

“Accolagoons-Actions for the conservation of coastal habitats and significant avifauna species in NATURA 2000 network sites of Epanomi and Aggelochori Lagoons, Greece” (LIFE09 NAT/GR/000343)



Biodiversity Problems and Threats

Over the last decades, following increased coastal urbanisation and industrialisation, many coastal habitat types have disappeared or have been altered. Current main threats to the habitat are related to: water and sediment enrichment (eutrophication), the disruption of the sedimentation/erosion balance along the coast and direct destruction by human modifications of the coastline, degradation by boat trawling and anchoring, etc. The disappearance or even the degradation of the habitat types influence not only the characteristic plant species of the habitat, but all of the associated flora and fauna, having a direct or indirect relationship with this habitat (birds, fishes, amphibians, mammals, reptiles, invertebrates). In Site 1, human impacts/activities that consist conservation/biodiversity problems and threats for the species and habitat types directly targeted by the project include cultivation (as well as modification of cultivation practices), grazing, aquacultures, professional fishing (fixed location fishing), hunting, salt works, dispersed and other patterns of human habitation, discharges, communication networks (paths, tracks, cycling tracks, routes, autoroutes and port areas), leisure and tourism, water pollution, noise nuisance, etc. The impacts/activities influencing the project area more is the invasion by a plant species and the noise nuisance. The rising human pressure on coastal areas during the last century and the exponential increase in tourist activities in the last decades has exerted extremely negative consequences on marine ecosystems, even in protected areas.

Human impacts/activities that consist conservation/biodiversity problems and threats for the species and habitat types directly targeted by the project in Site 2 include cultivation, use of pesticides, fertilisation, grazing, aquacultures, professional fishing (fixed location fishing), leisure fishing (bait digging), hunting, discontinuous urbanization, disposal of household wastes and other discharges, communication networks (routes, auto routes), leisure and tourism (hippodrome, camping), trampling, overuse, drainage, etc.

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Project Objectives



The main objectives of the project are:

- to enhance the conservation status of the priority habitats at **site 1:** 1150* (Coastal lagoons), 1510* (Mediterranean salt steppes – Limonietalia) and at **site 2:** 1120* (*Posidonia* beds – Posidonion oceanicae), 1150* (Coastal lagoons) and of the priority species they host (e.g. *Numenius tenuirostris*, *Phalacrocorax pygmeus*).
- to restore the hydrological and ecological status of the Epanomi lagoon.
- to increase habitat heterogeneity by transforming the macro / micro-topography of the area, thus, creating new habitats that could support several flora and fauna species and enhancing system biodiversity and stability.
- to manage effectively visitor activities that so

far, due to the lack of concrete management actions, had an overwhelming impact on the physical environment and its biota.

- to engage stakeholders in actual management by promoting actions and means that would inform them and “invite” them to participate in meetings and decision making.
- to raise environmental awareness of users (local community, farmers, tourists, other stakeholders) by constructing works of environmental interpretation, creating and distributing information material, engaging the public, especially young people (e.g. students), in activities aiming to the protection and conservation of the area of interest.

Project has duration 36 months (01/10/2010 - 30/9/2013) and total budget 1.639.770 €. The project is financed by 75% by the LIFE financial instrument of the European Community.

Aggelochori Lagoon

The region of Aggelochori lagoon, total extent of 377,2 hectares, includes a coastal lagoon, a saltpan, salt marshes and a marine zone. A narrow sandy beach cuts off a saline lagoon and associated salt marshes from the sea except for a central connecting artificial ditch. At the north part of the lagoon there are salt works.

The area is important as a breeding, feeding and resting area for more than 32 bird species, including protected, as well as endangered ones..

Actions and means involved

In order to achieve the above mentioned objectives, the following actions and means should be involved in the project implementation:

- to improve directly, by conclusive actions, the conservation status of the *Posidonia* beds, the lagoon, and indirectly, the conservation status of the species associated with these habitats, by actions of restoration and managing of human activity.
- to evaluate the effectiveness and the impact of these actions
- to support a long term management plan of these habitats by training and sensitising users, policy makers, stakeholders and land owners
- to support long term protection of these habitats by launching a public awareness campaign, targeting pupils / students to make them realize the value and the richness of these habitats and to confront them with the undeniable threats and risks that human activities pose on the habitats.
- to promote gathering and sharing of the positive results obtained in the course of the project, so as to exchange experience and know-how with other environmental managers of similar habitat types / sites all over Europe and the Mediterranean Sea.





Epanomi Lagoon

The region, total extent of 830,38 hectares, is located in the Eastern coast of Thermaikos Gulf, in the cape Mytikas, 5 km south-western from the Municipality Epanomis.

This region includes a sand-covered shore created by the wind and strong wave action with a small lagoon. Sandy heathland of limited extension with *Artemisia campestris*, *Spartium junceum*, *Holoschoenus vulgaris* is incorporated within the well developed dune system of the site. Reed bed formations occupy artificial ditches and canals, as well as places where saline water is accumulated. It is a region of high ecological value while it is protected from national, the European and international legislation. Also important is also her socio-economic value while in the wider region is developed built-up and tourist activities that however often practise intense pressures in the natural environment and downgrade the swampy ecosystem.

Project Actions

A. Preparatory actions, elaboration of management plans and/or of action plans

- A.1: Sign of Memorandum of Understanding with land owners of the project area (site 1 & 2)
- A.2: Management plan of the priority habitat type *1120 "Posidonia beds (*Posidonium oceanicae*)" and of other marine habitat types of the project marine zone.
- A.3: Restoration plan of the Epanomi Lagoon functions and the technical specifications to implement restoration
- A.4: Development and use of digital infrastructures for collection, processing and diffusion of pollution data in the study area.
- A.5: Management Plan of the breeding and resting habitats of priority / important bird species at both sites
- A.6: Visitor management plan
- A.7: Strategic Environmental Assessment

C. Concrete conservation actions

- C.1: Installation of environmentally friendly moorings in coastal waters at both sites of the project.
- C.2: Restoration of Epanomi Lagoon functions.
- C.3: Litter removal from the Epanomi Lagoon area.
- C.4: Environmental interpretation (technical) works

D. Public awareness and dissemination of results

- D.1: Publicity, Information material and dissemination actions
- D.2: Establishment of stakeholders' e-Participation tool

E. Overall project operation and monitoring

- E.1: Project organization and management
- E.2: Establishment of a monitoring system for the marine habitat types
- E.3: Monitoring of the water quality at sites 1 & 2 of the project area
- E.4: Monitoring of bird and amphibian species and habitats at Aggelochori and Epanomi Lagoon
- E.5: Networking with other projects
- E.6: After Life Conservation Plan

Partnership

Region of Central Macedonia (Coordinator)



Organization for the Master Plan and Environmental Protection of Thessaloniki



Balkan Environment Centre



OMIKRON Ltd



Projects Website:
<http://www.accolagoons.gr>

Contact Details:

Expected Results

The installation of eight (8) environmental friendly moorings prevented further deterioration of the seagrass abundance and distribution (C.1) as recorded through the monitoring procedure of marine habitats (E.2).

- The lagoon and peri-lagoon habitats targeted by the project have been restored: the quality of the water at Aggelochori and Epanomi coast and of the lagoon has been improved as a result of the water quality monitoring procedure and the introduction of surveillance actions (A.4, E.3). The above have been accomplished through the installation of

- ✓ Three (3) stations for water quality monitoring (a navigable station in the Aggelochori marine zone and the other two in the Aggelochori and Epanomi lagoon area respectively)
- ✓ One (1) report station in an appropriate position measuring the certain physicochemical parameters (e.g. temperature, dissolved oxygen, pH etc.)
- ✓ A (gateway) telemetry data center receiving, processing and sending all station measurements

- The hydrological regime and functioning of the lagoon and peri-lagoon habitats are improved; Improvement of the food web support function of the lagoon and peri-lagoon systems to Class A; raise of the conservation status of targeted priority habitat (1150* Costal lagoon) from status B to status A (C.2)

- The number of nesting / wintering birds and especially the abundance of the priority bird species have been increased and as a result the period with increased ornithological interest has been prolonged. Also, the creation of new or the restoration of existing habitats for the amphibians has lead to the increase in their numbers (A.5, C.3)

- In general, as a result of restoration - rehabilitation actions conducted in the lagoons, there is a remarkable increase in ecotouristic activity and especially in bird-watching interest which in combination with Action A.6 "Visitor Management Plan" will lead to several environmental infrastructure works C.4) that will assist in ecological awareness raise of the public (D.1).

- Various means of management the human / tourist activity has been evaluated according to their effectiveness for various types of habitats and a Visitor Management Plan has been compiled (A.6, C.4).

- As far as e-participation tool is concerned, a number of at least 20 stakeholders (competent authorities, policy makers, academic/scientific institutions) have been successfully participated and informed carefully on the aims, rational and output of the project (D.2).

- In the framework of the public awareness campaign, a great amount of publicity, information and dissemination material has been produced: 33,400 items of various types, uses and functions, one photographic archive, two television and radio spots, one advertising page. Also, included are: the creation of program website, the organization of a public survey. two one-day conferences (D.1).