

5 YEARS
LIFE-Nature PROJECT
FOR THE PRESPA,
in a glance



LIFE-Nature 2002-2007

CONSERVATION OF PRIORITY BIRD SPECIES IN LAKE MIKRI PRESPA, GREECE



Layman's report

WWF-Greece has supported and co-financed the LIFE-Nature project in Prespa, while other SPP member-organizations have also offered remarkable help and support in every possible way. Thus, the SPP General Assembly formed a special supportive Working Group for the LIFE project comprising of the SPP members: Greek Biotope Wetland Centre (Goulandris Natural History Museum), Hellenic Society for the Protection of Nature, and the Royal Society for the Protection of Birds (UK).

LIFE Scientific Committee

It was established from the beginning of the project, consisting of scientists specialized in issues of wetland management and waterbird monitoring. The Committee assessed the overall progress of the project and provided advice on scientific issues. The Committee was composed of: Myrsini Malakou (Biologist, SPP Managing Director), Dr. George Parissopoulos (Civil Engineer, Hydrologist, Researcher of the National Agricultural Research Foundation), Prof. Vasilis Papanastasis (Forester, Professor at the Aristotle University of Thessaloniki), Dr. Alain Crivelli (Biologist, Tour du Valat, France) and Dr. Francois Mesleard (Biologist, Tour du Valat, France).

The success of the LIFE project in Prespa was owed to a great extent to the constructive collaboration with: the Ministry of the Environment, Physical Planning and Public Works, the Ministry of Agriculture, the Region of Western Macedonia, the Prefecture of Florina, the Municipality of Prespa, the Municipal Districts of: Mikrolimni, Karyes, Lemos, Aghios Achillios, Pili, Lefkonas, Platy, the local Organisation for Land Reclamation Works, the Management Body of the Prespa National Forest, teachers from the schools of Prespa area, the "Karavokyris & Associates" office, the "Themeliodomi S.A." and the inhabitants of the area.

SPP acknowledgments go to all authorities and organizations and especially to all those people who with real interest, enthusiasm and continuous efforts contributed to the realization of the LIFE - Nature project objectives in Prespa.

SPP staff that participated in the LIFE-Nature project:

Myrsini Malakou (SPP Managing Director)

Antonis Rigas (LIFE Project Coordinator)

Dr. Yannis Kazoglou, Irene Koutseri, Fotini Vakitsidou, Christos Theodoroglou, Haris Nikolaou, Leonidas Tsikos, Lazaros Nikolaou, Eleftheria Patsea, Yvonne Tsorogouni, Katerina Torkopoulou, Vasiliki Nitsopoulou, Popi Nalpantidou, Georgia Terpsopoulou, Keti Kapourani, Nikos Nikolaou.

Networking of LIFE-Nature project sites:

From the beginning of and during the LIFE-Nature project, the SPP participated in the Greek Network of LIFE-Nature project sites. This Network is the result of the collaboration between LIFE-Nature projects implemented in Greek Ramsar wetland sites, aiming at the exchange of experience and lessons learnt for the management and conservation of these sites. The network was made up of the implementing agencies of LIFE-Nature projects in the wetlands of Mikri Prespa, Nestos River, Lake Drana, Strofylia – Kotychi and Amvrakikos.

The Society for the Protection of Prespa (SPP) implemented the **LIFE-Nature** project titled "**Conservation of Priority Bird Species in Lake Mikri Prespa**" between 2002 and 2007. This booklet outlining the activities taken for the protection of the biodiversity of Prespa, as well as the benefits for the natural and socio-economic environment of the area, was published upon project completion.

The **LIFE-Nature** project in Prespa was pivotal for the implementation of large-scale management measures in the wetland, for research and systematic monitoring, for the investment in infrastructure and human resources, for public awareness and information, and for the establishment of multi-sectoral collaboration with stakeholders and competent authorities at local, national and international level.

An immediate priority for the area is to keep on with the conservation management interventions and implement them in a sustainable manner. This aims at ensuring the smooth continuation of basic ecological processes in the lake with immediate benefits for nature and man, but, most importantly, at protecting the natural and cultural characteristics of Prespa in the middle and in the long run.



Surrounded by high mountains, shared by three countries, the two Prespa lakes when seen from above look as a unity: one single lake spreading from one end to the other at the foot of the mountains, a little lower from the surrounding villages, the fields, the monuments...

Lake Mikri Prespa

The lakes Mikri Prespa, Megali Prespa and Ohrid belong to the oldest lakes of Europe. Lake Mikri Prespa in particular is one of the most important sites of the Transboundary Prespa Park, as it hosts the biggest breeding colony of Dalmatian Pelicans worldwide and one of the biggest colonies of Pygmy Cormorants in Europe.



The unique biodiversity of Prespa, and especially of its wetland, is protected by diverse international and national regimes. Mikri Prespa is the core of the Prespa National Forest and in addition it is protected by the Ramsar Convention as a Wetland of International Importance, and it is a designated Special Protection Area under the Birds' Directive (79/409/EEC). The whole area of Prespa in Greece belongs to the "Natura 2000" network (92/43/EEC Directive). Lastly, since 2000, the lakes Mikri and Megali Prespa and their catchment basin comprise the Transboundary Prespa Park, the first transboundary protected area in the Balkans, established by a joint declaration of the Prime Ministers of Greece, Albania, and FYROM.



In the perimeters of Lake Mikri Prespa, at its littoral zone, wet meadows can be found. These are shallow areas with low vegetation, which are inundated every year during spring and summer, following the fluctuation of the water level.

The **wet meadows** are habitats for many aquatic organisms, they function as major breeding and spawning sites for many fish and amphibian species, and moreover they are the feeding grounds for many rare waterbirds. The surrounding reedbeds are also ideal grounds for nesting or wintering of numerous species of birds, fish, mammals, reptiles, amphibians and insects, many of which have been characterized as vulnerable or endangered at European or international level.

When the Society for the Protection of Prespa was founded in the beginnings of 1991, **the degradation of the wet meadows** in Prespa had advanced distinctively. The whole area covered by wet meadows had by 2000 dwindled to less than 30 hectares as the inhabitants abandoned their traditional activities in the littoral zone. As a result, a significant number of waterbird species stopped nesting in the area (for example the Glossy Ibis), whereas other species, such as pelicans and Pygmy Cormorants, faced direct or indirect threats. At the same time, populations of fish -especially Carp- decreased continuously.

The SPP set as its primary objective the **restoration of wet meadows** in Lake Mikri Prespa. For approximately one decade it carried out comprehensive research on this subject and implemented pilot actions combining the traditional experience and knowledge of the inhabitants with the scientific knowledge and the use of new technology. From 2002 onwards the **LIFE-Nature** project offered the possibility to implement integrated management of Lake Mikri Prespa and to restore a great part of its precious wet meadows.



Fisheries have benefited significantly by the increase of fish spawning grounds in the wet meadows areas.

The **Dalmatian Pelicans** and the **Pygmy Cormorants**, as well as several other waterbird species and aquatic organisms, are directly dependent on the appropriate management of the water level of the lake Mikri Prespa and on the presence of wet meadows in the littoral zone.

In 2001, the SPP in collaboration with the competent authorities developed and submitted to the European Commission a LIFE-Nature project proposal titled "Conservation of priority bird species in the Lake Mikri Prespa". Its aim was to secure and enhance the protection status of the Dalmatian Pelican (*Pelecanus crispus*) and the Pygmy Cormorant (*Phalacrocorax pygmeus*).

Aiming to ensure and improve the protection status of the two species the LIFE-Nature project in Prespa completed the following actions:

- a. Reconstruction of the sluice (modernization) that channels the water of lake Mikri Prespa into lake Megali Prespa, in order to improve the management of the water level in lake Mikri Prespa.
- b. Restoration of the wet meadows in Lake Mikri Prespa at an overall area of approximately 70 hectares.
- c. Monitoring of the avifauna and the vegetation in the managed littoral sites.
- d. Information and public awareness activities.
- e. Elaboration of a five year guiding document for the restoration and the management of the wet meadows in Lake Mikri Prespa.

LIFE-Nature programme is part of the main European Union fund for the environment and supports actions for the protection of biodiversity in areas of the "Natura 2000" network. To date it has contributed to the protection of more than 100 important sites across Europe.

Dalmatian Pelican (*Pelecanus crispus*)

The Dalmatian Pelican is a worldwide threatened species.

Its population in Lake Mikri Prespa - after long-term efforts for its protection and conservation- reaches today approximately 1,100 pairs.



Pygmy Cormorant (*Phalacrocorax pygmeus*)

The Pygmy Cormorant is one of the rarest waterbird species worldwide. Lake Mikri Prespa, where the species breeds with approximately 600 pairs, is one of the most significant areas for Pygmy Cormorants in Europe. Wet meadows are important feeding grounds for them.

The reconstruction of the sluice at Koula



Until recently (1986-2004), water management of Lake Mikri Prespa was carried out by means of a simple iron sluice at Koula, the point where the two lakes meet. The old sluice regulated the water flow from Lake Mikri Prespa into Lake Megali Prespa serving agricultural needs. It gradually turned out that the potential of this sluice was limited. At the same time it became evident that the protection of the ecological balance, as well as of the various financial activities in Prespa, depends directly on the appropriate management of the lake water.

The design of the new sluice was based on conditions and criteria defined during consultations between stakeholders on a local and national scale and following direct collaboration with the **LIFE-Nature** Project Scientific Committee. After the completion of the necessary studies (hydrological, environmental, technical study for the modernization of the dam, water management study, etc) and of the permit clearance, the SPP began the construction of the work. The sluice was completed in six months (July-December 2004) and today it has improved capability of managing the lake water.

Which are the results?

The beginning of the new sluice operation in spring 2005 marked a new era for water management in Prespa. From that moment on, the management of the lake level is based on both the special ecological needs of the area, and on the agriculture needs, and it is carried out with the participation of the competent authorities and stakeholders.

A characteristic example is the two year water management between 2005 and 2007, when the lake level remained at satisfactory high levels creating new wet meadow areas. As a result many rare waterbird species were attracted and remained in the Prespa wetland (such as the Glossy Ibis).

Today the responsibility for the management of the new sluice lies with the special commission of the Management Body of the Prespa National Forest, consisting of the Municipality of Prespa, the local Organisation for land reclamation works and the Society for the Protection of Prespa.



The identity of LIFE-Nature in Prespa

Title: "Conservation of Priority Bird Species in the Lake Mikri Prespa"

Project number: LIFE02NAT/GR/8494

Implementation: Society for the Protection of Prespa

Duration: 2002 - 2007

Supported by: The Municipality of Prespa, the Region of Western Macedonia, the Ministry of Agriculture, the Ministry of the Environment, Physical Planning and Public Works, Municipal Districts of: Mikrolimni, Karyes, Lemos, Aghios Achillios.

Project budget: 1,863,471 €

European Commission: 60%

Society for the Protection of Prespa and WWF- Greece: 40%



The existence of the wet meadows requires management of the water level of lake Mikri Prespa that can ensure high water level and inundation of the littoral sites in spring.

Every summer, the SPP in collaboration with the inhabitants cut the dense reeds in shallow areas around the lake. In less than twenty days, the littoral zone in Mikri Prespa changed completely! A biotope mosaic was thus created. Extensive areas free from dense reeds were ready for the **autumn grazing** by buffalos and cattle. That was the situation until the beginning of spring, when **high lake water level was regulated** by the new sluice in order to overflow the areas. In this way -after many years of degradation- wet meadows were created once again in Prespa. The wet meadows in turn offer ideal living and breeding conditions for carps and other fish species, insects, amphibians, as well as small and large aquatic organisms. Soon enough, Pygmy Cormorants, herons and pelicans flock there to forage for amphibians, molluscs and small fish.

Management of the wetland littoral vegetation

In July 2002 the second major activity of the LIFE project started in ten littoral sites, in which dense reedbeds predominated. Each season and for the first four years **cutting of the reeds**, grazing by water buffalos and cattle, or a combination of both methods, were carried out. When the project implementation began the overall area of the wet meadows in Prespa was only approximately 30 hectares.

Today the wet meadows cover an area of almost 100 hectares all over the littoral zone of Lake Mikri Prespa.



Managed areas
in the littoral zone
of Lake Mikri Prespa.



Grazing of littoral areas

Grazing as a management method was applied systematically during the five years of project in eleven selected littoral areas with use of a water buffalo herd and two cattle herds. According to the data produced by the monitoring of wetland vegetation, buffalo grazing (alone or combined with cutting of reedbeds) is the most effective method for the creation of wet meadows.

Summer or / and the autumn cutting of the reedbed in the littoral zone.

In addition to grazing, summer cutting of the reedbed was a further method for the restoration of wet meadows. It was implemented in collaboration with the local inhabitants. For the cutting of dense vegetation ordinary agricultural equipment has been used.

And what happens with cut reeds?

The larger amount of cut reedbed or other vegetation is turned into grass balls by inhabitants, with use of agricultural machinery. The grass consists an ideal food supplement for buffalos during winter, and it was shared between the SPP and local stock-breeders. At the same time, cut reeds have also been utilized by locals as thatch for their barns.



Water buffalos control effectively the re-growing of reeds. The water buffalo herd numbered 70 animals in 2007.

The presence of diverse bird species in wet meadows every year increased noticeably during the LIFE project. New species depending on the presence of wet meadows or species that had long disappeared from the area were recorded. For instance -after 35 years of absence from Prespa- the Glossy Ibis (*Plegadis falcinellus*), a rare waterbird species, which depends almost exclusively for feeding on the presence of wet meadows, bred again in Prespa in 2005 and 2007.

The aim of scientific monitoring of the vegetation and the avifauna was the assessment of the impact of the two main activities, vegetation management and management of the water level, on Dalmatian Pelicans and Pygmy Cormorants, as well as on other important bird species (Birds' Directive, 79/409) in Lake Mikri Prespa.

A more specific objective was the investigation of the following:

- What are the new characteristics of vegetation in the managed sites?
- How is re-growing of managed sites influenced after cutting? Or after grazing? Or after the combination of both methods?
- How is the behaviour of birds feeding and resting in wet meadows influenced?
- How and why do the populations of waterbirds fluctuate in relation to the presence of new wet meadows?

Monitoring of the vegetation in managed sites

This activity was implemented every summer in the ten (10) managed littoral sites, with recording of the development of qualitative (plant species) and structural characteristics (density, height, etc) of the vegetation in wet meadows. With these measures it became possible to assess if the management methods, cutting and grazing, achieved the desirable results.

Monitoring and census of waterbirds

The above data in combination with the annual census of breeding populations of Dalmatian Pelicans and Pygmy Cormorants provided evidence for the impacts of management on breeding populations of both species, which remained stable and at high levels. The results showed that grazing (alone or combined with summer cutting) is the most effective method in opening the reedbed stands and restoring wet meadows to the benefit of waterbirds. In this way grazing animals support the creation of littoral areas with low vegetation, which in turn will become wet meadows when inundated by rising lake water in the next spring.



The protection and conservation of the biodiversity of Prespa depends on the management of its water resources and on wetland vegetation management. Both issues constitute strategic objectives for the SPP. But Prespa is not confined only within Greek boundaries. This natural ecosystem is shared between Greece, Albania and FYROM, having the two lakes as reference. This means that in order to achieve the integrated and effective protection of the common natural and cultural values of the area, and at the same time the development for the benefit of the inhabitants, collaboration of the three countries and their joint action towards the same direction will be required.

The activities of the LIFE-Nature project offered invaluable practical experience as well as thorough knowledge for the restoration and management of wet meadows in Lake Mikri Prespa. Furthermore, the positive results of the project indicated, among others, the imperative need for the design of a guiding document for the **continuation of the management of wet meadows** by local stakeholders. The management guide, which was developed during the fifth year of the project, is a valuable tool for the conservation and protection of wet meadows in Lake Mikri Prespa for the next five years and it was designed in order to be used by the competent authorities of the area as a management plan for the wet meadows in Lake Mikri Prespa following the end of the LIFE project.

Some of the major issues that the guide deals with are:

- The sustainable water and vegetation management in lake Mikri Prespa.
- The scientific monitoring of bird species and vegetation in managed areas.
- The definition of land-uses in directly affected littoral areas and their sustainable management.
- The organization of institutional measures and actions for long-term wetland management.

The guide approaches management of wet meadows taking into consideration the overall management of the wetland, in order to achieve conservation and protection of the ecological balance in Lake Mikri Prespa as well as the social and economic development of the area.



The primary sector has benefited by the creation of new grazing areas.

Fifteen years ago the collaboration of non governmental organizations, local and national authorities, and inhabitants, in issues so crucial as the wetland management in Prespa, seemed utopian. With ceaseless effort and continuous investment in labour, the situation has changed with the biggest achievement being the collaboration for the LIFE-Nature project. The **public awareness and information activities** for inhabitants, authorities and visitors, in combination with the development of actions -examples which aim at the protection and conservation of the values of Prespa, promote a model of sustainable development that invites the locals to become the main responsible stakeholders and managers of their own territory; it also invites all visiting people to take the example and look for quality of life.

For the SPP, information and public awareness activities of the LIFE project were the consequence of long-term effort, but also an important tool for achieving results. Through the LIFE project, the SPP developed certain methods for approaching the public and spreading the message; this involved the use of Information Centres, published material, sending letters, making presentations, developing an educational programme for the schools of the area, the creation of a web page, the publication of articles and press releases, the production of audiovisual material and the involvement of volunteers.

The **printed** and the **audiovisual material** created has been distributed at "key" spots of the wider area (Information Centres, the local Municipality of Prespa, schools, meeting points for locals, such as taverns and coffee-shops, hotels, as well as the neighbouring Prefectures, the Regional competent authorities etc).

Within the framework of the **Environmental Education** programme at the Lemos High School and the Primary school in Aghios Germanos, pupils had the opportunity to become familiar with, as well as to carry out individual and group essays related to the wet meadows, the importance of water management and more specialized issues. The excursions and the games around the wetland were certainly the greatest enjoyment for all.

Every second Sunday, and for four consecutive years, the organization of **Free Guided Bird Watching** for visitors offered the opportunity to learn about waterbirds, watch their flight or their nests with telescopes and binoculars and to get informed by trained eco-guides about the significance of the protection and conservation activities developed within the LIFE project.

Wardening and public awareness

Especially for the LIFE project, wardening focused on the surveillance of illegal activities mainly around the littoral zone of Lake Mikri Prespa, which included disturbance of pelicans or Pygmy Cormorants during breeding and feeding, reedbed fire, and illegal hunting.



The eco-guides from the SPP Information Centre informed the public about the importance of wet meadows and the activities of the LIFE project and guided the visitors to the sites of interest related to the project. During these five years more than 15,000 visitors were informed.

Informative letters were sent to every inhabitant of Prespa and to the local stakeholders. This was very effective in combination with systematic public awareness, presentations, private conversations and meetings with representatives of major stakeholders from the productive sector (fishermen, farmers, stock-breeders).

Worldwide, financial resources for the conservation of biodiversity are limited. In the European continent, the States and the European Union should invest in a strategy for the conservation of protected areas. The LIFE-Nature programme is an example of such an investment. During the five years of its implementation, the LIFE project in Prespa proved to be a valuable investment for the protection of the biodiversity of the area and additionally offered numerous socio-economic benefits.

Direct and indirect results of the LIFE project activities during the last five years

- Project activities for the management of the priority bird species, Dalmatian Pelican (*Pelecanus crispus*) and Pygmy Cormorant (*Phalacrocorax pygmeus*), have improved their breeding and feeding conditions and as a result their populations have been stable and very high in the last five years. In the same way, populations of more than twenty other waterbird species have also benefited. A characteristic example is the Glossy Ibis (*Plegadis falcinellus*), a rare bird species who came to breed again in Lake Mikri Prespa after an absence of 35 years.
- Total surface of wet meadows increased threefold, reaching 100 hectares by the end of the project. Populations of fish and other aquatic organisms benefited directly from this. In particular, the increase in the population of Carp, a fish spawning mainly in wet meadows, has been beneficial for local fishermen.
- The implementation of the LIFE project has also contributed in many ways to the social and economic development of the area. For instance, fishery and stock-breeding in the littoral zone have been favoured by the creation of new grazing land. Cutting reeds has been a novel occupation for the inhabitants, too.
- Information activities on the project and its actions have been beneficial for tourism. It is estimated that a significant number of visitors is attracted to Prespa because it stands out as a wetland with special significance for rare waterbirds. Public awareness and wardening in particular have helped deter more than 40 serious incidents of disturbance by fishermen, photographers and other visitors in the pelican colonies or their feeding grounds.
- More than 3,300 visitors from many parts of Greece and from abroad participated in the "free guided birdwatching" project activity. The overwhelming majority of the visitors agreed that this activity should continue.



During a five year period more than 50 people have worked, full - or part-time, for the implementation of the project activities.

What else happened in Prespa during the five years of the LIFE-Nature project?

- For the first time an overall and efficient management of the biotopes in lake Mikri Prespa was implemented, aiming at the protection of two important species, the Dalmatian Pelican and the Pygmy Cormorant .
- Invaluable experience and thorough knowledge for the management of precious wetland ecosystems in Prespa was created.
- New methods for water and vegetation management were investigated.
- The persisting problem of land properties (plots) affected by the fluctuation of lake water level was addressed and possible solutions were proposed.
- New participatory procedures for decision-making concerning wetland protection were established, at both policy and scientific documentation levels.
- Participation of locals in wetland management activities was strengthened.
- A process involving dialogue for the protection of the wetland was established, not only at national level, but also at transboundary level, and efforts for the the implementation of the decisions were made. New and more stable institutions for the protection of this precious area were created, in which the community, at local, national, tri-national and European level, was actively involved.
- The significance of the wetland management and the necessity of long-term planning were comprehended.
- Practical socio-economic benefits resulting from wise and sustainable wetland management emerged.
- New opportunities for the publicity and promotion of the special character of the area were created in addition to opportunities of alternative tourism.



After the successful implementation of the five year LIFE project, SPP's priority is to continue and support the actions developed through it in order to contribute to the conservation of the most important habitats of the area. Every person, inhabitant or authority, and every stakeholder in Prespa, should contribute by all means to the institutionalization of those efforts for achieving essential protection of the Prespa area.

The Society for the Protection of Prespa (SPP) is a non-profit civil association exclusively active in the Prespa region since 1991. The SPP was founded following an initiative of World Wide Fund for Nature (WWF) and the association Friends of Prespa, and is composed, apart from the aforementioned organizations, of the following NGOs: Hellenic Society for the Protection of the Environment and the Cultural Heritage - Elliniki Eteria, Hellenic Society for the Protection of Nature, Hellenic Ornithological Society, Royal Society for the Protection of Birds (UK), Fondation Tour du Valat (France), The Greek Biotope / Wetland Centre, Danish Ornithological Society (Denmark), and Arcturos.

The mission of the SPP is to maintain and strengthen the relationship between people and nature and to preserve the natural and cultural heritage of Prespa for the benefit of its inhabitants and of all those interested and concerned, today and in the future.

The main axes covering its activities are:

- Application of pilot projects aiming at the preservation of the natural and cultural heritage of Prespa, while promoting sustainable development.
- Complementing and supporting the activities of public authorities and other stakeholders for the sound management of the area.
- Supporting and promoting transboundary cooperation for the protection of the entire Prespa basin.
- Providing information and raising public awareness on the values and importance of the area.

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