to serve as a base for the definition of the SAP. In addition, estimated costs are attached to each activity. Explanation of used methods to determine the approximate costs are given as well (in Annex X).

2. Methodology

Environmental Quality Objectives (EQOs) are subject to a broad stakeholder agreement on the major environmental objectives of the region. They contribute to the transboundary communication of the desired state of a particular environment or component of the environment within the Prespa Lakes watershed. Furthermore, they represent consensus views of environmental priorities, or visions of what the environment should look like in the future. EQOs are generally not set by regulation (unlike “Environmental Quality Standards”) and often are cast in the rather vague form of generally desirable objectives, rather than as more concrete quantitative measures. However, most of them may refer to EU legislation, due to the need to pursue an integrated water management in the Prespa Lakes catchment and therefore to implement the Water Framework Directive. In addition, the most relevant pieces of EU legislation for the Prespa Park area include the Habitat and Bird Directives.

This section discusses how the major interventions are derived through the use of overarching policy-level Environmental Quality Objectives (EQOs) and associated targets.

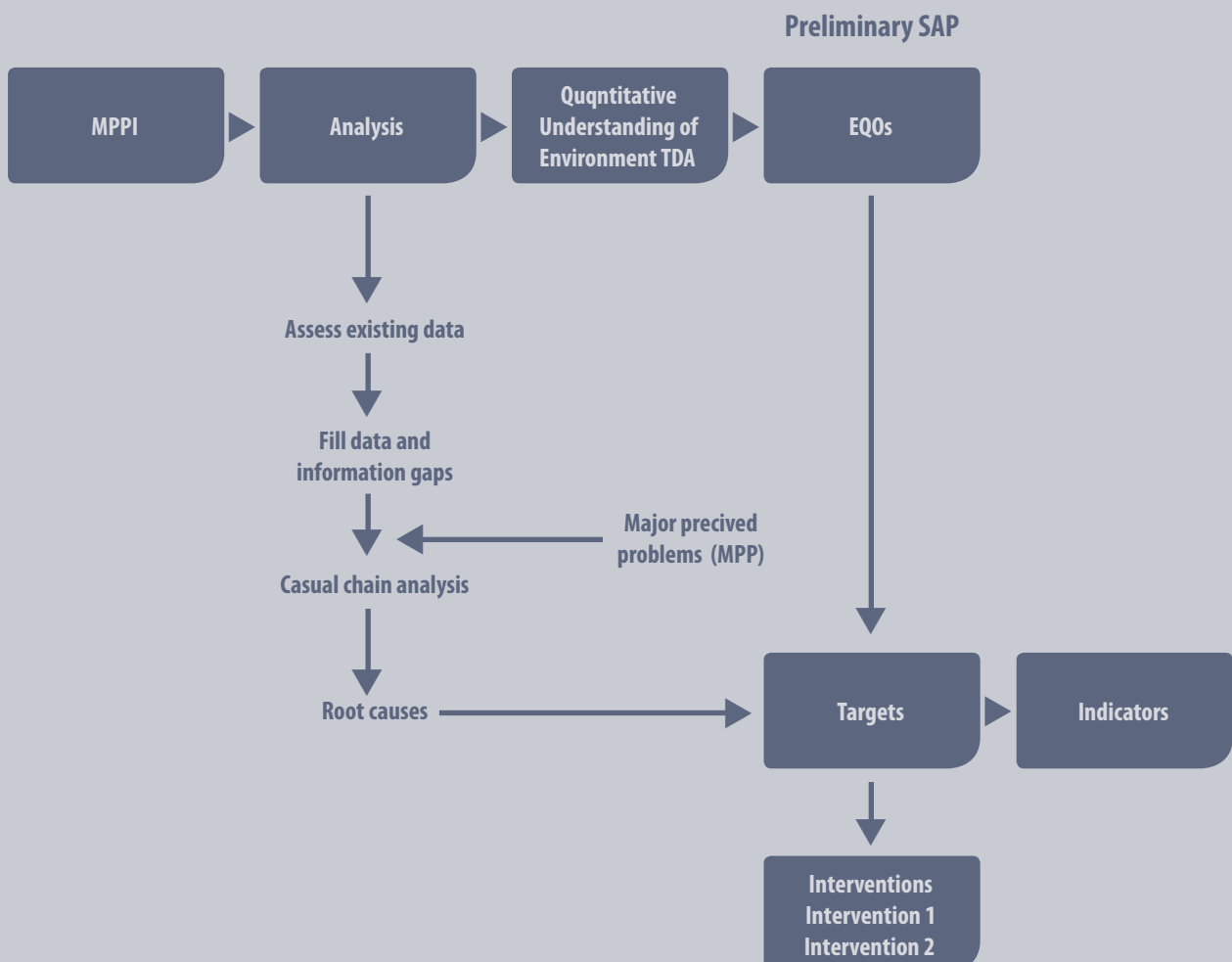
The EQO is the bridging mechanism to move from the understanding of the primary problem areas, root causes, and threats into the SAP, where specific transboundary actions and interventions need to be identified. The root causes, already determined in the previous stage (National Reports and the TDA respectively), are converted into targets of interventions in order to provide for sustainable and effective results.

Within each EQO (which is a broad policy-oriented statement), several specific targets are identified. Each target generally has a timeline associated with it, as well as a specific level of improvement / status. Thus, the targets illustrate the logic chain for eventual achievement of the EQO. The targets tend to be achievable at a reasonable pace and cost.

After the identification of the targets, specific or concrete steps (activities and/or interventions) have been developed for the next few years to achieve these targets. For the purposes of the EQOs framework, the time frames were limited to the first five or ten year periods, depending on the priority and complexity of the necessary actions / interventions.

The following diagram illustrates the overall TDA / SAP process, including the transition between the identification of transboundary concerns (major perceived problems), the root causes of each problem. The EQOs convert the problem into a positive statement, while management targets originate from root causes. Thus, specific activities / interventions are to be undertaken to meet the EQOs. In addition, selected indicators are foreseen to measure the progress with regard to meeting of each EQO.

TDA Flow Diagram



2.1 Key inputs to formulate EQOs

Aiming to continue the previous and ongoing efforts with regard to joint actions towards promoting and conserving the natural and cultural values of the Prespa Park, this part of the TDA / SAP process is aligned to the previous SAP, the Joint Agreement (signed by the Ministers of the three states sharing the Prespa Lakes area on 02.02.2010 towards an effective conservation of the Prespa ecosystem as a basis for the sustainable development of the area) and the completed, as well as ongoing projects, within the national and transboundary component of the UNDP/GEF programme.

These key inputs to the formulation of the EQOs take into account the following:

- The still relevant planning concept of the previous Strategic Action Plan (2001) in view of well identified transboundary concerns, further addressed via the development of tri-lateral common policies; these policies are to be translated into strategic planning documents, legislation and its enforcement and implemented through national interventions in the domain of public and private sector by means of bankable projects⁴.
- The general context of the Joint Agreement as a legally binding platform, setting the basic obligations of the littoral countries regarding meeting the environmental standards, exchanging data and information, as well as its specific stipulations on setting the Prespa Park Management Committee as an international legal capacity of a plurilateral institution.
- The projects and initiatives which have been carried out in the scope of the UNDP/GEF project (transboundary governance, transboundary fisheries and fish management, transboundary monitoring system, transboundary tourism strategy, transboundary communication strategy, transboundary water management initiative, as well as national components' projects in the former Yugoslav Republic of Macedonia and Albania, addressing specific MPPs);
- Other relevant projects which mainly contributed to the drafting of the National Reports and are therefore listed as references in the TDA report accordingly.

In the following lines the method of integrating these inputs into the present approach is described.

2.1.1 Comparison between SAP and TDA/SAP

The progress of the implementation of the SAP was recorded, and pending interventions were assessed in terms of their applicability to the present trends. As a result, a merger of former and newly designed actions is represented in the EQOs framework.

Comparison between the methodological approaches of the SAP (2001) and the present TDA/SAP project was carried out in order to derive an understanding of drivers behind the definition of the objectives and envisaged interventions in the previous plan.

The results of this comparison are given in the following table:

⁴ This approach is being recognized and applied in the Joint Statement.

Table 1:

Comparison between the SAP concept (2003) and the present TDA/SAP

Components	SAP (2001)	TDA/SAP (2010)
Description of the Prespa Park basin	<ul style="list-style-type: none"> Overall presentation of the management regimes, abiotic, biotic, anthropogenic environment, as well as strategic axes (basic assumptions) upon which the protection measures for the Prespa Park should be built 	<ul style="list-style-type: none"> Detailed description of the physical and geographical characteristics, the socio-economic situation, biodiversity, the status of nutrient and toxic pollutants, the institutional setting and stakeholders, and the public perception of environmental status, causes and responsibilities as described in the TDA document and national reports
Transboundary Major Perceived Problems	<ul style="list-style-type: none"> Developed a list of impacts for selected policy fields (status of biodiversity, status of natural resources, spatial planning, waste, water quality, water quantity, economic prosperity, convergence between countries, education, empowering of citizens, public health, infrastructure 	<ul style="list-style-type: none"> Major Perceived Problems (MPPs) for a number of sectors (water and waste management, land use management, biodiversity and protected areas, fisheries, forest management, institutional and socio-economic analyses) have been identified and ranked through a broad stakeholder participation; These MPPs have been grouped into three overarching sectors: (MPP 1) decline of water quality and quantity, (MPP 2) inappropriate land use management and (MPP 3) Habitat and biodiversity changes-including alien species introduction
Causal Chain Analyses	<ul style="list-style-type: none"> No causal chain analyses 	<p>A detailed Causal Chain Analysis was carried out (the main discussions upon the national workshops held in littoral countries were highlighting the main problems and root causes, being ranked and agreed; in addition problem hierarchy matrix was produced in national reports.)</p> <p>The exercise was focused on:</p> <ul style="list-style-type: none"> Immediate causes Underlying causes Underlying socio-economic drivers The level of information and data gaps
Stakeholder Analyses	<ul style="list-style-type: none"> Management regimes for protected areas are outlined 	<ul style="list-style-type: none"> Detailed stakeholders analysis regarding their legal / institutional responsibilities
EQOs	<ul style="list-style-type: none"> No EQOs are being set; alternatively, the objectives are drawn from basic assumptions deriving from the appraisal of the area; The following objectives are being set: conservation of ecological values and functions and of the biological diversity in the Prespa Park area; enhance opportunities for the sustainable economic and social development of local societies and the wise use of the natural resources for the benefit of nature, local economies and future generations; preservation of cultural values such as monuments, traditional settlements and traditional human activities and cultural elements that promote the sustainable management of the natural resources; seek participation, cooperation and involvement in decision making and in benefit or loss sharing of stakeholders <p>in the three countries</p> <ul style="list-style-type: none"> Operational targets under each objective and measures to be implemented under each operational target were set. 	<ul style="list-style-type: none"> Based on the MPPs and root causes, EQOs are defined as follows: EQO 1: Preserve ecological values of: surface and ground water resources (affecting MPP1, MPP 3); EQO 2: Improve Land Management and Planning (affecting MPP 2 and 3); EQO 3: Conservation of Prespa Biodiversity and Habitats (affecting MPP 3); EQO 4: Improve livelihoods of local communities (affecting MPP 1, 2 and 3) Management targets are adhered to EQOs, measures and subsequent actions are formulated, indicators, timeframes for implementation are set, responsible institutions are assigned and overall costs are roughly estimated, along with potential sources of funding at transboundary and national level.
Actions and recommendations	<ul style="list-style-type: none"> Detailed actions were outlined in the SAP. The actions were also costed; timeframes were associated with the period of implementation and quantified indicators (whenever possible) with attached milestones (short / long term) for achieving of the desired state of the environmental media 	<ul style="list-style-type: none"> Recommendations and priority actions are briefly outlined for further actions, costing and milestones (part of the SAP, to be developed)

Prespa Lakes Basin

Strategic Action Programme

A general conclusion can be drawn that, apart from the in-depth analyses of the Prespa Lakes basin features, the action plan of the former SAP ranges from scientific basic studies and actions with great transboundary impact (such as preparation of a hydrology study, preparation of a tri-lateral integrated water resource management plan, etc). to specific measures on national level.

The former SAP provided solid grounds for implementation of projects of national and transboundary importance. For example, SPP (Greece) and PPNEA (Albania) carried out a study (2005-6) on the interaction between Lake Micro Prespa and River Devoll. Since 2002 diversion of the river flow, as well as abstractions, have been ceased, but still there are requests/plans for rebound. Since 2005 Micro Prespa lake level is controlled successfully by operating the new sluice gates at Koula (constructed in 2004).

Although the much-needed hydrogeological study for the whole catchment has not been carried out due to its excessively high costs, some efforts were made through the Traborema project.

A transboundary monitoring is currently being set up in Prespa region. Using the EU Water Framework Directive as a guideline, a common monitoring system in the catchment of Lake Prespa was designed. Upstream/downstream water demands were analyzed and environmental pressures and impacts were determined in terms of ecological quality ratios (EQR) for the target region.

At national level, actions regarding reforestation (AL), application of a system for integrated protection and production; implementation of a scheme for environment-friendly cultivation methods (GR) and ecological restoration of Golema Reka (MK) are some of the good examples implemented under the SAP (2001) leading to reduction of the environmental pressures in Prespa area.

While in Greece, due to the resourcefulness of the longstanding NGO – SPP, diversified funding streams for the implementation of the SAP national measures were secured, in the former Yugoslav Republic of Macedonia and Albania the implementation of the national measures was limited to the UNDP/GEF support. Some measures, though, are funded by Swiss (Golema River in the former Yugoslav Republic of Macedonia) and KfW (reforestation in Albania).

Still, despite the great efforts to improve the ecological status of the Prespa area, main problems affecting the Prespa area remains a challenge to be solved in the forthcoming years.

The focus of the present TDA/SAP needs to be placed onto the major requirements deriving from the EU regulations, while integrating a programmatic approach for measures to achieve a well balanced social and economic development in the catchment area. Measures which would impact positively the local livelihoods and are therefore contributing to the sustainable development of the area are seen as an important tool for national and local governments towards diversifying the sources of income for local population, thus reducing the dependence on exploiting the natural resources in the area.

Programmes are to be set up on a transboundary level, as to provide equal grounds for participation of all the littoral countries. Activities to be carried out by the civil society towards bio-

diversity protection are eligible for public funding, while local initiatives providing for fostered economic development can be supported from public funds as demonstration projects only, with the aim to mobilize private funding in the future. Funding mechanisms are to be developed by the Prespa Park Management Committee. An overview of possible funding schemes is given in Annex 3.

2.1.2 Analyses of the UNDP/GEF relevant projects

During the drafting of the National reports, the info from the national components' projects came from the reports on restoration of Golema Reka, the project on management of pesticide packaging, Action plan for sustainable forest management (the former Yugoslav Republic of Macedonia), the report on socio-economic profile and trends of Albanian Prespa ecosystem, reports on the hydrology and water resources and ecosystem assessment (Albania). Most of the sectoral plans and programmes originating from above projects are duly incorporated in the EQOs and associated plan of actions.

As for the UNDP/GEF activities that are carried out on transboundary and national levels, the most relevant background inputs to the development of the TDA/SAP are taken from the project on (i) transboundary fisheries and fish management, and (ii) transboundary monitoring system; in addition, there were a number of precious recommendations to abstract from national components projects linked mainly to socio-economic issues (Albania), agriculture (Albania and the former Yugoslav Republic of Macedonia) and forestry (the former Yugoslav Republic of Macedonia) mentioned above.

2.1.3 Analyses of other relevant projects

As stated before, an exhaustive list of analyzed projects during the drafting of the National Reports feeding the TDA report was presented as bibliography. Most of them were precisely referenced in the text body of reports. Some national activities were focused on rather micro level, dealing with protection of habitats, species, as well as the status of certain environmental media and activities. Some, though, defined broad national, regional and local policies (National and Local Environmental Action Plans, frameworks for land management planning etc.), but most of them were not harmonized throughout the catchment.

Notwithstanding, the present effort aimed at subliming national efforts into a transboundary framework with a notion that Prespa Park can not achieve its common vision without enticing of political mainstreams towards synergetic actions.

2.1.4 The Joint Agreement

The Joint Agreement defines the principles and mechanisms for cooperation between the riparian countries, aiming at ensuring an integrated protection of the eco-system and the sustainable

Prespa Lakes Basin

Strategic Action Programme

development of the Prespa Park area, including the development of integrated river basin and land management plans, according to the international and European Union standards. Thus, the basic obligations and activities for their fulfillment, as well as environmental standards and criteria, deriving from the EU Directives, constitute the backbone of the EQOs and the associated plan of actions.

There is a complex institutional set up required under the Agreement to allow dialogue and the development of a series of decisions and actions in all sectors. The main tasks of the joint body – Prespa Park Management Committee (PPMC) to be established relate to the monitoring and coordination of the activities as being set by the Joint Agreement as well as to the implementation of the Strategic Action Plan (the one that has been developed in 2001/2002 and the present Strategic Action Programme).

The PPMC shall monitor and coordinate the activities carried out for the protection and sustainable development of the Prespa Park Area in the implementation of the Agreement and of the Strategic Action Plan for the Sustainable Development of the Prespa Park. The Committee shall identify and recommend to the Parties and other interested actors next steps and necessary actions, measures and activities for implementation of the Agreement, and invite them to cooperate, to coordinate and carry out joint projects.

2.2 Major Perceived Problems (MPPs)

Prior to elaborating the EQOs framework, an overview of the MPPs which were identified in the previous phase is given in order to follow the links between the previous and present project stage. Namely, the TDA identified a number of major concerns of transboundary importance impacting the ecosystem and biodiversity of the Prespa Basin. These concerns, or Major Perceived Problems (MPP), are then grouped into three overarching sectors.

The Priority Issues of Transboundary Concerns (Major Perceived Problems – MPP) impacting the Basin are:

MPP 1

Decline in water quality and quantity (surface and ground water) due to anthropogenic impacts (pollution from point and non-point sources, impacts of erosion) and natural changes (including the climate change impacts)

MPP 2

Inappropriate land management practises and lack of basin-wide and national spatial planning in terms of ecosystem oriented spatial planning (encompassing spatial distribution of zones with conflicting land use, such as conversion of high quality agricultural land for construction purposes, conversion of wetlands into agricultural land etc.).

MPP 3

Changes in habitats and biodiversity – including the introduction of alien species, due to inappropriate land use, anthropogenic impacts and natural changes (including the climate change).

These MPPs are substantiated in the following lines.

MPP 1: Decline in water quality and quantity (surface and ground water)

Increasing trends in eutrophication due to:

- Nutrient pollution (nitrogen and phosphorus). The main sources were identified as point emissions (both municipal wastewater and industrial) and diffuse sources predominantly from agriculture and inappropriate storage of manure. Main indicators of pollution are: chemicals (nitrogen, phosphorous) and bio indicators⁵.
- Organic pollution - The main impact of this type of pollution is the consequential depletion of the dissolved oxygen concentration in the water and the impact it has on biological species. The absence of wastewater treatment from human settlements (or the failure of the WWTP to operate effectively), as well as inappropriate disposal of excess fruits that were identified as key issues leading to organic pollution. Indicators of impacts are: dissolved oxygen concentration; BOD₅ and COD, and biological quality parameters (e.g. saprobic index).
- Hazardous substance pollution leading to accumulations in the water, sediment and biota from inappropriate use of agrochemicals and industrial processes. Main indicators derive from the list of priority substances⁶ (mainly heavy metals and organic compounds).
- Sediment transport. Sediment from eroded agricultural land and poor forest management can transport nutrients and micro-pollutants to the lake. In addition silting of the lake (as in the case of the diversion of the Devoli River that has resulted in a marsh area in Micro Prespa) can change the characteristics of the ecosystem.

Decline in water quantity leading to changes in the shoreline habitat due to:

- Changes in hydrological system (outflow through groundwater pathways) including climate change impact
- Over exploitation of surface and ground water resources.

MPP 2: Lack of basin-wide and national spatial planning in terms of ecosystem oriented spatial planning, as well as insufficient development of regional / local services and infrastructure,

Inadequate policy and legislation measures leading to the unregulated expansion of settlements, loss of valuable landscapes and therefore the traditional outlook of the Prespa Park, as well as, underdeveloped infrastructure, resulting in:

- Fragmentation of landscape
- Decrease of natural/semi-natural areas

⁵ Main pollutant groups and their indicators were agreed in the final list of indicators which has been developed by the Monitoring and Conservation Working Group (MCWG) - the team of experts dealing with water resources. This statement does not seem accurate; is this about the work on transboundary monitoring?

⁶ List of indicators for hazardous substances has not been developed by the MCWG; only Cu and Zn have been envisaged so far, while for organic pesticides it is proposed to set a list of most commonly used molecules in the area for bean and apple. As above

- Extraction of gravel and sand outside dedicated areas
- Housing outside approved plans
- Loss of characteristic architectural elements
- Insufficient exchange of goods and services due to the lack of access to transportation systems
- Health and pollution problems due to insufficient wastewater treatment, as well as municipal and hazardous waste management.

MPP 3: Habitat and biodiversity changes-including alien species introduction

Major threats to the biodiversity of the area include fragmentation of habitats due to inadequate land use planning, inappropriate water and waste management, occurrence of invasive species and / or competition between native and introduced species, over-fishing and adverse effects of fishing gear, as well as inadequate cattle breeding practices;

Ecological effects include:

- Reduction of wet meadows due to the lake water level decline (if there are no problems on the Greek side it can be treated as a precautionary principle)
- Change in species composition due to reduction of wet meadows (reduced fish spawning grounds, reduces bird-feeding areas)
- Change of fish and bento fauna due to water pollution (although there is an evident lack of accurate data, existing studies show that water pollution impacted fish and bento fauna and it was identified as a problem in the national reports. On the other hand, the trophic status transiting from mesotrophic to eutrophic detected both in Micro and Macro Prespa will certainly influence the change of fish and bento fauna).
- Competition between native and exotic fish species being introduced into the lakes in the past
- Reduction of fish stocks⁷
- Reduction of native fish species⁸
- Deforestation due to illegal logging and intensive grazing
- Reduction of biodiversity in forests due to forestry being directed mainly to timber production and thus increased homogeneity of forests
- Insufficient management of protected areas due to the lack of human and financial resources
- Loss of endemic or local races of domestic animals due to agriculture intensity
- Loss of rare plant species due to uncontrolled collection of medicinal plants

⁷ To be agreed on by the littoral countries upon the final workshop; otherwise it can be skipped.

⁸ To be agreed on by the littoral countries upon the final workshop; otherwise it can be skipped.

2.2 Major Perceived Problems (MPPs)

The root causes of the environmental problems in the Prespa Lakes basin were traced at governance / enforcement of compliance, scientific progress and cooperation with the scientific community and socio-economic development levels. The root causes, determined to have a significant impact over the health of the ecosystem of the Prespa lakes basin are listed below:

Governance

- Low government priority on environment
- Inadequate water basin management
- Inadequate land use management
- Inadequate inter-sectoral coordination
- Inadequate legal/regulatory basis
- Insufficient economic incentives
- Insufficient law enforcement
- Inadequate human/institutional capacity

Scientific cooperation and stakeholders awareness

- Insufficient scientific capacity/or cooperation/data sharing information
- Insufficient knowledge / understanding
- Inadequate available technology
- Low public awareness

Socio-economic issues

- Poverty
- Pressures from unsustainable use of natural resources (agriculture, forestry, fisheries and industry)
- Inadequate municipal services and infrastructure
- Lack of funds

As stated elsewhere in this report, the root causes are crucial to defining the management targets, which leads to designing of the most appropriate actions to meet the EQOs. These are defined and explained in chapter 3.2.

3. Environmental Quality Objectives (EQOs)

The biodiversity, the lakes, wetlands and forests are shared assets and resources that cannot be effectively protected and managed by any one side alone, thus the benefits of transboundary cooperation in Prespa are obvious. The cultural heritage of the area is also common and can be best preserved and promoted in co-ordination. The local economy is totally dependent on these resources and its future sustainable development inevitably passes through coordinated planning and mutual support from a basic level. Therefore, a common vision for the future sustainable development of the Prespa Park is to be reflected in national policies and specific interventions.

Prespa Lakes Basin

Strategic Action Programme

3.1 The vision

The Strategic Action Plan for the sustainable development of the Prespa Park (SAP) was the first joint project, elaborated by the three countries, which aimed to translate the political commitment on the transboundary Park into a tangible reality for the environment and the people of Prespa. The vision for the Prespa Park was seen as follows:

“the main aim of the Prespa Park is the preservation of the valuable natural and cultural characteristics of the whole of Prespa through management methods and development initiatives, that enhance the standard of living of its inhabitants as well as promote peace and friendship between the three peoples, and lead to economic and social prosperity and convergence”.

This vision could be slightly modified as to enable for integration of contemporary trends as follows:

By 2025, the Prespa Lakes basin will represent a healthy ecosystem that supports a sustainable economy. As part of the tri-lateral commitment to generating and applying knowledge for social and economic benefit, littoral countries (Albania, Greece and the former Yugoslav Republic of Macedonia) will have in place an integrated policy and regulatory system to ensure the sustainability of the Prespa Park ecosystems while allowing for the rational use of natural resources.

The policy for the protection of the Prespa Park will be driven by an overarching goal to have healthy terrestrial and aquatic ecosystems that sustain indigenous biodiversity and provide for sustainable use of the Lakes' and coastal resources. All the countries will be fully compliant with the requirements of EU legislation and international conventions to which they are contracting parties and will be able to demonstrate, through regular reporting on the appropriate environmental assessments, the maintenance of a high quality environment.

All the countries will have developed a Prespa Park's brand identity, with a high quality environment and sustainable economy. This brand will form part of a marketing programme for the tourism, organic agricultural production and other complementary economic sectors.

EQOs origin from the abovementioned vision of the Prespa Park and the Joint Statement and they formulate the desired state of the Prespa Park ecosystem to be achieved over a short and medium period of time. These are formulated as follows:

EQO 1

Preserve ecological values of surface and ground water resources (affecting MPP1, MPP 3)

EQO 2

Improve Land Management and Planning (affecting MPP 2 and 3)

EQO 3

Conservation of Prespa Biodiversity and Habitats (affecting MPP 3)

EQO 4

Improve livelihoods of local communities (affecting MPP 1, 2 and 3)

The structure presenting each EQO comprises of: management targets (originating from the MPPs), expected results and activities which are categorized within one or more of the following major groups:

- Policy actions, education and scientific research
 - Development of trilateral strategic planning documents
 - Education and scientific research
 - Legislative / regulatory reforms
 - Institutional strengthening / Capacity building
 - Information and awareness actions
- Subsidies fostering initiatives on sustainable use of natural resources and environmentally friendly practices in the private sector (e.g. good agricultural practice, sustainable forestry, use of renewable energy resources etc.)⁹
- Monitoring / Data management
- Investments
 - Development of municipal infrastructure and transportation networks
 - Programme for demonstration projects (towards sustainable use of natural resources and environmentally friendly practices in the private sector)
 - Habitat restoration
 - Conservation of cultural heritage and renovation of the traditional outlook of settlements

Activities are also divided according to the level to be implemented: transboundary and national.

There are crosscutting actions being applicable to all EQOs; however, they appear in the EQO 3 (Conservation of Prespa biodiversity and habitats) in order to avoid their repetition. These relate predominantly to implementing of Espoo Convention, Environmental Impact Assessment, Socio-Economic Impacts Assessment and Strategic Environmental Assessment.

Associated indicators are linked to the Art. 4 of the Joint Agreement stipulating that parties sets out exact criteria, standards, limits and objectives for the protection, conservation and development of the area in order to ensure an integrated protection of the ecosystem and the sustainable development of the Prespa park Area. Additionally, indicators that have been produced by the Monitoring and Conservation Working Group in the scope of the transboundary monitoring project. will apply were appropriate. For specific actions indicators are expresses as rates of improvement (%), or for achieving of certain targets indicators refer to adoption of transboundary plans and programmes, decisions, agreements, international conventions etc.

The full and coherent structure presenting the EQOs, management targets, timeline, actions, costs, indicators of success, responsible institutions, and uncertainties is given in Annex 1.

The Environmental Quality Objectives, management targets, measures and specific actions can be detailed as follows:

⁹ To discuss upon the final workshop

3.2 EQO 1: Preserve ecological values of surface and ground water resources

Target 1.1:

Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2025

Expected results:

- Harmonized policies and transboundary agreements;
- Improved capacities on integrated water management by responsible institutions;
- Reduced eutrophication;
- Reduced hydromorphological changes;
- Maintained good chemical and biological water quality;
- Reduced hazardous substances pollution;
- Controlled water abstraction;
- Introduced water conservation and demand management;
- Increased and updated knowledge on the hydrological and limnological regime of Prespa Lakes and their catchment area integrating also the climate change impact and disaster management, as agreed in the final list of indicators¹⁰ for water resources.

Actions on transboundary level:

Policy actions, education and scientific research:

- Prepare and implement an integrated transboundary water management plan based upon WFD principals including flood and draught management and climate change impacts;
- Implement common programs of measures as part of the water management plan to reduce impacts of industry, agriculture and animal husbandry upon the water quality and quantity;
- Provide training programs in integrated river basin planning and public participation for all stakeholders involved in the implementation of the integrated transboundary water management plan (national, regional and municipal authorities, river basin management bodies, NGOs etc.);
- Development of the hydrological model for Prespa basin and water balance study;
- Establishment and strengthening of the transboundary networking of institutions and experts, along with regular exchange of data and information;
- Assign responsible persons for communication and timely reporting in case of extreme vents (floods, droughts, water pollution, etc.);
- Develop and implement comparable economic instruments to address water use and pollution, recognizing the different economic conditions of the three countries.

¹⁰ The reference is made to the Final Report of the Monitoring and Conservation Working Group, the section that was developed by the expert team on water resources

Monitoring/ Data Management:

- Harmonize procedures (monitoring and assessment methods);
- Implement transboundary monitoring programme using remote sensing / GIS as a planning tool.

Investments:

- Programme for demonstration projects on best environmental practices for use of fertilizers, pesticides and other chemicals;
- Rehabilitation or alleviation of the negative impacts of past hydrological interventions, with special emphasis on the river Devoli - Lake Micro Prespa system.

National actions**Greece:****Policy, education and research**

- Enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry);
- Study on identification, assessment and mitigation of point and non-point sources of pollution;
- Provision of trainings to the farmers on the use of pesticides.

Monitoring/ Data Management

- Implement the national WFD monitoring system. Provide necessary equipment and staff for improvement of the national monitoring system.

Investments

- Programme for demonstration projects on environmentally friendly cultivation methods;
- Operation and maintenance of the existing WWTP's;
- Resolution of the problem of affected land by the water level management of Micro Prespa;
- Installation of drip irrigation systems.

Albania:**Policy, education and research**

- Study on point and non-point sources of pollution;
- Develop and enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry).

Monitoring/Data Management

- Provide necessary equipment and staff for improvement of the national monitoring system.

Prespa Lakes Basin

Strategic Action Programme

Investments

- Reforestation activities to prevent erosion and to restore critical watersheds and springs;
- Rehabilitation of the irrigation systems;
- Construction of wastewater collection and treatment facilities around Prespa lakes;
- Implementation of a programme for demonstration projects on rational use of pesticides and fertilizers.

The former Yugoslav Republic of Macedonia:

Policies, education and research

- Develop and enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry);
- Implement and enforce IPPC licensing.

Monitoring /Data Management

- Provide necessary equipment and staff for improvement of the national monitoring system¹¹.

Investments

- Implementation of the programme for restoration of Golema Reka;
- Improve the irrigation scheme;
- Implementation of Programme for demonstration projects on rational use of pesticides and fertilizers;
- Extension of the existing WWTP with tertiary treatment;
- Construction of wastewater collection and treatment systems in settlements around Prespa Lake.

¹¹ To clarify the scope of national monitoring systems and their interrelation with the transboundary monitoring system upon the next workshop

3.3 EQO 2: Improve Land Management and Planning

Target 2.1:

Reduce land degradation by 20%¹² and delineate valuable land uses (high quality agricultural land, protected areas and valuable landscapes) by 2020

Expected results:

- Established adequate zoning of land uses to prevent the ecosystem fragmentation and conversion of high quality of agricultural and forest land into construction land;
- Produced indicators, allowing for assessment of the impact of developments¹³;
- Improved knowledge on the land uses management and development trends;
- Prevented conversion of wetlands into agricultural land;
- Protected valuable landscapes and local architecture;
- Abolished illegal gravel and sand extraction in protected areas;
- Prohibited expansion of settlements outside boundaries of settlements;
- Restored abandoned farmlands;
- Managed appropriately pastures and grasslands;
- Reduced erosion and sediment transport;
- Reduced land degradation;
- Improved access to goods and services.

Actions on transboundary level:

Policy actions, education and scientific research:

- Prepare transboundary spatial plan with special emphasise on buffer zones, nutrient protection zones and water protection zones;
- Transboundary study on conservation of the rural landscape and restoration of hedge rows.

Monitoring/ Data Management:

- Harmonize and improve methodology for collection and processing of data for land use management and use of remote sensing / GIS as a planning tool;
- Implement the transboundary monitoring system.

Investments:

- Development of regional infrastructure and transportation networks;
- Reclamation of degraded forest land, abandoned agricultural land and illegal dumps.

¹² To discuss the target upon the next joint workshop

¹³ These indicators will serve the measuring of the fulfilment of the target.

National actions in all three countries

Policy actions, education and scientific research:

- Enforce regulations prohibiting the construction of housing and infrastructure outside the boundaries of settlements;
- Enforcement of prohibited gravel and sand extraction outside assigned zones;
- Maintenance of protection zones around water supply sources and protected areas including wetlands.

Investments:

- Implement sound municipal and hazardous waste management systems in order to prevent and mitigate land degradation;
- Development of municipal and local transportation systems.

3.4 EcoQ0 3: To conserve Prespa Biodiversity and Habitats

Target 3.1:

Ensure all key threatened and endemic species are maintained or restored at viable levels¹⁴ by 2020¹⁵

Expected results:

- Restored and maintained riparian habitats;
- Preserved threatened and rare species;
- Controlled population size of non-native species and mitigated impacts due to the competition with native species;
- Improved management and enforcement of protected areas;
- Promoted diversity and the conservation of forest habitats;
- Managed appropriately pastures and grasslands;
- Public Participation in Protected Area Management as a continuum, extending from full government control to full community control;
- Improved capacities and skills on nature protection by the national and local stakeholders.

¹⁴ Key species are listed in National Red lists (with the exception of the former Yugoslav Republic of Macedonia); for the species of transboundary importance the Monitoring and Conservation Working Group developed a list. As above

¹⁵ To discuss the feasibility of the target upon the next workshop

Actions on transboundary level:**Policy actions, education and scientific research:**

- Prepare a Study and Action Plan for the biodiversity conservation within the hotspots identified in the transboundary catchment area;
- Coordinated development and implementation of Protected Area Management Plans;
- Establish ecological coherent network on the basis of protected areas, protected forests, wetlands, and river flood plains that ensure conservation and spatial interrelation between typical and rare components of the environment;
- Introduce and harmonize the principles of sustainable and ecosystem oriented forestry in order to maintain forest diversity at the stand and landscape level in terms of structure, composition and function;
- Strengthen the scientific basis of conservation policy and integrate aquatic and terrestrial living resources management into other sectors;
- Introduce economic instruments to provide alternative funding sources for operations of bodies managing the protected areas;
- Identification of Prespa threatened, rare and protected species (Prespa priority species) to serve as a basis for further conservation and monitoring programmes;
- Develop target monitoring and conservation programmes for endangered and threatened species; Develop inventory, classification and mapping system for Prespa Park habitats (may be part of Action plans for key species and habitats);
- Establish and strengthen transboundary networking along with exchange of data and information;
- Harmonization of transboundary control and restriction modalities as well as legislation (forests, wildlife and fisheries);
- Curb illegal logging at national and transboundary level;
- Delineation of protected spawning grounds ;
- Control of illegal fishing during the ban period in May-June in both Macro and Micro Prespa in general not only during closed season;
- Joint pilot project for phasing out of uncontrolled collection of medicinal plants and switching to cultivation, certification and marketing;
- Establishment, through a trilateral formal agreement, of a transboundary EIA procedure (Espoo Convention), including Social Impact Assessment and Strategic Impact Assessment.

Monitoring/ Data Management:

- Harmonise and improve methodologies for collection and data processing as being agreed by the transboundary monitoring and conservation working group;
- Monitoring of the ecological impact of the introduction of exotic fish species.

National actions

Greece:

Policy, education and scientific research

- Management Plan for the Prespa National Park;
- Administrative measures towards the preservation of endemic sub-species of trout in the Agios Germanos River;
- Forest management plans promoting the utilization of local species for reforestation measures.

Investments

- Restoration of forest habitats through pilot projects promoting ecosystem oriented silvicultural methods, such as maintaining naturally occurring forest diversity at the stand and landscape level in terms of structure, composition and function, as well as maintaining specific habitats for rare and endangered species of plants and animals;
- Implementation of Wetland (Wet meadow) management activities.

Albania:

Policy, education and scientific research

- Control the use of forest resources by means of a licensing system;
- Estimation of carrying capacity of forests against the grazing and alternative methods for the protection of pastures from erosion;
- Enforce regulations on overexploitation of forests (cutting or grazing);
- Management plan for the Prespa National Park;
- Enforce regulations prohibiting illegal hunting and fishing;
- Identification of important habitats and species based on the relevant annexes of the EU birds and habitats directives. (it should be noted that these may not be threatened at the Prespa level but still mapping is essential).

Investments

- Rehabilitation and restoration of forests;
- Programme for demonstration projects on reducing the impacts of agriculture (including the improving the ecosystem and culture diversity), land grazing, and hunting on loss of biodiversity.

The former Yugoslav Republic of Macedonia:

Policies, education and scientific research

- Administrative measures towards the preservation of endemic sub-species of trout;
- Institutional strengthening and capacity building activities for national and local stakeholders;
- Implementation of national legislation in the field of EIA and ESPO convention and strengthening regional EIA procedures;

- Identification of important habitats and species based on the relevant annexes of the EU birds and habitats directives. (it should be noted that these may not be threatened at the Prespa level);
- Preparation of national lists of threatened species; (suggestions from national stakeholders);
- Preparation of national red book¹⁶;
- Development of a list of key threatened species and habitats in Prespa region in regard of Annexes of Bird and habitat Directives;
- Preparation and adoption of management plan for Ezerani protected area.

Investments

- Implementation of the programme of measures for the protection of Golema Reka, a spawning habitat of significant portion of Prespa fish;
- Implementation of management interventions in the Ezerani wetland.

3.5 EQO 4: Improve livelihoods of local communities

Target 4.1:

To ensure sustainable and ecosystem oriented forestry

Expected results:

- Ensured long-term forest productivity and long-term harvest levels taking in to account the sustainable and ecosystem oriented forest management;
- Maintain functioning forest ecosystems capable of contributing to global carbon cycles;
- Bionergy production integrated into the silviculture as well as lumber processing industry;
- Reduced / prevented erosion.

Actions on transboundary level:

Policy actions, education and scientific research:

- Study on the sustainable management of forests in the Prespa Lakes watershed (harvesting, fire fighting, anti-erosion, flood prevention);
- Identification of all transboundary forest management activities as related to carbon storage and release.

Investments

- Programme for demonstration projects to increase efficiency and reduce waste in lumber processing.

¹⁶ Requested by the Ministry of Environment and Physical Planning

Prespa Lakes Basin

Strategic Action Programme

National actions in all three countries

Policy actions, education and scientific research:

- Implement transboundary sustainable forestry policies into national forest management plans;
- Enforce measures against illegal wood harvesting and grazing.

Investments:

- Rehabilitation and restoration of forests (with emphasis on Albanian park of the Prespa Park);
- Enhancing/ providing alternative solutions for household heating.

Target 4.2:

Foster sustainable fisheries

Expected results:

- Ensured long-term fisheries productivity and long-term harvest levels taking in to account the sustainable and ecosystem oriented fisheries;
- Improved knowledge of fishermen on important fish species in the Prespa Lakes and rivers and improved capacities concerning the use of sustainable fishing methods;
- Improved market conditions for fish and fish products.

Actions on transboundary level:

Policy actions, education and scientific research:

- Develop transboundary fisheries management plan;
- Decision on fishing quotas for all three states;
- Harmonize fishing regulations;
- Harmonize stocking practices;
- Capacity building of fisher organizations (financially; skills/knowledge; organizationally);
- Improve and unify scientific research especially on fish spawning areas¹⁷;
- Implement economic instruments towards investing into storing and processing facilities, sales centres, spawning and nursery grounds for fish stocks.

Monitoring

- Develop and maintain fish database for planning the fish quantity and regulating the number of fishing licensing.

¹⁷ Different disciplines still operate independently, starting from own philosophies, methodologies and experimental approaches on a country level and in the transboundary context in particular; Thus, holistic approach is necessary when undertaking any research; the spawning areas are specifically mentioned because this requires understanding of the catchment scale hydrology and the impacts over the migratory movement of adult fish species and the establishment / changes in spawning grounds. Such approach should be developed and implemented in transboundary level in the future.

Investments

- Establish fish breeding stations¹⁸ for restocking of the lake by 2010.

National actions in all three countries**Policy actions, education and scientific research:**

- Enforce the utilization of sustainable fishing methodologies.

Target 4.3:**Enhance sustainable agriculture****Expected results:**

- Promoted and implemented good agricultural practice;
- Prevented illegal marketing and imports of banned pesticides.

Actions on transboundary level:**Policy actions, education and scientific research:**

- Preparation of a common operational plan for the development of sustainable best agricultural practices and/or organic farming, including animal husbandry and plan for common promotion of products;
- Develop an integrated pest management;
- Develop community-based agricultural/ animal husbandry networks for transfer of technology.

National actions in all three countries

- Programme for demonstration projects on cultivation varieties in order to reduce the monocultures (e.g. increase of vineyards against the wheat monoculture in Albania);
- Promote pilot projects for land consolidation /cooperative, to create conditions for technology improvement.

Target 4.4:**Sustainable energy consumption and renewable energy sources****Expected results:**

- Improved access to technologies for energy efficiency and use of renewable energy sources¹⁹.

¹⁸ To discuss upon the next workshop

¹⁹ It can be reformulated, however, it would be too ambitious to mention reduction of greenhouse gases for relatively small area. Therefore, the focus is set on the access to technologies. Innovation can be added as well, but this should be discussed if appropriate.

Prespa Lakes Basin

Strategic Action Programme

Actions on transboundary level:

Policy actions, education and scientific research:

- Feasibility study on the potential for use of alternative types of energy in the Prespa Park basin;
- Coordinated implementation of national feed-in tariffs.

Investments:

- Programme for demonstration projects encouraging technologies for energy efficiency and use of renewable energy sources²⁰.

Target 4.5:

Conserving the cultural heritage and enhancing the eco-tourism development

Expected results:

- Programmes on the conservation of the cultural heritage in the Prespa Park area developed;
- Forms of tourism and their products that contribute to the protection of the Prespa Lakes ecosystem are fostered;
- Circuit tours and complementary product development promoting common historical and cultural heritage are designed and marketed;
- Transboundary tourism information and marketing, skill development, exchange of expertise;
- Public participation upon the creation of a regional tourism destination is ensured.

Actions on transboundary level:

Policy actions, education and scientific research:

- Implementation of the trilateral tourism development strategy;
- Incentives for investments in the small scale tourism and especially alternative types of tourism;
- Capacity building on the alternative tourism for all the relevant stakeholders in the transboundary area.

Investments

- Implement programmes on the conservation of selected priority cultural sites;
- Road and municipal infrastructure in support of the local tourism development;
- Private initiatives towards improving the tourist offer (accommodation capacities and complementary tourist products).

²⁰ There isn't any evidenced conflict between the RES and EE from one side and the nature protection.

The EQOs framework, consisting of management targets, activities to achieve these, the timeframe, associated costs, indicators of success, responsible institutions, uncertainties, and expected results is given in Annex 1.

The methodology for assessment of costs is given in Annex 2.

The outline financing report for implementing measures for EQOs is given in Annex 3.

Prespa Lakes Basin

Strategic Action Programme

Annex 2a Ecological Quality Objective Table

EQO 1: Preserve ecological values of surface and ground water resources

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
Transboundary level Policies, education and scientific research Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Prepare an integrated transboundary water management plan including flood and draught management and climate change impacts;	3-5 years	1,500,000	Transboundary water management plan is adopted by national authorities and the Prespa Park Management Committee;
	Develop common programs to reduce impacts of industry, agriculture and animal husbandry upon the water quality and quantity	3-5 years	500,000	Programmes to reduce impacts from economic activities are adopted by national authorities and the Prespa Park Management Committee;
	Provide training programs in integrated river basin planning	1-3 years	200,000	30 representatives of national and regional institutions are trained
	Development of the hydrological model for Prespa basin and a water balance study;	3-5 years	1,500,000	Water balance study is adopted by national authorities and the Prespa Park Management Committee;
	Establish and strengthen transboundary networking along with exchange of data and information.	2 years	300,000	Data base established including experts, institutions, literature and available data for different topics (water, land use, etc).
	Assign responsible persons for communication and timely reporting in case of extreme events (floods, droughts, water pollution, etc)	2 years	150,000	
	Develop and implement comparable economic instruments to address water use and pollution	5-10 years	500,000	Economic instruments are adopted by national authorities and the Prespa Park Management Committee;

Responsible institutions	Uncertainties	Expected results
Albania: MEFWA Greece: GRMoEECC, RWRD, CWRD The former Yugoslav Republic of Macedonia: MEPP; MAFWE.	Institutional capacity Funding Insufficient public participation	Implementation of the TBWMP by all three countries
Albania: MEFWA, MAFCP, MH Greece: GRMoEECC, RWRD, CWRD The former Yugoslav Republic of Macedonia: MEPP; MAFWE, ME	Institutional capacity Funding Insufficient public participation	Transboundary agreement on policies towards reduction of loads from economic activities through improved technologies and best practices
Prespa Park Management Committee;	Institutional capacity; Lack of funding; Insufficient public participation.	Improved capacities on integrated water management by responsible institutions
Albania: MEFWA Greece: GRMoEECC, RWRD, CWRD The former Yugoslav Republic of Macedonia: MEPP;	Lack of funding; Differences in scientific community; Lack of national resources;	Increased and updated knowledge on the hydrological and limnological regime of Prespa Lakes and their catchment area
Prespa Park Management Committee;	Lack of funding; Differences in scientific community; Lack of national resources;	Operational transboundary networking system
Prespa Park Management Committee;	Lack of funding; Differences in scientific community; Lack of national resources;	Regular communication and reporting established.
Albania: MEFWA, MAFCP Greece: GRMoEECC, RWRD, CWRD The former Yugoslav Republic of Macedonia: MEPP; MF	Common understanding and agreement; Acceptance of common economic instruments by all stakeholders	Transboundary agreement on the scope, objectives and comparable economic instruments

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
National level				
Albania				
Policies, education and scientific research				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Study on identification, assessment and mitigation of point and non-point sources of pollution;	3-5 years	100,000	Study is adopted by national authorities
	Develop and enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry)	8-15 years	500,000	Bylaws in compliance with the WFD and daughter directives drafted and adopted by 2018 Environmental standards as agreed in the final list of indicators of the MCWG are achieved by 2025
Greece				
Policies, education and scientific research				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Study on identification, assessment and mitigation of point and non-point sources of pollution	3-5 years	100,000	Study is adopted by national authorities
	Develop and enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry)	5-10 years	500,000	Bylaws in compliance with the WFD and daughter directives drafted and adopted by 2020 Environmental standards as agreed in the final list of indicators of the MCWG are achieved by 2025
	Provision of trainings to the farmers on the use of pesticides;	1-3 years	200,000	10% of total number of farmers are trained
The former Yugoslav Republic of Macedonia:				
Policies, education and scientific research				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Develop and enforce regulations on discharge of effluents from point sources (settlements, industry and animal husbandry)	5-10 years	500,000	Bylaws in compliance with the WFD and daughter directives drafted and adopted by 2020 Environmental standards as agreed in the final list of indicators of the MCWG are achieved by 2025 (According to the Macedonian Law on Water)
	Implement and enforce IPPC licensing	5 years	250,000	Pre-treatment of industrial wastewater according to the Directive (2008/1/EC)

Responsible institutions	Uncertainties	Expected results
MEFWA, MH	Lack of funding; Lack of national resources;	Increased and updated knowledge on the point and non-point sources of pollution in the Albanian part of the Prespa Park
MEFWA, MH, MAFCP, Local authorities (communes)	Institutional capacity; Funding; Insufficient public participation;	Reduced eutrophication; Maintained good chemical and biological water quality; Reduced hazardous substances pollution;
GRMoEECC, RWRD, CWRD, PNFMB	Lack of funding; Lack of national resources;	Increased and updated knowledge on the point and non-point sources of pollution in the Greek part of the Prespa Park
GRMoEECC, RWRD, CWRD	Institutional capacity; Funding; Insufficient public participation;	Reduced eutrophication; Maintained good chemical and biological water quality; Reduced hazardous substances pollution;
National stakeholders EU and International community	Institutional capacity; Funding; Insufficient public participation;	Pesticide use reduced and use of biodegradable pesticide increased
MEPP	Institutional capacity; Funding; Insufficient public participation;	Reduced eutrophication; Maintained good chemical and biological water quality; Reduced hazardous substances pollution;
MEPP	Institutional capacity; Funding; Insufficient public participation;	Reduced eutrophication; Maintained good chemical and biological water quality; Reduced hazardous substances pollution;

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
Transboundary level				
Monitoring / Data Management				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Implement transboundary monitoring programme	3-5 years	190,000 / year	Intercalibration process completed; Transboundary water monitoring in compliance with the WFD is operational
National level				
Monitoring / Data Management				
Albania				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Provide necessary equipment and staff for improvement of the national monitoring system;	3-5 years	1,000,000	National monitoring system in compliance with the WFD is operational
Greece				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Provide necessary equipment and staff for improvement of the national monitoring system;	3-5 years	1,000,000	National monitoring system in compliance with the WFD is operational
The former Yugoslav Republic of Macedonia:				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Provide necessary equipment and staff for improvement of the national monitoring system;	3-5 years	1,000,000	National monitoring system in compliance with the WFD is operational
National level				
Investments				
Albania				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Reforestation activities to prevent erosion and to restore critical watersheds and springs	5-10 years	1,000,000	Reduced impacts from erosion and transportation of sediments by 50% in 10 years
	Rehabilitation of the irrigation systems	5-10 years	1,000,000	Rehabilitated irrigation network (ha irrigated land) and/or used drip irrigation (ha irrigated land) ²¹

²¹ To discuss the indicator

Responsible institutions	Uncertainties	Expected results
<p>Albania: MEFWA, University of Tirana</p> <p>Greece: GRMoEECC, RWRD, CWRD.</p> <p>The former Yugoslav Republic of Macedonia: MEPP, Hydro-biological Institute, Faculty for natural science – institute on biology, Hydro-meteorological Institute, Institute for public health, Center of Public Health Bitola</p>	<p>Lack of funding;</p> <p>Differences in scientific community;</p> <p>Lack of national resources;</p>	<p>Operational harmonized monitoring system</p>
MEFWA, IEWE, AEF	<p>Institutional capacity;</p> <p>Funding;</p>	<p>Regular monitoring and reporting to national and international stakeholders</p> <p>Data sharing</p>
MEFWA, IEWE, AEF	<p>Institutional capacity;</p> <p>Funding;</p>	<p>Regular monitoring and reporting to national and international stakeholders</p> <p>Data sharing</p>
MEFWA, IEWE, AEF	<p>Institutional capacity;</p> <p>Funding;</p>	<p>Regular monitoring and reporting to national and international stakeholders</p> <p>Data sharing</p>
MEFWA, Local authorities	Funding	Reduced eutrophication
MAFCP	Funding	<p>Conservation and demand management introduced</p> <p>Water abstraction control</p>

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Construction of wastewater collection and treatment facilities around Prespa lakes;	5-10 years	1,000,000	Constructed water collection schemes (km) Number of WWTPs
	Implementation of pilot/Programme for demonstration projects on rationale use of pesticides and fertilizers.	3-5 years	200,000	Number of pilot plots Number of farmers involved in Programme for demonstration projects
Greece				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Programme for demonstration projects on environmentally friendly cultivation methods	3-5 years	200,000	Number of pilot plots Number of farmers involved in Programme for demonstration projects
	Maintenance of the existing WWTP's.	annually	100,000/year	WWTPs are operational
The former Yugoslav Republic of Macedonia:				
Target 1.1: Reduce anthropogenic impacts and improve the environmental conditions ensuring good (surface and ground) water quality and quantity by 2020	Implementation of the programme for restoration of Golema Reka	3-5 years	1,000,000	Regulated river bed (km) Afforestation measures (ha)
	Improve the irrigation scheme	3-5 years	500,000	Reduced number of individual wells Water abstraction is controlled
	Implementation of pilot/Programme for demonstration projects on rationale use of pesticides and fertilizers	3-5 years	200,000	Number of pilot plots Number of farmers involved in Programme for demonstration projects
	Extension of the existing WWTP with tertiary treatment	5-10 years	1,000,000	Removal of nutrients meeting the effluent standards according the Directive 91/271/EEC
	Construction of wastewater collection and treatment systems in settlements around Prespa Lake,	5-10 years	500,000	Constructed water collection schemes (km) ²² Number of WWTPs
	Maintenance of the existing WWTP	annually	100,000	WWTP is operational

²² In Albania and fYRoM majority of settlements are not connected to wastewater collection systems, let alone WWTP

Responsible institutions	Uncertainties	Expected results
MPWTT, Local authorities,	Funding Available technologies	Reduced eutrophication Maintained good chemical and biological water quality
MEFWA, MAFCP, MH	Funding Public participation	Reduced eutrophication Maintained good chemical and biological water quality
GRMoEECC, RWRD, CWRD	Funding Public participation	Reduced eutrophication Maintained good chemical and biological water quality Reduced groundwater pollution
GRMoEECC, RWRD, CWRD	Funding Polluters pay	Reduced eutrophication Maintained good chemical and biological water quality Reduced groundwater pollution
Municipality of Prespa	Funding	Improved land management Reduced eutrophication;
MAFWE, Municipality of Prespa	Feasibility of restoring the existing scheme Public participation	Conservation and demand management introduced Water abstraction control
MAFWE	Funding Public participation	Reduced eutrophication Maintained good chemical and biological water quality Reduced groundwater pollution
Municipality of Resen, MEPP	Funding Polluters pay	Reduced eutrophication Maintained good chemical and biological water quality; Reduced groundwater pollution
Municipality of Resen; MEPP	Funding Polluters pay	Reduced eutrophication Maintained good chemical and biological water quality; Reduced groundwater pollution
Municipality of Resen.	Funding Polluters pay	Reduced eutrophication Maintained good chemical and biological water quality; Reduced groundwater pollution

Prespa Lakes Basin

Strategic Action Programme

EQO 2: Improve Land Management and Planning

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
Transboundary level				
Policies, education and scientific research				
Target 2.1: Reduce land degradation by 20% and delineate valuable land uses (high quality agricultural land, protected areas and valuable landscapes) by 2020	Prepare transboundary spatial plan with special emphasize on: <ul style="list-style-type: none"> • Buffer zones • Nutrient protection zones • Water protection zones 	3-5 years	1,000,000	Transboundary land management plan adopted by national authorities and Prespa Park Management Committee
	Transboundary study on conservation of the rural landscape and restoration of hedgerows	3-5 years	200,000	Study is adopted by national authorities and Prespa Park Management Committee
National actions in all three countries				
Target 2.1: Reduce land degradation by 20% and delineate valuable land uses (high quality agricultural land, protected areas and valuable landscapes) by 2020	Enforce regulations prohibiting the construction of housing and infrastructure outside the boundaries of settlements	annually	100,000 / year	Conversion of high quality of agricultural and forest land is reduced; Number of inspections; Number of penalties.
	Enforcement of prohibited gravel and sand extraction outside assigned zones	annually	100,000 / year	Reduced degradation of land by 20% in 5 years; Number of inspections; Number of penalties;
	Maintenance of buffer / protection zones around water supply sources and protected areas including wetlands	annually	100,000 / year	Area of buffer / protection zones (ha)
Transboundary level				
Monitoring / Data management				
Target 2.1: Reduce land degradation by 20% and delineate valuable land uses (high quality agricultural land, protected areas and valuable landscapes) by 2020	Harmonize and improve methodology for collection and processing of data for land use management and use of remote sensing / GIS as a planning tool	3-5 years	1,000,000	Adopted list of monitoring indicators by national authorities and Prespa Park Management Committee

Responsible institutions	Uncertainties	Expected results
<p>Albania: MEFWA, Regional Council of Korca, Local authorities (Liqenas, Proger and Qender Bilisht Communes)</p> <p>Greece: RDESP:</p> <p>The former Yugoslav Republic of Macedonia: MEPP, Municipality of Resen</p>	<p>Non harmonized methodologies for transboundary spatial planning (territorial and /or administrative unit should be defined for the 3 countries)</p> <p>Differences in scientific community;</p> <p>Institutional capacity;</p> <p>Funding</p>	<p>Transboundary agreement on land management policies in the Prespa Park watershed;</p> <p>Harmonized land use categorization;</p> <p>Delineation of protected agricultural areas and forests.</p> <p>Managed appropriately pastures and grasslands</p>
<p>Albania: MEFWA, Regional Council of Korca, Local Authorities</p> <p>The former Yugoslav Republic of Macedonia: MEPP</p>	<p>Differences in scientific community;</p> <p>Institutional capacity;</p> <p>Funding</p>	<p>Transboundary agreement on rural landscape management</p>
<p>Albania: MPWTT, Commune of Liqenas and Proger</p> <p>Greece: PDESP: RDESP</p> <p>The former Yugoslav Republic of Macedonia: MEPP; MTC; Municipality of Resen</p>	<p>Political will;</p> <p>Institutional capacity;</p> <p>Public Participation</p>	<p>Limited expansion of settlements outside boundaries of settlements;</p> <p>Protected valuable landscapes;</p> <p>Established adequate zoning of land uses to prevent the ecosystem fragmentation and conversion of high quality of agricultural and forest land into construction land</p>
<p>Albania: MPWTT, Commune of Liqenas and Proger</p> <p>Greece: PDESP: RDESP</p> <p>The former Yugoslav Republic of Macedonia: MEPP; ME; Municipality of Resen</p>	<p>Political will;</p> <p>Institutional capacity;</p> <p>Public Participation</p>	<p>Protected valuable landscapes;</p>
<p>Albania: MEFWA, MPWTT, MH</p> <p>Greece: PDESP: RDESP, PNFMB</p> <p>The former Yugoslav Republic of Macedonia: MoEPP, MTC, MH,</p>	<p>Institutional capacity;</p> <p>Funding;</p> <p>Insufficient public participation;</p>	<p>Adequate spatial and urban plans and their enforcement prevent the ecosystem fragmentation and conversion of natural and semi-natural habitats into commercial uses</p>
<p>Albania: MEFWA</p> <p>Greece: PDESP: RDESP</p> <p>The former Yugoslav Republic of Macedonia: MEPP; Municipality of Resen</p>	<p>Lack of funding;</p> <p>Differences in scientific community;</p> <p>Conflict of interest between stakeholders;</p> <p>Lack of national resources.</p>	<p>Transboundary agreement on monitoring methods, parameters and locations</p>

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Implement the transboundary monitoring system	annually	90,000 / year	Improved land management and planning
Transboundary level				
Investments				
Target 2.1: Reduce land degradation by 20% and delineate valuable land uses (high quality agricultural land, protected areas and valuable landscapes) by 2020	Development of regional infrastructure and transportation networks	5-10 years	1,000,000	Length of regional infrastructure (km)
	Reclamation of degraded forest land, abandoned agricultural land and illegal dumps	3-5 years	500,000	Reduction of land degradation by 80% in 5 years
National actions in all the countries				
Investments				
Target 2.1: Reduce land degradation by 20% and delineate valuable land uses (high quality agricultural land, protected areas and valuable landscapes) by 2020	Implement sound municipal and hazardous waste management systems in order to prevent and mitigate land degradation	3-5 years (investment) Operation (annually)	1,000,000 investment; 80,000 / year	Reduction of land degradation by 80% in 5 years;
	Development of priority municipal and local transportation systems	3-5 years	1,000,000	Length of local infrastructure (km)

Responsible institutions	Uncertainties	Expected results
<p>Albania: MEFWA, AEF, IEWE</p> <p>Greece: PDESP; RDESP</p> <p>The former Yugoslav Republic of Macedonia: MEPP; Municipality of Resen</p>	<p>Lack of funding;</p> <p>Differences in scientific community;</p> <p>Conflict of interest between stakeholders;</p> <p>Lack of national resources.</p>	<p>Produced indicators, allowing for assessment of the impact of developments;</p> <p>Improved knowledge on the land uses management and development trends</p>
<p>Albania: MPWTT, Regional and Local authorities</p> <p>Greece: PDESP; RDESP</p> <p>The former Yugoslav Republic of Macedonia: MTC; Municipality of Resen</p>	<p>Institutional capacity;</p> <p>Technical documentation;</p> <p>Public Participation;</p> <p>Funding</p>	<p>Improved access to goods and services</p>
<p>Albania: MEFWA, MAFCP</p> <p>Greece: PDESP; RDESP</p> <p>The former Yugoslav Republic of Macedonia: MEPP; MAFWE; MTC; Municipality of Resen</p>	<p>Institutional capacity;</p> <p>Technical documentation;</p> <p>Public Participation;</p> <p>Funding</p>	<p>Reduced land degradation;</p>
<p>Albania: MPWTT, Commune of Ligenas and Proger</p> <p>Greece: GRMoEECC, RWRD, CWRD</p> <p>The former Yugoslav Republic of Macedonia: MEPP; MTC; Municipality of Resen</p>	<p>Institutional capacity;</p> <p>Public Participation;</p> <p>Funding;</p> <p>Available technology</p>	<p>Reduced land degradation;</p>
<p>Albania: MPWTT, Commune of Ligenas and Proger</p> <p>Greece: GRMoEECC, municipality of Prespa</p> <p>The former Yugoslav Republic of Macedonia: MEPP; MTC; Municipality of Resen</p>	<p>Institutional capacity;</p> <p>Technical documentation;</p> <p>Funding</p>	<p>Improved access to goods and services;</p>

Prespa Lakes Basin

Strategic Action Programme

EcoQO 3: To conserve Prespa Biodiversity and Habitats

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
Transboundary level Policies, education and scientific research				
Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels ²³ by 2020	Study and action plan for the biodiversity conservation within the hotspots identified in the transboundary catchment area.	3-5 years	200,000	Action plan adopted by national stakeholders and Prespa Park Management Committee
	Establish ecological coherent network on the basis of protected areas, protected forests, wetlands, and river flood plains that ensure conservation and spatial interrelation between typical and rare components of the environment	5-10 years		National land use plans take into account the ecological coherent network of protected areas; National legislation on land use management incorporates the establishment and maintenance of ecological coherent network; SEAs and EIAs are implemented to prevent the disturbance of the ecological network of protected areas
	Introduce and harmonize the principles of sustainable and ecosystem oriented forestry in order to maintain forest diversity at the stand and landscape level in terms of structure, composition and function.	5-10 years	200,000	National forest strategies take into account: Structure retention; Illegal logging; Quantity of wildlife snags per hectare left after harvest; Threatened or endangered species; Species used in reforestation
	Strengthen the scientific basis of conservation policy and integrate aquatic and terrestrial living resources management into other sectors;	5-10 years	200,000	SEAs and EIAs are implemented to provide for inter-sectoral coordination and prevention of the biodiversity and habitats disturbance
	Introduce economic instruments to provide alternative funding sources for operations of bodies managing the protected areas	3-5 years	100,000	Taxes and penalties are designed and adopted by national bodies and Prespa Park Management Committee
	Harmonization of transboundary control and restriction modalities as well as legislation (forests, wildlife and fisheries	3-5 years	150,000/y	National legislation on forest, nature protection and fisheries incorporates the agreed control and restriction modalities in order to apply transboundary agreement on the biodiversity strategy, ecological network (including protected areas), red list, protection of rare species etc.

²³ Key species are listed in National Red lists (with the exception of the former Yugoslav Republic of Macedonia); for the species of trans-boundary importance the Monitoring and Conservation Working Group developed a list

Responsible institutions	Uncertainties	Expected results
Albania: MEFWA Greece: GRMoEECC, PNFB The former Yugoslav Republic of Macedonia: MEPP	Lack of funding; Differences in scientific community; Lack of national resources	Transboundary agreement on biodiversity conservation policies in the Prespa Park watershed;
Albania: MEFWA, Local authorities (Liqenas and Proger) Greece: GRMoEECC, PNFB The former Yugoslav Republic of Macedonia: MEPP, Municipality of Resen	Lack of funding; Differences in scientific community; Lack of national resources	Preserved terrestrial and aquatic living resources from anthropogenic impacts; Restored and maintained riparian habitats; Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants and animals;
Albania: MEFWA, Local authorities (Liqenas and Proger) Greece: GRMoEECC, PNFB The former Yugoslav Republic of Macedonia: MAFWE; MEPP, Municipality of Resen	Differences in scientific community; Lack of national resources	Promoted habitat diversity and the conservation of forest plants and animals
Albania: MEFWA Greece: GRMoEECC, PNFB The former Yugoslav Republic of Macedonia: MAFWE; MEPP, Municipality of Resen	Differences in scientific community; Conflict of interest between stakeholders; Lack of national resources.	Preserved terrestrial and aquatic living resources from anthropogenic impacts;
Albania: MEFWA, Local authorities Greece: GRMoEECC, PNFB The former Yugoslav Republic of Macedonia: MEPP, MF, Municipality of Resen	Political will Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources.	Transboundary agreement on alternative financing of managing bodies of protected areas
Albania: MEFWA, MIA Greece: GRMoEECC The former Yugoslav Republic of Macedonia: MEPP, MAFWE, municipality of Resen, MF.	Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources	Transboundary agreement on the harmonized legislation regarding control and restriction modalities

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Delineation of protected spawning grounds	1-3 years	100,000	Delineated spawning grounds (ha)
	Control of illegal fishing during the ban period in May-June in both Macro and Micro Prespa	annually	30,000 / year	Number of inspections; Number of fines;
	Joint pilot project for phasing out of uncontrolled collection of medicinal plants and switching to cultivation, certification and marketing;	1-3 years	50,000	Number of legal and physical persons taking over the cultivation of medicinal plants; Number of certificates for collection of medicinal plants; Campaign material and publications.
	Establishment of a transboundary EIA procedure (Espoo Convention), including Social Impact Assessment and Strategic Impact Assessment;	1-3 years	80,000	Espoo Convention is integrated in national policies, standards and guidelines including binding international instruments; Environmental Performance Reviews are made and submitted to relevant national and EU / UN institutions;
	Establish and strengthen transboundary networking along with exchange of data and information.	5-8 years	500,000	

National level

Albania

Policies, education and scientific research

Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels by 2020

Control the use of forest resources by means of a licensing system	annually	10,000 / year	Number of licenses; Number of penalties for illegal logging.
Estimation of carrying capacity of forests against the grazing and alternative methods for the protection of pastures from erosion.	1-3 years	30,000	Adoption of the study by national stakeholders; Findings of the study incorporated in national land use planning and management; Follow up (Programme for demonstration projects formulated)

Responsible institutions	Uncertainties	Expected results
Albania: MEFWA, Local authorities Greece: GRMoEECC; PPD The former Yugoslav Republic of Macedonia: MEPP, MAFWE, municipality of Resen,	Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources	Transboundary agreement on delineation of protected spawning grounds; Preserved aquatic living resources from anthropogenic impacts; Restored and maintained riparian habitats;
Albania: MEFWA, Local authorities Greece: PPD, municipality of Prespa The former Yugoslav Republic of Macedonia: MAFWE, municipality of Resen,	Political will; Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources	Preserved aquatic living resources from anthropogenic impacts;
Albania: MEFWA, Local authorities, NPOs Greece: GRMoEECC The former Yugoslav Republic of Macedonia: MAFWE, MEPP, municipality of Resen, NGOs, commercial companies, pharmaceutical industry.	Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources.	Preserved terrestrial living resources from anthropogenic impacts; Restored and maintained riparian habitats; Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants.
Albania: MEFWA, Local authorities Greece: GRMoEECC The former Yugoslav Republic of Macedonia: Prespa Park Management Committee; Government of FYRoM, MEPP, municipality of Resen, NGOs, commercial companies.	Political will; Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources.	Preserved terrestrial living resources from anthropogenic impacts; Restored and maintained riparian habitats; Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants.
Prespa Park Management Committee;	Lack of funding; Differences in scientific community; Lack of data	
MEFWA, Local authorities, NGOs	Political will; Conflict of interest between stakeholders; Lack of national resources.	Improved management and enforcement of protected areas Promoted habitat diversity and the conservation of forest plants and animals Public participation
MEFWA, Local authorities	Funding; Lack of national resources.	Managed appropriately pastures and grasslands

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Enforce regulations on overexploitation of forests (cutting or grazing)	annually	8,000	Number of inspections; Number of penalties
	Management plan for the Prespa National Park;	2-3 years	50,000	Management plan for Prespa National Park adopted; Management body of the Prespa National Park is operational
	Enforce regulations prohibiting illegal hunting and fishing	annually	10,000	Number of inspections; Number of penalties.

Greece

Policies, education and scientific research

Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels by 2020

Implement administrative measures towards the preservation of endemic sub-species of trout in the Agios Germanos River

annually

10,000 / year

Administrative measures are incorporated in relevant legislation and land use plans;
Size of trout population in Agios Germanos river.

Estimation of carrying capacity of forests against the grazing and alternative methods for the protection of pastures from erosion.

annually

10,000/ year

Administrative measures are incorporated in relevant legislation and land use plans;
Erosion and sediment transport is reduced by 50% in 5 years.

The former Yugoslav Republic of Macedonia:

Policies, education and scientific research

Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels by 2020

Institutional strengthening and capacity building activities for national and local stakeholders

2-3 years

100,000

50 Officials of the national and local authorities attended special and on the job trainings

Implementation of national legislation in the field of EIA and ESPO convention and strengthening regional EIA procedures;

Espoo Convention is integrated in national policy standards and guidelines

including binding international instruments; Environmental Performance Reviews are made and submitted to relevant national and EU / UN institutions;

Responsible institutions	Uncertainties	Expected results
MEFWA, Local authorities	Political will; Lack of human resources; Conflict of interest between stakeholders;	Preserved terrestrial living resources from anthropogenic impacts Managed appropriately pastures and grasslands; Promoted habitat diversity and the conservation of forest plants and animals;
MEFWA, Local authorities	Lack of human resources; Funding.	Preserved terrestrial living resources from anthropogenic impacts; Restored and maintained riparian habitats; Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants
MEFWA, Local authorities, NPOs		Preserved terrestrial and aquatic living resources from anthropogenic impacts; Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants
GRMoEECC	Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources.	Preserved aquatic living resources from anthropogenic impacts; Restored and maintained riparian habitats; Improved management and enforcement of protected areas;
GRMoEECC	Lack of national resources.	Restored and maintained riparian habitats; Preserved aquatic living resources from anthropogenic impacts;
MEPP	Lack of human resources; Funding.	Improved management and enforcement of protected areas; Improved skills on nature protection by the national and local stakeholders.
Government of the former Yugoslav Republic of Macedonia, MEPP, municipality of Resen, NGOs, commercial companies.	Political will; Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources.	Preserved terrestrial living resources from anthropogenic impacts; Restored and maintained riparian habitats; Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants.

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Preparation of national lists of threatened species and a list for the Prespa region in regard of Annexes of Bird and habitat Directives	1-3 years	200,000	Agreed targets to reduce biodiversity loss and indicators (e.g. Red List Index (RLI)) are elaborated for tracking progress; National legislation incorporates the agreed targets and indicators.
	Preparation and adoption of management plan for Ezerani protected area;	1-2 years	80,000	Defined management status of the protected area; Established management body; National stakeholders are actively involved in the maintenance of protection regimes.
Transboundary level				
Monitoring / Data management				
Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels by 2020	Harmonize and improve methodologies for collection and data processing as being agreed by the transboundary group	annually	30,000/year	Adopted list of monitoring indicators by national authorities and Prespa Park Management Committee
	Develop target monitoring and conservation programmes for endangered and threatened species; Develop inventory, classification and mapping system for Prespa park habitats	3-5 years	100,000	Target monitoring and conservation programmes adopted by national authorities and Prespa Park Management Committee; Mapping system and inventory in place.
	Monitoring of the ecological impact of the introduction of exotic fish species;	1-3 years	50,000	Administrative and biological measures to mitigate the impact from introduced fish species adopted by national stakeholders
National level				
Investments				
Albania				
Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels by 2020	Rehabilitation and restoration of forests	5-10 years	500,000	Restored forest habitats (ha); Population structure and size in private and protected forests

Responsible institutions	Uncertainties	Expected results
MEPP	Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources	Amended legal acts taking into account the agreed targets and indicators. Preserved threatened species from anthropogenic impacts;
MEPP; management body; municipality of Resen.	Public and stakeholders awareness; Conflict of interest between stakeholders; Lack of national resources	Preserved terrestrial living resources from anthropogenic impacts; Restored and maintained riparian habitats; Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants
Albania: MEFWA, IEWE, AEF Greece: GRMoEECC The former Yugoslav Republic of Macedonia: MEPP; Hydrobiological institute Ohrid ; Faculty of natural science;	Lack of funding; Differences in scientific community; Conflict of interest between stakeholders; Lack of national resources.	Transboundary agreement on monitoring methods, parameters and locations
Albania: MEFWA, IEWE, AEF, University of Tirana Greece: GRMoEECC The former Yugoslav Republic of Macedonia: MEPP; Hydrobiological institute; Faculty of natural science;	Lack of funding; Differences in scientific community; Low public and stakeholder awareness; Lack of national resources	Improved knowledge on the aquatic and terrestrial living resources;
Albania: MEFWA, IEWE, AEF, University of Tirana Greece: Prefecture Fisheries Directorate The former Yugoslav Republic of Macedonia: MEPP; Hydrobiological institute; Faculty of natural science;	Lack of funding; Differences in scientific community; Low public and stakeholder awareness; Lack of national resources	Improved knowledge on the aquatic living resources; Preserved aquatic living resources from anthropogenic impacts; Controlled population size of non-native species and mitigated impacts due to the competition with native species
MEFWA, Local authorities	Lack of funding; Low public and stakeholder awareness; Lack of national resources. Conflicts between stakeholders; Political will.	Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants and animals

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Programme for demonstration projects on reducing the impacts of agriculture land, (including the improving the ecosystem and culture diversity) grazing, and hunting on loss of biodiversity	3-5 years	500,000	Number of Programme for demonstration projects; Restored habitats, appropriately managed agricultural land, grasslands and pastures (ha)
Investments				
Greece				
Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels by 2020	Restoration of forest habitats through pilot projects promoting ecosystem oriented silvicultural methods, such as maintaining naturally occurring forest diversity at the stand and landscape level in terms of structure, composition and function, as well as maintaining specific habitats for rare and endangered species of plants and animals	3-5 years	500,000	Number of Programme for demonstration projects; restored forest habitats (ha); Population structure and size in private forests
Investments				
The former Yugoslav Republic of Macedonia:				
Target 3.1: Ensure all key threatened and endemic species are maintained or restored at viable levels by 2020	Implementation of the programme of measures for the protection of Golema Reka, a spawning habitat of significant portion of Prespa fish.	3-5 years	300,000	Restored habitats (ha); Size of fish population in the river and lake;
	Implementation of management interventions in the Ezerani wetland	3-5 years investment; annually	1,500,000 20,000	Annual reporting; Increased population of avifauna; Increased population of fish; Number of tourists

Responsible institutions	Uncertainties	Expected results
MEFWA, MAFCP, Local authorities, NPOs	Lack of funding; Low public and stakeholder awareness; Lack of national resources. Public Participation.	Managed appropriately pastures and grasslands Public participation Improved skills on nature protection by the national and local stakeholders
PNFMB, FD	Lack of funding; Differences in scientific community; Low public and stakeholder awareness; Lack of national resources	Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants and animals
MEPP, MAFWE Municipality of Resen	Lack of funding; Low public and stakeholder awareness; Lack of national resources. Public Participation	Preserved aquatic living resources from anthropogenic impacts; Restored and maintained riparian habitats;
MEPP Municipality of Resen; Management body	Lack of funding; Low public and stakeholder awareness; Lack of national resources. Public Participation	Improved management and enforcement of protected areas; Promoted habitat diversity and the conservation of forest plants and animals

Prespa Lakes Basin

Strategic Action Programme

EQO 4: Improve livelihoods of local communities

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
Transboundary level				
Policies, education and scientific research				
Target 4.1: To ensure sustainable and ecosystem oriented forestry	Study on the sustainable management of forests in the Prespa Lakes watershed (harvesting, fire fighting, anti-erosion, flood prevention)	3-5 years	150,000	Study is adopted by national authorities and the Prespa Park Management Committee;
	Identification of all transboundary forest management activities as related to carbon storage and release	5 years	200,000	"Carbon budget model" in place that reliably quantifies whether forest management activities on specific areas of land result in a net production or storage of carbon
National actions in all the countries				
Policies, education and scientific research				
Target 4.1: To ensure sustainable and ecosystem oriented forestry	Implement transboundary sustainable forestry policies into national forest management plans	3-5 years	30.000	Harmonized forest management national legislation with international commitments and processes and relevant EU directives as to comply with the forest sustainable management principles and criteria
	Enforce measures against illegal wood harvesting and grazing	Yearly	2.000	Illegal activities reduced up to 50% Increased number of Forest Police officers in the FMU Economic incentives introduced
Transboundary level				
Investments				
Target 4.1: To ensure sustainable and ecosystem oriented forestry	Programme for demonstration projects to increase efficiency and reduce waste in lumber processing	3-5 years	150.000	New technologies introduced for biomass utilization; Economic incentives introduced; Number of Programme for demonstration projects.

Responsible institutions	Uncertainties	Expected results
<p>Transboundary: PPMC</p> <p>Albania: MEFWA, AEF, Local authorities</p> <p>Greece: GRMoEPP, GRMoRDF, PNFB, FD,FS,</p> <p>The former Yugoslav Republic of Macedonia: MEPP, MAFWE, Forest management PE, management bodies of protected forests,</p>	<p>Funding</p> <p>Human and other resource;</p> <p>Stakeholders commitment;</p>	<p>Ensured long-term forest productivity and long-term harvest levels;</p> <p>Erosion is reduced by 50% in 5 years;</p>
<p>Transboundary: PPMC</p> <p>Albania: MEFWA, AEF, Local authorities</p> <p>Greece: GRMoEPP, GRMoRDF, PNFB, FD,FS,</p> <p>The former Yugoslav Republic of Macedonia: MEPP, MAFWE, Forest management PE, management bodies of protected forests,</p>	<p>Funding</p> <p>Human and other resource;</p> <p>Stakeholders commitment;</p>	<p>Maintained functioning forest ecosystems capable of contributing to global carbon cycles;</p>
<p>Albania: MEFWA, Local authorities</p> <p>Greece: GRMoEPP, GRMoRDF, PNFB, FD,FS</p> <p>The former Yugoslav Republic of Macedonia: MEPP, MAFWE</p>	<p>Lack of institutional capacities;</p> <p>Lack of political will;</p>	<p>Ensured long-term forest productivity and long-term harvest levels.</p>
<p>Albania: MEFWA, Local authorities</p> <p>Greece: GRMoEPP, GRMoRDF, PNFB, FD,FS</p> <p>The former Yugoslav Republic of Macedonia: MEPP, MAFWE Forest management PE, management bodies of protected forests,</p>	<p>Lack of institutional capacities</p> <p>Lack of responsibility and awareness of local population</p>	<p>Ensured long-term forest productivity and long-term harvest levels</p>
<p>Transboundary: PPMC</p> <p>Albania: MEFWA, METE, Local authorities</p> <p>Greece: GRMoEPP, GRMoRDF, PNFB, FD,FS</p> <p>The former Yugoslav Republic of Macedonia: MEPP, MAFWE Forest management PE, management bodies of protected forests,</p>	<p>Lack of knowledge;</p> <p>Lack of financing;</p> <p>Lack of awareness of local population</p>	<p>Bioenergy production integrated into the silviculture and lumber processing industry.</p>

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
National actions in all the countries				
Investments				
Target 4.1: To ensure sustainable and ecosystem oriented forestry	Rehabilitation and restoration of forests (with emphasis on Albanian park of the Prespa Park)	5-10 years	2.000.000	100% of reforestation is with native species Number of species; Area afforested (ha)
Transboundary level				
Policies, education and scientific research				
Target 4.2: Foster sustainable fisheries	Develop transboundary fisheries management plan	3-5 years	150.000	Transboundary fisheries management plan is adopted by national authorities and the Prespa Park Management Committee;
	Decision on fishing quotas for all three states	1-3 years	15.000	Fishing quotas agreed and decision signed and approved by PPMC
	Harmonize fishing regulations	1-2 years	30,000	Common legal status for professional fishermen approved; Common license issued with regulations and duties for the fishermen. A maximum number of licenses determined.
	Harmonize stocking practices	1-2 years	30,000	Stocking practices common to the three countries approved and adopted, and incorporated into national legislation
	Capacity building of fisher organizations (financially; skills/knowledge; organizationally)	5 years	55,000	Fishermen are trained on fishery laws, fishing methods, fish species, impacts over fish and fisheries, marketing and processing of fish
	Enforce the closed season in all the three countries	Yearly	3,000	60% reduced number of registered illegal fishing activities registered 15th of April to 15th of June

Responsible institutions	Uncertainties	Expected results
<p>Albania: MEFWA, Local authorities</p> <p>Greece: GRMoEPP, GRMoRDF, PNFMB, FD,FS</p> <p>The former Yugoslav Republic of Macedonia: MEPP, MAFWE Forest management PE, management bodies of protected forests,</p>	<p>Funding;</p> <p>Political will;</p> <p>Public Participation;</p>	<p>Ensured long-term forest productivity and long-term harvest levels</p>
<p>Transboundary: PPMC</p> <p>Albania: MEFWA</p> <p>Greece: GRMoEPP, GRMoRDF, PNFMB, PFD</p> <p>The former Yugoslav Republic of Macedonia: MAFWE</p>	<p>Institutional capacity;</p> <p>Funding;</p> <p>Insufficient public participation;</p>	<p>Transboundary agreement on fish management policies in the Prespa Park watershed</p>
<p>Transboundary: PPMC</p> <p>Albania: MEFWA</p> <p>Greece: GRMoEPP, GRMoRDF, PNFMB, PFD</p> <p>The former Yugoslav Republic of Macedonia: MAFWE</p>	<p>Lack of knowledge</p> <p>Conflict of interests</p> <p>Insufficient public participation</p>	<p>Assessed fish resources, fish stock and fishery capacity</p>
<p>Transboundary: PPMC</p> <p>Albania: MEFWA</p> <p>Greece: GRMoEPP, GRMoRDF, PNFMB, PFD</p> <p>The former Yugoslav Republic of Macedonia: MAFWE</p>	<p>Scientific community;</p> <p>Conflict of interest between stakeholders;</p>	<p>Fish resources, fish stock and fishery capacity assessed.</p>
<p>Transboundary: PPMC</p> <p>Albania: MEFWA</p> <p>Greece: GRMoEPP, GRMoRDF, PNFMB, PFD</p> <p>The former Yugoslav Republic of Macedonia: MAFWE</p>	<p>Scientific community;</p> <p>Conflict of interest between stakeholders;</p>	<p>Fish resources, fish stock and fishery capacity assessed.</p>
<p>Transboundary: PPMC</p> <p>Albania: MEFWA</p> <p>Greece: GRMoEPP, GRMoRDF, PNFMB, PFD</p> <p>The former Yugoslav Republic of Macedonia: MAFWE</p>	<p>Institutional capacities;</p> <p>Funding.</p> <p>Stakeholders' commitment.</p>	<p>Improved capacities of fishery organizations</p>
<p>Albania: MEFWA</p> <p>Greece: GRMoEPP, GRMoRDF, PNFMB, PFD</p> <p>The former Yugoslav Republic of Macedonia: MAFWE</p>	<p>Institutional capacities;</p> <p>Funding.</p> <p>Stakeholders' commitment.</p>	<p>Accurate and permanent monitoring over fish stock and fish catch</p>

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Introduce economic instruments towards investing into storing and processing facilities, sales centers, spawning and nursery grounds for fish stocks	2-3 years	15.000	Private sector is stimulated in investing into storing and processing facilities, sales centers, spawning and nursery grounds for the fish stock; Number of storing and processing facilities, nursery and spawning grounds.
National actions in all the countries				
Policies, education and scientific research				
Target 4.2: Foster sustainable fisheries	Enforce the utilization of sustainable fishing technologies	Yearly	10.000	Penalties for using unsustainable fishing technologies; All fishermen fish with allowed fishing devices (length and mesh size and type of nets and maximum number nets used determined).
Transboundary level				
Monitoring / Data Management				
Target 4.2: Foster sustainable fisheries	Develop and maintain fish database for planning the fish quantity and regulating the number of fishing licensing	5 years	50.000	Effective statistical system for data collection in place; Annual Fishing reports;
Transboundary level				
Investments				
Target 4.2: Foster sustainable fisheries	Establish at least three fish breeding stations for restocking of the lake by 2010	5 years	250.000	Nuber /type of native species and biomass per ha. Number of breeding stations; Economic incentives.
Transboundary level				
Policies, education and scientific research				
Target 4.3: Enhance sustainable agriculture	Preparation of a common operational plan for the development of: sustainable best agricultural practices and organic farming including animal husbandry and plan for common promotion of products	3-6 yaers	80.000	Common operational plan is adopted by national stakeholders and Prespa Park Management Committee

Responsible institutions	Uncertainties	Expected results
Albania: MEFWA Greece: GRMoEPP, GRMoRDF, PNFB, PFD The former Yugoslav Republic of Macedonia: MAFWE	Low government priority on environment Institutional capacities	Improved market conditions for fish and fish products:
Albania: MEFWA Greece: GRMoEPP, GRMoRDF, PNFB, PFD The former Yugoslav Republic of Macedonia: MAFWE	Lack of institutional capacities	Modernization of the fisheries technology Reduced impact over the aquatic ecosystem and biodiversity;
Transboundary PPMC (or other body assigned by PPMC) Albania: MEFWA Greece: GRMoEPP, GRMoRDF, PNFB, PFD The former Yugoslav Republic of Macedonia: MAFWE	Data reliability; Insufficient capacities;	Accurate and permanent monitoring/data collection over fish stock and fish catch
Transboundary PPMC (or other body assigned by PPMC) Albania: MEFWA Greece: GRMoEPP, GRMoRDF, PNFB, PFD The former Yugoslav Republic of Macedonia: MAFWE	Low governmental support Lack of funding	Fish reproduction success; Reduced impact over the aquatic ecosystem and biodiversity; Private sector is stimulated in investing into storing and processing facilities, sales centers, spawning and nursery grounds for the fish stock;
Albania: MAFCP Greece: GRMoRDF: LUAC: The former Yugoslav Republic of Macedonia: MAFWE	Low governmental support; Lack of funding ; Low public awareness;	Promoted and implemented Common Good Agricultural Practice

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
	Develop community-based agricultural/ animal husbandry networks for transfer of technology	1-3 years	100.000	Networks for transfer of technology (clusters) established. Number and size of clusters.
National actions in all the countries				
Investments				
Target 4.3: Enhance sustainable agriculture	Programme for demonstration projects on cultivation varieties in order to reduce the monocultures (e.g. increase of vineyards against the wheat monoculture in Albania)	3-5 years	200,000	Number of Programme for demonstration projects; New types of cultures (ha)
	Promote pilot projects for land consolidation / cooperative, to create conditions for technology improvement	3-5 years	200,000	Number of implemented pilot projects Number of agricultural cooperatives established Economic incentives designed and implemented
Transboundary level				
Policies, education and scientific research				
Target 4.4: Sustainable energy consumption and renewable energy sources	Feasibility study on the potential for use of alternative types of energy in the Prespa Park basin	5-10 years	200.000	Study adopted by national stakeholders and Prespa park Management Committee; Alternative energy sources introduced in national and local policies
Transboundary level				
Investments				
Target 4.4: Sustainable energy consumption and renewable energy sources	Programme for demonstration projects encouraging technologies for energy efficiency and use of renewable energy sources	3-5 years	200.000	Use of renewable sources of energy is 10% up to 2020; Reduced energy consumption for 10% by 2020.
Transboundary level				
Policies, education and scientific research				
Target 4.5: Conserving the cultural heritage and enhancing the eco-tourism development	Implementation of the trilateral tourism development strategy	3-5 years	200.000	Incentives for development of the tourism marketing industry; Networks of tourism agencies established; Promotion material, campaigns.

Responsible institutions	Uncertainties	Expected results
Albania: MAFCP Greece: GRMoRDF: LUAC: The former Yugoslav Republic of Macedonia: MAFWE	Low governmental support; Lack of funding; Low public awareness;	Promoted and implemented Common Good Agricultural Practice
Albania: MAFCP Greece: GRMoRDF: LUAC: The former Yugoslav Republic of Macedonia: MAFWE	Low governmental support; Lack of funding; Low public awareness;	Promoted and implemented Common Good Agricultural Practice
Albania: MAFCP Greece: GRMoRDF: LUAC: The former Yugoslav Republic of Macedonia: MAFWE	Low governmental support; Lack of funding; Low public awareness;	Promoted and implemented Common Good Agricultural Practice
Albania: MAFCP, MF Greece: GRMoRDF: LUAC The former Yugoslav Republic of Macedonia: MoEPP, MoE,	Low governmental support; Lack of funding; Low public awareness;	Improve access to technologies for energy efficiency and use of renewable energy sources
Albania: METE, MEFWA, NPOs Greece: GRMoEECC The former Yugoslav Republic of Macedonia: MoEPP, MoE,	Low governmental support; Lack of funding; Low public awareness;	Improve access to technologies for energy efficiency and use of renewable energy sources; Contribution to global climate change and energy security issues.
Albania: MTCYS, Local authorities, NPOs Greece: GRMoEECC, PDESP The former Yugoslav Republic of Macedonia: MoEPP, MoE, local municipalities.	Low governmental support; Lack of funding; Low public awareness; Public participation.	Forms of tourism and their products that contribute to the protection of the Prespa Lakes ecosystem are fostered Circuit tours and complementary product development promoting common historical and cultural heritage are designed and marketed Transboundary tourism information and marketing, skill development, exchange of e Public participation upon the creation of a regional tourism destination is ensured

Prespa Lakes Basin

Strategic Action Programme

Management target	Activities	Timeframe	Costs (Euro)	Indicator of success
Transboundary level Investments Target 4.5: Conserving the cultural heritage and enhancing the eco-tourism development	Capacity building on the alternative tourism for all the relevant stakeholders in the transboundary area	1-3 years	50,000	Number of trainings; Number of participants;
	Implement programmes on the conservation of selected priority cultural sites	3-5 years	300.000	Number of conserved historical sites; Increased number of tourists
	Road and municipal infrastructure in support of the local tourism development	5-10 years	3,000,000	Developed infrastructure (km);
	Private initiatives towards improving the tourist offer (accommodation capacities and complementary tourist products)	permanent	Private funding	Number of private initiatives; Economic incentives.

Responsible institutions	Uncertainties	Expected results
<p>Albania: MTCYS, Local authorities, tourist agencies, NPOs</p> <p>Greece: GRMoEECC, PDESP</p> <p>The former Yugoslav Republic of Macedonia: MoEPP, MoE, local municipalities.</p>	<p>Low governmental support;</p> <p>Lack of funding;</p> <p>Low public awareness;</p> <p>Public participation.</p>	<p>Public participation upon the creation of a regional tourism destination is ensured;</p> <p>Transboundary tourism information and marketing, skill development, exchange of expertise</p>
<p>Albania: MTCYS</p> <p>Greece: PDESP</p> <p>The former Yugoslav Republic of Macedonia: MC, Institute for protection of cultural heritage.</p>	<p>Low governmental support;</p> <p>Lack of funding;</p>	<p>Programmes on the conservation of the cultural heritage in the Prespa Park area developed</p> <p>Forms of tourism and their products that contribute to the protection of the Prespa Lakes ecosystem are fostered</p>
<p>Albania: MTCYS, local authorities</p> <p>Greece: PDESP</p> <p>The former Yugoslav Republic of Macedonia: MTC, local municipalities</p>	<p>Lack of knowledge</p> <p>Conflict of interests</p> <p>Insufficient public participation</p>	<p>Improved access to goods and services</p>
<p>Private entrepreneurs</p>	<p>Public participation</p>	<p>Circuit tours and complementary product development promoting common historical and cultural heritage are designed and marketed</p>

Annex 2b: Methodology for cost assessment

The actions, being divided in three categories (policies, education and scientific research, monitoring / data management and investment) are treated as project ideas and need to be translated into project concepts with specific project ToRs as to be further costed. The present knowledge on their scope is based on the consultant's experience and international practice. In this regard, the following types of projects are foreseen in the three subsequent categories:

Policy, education and scientific research:

- Transboundary strategies and plans which derive from the implementation of EU environmental legislation;
- Drafting of pieces of legislation to comply with EU policies and laws and their enforcement;
- Basic scientific studies (e.g. study on the hydrological regime of the Prespa Lakes basin, development of a transboundary Red list of threatened species);
- Various programmes as a base for implementing specific national interventions of transboundary importance;
- Educational and training activities for various target groups in the basin;
- Designing of economic instruments to stimulate behavioural changes and to leverage funding for environmental activities.

The transboundary strategies may involve technical assistance, but also they may require certain analyses, such as temporary monitoring over selected parameters, development of GIS tools, which all in all entails additional costs. Whether these activities will be part of the projects' ToRs, it will depend on the donors' programmes, available funding and national financing to be made available. In particular, the costs for the following project ideas may look as inflated: The trilateral river basin management plan, development of a transboundary hydrological model and a water balance study, establishment of a transboundary educational centre etc. The basic assumption behind these costs involves the consideration of international (mainly EU funding), and engagement of prominent experts to lead the development of the trilateral planning documents. In addition, certain equipment, representing less than 25% of the total project budget may be foreseen. Also, it was taken into account that the project expenditures are to be shared between three countries and therefore certain reserve is given into the funding envelope; thus providing for certain flexibility.

Another rather expensive project is the establishment of an early warning system for the basin, on pollution or "natural emergencies" (hydrological extreme events, incidental or intentional chemical spills. It must be noted that the estimated costs for "natural emergencies" would cover a state of the art monitoring system for hydrological extreme events-draughts and floods, using data to model future and thus give a forecast, e.g. where and when will certain water levels occur. The early warning system consists of: warning, response, (including an emergency plan), evalu-

ation, a telemetric network and other infrastructure and telecommunication systems. The proposal derives from the fact that the Prespa Park basin is a sensitive area as a biodiversity hotspot and prone to climate changes. However, the stakeholders are to decide if this is their priority and whether national funding can be provided for.

As for legal efforts and enforcement the costs comprise of the technical assistance to the national, regional and local administration which may not come from the international community and therefore the estimated costs are more modest.

Monitoring / data management encompasses measures that are being envisaged by the Monitoring and Conservation Working Group (MCWG). Therefore, the costs for the monitoring and data management types of activities are fully abstracted from the reports in the scope of the MCWG. Whenever national monitoring networks are involved, the cost estimation is provided by national stakeholders, representing the institutions to be involved in the monitoring itself.

Regarding the investments, they encompass interventions to be carried out by the public sector (e.g. reforestation, rehabilitation of irrigation systems, construction of municipal infrastructure etc.), and Programme for demonstration projects to promote environmentally friendly practices by the private sector (e.g. use of biodegradable pesticides, use of renewable energies, various certification schemes etc.). Most of these projects could be linked to programmes as well, such as combating climate changes, implementation of HACCP in agricultural production etc. These programmes can be launched and financed by the littoral countries. When assessing the costs of the public expenditure, various unit costs have been used, such as the cost of a km of network, or costs of treated wastewater per population equivalent etc. As for the demonstration and pilot projects, it must be stressed out again that the actual costs will depend on the attractiveness of the programme for the donor and availability of national financing.

It may happen, based on the shown interest by the littoral countries and the donor community, to set up programmes along the each target. In this way the continuity of measures may be achieved and meeting of some EQOs in the most efficient manner. Prior to allocating the funds to certain programmes, another in-depth analysis should be carried out, based on detailed project fiches.

Annex 2c: The outline financing report for implementing measures for EQOs

Introduction

The implementation of the SAP depends on the progress of the development of project concepts (ToRs and project fiches) and on secured funding. For the latter a financing plan needs to be devised. The Joint Agreement of Ministers refers to the following partners to cooperate and potentially to obtain funding from:

- UNDP;
- GEF;
- Bilateral donors active in the region, such as KfW, GTZ and SDC;
- UNESCO;
- IUCN;
- Institutions of the European Union;
- and others

Different sources of funding have different characteristics. Some are more reliable than others, some sources are easier to raise than others, and some can be used freely according to management priorities while others come with strings attached. Some funding mechanisms take a long time and a lot of effort to establish; they therefore do not provide a short-term return, but over the longer term they offer the possibility of steady, reliable financing to meet recurrent costs. Some sources of funding have short-term time horizons and others have longer-term horizons. A good financial plan identifies these characteristics, and builds a revenue stream which matches both the short and long-term requirements of the programme. When it comes to SAP financing for the Prespa Park, a variety of programmes maybe established, with a special emphasise on transboundary water management and biodiversity conservation.

Ensuring effective management and securing sufficient financial resources are vital if Prespa Park is to continue to provide benefits and fulfill its role in integrated water management and biodiversity conservation. However, financial resources are often a constraining factor in the effective management of protected areas, falling well short of needs. Protected areas have to compete with pressing demands from other sectors, such as education, defence and health. For various reasons, these other demands often prove more effective than protected areas at capturing government revenue. The result is that the proportion of public funding going into investment in protected areas in the Prespa Park area is negligible.

A pre-requisite to establishing a financing plan for the implementation of the SAP is having in place an operational Prespa Park Management Committee and a Secretariat to administer the

transboundary programmes. This report is aimed at highlighting possible sources of funding from the EU, bilateral and multilateral donors, International Financing Institutions (IFIs), national programmes and various economic instruments for supporting the management of protected areas.

Potential Sources of Funding for the SAP

EU funding

When considering the EU funding for the implementation of the SAP, one should have in mind that Albania is a potential candidate; FYRoM is a candidate, while Greece is an EU member country. Therefore they are eligible for different funding mechanisms which are provided by the EU. It must be noted that the EU members may apply for bigger amounts comparably to accession countries. It is true in particular for funding of heavy investments related to improvement of infrastructure.

For the accession countries the following instruments can support the activities of the SAP:

- IPA,
- TAIEX
- Twinning

The most important source of funding for pre-accession countries is the Instrument for pre-accession assistance (IPA). It consists of the following components:

1. Transition Assistance and Institution Building.

This component will provide both “soft” support, in terms of know-how, and “hard”, in terms of physical investment in order to help countries meet the accession criteria and improve their administrative and judicial capacity

2. Regional and Cross-Border Co-operation.

This component will support cross-border activities among beneficiary countries and between beneficiary countries and Member States, by continuing to support Regional Co-operation previously supported under CARDS.

3. Regional Development – which will help prepare the beneficiary countries for Structural Funds- ERDF programmes- and for Cohesion Fund

4. Human Resources Development- which will help prepare for Structural Funds- ESF programmes

5. Rural Development – which will help prepare for Agriculture and Rural Development Funds

To be able of getting funding, the countries need to integrate specific measures into their operational programmes. Also, the Prespa Park area may not be a top priority for countries and therefore the IPA scarce funding is unlikely to contribute significantly to the implementation of the SAP. TAIEX and Twinning programmes are predominantly used to align certain institutional and legislative measures with the EU legislation, however, they are not considered a significant contributor to the SAP implementation as well.

Prespa Lakes Basin

Strategic Action Programme

Financial Instrument for Environment (so-called Financial Instrument for Environment (LIFE+)) that is specifically dedicated to environment and otherwise relies on integrating environmental aspects into other major funding areas. It is therefore important to assess the funding possibilities for the environment in all the proposed funding areas and instruments for the environment and nature conservation. It is available to all the three countries is the LIFE programme. But this programme is phasing out, while supporting activities in too many countries and requires significant project preparation skills to access the funding. Therefore, it is not considered a promising source for funding of SAP related activities, given the weak capacity of the majority of stakeholders in the area.

There is also a new instrument so called Thematic Programme for Environment and Sustainable Management Including Energy. Its character is similar to the LIFE+, furthermore it derives from this programme, with the intention to replace it nowadays.

Natura 2000 sites can be financed from various sources. One Natura 2000 site is found in Greece, while in Albania and FYRoM there isn't a Natural 2000 network of protected areas in place. Once in the pre-accession countries a Natural 2000 network will be established, all the three countries will be able to use, apart from LIFE+, the Rural Development funds, Regional Development funds and Fishery Funds.

Whether or not these funds are in fact available for NATURA 2000 and nature conservation in each country depends to a considerable extent on programming for the funds that is done at national level. NGOs can help ensure that funding is not only available but also well targeted for the specific needs of nature conservation in their country by participating in and contributing to the programming for use of EU funds. Unfortunately, the civil society sector in both Albania and FYRoM is rather weak.

Bilateral donors

In the Prespa Lakes area there were many donors active so far, such as the bilateral development cooperation with Swiss, Italy, Germany, Netherlands etc. Some of them are still present in Albania, while in FYRoM they are mostly phasing out. However, it would be worth trying of proposing a sound transboundary programme of demonstration projects or any other activity to involve all littoral countries, since the bilateral donors' regional components are seeking to develop transboundary projects.

IFIs

IFIs would readily finance any investment related activity, under an assumption that such investment is above 10 mill. Euro. However, in the EQOs framework, it appears that there isn't any (public) activity that requires massive funding. Also, IFIs provide loans, while for the poor in the transboundary area this is not an option. The German Development Bank (KfW), was well positioned and provided some funding in shape of grants; it could be realistic to get them back, if they are approached by the Prespa Park Management Committee with a sound transboundary programme.

National programmes

Biodiversity protection is underfinanced in both Albania and fYroM. Both countries are highly dependant on foreign aid when it comes to financing even national priorities. In Greece there are already developed funding streams in shape of the following programmes:

Operational Programme for the Environment and Sustainable Development

A new financing mechanism is called Operational Programme for the Environment and Sustainable Development, and has 10 major axons of financing and intervention:

- priority axis 1 – protection of the environment and civil air transport - tackling climate change - renewable energy
- priority axis 2 - preservation and management of water resources
- priority axis 3 - prevention and treatment of environmental risk
- priority axis 4 - protection systems and territorial solid waste management
- priority axis 5 - technical assistance fund cohesion
- priority axis 6 - protection of air environment - climate change
- priority axis 8 - prevention and treatment of environmental risk
- priority axis 9 - natural environment protection and biodiversity
- priority axis 10 - institutions and mechanisms

The Programme is co-funded by the Greek government and the European Union, and it is one of the major financing tools for the period 2007-2013.

Link to the funding resource: <http://www.epper.gr/Home.aspx?AspxAutoDetectCookieSupport=1>

The National Strategic Reference Framework (2007-2013)

The National Strategic Reference Framework (2007-2013), is the national framework for the R.O.P.s and the sector specific programmes as mentioned in the next 3 paragraphs below. Funding and co-financing, for natural and legal persons, for SMEs and NGOs, and for local governments and other public bodies is provided for several sectors, which can be of direct or indirect relation to SAP.

Link to the funding resource: <http://www.espa.gr/>

The Regional Operational Programme (R.O.P.) of Western Macedonia

The Regional Development Programmes are also a good resource for SAP relevant actions. The compensation of the employees of the PNFMB is made through financing from the Regional Operational Programme of Western Macedonia. Similarly, this Regional Operational Programme for the period of 2007-2013, will provide other resources, either towards Governmental organizations, such as the local government of Prespa Municipality, NGOs, or other legal persons, or even natural persons such as farmers. Also, other PNFMB actions and works can be funded from this Regional Programme.

Prespa Lakes Basin

Strategic Action Programme

The Programme is managed by the Regions of Western Macedonia, which also hosts the Regional Water Authority, the Regional Forestry Directorate, and many other stakeholders of the regional level for the Prespas.

Links to the funding resource and relevant bodies:

<http://www.westernmacedonia.gr/>, <http://www.pepdym.gr/>

The Operational Programme for the Fisheries /2007-2013

As in the ESPA and other regional and national financing programmes, the Operational Programme for Fisheries /2007-2013 provides funding to natural or legal persons, to small SMEs or NGOs, and to local government and public body organizations, in relation to the sustainable development of fisheries, and it is therefore in relation to the goals of the SAP. New calls for proposals are expected to be published for this programme. Although the SAP itself can not be funded directly from this programme, actions related to local fisheries development, and which are conservation management objectives can find financial support through it.

Link to the funding resource: <http://www.espa.gr/Greek/Documents.aspx?docid=46>

The Operational Programme for Agricultural Development / 2007-2013

Similarly to the other funding programmes for Greece, this one is focused on agricultural development, which is the dominant land use for Prespas. Biological, certified and sustainable agriculture activities are covered by the programme, and thus many SAP related actions can be funded. Climate Change is also within the 2007-2013 Programme priorities, which is another sector of interest to SAP.

Another example, is the New Farmer Programme (of the same Operational Programme for Agricultural Development / 2007-2013), under which young age citizens are given financial incentives to shift towards the farming profession and investments. Such actions related to SAP objectives regarding social well being of residents and local demographics enhancement, and may fund individual farming SMEs towards biological agriculture, which agrees with the conservation management objectives of Prespa Park.

Link to the funding resource: <http://www.espa.gr/Greek/Documents.aspx?docid=45>

Regional Bilateral Funding Programmes - INTERREG

There are two major actions under this programme with interest to the Prespas:

- The Greece – Albania Interreg Programme
- The Greece – the former Yugoslav Republic of Macedonia INTERREG Programme

Both programmes are expected to open calls for proposals, and the funds for Albania and former Yugoslav Republic of Macedonia are coming from the IPA, while for Greece projects are co financed both by Greece and the EC.

Eligible organizations are governmental bodies, local governments, and NGOs, belonging geographically at the border areas of the 3 countries. Transnational issues of environmental protec-

tion, natural resource management, spatial planning or cultural values preservation, are common subjects of INTERREG calls. However, the exact nature of the activities to be funded will be known after the publication for the relevant calls.

Link to the funding resource: <http://www.interreg.gr/default.aspx?lang=el-GR&page=237>

Sustainable Financing of the SAP implementation

In the long-term, support for the process - once institutions have been established need→s to come from the riparians themselves. Where this has not been the case, over-reliance on donor support arose, undermining of a long-term ownership. In parallel with instituting processes for the development of the Prespa Park Management Committee and its Secretariat, there needs to be associated support to national institutions. In order to ensure long-term ownership from riparian countries one of the key process issues is promoting benefits of effective transboundary management within national states. This in itself is a political activity requiring sensitivity to the different upstream downstream perspectives of riparian countries, and their different perceptions of what constitutes a benefit - for instance the widely differing uses to which water may be put.

The international funding environment does not currently support an effective co-ordinated facility, such as the Prespa Park Management Committee to act as a third party in enabling the development of shared water resources (either groundwater or surface water). To do so requires concerted donor funding efforts and co-ordinated actions, neither of which is easy to achieve. Co-ordinated efforts on the environment by the GEF are impressive - yet transboundary water issues have only recently received a comparable degree of attention in global terms.

Though UNDP / GEF still plays a role in supporting transboundary management of the Prespa Park, the effectiveness of the UN in brokering transboundary water management is affected by the decrease in funding levels and the fact that within the UN the different parts of the 'water' domain are handled by a very large number of UN agencies.

The Global Water Partnership, that has a mandate in building alliance and on the ground partnerships, could help facilitate the establishment of the Prespa Park Management Committee.

The role of private sector investments is also suggested by its increasingly active provision of infrastructure over the past decade, yet there are many issues which need to be addressed before over-estimating the potential for private sector finance. Firstly, most private sector investment has been in water supply. It is always easier to collect revenues to cover costs of water supply than for wastewater treatment or other water functions, where the benefits to the actual consumers are less direct and, indeed, often accrue downstream rather than to the consumers themselves.

Private sector investment most relevant to transboundary water management has been in hydropower where transboundary concerns frequently exist. Outside of hydropower development, however, there do not appear to be any instances of private sector involvement in transboundary water resources management.

Prespa Lakes Basin

Strategic Action Programme

The private sector needs a range of incentives and enabling conditions to participate actively, and this means potential profitability and return on capital, in addition to manageable risks. The latter may include risks concerning contract enforceability, regulatory changes, the rights of foreign investors and political security. These are difficult enough to find in single-country projects in many parts of the developing world, and the more so in a transboundary context. The private sector therefore needs a vehicle through which to channel its participation in project management structures essential to which is a clear enabling institutional structure.

Endowment or Trust Funds offer a plausible option for sustaining transboundary Prespa Park Management Committee and longer term planning and programming. Because a Trust Fund must have a board of directors, it is in a strong position to encourage stakeholders to participate in the management of the resource - and the base for stakeholders can be quite wide, embracing NGOs, commercial enterprises and donors. Funds can provide a means for encouraging commercial and private sector participation either in kind, through providing management skills, or as direct financial contributions. They provide a means of diluting direct donor control in the administration of resources and for building capacity in financial and institutional management. One of their critical financing roles is in giving longer-term security to institutions and programmes, and smoothing out funding fluctuations which can arise where organisations are dependent on annually allocated resources, whether from government or donors.

Inter-riparian financing in the form of permit, or allowance-based contributions, could help to support regional initiatives. Within the Prespa Park basin, Greece might support investments in poorer countries. A mechanism could be developed within the Prespa Park basin whereby - if certain investments are needed - Greece could make the water-related investment in Albania or FYRoM if it was a lower-cost option, and realise a higher level of investment than would otherwise be possible. However, the costs and benefits of such arrangements must become part of a transboundary Agreement.

Longer-term financing of regional public goods remains the most difficult enterprise, not least because the longer term positive and negative externalities are harder to gauge and project to important constituencies of interest such as civil society, local government, state institutions and regional groupings. Building political momentum through the incremental engagement of all parties is therefore vital to maintaining the sustainability of long-term provision.

Initially whilst it will be UNDP who supports the establishing the Prespa Park Management Committee, additional mechanisms such as direct charges and tariffs, and wider financial participation, can evolve at later stages of the process. There is also scope as the structures of management mature for raising funds through government taxation and through direct involvement of other bodies - particularly the private sector - in, for instance, the provision of infrastructure and investments on river basins.

Current and recommended financing arrangements for process financing

Cost category	Explanation	Current financing arrangement (case studies)	Recommended financing arrangements
Initiating process	Cost of establishing and adjusting transboundary institutions	Mixed and patchy	By international or regional organization with sufficient strength
Institutional management	Management costs of the transboundary institutions	By riparian countries and externaly	By riparian countries solely
Programme implementation	Cost of river basin management-development of uncontested data bases, monitoring etc.	By bilateral donors and UN agencies	On the basis of formulated programme. Trust fund financing by bilateral multilateral and private donors
Investment in water management works	Cost of investment in water-related infrastructure	(Uncoordinated) National investments (public and private sector)	Co-ordinated national investments and regional investments. Risk financing (co-financing regional development banks and private sector) New financing modalities <ul style="list-style-type: none"> • Inter-riparian financing • Cost recovery

At stages in the financing of institutional development there will be difficult trade-offs between donor willingness to maintain long-term commitments and riparian capacity to finance from domestic sources. Whilst the costs of management arrangements described are not high (particularly from a donor perspective), as they become domestically sourced their real cost will become increasingly apparent, particularly where there are perhaps significant trade-offs with other poverty reduction processes. There is therefore a need to understand the differential rates of progress in this financing sequence with the careful weighting of costs by different riparian capacities, level of socio-economic development and opportunity costs of financing such arrangements. Maintaining a balance between the inputs of different riparians to avoid dominance of the process may also require third-party support. Possible funding arrangements at different stages in the process are shown in the table below.

Different forms of funding could be used for different aspects of the sequencing of actions. The vision of donors would have to be long-term, and include some form of long-term commitment to the core costs of the Prespa Park Management Committee.

Prespa Lakes Basin

Strategic Action Programme

Participation and civil society: Enhancing roles

The role of civil society in Prespa Park management is limited, with the exception of the impressive involvement of the Society for Protection of Prespa Park (SPP). Enhancing civil society roles in the transboundary and national activities is part of the development of effective Prespa Park management as a public good.

However, substantial barriers to extending the role of civil society at a transboundary level need to be overcome, problems surround existing capacity, national political cultures which hinder the activities of civil society, and the larger technical complexities of transboundary activity itself. A particular focus should therefore be to facilitate the entry of civil society (and local government) at a regional level of management. In the specific realm of effective transboundary water management this role would be facilitated by greater support to global water networks concerned with policy development and their relationship to states and society, including the World Water Council and the Global Water Partnership.

A structured role for civil society

Stages of process	Possible role of civil society
Initiating process	Civil diplomacy between neighbouring groups; construction of dialogue through networks of civil society groups at a regional level
Institutional management	Observers to the main meetings; Development of networks to feed into policy development and data collection
Programme implementation	Capacity building, independent monitoring of process; assistance in feedback of ideas and impacts from local communities
Investment in water management works	Implementation and co-funding, where appropriate; provision of technical expertise in development of management works including social and environmental impact assessment

Annex 3 Transboundary Diagnostic Analysis

The TDA (including the National Analysis Reports from Albania, the former Yugoslav Republic of Macedonia and Greece are located on the UNDP/GEF Project (Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, the former Yugoslav Republic of Macedonia and Greece).

website <http://prespa.iwlearn.org/>

Annex 4 References and Bibliography

References - until 2002

- Editorial – a call for help; The Prespa Lakes – a call for help in a distressing situation. *Hydrobiologia*, 450(1):3–4, May 2001.
- Sh. Aliaj, G. Baldassarre, and D. Shkupi. Quaternary subsidence zones in Albania: some case studies. *Bulletin of Engineering Geology and the Environment*, 59(4):313–318, February 2001.
- D. BOUSBOURAS, Y. IOANNIDIS, Alain J. CRIVELLI, and George CATSADORAKIS. The distribution and habitat preferences of the amphibians of Prespa National Park. *Hydrobiologia* (The Hague), 351:127–133, 1997.
- V. BOY and A. J. CRIVELLI. Simultaneous determination of gillnet selectivity and population age-class distribution for two cyprinids. *Fisheries research*, 6(4):337–345, 1988.
- G. Catsadorakis. Breeding birds from reedbeds to alpine meadows. *Hydrobiologia*, 351(1):143–155, August 1997.
- G. Catsadorakis. The importance of Prespa National Park for breeding and wintering birds. *Hydrobiologia*, 351(1):157–174, August 1997.
- G. Catsadorakis and M. Malakou. Conservation and management issues of Prespa National Park. *Hydrobiologia*, 351(1):175–196, August 1997.
- A. Crivelli and O. Vizi. The Dalmatian pelican, *Pelecanus crispus* Bruch 1832, a recently world-endangered bird species. *Biological Conservation*, 20(4):13, 1981.
- A. J. Crivelli. Are fish introductions a threat to endemic freshwater fishes in the northern Mediterranean region? *Biological Conservation*, 72(2):8, 1995.
- A. J. Crivelli, G. Catsadorakis, M. Malakou, and E. Rosecchi. Fish and fisheries of the Prespa lakes. *Hydrobiologia*, 351(1):107–125, August 1997.
- A. J. CRIVELLI and F. DUPONT. Biometrical and biological features of *Alburnus alburnus*—*Rutilus rubilio* natural hybrids from Lake Mikri Prespa, northern Greece. *Journal of fish biology*, 31(6):721–733, 1987.
- A. J. CRIVELLI, D. HATZILACOU, and G. CATSADORAKIS. The breeding biology of the Dalmatian Pelican *Pelecanus crispus*. *Ibis*, 140(3):472–481, July 1998.
- A J Crivelli and T W Lee. Observations on the age, growth and fecundity of *Cobitis meridionalis*, an endemic leach of Prespa Lake (Greece). *Folia Zoologica*, 49:121–127, 2000.
- A J Crivelli, M Malakou, G Catsadorakis, and E Rosecchi. The Prespa barbel, *Barbus prespensis*, a fish species endemic to the Prespa Lakes (north-western Greece). *Folia Zoologica*, 45:21–32, 1996.
- A J Crivelli, M Malakou, G Catsadorakis, and E Rosecchi. Life history and spawning migration of the Prespa nase, *Chondrostoma prespensis*. *Folia Zoologica*, 46:37–49, 1997.
- A. J. Crivelli, L. Marsili, S. Focardi, and A. Renzoni. Organochlorine Compounds in Pelicans (*Pelecanus crispus* and *Pelecanus onocrotalus*) Nesting at Lake Mikri Prespa, North Western Greece. *Bulletin of Environmental Contamination and Toxicology*, 62(4):383–389, April 1999.
- A.J. Crivelli, S. Focardi, C. Fossi, C. Leonzio, A. Massi, and A. Renzoni. Trace elements and chlorinated hydrocarbons in eggs of *Pelecanus crispus*, a world endangered bird species nesting at Lake Mikri Prespa, North-western Greece. *Environmental Pollution*, 61(3):12, 1989.
- AJ Crivelli, M Malakou, G Catsadorakis, and E Rosecchi. Life history and spawning migration of the Prespa nase, *Chondrostoma prespensis*. *FOLIA ZOOLOGICA*, 46:37–49, 1997.
- George A. Daoutopoulos and Myrto Pyrovetsi. Comparison of conservation attitudes among fishermen in three protected lakes in Greece. *Journal of Environmental Management*, 31(1):9, 1990.
- E E Delaki, G Kotzageorgis, V Ioannidou, and A Stamopoulos. A study of otters in Lake Mikri Prespa, Greece. 3:12–16, 1988.

- I Doadrio and J A Carmona. Genetic divergence in Greek populations of the genus *Leuciscus* and its evolutionary and biogeographical implications. *Journal of Fish Biology*, 53(3):591–613, 1998.
- F. DUPONT and A. LAMBERT. Etude des communautés de Monogènes Dactylogyridae parasites des Cyprinidae du lac Mikri Prespa (nord de la Grèce). Description de trois nouvelles espèces chez un *Barbus* endémique: *Barbus cyclolepis prespensis* Karaman, 1924. Study of the parasitic community. *Annales de parasitologie humaine et comparée*, 61(6):597–616, 1986.
- P. S. ECONOMIDIS. *Chalcalburnus belvica* (Karaman, 1924) (Pisces, Cyprinidae), nouvelle combinaison taxinomique pour la population provenant du lac Petit Prespa (Macédoine, Grèce) *Chalcalburnus belvica* (Karaman, 1924) (Pisces, Cyprinidae), a new taxonomical combination for t. *Cybium* (Paris), 10(1):85–90, 1986.
- P. S. Economidis. Endangered freshwater fishes of Greece. *Biological Conservation*, 72(2):10, 1995.
- Panos S. Economidis and Petru M. Banarescu. The Distribution and Origins of Freshwater Fishes in the Balkan Peninsula, Especially in Greece. *Internationale Revue der gesamten Hydrobiologie und Hydrographie*, 76(2):257–284, 1991.
- G. E. HOLLIS, A. C. STEVENSON, Alain J. CRIVELLI, and George CATSADORAKIS. The physical basis of the Lake Mikri Prespa systems : geology, climate, hydrology and water quality. *Hydrobiologia* (The Hague), 351:1–19, 1997.
- Y. IOANNIDIS, D. BOUSBOURAS, Alain J. CRIVELLI, and George CATSADORAKIS. The space utilization by the reptiles in Prespa National Park. *Hydrobiologia* (The Hague), 351:135–142, 1997.
- V. Karagiannakidou, M. Konstantinou, and K. Papademetriou. Floristic and phytogeographical research on the upper montane and the subalpine grassland flora of East Macedonia, Greece. *Feddes Repertorium*, 106(3-4):193–213, 1995.
- M. A. KARTERIS and M. PYROVETSI. Land cover/use analysis of prespa national park, Greece. *Environmental conservation*, 13(4):319–330, 1986.
- C. S. Kosmas, N. G. Danalatos, and N. K. Moustakas. The soils. *Hydrobiologia*, 351(1):21–33, August 1997.
- T. S. KOUSSOURIS, A. C. DIAPOULIS, and E. T. BALOPOULOS. Assessing the trophic status of Lake Mikri Prespa, Greece. Evaluation de l'état trophique du lac Mikri Prespa, Grèce. *Annales de limnologie*, 25(1):17–24, 1989.
- Th. Koussouris, A. Diapoulis, and E. Balopoulos. Limnological situations in two shallow Greek Lakes (Kastoria and Mikri Prespa lakes). *GeoJournal*, 14(3):377–379, April 1987.
- J. G. J. KUIPER. *Pisidium maasseni* n. sp., a new species from Lake Prespa, Yugoslavia (Bivalvia, Sphaeriidae). *Basteria*, 51(4):163–165, 1987.
- Michèle LEMONNIER-DARCEMONT. Aux confins de la Grèce : les lacs Prespa, oasis des Balkans. *Le Courrier de la nature* (1977), 228:36–41, 1977.
- H. LOFFLER, E. SCHILLER, E. KUSEL, and H. KRAILL. LAKE PRESIPA, A EUROPEAN NATURAL MONUMENT, ENDANGERED BY IRRIGATION AND EUTROPHICATION? *Hydrobiologia* (The Hague), 384:69–74, 1998.
- E. MICHALOUDI, M. ZARFDJIAN, P. S. ECONOMIDIS, Alain J. CRIVELLI, and George CATSADORAKIS. The zooplankton of Lake Mikri Prespa. *Hydrobiologia* (The Hague), 351:77–94, 1997.
- G Pavlides. Aquatic and terrestrial vegetation of Prespa area. *Hydrobiologia*, 351:41–60, 1997.
- G Pavlides. The flora of Presa National Park with emphasis on species of conservation interest. *Hydrobiologia*, 351:35–40, 1997.
- D. PETRIDIS and A. SINIS. Benthos of Lake Mikri Prespa (North Greece). *Hydrobiologia* (The Hague), 304(3):185–196, 1995.
- Claudio Prigioni, Giuseppe Bogliani, and Francesco Barbieri. The otter *Lutra lutra* in Albania. *Biological Conservation*, 36(4):8, 1986.
- M. PYROVETSI and A. CRIVELLI. Habitat use by water-birds in Prespa National Park, Greece. *Biological conservation*, 45(2):135–153, 1988.
- M. PYROVETSI and G. DAOUTOPOULOS. Farmers' needs for nature conservation education in Greece. *Journal of environmental management*, 56(2):147–157, 1999.

Prespa Lakes Basin

Strategic Action Programme

- M. PYROVETSI and G. A. DAOUTOPOULOS. Conservation-related attitudes of Lake Fishermen in Greece. *Environmental conservation*, 16(3):245–250, 1989.
- M. D. Pyrovetsi and P. A. Gerakis. Environmental problems from practicing agriculture in Prespa National Park, Greece. *The Environmentalist*, 7(1):35–42, March 1987.
- Myrto Pyrovetsi and George Daoutopoulos. Educational response to differences in environmental attitudes among lake fishermen. *Landscape and Urban Planning*, page 5, 1991.
- Elisabeth Rosecchi, Alain J. Crivelli, and George Catsadorakis. The establishment and impact of *Pseudorasbora parva*, an exotic fish species introduced into Lake Mikri Prespa (north-western Greece). *Aquatic Conservation: Marine and Freshwater Ecosystems*, 3(3):223–231, September 1993.
- T. Sawidis. Radioactive pollution in freshwater ecosystems from Macedonia, Greece. *Archives of Environmental Contamination and Toxicology*, 30(1):100–106, January 1996.
- Michael J. Scoullou and John Hatzianestis. Dissolved and particulate trace metals in a wetland of international importance: Lake Mikri Prespa, Greece. *Water, Air, and Soil Pollution*, 44(3-4):307–320, April 1989.
- A C Stevenson and R J Flower. A Palaeoecological Evaluation of Environmental Degradation in Lake Mikri Prespa, NW Greece. *Biological Conservation*, 57:89–109, 1991.
- E Tryfon. *Pannus spumousus* (Chroococcales, Cyanoprocaryota) from Lake Mikri Prespa, Greece. *PHYCOLOGIA*, 35(3):222–224, 1996.
- E. Tryfon, M. Moustaka-Gouni, and G. Nikolaidis. Planktic cyanophytes and their ecology in the shallow Lake Mikri Prespa, Greece. *Nordic Journal of Botany*, 17(4):439–448, August 1997.
- E. TRYFON, M. MOUSTAKA-GOUNI, G. NIKOLAIDIS, and I. TSEKOS. Phytoplankton and physical-chemical features of the shallow Lake Mikri Prespa, Macedonia, Greece. *Archiv für Hydrobiologie*, 131(4):477–494, 1994.
- E. TRYFON, M. MOUSTAKA-GOUNI, Alain J. CRIVELLI, and George CATSADORAKIS. Species composition and seasonal cycles of phytoplankton with special reference to the nanoplankton of Lake Mikri Prespa. *Hydrobiologia* (The Hague), 351:61–75, 1997.
- Petridis D. and Sinis A. The benthic fauna of Lake Mikri Prespa *Hydrobiologia*. Volume 351. 1997 DOI - 10.1023/A:1003060307201
- Catsadorakis G. and Källander H. Densities, habitat and breeding parameters of the Sombre Tit *Parus lugubris* in Prespa National Park, Greece. *Bird Study*, Volume 46, Issue 3 November 1999, pages 373 - 375

References - 2003 AND AFTER

- Sokrat Amataj, Todor Anovski, Ralf Benischke, Romeo Eftimi, Laurence Gourcy, Liliana Kola, Ioannis Leontiadis, Eftim Micevski, Alqiviadis Stamos, and Jovan Zoto. Tracer methods used to verify the hypothesis of Cvijić about the underground connection between Prespa and Ohrid Lake. *Environmental Geology*, 51(5):5, 2007.
- Apostolos P. Apostolidis, Demetrios Loukovitis, and Costas S. Tsigenopoulos. Genetic characterization of brown trout (*Salmo trutta*) populations from the Southern Balkans using mtDNA sequencing and RFLP analysis. *Hydrobiologia*, 600(1):169–176, November 2007.
- Ioli Christopoulou and Vivi Roumeliotou. Uniting People through Nature in Southeast Europe: The Role (and Limits) of Nongovernmental Organizations in the Transboundary Prespa Park. *Southeast European and Black Sea Studies*, 6(3):20, 2006.
- Alqiviadh Cullaj, Agim Hasko, Aleko Miho, Ferdinand Schanz, Helmut Brandl, and Reinhard Bachofen. The quality of Albanian natural waters and the human impact. *Environment International*, 31(1):133–146, 2005.
- Fabrice Dentressangle, G. Poizat, and A. J. Crivelli. Feeding frequency influences crèching age in the Dalmatian pelican, *Pelecanus crispus*. *Journal of Ornithology*, 149(3):431–437, April 2008.
- Ifigenia Kagalou and Ioannis Leonardos. Typology, classification and management issues of Greek lakes: implication of the Water Framework Directive (2000/60/EC). *Environmental monitoring and assessment*, 150(1-4):469–84, March 2009.
- Dragi KOCEV, Andreja NAUMOSKI, Kosta MITRESKI, Svetislav KRSTIC, and Sašo DZEROSKI. Learning habi-

- tat models for the diatom community in Lake Prespa. *Ecological modelling*, 221(2):330–337, 2010.
- Z. Levkov and D.M. Williams. Two new species of *Diatoma* from Lakes Ohrid and Prespa, Macedonia. *Diatom Research*, 21(2):281–296, 2006.
- Simonetta Mattiucci, Michela Paoletti, Adolfo Consuegra Solorzano, and Giuseppe Nascetti. *Contracaecum gibsoni* n. sp. and *C. overstreeti* n. sp. (Nematoda: Anisakidae) from the Dalmatian pelican *Pelecanus crispus* (L.) in Greek waters: genetic and morphological evidence. *Systematic parasitology*, 75(3):207–24, March 2010.
- A. MATZINGER, M. JORDANOSKI, E. VELJANOSKA-SARAFILOSKA, M. STURM, B. MÜLLER, and A. WÜEST. Is Lake Prespa jeopardizing the ecosystem of ancient Lake Ohrid? *Hydrobiologia* (The Hague), 553:89–109, 2006.
- Evangelia MICHALOUDI. Dry weights of the zooplankton of Lake Mikri Prespa (Macedonia, Greece). *Belgian journal of zoology*, 135(2):223–227, 2005.
- Yannis A. Mylopoulos and Elpida G. Kolokytha. Integrated water management in shared water resources: The EU Water Framework Directive implementation in Greece. *Physics and Chemistry of the Earth, Parts A/B/C*, 33(5):6, 2008.
- V. POPOV, E. ANOVSKA, M. ARSOV, S. AMATAJ, M. KOLANECI, A. STAMOS, L. ARSOV, T. ANOVSKI, E. KIRI, A. GELAJ, C. A. Brebbia, and Viktor Popov. Study of the Prespa-Ohrid lake system using tracer experiments and the lake's water balance. *Transactions on ecology and the environment*, pages 75–84, 2009.
- V. POPOV, T. ANOVSKI, R. GOSPAVIC, Santiago Hernández, and C. A. Brebbia. Sustainable management of Prespa Lake. *WIT transactions on engineering sciences*, pages 71–79, 2007.
- Cvetanka POPOVSKA and Ognjen BONACCI. Basic data on the hydrology of Lakes Ohrid and Prespa. *Hydrological processes*, 21(5):658–664, 2007.
- Roland SCHULTHEISS, Christian ALBRECHT, Ulrich BÖSSNECK, Thomas WILKE, Thomas WILKE, Risto VÄNÖLÄ, and Frank RIEDEL. The neglected side of speciation in ancient lakes : phylogeography of an inconspicuous mollusc taxon in lakes Ohrid and Prespa. *Hydrobiologia* (The Hague), 615:141–156, 2008.
- Kokkinakis, A.K. & Z.S. Andreopoulou 2006. Sustainable fisheries as a key factor for the environmental conservation of the Balkan trans-frontier lakes. *BALWOIS 2006*, 10 pp.
- Themistokles Lekkas, Maria Kostopoulou, Andreas Petsas, Maria Vagi, Spyros Golfinopoulos, Athanasios Stasinakis, Nikolaos Thomaidis, Gerasimos Pavlogeorgatos, Anna Kotrikla, Georgia Gatidou, Nikolaos Xylourgidis, George Kolokythas, Christina Makri, Damianos Babos, Demetris F. Lekkas and Anastasia Nikolaou. “Monitoring priority substances of directives 76/464/EEC and 2000/60/EC in Greek water bodies” July 2003, *Jurnal of Environmental Chemistry*, Copyright Royal Society of Chemistry.
- Themistokles Lekkas, George Kolokythas, Anastasia Nikolaou, Maria Kostopoulou, Anna Kotrikla, Georgia Gatidou, Nikolaos S. Thomaidis, Spyros Golfinopoulos, Christina Makri, Damianos Babos, Maria Vagi, Athanasios Stasinakis, Andreas Petsas, and Demetris F. Lekkas. Evaluation of the pollution of the surface waters of Greece from the priority compounds of List II, 76/464/EEC Directive, and other toxic compounds. *Environment International*, 30(8):12, 2004

The Strategic Action Programme provides an overview of the key actions that are recommended to ensure sustainable management of the Prespa Lakes Basin. This document was produced with technical and financial support from the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF).

December 2012