

life
STYMFALIA



The Nature of Business

SUSTAINABLE MANAGEMENT AND FINANCING OF WETLAND BIODIVERSITY - THE CASE OF LAKE STYMFALIA

LIFE12 NAT/GR/000275

FINAL TECHNICAL REPORT EXECUTIVE SUMMARY

28 February 2019



Executive summary

This document is the Final Report of the project LIFE12 NAT/GR/000275 entitled: “Sustainable management and financing of wetland biodiversity- the case of Lake Stymfalia”. This report covers the period from 1/10/2013-28/09/2018. It includes a description of the activities undertaken within the project’s lifespan and an evaluation of the project results and impacts.

The overall objective of LIFE-Stymfalia project was to create a sustainable management and financing system for the important degraded wetland ecosystem of Lake Stymphalia (Natura 2000 site), with the aim of improving the conservation status of target species & wetland habitats and ensuring a viable scheme that will, on a long term basis, finance the necessary management activities.

The specific objectives of the project were to:

- restore important wetland habitats based on the ecological requirements of target species,
- create conditions for the financial sustainability of the wetland’s management and conservation,
- raise awareness among stakeholders on opportunities for sustainable development in Natura 2000,
- engage the local community in the sustainable management of Lake Stymphalia.

LIFE-Stymfalia project comprised a rather unique blend of partners: a private bank, a municipality, a cultural foundation, a private biodiversity consultancy, an environmental NGO, and a public institute. This composition brought together members of private and public sector and of the civil society in an attempt to manage the degraded wetland of Lake Stymphalia. To meet the objectives of the project the partners had to work closely with many external experts and also with regional and central authorities. This extraordinary consortium reflects the complexity of dealing with nature conservation and the need for diverse partnerships in doing so.

The Actions of the project, generally, were successfully implemented, achieving the main project objectives. Best practices and experience were transferred to all involved parties. The capacities of all participants in essential aspects of the management of priority species and habitat were improved. The LIFE project was successful in many ways. We identified constraints; we understood who the players are, their needs, the risks and opportunities, the politics (local and national), the scope and time horizon in dealing with bringing together nature conservation and private sector. We acquired experience in identifying “workable” business opportunities for SMEs to invest in biodiversity; we know how to create a market that does not exist.

It is noted that never before had there been a concerted effort to restore Lake Stymphalia. This means that there was no “culture of cooperation” among the residents for nature conservation. The farmers of Stymphalia region, small holders, which constitute the majority of local inhabitants, did not have any experience in working together in any organized form. Against this background, the project partners were very cautious of the repercussions if trust were not built among the local users of the Lake.

Two major constraints were encountered during the project. The first one was the reluctance of the regional government to issue a license for cutting reeds (Action C.1) and implementing a small intervention to regulate water level of the Lake (Action C.2). As such, and despite the careful project planning, the initial project’s end date was extended by one year, so as to address the delayed granting of licensing for the concrete conservation actions (Action A.4). Within this time frame, the management team, after many contacts and meetings with the competent authorities, managed to obtain all the research cutting permits until the year 2018, thus successfully completing one of the project’s core management actions for the conservation management of Lake Stymphalia (Action C.1). In total, LIFE-Stymfalia project was completed with the management of 48,2 ha out of 72 ha initially described in the proposal. With regard to the technical works for the regulation of the lake’s water level (Action C.2), despite the positive opinion of the Ministry of Environment and Energy, as the

competent authority for the management of the Natura sites, it was finally not possible to address and resolve all the bureaucratic problems of licensing. However, after many efforts and persistence by the LIFE project team (> 20 meetings), all necessary actions were taken so that the small scale technical interventions will be implemented in the After-LIFE period.

The second major constraint was the non-approval of the Management Plan (Action A.1). During the project's period, 4 versions of the Management Plan for the protected area "Lake Stymfalia" were submitted to the Ministry of Environment & Energy. All necessary actions and measures were taken during the project to achieve final approval of the Management Plan. However, on the grounds that several LIFE Project Management plans are currently under review by the Ministry of Environment and Energy to be completed by the end of the year 2019, of which one is the Management Plan for the protected area "Lake Stymfalia", it becomes obvious that, despite all efforts, the Management Plan approval couldn't be obtained before the end of the LIFE- Stymfalia project. Moreover, all necessary steps and actions were taken by the project team, making it certain that the competent authorities will approve the Management Plan in the After-LIFE period and its Action Plans will be undertaken.

A very important fact for the After-LIFE period of the project (Action F.3) was the adoption of the recent Law No. 4519/2018 for the "Management Bodies of Protected Areas and other provisions", in which Lake Stymfalia site (SAC/ SPA "GR2530002") falls under the jurisdiction of the Management Body of Paronias, Moustos, Mainalo and Monemvasia. The Management Body is assigned as responsible for the future management and sustainability of Lake Stymfalia. To this end, several discussions and meetings were organized between the project team and the Management body, in order to ensure the continuation of the monitoring of the area, the adoption of the Management Plan and at the same time the implementation of the small scale technical works that were not completed.

Under the LIFE project, a significant effort was made for the first time to manage and restore important habitats and species in the site of Lake Stymfalia through selected actions (Action C.2). Specifically, a hydrological meter/gauge was placed at the deepest point of the lake in order to regularly record hydrological data, which was not given prior to the project. The lake level measurements in combination with the topographic diagram gave us an insight into the status of the lake as well as the parts of it that are covered with water, leading us to conclusions regarding the habitats of the area (fish fauna, avian influenza). Furthermore, following the monitoring and installation of 26 bat boxes, ten new bat species were discovered and according to the bat expert findings, 27% of the boxes were used. It is noteworthy that although woodcrete boxes are widely applied elsewhere in Europe, this is the first time they were installed in Greece. Scientific monitoring for target species and other significant parameters (Action D.1) took place during the whole project period.

Following the completion of the Feasibility Study, a detailed Business Plan was completed (Action A.2), depicting the establishment of a proposed Business Refinancing Model for the long-term protection and management of Lake Stymfalia. Four priority axes were identified regarding revenues for the self-financing of the Lake that arise from specific business activities, renewable energy sources and the promotion of traditional agricultural products and growth. It is worth mentioning that the construction of a biomass power station, three small hydropower plants and two small wind turbines are expected to be the main revenue source (1.500.000 €/ year), whereas revenues from the promotion of traditional agricultural products, ecotourism development and specific sport activities (such as cycling, archery and horseback riding) will act as secondary source of funding for the self-financing of the Lake.

Furthermore, a study of the economic valuation of ecosystem services of Stymfalia area was deemed necessary for the project's area integrated management and for policy makers (Action D.2). It was the first study of its kind in a small Natura 2000 site. Economic valuation can show and explain to society, policy-makers and stakeholders that ecosystem services are rare and that their devaluation or downgrading entails costs for society. If these costs are not taken into consideration, then policy selection will not be ideal. According to the study's results, for the current situation, the total value of ecosystem services in Lake Stymfalia amounts to 6,563,864 € per annum.

In order to investigate the socio-economic impacts of the project actions, assess the level of acceptance and participation of the local society, as well as the impacts on the local economy, a report on the socio-economic impacts of the project was conducted by a specialized external research consulting company (Action D.2). The research was conducted in two phases: before and after the implementation of the project actions. According to the study's results, the awareness level of the LIFE Project and Natura 2000 significantly increased in the total area, especially in Stymphalia Municipal Unit. Concerning visible results, the LIFE Project was effective to some extent, while residents had expected more drastic interventions. However, there was a significant benefit in terms of attitudes, as the communication and the project's actions had significant positive influence on important parameters such as realization of the problems and sensitization of residents that the environment and the Lake are important to them.

In addition, compost was produced (Action C.1) using the cut reeds of Lake Stymphalia as a raw material and was distributed free of cost to members of the Farmers' Network as soil improver. Necessary experiments and analyses took place for pellet production. Based on all the analyses performed, the reed pellet, due to its good calorific value and its relatively high ash, could be used as an industrial pellet in boilers that can use solid fuels with relatively high ash. In the context of using reed biomass (pellets) for demonstrative purposes, a 3D small scale model was built and is exhibited in the Environment Museum of Stymphalia. The model helped in raising awareness on the use of biofuel from reeds and other agricultural residues to heat homes.

The Local Management Unit was established (Action C.3) and the patrolling and surveillance of the lake took place at regular intervals. The LMU operated as the interface between the LIFE project and the local community, especially the farmers and provided its valuable assistance in several actions of the project. Also, a digital application was created, in order for the LMU to have a tool, for the continuous monitoring and recording of changes to the habitats and natural landscape of Lake Stymphalia.

The Wetland Management Agreement (Action A.3) was signed by 370 stakeholders (comprising the Wetland Network), out of which 170 are local farmers, livestock breeders and interested parties involved with rural and alternative development of Stymphalia area, forming the Farmers' Network (Action C.4). A final version of the Operational Plan was formulated (Action A.3), under the guidance of Piraeus Bank Legal Department, in order to better reflect the framework for the Farmers' Network operation, as a voluntary scheme, the certification sign disclosure and the rights for providing the logo "Stymphalia my home" to the Farmers' Network beneficiaries. Completing the cycle of 9 educational sessions, 26 beneficiaries in total were entitled to use the logo in their products and services and according to their declared packaging needs, logo materials were gradually awarded.

The project gained extensive publicity in media (Action E.1) counting 385 write ups in newspapers, magazines and on the internet, around 21,000 unique visitors of project's website and six newsletters widely circulated, with a banner on Piraeus Bank Intranet, addressing to 14,000 employees. Six notice boards were placed in strategic points in Stymphalia village and on the perimeter of the Lake. A 9' video- short documentary presenting the objectives of the project was prepared and is already uploaded to you tube and presented to local community. At the height of the events, the two-days International Conference (Action E.2) was successfully conducted, reached to some important results which were included in the "LIFE-Stymfalia Statement". We held the first ever conference in Greece on business and biodiversity. Through two workshops (Action E.2), nine seminars with farmers, six educational activities and participation in several events (Action E.1), the awareness raising campaign involved different kind of stakeholders. These events were supported with informational material produced, such as two pamphlets, a children's drawing book, notebooks, etc. The educational portable kit (Action E.3) was completed and upon its approval by the Ministry of Education travelled to eleven schools in the Region of Corinthia, engaging more than 600 pupils to the importance of the wetland. Last but not least, networking activity (Action F.2) was conducted with other related LIFE projects, management bodies, academia and environmental organizations. It is noteworthy that through LIFE-

Stymfalia, Piraeus Bank endorsed the Declaration of Antwerp and participated in the development of an EU Community of Practice Finance and Biodiversity (EU CoP F@B).

The interpretation trail (Action E.5), highlighting the dual identity, both cultural and environmental of the site, was successfully completed. The trail leads visitors from the Environment Museum to Ancient Stymphalos and the lake. On an elevated site there is a bird observatory built specially to serve the visitors. More than 5,000 visitors have explored the trail, including large groups, such as schools, scouts, NGOs, mountaineering clubs, etc. The trail was the flagship of LIFE-Stymfalia nomination in the Natura 2000 Award – 2018 edition, shortlisted as a finalist among some 75 nominations.

The thematic exhibition “The Sixth Labour” (Action E.6) at the Environment Museum of Stymfalia, which was enriched by a number of panels depicting the project’s actions, has attracted more than 85,000 visitors in the last 2 years.

Three Technical Guides (Action E.4) for Reed Bed Management of Lake Stymphalia, monitoring of bird species and habitats, as well as Sustainable Financing of protected sites, were produced, serving as a good practice guide and aiming at informing stakeholders and disseminating the acquired knowledge and know-how in other wetland sites.

In general, and with the exception of the referred non-implementation of the water management interventions (Action C.2) and non-approval of the Management Plan (Action A.1), which are ensured in the After-LIFE period, the project completed as scheduled despite its challenges that were successfully resolved due to the dedicated work and extensive effort of the Project Team.