LIFE-NATURE PROJECT

CONSERVATION MANAGEMENT IN STROFYLIA - KOTYCHI, NATURA 2000 SITES, GREECE

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NUMBER: LIFE2002NAT/GR/8491
1. The Life-Nature Project in the national park of Kotychi-Strofylia wetlands

The LIFE Nature project «Conservation Management in Strofylia-Kotychi, Natura 2000 Sites, Greece» was active in the area from October 2002 to December 2006. The project was the first attempt of scientific management of the site aiming at the protection and restoration of the lagoons, the coastal dunes, the Stone Pine forest and the conservation of priority bird and reptile species.

To achieve the project targets many professional conservationists, scientists, administrative and wardening personnel, communication experts and technicians devoted themselves throughout the project. Yet, in order to build a success story with lasting results, most essential was the successful cooperation with the local authorities, the forest services, the police and port officers, the educational community, professional and social groups and the local society.

Invaluable was the collaboration and the mutual support with the newly founded Management Body of the Kotychi-Strofylia Wetlands, that from now on undertakes the management and safeguarding of this outstanding piece of Greek nature.

Launched in 1992, LIFE (The Financial Instrument for the Environment) is one of the spearheads of Community environment policy. LIFE co-finances environmental initiatives in the European Union and certain third countries bordering on the Mediterranean and the Baltic Sea, and in those EU candidate countries that have decided to participate.

The specific objective of LIFE-Nature is to contribute to the implementation of Community nature protection legislation: the «Birds» Directive (79/409/EEC) and the «Habitats» Directive (92/43/EEC), and in particular the establishment of the «Natura 2000» network for the in situ management and conservation of Europe’s most remarkable fauna and flora species and habitats.

PROJECT IDENTITY

♦ CODE NUMBER: LIFE2002NAT/GR/8491
♦ BENEFICIARY: Local Union of Municipalities and Communities of the Prefecture/County of Achaia
♦ PARTNERS: Prefecture of Ileia, OIKOS Ltd.
♦ CO-FINANCERS: Regional Government of Dytiki Ellada, Regional Development Fund of Dytiki Ellada
♦ SUPPORTING AUTHORITIES: Ministry of Environment, Physical Planning & Public Works, Ministry of Rural Development & Food
♦ DURATION: 1/9/2002 - 31/12/2006
♦ BUDGET: 2.017.908 €
Kotychi –Strofylia, lies in Western Peloponnesus, and administratively it belongs to Achaia and Ileia Prefectures. The protected area extends from Mavr Voyna of Araxos Cape in the north, to Lehena salt pans in the south and from the Patras-Pyrgos Motorway in the east to the Ionian Sea in the west.

Almost the entire western front is occupied with coastal shifting dunes of exceptional natural beauty, extending for tenths of metres in the interior, sparsely vegetated with sand plants and dwarf pines.

A system of slow running or still water bodies isolated or seasonally connected crosses all over the area. The out flow to the sea is inhibited by the natural barrier of the coastal dunes, and the main water bulk forms three lagoons, Kotychi, Prokopos and Pappas from south to north. Lamia Marsh, Lehena salt pans, Kentros canal and smaller pools, seasonal freshwater or brackish marshes and ponds inside the forest, complete the wetland network. Under these conditions evolved the biggest in Greece and most beautiful Umbrella (Stone) Pine forest of Strofylia, being both a natural jewel and a priority habitat, specially protected in a pan-European level.

The dunes, the permanent and seasonal wetlands and the forest have all been evaluated as important for the conservation of nature and biodiversity of the European Union.

Kotychi-Strofylia is a globally important site for amphibians and reptiles:

- Seven species of amphibians and 23 reptiles have been recorded in the area.
- Seven reptile species are included in the Habitats Directive among which the Loggerhead sea turtle Caretta caretta, a priority species, nests in the area.
- The European Pond Terrapin Emys orbicularis and the Stripe-necked Terrapin Mauremys caspica are well represented in the site.
- The area is very important for the Hermann’s Tortoise Testudo hermanni and the Marginated Tortoise Testudo marginata.
- The presence of the endemics of Peloponnesse, Greek Algyroides Algyroides moreoticus, Slow Worm Anguis cephalonica, and Epeirus frog Rana epeirotica is very significant.
- The site hosts the rare amphibians Eastern Spadefoot Pelobates syriacus and Smooth Newt Triturus vulgaris.
Protection status

The National Park of Kotychi-Stroflyia includes two Sites of Community Importance of the European network NATURA 2000: site GR2330006 “Kotychi Lagoon” and site GR 2320001 «Kalogria Lagoon, Stroflyia forest and Lamia Marsh». The lagoons are RAMSAR wetlands of international importance and Specially Protected Areas for birds. The Management Body of Kotychi-Stroflyia was founded in 2002 and its task is the conservation management and sustainable development of the protected area.
Intense human interventions and lack of environmental management have seriously affected the ecological integrity of the area. The main threats identified are:

- Decrease of the coverage and depth of the lagoon habitat in Kotychi due to increased sediment deposition during the last 50 years.
- Dense structure of reed beds in Kotychi lagoon and Lamia marsh resulting in poor water circulation and habitat degradation.
- Regression of the Umbrella Pine forest, which is invaded by Aleppo Pine. The forest is degraded by illegal road openings, uncontrolled vehicle access and overgrazing.
- Dune erosion due to increased numbers of visitors.
- Lack of systematic ecological data regarding water quality, habitats and animal species.
- Lack of apprehension and appreciation of the conservation value of the site by the inhabitants and visitors.

3. Why run a LIFE project in the area
4. Actions fulfilled

1. Wetland management
◦ Four automatic monitoring stations were installed in Kotychi and in Prokopos lagoon in order to monitor water parameters.
◦ The aquatic plant communities were studied since they are the most critical indicators of the conservation status of the lagoons. Water circulation was studied in Kotychi and Management Plans were prepared for both lagoons.
◦ A canal was opened in south Kotychi. The dredgings were laid on Kotychi islet thus raising it to a height of 40 cm, in order to remain dry during the nesting period.
◦ Two large canals were opened inside Kotychi lagoon and Lamia marsh in order to improve water circulation and create new valuable bird habitats.

2. Umbrella Pine forest enhancement
◦ The forest was intensively studied through 20 experimental plots established and maintained. Pilot scientific management of the plots produced the guidelines and measures for its regeneration and long-term conservation.
◦ A significant part of the forest was fenced and thus relieved from grazing pressure and vehicle trespassing
◦ Five thousand young trees of Umbrella Pines were planted and fenced
◦ With the assistance of the forest service, many illegal roads were permanently blocked

3. Coastal dune restoration
◦ Restoration fences were placed alongside the most affected parts of the dunes which enormously succeeded in sand aggregation and dune “rebuilding”
Parking lots, swimmer access points were delimited, information signs were placed and sensitive dune habitats were fenced.

4. Bird and reptile conservation
- A Monitoring Plan for birds and reptiles/amphibians was compiled and applied for four years.
- New nesting and feeding habitats for birds and aquatic organisms were created through the spacing out of the reedbeds, the enhancement of the Koychi islet and the construction of freshwater pools.
- An electric fence was constructed and placed in Metochi mudflats to protect the nesting colony of Collared Pratincoles from cow trampling.
- Floating rafts were installed in Kotychi and Prokopos lagoons to support the nesting of terns - artificial nesting boxes were placed in old houses of Lehena town to offer nesting sites for the globally threatened Lesser Kestrel.

5. Safeguarding
- The daily wardening routine proved to be the most effective action for the protection of the project area. Three educated and devoted wardens accomplished the multiple tasks of everyday patrolling of the entire site, preventing illegal or negative activities, collecting various data, maintaining the project infrastructure and keeping daily contact with the locals and visitors.

6. Consensus and sharing
- The project organized various events, workshops, meetings and consultations with the participation of local and national authorities, stakeholders and interested groups. Thus information about the progress was given, results were readily evaluated and feedback was gained for the protection and management of the site.

7. Public awareness and site promotion
- Information and promotion material, including website, leaflets, posters, post-cards, t-shirts and a DVD documentary was produced and freely distributed. Research outcomes were demonstrated in technical publications and scientific announcements.
- Four educational nature trails were established and signposted, interpreting the forest, the wetlands and the coastal zone.
- The Life team guided to the Natural history Museum and the field over 5000 visitors, from educational and scientific associations, cultural, environmental or naturalist groups and individual tourists.

8. Environmental education
- The school community welcomed the reopening of the Information Centre of Lappa, which received 158 school groups during its operation. Over 6000 school students from all over the country visited the Natural Museum, and engaged in guided field trips and educational activities.
- Life produced a portable educational kit on the priority habitats and species of the site to be used by schools at a national level. It contains a desk display, a DVD documentary and a set of educational activities and information/instructions for the teacher.
The results of the project can be summarized as follows:

**Lagoons:**
- Contribution to reduction of sedimentation in south Kotychi
- Long term conservation of Kotychi islet – gaining of 70 acres of safe nesting habitat for birds.
- Increase of reedbed habitat heterogeneity – creation of microhabitats for aquatic organisms
- Creation of systematic and reliable water quality data

**Umbrella Pine Forest:**
- Strategic deployment of 5000 young native Umbrella Pines - expansion of the forest by 6 acres
- Direct protection of 55 acres of pure Umbrella Pine forest through fencing - Direct protection of forest sectors by the blocking of illegal trails
- Elaboration of management plan for the regeneration and long term conservation of the forest

**Coastal dunes:**
- Regeneration of sand dunes along the degraded front of Kalogria beach
- Dune and coast protection through the regulation of recreational activities.

5. Results
Protected organisms:
♦ Obtaining of a data collection system and evaluation of population status and trends
♦ Improvement of deteriorated habitat for migratory species; provision of new feeding and nesting areas
♦ Improvement of the breeding status of the threatened Smooth Newt with the creation of breeding pools

Long-term benefits
♦ Acquisition of valuable information about the conservation status of the ecosystem
♦ Provision of a scientific basis for the conservation management of the site
♦ Improvement of the site’s management through the involvement of local partners in systematic consultations-Collaboration with the forestry service, local communities, fishermen, cattle herders and farmers
♦ Raising favorable to conservation behavior patterns of the local society
♦ Growth of the national and international reputation of the site as an area of distinctive ecological value.
♦ Contribution to environmental education and awareness of the school community
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Further information

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