



Greek island wetlands and the WWF Greece's initiative towards their conservation

Kaloust Paragamian¹, Thanos Giannakakis¹, Nicos Georgiadis² and Giorgos Catsadorakis²

¹WWF Greece, Islands' wetlands project office, 82 Ethnikis Antistaseos st, Irakleion, Crete GR 71306, k.paragamian@wwf.gr

²WWF Greece, 26 Filellinon str., GR-105 58 ATHENS, Greece

Introduction

Island wetlands constitute some of the most important ecosystems of Greece and the Mediterranean. The ecological, social and cultural importance of these small, fragile ecosystems cannot be overstated: unique biodiversity hotspots, necessary stop-overs for millions of migrating and wintering birds, relics of older land-use patterns, important water reservoirs for modern island societies and a unique sustainable development asset. Despite their importance, island wetlands are continuously degraded in terms of both ecological status and size. The absence of a clear legal framework for their protection and the strong pressures from the development of tourism at coastal areas, resulted to a significant degradation due to clearing, filling with rubble, building, road constructions, and deprivation of fresh-water input. This is in line with the insufficient mechanisms for nature protection in Greece, but also due to the fact that decision-makers, land managers and the wider public are not aware of and do not recognize their significance.

Since 2004, WWF Greece has been striving to document the importance and conservation needs of the islands' wetlands of Greece, to raise awareness, regarding their value and to promote their effective protection. Our initiative "Conservation of the Islands Wetlands of Greece" initially focused on the Aegean Islands and extended to Crete and the Ionian Islands, involving, in essence, the whole of maritime Greece. During the last years notable progress has been achieved: we have gained valuable knowledge on the status of these sites, we have brought the issue into the public discourse, we managed to avert site-specific threats in a number of cases and promote specific legal and conservation measures.

Deliverables and achievements

As the majority of wetlands has never been identified and researched before, only few of them were included in the national wetlands inventory¹. As result, a lot of fieldwork required to identify the traits of the wetlands and the threats they are faced with, as well as to be able to prioritize sites and conservation needs. The identification and delineation of all wetlands was essential in order to facilitate their inclusion under local spatial planning schemes which are currently developing and are the main levers for promoting their protection in a local scale. Additionally, the documentation of the values and characteristics of all wetlands was essential in order to exhibit their operation as an ecological network and accordingly to promote horizontal protection measures and statuses. Furthermore, its importance for raising awareness and mobilizing public opinion is also relevant. The following facts present an indication of the effort devoted to the project during the past years, and the types of deliverables it has produced:

Research and enrichment of island inventory: A total of 824 wetlands larger than 0.1ha have been located on 75 islands (98 in 8 Ionian Islands, 499 in 64 Aegean islands and 209 in Crete and 2 satellite islands). The project team has visited and surveyed 760 of these so far. The inventory data are available to the public on our web data base. available to the public on our web data base.

Scientific documentation and dissemination of knowledge:

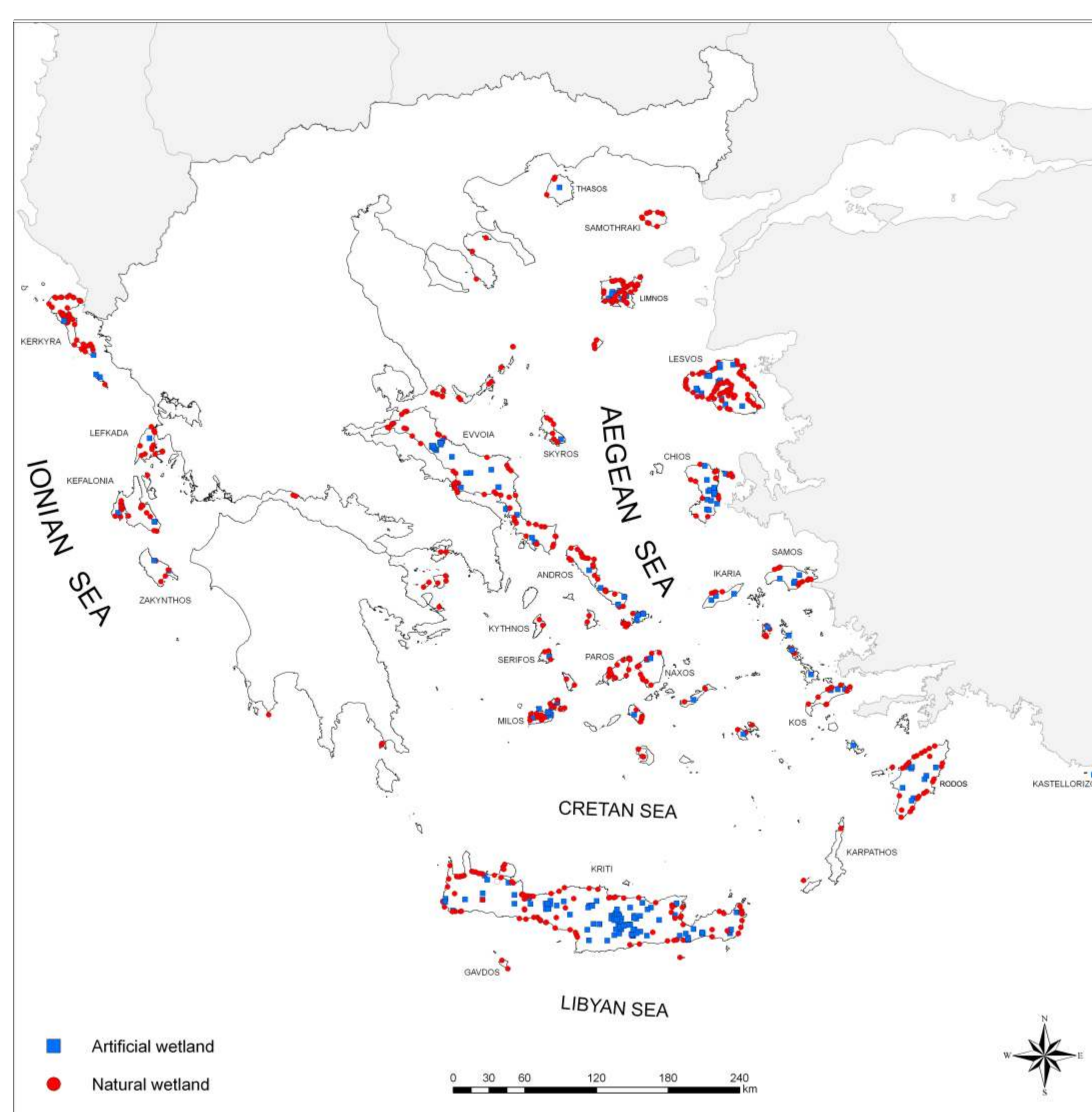
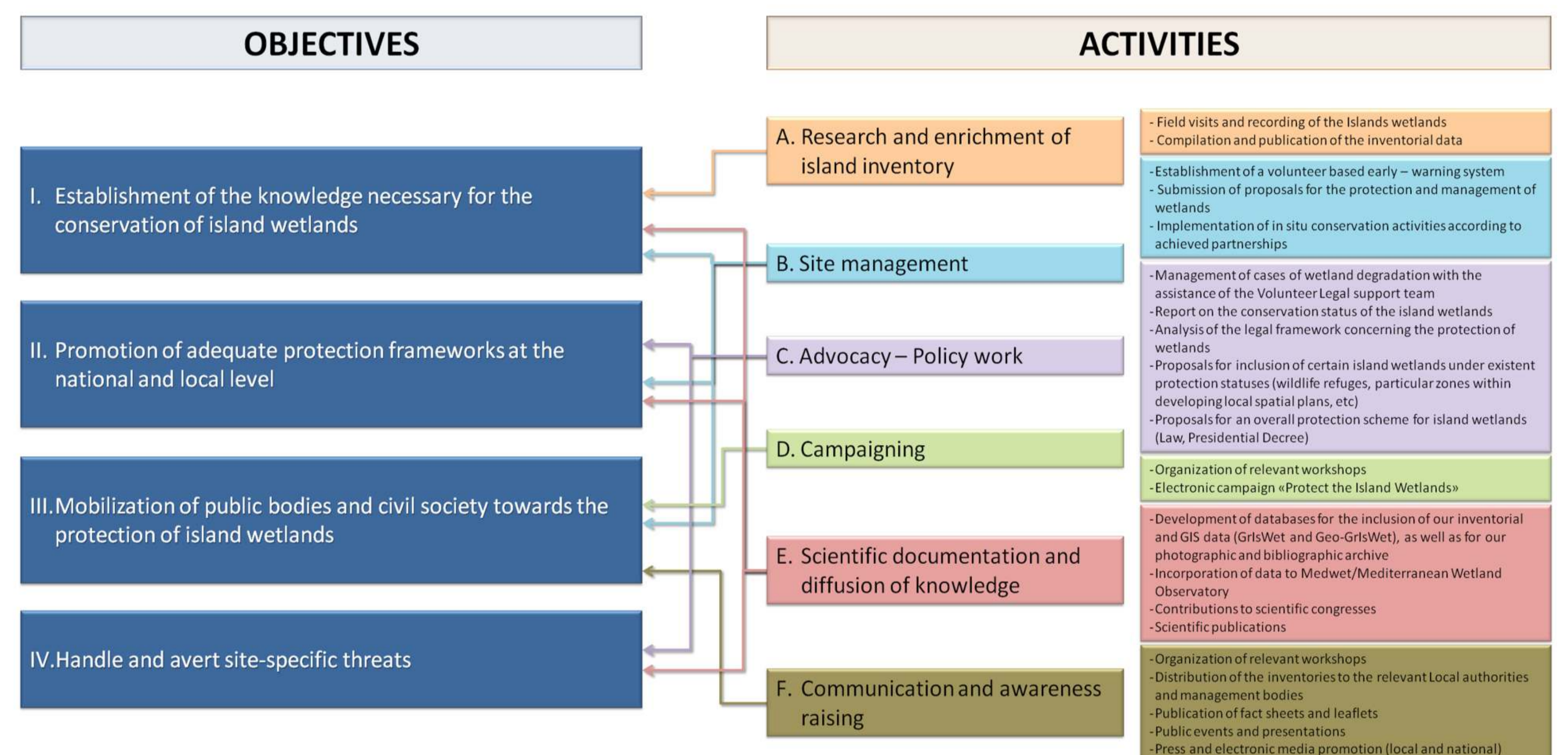
- Development and enrichment of four databases:
 - A bilingual (Greek and English) database (GrlsWet) for inventory data, fully compatible with the MedWet database.
 - A GIS geodatabase (Geo-GrlsWet) including wetland locations and delineations, geographic information and the protection status (SPA, SCI, Wildlife Refuges, etc).
 - A bibliographical database, which contains 1500 titles of scientific papers and studies relating to island wetlands (now holding 573 papers in pdf format), and
 - A photographic and video keyword searchable database, now holding >60,000 from 750 wetlands and video footage from 420 wetlands
- Organization of three expert meetings
- Contributions in 18 scientific conferences
- Publication of the preliminary results of the Aegean Island Inventory²

Site management:

Establishment of volunteer based Early-Warning System in Crete and 6 Aegean islands (Lemnos, Lesvos, Paros, Andros, Skyros and Kos)
Corporation with the Environmental Educational Center of Ierapetra (Crete) in the establishment of the Regional Network of Schools for the monitoring of the Cretan wetlands and continuous support with scientific advices, lectures and field excursions.
Preparation of 4 technical studies for the restoration and conservation of 13 wetlands (1 in Attiki, 2 in Crete and 10 in Paros island)

Methods

Our initial efforts focused on developing internal capacities and infrastructures to carry out the extensive documentation. In following, we developed a series of activities to designate specific conservation measures and promote their application, and to mobilize central and local government in this direction. The project activities were designed under six main axes: research, site management, advocacy/policy work, campaigning, documentation and communications/awareness. Each of these axes is related to one or more of the project objectives, as roughly depicted in the graph.



Some facts about the island wetlands of Greece

- ✓ A total of 824 wetlands larger than 0.1ha have been located on 75 islands (98 in 8 Ionian Islands, 499 in 64 Aegean islands and 209 in Crete and 2 satellite islands). Of them, 588 are natural wetlands and 236 are artificial (mainly dam lakes and reservoirs)
- ✓ The vast majority of the natural wetlands are coastal (88%), groundwater-fed, with fluctuating salinity or they are small estuaries of seasonal streams/ rivers in combination with or without coastal marshes (Fig.1).
- ✓ Island wetlands are covering a total area of 100 km². Most of them are small. Only 24 wetlands are over 100 ha (2.9%), 96 wetlands (11.7%) are between 10 and 100 ha, 91 (11.0%) are between 5 and 10 ha, 247 (30.0%) are between 1 and 5 ha, and 366 (44.4%) are below 1 ha.
- ✓ 36% of the natural wetlands is highly modified or totally changed and another 28% is partially modified, while only 10% are still untouched. In order of impact, clearing, filling with rubble, building and road construction, pollution, draining, over-pumping, deprivation of fresh-water inputs and over-grazing are the main drivers of degradation (Fig.2).
- ✓ Less than half (44.8%) of the natural wetlands are under some protection status and surprisingly only the 10.7% of them are protected as wildlife refuges.
- ✓ Out of the 588 natural wetlands inventoried only two (!) are adequately protected and have some kind of sound environmental management. At least 45 wetlands have been totally destroyed during the last 3 decades.

Communication and awareness raising:

Publication of 2 booklets delivered mainly to schools
Production of 22 large colored maps with the locations of wetlands and the protected areas of islands or group of islands.
Distribution of specific inventories' data to all relevant authorities and stakeholders
Series of public awareness activities (workshops, public events, publications and presentations)
On line inventory data and fact-sheets for every wetland surveyed
Press and electronic media promotion of all activities.

Avocacy - Policy work:

More than 70 cases of wetland degradation were handled. Particular protection measures were promoted in 8 cases.
Memos with all necessary inventorial and cartographic data were submitted to relevant authorities at all levels (central, regional, prefectural and municipal) asking for the inclusion of wetlands under the currently assembled Local Spatial Plans and/or General Urban Plans. So far, 53 wetlands have been included as Areas of Special Protection
Memos with all necessary inventorial and cartographic data were submitted to relevant authorities for inclusion of 30 wetlands for protection as Wildlife Refuge Areas. So far 5 wetlands of Lesvos island have been included in this protection status.

In late October 2009, WWF Greece prepared a memorandum entitled "Proposal for a comprehensive legislative framework to protect the biodiversity of Greece" which was undersigned by 9 other national NGOs and was addressed to the Ministry of Environment. This proposal has played a significant role to the compilation of the Biodiversity Law .that foresees provisions for small wetlands. Amongst others, the law incorporates our proposition under the Article 13 ("Special arrangements for the protection of the countryside") for the identification and delineation of the "small" wetlands which are located on the islands or the mainland and are up to 8 ha in area. These will be protected in accordance with the provisions of the Biodiversity Law and other environmental legislation.

We provided all the necessary inventorial and cartographic data and we worked closely with the minister's advisors preparing a draft Presidential Decree entitled "Inventory of small wetlands and establishment of measures and procedures for their protection and conservation". In addition we provided a supportive report³ and we worked closely with the GIS specialists of the Hellenic Mapping & Cadastral Organisation to prepare the maps with the exact delineation of 461 natural island wetlands. The Presidential Decree concerning the protection of 380 island wetlands was signed by the Minister of Environment on February 1st, 2012 and will hopefully will be activated in a few months.



Fig. 1. Common wetland types.



Fig. 2. Degradation activities.

References

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