ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ

ΥΠΟΥΡΓΕΙΟ ΠΕΡΙΒΑΛΛΟΝΤΟΣ ΕΝΕΡΓΕΙΑΣ & ΚΛΙΜΑΤΙΚΗΣ ΑΛΛΑΓΗΣ

ΕΙΔΙΚΗ ΓΡΑΜΜΑΤΕΙΑ ΥΔΑΤΩΝ

Development of the River Basin Management Plans of the River Basins of West Macedonia and Central Macedonia River Basin Districts according to the Specifications of the WFD 2000/60/EC, applying the Greek Law 3199/2003 and the Greek PD 51/2007

WP 1.16
Report on the Upstream Countries Actions in the Transboundary Prespa Lakes Basin

River Basins of West Macedonia (GR09)

CONSORTIUM:

- EXARCHOU NIKOLOPOULOS BENSASSON CONSULTING ENGINEERS SA
- GEOSYNOLO LTD
- LISA BENSASSON
- ILIAS KOURKOULIS
- ENVIROPLAN SA
- DIKTIO SA
- ECO CONSULTANTS SA
- FOTEINI MPALTOGIANNI

Edition 2.0
January 2014

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

ΕΠΠΕΡΑΑ
Επιχειρησιακό Πρόγραμμα Περιβάλλον και Αειφόρος Ανάπτυξη

ΕΣΠΑ 2007-2013
πρόγραμμα για την ανάπτυξη

Co-financed by Greece and the European Union

HELLENIC REPUBLIC

MINISTRY OF ENVIRONMENT, ENERGY AND CLIMATE CHANGE
SPECIAL SECRETERIAT FOR WATER

PROJECT: DEVELOPMENT OF THE RIVER BASIN MANAGEMENT PLANS OF THE RIVER BASINS OF WEST MACEDONIA AND CENTRAL MACEDONIA RIVER BASIN DISTRICTS ACCORDING TO THE SPECIFICATIONS OF THE WFD 2000/60/EC, APPLYING THE GREEK LAW 3199/2003 AND THE GREEK PD 51/2007

CONSORTIUM: EXARCHOU NIKOLOPOULOS BENSASSON CONSULTING ENGINEERS SA - GEOSYNOLO LTD - LISA BENSASSON - ILIAS KOURKOULIS - ENVIROPLAN SA - DIKTIO SA - ECO CONSULTANTS SA - FOTEINI MPALTOGIANNI

DEVELOPMENT OF THE RIVER BASIN MANAGEMENT PLAN OF THE RIVER BASINS OF WEST MACEDONIA RIVER BASIN DISTRICT (GR09)

PHASE A WORK PACKAGE 16: - REPORT ON THE UPSTREAM COUNTRIES ACTIONS IN THE TRANSBOUNDARY PRESPA LAKES BASIN

Date of First Publication: *31.10.2012*

G.G. of Management Plan's Approval: G.G. B' 181/31.1.2014

CONTENTS

TABLES

FIGURES

ABBREVIATIONS

BMZ	=	German Federal Ministry for Economic Cooperation and Development
CADSES	=	Central, Adriatic, Danubian and South-Eastern European Space
CHF	=	Confoederatio Helvetica Franc
CIHEAM	=	International Centre for Advanced Mediterranean Agronomic Studies
CITES	=	Convention on Trade in Endangered Species
EBRD	=	European Bank for Reconstruction and Development
EC	=	European Commision
ECAT	=	Enviromental Center for Technology and Administration
EC FP6	=	6th EC Framework Programme
EIA	=	Environmental Impact Assessment
EnvSec Initiative	=	Environment and Security Initiative
EU	=	European Union
EUR	=	Euros
EURONATURE	=	European Natural Heritage Fund
G.G.	=	Government Gazette
fYROM	=	former Yugoslav Republic of Macedonia
GEF	=	Global Environment Facility
GEF-SGP	=	Global Environment Facility - Small Grants Programme
GIS	=	Geographic Information System
GWPMED	=	Global Water Partnership - Mediterranean
GTZ	=	German Organisation for Technical Cooperation
INCO	=	International Cooperation
IRBM	=	Integrated River Basin Management
IUCN	=	International Union for Conservation of Nature
KfW	=	Kreditanstalt Für Wiederaufbau (German Development Bank)
LEAP	=	Local Environmental Action Plan
LTD	=	Limited Business
MCWG	=	Monitoring and Conservation Working Group
MedWet	=	Mediterranean Wetlands initiative
MEPP	=	Ministry of Environment and Physical Planning
NATO	=	North Atlantic Treaty Organisation
NGOs	=	Non Governmental Organizations
no.	=	Numero
NP	=	National Park
PD	=	Presidential Decree
PDF B	=	Programme Development Facility - Block B
PNP	=	Prespa National Park
PNFMB	=	Prespa National Forest Management Body
PNPMB	=	Prespa National Park Management Body
PPCC	=	Prespa Park Coordination Committee
PPNEA	=	Protection and Preservation of Natural Environment in Albania
PWMWG	=	Prespa Water Management Working Group
REC	=	Regional Environment Centre
SA	=	Anonymous Society
SAC	=	Special Areas of Conservation

SAP	=	Strategic Action Plan
SAP	=	Strategic Action Programme
SDC	=	Swiss Agency for Development and Cooperation
SEA	=	Strategic Environmental Assessment
SEE	=	South-Eastern Europe
SPA	=	Special Protection Area
SPP	=	Society for the Protection of Prespa
Sps	=	Science for Peace and Security
TDA	=	Trans-boundary Diagnostic Analysis
TMS	=	Transboundary Monitoring System
TTT	=	Technical Task Team
UNDP	=	United Nations Development Programme
UNECE	=	United Nations Economic Commission for Europe
UNOPS	=	United Nations Office for Project Services
USD	=	United States Dollar
WFD	=	Water Framework Directive
WWF	=	World Wide Fund for Nature

ACKNOWLEDGEMENTS

The Consortium would like to thank for their contribution to the present River Basin Management Plan the following:

- Dr. John Kazoglou, scientific collaborator of the Municipality of Prespa
- Dr. Nickolas Yiannakis, chairman of the Prespa National Park Management Body, as well as the Management Body's staff
- Mrs Mirsini Malakou, Director of the Society of the Protection of Prespa, as well as the personnel
- Dr. Vivi Roumeliotou, Policy Action coordinator for the Society for the Protection of Prespa

  Mrs Tatjana Iva (former Yugoslav Republic of Macedonia - fYROM) and the researcher Spase Shumka (Albania).

1. INTRODUCTION

1.1. PROGRESS OF THE RIVER BASIN MANAGEMENT PLANS

The present volume is part of the project: «Development of the River Basin Management Plans of the River Basin Areas of West Macedonia and Central Macedonia according to the Specifications of the WFD 2000/60/EC, applying the Greek Law 3199/2003 and the Greek PD 51/2007». Via a convention that was signed on 24.04.2012 the above mentioned study has been awarded by the Greek Ministry of Environment, Energy and Climate Change – Special Secretariat for Water, after an open Contest that was announced on June 2011, to the Consortium:

« EXARCHOU NIKOLOPOULOS BENSASSON CONSULTING ENGINEERS SA »

« GEOSYNOLO LTD »

« ENVIROPLAN SA »

« DIKTIO SA »

« ECO CONSULTANTS SA »

« FOTEINI MPALTOGIANNI »

« LISA BENSASSON MSc »

« ILIAS KOURKOULIS AGRICULTURAL CONSULTANTE »

with Representative and Coordinator of the Consortium the Civil Engineer Abraham Bensasson and Deputy Representative the Civil Engineer-Environmental Engineer MSc Lisa Bensasson.

The present report is part of Interim Phase 1 of the project, in accordance with the Contract and the approved schedule. It constitutes the Issue no. 1.16 of Interim Phase 1, according to the list of deliverables set out in the Specifications. The Scope of the present report is to analyze the programs and activities in the Prespa Sub-Basin relevant to the management of water resources that have been materialized by fYROM and Albania in the sections of the transboundary Prespa sub-basin located within their territory, and the results of those actions.

Coordinators and General Suervisors during all stages of the project (tendering, supervision of implementation and public consultation) were the below scientists of the Special Secretariat for Water of the Greek Ministry of Environment, Energy and Climate Change:

- Ms. Maria Gini, Surveying Engineer (Degree B'), Head of Directorate for the protection and management of water environment
- Mr. Pantelis Pantelopoulos, Civil Engineer (Degree B'), Head of the Directorate of Civil Protection (until September 2012).

Supervising team of the project apart from the below executives from the Special Secretariat for Water of the Greek Ministry of Environment, Energy and Climate Chage:

- Ms. Konstantina Nika, Agronomist (Degree D'), Deputy Head of the Department of Surface and Ground Waters which belongs to the Directorate of Protection and Management of Aquatic Environment
- Mr. Theodore Pliakas, Physicist (Degree B')
- Mr. Spiros Tasoglou, Geologist (Degree D')
- Mr. George Kokkinos, Civil Engineer, (Degree B'), (until September 2012).

1.2. SCOPE, OBJECTIVES AND PHASES OF THE PROJECT

The objectives of the present study is the implementation of the "River Basin Management Plans" in accordance with the specifications of the WFD (2000/60/EU), applying the Greek Law 3199/2003 and the Greek PD 51/2007.

The sub-objectives of the project, namely "Development of the River Basin Management Plans of the River Basins of the River Basin Areas of West Macedonia and Central Macedonia according to the Specifications of the WFD 2000/60/EC, applying the Greek Law 3199/2003 and the Greek PD 51/2007" are:

a) The River Basin Management Plans of West and Central Macedonia which include all the information as stated in the Article 13 and in the Annex VII of the WFD 2000/60/EK [Article 10 and Annex VII of the PD 51/2007 (G.G. A' 54)].

b) The Programme of basic and supplementary Measures as stated in the Article 11 and in the Annex VI of the WFD 2000/60/EC (Article 12 and Annex VII of the PD 51/2007 (G.G. A' 54)) for the protection of water resources in order the environmental objectives to be achieved as stated in the Article 4 of the WFD 2000/60/EC and in the Article 4 of the PD 51/2007 (G.G. A' 54).

c) Public awareness raise and public consultation conducting about the preparatory River Basin Management Plans six months before the completion of the project according to the Article 14 of the WFD 2000/60/EC and the Article 15 of the PD 51/2007 (G.G. A' 54).

d) Assessment and updating of the implementating reports of the Aricles 3, 5, 6 & 8 and Annex IV of the Directive 2000/60/EC in the Water Districts of West Macedonia and Central Macedonai. These reports have been submitted to the European Community and they include: an analysis of anthropogenic pressures and their impacts, monitoring programs, economic analysis of water use and evaluation of the cost recovery rate, protected areas recording, the characterization of the different types of water bodies etc.

e) Identification of heavily modified water bodies of the project area as well as the exception to the achievement of environmental targets as stated in the Article 4 of the WFD 2000/60/EC and in the Article 4 of the PD 51/2007/ (G.G. A' 54).

f) Fulfillment of obligations, in relation to the according to the standards set by the European Environment Agency

g) Water scarcity/drought management plan for each Water District of the project area based on the principles of precautionary planning

The overall project is conducted in three phases:

Phase A: Configuring preliminary measures for achieving the environmental objectives of the Directive 2000/60/EC according to the updated reports that have been submitted to the European Community in the framework of Articles 3, 5 & 6 and Annexes I to IV of the Directive 2000/60/EC.

Phase B: Configuring preliminary water management plans, projects for addressing water scarcity and droughts and preparation of a Strategic Environmental Assessment.

Phase C: Public consultation (Article 14 of the WFD) and finalizing the River Basin Management Plans in accordance to the Article 13 and Annex VII of the Directive 2000/60/EC.

1.3. OBJECTIVES, SCOPE AND STRUCTURE OF THIS REPORT

This document is the Report No. 16 of the Phase I according to the Technical Data Report of the Convention and refers to the actions taken by the neighboring countries in the transboundary water basin of Prespa.

The chapters of the Report No. 16 are outlined below.

Chapter 1 briefly presents the scope and objectives of the project while Chapter 2 includes a short description of the objectives of the Water Framework Directive 2000/60/EC and also the necessary measures that must be taken for its implementation.

Chapter 3 documents the current international legal framework regulating the management of the transboundary water basins and the relation among neighboring countries. It also highlights the national legislation of fYROM and Albania related to the protection of the environment and water resources.

Chapter 4 describes the main characteristics of the Prespa basin, the protection schemes of the project area and also the transnational cooperative framework of the project.

Chapter 5 is a detailed recording of programs and actions that have been developed, implemented or planned to be implemented by neighboring countries (fYROM and Albania) in their territories of the Prespa basin and they are related to the management of water resources and protected area.

Chapter 6 describes the way that results have been utilized in the project and also the conclusions of the project are been outlined.

1.4. EDITORIAL TEAM OF THE CURRENT DOCUMENT

The preparation of this document is made by the following scientists:

NAME	SPECIALITY
Abraham Bensasson	Civil Engineer, Hydraulic Engineer
Andreas Nikolopoulos	Civil Engineer, Hydraulic Engineer
Lisa Bensasson	Civil Engineer, Environmental Engineer MSc
Ioannis Moulatsiotis	Geologist MSc
Georgia Kandilioti	Physical Oceanographer, MSc Water Resources Science and Technology
Alexandros Mendes	Dr. Civil Engineer
Ioannis Mylopoulos	Dr. Civil Engineer, Rector of AUTH
Elpida Kolokytha	Dr. Civil Engineer, Associate Professor AUTH
Anastasia Tsavdaridou	Civil Engineer MSc
Dimitrios Malamataris	Civil Engineer MSc
Antonios Mazaris	Dr. Environmentalist, Lecturer AUTH
Evgenia Traikapi	Civil Engineer MSc
Stiliani Chrisalidou	Biologist
Vasiliki Albanidou	Biologist

2. TRANSBOUNDARY WATER SYSTEMS

2.1. BACKGROUND

Administrative and physical boundaries are rarely matched causing the need of applying methods based on international relations and diplomacy in order to deal with environmental and water management. International cooperation can reverse the global economic crisis and also reduce arguments for achieving common environmental goals (UNESCO, 2013).

Border areas are inevitably problematic areas for many countries, particularly in case of transboundary waters. Nowadays over forty percent (40%) of the world's population (two hundred and seventy five (275) transboundary river basins) resides within internationally shared river basins (FAO, 2002), meaning that two or more nations share the same river basins and natural resources.

Over seventy five percent (75%) of all countries, one hundred and forty five (145) in total, have shared river basins within their boundaries. Moreover thirty three (33) nations have over ninety five (95) percent of their territory run through by international river basins. It is estimated that about two (2) billion people globally depend on groundwater resources, which include well over three hundred (300) transboundary aquifer systems.The information provided above is evidence of the importance and the challenges the management of transboundary river basins calls upon internationally.

Apart from environmental issues, the management of trasboundary waters also brings up political matters which consequently have great impact on the resolution of these issues. Differences between riparian countries – in terms of socio-economic development, capacity to manage water resources, infrastructure, political orientation and institutional as well as legal contexts – represent challenges to effective and coordinated joint management and protection of transboundary water resources. At the same time though, these differences open up opportunities for capacity development and technical, social, legal and economic cooperation.

International cooperation, constitutes an effective tool for the protection and management of transboundary waters aiming at the inversion of ecological crisis as well as the resolving of disputes regarding the claim of common environmental goods. The transboundary agreements represent mechanisms that foster the cooperation amongst riparian countries, which in the case of transboundary river basins is of significant importance.

Greece shares the twenty five percent (25%) of its water reserves with neighboring countries. These countries have different socio-economic systems and perceptions of environmental protection and development and so Greece would gain a lot from a policy shift in the direction of water diplomacy.

2.2. INTERNATIONAL LEGISLATION

International water law includes all the international regulations concerning the management of transboundary water resources according to the rights and liabilities of each country. The use of international regulations for transboundary water resources started in 1911 with the «International Legislation for the Non Navigational Uses of International Watercourses» after the ititiative of the Institute of International Law. Fifty (50) years later, two (2) other regulations were issued, the first in Salzbourg in 1961 (known as the Salzbourg Resolution) related to water pollution in transboundary watercourses and the second in 1979 in Athens including regulations for the «Water pollution of Rivers and Lakes and International Legislation». In 1966 the International Law Association provided the Helsinki Convention for the «Use of transboundary watercourses», revised in 1992. The Helsinki Convention which was incoorporated by the UNECE (United Nations Economic Commission for Europe),

is the basic legal document for transboundary water resources which is also taken into accound by the EU WFD2000/60, when mentioning the management of transboundary river basins (Vinogradov et al, 2003)

An overview of the international legal framework that applies in the water basin of Prespa Lakes is given below:

- Kyoto Protocol (1997)
- Johannesburg declaration for sustainable development (2002)
- European perspective for spatial development (1999)
- Rio Declaration on the environment and sustainable development (1992)
- Aarchus Convention (1998)
- Water Framework Directive (2000/60/EC)
- Nitrates Directive (91/767/EEC)
- Framework Directive on ambient air quality (96/62/EC)
- Framework Directive on waste (2006/12/EC)
- Framework Directive on environmental noise (2002/49/EC)
- Directive on Environmental Impact Assessment (EIA) (85/337/EEC)
- Directive on SEA (2001/42/EC)
- European programme on climate changes (2000)
- EU policy for rural development (2000)

The portion of Greek water basin is a Natura 2000 area and is additionally regulated regulated by:

- Habitats Directive (92/43/EEC)
- Wild birds Directive (79/409/EEC)

2.3. THE EUROPEAN WATER FRAMEWORK DIRECTIVE 2000/60/EC

Water Framework Directive 2000/60/EC specifically refers to the management of the **transbounday river basins**.

Paragraph 1 of the **article 5** of the **Water Directive 2000/60/EC** (Characteristics of the river basin district, review of the rnvironmental impact of human activity and economic analysis of water use) states:

«Each Member State shall ensure that for each river basin district or for the portion of an international river basin district falling with its territory: an analysis of its characteristics, a review of the impact of human activity on the status of surface waters and on groundwater, and an economic analysis of water use are undertaken according to the technical specifications set out in Annexes II and III of the Water Directive 2000/60/EC and also that they are completed at the latest four years after the date of entry into force of this Directive.»

Paragraph 1 of the **Article 11** of the **Water Directive 2000/60/EC** (Programme of measures) states;

«Each Member State shall ensure the eshtablishment for each river basin district, or for the part of an international river basin district within its territory, of a programme of measures, taking account of the results of the analyses required under Article 5, in order to achieve the objectives established under Article 4. Such programmes of measures may take reference to measures following from legislation adopted at national level and covering the whole of the territory of a Member State. Where appropriate, a Member State may adopt measures applicable to all river basin districts and/or the portions of international river basin districts falling within its territory.»

Paragraph 3 of the **Article 13** of the **Water Directive 2000/60/EC** (River basin management plans) states:

«In the case of an international river basin district extending beyond the boundaries of the Community, Member States shall endeavor to produce a single river basin management plan, and, where this is not possible, the plan shall at least cover the portion of the international river basin district lying within the territory of the Member State concerned.»

Furthermore, in the **Article 15** of the **Water Directive 2000/60/EC** (Reporting) refers to the obligations of Member States to transmit copies of the river basin management plans and their updated documents to the European Commission and each other Member State, and in particular it states:

«Member States shall send copies of the river basin management plans and all subsequent updates to the Commission and to any other Member State concerned within three months of their publication [...] for international river basin districts, at least the part of the river basin management plans covering the territory of the Member State.»

2.4. THE UNECE CONVENTIONS

2.4.1. THE HELSINKI AND NEW YORK CONVENTIONS

The Greek Democracy is contracting member in the Convention (1992) of United Nations Economic Commission for Europe for the protection and use of transboundary water courses and international Lakes, (law 2425/ FEK 148 A & law 4137/1023 FEK 71 A), known as Helsinki Convention.

In 1997, the Greek Democracy signed the UN Convention in N.Y., for the use of international watercourses except those concerning navigation (law 3876/2010, FEK 159 A). Helsinki and N.Y.Conventions, look ahead for the prevention of transboundary damage, for the combating of pollution and the use of transboundary water resources from riparian states in a reasonable and fair way. The Helsinki rules introduce two basic notions in transboundary management , the concept of "equitable utilization" taking into account activities which are likely to cause "transboundary impact".

2.4.2. THE ESPOO CONVENTION – SEA PROTOCOL

The Convention on Environmental Impact Assessment in a Transboundary Context (informally called the Espoo Convention) is a UNECE convention signed in Espoo, Finland, in 1991 that entered into force in 1997. The Convention sets out the obligations of Parties - States that have agreed to be bound by the Convention - to carry out an environmental impact assessment at an early stage of planning. States have also the obligation to notify and consult each other on all major upcoming projects that are likely to have a significant adverse environmental impact across boundaries. The EC had signed the Convention in 26 February 1991 and ratified it in 24 June 1997. The relevant Directive is 97/11/EK.

The SEA can be defined as an environmental report in which the likely significant effects on the environment and the reasonable alternatives of the proposed plan or programme are identified. The public and the environmental authorities are informed and consulted on the draft plan or programme and the environmental report prepared.

The ESPOO convention calls the countries to endeavor in order to apply the principles of Environmental Impact Assessment to policies, plans and programs.

European Union regulations related to the SEA are included in the Directive 2001/42/EC about the assessment of environmental impacts of various programs. It also includes regulations about the transboundary impacts.

The Espoo Convention was also instrumental in the creation of The **Protocol on Strategic Environmental Assessment** (SEA) supplements the UNECE Convention on Environmental Impact Assessment in a Transboundary Context. It requires its Parties to evaluate the environmental consequences of their official draft plans and programmes.

The SEA Protocol provides for extensive public participation in government decision-making in numerous development sectors. The Protocol requests Parties to inform each other about plans and programs having significant transboundary environmental effects. When a plan or program is likely to have such effects, the Party developing the plan or program has to notify the potentially affected Party.

This protocol was adopted by the national environmental law in KYA YPEXODE/EYPE/ 107017/28.08.2006 for "the assessment of the environmental effects of certain plans and programs".

2.4.3. THE AARCHUS CONVENTION

The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was adopted on 25th June 1998 in the Danish city of Aarhus, known as Aarchus Convention.

In 30 October 2001 has been put in use, after the ratification of more than sixteen (16) countries. In 17 February 2005 was ratified by EU by descision 2005/370/EK. For the application of the Convention in EU level, the EC provided the Directive 2003/4 for the access to the public to environmetal information. Greece signed Aarhus Convention in 25 June 1998 and ratified it in 2005 (Law 3422/12-12-2005 (FEK. A 303).

The Aarhus Convention grants the public rights and imposes on Parties and public authorities obligations regarding access to information and public participation and access to justice. The Aarhus Convention is also forging a new process for public participation in the negotiation and implementation of international agreements.

2.5. NATIONAL LEGISLATION OF NEIGHBORHOOD COUNTRIES

2.5.1. FYROM NATIONAL LEGISLATION

Legislation about environmental protection

- Law on environment Official gazette of fYROM no. 53/05 from 05.07.2005
- Supplement of the Law on environment Official gazette of fYROM, no. 81/05 from 27.09.2005
- Supplement of the Law on environment Official gazette of fYROM, no. 24/07 from 01.03.2007
- Supplement on changes in the Law on environment Official gazette of fYROM, no. 159/08 from 22.12.2008

Legislation relevant to environmental impact assessment

- Decree on determination of projects and criteria for which an environmental impact assessment should be carried out Official gazette of fYROM, no. 74/05 from 05.09.2005
- Decree on regulating costs for carrying out an environmental impact assessment procedure covered by an Investor Official gazette of fYROM, no. 116/09 from 22.09.2009
- Ordinance on the content of intention for carrying out a project, on the decision for need for an environmental impact assessment procedure, on the public consultations Official gazette of fYROM, no. 33/06 from 20.03.2006
- Ordinance on the form, content, procedure for preparation of the Report for suitability of the study for environmental assessment for the proposed project and on the procedure for authorization of Experts on the preparation of the Report Official gazette of fYROM, no. 33/06 from 20.03.2006
- Ordinance on the content of the necessary information needed in an environmental impact assessment study of the proposed project Official gazette of fYROM, no. 33/06 from 20.03.2006
- Decree on the content of the Environmental Report Official gazette of fYROM no.35/06 from 23.03.2006
- Decree on the commission for carrying out the Examination for the Experts on EIA/SEA, programme of work, costs for taking an Expert exam, procedure for sustaining the List of Experts on EIA/SEA. Official gazette of fYROM no. 93/07 from 26.07.2007

Legislation relevant to the protaction of nature

- Law on nature protection Official gazette of fYROM no.67/04 from 04.10.2004
- Supplement on the Law on nature protection Official gazette of fYROM no 14/06 from 03.02.2006
- Supplement on the Law on nature protection Official gazette of fYROM no. 84/07 from 04.07.2007

Legislation relevant to waste management

- Law on waste management Official gazette of fYROM no.68/04 from 05.10.2004
- Corrections on the Law on waste management Official gazette of fYROM no. 71/04 from 13.10.2004
- Supplement on the Law on waste management Official gazette of fYROM no. 107/07 from 07.09.2007
- Supplement on the Law on waste management Official gazette of fYROM no. 102/08 from 18.08.2008
- Supplement on the Law on waste management Official gazette of fYROM no. 134/08 from 13.11.2008
- Law on waste management (purified text) Official gazette of fYROM no. 09/11 from 25.01.2011
- Rulebook on general provisions for management of communal and other non-hazardous wastes Official gazette of fYROM no.147/07 from 07.12.2007
- List of waste classification according to European Waste Catalogue Official gazette of fYROM no.100/05 from 21.11.2005
- Rulebook on the form and content of Licence for collection and transport of hazardous wastes Official gazette of fYROM no.118/10 from 06.09.2010
- Rulebook on management of hazardous wastes and provisions for labelling and packaging of hazardous wastes Official gazette of fYROM no.15/08 from 30.01.2008
- Rulebook on provisions for collection, transport, processing, treatment, storage and disposal of waste oils Official gazette of fYROM no.156/07 from 26.12.2007
- Rulebook on the content and procedure for establishing the Register of Wastes Official gazette of fYROM no.39/09 from 20.03.2009
- Rulebook on the form and content of log diary for waste treatment & processing, forms for identification and transport of wastes, forms for yearly reports on waste treatment & disposal Official gazette of fYROM no.7/06 from 19.01.2006
- Rulebook on provisions regarding medical wastes, labelling and packaging of medical wastes Official gazette of fYROM no.146/07 from 06.12.2007
- Law on managing packaging and waste from packaging Official gazette of fYROM no.161/09 from 30.12.2009
- Rulebook on the form and content of request for issuing Licence for processing, treatment, storage of wastes and the minimal technical conditions for installations for processing, treatment, storage of wastes Official gazette of fYROM no.23/07 from 27.02.2007

Legislation relevant to water protection

- Law on waters Official gazette of fYROM no. 87/08 from 15.07.2008
- Supplement on the Law on waters Official gazette of fYROM no 6/09 from 15.01.2009

Legislation relevant to classification of water

- Regulation for Classification of Water Official gazette of fYROM no.18/99 from 31.09.1999

The water Law (compliance of fYROM with WFD) is in use from 2010. In addition, many other European Directives are harmonized to the WFD; 76/160 (freshwater bathing quality), 76/464 (hazardous substances in surface and groundwater waters), 78/659 (freshwater quality for fish life), 79/923 (water quality for shells life), 80/68 (groundwater pollution), 91/271 (urban waste water treatment), 91/676 (protection against nitrates used in agriculture) and 86/278 (wastewater reuse)

2.5.2. ALBANIAN NATIONAL LEGISLATION

Legislation on the environment

- Law No 8093 / 1996 on Water Sources
- Law No 7908 / 1995 on Fishery and Aquaculture
- Law No 8870 / 2002 on Amendments to law 7908 / 1995 for Fishery and Aquaculture
- Law No. 7501 /1991 on the Land
- Law No. 7664 / 1993 on Environmental protection
- Law No. 8093/ 1996 on Water Reserves
- Law No. 8094 / 1996 on Public Disposal of Waste
- Law No. 8102 / 1996 on the Regulatory Framework of the Water Supply Sector and of Disposal and Treatment of Waste Water
- Law No. 9103 / 2003 on Protection of Trans-border Lakes
- Law No.8906 / 2002 on Protected Areas
- Law No.8934 / 2002 on Environment Protection
- Law No.8990 / 2003 on Impact Assessment on Environment
- Law No.9010 / 2003 on Environmental Administration of Solid Waste
- Law No.9108 / 2003 on Chemical Substances and Preparation
- Law No.9115 / 2003 on Environmental Treatment of Waste Waters
- Decision No. 103 / 2002: Concerning environmental monitoring in the republic of Albania
- Decision No. 266 / 2003: Concerning the administration of protected zones
- Decision No. 267 / 2003: Concerning procedures regulating proposal and declaration of protected and buffer zones
- Regulation No. 103 / 1996 on the transferring of the Forests and Pastures Use to Communes
- Law No.8897 / 2002 on Protection of Air from pollution
- Law No.8905 / 2002 on Protection of Marine Environment from Pollution and Damage
- Law No. 8302 / 1998 on Forest Revenues
- Law No. 8095 / 1995 on Protection from Ionizing Radiations
- Law No. 7796 / 1994 on Mining Law of Albania
- Law No. 7875 / 1994 on Protection of Wild Fauna and Hunting
- Law No. 7917 / 1995 on Pastures and Meadows
- Law No. 7929 / 1995 on Protection of Horticulture Trees
- Law No. 7623 /1992 on Forests and Forestry Police
- Law No. 7659 / 1992 on Seeds and Seedlings
- Law No. 7662 / 1993 on the Service of Plants Protection
- Law No 8318/98 on leasing the agricultural land, forest land meadows and pastures, which are state property
- Law No 7875 / 1994 on the Protection of the Wild fauna and Hunting.

3. BACKGROUND INFORMATION ON LAKE PRESPA SUB-BASIN

3.1. GEOGRAPHICAL SCOPE OF THE PRESPA PARK

International Prespa river basin with a total area of about 1.380 km^2 constitutes a transboundary river basin shared by three countries, Greece, Albania and former Yugoslav Republic of Macedonia, and is among the few places in Europe with such a wide variety of life forms in such a limited area. It is composed by two of the oldest lakes in the continent, the Micro Prespa and the Macro Prespa and their watersheds. (Figure 3.1).

Lake Macro Prespa and its basin extend to the above three (3) countries with the widest area to be in fYROM. Lake Micro Prespa is a mesotrophic Lake which mainly extends to Greece and only a small area belongs to Albania.

The Micro Prespa Lake has a significant ecological value and it is one of the most important wetlands in Europe because it is lodging for many rare species of birds (erodios, kormoranos, etc.) which are threatened with extinction.

The Prespa water basin surrounded by the Mount Plakenska (1.998 m), the Galicica (2.265 m), the Thate (2.284 m), the Mali Ivan (1.770 m), the Triklario/Wasp (1.750 m), the Varmountas (2.330 m) and the Pelister/Baba (2.601 m). The mount Devas (1.372 m) separates Micro Prespa from Macro Prespa (Figure 3.2). Towards the East, the basin of Prespa borders the valley of Pelagonia which extends between the city of Bitola in fYROM and the Prefecture of Florina in Greece. To the weat, the river Devolli and the Bilisht valley separates the Prespa basin from the Korcha plain, while to the north and northwest it borders to thebasin of Lake Ohrid (Perennou et al., 2009). The Prespa basin has a hydraulic connection to the Ohrid Lake through ground waters.

Finally, there are four (4) islands in the Lakes: Aghios Achillios and Vidronissi at the Greek part of Micro Prespa and Mali Grad and Golem Grad in Macro Prespa in Albania and the fYROM respectively.

3.2. CLIMATE

The climate of the Prespa area is temperate with mediterannean feautures. The specific orographic conditions that have impact on the dynamic factors of the climate, as well as the impact of geographical and local factors, create three (3) different types of climate throughout the whole watershed

- Warm and cold sub-Mediterranean climatic area, from 600 m to 900m and from 900 m to 1.100 m altitude, respectively.
- Sub-mountainous and mountainous sub-Mediterranean climatic area from 1.100 m to 1.300 m, and from 1.300 m to 1650m altitude, respectively.
- Sub-alpine and alpine climatic area from 1.650 m to 2.250 m, and above 2.250 m altitude, respectively.

The mean annual temperature ranges between 9.5 ^{o}C to 11,0 ^{o}C.

Climate data is analysed on various studies and environmental impact assessments of the area, and it is monitored through a series of precipitation and meteorological stations. Rainfalls are considerably higher in the upper catchment areas as compared to elevations close to the valley bottom often resulting to underestimation of catchment rainfalls. (Lake Prespa – Transboundary Diagnostic Analysis, 2009, Preparation and Development of the Transboundary Prespa Park Project, Part V, Hydrology Report, 2005):

Completed time series of monthly rainfall data have been obtained and processed covering the fifty four (54) year period from January 1951 until December 2004. Results are presented in Table 3.1.

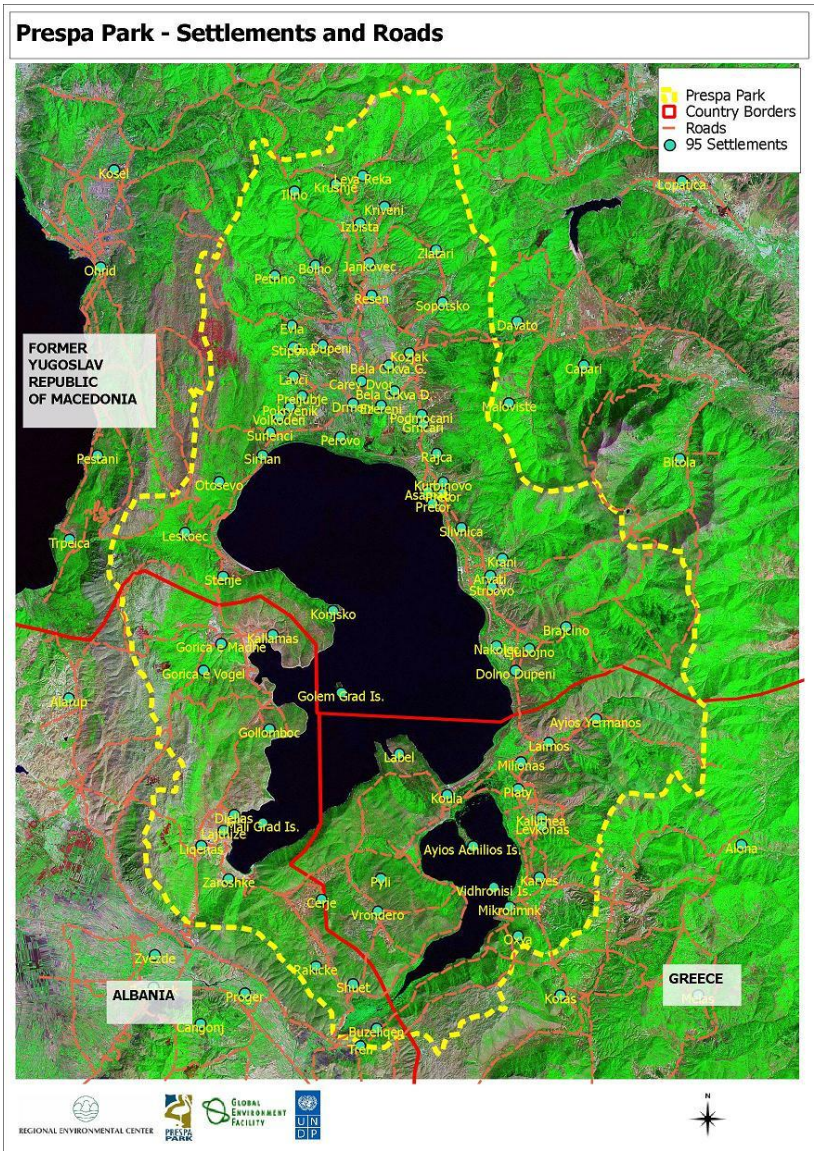

Figure 3.1: Overview of Lake Prespa Basin (Lake Prespa - Transboundary Diagnostic Analysis. 2009)

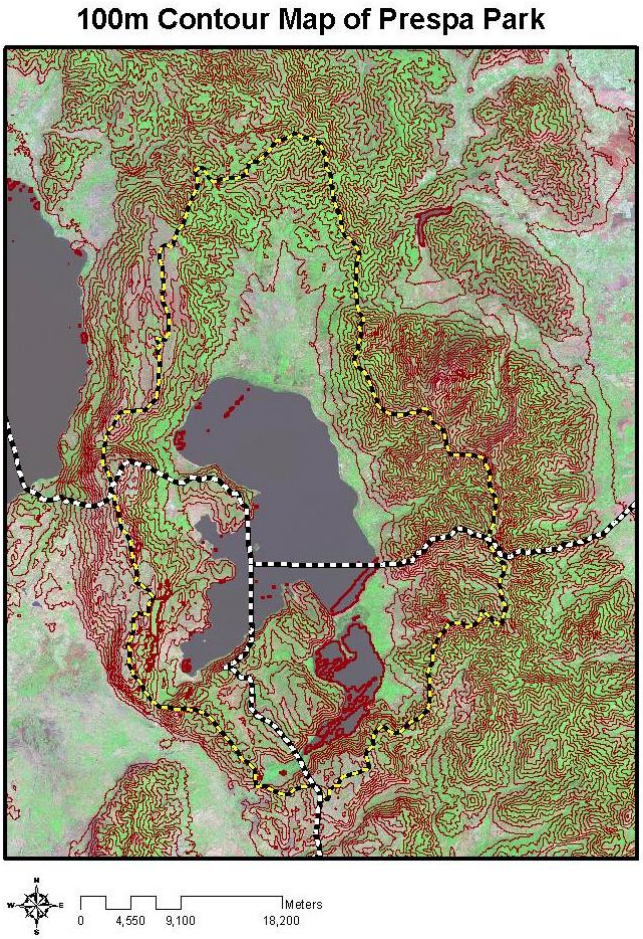

Figure 3.2: Contour map of Lake Prespa Basin (Lake Prespa - Transboundary Diagnostic Analysis. 2009)

Table 3.1: Average monthly rainfall in millimeters (Preparation & Development of the Transboundary Prespa Park Project, Part V Hydrology Report, 2005)[1]

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annualy
Gorica	79,6	88,3	68,3	79,5	66,4	36,3	33,4	33,6	66,1	107,9	138,9	127,6	926,1
Pusteci	79,1	85,6	68,0	67,2	62,9	34,3	34,0	29,2	53,1	91,1	120,3	111,0	835,8
Stenje	86,5	84,7	74,9	73,7	68,0	37,5	32,8	32,4	61,8	99,1	122,6	113,2	887,2
Izbiste	83,3	91,0	70,6	64,1	69,6	42,5	31,2	32,1	52,2	83,2	112,6	95,0	827,3
Resen	68,8	77,1	55,3	53,3	62,4	35,9	27,0	26,5	49,0	75,0	97,4	77,2	705,0
Carev Dvor	60,5	62,6	50,0	47,2	50,2	32,4	27,2	25,9	44,6	62,9	87,7	72,9	624,0
Asamati	53,3	58,2	49,5	47,7	56,0	31,0	27,1	25,8	43,2	68,0	83,6	67,4	610,8
Nacolec	46,5	55,9	42,8	43,9	52,2	31,4	25,3	28,3	42,9	58,0	71,0	61,1	559,3
Brajcino	57,1	67,1	51,7	57,3	67,5	41,8	37,2	32,0	50,9	68,4	84,2	71,3	686,4

1 *prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development/preparatory-national-report-the-former-yugoslav-republic-of-macedonia*

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annualy
Ag. Germanos	52,3	52,0	43,9	54,6	61,9	38,3	34,3	32,3	44,9	63,3	80,4	63,4	621,6
Koula Ypexode	52,3	57,4	46,0	43,0	50,8	30,1	25,4	28,0	39,3	57,7	68,6	74,0	572,6
Microlimini	71,5	70,9	52,7	55,6	57,2	35,5	34,3	29,1	42,9	67,1	90,3	79,2	686,1
Vrondero	68,8	61,4	49,7	51,4	60,5	37,1	29,4	27,8	41,0	62,6	82,5	80,4	652,6
Max	86,5	91,0	74,9	79,5	69,6	42,5	37,2	33,6	66,1	107,9	138,9	127,6	926,1
Min	46,5	52,0	42,8	43,0	50,2	30,1	25,3	25,8	39,3	57,7	68,6	61,1	559,3
Avg.	66,1	70,2	55,6	56,8	60,4	35,7	30,7	29,5	48,6	74,2	95,4	84,1	707,3
Std. Dev	13,4	13,7	10,9	11,3	6,7	3,9	4,0	2,7	8,1	16,2	21,6	21,0	122,0

3.3. WATER RESOURCES

As mentioned before, the Prespa catchment area includes two lakes, Micro and Macro Prespa, and permanent or seasonal streams, which discharge into the two Lakes (Figure 3.3). The major contributing rivers to Macro Prespa Lake are Golema Reka, Brajcinska Reka and Kranska Reka in fYROM and Aghios Germanos River in Greece. There is no major source of surface water input from Albania to Micro Prespa (Lake Prespa – Transboundary Diagnostic Analysis, 2009, Preparation & Development of the Transboundary Prespa Park Project, Part V Hydrology Report, 2005).

The Prespa Lakes form a unique ensemble of water bodies in the Balkan region. Prespa Lakes along with Ohrid and Lake Malik which was drained in 1983 were parts of the Lake Dassariton that was linked to Adriatic Sea. The Prespa Lakes are not independent, but they are connected in Greece via a small gate with 50 m length and 2 m width. This gate was constructed in 1986 in Koula area in order to store water for agricultural purposes. The Lake Micro Prespa level is higher that the Lake Macro Prespa and there is a discharge towards the larger Lake. The inflow from Micro Prespa to Macro Prespa is regulated by this gate which was lately renewed by works undertaken by Society for the Protection of Prespa (SPP) in the framework of the Life NATURE Project (LIFE2002NAT/GR/8494) in order to improve the efficiency of water management via the regulation of annual volume of the surface discharge and also to protect some bird species. Among the factors determining the water balance of the Lake (surface and ground water inflows, groundwater losses, evaporation losses, irrigation withdrawals, etc.), the outflow through the gate to Macro Prespa is the one that can be easily regulated (Lake Prespa – Transboundary Diagnostic Analysis 2009, Preparation & Development of the Transboundary Prespa Park Project, Part V Hydrology Report, 2005).

The Macro Prespa Lake has especially suffered from three (3) sharp water level decreases, which took place during the following periods: 1975/1977 (1,2 m), 1987/1990 (3,7 m) and 2000/2002 (2,2 m). The causes of this phenomenon have not yet been fully investigated. However, parameters that could explain this loss are natural karstic underground outflows and the inflows that are in turn affected by the rainfall/snowfall pattern (Lake Prespa – Transboundary Diagnostic Analysis, 2009, Preparation & Development of the Transboundary Prespa Park Project, Part V Hydrology Report, 2005).

Macro Prespa Lake has an average annual temperature of the water which varies between 11,8°C – 13,1°C. The water of the Lake is rich in carbonate and calcium ranging up to 140,3 – 167,8 mg/l. It contains oxygen in amounts up to 1,46 – 9,5 mg/l and pH from 7,8 to 8,6 (Lake Prespa – Transboundary Diagnostic Analysis, 2009, Preparation & Development of the Transboundary Prespa Park Project, Part V Hydrolgy Report, 2005).

Two (2) underground streams flow from the Prespa Lake to the Ohrid Lake: Drilon on the Albanian territory and Sent Naum in fYROM. These (2) two streams are the main water suppliers of Ohrid Lake. Estimations indicate that about 140 million m^3 water flow from Prespa to Ohrid Lake.

Figure 3.3: Lake and River Network of Prespa Basin (Lake Prespa - Transboundary Diagnostic Analysis. 2009)

3.4. MINERAL RESOURCES

The Prespa region is well known for its special carstic formation. The major mineral resource base of Prespa basin is concentrated in the Western part which is dominated by limestone and dolomite. Underground channels allow the water flow from the Micro Prespa to Lake Ohrid which is 200 m lower.

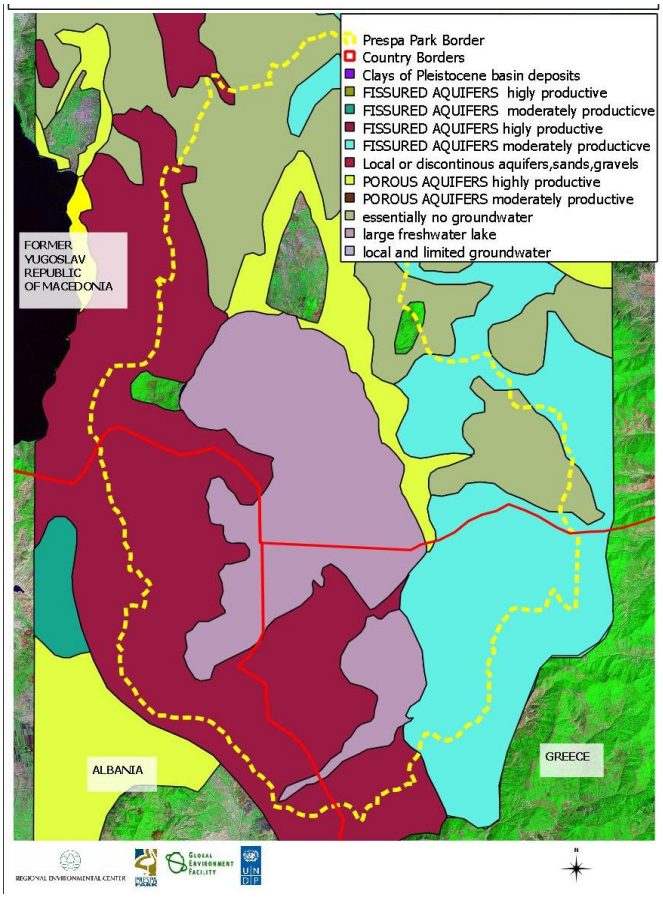

Figure 3.4: Hydrology of Prespa Basin Lake and River Network of Prespa Basin (Lake Prespa - Transboundary Diagnostic Analysis. 2009)

3.5. BIOLOGICAL AND LAND RESOURCES

Biodiversity of Prespa Lake watershed

So far, there is no integral document on biodiversity of Prespa Lake watershed. There are only reports dealing with the diversity within national borders of the Prespa watershed.

Habitats diversity

There is no comprehensive list of habitats in the whole Prespa watershed. There are only separate and inconsistent data for habitats diversity in certain areas of the watershed. One of the problems is the use of different habitats classifications; Greek biodiversity report has Habitats Directive as a guiding document, while fYROM habitats are defined after Resolution no. 4 of the Bern Convention.

Twenty three (23) different habitats have been recorded in Prespa in the Greek part. Approximately the same number of habitats has been identified in the fYROM part of the watershed (Table 3.2). A list of habitat types that have recognised within the region (according to EU directives) can be found in Table 3.3.

Table 3.2: Habitats diversity in the Prespa Lake watershed (Rapid Assessment of priority species and habitats in the Prespa Lake basin, 2009)[2]

Vegetation belts	Habitat types and habitats	Plant associations
The belt of water and swampy vegetation	22.412 Frogbits rafts, 22.415 Salvinia covers, 22.416 Aldrovanda communities, 44 Temperate riverine and swamp forest and brush	Ass. Lemneto-Spirodeletum polyrrhizae subass. aldrovandetosum Ass. Myriophylleto-Nupharetum subass. potametosum lucentis Ass. Myriophylleto-Nupharetum subass. potametosum lucentis Ass. Potameto-Vallisnerietum subass. potametosum trichoides Ass. Hydrocharideto-Nymphoidetum peltatae Ass. Ceratophyllo-Potametum crispi Ass. Scirpeto-Phragmitetum W Ass. Sparganio-Glycerietum fluitantis
The belt of lowland meadows		Ass. Cynosureto-Caricetum hirtae subass. ranunculetosumaceris Ass. Trifolietum nigrescentis-subterraneisubass. rumicetosumacetosae
The belt of hill pastures	34.3 Dense perennial grasslands and middle European steppes, 42.A Western Palearctic cypress, juniper and yew forests	Astragalo-Potentilletalia
Oak forest belt	41.7. Thermofilous and supra-Mediterranean oak woods Grecian Juniper woods	Ass. Quercetum frainetto-cerris macedonicum Ass. Quercetum trojanae macedonicum Ass. Ostryo-Quercetum cerris macedonicum Ass. Orno-Quercetum petraeae Ass. Biaro tenuifoliae-Juniperetum excelsae
Beech forest belt (1100-1650 m)	31.46 Bruckenthalia heaths, 41.1 Beech forests,	Ass. Festuco heterophyllae-Fagetum Ass. Calamintho grandiflorae-Fagetum

2 prespa.iwlearn.org/species-and-habitats-conservation-and-action-plans/terms-of-reference-conservation-plans-for-priority-species-and-habitats-in-prespa/rapid-assessment-of-priority-species-and-habitats-in-the-prespa-lake-basin

Vegetation belts	Habitat types and habitats	Plant associations
	41.4 Mixed ravine and slope forests, 42.17 Balkano-Pontic fir forest	Ass. Abieti-Fagetum macedonicum Ass. Digitali virifilorae-Pinetum peucis Ass. Fago-Abietetum meridionale Ass. Bruckenthalio-Myrtillo-Fagetum Ass. Orphanideo-Cirsietum apendiculati
Sub-alpine mountain belt	31.46 Bruckenthalia heaths, 42.7. High oro-mediterranean pine forests, 65. Caves	Ass. Myrtillo-Pinetum peucis subass. subalpinum All. Pinion heldreichii Ass.Bruckenthalio-Juniperetum Ass. Orphanideo-Cirsietum apendiculati Ass. Geo coccinei-Deschampsietum Ass. Gentiano luteae-Pinetum peucis Ass. Bruckenthalio-Juniperetum Ass. Festucetum paniculatae Ass. Stipo-Festucetum Ass. Seslerietum wettsteini Ass. Cariceto-Helianthemetum balcanici Ass. Saxifrago-Potentilletum speciosae Ass. Rindero-Acantholimonetum Ass. Geranio-Poetum violaceae Ass. Genisto-Nardetum Micevski
Alpine mountain belt		Ass. Diantho myrtinervius-Festucetum Ass. Centaureo-Festucetum variae Ass. Lino-Seslerietum Ass. Jasioni-Caricetum curvulae

Table 3.3: Habitat types and priority habitats (defined in Annex I of the Habitats Directive) in Prespa watershed (data derived by the Rapid Assessment of priority species and habitats in the Prespa Lake basin, 2009)

Habitat Code	Priority	Habitat Title
9,1E0	*	Residual alluvial forests (Alnion glutinoso-incanae)
3150		Natural euthrophic lakes with Magnopotamion or Hydrocharition-type vegetation
3170	*	Mediterranean temporary ponds
3190		Open water - pelagic zone of lakes
3290		Intermittently flowing Mediterranean rivers
4060		Alpine and subalpine heaths
5110		Stable Buxus sempervirens formations on calcareous rock slopes (Berberidion p.)
5130	*	Juniperus communis formations on heaths or calcareous grasslands
6110	*	Rupicolous calcareous or basophilic grasslands of the Alysso-Sedion albi*
6170		Alpine and subalpine calcareous grasslands
6210	*	Semi-natural dry grasslands on calcareous substrates (Festuco Brometalia)(*important orchid sites)
6220	*	Pseudo-steppe with grasses and annuals (Thero-Brachypodietea)

6230	*	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in continental Europe)
6420		Mediterranean tall-herb and rush meadows (Molinio-Holoschoenion)
6430		Eutrophic tall herbs
7140		Transition mires and quaking bogs,
8210		Vegetated calcareous inland cliffs with chasmophytic vegetation
8220		Vegetated silicicolous inland cliffs with chasmophytic vegetation
8310		Caves not open to the public
9110		Acidophilous (Luzulo-Fagetum) beech forests
9140		Subalpine beech woods with Acer and Rumex arifolius
9150		Calcareous beech forests (Cephalanthero-Fagion)
9250		Quercus trojana woods (Italy and Greece)
9280		Quercus frainetto woods
9562	*	Grecian juniper woods
91M0		Pannonian-Balkanic turkey oak- sessile oak forests,
925A		Hop-hornbeam, oriental hornbeam and mixed thermophilous forest
92A0		Salix alba and Populus alba galleries

Fauna diversity

The basin of the Prespa Lakes is endowed with an exceptional biodiversity. The region has been recognized as a European and Global Hotspot of Biodiversity not only because of the sheer number of species and habitats present, but also due to their quality, such as rarity and conservation significance.

Notwithstanding the fact that most of the existing information are outdated and need taxonomical revision, the aquatic fauna within the Prespa Lake as well as the water bodies of Galicica and Pelister Mountains are relatively well investigated. The terrestrial fauna of the Prespa Lake watershed is only scarcely investigated, especially the numerous invertebrate taxonomic groups.

Review of the existing information show that the most striking feature of the Prespa Lake Watersheds' Biodiversity is its enormous richness and heterogeneity (Table 3.4). The total number of animal species, recorded in the fYROMian part of Lake Prespa watershed is two thousand four hundred and three (2.403) species, two thousand and twenty eight (2.028) invertebrates and three hundred and seventy five (375) vertebrates.

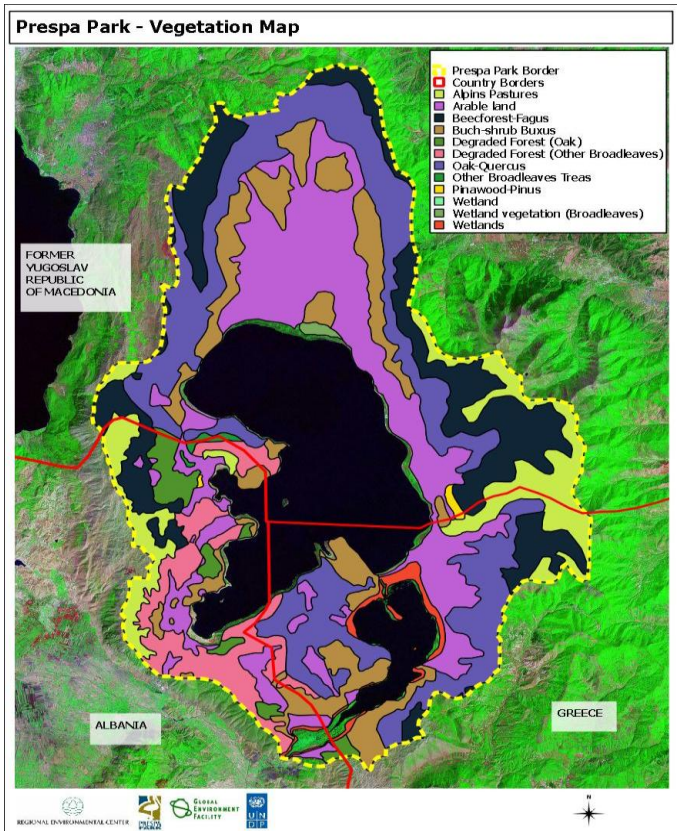

Figure 3.5: Summary Vegetation of Prespa Basin (Lake Prespa - Transboundary Diagnostic Analysis. 2009)

Table 3.4: Fauna diversity of Lake Prespa and its watershed (Rapid Assessment of priority species and habitats in the Prespa Lake basin,2009)[3]

Taxonomic groups	Number of recorded species
Protozoa	3
Porifera	3
Turbellaria	3
Trematoda	40
Gastropoda	11
Bivalvia	8
Rotifera	58
Oligochaeta	20
Hirudinea	15
Cladocera	41

3 prespa.iwlearn.org/species-and-habitats-conservation-and-action-plans/terms-of-reference-conservation-plans-for-priority-species-and-habitats-in-prespa/

Taxonomic groups	Number of recorded species
Copepoda	23
Ostracoda	20
Amphipoda	3
Isopoda	2
Decapoda	1
Myriapoda	20
Odonata	34
Plecoptera	28
Ephemeroptera	25
Trichoptera	1
Psocoptera	20
Lepidoptera (total)	1.608
Noctuidae	356
Bombycidae and Sphingidae	160
Geometridae	238
Microlepidoptera	686
Rhopalocera and Grypocera	168
Diptera (Chironomidae)	25
Hydrocanthares (Coleoptera)	18
Pisces	10+13
Amphibia	11
Reptilia	21
Aves	280
Mammalia	51
Total number of species	**2.401+13**

The recent biodiversity of Prespa region shows conspicuously high level of endemic species. Review of available literature data shows that there are fifty four (54) animal species recognized as endemic to the Prespa watershed, forty seven (47) invertebrates and seven (7) vertebrates (Table 3-6). Among invertebrates the highest endemism is noticed in Order Lepidoptera (seventeen (17) species) and Class Gastropoda (seven (7) species).

Table 3.5: Endemic animals by taxonomic groups within the prespa Lake watershed (Rapid Assessment of priority species and habitats in the Prespa Lake basin, 2009)

Taxonomic groups	Prespa watershed endemics (Number)
Protozoa	
Porifera	1
Spongilla prespensis	
Turbellaria	2
Dendrocoelum prespense	
Dendrocoelum adenodactylosum	
Trematoda	3
Dactylogyrus prespensis	
Dactylogyrus balcanicus	
Dactylogyrus crivellus	
Gastropoda	7
Prespolitorea valvataeformis	
Prespiana lacustris	
Prespopyrgula prespensis	
Parabythinella macedonica	
Lymnaea (Radix) pinteri	
Planorbis (Crassiplanorbis) prespensis	
Gyraulus (Gyraulus) stankovici	
Bivalvia	1
Pisidium maassani	
Annelida	4
Potamothrix prespensis	
Psammoryctides ochridanus	
Peloscolex tenuis	
Stylodrilus leucocephalus	
Copepoda	1
Ochridacyclops arndti prespensis	
Ostracoda	5
Pseudocandona prespica	
Candona paionica minor	

Taxonomic groups	Prespa watershed endemics (Number)
Candona marginatoides	
Paralymnocythere karamani	
Leptocythere prespensis	
Amphipoda	3
Gammarus triacanthus prespensis	

Ichtiofauna

Due to the geographic isolation of the Prespa Lakes, the number of endemic fish species is very high. The maintenance of the endemic species in the Prespa Lakes basin is of central ecological importance because their local extinction would mean global extinction.

Even the eel can be found in Prespa, despite the fact that the Lakes have no direct connection to the sea. The wider area is also a home to not one, but two endemic trout species. Nearly one third (1/3) of all the fish species are classified as endemic – seven. The total of twenty three (23) species and two (2) hybrids includes twelve (12) indigenous fish species. The rest – exotic species – have been introduced by humans, deliberately or by accident.

Species found exclusively in the Prespa Lakes and nowhere else in the world: Prespa bleak Alburnus belvica, Prespa nase Chondrostoma prespense, Prespa barbel Barbus prespensis, and Prespa loach Cobitis meridionalis. The Pelister stream trout Salmo peristericus may only be found in the rivers in the basin, such as River Braychinska and its tributaries, Aghios Germanos stream, and others. The Prespa roach Rutilus prespensis and the Prespa minnow Phoxinellus prespensis are considered Balkan endemics.

In the following table an overview of known fish species which are found in the Prespa Lakes is presented.

Table 3.6: Overview on autochthonous and allochthonus fish species in the Prespa Lake[4]

No	Scientific Name	English Name
Autochthonous species		
1	*Cyprinus carpio var. prespensis*	Carp
2	*Alburnus alburnus prespensis*	Bleak
3	*Chondrostoma nasus prespensis*	Common nase
4	*Alburnoides bipunctatus prespensis*	Schneider
5	*Rutilus rubilio prespensis*	Roach
6	*Pachychilon pictus*	
7	*Barbus prespensis*	

4 *prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development/preparatory-national-report-the-former-yugoslav-republic-of-macedonia*

No	Scientific Name	English Name
8	*Leuciscus cephalus albus*	Chub
9	*Leuciscus illyricus*	
10	*Paraphoxinus epiroticus*	
11	*Phoxinus phoxinus*	Eurasian Minnow
12	*Scardinius erythrophthalmus scardafa*	Rudd
13	*Nemachilus barbatulis sturanay*	
14	*Cobitis taenia meridionalis*	
Introduced (allochthonous) species		
15	*Tinca tinca**	Tench
16	*Ctenopharyngodon idella **	Grass carp
17	*Hypophthalmichthys molitrix **	Silver carp
18	*Carassius carassius **	Crucian carp
19	*Carassius auratus **	Goldfish
20	*Megalobrama terminalis **	
21	*Parabramis pekinensis **	White amur bream
22	*Lepomis gibbosus ***	Pumpkinseed
23	*Silurus glanis ***	Wels catfish

Flora diversity

There is on explicit number of plant species in the Prespa Lake watershed. The total number of plant species, recorded in the Greek part of Lake Prespa watershed is one thousand two hundred and forty nine (1.249) species, seventeen (17) Pteridophytes and one thousand two hundred and thirty two (1.232) Spermatophytes. In fYROM part of the Prespa watershed it is estimated that there are more than a thousand (1.000) plant species on Pelister Mountain as well as on Galicica Mountain and more than a thousand (1.000) plants species reported on the Albanian side, where the Dry Mountain is thought to be the most loamy around the Korcha area.

The rich plant diversity in the Prespa watershed can be illustrated by the number of endemic and described species from the mountain regions. About twenty (20) plant species were described from Pelister Mountain, thirteen (13) of which have status of good species (Matevski & Kostadinovski 1996). There are nineteen (19) species with locus classicus on Galicica Mountain; thirteen (13) of them are "good species" and eleven (11) are local endemics. Galicica Mountain represents the frontier of different floristic elements: some species reach their north and some their south border of distribution. A list of important plant species as these are defined based on different international conventions and EU Directives (92/43/EEC & 2009/147/EC) can be found in Table 3.7.

Table 3.7: A list of important plant species found in Prespa Park based on different international conventions and EU Directives (92/43/EEC & 2009/147/EC) (data derived by the Rapid Assessment of priority species and habitats in the Prespa Lake basin, 2009)

Taxon Name	International Union for Conservation of Nature (IUCN) Global Red List (Walter & Gillett 1997)	Bern Convention Appendix I	Habitat Directive Annex IIb	Habitat Directive Annex IVb	IPA Category	local endemic	Corine
Ajuga piskoi Degen & Bald.	R				A(iv)		
Alchemilla pelisterica Pawl.					A(iii)	1	
Aldrovanda vesiculosa L.		1	1	1	A(ii)		1
Alkanna noneiformis Griseb.	R				A(iii)		
Alkanna pulmonaria Griseb.	R				A(iii)		
Alyssum doerfleri Degen	R						
Anchusa serpentinicola Rech.f.	R				A(iv)		
Astragalus lacteus Heldr. & Sart. ex Boiss.	R						
Botrychium lunaria (L.) Swartz.							AL
Buxbaumia viridis (Moug. ex Lam. & DC.) Brid.		1	1		A(ii)		
Centaurea prespana Rech. fil.	R						
Centaurea soskae Hayek ex Kosanin	R				A(iv)		
Centaurea spruneri Boiss. & Heldr.	R						
Coeloglossum viride (L.) Hartman							GR
Crocus cvijicii Kosanin					A(iv)		MK/AL
Crocus pelistericus Pulevic							MK
Cynoglottis barrelieri (All.) Vural & Kit Tan subsp. serpentinicola (Rech. fil.) Vural & Kit Tan	R						
Dianthus myrtinervius Griseb.	R				A(iv)		
Erodium guicciardii Heldr. ex Boiss.	R				A(iv)		
Eryngium serbicum Pancic	R				A(iv)		
Fritillaria gussichiae (Degen & Dφrfler) Rix	R						
Gentiana lutea L.							AL

Taxon Name	International Union for Conservation of Nature (IUCN) Global Red List (Walter & Gillett 1997)	Bern Convention Appendix I	Habitat Directive Annex IIb	Habitat Directive Annex IVb	IPA Category	local endemic	Corine
Jurinea taygetea Halácsy	R				A(iv)		
Lilium albanicum Griseb.					A(iv)		GR
Malus florentina (Zuccagni) C.K.Schneid.	R						
Marsilea quadrifolia L.		1	1	1	A(ii)		
Melampyrum heracleoticum Boiss. & Orph.	R				A(iv)		
Nepeta ernesti-mayeri Dikl. Et Nikolic					A(iii)	1	
Oxytropis purpurea (Baldacci) Markgraf	R				A(iv)		AL
Pedicularis limnogena A. Kerner	R				A(iv)		
Pinus heldreichii Christ var. Heldreichii	LR/lc						
Pinus heldreichii H.Christ var. leucodermis (Ant.) Markg.	R						
Pinus peuce Griseb.	R				A(iv)		
Ramonda serbica Pancic	R	1		1	A(ii)		E
Rhinanthus pindicus (Sterneck) Soo	R						
Rindera graeca (A. DC.) Boiss. & Heldr.	R				A(iv)		
Salvinia natans L.	nt	1	1	1	A(ii)		
Sempervivum octopodes Turill	R				A(iii)		
Sideritis raeseri Boiss. & Heldr.					A(iv)		AL
Silene damboldtiana Greuter & Melzh.	R						
Solenanthus scardicus Bornm.	R				A(iv)		
Trapa natans L.	nt	1	1	1	A(ii)		
Trifolium pilczii Adam.					A(iv)		
Viola eximia Form	R			A(iv)			

3.6 NATURE RESERVES AND PROTECTED AREAS

Over the last few decades Albania, Greece and fYROM have taken a series of steps to protect the unique ecosystems of Prespa. The transnational Prespa basin is subject to plenty schemes of nature

protection, mainly in the form of National Parks and Ramsar wetlands (Figure 3.6). In Greece, the whole basin is characterized as Special Protectiona Area (SPA) / Special Areas of Conservation (SAC) and also belongs to the Natura 2000 network.

In Albania, the Prespa National Park was established in 1999 aimed at the restoration and sustainable protection of critical land and aquatic ecosystems in the area.

Greece establishes the Prespa National Park in 1974 (PD 46/1974 GG A19) for the protection of the Micro and Macro Prespa Lakes and their outflow basin and also the Micro Prespa was designated as a "Wetland of International Importance" under the Ramsar Convention. The Prespa National Park includes the Greek area of two (2) Lakes and also parts of Trikario and Varnounta hills, thus defining the largest national park in Greece with an area of approximately 256,9 km^2. The protection, preservation and improvement of the natural environment of Prespa are imposed by scientific, cultural and development reasons and also in order to preserve the natural charactiristics of the area (PD 46/1974, Y.A. 165594/3007/15-7-1985 G.G. B' 467). The Management Body of Prespa National Park is established by the Law 3044/2002 (G.G. A' 197) and it aims at management, protection and preservation of the valuable natural feautures of the National Park. The number of directors of the Management Body is determined by the KYA 125811/1416/15.04.2003 (G.G. B' 566/09/05/2003). In 2009, the Prespa National Park is founded and its territories of protection are also defined (KYA 28651/09.02.2009/G.G. D' 302/23.07.2009). In 1975 the area was designated a "Place of Significant Natural Beauty" while the characterization was carried out in 1977 via Y.A. A/F31/23211/1747/27.01.1977 G.G. B' 86/10.02.1977. Further, the Greek section of the Lakes' basin is included in the National List of one hundred and sixty three (163) areas that have been entered in the Natura 2000 network as "Special Protected Areas" (SPA) in accordance with the EU 'Birds' (conservation of wild birds, 1979) and 'Habitats' (conservation of natural habitats and wild fauna and flora, 1992) Directives.

The Prespa National Park is protected by European and International legislation with a series of European Union directives and International conventions on the natural protection, as follows:

- The Micro Prespa Lake is characterizes as s "Wetland of International Importance" under the Ramsar Convention since 1974, especially as a waterfowl habitat (Law 191/1974 (G.G. A' 350)).
- Convention on Trade in Endangered Species (CITES) (Law 2055/1992 (G.G. A' 105)).
- Convention on the Conservation of migratory species of wild animals (Law 2719/1999 (G.G. A' 106)).
- Convention of the European Council on the protection of wildlife and natural habitats (Law 1335/1983 (G.G. A' 32))
- Convention for the protection of the European architectural heritage (Law 2039/1992 (G.G. A' 61))
- Convention on Environmental Impact Assessment in a transboundary framework (Law 2540/1977 (G.G. A' 249))
- Convention on usage and protection of transboundary rivers and Lakes (Law 2425/1996 (G.G. A' 148))
- Convention on Biological Diversity (Law 2204/1994 (G.G. A' 59)
- The Micro Prespa is a Special Protection Area as an important area of birds (79/409/EC)
- Under the Directive on the conservation of natural habitats and wild fauna and flora (92/43/EC, Natura 2000), two (2) Special Areas of Conservation have been delineated in Prespa: the Prespa National Park and Mountain Varmountas. These areas also belong to the list "Natura 2000"

In fYROM, the Pelister National Park was founded in 1948 for the protection of a globally unique mountain ecosystem east of the Macro Prespa Lake, while the Galicica National Park was founded in 1958 for the restoration and protection of a unique land ecosystem extending to Mountain Galicica situated between Greater Prespa and Lake Ohrid. The Ezerani (Ramsar site) ornithological (nature) reserve was founded in 1996 and covers an area of 20,8 km^2. Its aim is the protection of migratory and other aquatic birds. It was designated as a "Natural Monument" in 1977 along with Macro Prespa.

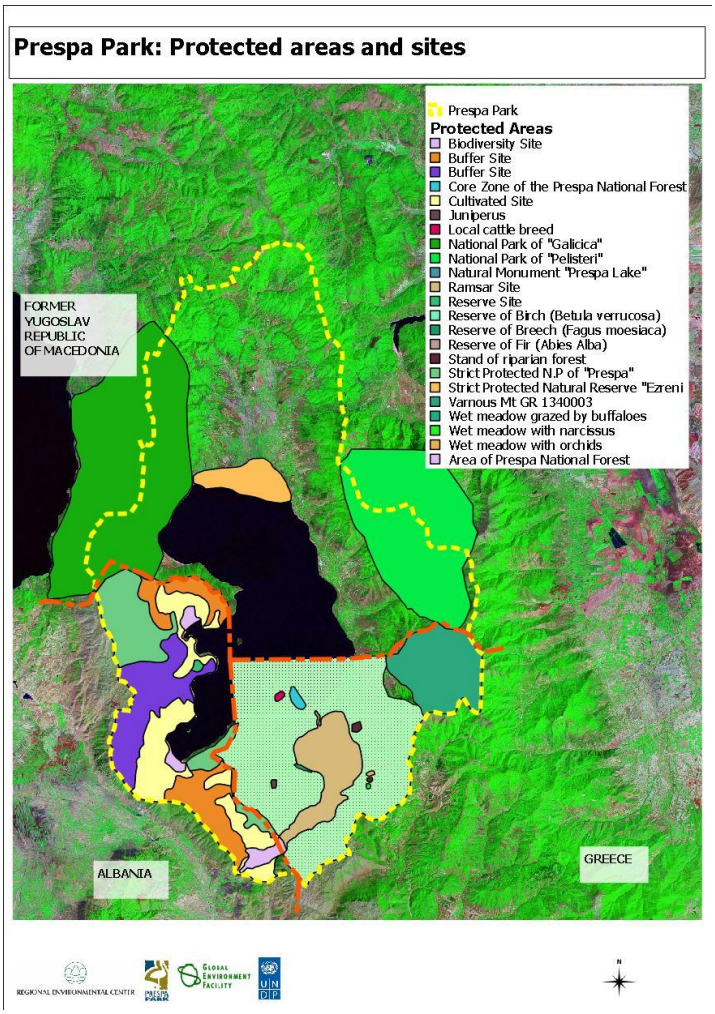

Figure 3.6: Prespa Basin Protected Areas (Lake Prespa - Transboundary Diagnostic Analysis. 2009)

3.7. TRANSNATIONAL PROTECTED AREA AND FRAMEWORK OF COOPERATION

The Prespa Park is the first transboundary protected area in Balkans. In February of 2000 (2.2.2000), the Prime Ministers of Albania, fYROM and Greece had issued a joint declaration supporting the development of a tripartite co-operative approach for the management of the Prespa Lakes Basin and the Prespa Lakes. The Declaration supports the Creation of the Transboundary Prespa Park and the Environmental Protection and Sustainable Development of the Prespa Lakes and their Surroundings.

Few days after the declaration, signed by the three prime ministers, in the framework of the international warkshop that was held in Tirana between the 16th and 17th of October 2000 the Prespa Park Coordination Committee (PPCC) was established ,as a non legal entity, that would coordinate, supervise and support activities towards the establishment and implimentation of the basic principles for the enviromental protection and sustainable development around Prespa Lake. The Committee was a ten-member party ,including representatives of National Enviromental Authorities, Local Communites and Non-Govermental Organisations of the three respected countries as well as a supervisor of the Ramsar Convention and the Initiative of the Mediterenean Wetlands (MedWet). The members of PPCC were engaging to meetings twice every year till 2008 in the Prespa area each time in one of the three countries. Regarding the managment of the Prespa waters ,it is documented that during the ninth(IX) CCPP meeting in Koritsa, the first parallel running meeting for the water management took place,while the corresponding workshop took place during the eleventh(XI) CCPP meeting ,which was has carried out in Pili as well. Details of the PPCC meetings are available on the webpage of the Society for the Protection of Prespa as well as the site of MedWet.

The list of PPCC meetings is shown below in table 3.8

Table 3.8: List of meetings of Prespa Park Coordination Committee

No	Type of meeting		Place	Country	Date
I	Sceduled		Skopjie	fYROM	30-31.01.2001
I		Non sceduled	Thessaloniki	Greece	29.06.2001
II	Sceduled		Psarades	Greece	19-20.11.2001
III	Sceduled		Koritsa	Albania	17-18.05.2002
IV	Sceduled		Otesevo	fYROM	07-08.02.2003
II	Sceduled	Non Sceduled	Ag. Germanos	Greece	29.03.2003
V	Sceduled		Laimos	Greece	13-15.10.2003
VI	Sceduled		Koritsa	Albania	31.05-01.06.2004
VII	Sceduled		Otesevo	fYROM	06-07.03.2005
VIII	Sceduled		Laimos	Greece	21-22.11.2005
IX	Sceduled		Koritsa	Albania	20-21.05.2006
X	Sceduled		Pretor	fYROM	17.06.2007
XI	Sceduled		Ag. Germanos-Pyli	Greece	21-22.11.2008

In 2009 (27.11.2009) the prime ministers of the three (3) countries agreed on the signing of a binding agreement for the international protection and sustainable development of the Prespa Park. On the 10th anniversary of the Prespa Park, on 2 February 2010, the three (3) states and the European Union signed an international agreement, which strengthens the institutional operation of the Park, starting a new era for the Prespa Transboundary Park.

In the agreement, the uniqueness of the area is been recognized and also its international importance because of its geomorphology, ecology, biodiversity and cultural heritage as a vital habitat for numerous threatened species of flora and fauna (Agreement on the Protection and Sustainable Development of the Prespa Park Area, 2010).

The Agreement constitutes the main tool for addressing environmental problems and enhancing the economic development of the region. The main points of the Agreement are:

- Integrated ecosystem protection and sustainable development of the Prespa Park area including the development of integrated water basin management plans in accordance to international standards and European Union standards
- Definition of criteria, standards, limits and goals for the protection, conservation and development of the region
- Water management of the Prespa Park area in a sustainable way including an integrated management of surface and ground waters according to the Water Directive 2000/60/EC and relevant regulations
- Coordination and information exchange between authorities in order to ensure the effective protection of the Prespa Park area
- International cooperation aimes to taking on measures for environmental protection and elimination of transboundary environmental impacts caused by human activities
- Implementation of the appropriate environmental impact assessment procedures in the region

Moreover, within the framework of international agreement - in order to strengthen the institutional operation of the Park – the establishment of an institutionalized tripartite Management Committee Prespa (Prespa Park Management Committee) is provided. The obligations and functions of the committee are clearly defined in the Agreement on the Protection and Sustainable Development of the Prespa Park Area.

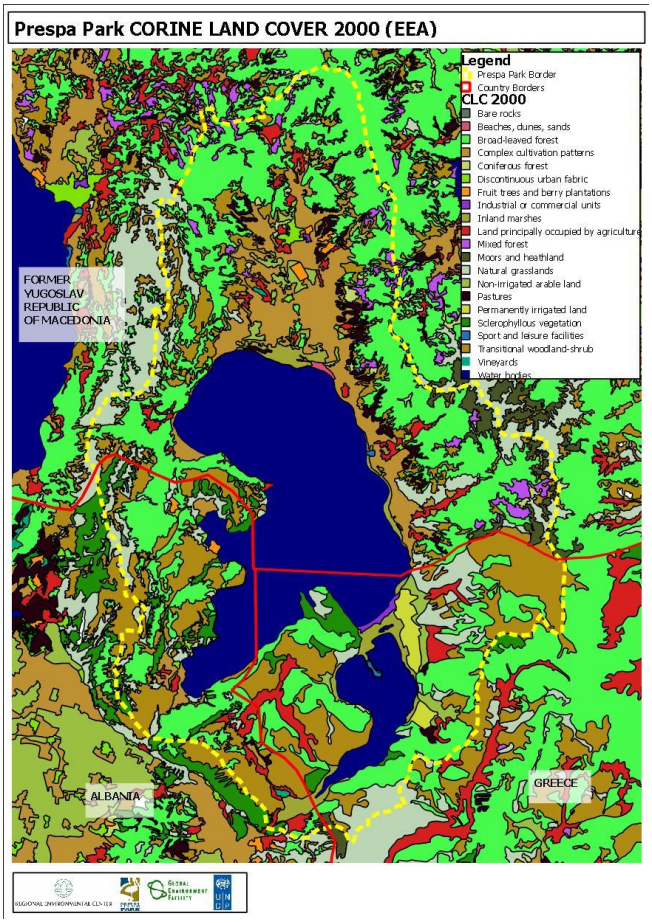

Figure 3.7: CORINE Land Cover Data for Prespa Basin (Lake Prespa - Transboundary Diagnostic Analysis. 2009)

4. PROJECTS AND PROGRAMS IN THE TRANSBOUNDARY LAKE PRESPA SUB-BASIN

4.1. PREPARATION OF A STRATEGIC ACTION PLAN FOR SUSTAINABLE DEVELOPMENT IN THE PRESPA PARK

The below information were obtained by the "Strategic Action Plan for the Sustainable Development of the Prespa Park, 2005".

Duration: 2001-2002

Project Area: Prespa basin

Project Coordinators: Myrsini Malakou, Vivi Roumeliotou

Project Funding: Co-funding from the Bilateral Developmental Cooperation and Aid Programme of the Ministry of Environment, Land Planning and Public Works (2001) and from the SPP through World Wide Fund for Nature (WWF Greece).

Project Managers and Partners: The project was carried out under the responsibility of the Society for the Protection of Prespa (SPP), the consortium was comprised of WWF Greece, two (2) NGOs PPNEA (Protection and Preservation of Natural Environment in Albania) and the fYROM Alliance for Prespa (MAP).

Further Information: A summary of the Strategic Action Plan can be found in the website of the Society for the Protection of Prespa[5]

Highlights:

The **2002 Strategic Action Plan** represents the first joint project of the three (3) neighbouring countries. It actually represents a product of close collaboration of the Non-Governmental Organisations actively participating in the Prespa Park and of several independent scientists and experts.

The **2002 Strategic Action Plan** was actually used as the basis for the preparation, submission and approval of a proposal for a joint project to the Global Environment Facility (GEF) for the integrated ecosystem management in the Prespa Park ("Integrated Ecosystem Management in the Prespa Lakes Basin in Albania, fYROM and Greece").

On the 2nd of February 2000, under a common declaration of the Prime Ministers of Greece, Albania and fYROM the Prespa Park was established with the basic goal to protect and preserve ecological and cultural values of the wider area by further supporting and ensuring peace, friendship and cooperation between the three (3) parties. The 2002 **Strategic Action Plan** aimed at filling the knowledge gap on general conservation and management issues further attempting to raise a general picture of the area at the transboundary level to highlight the important issues and the needs for the management and sustainable development of the Prespa basin.

Project objectives and specifications:

a) to propose specific measures towards sustainable development and protection of the Prespa Park area, with specific «prerequesites» both for projects at a cross-border level and for each of the three countries individually.

b) to provide the basic information, record and analyse ecological, economic and social conditions prevailing in the catchment basin and to describe the related procedures (i.e. ecological, economic, social, cultural) that should be taken into account in order to facilitate the accomplishment of these objectives.

[5] *http://www.spp.gr/spp/sap_executive_summary_edition_en.pdf*

c) to design and propose strategic objectives for Prespa Park.

In addition the project aimed to:

- to facilitate the provision of information and its exchange among stakeholders;
- to outline basic objectives (as those given above) in order to facilitate future discussions

In the three (3) countries working groups by experts on hydrology, fauna, flora, law, international relations and social economics were formed to implement the program

Results of the Project:

- Basic strategic and political keystones for the development and protection of the Prespa Park
- Determination of the basic objectives of the Prespa Park
- Recognition of difficulties hindering transboundary cooperation in Prespa area
- Recognition of basic management issues and gaps that are related to all three (3) countries
- Identification of specific indicators for environmental protection and sustainable development
- Proposition of a framework for formalising the Transboundary Cooperation in the Prespa Park

In addition the 2002 **Strategic Action Plan** identified potential difficulties which hinder transboundary co-operation in the Prespa Park listed below:

- Different laws, policies and protected areas systems as well as power of management authorities and different political and administrative structures
- Different socio economic development
- National security considerations
- National political or cultural difficulties that can cause misunderstandings
- Foreign affairs between Greece and fYROM that impeding the formal adoption of international agreements between these countries

The pending foreign policy issues between Greece and the fYROM that prohibit formal adoption of new international agreements between the two (2) countries. After long efficient and extensive consultation procedures the **2002 Strategic Action Plan** was adopted by the Prespa Park Coordination Committee in May 2004. The **2002 Strategic Action Plan** form the basis for planning all the activities of the Prespa Park. In this manner, it constituted the basis for the preparation, submission and approval of the "Integrated Ecosystem Management in the Prespa Lakes Basin in Albania, fYROM and Greece" project which actually was developed in order to implement the conclusions of the Strategic Action Plan.

Following its development by experts from the three (3) countries, the strategic action plan had been accepted by the three (3) states. It was decided to be published in the three (3) national languages as well as in English.

From the 2002 Strategic Action Plan:

"The Strategic Action Plan for the Sustainable Development of the Prespa Park (SAP) is the first building block of trilateral cooperation within the framework of the transboundary protected area... aiming at the preservation of the extraordinary natural and cultural values of the region, as well as the promotion of peace, friendship and cooperation between the three peoples." (Strategic Action Plan for the Sustainable Development of the Prespa Park, 2005).

4.2. PROGRAMME DEVELOPMENT FACILITY - PDF BLOCK B PHASE

Duration:

- Approved by the Secretariat of the Global Environment Facility (GEF) in 2003.
- Activities were undertaken during 2004 and 2005.

Project Interventions & Objectives

Following the joint declaration of the Prime Ministers of Albania, fYROM and Greece on the establishment of Prespa Park, the three (3) Ministers of the Environment of the three (3) countries established a non-legal entity the Prespa Park Coordination Committee (PPCC). The PPCC has no budget from the three (3) countries and indeed, the three (3) governments have no legal commitment to support the PPCC, financial or otherwise. PPCC operations so far have been supported by ad hoc funding provided by the Greek Government, as well as occasionally by Kreditanstalt Für Wiederaufbau (German Development Bank – KfW) and German Organisation for Technical Cooperation (GTZ), while the operation of the PPCC Secretariat has been largely supported by WWF-Greece, which has funded the SPP's hosting of the Secretariat. Still despite funding limitations the PPCC have tried to develop a transboundary cooperation in the Prespa Basin. As a result of the PPCC collaboration the first joint project was produced in 2002. From January 2001 until May 2002 under the responsibility of the Society for the Protection of Prespa (SPP), with the collaboration of WWF Greece, the NGO PPNEA in Albania and the NGO fYROM Alliance for Prespa (MAP) the "Strategic Action Plan for the Sustainable Development of the Prespa Park" for Prespa Park was developed. This was actually the first step for the establishment for common efforts and policy among the three (3) countries for the conservation and sustainable development of the Prespa Basin. The specific objectives of the Strategic Action Plan are presented within this document in the sub-chapter 5.1.

After extensive consultation procedures the Strategic Action Plan was adopted by the PPCC in 2004. Having as its basis this Strategic Action Plan the PPCC members have been actively pursuing funding for the implementation of individual activities.As a result of the attempts of the PPCC in June 2003, an initial fund **PDF - B (Programme Development Facility - PDF Block B phase)** was granted from GEF. The necessary studies and consultations under PDF B were made possible during 2004 and 2005 with the purpose of putting together a full project proposal for submission to the GEF in order to obtain further co-financing. The aim of this PDF B was to undertake preparatory activities, which will enable the development of a multiannual full GEF project titled: "Integrated Ecosystem Management in the Transboundary Prespa Park Region". The duration of the **PDF B** phase was one (1) year and was co-funded mainly by United Nations Development Programme (UNDP) and KfW. The PDF phase costed approximately 597.947,44 EUR (820.000 USD). The Governments of Greece, Albania and the fYROM and local stakeholders, namely the Municipalities and the NGOs involved in the region have provided support and contributed to this preparatory phase. The basic goal of **PDF B** phase was to establish the basis for the preparation, submission, approval and implementation of a full-GEF project. Thus, this **PDF B** phase aimed to address all critical scientific, technical and socio-economic issues towards this direction.

The basic objectives of the **PDF B** were twofold:

- To establish and design the technical basis of the full-version long termed GEF project
- To facilitate, provide and share information with stakeholders in order to ensure and establish the necessary participatory mechanisms that were needed for a successful future implementation of the full-version long termed GEF project.

In order to facilitate the implementation of the **PDF B**, each country headed by National Project Coordinator organized Implementation Units, with the PPCC having a central role in the undertaking of all **PDF B** activities.

In July 2005, the **PDF-B** phase led to the submission of a full project proposal to the GEF for integrated ecosystem management in the Prespa Park ("**Integrated Ecosystem Management in the Prespa Lakes Basin in Albania, fYROM and Greece**"), which was approved in September 2005. The implementation of the "**Integrated Ecosystem Management in the Prespa Lakes Basin in Albania, fYROM and Greece"** project began in late 2006.

4.3. INTEGRATED ECOSYSTEM MANAGEMENT IN THE PRESPA BASIN IN ALBANIA, FYROM AND GREECE - GEF PROJECT

The following information were obtained from the documents: “Prespa Lakes Basin-SAP, 2012”, “Puleska B., 2009”, “Sharrocks M., Consultancy Pte Ltd, 2008a, b & c”, “Technical Task Team (TTT) for the collection, assessment and evaluation of national information in support of the Trans-boundary Diagnostic Analysis (TDA) and development of a SAP in the Prespa Lakes Basin - National Report - (fYROM), (Albania), (Greece), 2009”, “Terms of Reference for the TTT, 2008”, “Inception Report – TTT for the collection, assessment and evaluation of national information in support of the TDA and development of a SAP in the Prespa Lakes Basin, 2008”, “Lake Prespa – TDA, 2009”, “Prespa Lakes Watershed Management Plan, 2012”, “Strategic Environmental Assessment on the LPWMP, 2011”, ”Report - Guidelines for handling of pesticide packaging, 2008”, “Hartmann D.W.. 2008”, “Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR Macedonia and Greece - UNDP Full size Project Document, 2006”, “Spirkovski, Z, 2009”, “Transboundary Fisheries Management Plan for Prespa, 2008”.

Duration: 2006-2011

Project Area: Prespa basin

Project funding and management:

The GEF project for the Prespa Park was primarily supported by the Global Environment Facility (GEF). German and Swiss Development Aid, governments of the three (3) countries and other organisations participate in the broader planning of the project through "parallel financing" of relevant activities.The project was mainly implemented and jointly managed by UNDP country offices in fYROM and Albania in partnership with the Ministries of Environment in both countries. There are four (4) national offices, two (2) in fYROM (Resen and Skopje) and two (2) in Albania (Korce and Tirana) and one (1) transboundary office located in fYROM (Resen). Greece, which as an EU member State is not eligible for GEF funds participated actively through parallel financing. It should be mentioned that this parallel financing was mainly used by Greece in order to expand the technical study and installation of sewage treatment plants (with the resources of the Prefecture of Florina and the Regional Authority of Western Macedonia) for villages in the Municipality of Prespa, and the operation of the Prespa National Park Management Body (EPPER III, Ministry of Environment, Land Planning & Public Works). Under the parallel financing scheme, a series of projects and activities such as the transboundary monitoring system in Greece were co-funded by the Society for the Protection of Prespa and WWF Greece.

Project Interventions & Objectives

The “**Integrated Ecosystem Management in the Prespa Lakes Basin in Albania, fYROM and Greece**” as a five (5) year GEF project (in which Albania and fYROM are the beneficiaries of an estimated budget of about 2.552.133,51 EUR (3.500.000 USD) was designed to promote integrated ecosystem management of the wider region with the participation of all stakeholders, and to enhance cooperation among the three (3) participating countries. The project aimed at implementatimg the key conclusions of the Strategic Action Plan at both transboundary and national levels.

The main objectives as provided by the project description are listed bellow:

- Protection of ecosystems through effective land use planning, management of protected areas and integrated management of water resources.
- Awareness raising and greater understanding of the ecological values of the area.
- Creation of a favourable environment for the sustainable development of the region with appropriate policies, incentives and opportunities, and coordination between sectors.

- Building of mechanisms for transboundary collaboration through the strengthening of the Coordination Committee and Secretariat; and exploring the possibility of instituting a permanent trilateral committee.

Main activities for the implementation of the objectives can be summarized as:

- Protection of ecosystem values and conservation of biodiversity through effective land-use planning in the wider Prespa region - adoption and implementation of land use plans.
- Plans for integrated water resources management.
- Improvement of water resource management capacity throughout the catchment basin at a local level in all three countries.
- Reduction of pesticide inputs, improve status of target species and ecosystems, reduction of euthrophication of the Lake by designing smallscale wastewater treatment plans. Reduction of the environmental impacts of agriculture in Albania and fYROM through the modification of natural resource management practices in the productive sectors and the modernisation of forest management and fisheries.
- Management of domestic wastewater and sewage to reduce pollution and protect biodiversity at a national level.
- Design effective plans for the management of protected areas.
- Conservation of biodiversity and fully functioning management systems for protected areas in all three (3) countries, by means of the development of a transboundary environmental monitoring system (in coordination and cooperation with the transboundary monitoring project which is funded and designed by the SPP), protection of priority species, improvement of institutional frameworks and functioning of the management bodies for protected areas.
- Supporting and enriching awareness and understanding of the ecological values of the region among the public at all levels.
- Establishment of the mechanisms necessary for transboundary co-operation.
- Strengthening of transboundary cooperation in the Prespa Park with the formal establishment of its institutions, the establishment and operation of the trilateral working group on water management, the adoption of a trilateral strategy for tourism and visitors, and the development and adoption of the Strategic Action Plan for the Prespa basin by all related governments.
- Creation of an enabling environment for sustainable development in the region through appropriate policies, incentives and opportunities, and inter-sectoral co-ordination.
- Exploring options for the establishment of a more permanent regional commission.
- Pilot implementation of projects for transboundary biodiversity protection and water management. These include projects for the Lakes' endemic fish species, the endemic Prespa trout, and the littoral zone, amongst others.

Overall the project aimed at biodiversity conservation, mitigate pollution of the transboundary Lakes, and provide a sustainable basis for the basin's further social and economic development through a range of approaches. Basic tools for achieving these goals were the improved monitoring and the targeted research and replication of small-scale wastewater treatment techniques. Effective conservation was also designed by the means of enabling protected areas to serve as effective refuges for biodiversity within the Prespa landscape. In this sense, the interventions of the project included the establishment and effective management of the Ezerani Strict Nature Reserve in the fYROM, operationalization of the Prespa Protected Area in Greece and the conservation of significant territory of habitats for species that inhabit the Prespa Lakes basin.

In an attempt to achieve conservation and management goals, to jointly address conservation issues, fill knowledge and policy gaps and find solutions to the ecosystem management problems, the project

encouraged the dialogue at different administration levels, through information exchange, capacity building and adoption of a consensus driven process. Various complex and participatory approaches have been tested by involving numerus stakeholders on national, local and transboundary level at every step of the implementation process. This attempt actually started during the preparation phase (PDF-B) where stakeholders contributed to its development and continued with their participation in the implementation phase.

Another important task of the project was to increase public awareness on various issues related to ecosystem service and water use management the impact of selected human activity on the ecosystem services and health. To achieve this, a series of targeted educational approaches have been designed and performed in order to bring the attention of the public on specific issues and to promote the conservation of national and global benefits in the Prespa Lakes Region.

To support the establishment of land and water use management basis for maintaining and restoring ecosystem health in the Prespa Lakes basin a series of spatial plans and management plans were developed by incorporating the key principles of the ecosystem approach and sustainable development (such plans included the management plans in the fYROM and local environmental plans in Albania). These plans, as part of the project, focused on strengthening the capacity of Albania and fYROM to manage their key sectors on a more sustainable basis.

Given the fact that this project considered effective management and conservation in long-term, multi-phase and multidimensional processes attention has been given to the establishment of the national and transboundary ecosystem management in the Prespa region. Therefore, among the critical objectives of the project was the strengthening of the intergovernmental cooperation. This cooperation could be productive by international collaboration and supporting the existing multi-stakeholder tri-lateral PPCC and explore options for formalising tri-lateral cooperation. Such a close cooperation among the three (3) counties could support a transboundary consensus and effective transboundary action. Such cooperation would ensure the wise use of the resources within the basin and sustainable development. Therefore the project among others, aimed to support the transboundary cooperation amongst the littoral States in order to strengthen the functioning of the responsible entities.

A series of plans and analyses were conducted under the umbrella of the "Integrated Ecosystem Management in the Prespa Lakes Basin in Albania, fYROM and Greece". These are listed in the following chapters.

4.3.1 TRANSBOUNDARY DIAGNOSTIC ANALYSIS AND DEVELOPMENT OF A STRATEGIC ACTION PLAN FOR THE PRESPA PARK

The Prespa Lakes Basin Strategic Action Programme (SAP) established a framework on agreed management actions that address the key trans-boundary concerns shared between the three (3) Prespa Lakes Basin countries – Albania, fYROM and Greece.

The Strategic Action Plan completed in 2002 was the first joint attempt of the three (3) countries to establish the basis for sustainable development in the Prespa Basin and support future steps by setting up the framework on agreed management actions that addressed the key transboundary concerns shared between the three Prespa Lakes Basin countries – Albania, fYROM and Greece. Following the directives of the Strategic Action Plan in 2002, it became apparent that a trans-boundary diagnostic analysis (TDA) was a critical tool/approach which could support the development of the Strategic Action Programme (SAP) for Prespa. As a result a Strategic Action Programme has been developed by a Technical Task Team after discussions with national and regional stakeholders, which actually builds upon the work of the PPCC activities in preparing a Strategic Action Plan in 2002. This SAP was considered as a fully supportive document of the Joint Agreement signed by the three (3) countries in 2010 to manage and protect the Prespa Park Area as well as other activities implemented earlier by the three (3) countries. International consultant Dr. Peter Whalley functioned as the overall task leader for

the Prespa Transboundary Diagnostic Analysis – Strategic Action Programme (TDA-SAP) process and was supported by a technical task team with experts from the three (3) countries.

Preparatory National Reports (Structure of the program)**:**

Regarding the structure of the programme, the Transboundary Diagnostic Analyses TDA has been compiled by a team led by an international consultant with national expertise provided by a Technical Task Team (TTT). The ToR for the TTT was developed by the international consultant and the UNDP International Transboundary Expert. The TTT were responsible for collecting and analysing all the data related to national issues and prioritising these with respect to trans-boundary concerns. The international consultant summarised three (3) National Analysis Reports into this 'Executive Summary' as a Transboundary Diagnostic Analysis report. The three (3) National Analysis Reports are integral elements to this TDA and are annexed to this report.

4.3.2 TECHNICAL TASK TEAM (TTT) FOR THE COLLECTION, ASSESSMENT AND EVALUATION OF NATIONAL INFORMATION IN SUPPORT OF THE TRANSBOUNDARY DIAGNOSTIC ANALYSIS (TDA) AND DEVELOPMENT OF A STRATEGIC ACTION PROGRAMME (SAP) IN THE PRESPA LAKES BASIN – FYROM AND ALBANIA 2009

The National Reports were preparatory background documents for the Lake Prespa Transboundary Diagnostic Analyses (TDA) as a component of the UNDP/GEF project, namely "**Integrated Ecosystem Management in the Prespa Lakes Basins in Albania, fYROM and Greece**". The Technical Task Team for collection, assessment and evaluation of data towards the development of the TDA and the Strategic Action Programme (SAP), which derived from the TDA process, started with its activities in late November 2008. Preliminary analyses were presented to wide stakeholders Workshops in the three (3) countries (Albania, Greece and fYROM) in of February 2009.

The main objectives of the Preparatory National Report were:

- Work with appropriate technical counterparts in fYROM and Albania gathering relevant physical, chemical, biological, and legal data about the Lake watershed.
- Evaluate the important sources of pollution within the watershed and to the extent possible, quantify their impacts.
- Evaluate the relative importance of inappropriate use of chemicals in agriculture, illegal fishing and/or destructive fishing practices. Also assess the lack of an organized system for collection of pesticide packaging, non treated wastewater discharge into the ground, depositing of sediments into the Lake due to erosion, habitat change (due to Lake retreating as a result of anthropogenic impacts and the Lake natural outflows), inter-species competition due to introduction of commercial fish species in the past etc..
- Access the impacts on water quality from farming practices in the watershed.
- Project the most significant threats to critical habitats and biodiversity in the watershed.
- Identify key natural resource and environmental data gaps and recommend the most practical ways to fill these data gaps.
- Take inventory and evaluate the existing institutional and regulatory systems for Lake management at the national and transboundary level. Evaluate the enforcement of environmental laws in both countries.
- Analyze the sustainability of the existing modalities of natural resource use (especially in agriculture), as well as practical alternative opportunities for livelihood (for example, eco-tourism and handicraft production).

Basic information obtained:

- on institutional set up and on relevant stakeholders which are in charge of implementing an integrated water management
- on basic features of the Prespa Lake basin (hydrology, hydrogeology, climate, biological and land resources – such as the forests, crops, biodiversity / protected areas etc., social and economic issues (demography, education, health, as well as the main economic drivers, such as the forestry, fisheries, agriculture, tourism and industry).
- on the characterization of the Prespa Lake ecosystem and identification of pressures (water demands and water use)
- about major impacts over the Lake Prespa ecosystem (natural cycle and anthropogenic impacts causing the Lake's level decrease, the eutrophication and pollution from toxic substances, degradation of the aquatic ecosystem etc.)
- for the identification of main pressures / impacts that have a transboundary character
- for qualitative and quantitative data on ecosystems status water pressures etc.
- on identification of gaps in monitoring system and/or the lack of scientifically confirmed data.
- on evaluation and presentation of the current conditions (status) and problems.

Additional information:

A review on the 2002 Action Plan for Prespa Park, the development process of the SAP, the implementation status and challenges were prepared in 2008 (Whalley, 2008b) as an initial step in the process of undertaking a TDA[6]. Three (3) other documents are also available: a guide for the development of the TDA, with description of the basic directives, the scope of work, the duties, the responsibilities, the required expertise and experience (Terms of Reference, 2008)[7], a gap assessment report between 2002 Strategic action report and the expected Strategic Action Programme compiled by Whalley (Whalley, 2008a)[8] and an Inception Report of the Technical Task Team (TTT) for the collection, assessment and evaluation of national information in support of the Transboundary Diagnostic Analysis (TDA) and development of a Strategic Action Programme (SAP) in the Prespa Lakes Basin (Inception Report, 2008)[9].

4.3.3. TRANSBOUNDARY DIAGNOSTIC ANALYSIS (TDA) –2009

The Transboundary Diagnostic Analysis[10] report reviews and analyses data and expert judgement of the state and pressures on the environment of the basin highlighting seven (7) priority axes of transboundary importance that are recommended for further action through implementation of an agreed Strategic Action Programme:

- Nutrient pollution
- Declining fish stocks
- Decrease of water level in Lake Macro Prespa

---

6 http://prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development/review-of-current-strategic-action-plan-for-prespa-park-its-development-process-current-implementation-status-and-challenges-peter-whalley-october-2008/view

7 http://prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development/terms-of-reference-for-the-technical-task-team-collecting-information-for-the-prespa-park-tda-sap/view

8 http://prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development/gap-assessment-2013-a-comparison-between-the-scope-of-the-current-prespa-strategic-action-plan-and-the-scope-of-the-undp-gef-prespa-regional-project-interventions-peter-whalley-october-2008/view

9 http://prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development/inception-report-transboundary-diagnostic-analysis-and-strategic-action-plan-development-prepared-in-december-2008

10 http://prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development

- Sediment transport
- Deforestation and changes in native forests
- Organic pollution
- Hazardous substance pollution

It is considered a valuable document since it represents a detailed report based on tri-lateral monitoring programme under the Prespa Park Co-ordination Committee (with UNDP-GEF support) regarding water quality monitoring data. The Tranboundary Diagnostic Analysis (TDA) Report is actually a summary of the detailed national studies and reports prepared by a Technical Task Team (TTT) with representatives from all three (3) countries. These National Analysis Reports had undergone a wide public consultation with national stakeholders where main problems and perceived threats to the ecosystem were presented. The TDA report builds upon National Analysis Reports (and data gathered from a wide range of reports, government sources, NGOs and from regional experts) and presents the main concerns from a transboundary perspective that should be addressed in the Strategic Action Programme for the Prespa Lake Basin.

A series of steps were followed before the preparation of the TDA:

1. Agreeing the process in discussion with key members of the PPCC (October 2008);
2. Developing and agreeing with the PPCC the Terms of Reference for the TTT enabling a successful tender to be conducted by the GEF Prespa project (November 2008). The contract to perform the TTT was awarded to the Regional Environment Centre which provided a tri-national technical team to undertake the data asquisition and analysis for the basin.

   The Technical Task Team undertook the following activities:

   - Preparation of a detailed Inception Report identifying the activities to be undertaken in preparation of the National Analysis Reports for the overall TDA and the future steps for preparing the SAP
   - Collecting and analysing available information on the pressures, impacts and state of the ecosystem in the Prespa Lake Basin;
   - Describing the list of national governance and stakeholders involved in the Prespa Basin;
   - Identifying the main threats and concerns to the ecosystem from a national perspective;
   - Undertaking three (3) national stakeholder workshops to present the TDA process and to obtain active input on environmental concerns;
   - Drafting three (3) National Analysis Reports based on the stakeholder workshops, previous documents including the 2002 SAP prepared for PPCC and a wide range of international and national studies, etc. Full lists of the previous documents reviewed are given in the annexes to these reports.
   - Developing a series of maps and other baseline assessments utilising information from a wide range of sources, including European Environment Agency, EC Joint Research Centre, etc. This data will be invaluable to assess the subsequent implementation of the SAP.
   - Distribution of the National Analysis Reports and follow-up to elicit national comments from a wide range of stakeholders on the three (3) analysis reports. This has led to the agreement/endorsement of the three (3) National Analysis Reports by key stakeholders.
   - Presenting the 'summary' TDA to national stakeholders and participating in a tri-lateral stakeholder workshop to review the TDA and the subsequent steps for preparing a revised Strategic Action Programme.
   - Preparing national action plans to implement the TDA by an agreed trilateral SAP in the future.

3. Drafting this TDA report and distributing for comments prior to a transboundary stakeholder workshop in order to enable further comments with concurrent discussion and agreement on the priorities for the SAP. This report does not repeat all the details provided in the National Analysis Reports but attempts to summarise the key facts and presents the main transboundary concerns.

Basic objectives:

- Summarize the main features of the Lake Prespa Basin. Including the geo-physical aspects, the ecosystem status, water use, potential climate change impacts, etc.
- Provide a list of the main stakeholders and governance bodies in the region and the overall supervision of Lake Prespa Basin.
- Present a list of the key transboundary threats to the Lake Prespa Basin ecosystem;
- Make suggestions for future steps and emphasize the priority issues towards the development of the Strategic Action Programme.

Basic outputs:

- Identification of transboundary environmental stresses which include:
    - Loss of priority shoreline and wetland habitat
    - Degraded aquatic habitat
    - Altered aquatic animal and plant community dynamics
    - Reduced population of native and endemic fish species
    - Inter-specific competition from exotic fish species
    - Forest fragmentation / altered forest structure
    - Eutrophication
- Identification of the basic thematic areas/ priority concerns of a transboundary importance that should be addressed in the Strategic Action Programme (SAP):
    - Nutrient pollution
    - Fishery management
    - Decrease of water level
    - Sediment transport
    - Deforestation and changes in forests
    - Organic pollution
    - Hazardous substance pollution
- Analysis of environmental stressors (providing qualitative and quantitative data):
    - Nutrient enrichment
    - Native Fish Stock Decline
    - Reduction in the water level in Macro Prespa
    - Sediment Transport
    - Deforestation and changes in forests
    - Organic pollution
    - 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

- Identification of the key sectors and immediate causes impacting the environment:
    - Agriculture – water use, nutrient losses, erosion, hazardous substance waste, organic waste;
    - Fishing – unregulated fishing activities and introduction of alien species;
    - Municipal wastewater – limited treatment of wastewater
- Identification of priority actions and measures for the for the Strategic Action Programme, including:
    - Strengthening the tri-lateral management through legal recognition and national financial support to the PPCC.
    - Implementation of national fund and co-ordinated tri-lateral monitoring programme consistent with the recommendations of the Monitoring and Conservation Working Group of the PPCC
    - Strengthening of institutions responsible for management of the environment and especially of protected areas;
    - Improved regulation and enforcement to maintain the ecosystem
    - Development and implementation of incentives towards more ecosystem friendly economic activities and improvement of the wellbeing of the local population.
    - Improved land-use planning
- Overview of institutional, legal and policy status in Prespa Lake basin

It should be mentioned that the Transboundary Diagnostic Analysis Report included detailed lists of monitoring data and a list of maps on different ecological and geographical features.

4.3.4. STRATEGIC ACTION PROGRAMME - 2012

The Strategic Action Programme (SPA)[11] addresses the identified key trans-boundary concerns with main objectives the:

- Preservation of ecological values of surface and ground water resources
- Strengthening land-use management and planning
- Conservation of Prespa Lakes Basin's biodiversity and habitats
- Improvement of livelihoods of the local communities by ensuring sustainable forestry, agriculture and fisheries

The Strategic Action Programme attempts to address the key transboundary concerns and to preserve the ecosystem values outlined in the Transboundary Diagnostic Analysis (TDA). SAP was developed by a Technical Task Team (TTT) in discussion with national and regional stakeholders. This SAP builds on the work of the 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 (3) countries, to manage and protect the Prespa Park Area as well as other activities implemented earlier by the three (3) countries. This SAP has been prepared following the guidelines by GEF "International Waters" which were 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 (3) national action plans under the co-ordination of the basin authority. This SAP framework provides an agreed

[11] http://lakeprespa.mk/content/Publications/Prespa%20Lakes%20Basin(1).pdf, http://prespa.iwlearn.org/transboundary-diagnostic-analysis-and-strategic-action-plan-development/first-draft-strategic-action-plan-for-prespa

structure to implementing the SAP, the appropriate principles to be applied for the management of the ecosystem, and the priority actions that will be required to be implemented.

Overall objective:

- Provide an overview of the key actions that are recommended for the trilateral management of the Prespa Lakes Basin
- Based on TDA provide a list of actions (at a national and transboundary level) in order to effectively manage and protect the Prespa Park

Basic outputs:

- Identify the main threats to the ecosystem of Prespa Lakes Basin
- Identify the causes of major potential problems for the implementation of common conservation and management plan
- Draw the basic strategy for Environmental Protection
- Identify key Actions at a National and a Transboundary level towards preserving the ecological values of surface and groundwater resources
- Identify key Actions at a National and a Transboundary level towards strengthening land-use planning and management
- Identify key Actions at a National and a Transboundary level towards conserving Prespa Lakes Basin's biodiversity and habitats
- Identify key Actions at a National and a Transboundary level towards improving the livelihoods of the local communities by ensuring sustainable forestry, agriculture and fishery
- Establish management targets and tentative priorities for each country
- Propose a monitoring for the implementation strategy
- Develop monitoring and evaluation indicators which include Process Indicators, Stress Reduction Indicators, Environmental and Socio-economic Status Indicators
- Provide a detailed list of ecological quality objectives and relevant management actions

4.3.5. TRANSBOUNDARY WATER MANAGEMENT

Under the umbrella of UNDP-GEF Prespa regional project, a series of activities were undertaken to promote a Transboundary Water Management plan. A Prespa Water Management Working Group (PWMWG) has been proposed to support the work of the Prespa Park Coordination Committee (PPCC) in order to develop the basic framework for an effective Transboundary Water Management system. The basic objectives of this project were to conduct a rapid analysis of the current state of water management practices, the status of the enabling environment and the actions to develop a plan of implementation. The working group set up terms of reference for the future Trans-boundary Water Management Working Group. Then, with the collaboration of an international expert, it prepared an enhancing transboundary cooperation in water management in the Prespa Lakes Basin. In a workshop held in Greece PWMWG discussed issues related to:

- The water management in the Prespa Park and the EU Water Framework Directive (2000/60/EC, WFD) requirements for integrated water management in transboundary river basins
- An overview by the three (3) respective national water authorities' regarding water management in each country, with reference to national legislation
- The GEF UNDP project document provisions for water issues.

A consultant report (McIntyr, 2008) entitled: "Enhancing Transboundary Cooperation In Water Management In The Prespa Lakes Basin"[12] was the basic document derived out of this collaboration. The report paid considerable attention on; a. the description of the legal mandate of the proposed Prespa Water Management Working Group, b. collated information on water management at the three (3) countries and c. a detailed list of Terms of reference for integrated water management.

Several additional documents on main reports, minutes of meetings and relevant working documents related to the Transboundary Water Management Planning Process in the Prespa Lakes Basin are also available[13].

4.3.6. (FYR)MACEDONIAN NATIONAL PROJECT COMPONENT UNDER THE UNDP/GEF PROJECT

1. LEGAL AND REGULATORY ENABLING ENVIRONMENT

1.1 Spatial Planning

A. Integration of the Ecosystem Health Maintenance Objectives and Practices into the Spatial Plan for the Prespa Region – 2008[14]

The project was developed to satisfy the first Objective ('Stakeholders Strengthen Legal and Enabling Environment and Establish Land and Water Use Management Basis for Maintaining and Restoring Ecosystem Health in the Prespa Lakes Basin') of the UNDP/GEF project **"Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYROM and Greece**" and represents a spatial plan for the Municipality of Resen. The project resulted in thee (3) reports.

Working Paper No.1.

The Working Paper No.1 reviewed documents relevant to the United Nations Development Program (UNDP) and Ministry of Environment and Physical Planning (MEPP) regarding issues of water management. The basic goal of the project was to identify those mechanisms and measures that should be integrated into the spatial planning by putting emphasis at the Municipality of Resen. It presents Laws on Spatial Planning and reviews the Regional Plan for Prespa-Ohrid, the UNDP/GEF Lake Prespa project, namely "**Integrated Ecosystem Management in the Prespa Lakes Basins of Albania, fYROM and Greece**" together with associated planning and environmental material. A series of recommendations towards an effective spatial planning at the Prespa area were drawn.

Working Paper No.2.

The second report provided a series of examples on spatial planning processes performed at various European countries in order to identify best practice examples of European local plan preparation and to combine methods and tools for the development of an effective plan in the region of Resen.

Working Paper No.3.

This last Working Paper summarizes the information of the previous Working Papers providing recommendations towards the preparation of a new Municipality Spatial Plan for Resen. A methodology for the Municipality Spatial Plan for Resen was proposed, considering a series of environmental, social and political parameters.

B. Integrated Prespa Lake Watershed Management Plan[15]

[12] *http://prespa.iwlearn.org/transboundary-water-management/1-consultant-report-2013-mcintyre-o-2008-enhancing-transboundary-cooperation-in-water-management-in-the-prespa-lakes-basin-november-2008/view*
[13] *http://prespa.iwlearn.org/transboundary-water-management*
[14] *http://prespa.iwlearn.org/macedonian-national-project-component/outcome-1-legal-and-regulatory-enabling-environment/spatial-planning*
[15] *http://www.lakeprespa.mk/content/Publications/UNDP_IEMPLB_PLWMP_EN_LQ.pdf*

B.1. Prespa Lake Watershed Management Plan

The preparation of the **Prespa Lake Watershed Management Plan** was supported by the project"**Integrated Ecosystem Management in the Prespa Lakes Basin"**, which is implemented through the technical and financial assistance of the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF). It represents the first Watershed Management Plan in the area that is in accordance with the latest Law on Waters, the principles of the EU Water Framework Directive (WFD) and the Integrated River Basin Management (IRBM) concept.

The aim of the project was to demonstrate and apply the methodology of the EU Water Framework Directive including tasks such as the characterization of surface water and groundwater, the establishment of environmental objectives based on reference conditions and the preparation of programs and measures optimized on the basis of economic analyses and cost-effectiveness.

- According to the typology suggested by the WFD, sixteen (16) watercourses have been identified as waterbodies: thirteen (13) waterbodies as rivers; one (1) heavily modified waterbody; and two (2) artificial waterbodies. Prespa Lake is delineated as a single trans-boundary waterbody. Six (6) groundwater bodies have been identified in the Prespa region.
- Initial 12-month comprehensive surveillance monitoring of the water quality and ecological status has been conducted for all the identified/delineated waterbodies and reference conditions have been established.
- The pressures on waterbodies from both natural and anthropogenic origins have been identified and extensively analyzed. These pressures include pollutants (e.g. nutrients and hazardous substances) and physical pressures on the waterbodies (e.g. agriculture in the river corridor, drainage, watercourse maintenance and abstraction). The input of pollutants takes place via both water and air from diffuse sources (e.g. nutrient leaching from farmland) and point sources (e.g. wastewater discharges from households and industry, emissions from industry and agriculture and leaching from disused landfills). The harmful impacts of water (floods, erosion) and the morphological pressures on rivers and on the Lake, as well as the state of protected areas, have all been scrutinized.
- Existing monitoring activities have been analysed and assessed towards their compliance with the requirements of the new Law on Water and relevant national regulations (taking into account the EU WFD and other Directives), as well as other relevant environmental laws & regulations. The absence of monitoring and data, the existing monitoring capacity and the organizational and financial aspects of required monitoring have also been analysed in depth. Besides establishing an initial network for surveillance monitoring of environmental data, a comprehensive monitoring programme in accordance with the WFD and the Law on Water has been proposed as part of the Programme of Measures.
- As a result of monitoring, the status (including biological, hydromorphological and physico-chemical quality elements) of all the waterbodies in Prespa region has been determined.
- The environmental objectives and respective indicators, both for the environment and for the individual waterbodies in terms of their progress towards 'achieving good water status for all waterbodies'.
- The economic use of water has been analyzed. This analysis has revealed significant problems regarding institutional setup and capacity perspectives, overall management deficiencies, deterioration of infrastructure, low or no cost recovery and, finally, dire prospects for investment in the water sector.
- Based on Problem Analysis (identifying the main problems and root causes) and Gap Analysis (including: Legal and Policy Framework, Organizational Setup and Institutional Capacity, Water and Wastewater Management Systems and Procedures), a comprehensive Programme of

Measures for achieving the objectives has been developed. This consists of forty five (45) measures aimed primarily at resolving technical and environmental issues and problems in the region. These measures have been scrutinized and subjected to multi-criteria prioritization and ranking.

The **Prespa Lake Watershed Management Plan** provides the flowing basic outputs:

- A detailed list of a programme of measures for achieving environmental objectives (including the results of a gap analysis, detailed program of measures potential implementation strategies).
- A detailed consultation process (including Description of public consultation and information measures, the relevant stakeholders etc).
- A structure and a detailed Implementation strategy (including the prioritization of identified measures, the important preparatory measures and legal requirements, a cost effectiveness study and a detailed implementation schedule).
- A detailed list of available data on anthropogenic impacts on the status of surface and groundwater bodies in the Basin.
- The environmental objectives for the waterbodies in the Prespa region and relevant indictors to be used.
- An economic analysis of the water use (including tasks on water supply, wastewater collection and treatment, irrigation water use, and cost recovery approach).

B 2. Strategic Environmental Assessment on the Prespa Lake Watershed Management Plan[16]

The "**Integrated Prespa Lake Watershed Management Plan"** was developed in parallel with a **Strategic Environmental Assessment (SEA)** which was also supported by the the project "Integrated Ecosystem Management in the Prespa Lakes Basin" project, under the financial assistance of the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF).

The requirement for SEA is set through the EU Directive 2001/42/EC aiming at the assessment of the effects of certain plans and programmes on the environment (SEA Directive). Therefore the basic objectives of the SEA aim to develop and promote the best practices for preparation and implementation of watershed management at the appropriate local scale.

Based on Article 5 of the Directive 2001/42/EC, the SEA report contained the information summarized bellow:

- Main objectives of the plans or programmes (P/Ps) and relationship with other relevant plans and programs.
- Relevant aspects of the current state of the environment
- Environmental characteristics of areas likely to be significantly affected.
- Existing environmental problems that are relevant to the P/Ps including, in particular, those relating to any areas of a particular environmental importance, such as areas designated under the Birds and Habitats Directives.
- Environmental protection objectives, established at international, European or national level, which are relevant to the P/P and the way those objectives and any environmental considerations have been taken into account during its preparation.
- Likely significant effects on the environment, including issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, cultural heritage including

[16] *http://prespa.iwlearn.org/macedonian-national-project-component/outcome-1-legal-and-regulatory-enabling-environment/4._sea_izvestaj_en.pdf*

architectural and archaeological heritage, landscape and the interrelationship between the above factors.

- Measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment caused by implementing the P/Ps.
- An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.
- A description of the measures envisaged concerning monitoring in accordance with Article 10.
- A non-technical summary of the information provided under the above headings.

B 3. Report on the requirements for establishment and operation of Prespa Lake Watershed Management Council[17]

For the effective application of the entire watershed management planning process, including the scopes and objectives and the tools presented in the "**Integrated Prespa Lake Watershed Management Plan"** and in the "**Strategic Environmental Assessment on the Prespa Lake Watershed Management Plan"** a detailed and comprehensive "Terms of Reference" report was produced in 2009 by Dr. Puleska.

The report provided in detail information on the legal requirements for the management of water resources and for the management of international river basin districts. It also provided a detailed justification for the establishement of the council for management of part of the Crn Drim river basin district and initiation of procedure for the establishment of international river basin district.

In addition, in this report the Terms of Reference for the establishment and operation of Prespa Lake watershed management council were set and a detailed schedule (including a timetable) for the implementation of the establishment and performance of the activities of the Prespa Lake Water Management Council was produced.

B.4.

As a final note, the entire watershed management planning procedure and the reports (B1-B3) were used for the preparation of a subsidiary legislation regulating the work of the national River Basin Management Councils that was submitted to the Ministry of Environment and Physical Planning.

2. MODIFYING PRODUCTIVE SECTOR RESOURCE MANAGEMENT PRACTICES

2.1. River restoration

The project "Restoration and Protection of Golema Reka" aimed to improve the overall environmental status of the Golema Reka, the biggest and most important surface water flow in the Prespa Lake watershed. The restoration of the river ecosystem was carried out through a set of measures and activities put in hierarchical order in close cooperation with the affected communities and the local government.

Initially, several assessments were conducted, concerning wastewaters produced by households, industries and agriculture that were pinpointed as the main river pollutants. The river channel was loaded with various types of solid waste, and the condition was most critical in the city of Resen, where most of the factories were located. Because of the the lack of an appropriate sewerage collection system, wastewater generated from diverse sources, households in particular, couldn't be directed to

[17] *http://prespa.iwlearn.org/macedonian-national-project-component/outcome-1-legal-and-regulatory-enabling-environment/eng.pdf*

the existing treatment facility in Ezerani. Ezerani indeed had the capacity for ensuring an adequate treatment before the final discharge into the environment. The lower part of the river had been identified as the most polluted since the quantities of both household and industrial wastewater discharge flowing into the river were the highest. Due to erosion processes and human activities the river channel was seriously damaged. As a result, agricultural land on both sides of the river became flooded after every severe rainfall.

Project partners:

- Municipality of Resen
- NGOs
- Farmers
- Local communities
- Hydrometeorological Institute

Donor: Swiss Development Cooperation Agency

Implementation period: 2005-2011

Budget: Phase 1: 1.410.456,40 EUR (1.933.799 USD) and Phase 2: 729.414,66 EUR (1.000.000 USD)

Project Objectives

The project's objective was the improvement of the overall environmental status of the Golema Reka, by undertaking a series of measures and activities such as:

- Restoration of the river bed in the urban section of the city, including the construction of a sewerage network to collect wastewaters from households and industries.
- Provision of support for the establishment of an efficient and sustainable pesticide packaging waste management system at the municipal level in addition to a biodegradable waste management system.
- Establishment of a monitoring system, including setting up of different hydrological and hydro-meteorological stations to provide reliable data for decision making processes, with parameters for verification of the long-term positive impacts expected to be achieved once all activities for river restoration and protection have been implemented.

Results of the project

The activities that have been undertaken throughout the past years have already led to visible results in terms of promoting the good ecological status of the river, protecting the wildlife and leveraging local economic development.

More than 600 m of the river bed in the urban section of the city have been restored, making the surrounding land less prone to floods and also attractive for tourist activities again.

A total of 1,5 km of sewerage network for wastewater treatment from households and industries has been constructed, now ensuring that wastewaters are properly treated prior to being discharged into the Lake Prespa.

Additionally, support has been provided for the establishment of an efficient and sustainable pesticide packaging waste management system thanks to which pressure on the ecosystem has further decreased.

Also, a conceptual design for waste treatment options has been developed, based on extensive market research and trend analysis, opening doors to public private partnerships and income generation.

Hydrological and hydro-meteorological stations have been set up, now providing reliable data for decision making processes. Also a monitoring system has been put in place, allowing measuring of long-

term potential positive impacts once all activities for river restoration and protection have been implemented.

2.2. Agriculture

Given the fact that agriculture is an important economic activity in Prespa Area and at the same time is considered to be one of the main drivers of change and sources of pollution, special attention has been given by the GEF project, namely "**Integrated Ecosystem Management in the Prespa Lakes Basin**" in order to provide a guide of Good Agricultural Practices and to introduce also a waste management system for pesticide and fertilizer packaging.

In the first case the **Good Agricultural Practices** were focused in apple production with a series of reports[18] and manuals presenting basic guidelines:

In the latter case a report[19] was produced regarding the **"Guidelines for handling of pesticide packaging 2008"**

This report presented in detail the pesticides waste issue in the region of Prespa, by further reviewing the agriculture activity in the area and the legislation on hazardous waste. Among the important outputs of the report it could summarized:

- A list of proposed measures and examples/experiences from other countries.
- A technical description of the proposed measures and suggestion on how these could be applied in Prespa region.
- A proposed management system and a cost analysis on the implementation of these measures.

In order to provide a waste management system for pesticide and fertilizer packaging, a project was supported by the UNDP/GEF prespa project entitled: "**Support in the establishing of the sustainable system for management with solid waste from package of pesticides and fertilizer in the Prespa Lake basin 2009-2010**"[20]. This small grand project (about 80.241,45 EUR (110.000 USD)) focused on the pollution of the Lake water from remains of the residues from pesticides, nitrates and phosphates. The project proposed a sustainable system for pesticide packaging waste management on the entire territory of the Resen Municipality.

Among others, under this project the following activities have been planned and performed:

- Field visits and meetings with the focus groups (representatives of agriculture pharmacies, NGOs, GAP standards trained apple producers, local population/farmers in the pilot area).
- Distribution of leaflets on hazardous waste.
- Training of teams with members of NGOs, local and state environmental inspectors and personnel from the Local Public Waste Company, that have been trained on the existing practices concerning disposal of the hazardous waste.

[18] *http://prespa.iwlearn.org/macedonian-national-project-component/outcome-ii-modifying-productive-sector-resource-management-practices/agriculture*

[19] *http://prespa.iwlearn.org/macedonian-national-project-component/outcome-ii-modifying-productive-sector-resource-management-practices/studija_completna.pdf*

[20] *http://sgp.undp.org/index.php?option=com_sgpprojects&view=projectdetail&id=13983&Itemid=205#.UIb9dG9mItU*

4.4. DEVELOPMENT OF A TRANSBOUNDARY ENVIRONMENTAL MONITORING SYSTEM 2007-2011

Information about this program were obtained from the below reports and documents: "Grillas, P. 2011", "Grovel R., 2010", "Kolaneci, M. et al., 2011", "Krambokoukis, L., and Hornigold, K., 2011", "Papadatou,E., et al., 2010", "Perennou C. et al., 2009a &b", "Skarbøvik, E. et al., 2010", "SPP, 2012", "Crivelli, A. 2010".

One of the main activities that were designed by the "Integrated Ecosystem Management in the Prespa Basin in Albania, fYROM and Greece - GEF Project" was the development of the Transboundary Monitoring System within the Prespa Lakes Basin. The operation of such a transboundary monitoring system was also stated in the 2002 Strategic Action Plan. The aim of this project was the organisation and pilot implementation of a comprehensive system of a transboundary monitoring system.

The Prespa Regional Project (under the support of UNDP-GEF) facilitated the development of the Transboundary Monitoring System through the coordination of the tri-lateral Monitoring and Conservation Working Group (MCWG) under a parallel financing by the Society of Protection of Prespa (SPP).

The Society for the Protection of Prespa was responsible for the project, under the coordination of Miltos Gletsos, in collaboration with experts from the three (3) respective countries and the French Research Centre for the conservation of Mediterranean wetlands 'Tour du Valat'. The monitoring activities were designed in co-ordination and collaboration with the GEF/UNDP project. The development of the monitoring project was overseen and directed by the trilateral MCWG that was composed by representatives of the primary relevant stakeholder institutions of all three (3) countries. The monitoring project was implemented with private funding secured by the Society for the Protection of Prespa and WWF Greece, while the trilateral consultations were funded and organised by the GEF/UNDP project.

The project consists of three (3) basic stages:

- The first preparatory stage (2007-2008) was designed in order to determine the objectives of the monitoring system, and the geographical area that the system would cover. Guidelines were established regarding the parameters that should be used and be included in the monitoring system while the organisations that would be involved in these processes have been defined. To facilitate both smooth operation and efficient application of the project an inventory of the existing national environmental monitoring programs on all three (3) sides was also prepared as part of the first preparatory stage.
- The second stage was completed in the autumn of 2009. In this phase an expert study of the monitoring system was conducted. This study determined monitoring indicators, protocols to be used for field measurements, and all necessar details for the implementation of the Transboundary Environmental Monitoring System. It should be noted that under this stage extensive consultations were carried out with all the scientific organisations and ministries involved.
- The third stage included the pilot implementation of the transboundary monitoring system.

<u>First Preparatory Stage 2007-2008</u>

The first stage of the Transboundary Environmental Monitoring Project was divided into three (3) phases:

1. <u>Preparatory Stage Phase A</u>[21]

[21] http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/transboundary-monitoring-system-preparatory-stage-2007-2008/

In this Phase the geographical scale at which the monitoring system should operate was clearly determined. During the stage of the project the relevant criteria and the overall scope were stated. In addition, values and issues of concern to a transboundary monitoring system in the Prespa Park were determined. The protocols suitable for satisfying the monitoring objectives were defined. Frinally, the expectations from the transboundary monitoring system in the Prespa Park area were presented. Overall the objectives of this Phase can be listed as:

- Aim of the monitoring system;
- Geographical Scale of the monitoring system
- Significant Elements, Values and Issues of concern to the monitoring system
- Appraisal of the existing situation
- Guidelines for the expert study for the development of the transboundary monitoring system.
- Identify key elements for monitoring

2. Preparatory Stage Phase B[22]

The work under the Phase B was more policy oriented with the main objectives being the presentation and analysis of the current situation in the three countries with respect to the following:

- Determination of relevant stakeholders from the three (3) countries
- Extent of stakeholder involvement (currently involved, potential involvement, Confronting existing monitoring programs/ stakeholders)
- Method of involvement as far as monitoring institutions are concerned
- Data availability, collection and dissemination issues
- Investigation of funding resources.
- Investigation of the potential implications in terms of political and technical cost for the application of the transboundary monitoring system.
- Process of wider public consultation, if any
- Connection with EU legislation and policy in the field, e.g., of water and nature protection; obligations under international conventions and relevant guidelines; also relevant Integrated River Basin Management cross-cutting principles.

3. Preparatory Stage Phase C[23]

The last Phase of the Preparatory Stage of the Transboundary Environmental Monitoring Project aimed at providing the guidelines for an effective application of the project. A total of eight (8) guidelines were determined based on the principles for the selection of indicators of the Convention on Biological Diversity. These were divided into three (3) categories and are listed bellow as were presented in the official report:

A. Strategic Guidelines

- Guidelines for the definition of indicators, through which the selected values will be monitored; guidelines for the determination of joint indicators and special (national or local) indicators and relevant criteria.
- Guidelines for the methods for recording indicators

B. Implementation Guidelines

---

[22] http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/transboundary-monitoring-system-preparatory-stage-2007-2008/preparatory-stage-phase-b/view

[23] *http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/transboundary-monitoring-system-preparatory-stage-2007-2008/preparatory-stage-phase-b/view*

- Guidelines for the definition of institutions to implement monitoring system in each country (one or more); definition of national resources available or planned to implement the transboundary monitoring system
- Guidelines for existing and required equipment
- Guidelines and options for a low cost, user-friendly, transboundary Geographic Information System (GIS) for monitoring Prespa basin
- Guidelines for training to implement the monitoring system; who will provide the training and how.

C. Coordination Guidelines

- Guidelines for the coordinator in each country;
- Guidelines for trilateral coordination and administration of central transboundary database; required procedure

Second Stage - Full Study, 2008-2009

This stage included the development of an extensive expert study on the transboundary monitoring system. Under this stage a series of Technical reports were initially produced to summarize information and proposed actions to be adopted by a series of experts at thematic workshops. These reports included:

- Technical report on land use and land-use indicators describing the spatial status and also indicators for natural and anthropogenic pressures in the region of Prespa
- Technical report on water resources monitoring, dealing with water quality and quantity issues, the ecological status of the Lakes and the development of indicators to monitor water resources
- Technical report on forest and terrestrial habitats
- Technical reports on birds and other biodiversity elements (including priority species)
- Technical report on fish and fisheries. This report included fishery statistics while a rationale for monitoring was presented and indicators to monitor fish were also proposed.
- Technical report on habitats and aquatic vegetation. In this report baseline and general indicator were presented and proposed.

In order to facilitate the smooth cooperation of the project and to achieve the best possible results a list followed by terms of reference of National and International Lead experts were developed supported also by a series of thematic workshops were held. The technical reports regarding: land use, water resources monitoring, aquatic habitats and vegetation, fish and fisheries, forests and other terrestrial habitats, and socio-economic issues were standardized during the procedures of two (2) round workshops (1st round workshop: 20 February 2009, Korca, Albania and 16 March 2009, Korca, Albania, 2nd round workshop: 15 May 2009, Struga, fYROM and 29 May 2009, Bitola, fYROM).

The final output of the tought Phase was the development of a comprehensive study on the Transboundary Monitoring System[24].

The overall objective of the full expert study was to organize the transboundary monitoring system, focusing on Biodiversity (Habitats and Species), Water (Quantity/ Quality linked to WFD) and Non-nature values (Socioeconomic). The study followed by different thematic fields and respective recommendations made by the stakeholders from the three (3) countries during the thematic workshops:

[24] *http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/expert-study-development-of-a-transboundary-monitoring-system-for-the-prespa-park-area/*

- Fish and Fisheries
- Aquatic vegetation and habitats
- Forests & other terrestrial habitats
- Birds and other Biodiversity
- Water resources
- Socio-economic aspects
- Land-use.

The basic objectives of the Expert report as presented by Perennou et al., (Perennou et al., 2009a & b) are given bellow:

- specify the parameters/indicators of the future Transboundary Monitoring System (TMS); and wherever applicable provide or summarize the baseline information at TB level for the elements selected
- propose methodologies, type of samples, sampling locations, protocols and frequency common to all three (3) countries, so as to ensure TB compatibility of data
- propose the field equipment and laboratory facilities that are required
- propose which stakeholders are capable of undertaking the recommended monitoring activities, and highlight training needs, where information exists on actual institutional capacity
- design a pilot application system, to be implemented in the next stage ("Pilot application"). Following the recommendations made by the stakeholders from the three (3) countries during the thematic workshops held in 2009 (Feb/March and May), it initiates a smaller sub-set of indicators/ parameters, to be tested/ monitored during this pilot implementation
- estimate the budget for an operating the monitoring system in the three (3) countries, and precisely specify the costs of equipment, manpower/ personnel, operation and maintenance needs. The budget estimate will help the TMS coordinators to develop proposals for funding for the the implementation of the system. The budget is specified per year, per 5-year monitoring cycle, and for the special case of the Pilot application year.
- propose a system for evaluating the performance of the TMS, i.e. it describes the evaluation principles, system, criteria and implementers, under which the TMS coordinators will evaluate the monitoring system and its implementation in the future.

<u>Third stage: Piloting Phase</u>

The final phase of the project focused on the pilot implementation of the transboundary monitoring system. On this pilot implementation the measures, the methods and indicators proposed by the Expert study and the first data were collected. The piloting phase included the application of monitoring schemes into aquatic vegetation, forests and terrestrial habitats, bats, fish and fisheries and brown bear. Detailed reports on these monitoring schemes have been produced describing the preparatory phase of the monitoring, the indicators and protocol for the pilot implementation, methodologies and steps of field survey and the conclusions that were finally drawn. An additional document that was produced during the stage was the "Expert proposal for the transboundary water monitoring system of the Prespa Park" by Kolaneci et al., (2011) that build "*..upon the first draft proposal of the TMS Expert Study, and is intended to be submitted to the competent national authorities, as a working document to support a workshop on transboundary water monitoring in Prespa*."

The final output of this last stage was a report entitled: "**Adjustment of the Transboundary Monitoring System for the Prespa Park**"[25] which was produced in 2012 by the Society for the Protection of Prespa.

[25] *http://www.spp.gr/spp/index.php?option=com_content&view=article&id=63&Itemid=68&lang=en*
http://www.spp.gr/spp/tms_adjustment_final_report%202.pdf

The basic objective of the report was to provide the brief history and critical points of the work performed during the development of the Transboundary Environmental Monitoring System and the final Expert report, in order to maximize the chances that this Monitoring System would be implemented in the long run. It suggests a series of modifications to the initial plan by reviewing and evaluating the previous phases and highlights the gap and problems that were raised during the pilot implementations.

Additional information:

Additional documents that are available are: a technical report on land use status and the development of land use indicators[26], technical report on water resources monitoring[27], technical report on forest and terrestrial habitats[28], technical reports on birds and other biodiversity elements[29], technical report on fish and fisheries[30], technical report on habitats and aquatic vegetation[31], terms of reference for the lead experts of the Transboundary Monitoring System[32], terms of reference for the national experts of the Transboundary Monitoring System[33], reports from the 1st and 2nd thematic workshops[34], final reports from the 1st round of thematic workshops for development of a transboundary monitoring system in the Prespa Park area[35] and linterim reports for the thematic workshops on 15 May and 29 May 2009[36],

---

26 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/technical-documents-for-the-thematic-workshops/land-use/view

27 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/technical-documents-for-the-thematic-workshops/water-quality-quantity/view

28 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/technical-documents-for-the-thematic-workshops/forests-other-terrestrial-habitats/view

29 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/technical-documents-for-the-thematic-workshops/birds-and-other-biodiversity-1/

30 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/technical-documents-for-the-thematic-workshops/fish-and-fisheries/view

31 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/technical-documents-for-the-thematic-workshops/technical-document-on-habitats-and-aquatic-vegetation/view

32 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/terms-of-reference-for-the-lead-experts-of-the-transboundary-monitoring-system/view

33 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/terms-of-reference-for-the-national-experts-of-the-transboundary-monitoring-system/view

34 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/1st-round-of-thematic-workshops/

35 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/1st-round-of-thematic-workshops/final-reports-from-the-1st-round-of-thematic-workshops-for-development-of-a-transboundary-monitoring-system-in-the-prespa-park-area/

36 http://prespa.iwlearn.org/transboundary-monitoring-system/transbiundary-monitoring-system/second-stage-full-study-2008-09/2nd-round-of-thematic-workshops/

4.5. ISOTEIA – INTEGRATED SYSTEM FOR THE PROMOTION OF TERRITORIAL / ENVIRONMENTAL IMPACT ASSESSMENT IN THE FRAMEWORK OF SPATIAL PLANNING

Total budget: 1.194.136 €

Duration: 2004-2006

Partners:

- International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) - Mediterranean Agronomic Institute of Chania, Chania, Greece
- Aristotle University of Thessaloniki, Department of Forestry and Natural Environment, Laboratory of Forest Management and GIS, Thessaloniki, Greece
- Aristotle University of Thessaloniki, Department of Agriculture, Laboratory of GIS and Remote Sensing, Thessaloniki, Greece
- Organisation for the Development of Western Crete, Chania, Greece
- Municipality of Kolymbari, Crete, Chania , Greece
- Municipality of Archanes, Crete, Irakleio, Greece
- University of Trieste, Department of Biology, Laboratory of Quantitative Ecology, Trieste, Italy
- International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM)- Mediterranean Agronomic Institute of Bari, Valenzano, Italy
- Regional Government of Friuli Venezia Giulia, Trieste, Italy
- Hydro-Engineering Institute of Civil-Engineering Faculty of Sarajevo, Sarajevo, Bosnia herzegovina
- Technical University of Sofia, Faculty of Computer Science, Sofia, Bulgaria
- Institute of Informatics and Applied Mathematics, Tirana, Albania
- Technical University of Bucarest, Bucharest, Romania

Description:

The **ISOTEIA** project was founded by the Community Initiative Interreg III, Programme **CADSES** (Central, Adriatic, Danubian and South-Eastern European Space). **CADSES** represents a program which aimed at achieving higher territorial and economic integration within the co-operation area, by promoting more balanced and harmonious development of the European space. The goals of ISOTEIA project were to design and establishm an integrated system that would promote the best instruments to assess Territorial and Environmental Impacts under the framework and priorities of **CADSES**.

During the project run-time (2004-2006) , eight (8) case studies were selected and used as examples and as feedbacks for the improvement of the methodology and tools developed in regards to surface water management, ecosystem protection, forest management, integrated irrigation management, water supply optimisation and precision farming.

The Lake Micro Prespa was selected as a transnational case study, where a Spatial Decision Support System was evaluated and a Strategic Environmental Assessment was applied by using GIS and remote sensing techniques. Three (3) were the main objectives of Mirki Prespa case study:

- To monitor and assess the impacts of environmental pressures to the Lake
- To model environmental indices and develop the relevant risk maps
- To produce and evaluate alternative scenarios in order to support decision making system.

A final report (Silleos et al., 2006) was produced for this case study entitled: "**Strategic Environmental Assessment of inappropriate agricultural land and water management in the transboundary Lake Micro Prespa**".

4.6 INTERREG IIIA

4.6.1. INTERREG IIIA/ CARDS GREECE - FYROM - CREATE NETWORK PROMOTION OF HERITAGE SITES IN THE PREFECTURE OF FLORINA AND FYROM

Project Budget: 389.386 €

Implementation period: 1/6/2005 to 31/12/2006

Project Area: Region of Western Macedonia

Project Description

The backbone of this project was the creation and development of a cross-border "network of natural areas", whose main objective is the development and promotion of the natural wealth of the study area. Particular emphasis was given to areas of outstanding natural beauty: Prespa Lakes, Vernon Mt. (Vitsi), regions of the Nymphaeum and Aetos, as well as in areas that combine ecological interest with the need for socio-economic improvement, as is Lake Petron. fYROM participated in the project by Municipality of Bitola (Mount Pelister).

At the first phase of the project it was necessary to create a network of key players in the region with the participation of:

- Region of Western Macedonia
- Prefecture of Florina
- Municipality of Prespa (SPP & Company Management Body of Prespa)
- City of Nymphaeum (NGOs Arcturus)
- City of Eagle
- Amynteon Municipality (Community Petron)
- Municipality of Bitola (Mount Pelister)

Subsequently, a number of actions were undertaken, utilizing the existing infrastructures improving thus the internal (network operators) effective communication and dissemination of information. Also the infrastructure for growth promotion strategy was created for the whole region, based on the principles of sustainability giving a specific identity for the prefecture of Florina.

The project was developed with the aim of creating the necessary infrastructure, the use of which will give the ability to monitor and coordinate activities highlighting the areas of outstanding natural beauty, to collect and process the results of operations and help them view the environment as comparative advantage of the Prefecture of Florina and the Region of Western Macedonia's as well.

More specifically, the project contributed to the development of a common strategic enhancement of the natural wealth of the region, in many ways, targeting:

- in the natural wealth of the county and the border region of Bitola in fYROM,
- the production of marketing materials in both languages,
- networking regional bodies to develop synergies and provide single identity,
- the creation of tailored and equipped information centers to improve the socio-economic welfare of the population of the less favored regions, on both sides of the border (eg by attracting visitors in less developed sites).
- in raising awareness of visitors and local people for the protection of nature and the promotion of local value-added products,

- moreover in developping and strengthening cross-border cooperation between Greece and fYROM, securing the sustainability and the creation the necessary background for the development of specific policy-strategy for the management of the natural wealth of the region.

4.6.2. INTERREG IIIA / CARDS GREECE - FYROM - CREATING ENVIRONMENTAL PLANT GROWTH AND ENVIRONMENTAL PROGRAMS IN PRESPA

Project Budget: 300.000 €

Implementation period: 1/7/2005 to 31/12/2006

Project Description

The project was developed in two (2) stages.

At the first stage, a renovation, maintenance and modernization of the premises of the Environmental Station Prespa and its technical equipment were investigated, in order to operate and develop programs and activities (the second stage of the project), for the protection of the environment of the wider area that belongs to Greece and fYROM.

In the second stage, environmental programs and initiatives were developed and designed to enhance the natural beauty of the cross and awareness of sustainability issues with the collaboration of the two (2) actors. Examples of programs and activities carried out:

- Guide traditional techniques and tools manual
- Organization of different symposia to promote the relationship between man and Nature
- research program titled "The wildflowers Prespa"
- Organization of training workshops and art camp
- Construction of mobile exhibition
- Visual display hardware of the report

4.6.3. INTERREG IIIA GREECE - ALBANIA – WATER NETWORK IN THE COMMUNITY OF KRYSTALLOPIGI

Project Budget: 206.900 €

Implementation period: 05/09/2005 to 31/12/2006

Project Description

The entire project was diveded into two sub-projects:

In the first sub-project, a 7 km length water transfer network was constructed and was comprised of ten (10) sources to connect to the existing tank for enrichment.

In the second sub-project, the water supply of Krystallopigi was enriched with four (4) new and seven (7) old crop cultivations and also included regions Malimadi and Samovitsa.

The project resulted in the upgrading of the water network in the region and also the living conditions of the local community of Krystallopigi and the border post.

4.6.4. INTERREG IIIA GREECE - ALBANIA - MUNICIPAL WATER PRESPA

Project Budget: 200.000 €

Implementation period: 26/10/05 έως 30/03/08

Project Description

The aim of the project was to create a modern water supply system in the referenced area.

For that purpose, parts of the old water network with hazardous materials were replaced and also developped expansions to the settlements in the reported area.

4.6.5. INTERREG IIIA GREECE – ALBANIA - MUNICIPAL SEWAGE PRESPA

Project Budget: 150.000 €

Implementation period: 10/11/05 έως 30/05/08

Project Description

The aim of the project was to create a new modern drainage system in the referenced area.

For this purpose, extensions of existing internal networks were created to the municipalities of: St. Germain, Lemos, Karies, Platu, Trigono, and Pisoderi; with new water pipes, stormwater and wastewater.

4.6.6. INTERREG IIIA GREECE - FYROM - QUALITATIVE AND QUANTITATIVE MONITORING FOR THE PROTECTION AND PROMOTION OF RIVER SAKOULEVA

Project Budget: 209.000 €

Implementation period: 17 months

Project Description

The project aimed to develop an infrastructure for qualitative and quantitative monitoring of river Sakouleva. The implementation took place through a network of continuous monitoring and recording with the use of fifteen (15) physicochemical parameters from three (3) independent stations together with the use of telecommunications GSM network to transport them in real time. To determine the positions of network deployment the following sequence of events proceeded: record the current situation, explore land use, hydrological - hydrogeological data collection, define the critical points of polluting threat, data compile and process into a database, evaluate and come to conclusions. The end result was the creation of dynamic maps, which identify areas of vulnerability and the main polluting threat positions.

Rapid population growth, increased pumping of subsurface water due to the extensive agricultural and industrial activities, intensive cropping activity, dumping of industrial waste and craft, all create significant environmental problems that have resulted to a dramatic reduction of available water resources and to the water quality deterioration, provoking the severe degradation of the water quality of the river Sakouleva.

The development of this infrastructure provided significant advantages in the action area, such as speed and accuracy, the ability to continuously monitor specific parameters with advanced techniques and immediate access to information.

4.7. CONSERVATION OF PRIORITY BIRD SPECIES IN LAKE MICRO PRESPA, GREECE - LIFE2002NAT/GR/8494

The information of the program were obtained by the documents: "SPP, 2007a & b"[37]

Beneficiary: Society for the Protection of Prespa (SPP)

Duration: 2002 - 2007

Budget: 1.863.471 €

Information

The basic goal of the LIFE project was to improve the conservation status of two (2) bird species the Dalmatian pelican (*Pelecanus crispus*) and the Pygmy cormorant (*Phalacrocorax pygmeus*) that inhabit the wetlands of Prespa. The project focused on the restoration and management of their habitats at Lake Micro Prespa, and represented the basis for producing a series of reports and actions regarding the vegetation and water level management. Moreover, several other actions were taken in order to support the program. These actions are described below:

Efficient management of the water surface level / The new sluice

The water system of Micro Prespa is part of a wider hydrosystem which includes Macro Prespa. The Micro Prespa is discharged in the Macro Prespa through the stream Koula and also through groundwater flow. Several ecological functions, biodiversity, rare species of flora and fauna and also some habitats in Lake Micro Prespa are directly dependent on the water level of the Lake.

In 1986, a flat metal sluice was constructed in the area Koula which regulates the annual volume of surface outflow to Macro Prespa and consequently the water surface of the Lake. However, the functionality of this sluice was proved very limited.

In 2002, the Society for the Protection of Prespa together with LIFE-Nature program financed the reconstruction of the sluice in order the biodiversity of the area to be protected. Many relevant studies (environmental, hydrological, modernization, management etc.) were carried out and also the project was based on a co-operation among the local community, stakeholders and the scientific program committee of LIFE-Nature program.

Nowadays, the water management of the Lake is carried out under the projects: "Management of the sluice" and "Level fluctuations of Lake Micro Prespa". The first one provides the necessary data for ensuring the proper operation of the sluice. In the second one, the lakeside areas are recorded and also the proper range of fluctuation of the water surface level is defined.

Finally, the managemen of the sluice was undertaken by the Committee Management Body of Prespa National Park.

Management of wetland vegetation in the lakeside zone

The lakeside wet meadows are an important shelter for aquatic life (eg. Pelican and Pygmy) and they also function as breeding sites for some species of fish and amphibians. The wet meadows are not been permanently covered with water, however they are been flooded every year, mainly in spring. For that reason, their growth is directly related to the extend of littoral vegetation and the water management of the Lake in order the necessary flooding of the lakeside land to be ensured.

During the period 1997-2000 the Society for the Protection of Prespa carried out a program in co-operation with the Aristotle University of Thessaloniki and the French Research Institute "Tour du Valat" in order to assess various management practices for the restoration of the lakeside meadows. As a

[37] http://www.spp.gr/spp/index.php?option=com_content&view=article&id=49&Itemid=53&lang=en

result, in July 2002 a LIFE-Nature project is carried out for the management and restoration of the wet meadows covering a total area of about 700 acres in the Micro Prespa Lake.

The action is applied to selected areas of Lake Micro Prespa where there are dense reed beds via two (2) methods: grazing the vegetation by a herd of buffalo and two (2) herds of cows or a compination of the former method with cutting the dense reed beds by using common agricultural tractors. The first method was applied to eight (8) regions throughout the year or periodically wheareas the second one was applied to ten (10) areas once a year during summer.

Along with the above management methods, the selected areas are used throughout the year for grazing of livestock. As a result, these areas are inundated when the surface level is rising and to be transformed to wet meadows.

Guidelines for rehabilitation and management of wet meadows

This part of the project includes detailed directions for the restoration and management of the wetland for the years from 2007 to 2012.

The integrated management of the wet meadows aims to the conservation and protection of the ecological balance of the Lake Micro Prespa in parallel to social cohesion and economic development of the area. The management and restoration project of wet meadows has taken into account not only the needs of threatened species but also the human activities that might affect the protected area.

More specifically, the management plan addressed all issues that are related to the water management, the vegetation, the avifauna, the management of land use, the funding and the annual assessment of the management interventions.

The management of wet meadows in Micro Prespa aims to: protect ecological functions of the Lake, to protect threatened species and to ensure economic development and social cohesion.

The basic principles of the program are related to:

- Protection of wetland functions, species and habitats in Micro Prespa Lake through rehabilitasion actions
- Combination of environmental actions related to the management of wet meadows in order to achieve social and economic sustainability
- Ensurancse of residents and local stakeholders participation in the decision-making process
- Enhance the transnational aspects of the management actions

Monitoring and counting waterfowl

The objective of the action is the overall evaluation of the program and the assessment of their impacts on threatened birds. Society for the Protection of Prespa with the support of the Scientific Committee of LIFE have organized methods and timelines for monitoring birds and recording their colonies. The results are analyzed and are been used for the evaluation of the program.

Public awareness

The Society for the Protection of Prespa has developed methods for raising the public awareness. These methods concern the residents of the local community, the authorities, the media, visitors and schools.and they include:

- Production of printed and digital information materials that are shared to the Municipality of Prespa, schools, departments etc[38].
- Birdwatching and provision equipment and informative material to guests
- Hosting environmental education programs
- Monitoring the lakeside zone of Micro Prespa Lake

[38] http://www.spp.gr/spp/index.php?option=com_content&view=article&id=59&Itemid=63&lang=el

- Dissemination of the results through the media[39]

[39] http://www.spp.gr/spp/index.php?option=com_content&view=article&id=52&Itemid=56&lang=el

4.8. PROJECT LIFE: HALT THE DECLINE OF FISH BIODIVERSITY, IN THE PRESPA BASIN, BY PROMOTING SUSTAINABLE FISHERY PRACTICES IN COMPLIANCE WITH EU POLICY - LIFE09 INF/GR/000319

Coordinator: Society for the protection of Prespa

Duration: 2010-2013

Total budget: 715.234,00 €

Background

One of the main features of Prespa Lake is the uniqueness of the fish fauna. Twenty three (23) species of fish have been found in the Micro and Macro Prespa Lakes, nine (9) of which are endemic. The large number of endemic species is highly associated with the longevity of the lakes and their geographical isolation, which facilitates the development of new species specially adapted to the natural environment. Two (2) are the basic factors that result to the decrease of endemic populations: a) competition between native and non-native species and b) usage of unsustainable fishing practices.

Objectives of the project:

Main axis of the project was an awareness campaign, through communication activities, which was addressed to local community, authorities, production groups and general public. The program objectives were to develop actions for the protection of rare native fish and promote sustainable fishing practices. Educational programs especially for fishermen (professional and amateur) were developed: to point out the importance of implementing sustainable fishing practices, sustainable management of aquatic ecosystems, to provide the relevant legislation but also for stress the negative effects of overfishing, illegal fishing and degradation of water quality.

The program was expected to encourage the active participation of local stakeholders to promote activities directly related to the protection of rare fish fauna, and contribute to the improvement of poor institutional framework related to fish and fisheries through intense influencing of authorities.Also encourage the voluntary participation of the general public and promote specific actions to protect the wetland and fish fauna (e.g. garbage collection from riverbeds).

4.9. TRABOREMA - CONCEPTS FOR INTEGRATED TRANSBOUNDARY WATER MANAGEMENT AND SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT IN THE CROSS BORDER REGION OF ALBANIA, FORMER YUGOSLAV REPUBLIC OF MACEDONIA (FYROM) AND GREECE

The information of the program was obtained by the documents: "TRABOREMA, 2007"[40], "Krstić, S., 2005", "Krstić, S., 2007a &b".

Project Funding: 1.000.000 €

Project cost: 1.582.846 €

Implementation period:

- Start date: 2004-06-01
- End date: 2007-05-31
- Duration: 36 months

Donor: The Sixth Framework Programme of the European Community (EC FP6)

Programme type: 6th Framework Program

Status: Completed

Project Partners

- University of Leoben, Chair of System Analysis and Environmental Engineering, Austria
- Institute of Geological Research, Tirana, Albania
- Aristotle University Thessaloniki, Division of Hydraulics and Environmental Engineering, Greece
- Pompeu Fabra University Barcelona, College of International Trade and Business, Spain
- University Skopje, Faculty of Electrical Engineering, fYROM
- University Skopje, Faculty of Natural Sciences, Institute of Biology, fYROM

Project Description

The Traborema project was a **specific targeted research and innovation project** within the 6th EC Framework Programme in the call for specific measures in support of International Cooperation (INCO) with specific focus on **Western Balkan Countries**.

The TRABOREMA Project aimed to stabilise and reinforce research potential in the field of integrated management and regional development through water resources planning and policy in the transboundary Lake region between Albania, fYROM and Greece. The ecological status of the transboundary Lake Prespa was assessed as a pilot model to verify sustainable development options. A joint monitoring system was designed and implemented in the catchment of Lake Prespa.

First, the basis for the design and implementation of the envisaged water monitoring system and data modelling was established. Relevant water resource management projects were identified and available information was collected and developped in a database. The environmental baseline data were completed by an innovative consistent geological and hydrogeological map of the area under study. Using the EU Water Framework Directive as a guideline, a water monitoring system was also installed in the area, and in-situ measurements from all countries were made and analysed with respect to numerous physical, chemical and biological parameters. Moreover, both upstream and downstream water use demands were identified in order to determine environmental pressures and impacts in terms of ecological quality ratios (EQR) in the target region. This data were modelled and simulated to make predictions and perform scenarios. In addition, a web-based database management system was

[40] *TRABOREMA – Final Activity Report, 2007; http://traborema.sauper.at/; http://cordis.europa.eu*

developed and directly linked to the modelling tools for the assessment and prediction of the trophic state of the Lake. The results were analysed and used as a basis for transboundary policy recommendations for integrated management of the water resources and sustainable socio- economic development of the region.

Project Objectives

- Assessment of ecological status of Prespa Lake in all three (3) national parts
- Analysis of water demands and polily options including water disputes and crisis management.
- Development of methodologies for the determination of critical ecological indicators necessary for the design of monitoring systems.
- Design and testing of a cost-effective water monitoring system at Lake Prespa
- Prediction of ecological status and trends of Prespa Lake. Adaption and application of suitable modelling and simulation tools as a basis for improved assessment of current ecological status and prediction under various scenarios
- Establishment of the basic concept for a river basin management plan as defined by the European Water Framework Directive 2000/60/EC.
- Provision of coherent policy recommendations based on qualitative and quantitative findings and promotion of integrated water policy
- Definition and prioritization of themes and regions for transfer and application of the acquired knowledge (TRABOREMA – Final Activity Report, 2007).

Results of the project

For the first time in Prespa Lake area a transboundary trilateral (covering the Albanian, Greek and FYR of Macedonian part) water monitoring system has been installed and tested for more than one year. Sound scientific evaluation of collected data from fourteen (14) Lakes and six (6) rivers has resulted in a cost-effective system of seven (7) monitoring locations covering the Lake and four (4) sampling sites in the mouth areas of the main tributaries. Combined with a system of field and laboratory analysis deriving relevant physical, chemical and biological parameters according to the requirements of the European Water Framework Directive, the monitoring system provides the primary data source for determining the ecological status of Lake Prespa. Indicators have been defined based on selected biological (diatoms) and physico-chemical parameters for the assessment of anthropogenic impact and of any future implemented measures in the frame of an integrated water management concept.

A web-based integrated database management system (DBMS) was developed for the management of the Prespa Lake water monitoring data which were collected through field measurements and laboratory analysis in the period from March 2005 to September 2006. The database system provides an easy-to-use platform for storing and extracting the data of the Lake water monitoring system and laboratory analysis, with a user interface designed for data search by physical, chemical and biological parameters, sampling location or sampling month. The database system was developed using the software application Lotus Domino platform, Access to the database is possible either through Lotus Notes client or directly via internet browser[41]. This online database has been developed according to the requirements of the Traborema monitoring system and is a ready-to-use application containing already physical, chemical and biological data for the period of March 2005 to September 2006. Besides the already built-in features of data management, the intention, related to future development of the DBMS, is to further extend the capabilities to integrate powerful GIS features to spatially display the stored data for improved awareness creation related to the ecological status of Lake Prespa.

[41] www.daad-cc.com.mk

The necessity to implement, in all involved countries, a common set of water resource management standards which would be at least compliant with those of the European Union was highlighted, since it would establish a common basis for discussions towards sustainable development. The project resulted in significant progress in this direction. On the other hand, from a broader political point of view, TRABOREMA brought together scientists, authorities and decision-makers in a post-war border region of the western Balkans, which was still faced with the challenges and tensions of re-establishing good relations.

4.10. STUDY ON THE INTERACTION BETWEEN LAKE MICRO PRESPA AND RIVER DEVOLLI (ALBANIA-GREECE)

The information of the program was obtained by the document: "Study on the Interaction between Lake Micro Prespa and Rivet Devolli (Albania – Greece), 2006"[42].

Budget: 160.000 €

Implementation period: 2005-2006

Donors:

- International Developmental Cooperation Department (Hellenic Aid) of the Ministry of Foreign Affairs of Greece (75%)
- Society for the Protection of Prespa through WWF Greece (25%)

Project Partners

- Society for the Protection of Prespa, Protection
- Preservation of the Natural Environment in Albania

Project Description

In the middle of the 1970s the Devolli River, in the Albanian part of Prespa, was artificially connected to Lake Micro Prespa by means of a channel, through which it became possible to divert the water of the river at will. The aim of this connection was to use water from Micro Prespa for irrigation purposes of the Korcë plain in Albania. Over the years this intervention has had serious environmental and socio-economic ramifications in the area, since sedimaentation has filled a large part of the Lake on the Albanian side. Moreover, the extensive raising of the lakebed at the southern end of Lake Micro Prespa, due to this accumulation of sediment, quickly made it impossible to pump water, resulting to the inability to meet the irrigation needs of the plain.

The consequences of the diversion of the Devolli River are of the most serious environmental problems that Prespa faces today, repeatedly stressed by the Prespa Park Coordination Committee. However these consequences had never been scientifically studied, nor had been attempted to address them by providing technical measures[43] .

In this context the aim of the project "Study on the Interaction between Lake Micro Prespa and river Devolli" was:

1) Evaluation of the environmental impact of the partial diversion of River Devolli into Lake Micro Prespa and of the use of the Lake as a storage reservoir for the Korcha plain irrigation scheme.
2) Identification of the main ecological features, estimation of water balance and examination of alternative scenarios for diversion to meet the water demand in the upper and central Devolli catchment (Devolli Plain and Korcha Plain respectively).

The study findings were expected to contribute to the integrated water management in the Prespa Park area as a whole, which, as agreed by the three (3) countries, had to be built on the principles of the EU Water Framework Directive (2000/60/EC).

The study area covers the Micro Prespa catchment (Lake included) of 255 km^2 and the upper and central Devolli catchments (from the headwaters down to the river exit from the Korcha plain) of 1.070 km^2. The study team consisted of Greek, Albanian and international experts of different discipline (i.e. biologists, hydrologists and engineers) with particular knowledge of the Prespa ecosystem.

[42] http://www.spp.gr/spp/final %20devolli%20rpt.pdf
[43] http://www.spp.gr

The methodology followed included several field trips in the study area for data collection and in-situ measurements, mapping, scientific processing and analysis of various data, including hydrological modelling, satellite image processing, and radiometric dating of sediments, as well as discussions and consultations with the water authorities in the Korcha region.

Results of the project

The study showed that the diversion of the Devolli River has caused:

- Degradation of the southern end of Lake Micro Prespa to a significant degree
- Changes in the characteristics and ecology of the area
- Significant socio-economic consequences, especially for the local community in Albanian Prespa, which was heavily dependent on the natural resources of the Lake

It should be mentioned that the diversion didn't address the irrigation needs of the wider region in Albania in the end, which continues to be an issue due to lack of water resources and ineffective water management.

The study resulted in a series of proposals and measures for the restoration and management of Lake Micro Prespa in Albania and for satisfying the irrigation needs of the Korcë plain. The results of the study underwent a consultation process with the relevant authorities in Korcë during which it emerged a common approach to the problem and the desire to find effective and environmentally safe solutions. During the winter of 2008, in a meeting of the Greek – Albanian Commission on transboundary freshwater issues, the decision of the Albanian authorities to permanently abandon the diversion of the Devolli River was formally confirmed.

4.11. REDUCING ENVIRONMENTAL IMPACTS OF AGRICULTURE - FYROM

Budget: 160.450,74 EUR (220.000 USD)

Implementation period: February 2005 – May 2006

Donor: United Nations Development Programme (UNDP)

Project Partners

- United Nations Development Programme, subdivision of fYROM (UNDP CO fYROM)
- Union of Agricultural Associations
- Institute of Agriculture in Skopje (Technical Cooperation)

Project Description

The main goal of the project "Reducing Environmental Impacts of Agriculture" was the promotion of sustainable agricultural methods and practices, in order to reduce the negative environmental impacts of the traditional farming practices that were applied in the area. Crucial was the collaboration of local farmers. The issues that the project tackled with were the uncontrolled use of pesticides, fertilizers and irrigated water which in turn had contributed to the increase of the production costs and also the affection of the ecosystem of Lake Prespa, putting severe pressure on the local environment.

The project covered an area of 3.500 ha in the middle of the Prespa Valley, which offers good access to water resources from tributaries of Lake Prespa and the Lake itself. This area has the highest concentration of apple farmers producing the largest amount of apples in the region. There are farmers associations and associations unions active in the entire region[44].

The improvement of access to technical assistance by local farmers through farmers' associations in the region was considered to be of particular importance. Through the project, scientifically monitored agricultural climate data and advices were provided to farmers in order to regulate pesticide application and irrigation scedule. Meanwhile, technical support was given in order to achieve economically and environmentally sound agricultural practices.

Project Objectives

Promotion of environmentally and economically sustainable agricultural practices in the farming communities of the Prespa region through direct capacity building and introduction of the integrated agricultural production approach.

Specific objectives were:

- Reduction of pesticide applications and excessive soil nutrient (nitrogen, phosphorus, and potassium) levels through the establishment of scientific monitoring system and community-based information sharing system
- Demonstration of sustainable irrigation practices for wise use of ground and surface water resources through piloting alternative apple orchard management
- Promotion of trans-boundary cooperation in agriculture between fYROM and Albania in the Prespa region through sharing of knowledge and best practices
- Promotion of active involvement in the project activities by local communities through participatory processes.

Results of the project

- Establishment of monitoring and regulatory systems for the application of pesticides, fertilizers and control of irrigated water.

[44] http://waterwiki.net

- Establishment of a union to protect limited resources of individual agricultural associations and a common vision for the sustainable agriculture in the region.
- Establishment of communication networks among farmers' associations to enhance the technical capacity of individual farmers through improved information sharing and collaborative conditions.
- Establishment of collaborative relationships among stakeholders to promote sustainable agriculture and economic development, and to advance farmers' technical capacities in agriculture (e.g. establishment of a soil testing laboratory with collaboration among the local government, research institute, extension service, and farmers).

Activities of the project

- Stakeholder consultation meetings (Municipality, agricultural associations, and agricultural extension service) to identify ways to promote sustainable agriculture in the area.
- Assessment of capacity building needs of agricultural associations and agriculture extension service (development of a capacity building programme).
- Provision of assistance to form and legally register a union of agricultural associations.
- Identification of suitable locations for placing agricultural pest and disease control monitoring stations, and procurement of required monitoring devices.
- Establishment of agricultural pest and disease monitoring stations at identified locations and information collection.
- Installation of irrigation control systems in five (5) different locations to monitor irrigation patterns.
- Provision of technical training on economically and environmentally sound fertilizer application techniques.
- Production and dissemination of a handbook on economically and environmentally sustainable agricultural practices for local farmers (pesticide, fertilizer and water application techniques).
- Establishment of a soil-testing laboratory and technical capacity-building of laboratory staff in partnership with the Municipality and Institute of Agriculture in Skopje to further improve pesticide, fertilizer and water application techniques in the region.
- Facilitation of promotional activities to encourage farmers to make use of the services provided by the laboratory.
- Provision of technical support to the Union of Agricultural Associations to formulate and secure resources for follow-up actions of their own (through Global Environment Facility – Small Grants Programme (GEF-SGP)), along with the transfer of ownership of the laboratory and monitoring stations to the Union.

4.12. IMPLEMENTING THE BIODIVERSITY CONVENTION: BIODIVERSITY CONSERVATION IN THE LAKE DISTRICT OF OHRID, PRESPA AND LITTLE PRESPA - ALBANIA

Information of the project was collected by the document: "Implementing the Biodiversity Convention, 1998"[45].

Budget: 317.000 €

Implementation period: 1996 - 2000

Donor: German Organisation for Technical Cooperation (GTZ)

Project Partners

- Protection and Preservation of Natural Environment in Albania (PPNEA)
- European Natural Heritage Fund (EURONATURE)

Project Description

The project "Implementing the biodiversity convention: Biodiversity conservation in the Lake District of Ohrid, Prespa and Little Prespa" aimed to strengthen local initiatives and to contribute to the development of professional skills for environmental planning and for the sustainable use of the natural resources.

The project was an Albanian – German collaboration. The Albanian PPNEA and the German-based Euronature were responsible for the implementation of the project.

During the program, ecological baseline data were collected and were used in order to elaborate a spatially explicit framework that defines which areas are to be appointed as "protected" and those in which certain activities would be allowed. The procedure for designating protected areas was being conducted with the participation of the affected parties, and management plans were being drawn up

Project Objectives

- **Local participation in the planning process.** The active participation and agreement of the local population is a critical parameter for the success of a development plan for the Lakes' region. During the project, the development of procedures and the pilot implementation of measures aimed to achieve public awareness and local participation.
- **Collection and evaluation of ecological data.** The collection of basic ecological data was necessary in order to identify threatened areas of high environmental value that were particularly in need of protection. For example, the number of breeding and resting water birds in close cooperation with colleagues on the Greek and fYROMian sides.
- **The preparation of management plans and legal support.** Measures for the protection and rehabilitation of nature were being devised for individual areas of importance. Apart from the preparation of management plans, the project provided support for the requirements of the administrative units and legal frameworks for the establishment of protected areas.
- **Promotion of environmental education.** Public awareness for the understanding of the necessity for sustainable use of the natural resources of the Lake's region can only be achieved through a campaign of public information. During the lifetime of the project several activities for environmental education took place.
- **Safeguards for the measures for biodiversity conservation.** The protection of biodiversity should be in long term and must be continued after the conclusion of the project. Concepts are being

[45] http://star-www.inwent.org/dokumente/bib/00-1751a.pdf; http://data.camerounforet.com/system/files/11_03_325.pdf

developed for the economic support and financing of activities to maintain and utilize the biodiversity after the conclusion of the project.

4.13. SUSTAINABLE MANAGEMENT OF INTERNATIONAL WATERS – PRESPA LAKE

Information of the project was collected by the documents: "North Atlantic Treaty Organisation (NATO) Science for Peace and Security (Sps) Programme – Annual Report, 2010"[46] and "Environmental Reconstruction and EU Approximation in South Eastern Europe – REEeP Highlights 2003-2005"[47].

Budget: 317.000 €

Implementation period:

- Approval Date: 18 November 2004
- Effective Date: 1 December 2005
- Final Report: 26 February 2010

Donor: NATO/ Environment and Security Initiative in South Eastern Europe (EnvSec Initiative in SEE)

Beneficiary countries: fYROM, Albania, Greece, United Kingdom

Project Description

The main goals of the project "Sustainable Management of International Waters – Prespa Lake" were to understand the mechanisms behind the loss of water from Lake Prespa and to determine the influence of anthropogenic factors on natural hydrological cycle in Lake's level. Scientists from Albania, Greece, the former Yugoslav Republic of Macedonia and also from the United Kingdom cooperated in implement this project.

The project developed recommendations for the sustainable use of water in the Lake Prespa watershed. Three (3) water-pumping tests have been carried out in order to estimate the hydraulic parameters of the groundwater table that is hydrogeologically connected to the southwestern part of Lake Prespa. Also, landsat data were used to estimate changes in the water surface area of Lake Prespa as well as a model of water flow through Galichica Mountain was developed. Once the methodology was completed, water balance measurements in the three (3) neighbouring countries were carried out, together with mapping and monitoring of the ecosystems of other Lakes In this project there was extensive interaction with the local governments of the Prespa and Resen municipalities, with the Institute for Hydrometeorology in Skopje and the Institute for Hydrobiology in Ohrid, the former Yugoslav Republic of Macedonia (NATO Science for Peace and Security (Sps) Programme[48].

Project Objectives

- Understanding of the mechanisms behind natural hydrological cycle in the water table of the Prespa Lakes, and determination of the influence of anthropogenic factors on these processes.
- Development of a preliminary water balance model for Prespa.
- Understanding of changes in the water balance related to climate changes.
- Description of the hydrogeological connection between the Lake and the aquifer.

Impact of the project

The capacities of the Institutions involved have been increased, enabling them to deal with similar problems that may arise in the future. The obtained results ensure better protection of the Prespa Lake, facilitating the easy calculation of the amount of water within the Lakes and its pollution levels as well.

People living around the Lake have learned how to use and protect the water in a more sustainable way. In addition, this project has taught people from the neighbouring countries that good cooperation

[46] *http://www.nato.int/science/doc/2010_AR.pdf*
[47] *http://documents.rec.org/publications/EnvReconstructionApprox_June2005_eng.pdf*
[48] *ttp://www.wessex.ac.uk*

and daily implementation of defined best practices will enable the long term preservation of the Prespa Lakes.

Activities of the project

The project planned the following activities:

- Agreed sampling methods, sampling strategies and data sharing protocols
- Gather, assess & analyse existing meteorological and hydrological data
- Gather new meteorological and hydrological field data (rainfall, flow rates of springs, streams and rivers, etc.)
- Assess the characteristics of water outflow
- Map boreholes & sub-carstic springs in both Ohrid and Prespa using infrared remote sensing
- Determine the origin of water from sub-carstic? springs using fluorescent tracers
- Characterise the dynamics of the interconnection between Prespa and Ohrid
- Assess the volume of water pumped from the aquifers for irrigation purposes.
- Assess the volume of water pumped from the Lake for irrigation purposes
- Assess the volume of water extracted from springs, streams and rivers
- Develop a Preliminary Model
- Preliminary calibration of the model based on inflow and outflow data
- Training of young scientists
- Training for the use of tracer analysis equipment and for inputs on data analysis by international consultant
- Presentation of results at three (3) International meetings
- Workshop to present the main results for UNDP (GEF) - KfW projects and other stakeholders. Special focus was given on water use sustainability.

4.14. PILOT PROJECT OF BIODEGRADABLE WASTE MANAGEMENT IN PRESPA - FYROM

The information of the program was obtained by the documents: "Pilot Biodegradable Waste Management in Prespa – Project Info, 2011"[49] and :Pilot Biodegradable Waste Management in Prespa – Project Document, 2011"[50].

Budget: 547.052,09 EUR (750.000 USD)

Implementation period: 2010 – 2012

Major source of founding: Swiss Development Cooperation

Project Partners:

- Municipality of Resen
- NGOs
- Farmers
- Local communities

Location: Municipality of Resen, fYROM

Project Description

Agriculture plays a significant role in the Prespa region in terms of employment and economic sustainability. Over 60% of the local population in Resen depends on agricultural activities, mainly apple production. The disposal of large amounts of untreated agricultural waste along the shorelines and into Golema Reka River and Prespa Lake is considered to be the main theme of this project.

The two (2) main issues of the examined problem are the non-existence of a well-design system for collection and disposal of biodegradable waste and the low environmental awareness among the local population. Both issues pose a serious threat to the environment and to the overall ecosystem of the Prespa Lake watershed.

Considering the above, the main objective of the "Pilot Project of Biodegradable Waste Management in Prespa" was to support the establishment of an effective and well design system (from the ecological and economic aspect) for biodegradable waste management in the Prespa region. This system will contribute to mitigate the negative impacts of the organic solid waste on the environment, especially on the sensitive areas and habitats, like rivers, natural wetlands and meadows and will also improve the quality of life of the local population.

To achieve the new technologies for waste treatment and recycling were considered to be necessary, in order to reduce the massive quantities of discarded waste and to transform the biodegradable waste into products of intrinsic value, such as natural fertilizers or compost. A Public Utility will manage the process of composting and will be responsible for selling the final products. Farmers will be able to deposit the organic waste at the end of the marketing season in a sound, environmentally friendly way and without additional costs. Additionally, the use of compost instead of artificial fertilizers will improve the composition of the soil, and since the compost is less expensive than other fertilizers farmers will make additional savings. The results achieved through the assessment of the technology used will help to make a decision for future investments towards biodegradable waste treatment both in the Prespa region and in other agricultural regions of the country.[51]

Results of the project

[49] http://www.undp.org/content/dam/undp/documents/projects/MKD/00051354/Fact%20Sheet%20-%20Biodegradable%20Waste%20Management.pdf
[50] http://www.undp.org/content/dam/undp/documents/projects/MKD/00051354/BWM%20Project%20Document.pdf
[51] http://www.undp.org.mk/Default.aspx?LCID=7&PID=95; http://www.undp.org.mk/content/Projects/BWM(2).pdf

An Environmental Impact Assessment Study (EIA) was prepared, to reinforce the establishment of a biodegradable waste treatment system which would have extremely positive effects on the environment and would lead to significant improvement of the natural resources in the Prespa region.

The construction of a central composting plant and a number of biodegradable waste collecting stations has already begun. Once completed, the whole system will be introduced to the farmers and the public communal enterprise.

A series of trainings and an extensive public awareness campaign will follow. Their objective will be to ensure that the important benefits from well design waste treatment is being clearly understood.

Comprehensive and viable management solutions will be provided for the treatment of biodegradable waste generated in the area of Resen and the village of Jankovec. This will represent a solid platform for implementing a full-size biodegradable waste treatment solution in the entire Prespa region. It will also serve as a model for possible replication in other regions throughout the country that are facing similar challenges.

It is expected that, this project will contribute to the principles of sustainable development by improving the quality of life of the local population, by ameliorating the agricultural practices ensuring thus better environmental protection.

4.15. RULAND / INTERACTIVE FARMERS' SUPPORT SYSTEM FOR EFFICIENT WATER USE MANAGEMENT

Project Budget: 299.112,00 €

Implementation period: 03/2012 – 06/2013

Project Partners:

- Region of Western Macedonia
- Technological and Educational Institute of Western Macedonia
- St. Cyril and Methodius University (Faculty of Agricultural Sciences and Food)
- University of St. Kliment Ohridski (Faculty of Biotechnics)

Project Area: Region of Western Greece and South West area of fYROM

Project Funding: Region of Western Macedonia, St. Cyril and Methodius University (Faculty of Agricultural Sciences and Food), (IPA Cross-Border Programme Greece – The former Yugoslav Republic of Macedonia 2007-2013)

Project Description:

The main objective of the RULAND project is to develop a cross border interactive farmers support system that will help farmers improve their water use efficiency, as well as to improve their yields and economic benefits. Furthermore there will be significant environmental benefits of decreased pressure on water resource in the region as a resultof a more efficient water use in agricultural sector.

The major objective is achieved through several sub-objectives that lead towards an integrated farmer's support system:

- Analyzing the soil, land use, water resources, cropping pattern, weather and climate and other existing data for the region and transfer them in geospatial database for further use.
- Development of a weather/soil data acquisition system in real-time, in order to asses evapotranspiration and crop water requirements as primary data to derive information for proper farm irrigation management (SW and HW).
- Development of the sensors (SW and HW) for in situ acquisition of required data (soil moisture, crop status etc) connected in real time with the central integrated system and used for deriving specific information for irrigation water requirements in certain field (downscaling).
- Development of an integrated interactive web based farmers support system for agricultural water management.
- Implementation of the developed tools on experimental scale for two (2) sites (one in each country). These tools will be installed and tested in order to provide farmers with information about proper management of water in their fields. Through wider implementation of the system (up scaling from specific sites to the whole region) the most important objectives will be reached: less water used in agriculture and significant amounts of water available for other use, decreased environmental pollution, especially on groundwater from agricultural pollutants and better yielding.

4.16. EXTENSION OF THE SOLID WASTE MANAGEMENT SERVICE IN THE RURAL COMMUNITIES – FYROM

Budget: 387.776,32 EUR (472.000 CHF)

Implementation period: February 2005 - February 2006

Donor: Swiss Agency for Development and Cooperation

Project Partners:

- United Nations Development Programme, subdivision of fYROM
- Public Enterprise "JKP-Proleter" (Municpality)

Location: Municipality of Resen, fYROM

Beneficiaries: Two thousand six hundrend (2.600) affected households in thirty seven (37) rural villages in the Municipality of Resen and natural environment of Resen.

Project Description

The aim of the project "Extension of the Solid Waste Management Service in the Rural Communities" was the establishment of effective waste collection and waste treatment systems in a total of thirty seven (37) rural villages within the Municipality of Resen (fYROM), along the shoreline of Lake Prespa, as well as the increase of awareness and knowledge of the local communities on waste minimization and treatment practices. The project activities will be complementary to the UNDP-GEF Prespa Park project, and will also support enforcement with the newly enacted Law on Waste. The project was conducted in a total area of roughly 1.000 km^2, with a population of eight thousand one hundrend (8.100) inhabitants.

Prior to the project the Public Enterprise "JKP Proleter" was providing limited waste collection services in the area (to only two (2) villages in the Prespa region) due to financial constraints. Meanwhile, an increase in the number of illegal dumpsites (even along the rivers and the Lake) as well as in the volumes of illegal waste that were disposed was observed, causing negative environmental and social impacts to the ecosystem and the communities.

The project approached the region's solid waste treatment issue from both the public and the community participation perspective. Not only the solid waste collection and management services were improved, but also the communities were introduced to household waste minimizing techniques. The proposed solutions were based on the consideration of several important aspects, such as local environmental protection, local economy and development. The active involvement of all stakeholders and the close working relationships throughout the whole project was a vital parameter, so that to ensure its success.

Project Objectives

Establishment of sustainable solid waste treatment systems in the rural communities on the shoreline of Lake Prespa to mitigate negative environmental impacts to the Prespa Watershed caused by unsustainable soil waste dumping practices through provision of solid waste collection and management systems and awareness raising among local communities to practice solid waste minimization[52].

Results of the project

- Establishment of complete sustainable solid waste collection and management systems in thirty seven (37) rural communities (Municipality of Resen) within the Prespa Lake Watershed region of fYROM.

[52] *http://waterwiki.net*

- Cleaning, reorganization and landscaping of existing illegal solid waste sites in the watershed.
- Introduction of composting in households.
- Public Awareness Activities.

Activities of the project

- Stakeholder consultation meetings to ensure their involvement and collaboration (Municipality, Public Enterprise"JKP-Proleter", village residents and local NGO).
- Procurement of two (2) vehicles for garbage collection and of two thousand and six hundred (2.600) garbage bins to be installed at all households in thirty seven (37) rural communities.
- Facilitation of clean-up and re-cultivation activities at seven (7) illegal dump sites in the municipality.
- Introduction of alternative composting techniques through, the, setting up of fifteen (15) pilot composting sites at household level.
- Facilitation of public awareness raising activities in partnership with local NGOs to reduce solid waste outputs and illegal solid waste dumping.
- Construction of children's playground and basketball field in former illegal dump site in Village Stenje.
- Provision of a ball press to the Public Enterprise for balling plastic waste bottles and waste bins for collection of plastic bottles.

4.17. SUPPORT TO LOCAL ENVIRONMENTAL PLANNING FOR THE LIQENAS AND PROGER COMMUNES OF PRESPA LAKE - ALBANIA

Budget: 20.992 €

Implementation period:

- Starting date: April 2007
- Finishing date: January 2008

Donor: United Nations Development Program (UNDP), Subdivision of Albania

Project Partners: Regional Environmental Centre (REC) Country Office Albania

Project Description

The project aimed to assist two (2) communes in the Korca region, Liqenas and Proger, to establish a basis for the extension of specific goals and activities to the commune of Bilisht Qender. It identified local needs and attempted to find solutions to ensure the sound use of natural resources while providing support to local communities and improving the quality of life of the local population[53].

Project Objectives

The goal of the project was to:

- Increase the capacities and skills of local authorities and targeted communities in relation to the sustainable use and management of the natural resources in their area.
- Establish the basis for future environmental investment in the area with the aim of conserving and preserving natural resources; support local development; and improve the standard of living of the population.
- Increase the capacity of local authorities in the use of local financial and human resources.
- Increase the chances of fund raising from central government and other potential donors.
- Create good examples of local environmental planning for the country.

Results of the project

Under the project, two (2) local environmental action plans were developed for the communes of Liqenas and Proger. These documents form the basis for the development of the Prespa Park project, implemented by UNDP, and provide for the better management of the natural resources and ecosystem services of the area. Educational and awareness-raising materials were also produced. Four (4) trainings activities were organised and other similar activities were carried out in schools in order to inform and educate children on the value of Prespa Park.

Visible results of the project:

- New tools/mechanisms for better cooperation between local authorities and the public.
- Environmental local advisory boards on city councils.
- One Local Environmental Action Plan (LEAP) document developed for each community

Activities of the project

- Establishment of working groups.
- Preparation of the environmental report (an analysis of the environmental status of the sub-region).
- Organisation of public meetings.

[53] http://www.rec.org/

- Preparation of the environmental strategy (key environmental opportunities and constraints in relation to sustainable development and links to socio-economic and development plans affecting the region).
- Preparation of the environmental action plan (establishing priority environmental policies, actions and investments).
- Various activities of public awareness and information in the area.

4.18. IMPLEMENTATION OF PILOT WETLAND MANAGEMENT AND PUBLIC AWARENESS ACTIVITIES IN LAKE MICRO PRESPA - ALBANIA

Budget:

- Grant Amount: 15.769,92 EUR (21.619 USD)
- Co-Financing Cash: 4.602,36 EUR (6.310 USD)
- Co-Financing in-Kind: 2.875,20 EUR (3.942 USD)

Implementation period: December 2009 – December 2010

Donors:

- Global Environmental Funds/ Small Grant Programme (GEF/SGP), (68%) managed by United Nations Development Programme (UNDP) - Albania
- Society for the Protection of Prespa (SPP), (20%)
- The Prespa National Park in Albania (PNP-AL), (12%)

Project Partners:

- Women's Association of Micro Prespa
- Prespa National Park in Albania (PNP-AL)
- Forest Service Directorate of Korca
- Society for the Protection of Prespa (SPP) (technical support)

Project Description

The project "Implementation of pilot wetland management and public awareness activities in Lake Micro Prespa" addressed the problem of the degradation of the habitat due to the invasion of the common reed. The change of the Lake's water level had as a consequence the occupation of a great part of the water surface by this plant, leaving very little space for other plants to grown.

The project included pilot vegetation management in the Albanian part of the Lake, experimentation with the production of "briquettes" from reeds and raising public awareness on the conservation and wise management of the area of Lake Micro Prespa in Albania.

The outputs that were provided by the project are considered to be very useful for future steps, such as the elaboration of a Guideline Document on wetland vegetation management in Lake Micro Prespa, Prespa National Park, Albania. The proposed measures are expected to be included in the PNP – AL management plan (PNP-AL)[54]

[54] http://www.spp.gr; http://sgp.undp.org/index.php?option=com_sgpprojects&view=projectdetail&id=15365&Itemid=205#.Ulpr8W9mItU

4.19. CONSERVATION OF THE ENDEMIC PRESPA TOUR

Information of the program were mainly obtained by the document: "The Prespa Trout – An endangered species in need of action, Species Action Plan, 2008"[55]

The program

This Project was originated by the Society for the Protection of Prespa in order to ensure the long-term conservation of the Prespa trout.

Partners:

All technical and scientific support has come from the Biological Station of Tour du Valat, France, while the key partner in the fYROM has been the Society for the Investigation and Conservation of Biodiversity and the Sustainable Development of Natural Ecosystems-BIOECO facilitating the sampling sessions in the respective River basins and providing valuable information for the compilation of this Action Plan.

The Ministry of Environment of the fYROM has made the sampling possible through the granting of a licence to the project team, while the Greek Ministry of Food and Agriculture and the Management Body of Prespa National Forest should be acknowledged for issuing licences to the Society for the Protection of Prespa for several years.

Particularly valuable has been the contribution of the Society for the Sustainable Development for Brajcino and especially Mr. J. Gagovski who has provided valuable help in the field and in organizing accommodation in the fYROM.

The Species Action Plan

The present Species Action Plan aims at describing the necessary actions to be undertaken within the five years of implementation, in order to:

- identify the current ecological situation of the remaining streams, which still hold populations of the Prespa trout and their catchments;
- document the health of the remaining populations of Prespa trout;
- develop a standardized long-term field monitoring scheme, to assess trout abundance and heath of populations;
- attempt an assessment of the relative importance of suspected causes of the decline (threats) of trout populations;
- propose first implementation measures to improve the situation and enhance trout populations and preserve stream and catchment ecosystems, and
- promote sustainable development and conservation of the species by integrating stakeholder participation in the actions underlined within this Action Plan.

The project provides: (i) documentation and assessment, (ii) identification of threats and (iii) proposal of implementation measures and interventions for remediation concerning the viability of healthy trout populations and the conservation of their stream biodiversity and stream ecosystems in Prespa Lake.

Totally, 9 proposed Actions are described in the program, together with the proposed methodology and the potential deliverables within the period of the five (5) years.

[55] *http://www.spp.gr/spp/trout%20sap_eng.pdf*

4.20. ONE EUROPE, MORE NATURE

Information of the program was mainly obtained by the documents: "WWF, 2003"[56] and "Prespa: Agriculture & Environment – Preliminary actions for labeling of agricultural products as Prespa Park Products, 2009"[57].

Implementation period: 2005 – 2009

Donor: World Wildlife Fund, Submission of Netherlands (WWF Netherlands)

Project Managers & Partners:

- World Wildlife Fund, Submission of Greece (WWF Greece)
- World Wildlife Fund, Submission of Netherlands (WWF Netherlands)
- Prespa National Park Management Body (PNPMB)

Project Description

The "One Europe, More Nature" project focussed on areas of high natural value aiming at combining nature protection and the sustainable use of natural resources with local development and improvement of the inhabitants' quality of life.

The basic principle of the project was the co-existance of nature and business as an option of win-win situation. The farmers can overcome restrictions through new products and services. The productive activity –green economy- can increase the competitiveness of the local economy, creating opportunities for new income sources.

The OEMN was funded by WWF Netherlands through the "Global Freshwater Programme" of WWF International. In the Prespa Park area, the project was implemented by the Society for the protection of Prespa (SPP) from 2005 to June 2009 with the cooperation of the Prespa National Forest Management Body (PNFMB) and WWF Greece. At the same time, the project was also running in:

- Coto Doñana, Spain
- Maramures, Romania
- Tisza Floodplain, Hungary
- Ardennes, Belgium
- Gelderse Poort, the Netherlands
- Sinca Noua, Romania
- Väinameri, Estonia
- Merja Zerga, Morocco

The project aimed at investigating the development and operation of a new product labeling scheme that would provide an environmental label to the agricultural products of the Protected Area of Prespa and that would commercially highlight the high environmental quality and origin of the products with a "Prespa Park Products" label. The labelling should ensure that the agricultural practices are environmentally friendly, and the product has a trade mark that is produced and comes from Prespa.

The implementation of the project was focussed on Micro Prespa with bean producers who voluntarily participated during the growing seasons of 2007 and 2008 with a total productive area of 560 ha and 770 ha respectively. In Albania and fYROM the concept was promoted by constant dialogue and information about the activities and benefits of the project.

Project Objectives

[56] http://www.stroming.nl/pdf/oemn_01.pdf
[57] http://www.spp.gr/spp/oemn%20en.pdf

The project's overall goal is to reduce the environmental impacts of intensive agriculture, primarily from Greek bean farming, by introducing ecologically-friendly agricultural practices connected with the special environmental needs of the area[58].

Project Activities

- Basic agricultural research in the three (3) countries of Prespa Park to identify the current status of the primary sector.
- Research considering similar initiatives in Greece and the rest of the world.
- Formulation of "Prespa beans cultivation Protocol" and "Operational Regulation" for pilot implementation in the field.
- Discussion with scientists and local farmers
- Pilot implementation of the action in the Greek basin of Lake Prespa under the auspices of the PNFMB with the voluntary participation of bean farmers. The pilot labeling project began in spring 2007 and lasted two (2) cultivation periods, until autumn 2008.
- Final consultation of the beans cultivation Protocol. The consultation was completed at a national level with academics and public bodies, certification organizations, farmers' and market unions and environmental NGOs.
- Technical support to the farmers in order to approach the modern quality specifications
- Cooperation with big food markets was achieved

Throughout these years, the idea has also raised the interest of the competent stakeholders in Albania and fYROM. The international multiannual UNDP/GEF project on "Integrated ecosystem management in the Prespa Park", which is being implemented in the neighbouring countries, carries out a series of training, technical support and information activities for the farmers concerning green agriculture. This activity creates the potential for future expansion of the action in the whole basin.

[58] http://www.spp.gr

4.21. SUPPORT FOR INSTITUTIONAL COLLABORATION BETWEEN THE STATES OF GREECE, ALBANIA AND FYROM IN THE CONTEXT OF THE PRESPA PARK" (2003)

Implementation period: 2003

Donors:

- Ministry of International Development Cooperation and Aid
- Foreign Ministry of Greece
- Society for the Protection of Prespa (through WWF Greece)

Project Managers & Partners:

- Society for the Protection of Prespa
- Protection and Preservation of the Natural Environment in Albania (PPNEA)
- Municipality of Resen (fYROM)

Project Area: Prespa basin

Project Description

The Coordination Committee and the Secretariat of the Prespa Park do not have a stable funding resource, a fact that creates several drawbacks to the effective collaboration between the three (3) sides and to the promotion of joint activities. Occasional awards from various sources are funding the meetings of the Coordination Committee and consequently its stable operation is not ensured. Until 2003, apart from the trans-national collaboration of the Coordination Committee, there was no communication and cooperation between other important bodies in the Park at a trilateral level.

The aim of the programme "Support for institutional collaboration between the states of Greece, Albania and fYROM in the context of the Prespa Park" was to reassure the effective operation of the institutional bodies of the Prespa Park (Coordination Committee and Secretariat), and also the strengthening of trans-national cooperation between the local governments and fire authorities of the three countries[59].

The basic activities of the program were:

- Funding of the basic operating expenses of the Coordination Committee and the Secretariat, as well as of a regular meeting of the Committee.
- Organisation of trilateral collaboration at municipality level. This action led to the first working meeting of the mayors of the Prespa basin.
- Promotion of cooperation between the fire authorities of the three countries, in order to deal with cross-border forest fires.

Results of the Project:

- Economic support of the operation of the institutional bodies of the Prespa Park.
- Working meeting of the mayors from all the three (3) countries in the region.
- Beginning of a local government level collaboration (Protocol of Collaboration for the sustainable development of the region).
- The first trilateral meeting of the official fire authorities.

[59] http://www.spp.gr

4.22. INVENTORY OF ALBANIA WETLANDS

Supported by: Mediterranean Wetlands initiative (MedWet)

Budget: 138.518 €

Duration: 2001-2004

Financing Agency: Hellenic Ministry for the Environment, Physical Planning and Public Works, Greece

Partners:

- Greek Biotope / Wetland Centre (EKBY)
- Enviromental Center for Technology and Administration (ECAT), Albania

Project Description

MedWet was created in 1991. It represents a long term collaborative initiative that supports the conservation and wise use of Mediterranean wetlands within the framework of the Ramsar Convention on Wetlands. MedWet was officially recognized as a Ramsar Regional Initiative (1999) actively promoting the implementation of the Convention in the Mediterranean while also serving as a role model for other similar initiatives. The basic mission of MedWet is to contribute to the conservation and management of wetland resources by ensuring local, national and international collaboration. It focuses on the development and provision of technical tools towards ensuring the sustainable management of wetlands and their natural resources. In addition, it aims at creating stakeholder networks and partnerships between and within Mediterranean countries on issues pertaining to wetlands and promoting information on the "wise use" of wetland resources. The MedWet is currently a forum of twenty seven (27) Mediterranean countries, specialized wetland centres and international environmental organizations which collaborate for the conservation of Mediterranean wetlands.

The "**Inventory of Albania Wetlands**" project aimed to apply the MedWet Inventory Method in Albania and to produce the first wetland inventory in the country. Among the basic objectives the program focused on the development of innovative techniques in wetland inventorying using sattelite image processing. The basic outputs of the project can be summarized as:

- Development of the First inventory of wetlands in Albania
- Raising the awareness for wetland conservation among bodies in Albania

During the implementation period of the project a publication was produced (Mima, M, 2003) that was based on the results of the first two (2) years (2001-2002).A detailed description of the water bodies within the Prespa Region is published providing information on basic geomorphologic and ecological (e.g. land uses) data information, records on human activities and lists of the recognized ecosystem values and services.

4.23. LAKENET

LakeNet is a global network of more than a million (1.000) people and organizations in more than hundrend (100) countries working for the conservation and sustainable management of Lakes. The LakeNet Secretariat was a U.S.-based nonprofit organization dedicated to bringing together people and solutions to protect and restore the health of the Lake ecosystems throughout the world.

The non-profit organization was dissolved at the end of 2008. A part of the information sharing and some exchange activities of LakeNet were assumed by the GEF's IW: LEARN program. The World Lakes Website was transferred to the network's co-founders and continues to be maintained by them as an archive of the network's activities[60].

The main LakeNet's goals from 1998 to 2008 were:

- to promote a sustainable and integrated approach to Lake watersheds management. The active involvement of citizens and stakeholders, such as governments, business and industry, NGOs and scientists ensures the success of this approach.
- to exchange Lake and watershed management experiences, practices and technologies.
- to strengthen the capacity of Lake management organizations and especially of those at areas of high economic, ecologic and cultural heritage values.
- to rise public awareness globally considering the values of the Lake ecosystems and the potential threats.

All of LakeNet's diverse programs aimed at improving the stewardship of Lake ecosystems by educating and inspiring people, cultivating leadership, and strengthening Lake organizations. Several LakeNet's programs and workshops were held with participants of the Prespa Lake region. Such programs were:

- Promoting Cross-border Cooperation and Protection of the Cherava River, Lake Ohrid.
- International Workshop on Management and Sustainable Development of International Lake Basins.
- Exchanges Among Environmental Specialists on twenty (20) Lakes in the Former Soviet Union and in Eastern & Central Europe.
- International Waters Learning Exchange and Resource Network.
- LakeNet 2000: A Dialogue on Participatory Watershed Management.
- Environmental Exchanges among Managers of Nine Lakes in Russia, Hungary and the U.S.

60 http://www.worldlakes.org

4.24. ENABLING TRANSBOUNDARY COOPERATION AND INTEGRATED WATER RESOURCES MANAGEMENT IN THE EXTENDED DRIN RIVER BASIN

Project Budget: 16.409.009,44 EUR (22.500.00 USD)

Implementation period: January 2013 – (Ongoing)

Project Partners:

- United Nations Office for Project Services (UNOPS)
- United Nations Economic Commission for Europe (UNECE)
- Global Water Partnership – Mediterranean (GWPMED)

Project Area: Drin River Basin (Albania, fYROM, Montenegro)

Project Funding: The Global Environmental facility - GEF Trust Fund contribution is 3.281.916,02 EUR (4.500.000 USD); the rest is co-financing coming from the countries and project partners.

Project Description

Main objective of the project is the promotion of a joint water resources management plan in the extensive transboundary Drin river basin and the development of coordination mechanisms among the various stakeholders in the area of Prespa, Ohrid and Shkodra sub-basins.

The Program is structured around the following five components:

1. Consolidating a common knowledge base. The expected outcome is the development of consensus among countries on key transboundary concerns.
2. Building the foundation for mutlicountry cooperation. The expected outcomes are the development of the process that will open the way for systematic cooperation in the management of the extended transboundary Drin River Basin, as well as the commitment of countries and donors to sustain joint cooperation mechanisms and to undertake priority reforms and investments.
3. Institutional strengthening for IRBM. The transboundary cooperation will facilitate balancing of water uses and sustaining environmental quality throughout the extended Drin Basin.
4. Demonstration of technologies and practices for IWRM and ecosystem management.
5. Stakeholder involvement, gender mainstreaming and communication strategies. The expected outcomes are to raise political awareness at all levels, to strengthen the private sector's participation through higher visibility of the project's developments and targeted outreach initiatives, to achieve public support and participation to IWRM and to enhance joint multi-country management through stakeholder involvement and gender mainstreaming.

A preparation phase of the project was initiated in January 2013; the countries and the partners in the project will work to prepare the Project Document until the end of 2013. The full phase of the project is expected to start in early 2014[61].

[61] *http://www.twrm-med.net/southeastern-europe/supported-processes-and-projects/drin-river-basin/gef-project-201cenabling-transboundary-cooperation-and-integrated-water-resources-management-in-the-extended-drin-river-basin201d*

4.25. RESTORATION OF THE LAKE PRESPA ECOSYSTEM (IMPLEMENTATION OF THE WATERSHED MANAGEMENT PLAN)

Project Budget: 4.611.389,68 € (5.702.000 CHF)

Implementation period: December 2011 – June 2018

Project Partners:

- Municipality of Resen
- UNDP
- Ministry of Environment and Physical Planning (fYROM)
- Swiss Agency for Development and Cooperation (SDC)

Project Area: Prespa Region

Project Funding:

- Municipality of Resen
- Ministry of Environment and Physical Planning (fYROM)
- Swiss Agency for Development and Cooperation (SDC)

Project Description

The overall objective of the project is to introduce a set of comprehensive measures that will significantly improve the Prespa Lake's overall health, strengthen its resilience, and ensure, in the long-run, control of the eutrophication processes. The project is founded on the recommendations of the Prespa Lake Watershed Management Plan which is prepared in line with the EU Water Framework Directive.

The measures would aim at reducing the pressures from agriculture, forest land, polluted rivers, wastewaters and solid waste. In addition the project will create sustainable monitoring and watershed management capacities at local level. Payment for ecosystem service principles are intended to be introduced to help establishing long-term financing mechanisms for the Lakes' protection. The project would not only have enormous positive environmental and socio-economic effects, but would also significantly increase the climate change resilience of the entire Prespa Lake ecosystem[62].

Results of the project

Some of the results of the project are:

- By reducing the pressure on the ecosystem from pollution, it will significantly improve the health and resilience of the Lake.
- Significant number of farmers will be familliar with more responsible ways of irrigating and fertilizing their land as well as disposing agricultural wastes.
- Thousands of trees will be planted to combat the harmful effects of erosion.
- Wastewater management will be improved through nature-based technology upgrades.
- Wetland restoration techniques will be introduced for controlling floods and filtering the water of Lake Prespa's largest tributary – the Golema Reka river.
- A Lake Monitoring System and Management Service—with an up-to-date laboratory will be introduced for the first time.
- These improvements in agriculture and watershed management will regulate eutrophication.

[62] http://www.deza.admin.ch/en/Home/Projects/Project_Detail?projectdbID=211443, http://www.undp.org/content/the_former_yugoslav_republic_of_macedonia/en/home/operations/projects/environment_and_energy/restoration-of-the-prespa-lake-ecosystem.html

- Local people will benefit from cleaner waterresource.
- Better water quality will help attract more tourists.
- Local farmers will benefit from using more sustainable methods and will save money by using organic compost.
- Last but not least the many rare and threatened species that live in the Lake will have a much better chance of survival.

4.26. PROTECTION AND SUSTAINABLE USE OF BIODIVERSITY IN THE REGION OF THE LARGE LAKES PRESPA, OHRID AND SHKODER

Project Budget: 2.000.000 €

Implementation period: December 2011 – June 2014

Project Partners: National Environmental ministries of Albania, fYROM and Montenegro

Project Area: Lakes Prespa, Ohrid and Shkoder

Project Funding: German Federal Ministry for Economic Cooperation and Development (BMZ)

Project Description

The project is aiming to implement and adapt monitoring systems for Lakes Prespa and Shkoder, and to improve stock estimates as a basis for the regulation of fisheries on Lake Prespa. It also carries out measures to protect and manage wetlands near Lakes Ohrid and Prespa, and supports all three (3) countries in implementing the EU's Water Framework Directive and other relevant environmental directives.

The stakeholders involved are people living in the three (3) Lake regions, the ministries and relevant authorities are responsible for protecting and managing the Lake ecosystems. For supporting the project expert advisory services, regional training courses and study trips are important In order to carry out training activities as well as take restoration and protection measures financial contributions and local subsidies to the authorities, to non-governmental organisations and to research institutes may be provided[63].

In particular, the project includes the following:

- Monitoring of the fauna and flora in Shkoder/ Skadar and Prespa Lakes according to the Water Framework Directive, the Fauna, Flora and Habitats Directive and the Council Directive on the conservation of wild birds.
- Regulation and control of catches in the Prespa Lake on the basis of population and reproduction data.
- Implementation of protection measures developed in management plans for the Ezerani, Ohndsko-Bllato, Dnloni-Ligatina and Strushko-Bllato wetlands in Prespa and Ohrid Lakes.
- Characterization of Prespa, Ohrid and Shkoder/ Skadar Lakes according to the Water Framework Directive and presentation of related environmental goals to the governments of Albania, FYR of Macedonia and Montenegro for adoption.

63 http://www.giz.de/en/worldwide/20318.html

4.27. TRANSBOUNDARY BIOSPHERE RESERVE PRESPA – SUPPORT TO THE NATIONAL PARK PRESPA IN ALBANIA

Project Budget: 3.556.000 €

Implementation period: 2011 – 2015

Project Carrier: Albanian Ministry for Environment Forests and Water Administration

Implementation unit: National Park Administration (Albania)

Project Area: Lake Prespa

Project Funding: German Ministry for Economic Cooperation and Development

Project Description

The project aims at promoting the regional co-operation between the adjacent countries Albania, fYROM and Greece, in order to establish an integrated ecosystem management and to improve the biodiversity conservation in the unique Prespa Park region. The Prespa Park area encompasses National Parks (NPs) in the above three (3) mentioned countries and includes the two (2) inter-related Lakes, Micro Prespa and Macro Prespa. The measures of the program are restricted to the two (2) neighbouring NPs "Prespa" (Albania) and "Galicica" (fYROM)[64].

64 *http://www.zgf.de/?id=61&reportId=216&lan guage=en*

4.28. SSMNATURE/INNOVATIVE SPAVE SATELITE MONITORING OF THE ENVIRONMENTAL NATURAL RESOURCES OF THE CROSS-BORDER AREA GREECE-ALBANIA

Project Budget: 422.131,30 €

Implementation period: 2012 – 2014

Project Partners: Region of Western Macedonia, "AULEDA" – Local Economical Development Agency, Regional Council of Gjirokastra, Organization of Albanian Biologists, Municiplaity of Konitsa

Project Funding: IPA CBC Program Albania – Greece, European Union

Project Description

The project aims[65] to eshtablish an innovative and cost-effective method for monitoring natural resources in the transboundary basin of Greece and Albania. Satelite data of high and very high resoulution allow monitoring any change (e.g. fires, water contamination) in the area. Actions performed under this program take into account the threefold: human activities – wildlife – nature. The program provides information to the local authorities which are responsible for the conservation of natural resources in order to address potential adverse changes.

Air pollution is the major factor of environmental pollution in the transboundary water basin. It is caused by the power plants and it causes serious implications to the population of the Western Macedonia and especially in the area of Prespa, in Kastoria and also in the National Park of the Northern Epirus. However, regions of Ohrid and Prespa are mostly suffered from water pollution and so the monitoring should focus on water, soil, forest and natural resources.

In particular, the main objectives of the program are:

- Monitoring the natural resources in the transboundary area
- Vulnerability assessment of natural resourcses
- Production of thematic maps about climate change aspects and adjustment of them to the study area
- Utilization of management tools and simulation data related to the effects of climate change and the corresponding adjustments
- Contribution to the development of local, regional, national and European networks
- Dissemination of knowledge and results to local authorities and stakeholders
- Determination of the critical factors causing environmental damage in order to take the most appropriate adaptation measures

The specific objectives of the program mainly focused on:

- Mapping the entire study area in relation to natural resources and natural hazards
- Assessment of vulnerable areas that may be affected by dangerous natural effects
- Damage assessment for floods, fires etc.
- Provide information of meteorological events (snow, wind, rain)

A Strategic Plan will be eshtablished which will regulate the prevention measures and the ways to address the adverse issues caused by a natural disaster.

The expected results of the program are:

- Integrated assessment of the current situation related to greenhouse gases, areas affected in case of fire, water pollution, forests, national parks etc.

[65] http://www.ssmnature.eu/

- Providing local authorities with a useful tool for early warning of the local population.
- Measures for pollution and fires reduction.
- Understanding the impacts of coal-fired power plants, forest fires and water pollution to the local population.

4.29. OTHER RELEVANT PROJECTS

Other relevant projects supported by the KfW Entwicklungsbank (KfW development bank) in fYROM are listed bellow. These projects were performed in order to promote sustainable growth, support the transition process and thus help the country meet the EU accession criteria.

A. **Environmental Protection Lake Ohrid** 2000-2005, **Budget**: 10.230.000 EUR

   Description: Extension of the secondary sewerage network in Ohrid and Struga, in the villages of Radolishta and Kalishta, extension of the primary collector-system, rehabilitation of the waste water treatment plant.

   Beneficiaries: Intermunicipal water utility MJP Proaqua and Ministry of Transport and Communication.

B. **Water Supply Struga** (co-financed by the European Bank for Reconstruction and Development - EBRD) 2001-2006, **Budget:** 5.110.000 EUR

   Description: Rehabilitation and extension of water supply system in Struga and adjacent communities: completion of Gorna Belica spring, rehabilitation, reinforcement and extension of network components in the project area.

   Beneficiaries: Intermunicipal water utility MJP, Proaqua and Ministry of Transport and Communication.

C. **Environmental Protection Lake Prespa** 2002-2005, **Budget**: 2.450.000 EUR

   Description: Rehabilitation of the existing waste water treatment plant; reinforcement and extension of various network components in the villages of Carev Dvor and Ezerani, pertaining the service area of the beneficiary; supply of bulk water meters and leak detection equipment; consulting services.

   Beneficiaries: Municipal utility JKP Proleter and Ministry of Transport and Communication.

D. **Municipal Water Programme I, Budget:** 8.640.000 EUR

   Description: Performance based investments in water supply and wastewater infrastructure in Bitola, Gevgelija, Gostivar, Negotino, Kavadarci, Kocani, Radovis andTetovo.

   Beneficiaries: Municipal enterprises and Ministry of Transport and Communication.

E. **Transboundary Biosphere Reserve Prespa Park – Support to the National Park Galicica**[66] (co-financed by GEF/UNDP) 2008-2011, **Budget:** 1.530.000 EUR

   Description: Promotion of integrated ecosystem management of the Trans-boundary Prespa Park region with participation of all stakeholders by enhancing cooperation among the three respected countries fYROM, Greece and Albania.

   Beneficiaries: Ministry of Environment and Physical Planning, municipalities and NGO`s.

Construction of six (6) (in total) SHPPs on Golema Reka, Kranska Reka and Brajcinska Reka in the Prespa Lakes Water Basin

Implementation Entity: Legal and physical entities (investors), Ministry of Economy of fYROM

Project Funding: DBOT model – Design-Built-Operate-Transfer

Description: Construction of six (6) Small Hydropower Stations on three (3) rivers of the Prespa Lakes Water Basin in fYROM. Three (3) of the SHPPs will be constructed on the Golema Reka with installed capacity of 1431/177/177 KW and annual production of 3,761/0,465/0,531 GWh respectively. Two (2) of the SHPPs will be constructed on Brajcinska Reka with installed capacity of 1386/688 KW and

[66] *http://www.kfw-entwicklungsbank.de/ebank/EN_Home/About_Us/Local_Presence/Europe64/Office_Macedonia/Mazedonia_KfW_at_a_glance_0507.pdf*

annual production of 3,642/1,808 GWh respectively. One SHPP will be constructed on Kranska Reka with installed capacity of 560 KW and annual production of 1.472 GWh (Strategy for Utilisation of Renewable Energy Sources in the fFYROM by 2020, 2010).[67]

[67] *http://www.uncsd2012.org/content/documents/677Strategy_for_utilization_RES_Macedonia.pdf*

5. USE OF THE PROJECT' RESULTS IN THE DEVELOPMENT OF THE RIVER BASIN MANAGEMENT PLAN OF WESTERN MACEDONIA WATER DISTRICT GR09

The various results and conclusions of the selected projects listed above that were implemented in the area of Prespa Lake sub-basin were used as input for the Development of the River Basin Management Plan of Western Macedonia Water District GR09. Their connection and contribution in relation to the objectives of the present project and its Work Packages are presented in Table 5.1.

Please note that a number of programs and projects carried out in the area were of a preparatory nature for the execution of other management plans and objectives related to the greater area (for example PDF B). Therefore in the table 5.1 reference has only been made to those programs that provide the most up to date information directly related to the objectives set by the present water management plan.

Table 5.1: Implemented projects and programs in the area of Prespa Lake sub-basin related to the present Project.

Objectives of the Project "Development of the River Basin Management Plans of Western Macedonia Water District GR09"	Projects/Programs used as Input
1. Recording Albanian and fYROM authorities relevant for the water resources management and protection (Work Package 1.1).	Proj. 1, Proj.2, Proj.3, Proj.17, Proj.24, Proj.25
2. Recording of anthropogenic impacts and pressures on the status of the water bodies in Lake Prespa sub-basin (Work Package 1.8).	Proj.2, Proj.3, Proj.12, Proj.13, Proj.17, Proj.18, Proj.22
3. Recording of the scheduled and under implementation projects at the Pespa Lakes sub-basin in the section of fYROM and Albania (Work Package 1.12).	Proj.2, Proj.28, Proj.29, Proj.30, Proj.31, Proj.32
4. Recording of the characterization of the quality status of the water resource bodies of the Prespa Lakes sub-basin in the section of fYROM and Albania, as identified in the relevant documents and studies of the neighboring countries (Work Package 2.3).	Proj.2, Proj.3, Proj.4, Proj.13, Proj.14, Proj.22
5. Recording proposed programme of measures in Albania and fYROM, as identified in the official relevant documents and studies of the neighboring countries (Work Package 2.2).	Proj.2, Proj.3, Proj.15, Proj.17, Proj.18, Proj.19, Proj.21
6. Identifying critical issues relating to the water resources management in the Prespa Lake sub-basin in the sections of Albania and fYROM (Work Package 2.3 & Proposal for a Transnational Consultation Plan).	Proj.2, Proj.3, Proj.4, Proj.5, Proj.12, Proj.13, Proj.14, Proj.17, Proj.18, Proj.19, Proj.20, Proj.21, Proj.22
7. Identifying critical issues relating to the joint transnational water resources management in the area of the Prespa Lake sub-basin (Proposal for a Transnational Consultation Plan).	Proj.1, Proj.2, Proj.3,, Proj.4, Proj.7, Proj.9, Proj.11, Proj.15, Proj.16, Proj.17, Proj.18, Proj.19, Proj.20, Proj.21, Proj.22, Proj.26
8. Configuration of program of measures for the Protection and Restoration of the water bodies of Prespa Lake sub-basin at national and transnational level (Work Package 1.13).	Proj.1, Proj.2, Proj.3, Proj.4, Proj.7, Proj.8, Proj.9, Proj.10, Proj.11, Proj.12, Proj.13, Proj.14, Proj.15, Proj.16, Proj.17, Proj.18, Proj.19, Proj.20, Proj.21, Proj.22, Proj.23, Proj.27
9. Development of proposals for strengthening the transnationality of the area (Work Package 1.13 & Proposal for a Transboundary Consultation Plan).	Proj.1, Proj.2, Proj.3, Proj.6, Proj.17, Proj.23, Proj.24, Proj.27

Objectives of the Project "Development of the River Basin Management Plans of Western Macedonia Water District GR09"	Projects/Programs used as Input
10. Development of proposals for the realization of transnational consultation with the respective public authorities of Albania and fYROM (Proposal for a Transnational Consultation Plan).	Proj.1, Proj.2, Proj.3, Proj.6, Proj.17, Proj.24, Proj.26

Number of Project	Title of Project
1	PREPARATION OF A STRATEGIC ACTION PLAN FOR SUSTAINABLE DEVELOPMENT IN THE PRESPA PARK
2	INTEGRATED ECOSYSTEM MANAGEMENT IN THE PRESPA BASIN IN ALBANIA, fYROM AND GREECE - GEF PROJECT
3	DEVELOPMENT OF A TRANSBOUNDARY ENVIRONMENTAL MONITORING SYSTEM 2007-2011
4	ISOTEIA – INTEGRATED SYSTEM FOR THE PROMOTION OF TERRITORIAL / ENVIRONMENTAL IMPACT ASSESSMENT IN THE FRAMEWORK OF SPATIAL PLANNING
5	INTERREG IIIA/ CARDS GREECE - fYROM - CREATE NETWORK PROMOTION OF HERITAGE SITES IN THE PREFECTURE OF FLORINA AND fYROM
6	INTERREG IIIA / CARDS GREECE - fYROM - CREATING ENVIRONMENTAL PLANT GROWTH AND ENVIRONMENTAL PROGRAMS IN PRESPA
7	INTERREG IIIA GREECE - ALBANIA – WATER NETWORK IN THE COMMUNITY OF KRYSTALLOPIGI
8	INTERREG IIIA GREECE - ALBANIA - MUNICIPAL WATER PRESPA
9	INTERREG IIIA GREECE – ALBANIA - MUNICIPAL SEWAGE PRESPA
10	INTERREG IIIA GREECE - fYROM - QUALITATIVE AND QUANTITATIVE MONITORING FOR THE PROTECTION AND PROMOTION OF RIVER SAKOULEVA
11	CONSERVATION OF PRIORITY BIRD SPECIES IN LAKE MMICRO PRESPA, GREECE - LIFE2002NAT/GR/8494
12	PROJECT LIFE: HALT THE DECLINE OF FISH BIODIVERSITY, IN THE PRESPA BASIN, BY PROMOTING SUSTAINABLE FISHERY PRACTICES IN COMPLIANCE WITH EU POLICY - LIFE09 INF/GR/000319
13	TRABOREMA - CONCEPTS FOR INTEGRATED TRANSBOUNDARY WATER MANAGEMENT AND SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT IN THE CROSS BORDER REGION OF ALBANIA, fORMER YUGOSLAV REPUBLIC OF MACEDONIA (fYROM) AND GREECE
14	STUDY ON THE INTERACTION BETWEEN LAKE MICRO PRESPA AND RIVER DEVOLLI (ALBANIA-GREECE)
15	REDUCING ENVIRONMENTAL IMPACTS OF AGRICULTURE – fYROM
16	IMPLEMENTING THE BIODIVERSITY CONVENTION: BIODIVERSITY CONSERVATION IN THE LAKE DISTRICT OF OHRID, PRESPA AND LITTLE PRESPA – ALBANIA
17	SUSTAINABLE MANAGEMENT OF INTERNATIONAL WATERS – PRESPA LAKE
18	PILOT PROJECT OF BIODEGRADABLE WASTE MANAGEMENT IN PRESPA – fYROM
19	EXTENSION OF THE SOLID WASTE MANAGEMENT SERVICE IN THE RURAL COMMUNITIES – fYROM
20	SUPPORT TO LOCAL ENVIRONMENTAL PLANNING FOR THE LIQENAS AND PROGER COMMUNES OF PRESPA LAKE - ALBANIA

21	IMPLEMENTATION OF PILOT WETLAND MANAGEMENT AND PUBLIC AWARENESS ACTIVITIES IN LAKE MICRO PRESPA - ALBANIA
22	THE PRESPA TROUT - AN ENDANGERED SPECIES IN NEED OF ACTION. SPECIES ACTION PLAN (2008)
23	ONE EUROPE, MORE NATURE
24	SUPPORT FOR INSTITUTIONAL COLLABORATION BETWEEN THE STATES OF GREECE, ALBANIA AND fYROM IN THE CONTEXT OF THE PRESPA PARK" (2003)
25	INVENTORY OF ALBANIA WETLANDS
26	LAKENET
27	RULAND / INTERACTIVE FARMERS' SUPPORT SYSTEM FOR EFFICIENT WATER USE MANAGEMENT
28	ENABLING TRANSBOUNDARY COOPERATION AND INTEGRATED WATER RESOURCES MANAGEMENT IN THE EXTENDED DRIN RIVER BASIN
29	RESTORATION OF THE LAKE PRESPA ECOSYSTEM (IMPLEMENTATION OF THE WATERSHED MANAGEMENT PLAN)
30	PROTECTION AND SUSTAINABLE USE OF BIODIVERSITY IN THE REGION OF THE LARGE LAKES PRESPA, OHRID AND SHKODER
31	TRANSBOUNDARY BIOSPHERE RESERVE PRESPA – SUPPORT TO THE NATIONAL PARK PRESPA IN ALBANIA
32	SSMNATURE/INNOVATIVE SPACE SATELLITE MONITORING OF THE ENVIRONMENTAL NATURAL RESOURCES OF THE CROSS-BORDER AREA GREECE-ALBANIA
33	CONSTRUCTION OF SIX (6) (IN TOTAL) SHPPS ON GOLEMA REKA, KRANSKA REKA AND BRAJCINSKA REKA IN THE PRESPA LAKES WATER BASIN

REFERENCES

1. Agreement on the Protection and Sustainable Development of the Prespa Park Area (2010). (online on http://www.ramsar.org/pdf/wwd/10/wwd2010_rpts_prespa_agreement.pdf)
2. Assesment Report - Rapid Assessment of priority species and habitats in the Prespa lake basin. 2009. Professional Consulting Services on Conservation and Action Planning for Priority Transboundary Habitats and Species in the Prespa Lakes basin-Preparatory Phase. DEKONS-EMA, Skopje - fYROM, Pp. 41.
3. Biodiversity Conservation in German Development Cooperation. 1998. GTZ Project "Implementing the Biodiversity Convention" (online on http://data.cameroun-foret.com/system/files/11_03_325.pdf)
4. Bogdanovic, S and Dav, N. 2008. Prespa Park coordination committee in transboundary ecosystem management - Technical Assessment Report. Consultant report. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 104.
5. Crivelli Alain .J., Koutseri Irene, Petkovski Svetozar, 2008, The Prespa Trout - An endangered species in need of action, Species Action Plan, Pp.27
6. Crivelli, A. 2010. Pilot Application of the Transboundary Monitoring System for the Prespa Park: Fish and Fisheries Monitoring, Final report, Society for the Protection of Prespa – Tour du Valat, Agios Germanos. Pp. 19.
7. Crivelli, J.A., and G. Catsadorakis, G. (Eds). 1997. Lake Prespa, Northwestern Greece, A Unique Balkan Wetland, Dordrecht, Kluwer Academic Publishers
8. De Stefano et al., 2010, 'Mapping the Resilience of International River Basins to Future Climate Change-Induced Water Variability', Water Sector Board Discussion Paper Series, Paper No.15, The World Bank, Pp. 74, (online on:http://www.transboundarywaters.orst.edu/publications/publications/De%20Stefano%20et%20al%202010.pdf)
9. Dellapenna J.W. 1999. The Customary International Law of Internationally Shared Fresh Water, Proceedings conf. Shared Water Systems and Transboundary Issues: with special emphasis on the Iberian Peninsula, Lisbon, Portugal, Pp. 79-148.
10. FAO, 2002, 'FAO Training Manual for International Watercources/River Basins including Law, Negotiation, Conflict Resolution and Simulation Training Exercises' (online on: http://www.internationalwaterlaw.org/bibliography/UN/UNFAO/FAO-Negotiations_Simulation.pdf)
11. GFA Consulting Group GmbH. 2005. KfW Feasibility Study, Project Preparation & Development of the Transboundary Prespa Park Project, Part V: Hydrology Report, Frankfurt am Main.Pp. 126.
12. Grillas, P. 2011. Pilot Application of the Transboundary Monitoring System for the Prespa Park: Aquatic Vegetation (Reedbed) Monitoring, Final report, Society for the Protection of Prespa – Tour du Valat, Agios Germanos. Pp. 37.
13. Grovel, R. 2010. Pilot Application of the Transboundary Monitoring System for the Prespa Park: Forests and Terrestrial Habitats Monitoring, Final report, Society for the Protection of Prespa, Agios Germanos. Pp. 40.
14. Hartmann D.W. 2008. Transboundary Fish and Fisheries Management Planning in the Prespa Lakes Basin- Mission Report No. 1. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp 47.
15. Implementing the Biodiversity Convention. 1998. GTZ Project (online on http://star-www.inwent.org/dokumente/bib/00-1751a.pdf)

16. Inception Report - Technical Task Team (TTT) for the collection, assessment and evaluation of national information in support of the Transboundary Diagnostic Analysis (TDA) and development of a Strategic Action Programme (SAP) in the Prespa Lakes Basin. 2008. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 80.
17. Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR Macedonia and Greece - UNDP Full size Project Document, 2006, Governments of Albania and fYR Macedonia, United Nations Development Programme and Global Environment Facility. Pp. 132
18. Kolaneci, M., Krstic, S., Tsiaoussi, V., and Parisopoulos, G. 2011. Expert proposal for the transboundary water monitoring system of the Prespa Park, Society for the Protection of Prespa, Agios Germanos. Pp. 19.
19. Krambokoukis, L., and Hornigold, K. 2011. Pilot Application of the Transboundary Monitoring System for the Prespa Park: Brown Bear Monitoring, Final report, Society for the Protection of Prespa – Arcturos NGO, Agios Germanos. Pp. 11.
20. Krstić, S. 2005. Report on baseline data for water (surface and groundwater) including waste related data for the target region. EC-FP6 project "TRABOREMA", EC-Project Contract No. INCO CT-2004- 509177, Deliverable 2.2., Pp. 16.
21. Krstić, S. 2007a. Report on natural and cultural rates of eutrophication and their impact on microflora biodiversity, past and present spatial and temporal trends and major pressures in the region. EC-FP6 project "TRABOREMA", EC-Project Contract No. INCO-CT-2004-509177, Deliverable 3.2., Pp. 21
22. Krstić, S. 2007b. Saprobiological and trophic models for Lake Prespa (saprographs) for use in similar regions and its application for evaluation of Ecological Quality Ratios (indicators). EC-FP6 project "TRABOREMA", EC-Project Contract No. INCO-CT-2004-509177, Deliverable 3.3. Pp. 98.
23. Lake Prespa - Transboundary Diagnostic Analysis. 2009. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 40
24. McIntyre O., 2008, Enhancing Transboundary Cooperation in Water Management in the Prespa Lakes Basin, Consultant Report, UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 75
25. Mima, M., Fitoka, N.A., Bego, F. (eds) 2003. Inventory of Albania Wetlands. ECAT and Greek Biotope/Wetlands Centre (EKBY). Published by EKBY, Thermi Greece. pp 341 plus 75p Annexes
26. Minkova, Y. (ed). 2005. Environmental Reconstruction and EU Approximation in South Eastern Europe - REReP Highlights 2003-2005. The Regional Environmental Center for Central and Eastern Europe. pp 122. (online on http://documents.rec.org/publications/EnvReconstructionApprox_June2005_eng.pdf)
27. NATO Science for Peace and Security (SPS) Programme – 2010 Annual Report on SPS Activities. 2010. (online on http://www.nato.int/science/doc/2010_AR.pdf)
28. Nikolaos Silleos, Georgios Zalidis, Neki Frasheri, Konstantinos Douros, Thomas Alexandridis, Vasileios Takavakoglou and Christos Karydas, 2006, Strategic Environmental Assessment of inappropriate agricultural land and water management in the transboundary lake Mikri Prespa, INTERREG IIB – CADSES for project 'ISOTEIA' (3B093)
29. Papadatou,E., Grémillet, X., Kazoglou, Y. 2010. Pilot Application of the Transboundary Monitoring System for the Prespa Park: Workshop on the Monitoring of Bats, Final report, Society for the Protection of Prespa, Agios Germanos, P.p25
30. Perennou, C., Gletsos, M., Chauvelon, P., Crivelli, A., DeCoursey, M., Dokulil, M., Grillas, P., Grovel, R. and Sandoz, A. 2009a. Development of a Transboundary Monitoring System for the Prespa Park Area, Aghios Germanos, Greece, November 2009, Pp. 381

31. Perennou, C., Gletsos, M., Chauvelon, P., Crivelli, A., DeCoursey, M., Dokulil, M., Grillas, P., Grovel, R. and Sandoz, A. 2009b. Development of a Transboundary Monitoring System for the Prespa Park Area, Annexes, Aghios Germanos, November 2009. Pp. 433
32. Pilot Biodegradable Waste Management in Prespa – Project Document, 2011, UNDP Project (online on http://www.undp.org/content/dam/undp/documents/projects/MKD/00051354/BWM%20Project%20Document.pdf)
33. Pilot Biodegradable Waste Management in Prespa – Project Info, UNDP Project (online on http://www.undp.org/content/dam/undp/documents/projects/MKD/00051354/Fact%20Sheet%20-%20Biodegradable%20Waste%20Management.pdf)
34. Prespa Lakes Basin-Strategic Action Programme 2012. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 131.
35. Prespa Lakes Watershed Management Plan, 2012, UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece", Pp. 134
36. Prespa: Agriculture & Environment – Preliminary actions for labeling of agricultural products as Prespa Park Products. 2009. One Europe, More Nature Project, Pp.15 (online on http://www.spp.gr/spp/oemn%20en.pdf)
37. Puleska, B. 2009. Draft-report on the requirements for establishment and operation of Prespa Lake Watershed Management Council. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 24.
38. Report - Guidelines for handling of pesticide packaging - Efficient and Sustainable System for Pesticide Packaging Waste Management in the Prespa Region. 2008. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 255.
39. Sharrocks, M., Consultancy Pte Ltd. 2008a. Integration of the ecosystem health maintenance objectives and practices into the spatial plan for the Prespa region. Working Paper 1-National Spatial Planning Revew. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 27.
40. Sharrocks, M., Consultancy Pte Ltd. 2008b. Integration of the ecosystem health maintenance objectives and practices into the spatial plan for the Prespa region. Working Paper 2- European Planning Examples. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 37.
41. Sharrocks, M., Consultancy Pte Ltd. 2008c. Integration of the ecosystem health maintenance objectives and practices into the spatial plan for the Prespa region. Working Paper 3- Terms of reference for municipality of Resen spatial plan. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 32.
42. Skarbøvik, E., Shumka, S., Mukaetov, D. and Nagothu, S.U. 2010. Harmonised monitoring of Lake Macro Prespa as a basis for Integrated Water Resources Management.Irrig Drainage Syst 24:223–238.
43. Society for the Protection of Prespa (SPP), WWF-Greece, Protection and Preservation of Natural Environment in Albania (PPNEA) Macedonian Alliance for Prespa (MAP). 2005. Strategic Action Plan for the Sustainable Development of the Prespa Park, Executive Summary, Aghios Germanos, Pp.76.
44. Society for the Protection of Prespa 2007b. Guideline document on the restoration and management of wet meadows at Lake Mikri Prespa. Project LIFE2002NAT/GR/8494 Conservation of Priority Bird Species in Lake Mikri Prespa, Pp. 246.
45. Society for the Protection of Prespa. 2012. Adjustment of the Transboundary Monitoring System for the Prespa Park. Society for the Protection of Prespa, Agios Germanos, Pp.52.

46. Society for the Protection of Prespa.2007a. Executive Summary LIFE2002NAT/GR/8494: Conservation of Priority Bird Species in Lake Mikri Prespa, Greece, Pp.8.
47. Spirkovski, Z., and Kapidani, R. 2009. Consultant Report: Aspects of Fisheries Ecology in the Prespa Lakes. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 19
48. Strategic Environmental Assessment on the Lake Prespa Watershed Management Plan. 2011. Under the UNDP project Development of Prespa Lake Watershed Management Plan (Project No. 00051409) Ministry of Environment and Physical Planning RFQ 50/2009. Pp. 134.
49. Strategy for Utilisation of Renewable Energy Sources in the (FY)Republic of Macedonia by 2020, 2010, Skopje, Pp.152 (online on http://www.uncsd2012.org/content/documents/677Strategy_for_utilization_RES_Macedonia.pdf)
50. Study on the Interaction between Lake Micro Prespa and Rivet Devolli (Albania – Greece) – Task II.6 Synthesis of findings and proposals, 2006, (online on http://www.spp.gr/spp/final %20devolli%20rpt.pdf)
51. Technical Task Team (TTT) for the collection, assessment and evaluation of national information in support of the Transboundary Diagnostic Analysis (TDA) and development of a Strategic Action Programme (SAP) in the Prespa Lakes Basin - National Report (Draft)- fYROM. 2009. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 64.
52. Technical Task Team (TTT) for the collection, assessment and evaluation of national information in support of the Transboundary Diagnostic Analysis (TDA) and development of a Strategic Action Programme (SAP) in the Prespa Lakes Basin - National Report (Draft)-ALBANIA. 2009. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp.. 59.
53. Technical Task Team (TTT) for the collection, assessment and evaluation of national information in support of the Transboundary Diagnostic Analysis (TDA) and development of a Strategic Action Programme (SAP) in the Prespa Lakes Basin - National Report (Draft)-GREECE. 2009. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 49.
54. Terms of Reference for the Technical Task Team (TTT)– Collection, assessment and evaluation of national information in support of the Transboundary Diagnostic Analysis (TDA) and development of a Strategic Action Programme (SAP) in the Prespa Lakes Basin. 2008. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 10.
55. TRABOREMA - "Concepts for integrated trans-boundary water management and sustainable socio-economic development in the cross border region of Albania, Former Yugoslav Republic of Macedonia (fYROM) and Greece" – Final Activity Report, 2007, EC-FP6 "Specific Measures in support of International Cooperation – Western Balkan Countries" Project
56. Transboundary Fisheries Management Plan for Prespa. 2008. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 101
57. UN Thematic Paper, Transboundary Waters: Sharing Benefits, Sharing Responsibilities, 2008, Pp. 19 (online on http://www.unwater.org/downloads/UNW_TRANSBOUNDARY.pdf)
58. Unesco 2013, Free flow, reaching water Security through cooperation, P.p.338 (online on http://digital.tudor-rose.co.uk/free-flow/)
59. Vinogradov S., Wouters P., Jones P., Transforming Potential Conflict into Cooperation Potential: The Role of International Water Law, 2003, UNESCO-IHP, Pp. 106.

60. Vlachos E., 1999, Transnational Rivers and Hydrodiplomacy, Proceedings conf. Shared Water Systems and Transboundary Issues: with special emphasis on the Iberian Peninsula, Lisbon, Portugal, Pp. 43-65.
61. Whalley, P. 2008a. Gap assessment between SAP and GEF Prespa Project. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 4.
62. Whalley, P. 2008b. Review of current Strategic Action Plan for Prespa Park, its development process, current implementation status and challenges. UNDP-GEF Project "Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, fYR of Macedonia and Greece". Pp. 17. Gleick P., 1993, Water and Conflict: Fresh Water Resources and International Security, International Security, vol 18(1), Pp. 79-112
63. WWF, 2003, One Europe, more Nature - Screening of 8 'smaller' model projects, Pp.104 (online on http://www.stroming.nl/pdf/oemn_01.pdf
64. Ελευθεριάδου Ε., 2006, Εξομάλυνση αντιθέσεων στη διαχείριση διακρατικών υδατικών πόρων με χρήση μαθηματικών μεθόδων: Εφαρμογή στη λεκάνη του Νέστου, Διδακτορική Διατριβή, Τμήμα Πολιτικών Μηχανικών, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης

Internet

1. *http://cordis.europa.eu*
2. *http://waterwiki.net*
3. *http://www.deza.admin.ch/en/Home/Projects/Project_Detail?projectdbID=211443*
4. *http://www.giz.de/en/worldwide/20318.html*
5. *http://www.twrm-med.net/southeastern-europe/supported-processes-and-projects/drin-river-basin/gef-project-201cenabling-transboundary-cooperation-and-integrated-water-resources-management-in-the-extended-drin-river-basin201d*
6. *http://www.undp.org/content/the_former_yugoslav_republic_of_macedonia/en/home/operations/projects/environment_and_energy/restoration-of-the-prespa-lake-ecosystem.html*
7. *http://www.unece.org*
8. *http://www.zgf.de/?id=61&reportId=216&language=en*
9. *LakeNet - World Lakes Websites: http://www.worldlakes.org*
10. *Netherlands Commission for Environmental Assessment (NCEA): www.eia.nl.*
11. *Official website of the European Union: http://cordis.europa.eu*
12. *Regional Environmental Center: http://www.rec.org/*
13. *SEA portal of the Ministry of Environment and Physical Planning (MoEPP): www.sea-info.mk*
14. *Society for the Protection of Prespa: http://www.spp.gr/spp/*
15. *The GEF Small Grants Programme: http://sgp.undp.org*
16. *Transboundary water management – Project TRABOREMA: http://traborema.sauper.at/*
17. *UNDP, United Nations Development Programme: www.undp.org.mk*
18. *UNDP/GEF project "Integrated Ecosystem Management in the Prespa Lakes Basin": http://prespa.iwlearn.org/*

www.ypeka.gr

Special Secretariat for Water,

2 M. Iatridou str. & Kifisias Ave. 115 26 Athens, Greece

Tel: +30 210 693 1265, +30 210 693 1253

Fax: +30 210 699 4355, +30 210 699 4357

E-mail: info.egy@prv.ypeka.gr

www.epperaa.gr

Co-funded by Greece and the European