

The Heritage Management of Wetlands in Europe

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Cover illustration: The Biskupin fortified settlement, Poland. In foreground, Bronze Age wooden posts in situ being sampled for dendrochronology, and parts of the structure preserved by the surrounding wetland. In background, a house and walkway re-created for public display. The site and its wetland are protected by national legislation. Photo John Coles.

12: Greece

Christina Marangou

Abstract: *Greek wetlands belong to a variety of types and are of different dimensions and importance. They are not preserved to the same degree, nor do they confront the same difficulties. Prehistoric to last century remains have been found in relationship to wetlands. As there is no overall system for their management as yet, the paper describes representative situations in a variety of wetland types under dissimilar regimes, confronting different problems. Monuments of several archaeological periods, categories and areas were selected. The choice of examples was guided by the availability of information on sites and the existence of serious attempts at management, as, sometimes, there may be scarcely any management, or monuments may remain unidentified. Attitudes to deal with challenges reflect a diversity of concepts and possibilities.*

Introduction

During the last two generations, Greece has drained two thirds of its wetlands, mostly for combating malaria and for land acquisition. Of the 378 Greek wetlands, which cover 200,000 hectares, half the area and 70% of the number are inland wetlands (fig.12.1) (Gerakis & Koutrakis 1996, pp.70–72; Katsadorakis 1999, p.67; for details: EKBY 1995). Wetlands are still threatened: general development policy and measures for its application aim at a maximum economic benefit in the shortest time from the exploitation of natural resources (Gerakis 1990, p.590; Gerakis & Koutrakis 1996, p.69).

Wetlands and water are often mentioned in Greek mythology (Papayiannis 1990, pp.159–161; Soueref 2000b). River-gods had their territory and local cult. Nymphs lived in reed-beds, lakes and sources and protected them. Hercules' labours are connected to wetlands. Ancient writers mention them, including Herodotus who referred to a lake settlement. A temple in Sparta was dedicated to Lacustrine Artemis and lake Stymphalia belonged to her. A sanctuary or oracle of the dead was built by the river Acheron on the bank of lake Acherousia, believed to be the gate to the World of the Dead. Interventions on wetlands were attempted already in antiquity, in order to resolve problems such as flooding, malaria, and irrigation.

Remains from prehistoric to post-medieval periods are preserved in Greek wetlands, as well as traditional constructions and activities, and intangible heritage, such as legends and tales (Papayiannis 1990, appendix I, pp.172–174, 164–165; Soueref 2000a; Peri Ydaton 2000).

Legislative framework

Article 24, paragraphs 1 and 6 of the Greek Constitution (1975/86) stipulates that the protection of the natural and

cultural environment constitutes a duty of the State, which is bound to adopt special preventive or repressive measures for the preservation of the environment. Monuments and historical sites shall be protected by the State. Act 5351/1932 on antiquities, for the protection of pre-1830 monuments, stipulates that pre-1453

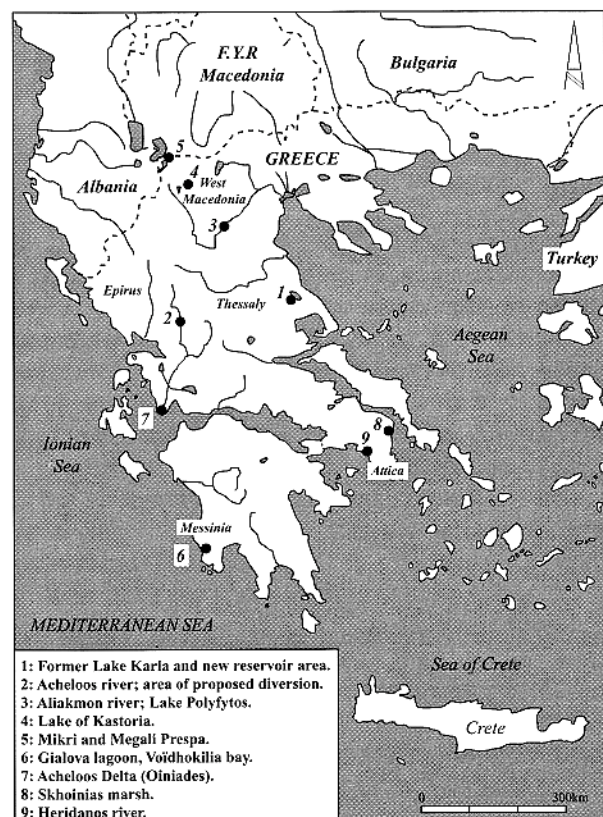


Fig.12.1: Map of Greek wetlands showing archaeological sites or areas mentioned in the paper (Adapted from Gerakis and Koutrakis 1996 with kind permission of the Hellenic Biotope/Wetland Centre).

monuments are to be surrounded by a protection zone within which all construction and alteration work are prohibited unless specially authorised by the Ministry of Culture (YPPO). Act 1469/1950 concern sites of exceptional value, historic sites and post-1830 monuments.

The UNESCO recommendation (1972) concerning the protection of the cultural and natural heritage was ratified by Greek Law 1126/81 (Konsola 1995, pp.74, 211, annex II), and the Granada Convention by Act 2039/92 (ICOMOS 1995).

Act 1650/86 on the protection of the environment is the law implementing article 24.1 (Trova 1992, pp.122–123). Act 996/1971 concerns national parks, 'aesthetic' forests and monuments of nature, and Act 998/1979 forests. Act 191/1974 ratifies the Ramsar Convention (review of Greek environmental legislation: OCDE 2000, pp.223–227). All designated Greek Ramsar sites have now been delineated (M. Anagnostopoulou, *pers. com.*)

Even with a protective legislation, there is a clear continuous effort to circumvent the restrictions, on grounds of the 'promotion' of development (Konsola 1990, pp.100–101). International conventions and directives, or national law for the protection of the environment, are not always satisfactorily applied, as conflict of interests and lack of political will may hinder application of protection measures (Jerrentrup & Lösing 1987; Koutrakis & Koutrakis 1995; Gerakis & Koutrakis 1996, p.69). Menoudakos (1998, p.133) recommends the establishment of a special management regime for protected areas and the creation of management bodies with executive power, locally based.

The responsibility for protection of the cultural environment and heritage belongs to the YPPO. The Ministry of Environment, Planning and Public Works (YPEHODE) is responsible for the protection of environment. In 1997 YPEHODE created information centres in Ramsar wetlands, working on planning contracts with local authorities (OTA) and development agencies (Blionis & Yannakon 2000). These contracts were established by Act 1416/84 on decentralisation and local administration (Konsola 1990, p.81). OTA, municipalities and the development agencies of prefectures play a subsidiary role that could be reinforced (Tahos 1998, pp.171, 200–201). Since archaeological and historic sites are part of the cultural identity of the region, regional and cultural politics should be combined. Cultural associations and local press contribute to saving and promoting the cultural identity of regions; this is the dynamic form of 'development from below' in decentralisation (Konsola 1990, pp.33–34, 101, 107–8).

It must be noted that a revision of the Greek Constitution will be discussed in the Parliament. Among others, articles 24 and 95, the latter stipulating the

responsibilities of the Greek Council of State (GCS), will be modified (Venizelos 2000, pp.122–123, 172–173). Besides, a new Archaeology Act is in preparation (Tiverios 2000).

A number of cases, each with its problems and methods, are discussed below in more detail, in order to illustrate the situation of archaeological heritage management in Greek wetlands.

Restoration of lost wetlands: The case of former Lake Karla (Thessaly) (fig.12.2 & 12.3)

Had Lake Karla (Voivitis) existed today, it would have been one of the five most important of Greek wetlands from the ecological point of view (Babatziropoulos & Antonopoulos 1990, p.465). It is an important area for birds, situated in the south-eastern part of the Thessalian plain, and its abundant fish saved and nourished Northern and Central Greece during German occupation (Exarchopoulos 1999, pp.47, 63).

Karla was relatively shallow (4–6m) (Exarchopoulos 1999, p.45). Its extent varied from 4,500 to 18,000 hectares depending on rainfall and floods from the river Peneios. Floods, malaria and the need for agricultural lands resulted in its draining towards the Pagasetikos Gulf in 1962. There was neither a study of environmental impacts nor any objection. An initially planned reservoir was not completed (Koutseris 1990, p.544; Exarchopoulos 1999, p.85–86). The negative results accumulated: soil salinity, floods, sea pollution, change of the microclimate, lowering of the aquifer, subsidence, and also social consequences, such as migration of fishermen, who did not obtain land (Exarchopoulos 1999, pp.1, 15–17, 89, 118; Valaoras 1998, pp.774, 776).

Lake Karla is rich in mythology and ancient history. In the earlier Holocene it may have had 20m depth and must have been larger, reaching to the Peneios, as is shown by the distribution of Neolithic settlements identified during surveys (Grundmann 1937, pl.37; Gallis 1992, maps 1 & 3; Palikaridou 1998, p.53), which show dense occupation around its shores. Ground water was possibly at 4–9m below the surface, one more reason to attract settlement (Exarchopoulos 1999, p.35). Grundmann (1937) and other archaeologists have confirmed that the level varied considerably, resulting in significant shifts of the shoreline (Palikaridou 1998, pp.52, 112). Diachronic changes of hydrology have been studied by Helly *et al.* (2000).

In the Neolithic, the hills of Petra (with impressive Mycenaean walls), Hatzimissiotiki Magoula and Sifritzali were islets in the lake (Exarchopoulos 1999, p.59). Hatzimissiotiki (Grundmann 1937) was an island till 1962, used by fishermen as a station (cf. Palikaridou, 1998, pp.60, 68, 71). In the classical period, the lake waters had retreated; large extents of land were available for



Fig.12.2: Former lake Karla (south-eastern Thessaly) in 1952. On the foreground, Hadzimisiotiki, an island then, as in the Neolithic, used as a fishing station. Part of a Neolithic site was excavated here in the 1930s. (Takis Tloupas, exclusive copyright).

cultivation in the Hellenistic and Roman periods (Helly *et al.* 2000, p.22). There is also an amazing ethnographic/cultural wealth related to the lake. Nine months a year, Karla fishermen lived in reed-and-straw huts (Exarchopoulos 1999, pp.70–71), part of their fishing weirs (EKBY 1999, p.87).

The exact impact of the draining of Lake Karla on archaeological evidence is unknown, not least because exhaustive survey was not carried out prior to the drainage. As around the Federsee in North Germany, or Fiafé in northern Italy, little of Lake Karla's archaeological and palaeoenvironmental heritage would be known from surface features alone. When it was

drained, and the shoreline receded, buried waterlogged deposits will have been desiccated and degraded. Perhaps the most important question now is whether or not anything of significance remains in the deeper levels.

The acute problems after draining created an unprecedented consensus to 'restore Karla', that is, to create a 3,800 hectares reservoir (YPEHODE 1999, p.19) with ditches, and water pumping stations (Valaoras 1998, p.775). It seems impossible to restore fully wetland habitats, because of the relative depth and the big yearly variation in the level of the reservoir (EKBY 1999, p.88). According to Valaoras (1998, pp.775, 779), the case presents challenges, due to the severely deteriorated



Fig.12.3: Former lake Karla (south-eastern Thessaly) after draining in 1962. The boats are of a particular local type. (Takis Tloupas, exclusive copyright).

ecological conditions, the multiplicity of objectives, and the need for integrated management planning of the entire Karla catchment. The restoration may halt the degradation of waterlogged deposits to some extent, but it cannot put back the original richness of evidence. However, to preserve and promote the cultural and historical heritage, some of the former habitats, huts and boats will be reconstructed in a 30 hectares wetland near the reservoir (EKBY 1999, pp.88–89).

The creation of an anthropological and ethnographic eco-museum, promoted, among others, by the Centre of Research of the Culture of Lake Karla (Exarchopoulos 1999, p.143), also intends to help eco-tourism in this area, rich in monuments, traditional settlements and cultural values (Exarchopoulos 1999, pp.128, 131, 146). An information centre, tourism infrastructure, access roads, recreation areas and activities are planned (YPEHODE 2000).

A list of identified sites of all periods in the area of the works has been prepared by the YPPO. Local Ephorates will supervise the restoration works; the enterprises will fund possible excavations and study of finds (Exarchopoulos 1999, p.157). The museum should be constructed according to YPPO's suggestions and possibly receive archaeological finds (YPEHODE 1999, pp.16–18). The awareness of archaeology and its incorporation into the planned 'development' is a contrast to the 1960s drainage.

The Acheloos river diversion (Aitolokarnania - Thessaly) (pl.12.1)

The sources (Epirus) of the second longest Greek river, the Acheloos, are included in the Natura 2000 network and its Delta area, which is within the Mesolonghi wetlands (Aitolokarnania), is a Ramsar wetland and a Special Protected Area (directive 79/409/EEC) (Vasilakis 1999).

The Acheloos was dammed at the start of the systematic development of hydroelectric energy production in Greece. Four units already function along its course, the construction of two others being in progress. The diversion of the river would cause it to flow, instead of westwards to the Ionian Sea, eastwards through Thessaly and to the Aegean. This has been on DEH's (Public Electricity Enterprise) agenda since 1983 (Leontaritis 1999). This may be one of the most discussed and complex and largest technical works ever to be done in Greece. Its negative results for the lagoons, habitats, and wet meadows of the Delta and the biotopes of the upper river area have often been stressed (Vasilakis 1999), as has the submergence of archaeological monuments and villages due to the construction of dams.

A smaller diversion (50% of the Acheloos water), as decided later, would damage DEH's interests, but the organisation still hopes to persuade the state to contribute

to the construction of two more hydroelectric stations (Kakoulidou 1999). Acheloos would help irrigate Thessaly, prevent falling ground water and preserve the Peneios ecosystem. It has been pointed out that nowadays Acheloos 'does not have a natural behaviour' at its delta, since there are already three reservoirs and dams on its course (Leontaritis 1999). Artificial lakes have already submerged the temple of Panayia Preventza and the Episkopi of Euritania (thirteenth century); their frescoes had previously been removed (Paliouras 1999).

The wetlands of the Acheloos delta region are likely to hold a complete archaeological and palaeo-environmental record, which will however have little surface expression to attract the attention of those involved in planning the river diversion. The record in the upper reaches may be less diverse but still of significance, comparable for example to those from the upper Seine in France or the Po in northern Italy. Already, the hydroelectric works on the river will have affected wetland deposits, and destabilised them wherever the former hydrological regime has been altered. Further works will aggravate the situation, with diversion of the river having serious adverse effects.

In addition to loss of wetland archaeology, the 'development' of the river will affect historic buildings and bridges associated with its past. One of the monuments to be submerged, the Monastery of St George of Myrofyllo (Paliouras 1999) is under repair by the programme LEADER (Euthymiopoulos *et al.* 1999, pp.115, 117). Also threatened are old stone bridges, such as at Petroto and Mesokhora (Tasios 1999), the network of traditional hostels (khania), and partly preserved stone-paved paths along the river (Provopoulos 1999). Other as yet unknown monuments, sites and towns will remain unknown in the absence of systematic survey in this enormous area (Euthymiopoulos *et al.* 1999, pp.115, 117).

YPPO has asked for documentation and inventories of all the monuments that will be submerged (Euthymiopoulos *et al.* 1999, p.115; Tasios 1999) and suggested removing parts of the Monastery. YPEHODE proposed videotapes, scale models and transfer of frescoes (responsible YPEHODE department, *pers. com.*). A proposition to 'encapsulate' the monument has been made (Myrofyllo 1997, p.41). Local associations asked to have it transformed into a Museum. Hatziangelakis (1999) proposed to create a museum of the movable finds in one of the ancient castles or settlements on the Thessalian side of the river; these could constitute an archaeological network and cultural itinerary in combination with the works of the diversion. None of this, however, preserves the integrity of the river's heritage, nor will it advance the management of any remaining waterlogged deposits.

Damming a river to retain water for hydroelectricity schemes also threatens archaeological remains by erosion. This is illustrated by the situation in another Greek river,

on the middle course of the Aliakmon in Western Macedonia. The Polyfyto lake created by a dam for the construction of a hydroelectric station (1975) is in constant extension with more and more sites from the Neolithic onwards destroyed, or in danger of erosion and looting of thus uncovered finds (Chondrogianni-Metoki 1996). In anticipation of the construction of a new dam, there was systematic survey and selective salvage excavation covering an area 30km x 2km, which revealed about a hundred settlements and cemeteries of various periods (Chondrogianni-Metoki 1998; 1999). Artificial lakes along the Acheloos will have similar damaging effects.

To return to the Acheloos, in 1994 and 1995, appeals by NGOs against its diversion resulted in decisions by the GCS invalidating the decisions in favour of the works, since no environmental impact study had been prepared. This was subsequently done very quickly, and the diversion works have continued since, as the diversion itself was never called into question (responsible YPEHODE department, *pers. com.*), although a second appeal was tabled in 1996. The GCS decision on this appeal, published in November 2000, invalidated the approvals of the works as violations of the Granada Convention (Th. Nantsou, *pers. com.*).

According to an ICOMOS: Hellenic (2000) conference, studies for the protection of environment and heritage and evaluation of monuments and historic sites were done very fast and included no estimate of the loss of ethnographic, social and anthropological elements. The rich fauna and flora of the area will disappear under the yearly fluctuation of the lake surface. The revival of discussion around the theme of protection was considered to be an immediate objective.

At the time of writing, the November 2000 decision of the GCS, together with the outcome of the ICOMOS: Hellenic conference, suggest a greater realisation of the consequences of diverting the Acheloos. The impact on standing buildings has now been made apparent and it is to be hoped that the activities of the European Archaeology Council will draw attention to the equally significant buried heritage of the wetlands of the Acheloos valley and delta.

Western Macedonian lakes

The Dispilio (Kastoria) lakeside settlement reconstruction and eco-museum (pl.12.2)

Lake Orestiada in the Kastoria basin at 620m above sea level has a surface of approximately 28km². Its level can be regulated artificially (average depth 4.5m), and ground water fluctuates periodically (Vafeiadis 1983, pp.46, 115–116, 119). The lake, included in the Natura 2000 network, is an Important Bird Area, and a place of special aesthetic beauty.

Systematic excavations started at Dispilio, on the southern bank, in 1992, under the direction of George Hourmouziadis (1996), revealing a sixth to fourth millennium BC settlement. A reconstruction of a prehistoric lakeside settlement was realised in an area of 2 hectares, including reception and recreation areas (Makednon Municipality 1999). A museum, an information and promotion centre and workshops for the finds will be incorporated. The work was carried out through a contract between the Municipality of Dispilio, the Ministry of Macedonia and Thrace, Aristotle University of Thessaloniki and the Development Agency of Kastoria (ANKAS 1999, pp.3, 8, 11).

Eight 'thematic' wooden huts of various dimensions were constructed, four on wooden platforms within the lake, and four outside the lake, combining elements from different phases and practices based on the fragmentary excavation data (Hourmouziadi *et al.* 2000). Construction was also partly based on stability and feasibility reasons and the wish to 'use uncertainties and open questions' (Almatzi *et al.* 1999), in a combination of contemporary methods and those 'presumed to have been used by prehistoric constructors'. Experimental archaeology was not the sole goal: it was abandoned when other priorities imposed this, for example, whenever the time, labour and money required would be disproportionate to the possibilities and intentions (Hourmouziadi *et al.* 2000).

Material found during excavations at Dispilio and elsewhere was used as well as material for which it was 'presumed that it must reasonably have existed'. The approach is based on the 'horizontal community of features of Neolithic settlements' and the 'chronologically vertical community of lake settlements' including ethnography. The reconstruction is not meant as a final answer, but as a basis for discussion (Almatzi *et al.* 1999). The result addresses all visitors, each one selecting according to their own knowledge and interests (Hourmouziadi *et al.* 2000). The Dispilio reconstructions are important for raising public awareness of the past, and especially of a past that was not 'monumental'. As at Chalais (Pétrequin, this vol.) or on the Federsee (Schlichtherle, this vol.), reconstructions based on wetland evidence can appeal directly to the visitor.

The wetland - National Park: Lakes Mikri (Little) and Megali (Great) Prespa

Mikri Prespa and Megali Prespa, the highest lakes in Greece (Mikri: 853.5m; Megali: 850m above sea level; maximum depth 8.4m and 55m), are situated at the frontiers with Albania and FYROM and divided from each other by a peninsula 4km long, and 200–1000m wide. Mikri Prespa's level varies during the year by between 0.8m to 1.8m (Katsadorakis 1996, pp.8, 9, 11).

Mikri Prespa is a Ramsar wetland, declared a National Park in 1974, an Important Bird Area and an area of

community interest (Natura 2000) (Katsadorakis & Malakou 1997, p.189). In 1975 the lakes and their periphery were declared a Site of Exceptional Natural Beauty. This is one of the very few wetland areas where so many funds have been granted for economic development and nature promotion, and the lakes were the object of the first integrated studies of nature and wetland landscape management done in Greece (Gerakis & Koutrakis 1996, pp.185–186).

Prespes is both a national park and a Ramsar site. The Forestry Department of Prefectures is responsible for the management of national parks, while Ramsar wetlands fall under the jurisdiction of YPEHODE (Kasioumis 1995, pp.505, 509). Forest Law concerns areas without human permanent settlements, but in Prespa with its 28,000 hectares, 12 villages and 1,300 inhabitants, conditions are different (Katsadorakis 1996, p.182). Protected areas are zones of strict protection of nature without any human intervention (Kasioumis 1995, p.495). Yet, in cultural landscapes such as Prespa, it is difficult to distinguish what is natural and what is not: here the conservation of habitats and wildlife is based upon coexistence with man and his cultural activities, such as fishing and animal husbandry. What is required is 'not to reach as much a natural state as possible, but as much an ancient man-made state as possible' (Katsadorakis & Malakou 1997, pp.94, 176–195). Landscape, biodiversity and culture are the main values of the Prespes (Gerakis & Koutrakis 1996, p.186).

A local non-profit organisation, the Society for the Protection of Prespa (SPP), has experimented since 1997 with a three-year reed management plan (Katsadorakis 1996, p.119) in the Pyli area. It received in 1999 a Ramsar international award, in the NGO category, for its pioneer methods of management and protection. Active contribution of local communities to the protection of the area is SPP's basic philosophy.

According to local oral tradition, all the settlements of the area were once on the banks of the lakes. Malaria, rising water levels and defence reasons made the inhabitants move to higher or more isolated areas (Karadedos & Tsolakis 1998, p.12). The oldest traces of settlement date from the Bronze and Iron Ages (Katsadorakis 1996, p.32), Hellenistic and Roman vestiges exist on St. Achilleios islet (initially a peninsula) and on the shores of Little Prespa, while a medieval city developed on the islet since the eighth century (Theologidou 2000). At the bottom of the lake a Byzantine paved road, and among the reeds the tower of the citadel gate can be seen (Païsidou & Theologidou 1998a). Most standing monuments are Byzantine or post-Byzantine churches, and a number of hermitages are attested since the thirteenth century on the Megali Prespa shores (Theologidou 2000). Some rock paintings may be vestiges of abandoned hermitages (Païsidou & Theologidou 1998b), today inaccessible from land (Evgenidou *et al.*

1991, pp.50–53). All of this evidence around the lakes suggests that there will also be evidence buried in the waterlogged deposits of the lake margins, similar to those known from the circum-Alpine lakes.

Deterioration problems of the standing monuments are due to devastation, abandonment, and exposure to weather conditions, decay (particularly for mud mortars) and bombardment during World War Two. In 1995, the eleventh Ephorate of Byzantine Antiquities (EBA), responsible for the safeguarding of Byzantine and post-Byzantine monuments, in collaboration with the Prefectoral Administration of Florina, started a project, financed by the European Union and the Greek State, for the repair, consolidation and promotion of monuments. The project includes drawings of the present condition, archival research and archaeological excavations. Interventions are minimised, so that the authenticity and historic value of the monuments be preserved. Notes, photographs and samples of building materials taken during the works are being studied further and analysed (Theologidou 2000).

On the 2000 World Wetlands Day (2 February), the Prime Ministers of Greece, Albania and FYROM, meeting at Prespes, declared the creation of a transfrontier Prespa park. This will include the environmental protection and sustainable development of the Prespa lakes and their surroundings. Co-ordination of management of natural ecosystems in the broader area is their first objective (M. Anagnostopoulou, *pers. com.*). It is to be hoped that in addition to this welcome development, and the on-going work on surrounding monuments, the potential of the buried waterlogged heritage will be recognised, leading to assessment and protection.

Coastal wetlands

'Sandy Pylos': Gialova lagoon and Voïdhokilia bay (South-Western Peloponnese)

Homer's 'sandy Pylos' is in Messenia and consists of a coastal plain to the north of the Navarino gulf, the Gialova lagoon and Divari (vivarium, used for pisciculture), and to the NW, Voïdhokilia bay, open to the Ionian Sea, the latter declared a Particularly Beautiful Landscape. Gialova is a Natura 2000 site and an Important Bird Area. The coastal wetland and periphery reach 700 hectares (Gerakis & Koutrakis 1996, p.328).

Gialova has brackish water and communicates with the Navarino gulf by means of a narrow channel. Mud flats and wet meadows are inundated most of the year. In the Voïdhokilia sand dunes, African Chameleon and Sea turtle (*Caretta caretta*) breed; they are included in a LIFE-Nature project (Gerakis & Koutrakis 1996, p.327–9; Bonetti 1998a; 1998b). Gialova was damaged by channels, ditches and roads, and its size reduced by draining in the 1950s.

There are an estimated 700 pre- and protohistoric sites in the prefecture of Messenia. In the area considered here sites are known from the Neolithic onwards. In recent times the famous battle of Navarino, which gave Greece its independence, took place in the gulf, attested by sunken ships still lying on its bottom, near the eastern coast.

Excavations have revealed important sites around these wetlands (Korres 1985; Yalouris 1966; 1968). One understands then the objections to the planned construction of a national road by the wetland, between Gialova and Pylos (Korres 1998). To these are added objections to the creation of a large (770 hectares) luxury tourist resort near Pylos in an Area of Integrated Tourist Development (POTA), considered a danger for the environment, as well as for the antiquities. The project will bring enormous changes, in particular if there is no previous study of environmental impact, no previous intervention for the protection of monuments nor a study for the wise use of natural resources. It involves extensive road works, construction of two golf courses, a congress centre, water-pools (Ta NEA 1999). These concerns were also expressed in a question at the Parliamentary Assembly of the Council of Europe (1998).

After basically negative reports by the responsible Ephorates and objections, the Central Archaeological Council (CAS) finally voted (1999) to accept delineation of the resort areas under certain conditions, namely to guarantee timely archaeological research in the area, funded by the enterprise. If antiquities are found, the enterprise must enhance them and possibly change plans of buildings and access routes. Free access to archaeological sites should be guaranteed, neither constructions nor interventions should be done on the coastline zone ('aigialos') and in the maritime area. The plans of any constructions should be presented to the CAS (Parnassas 1999). As stated above, where a conflict of interests like this involves wetlands, it is important that all parties are aware of the potential for waterlogged archaeological and environmental remains, and that the protection and management of these is built into the decision-making process.

Mesolonghi wetlands (Aitolokarnania)

Deltas, lakes, bays, lagoons, including the Mesolonghi-Aitoliko lagoon which is a Ramsar wetland of 14,000 hectares, forests and a rich cultural heritage with traditional settlements and monuments of all periods coexist in Aitolokarnania, although only 100 out of 5,000 hectares of marshes are left (Katsadorakis 1999, p.192). Local agencies (law 2742/1999) are charged with the management of the wetland resources and the preservation of their aesthetic and ecological value (Pergantis & Petrou 2000).

The coastal marshy environment offered safety and abundant food resources: important cities flourished here in antiquity (Gerakis & Koutrakis 1996, p.281). Oiniades,

in a very strategic position (Moskhos 1999), had a monumental fortification, a theatre, an important port with shipsheds for its warships and other public buildings (Kolonas 1992). Its territory extended on both banks of the Acheloos (Schoch 1997, pp.52, 54–55). Initially a coastal city (Kolonas 1992) on the estuary, and later joined to the mainland it then became a hill in the shallow lake-marsh Meliti (Pergantis & Petrou 2000, p.24). The marsh was drained in the 1930s (Gerakis & Koutrakis 1996, pp.272, 276). Currently the monuments are often flooded because of the high aquifer.

A new YPPO sub-programme on 'Promotion and Enhancement of Ancient Oiniades', in the framework of a programme including the towns Pleuron and Palairos, has recently been approved (2001–2007). It will include research, consolidation, further excavation and management of Oiniades into an organised archaeological site (sixth EPCA; Y. Moskhos, *pers. com.*).

Skhoinias (Attica)

On the north-eastern coast of Attica, where wetlands are rare, Skhoinias, with its noteworthy flora and fauna, is of primary importance for the area. The 40 hectares of remaining marsh take water from rainfall and the Makaria source. To the south, a coastal pine forest still exists (3km x 400m) (Gerakis & Koutrakis 1996, p.331). Skhoinias was *not* included in the Natura 2000 network. Coastline changes had repeatedly modified the environment in prehistory (Baeteman 1985).

Important remains have been excavated in the area (Travlos 1988, pp.216–223). The marsh and forest are mentioned by Pausanias in connection with the battle of Marathon against the Persians in 490 BC. The victory messenger ran the first Marathon starting from this area. This brings us to the 2004 Athens Olympic games: at the time of writing, the construction of rowing and canoeing facilities is planned to cover a significant part of the Skhoinias wetlands; the latter will be declared a national park. Objections have repeatedly been expressed by environmental NGOs (Athens News 1996; WWF 2000). Here, then, is a further example of an ancient wetland, with both archaeological and environmental potential, where these heritage values need to be taken into consideration in the debate over its future.

Heridasos: the City river (Athens, Attica)

Its 'rivers' of discontinuous flow were never sufficient for Athens' needs (Kokkou 1989, p.154); they nevertheless influenced its development. 'Heridasos, the river of the ancient city' has been included in the environmental themes of the Department of Educational Programmes, Directorate of Prehistoric and Classical Antiquities, since 1992, after the initiative of the Council of Europe 'Europe seen by its rivers', as well as in the European Heritage Days 1999–2000, under the general theme of 'Water of Life' (Chryssoulaki 2000; Pini 2000).

A part of Heridanos is preserved in the Kerameikos ancient cemetery. Besides, during the Underground construction (1993), its bed was identified at 6m under the surface, excavations discovered some more parts and its course was reconstructed (Pini 2000; YPPO & EYDAP 2000). The CAS decided that the section discovered in the Monastiraki area will remain visible; the river will receive water from its own sources (Dizelou & Tsinari 2000).

Conclusions

Archaeological heritage management of wetlands in Greece is not centrally regulated, but protection of both cultural and natural environment is a duty of the State. Much depends on local initiatives and possibilities. Regional Ephorates of Antiquities, local authorities and environmental or cultural organisations may play an important role.

Problems are often created when there is conflict of interests, in particular if economic developments such as energy production and tourism prevail over culture and nature. Lack of political will in such circumstances is of course decisive. This is understandable in a country where water is precious and water resources have always been either exploited, rivers as power generators, lakes as irrigation water providers, coasts as holiday resorts, or feared, as marshes and flooding lakes, which were drained. Nevertheless, water is also closely linked with Greece's remotest history as well as present identity. The wealth of natural, archaeological and cultural heritage probably constitutes the most important asset of Greece. When this is at stake, its preservation should carry weight.

Fortunately, much effort has been applied in recent years in some wetlands in order to enhance and protect their heritage and there is considerable work in progress. Besides, environmental impacts are now assessed, and the Archaeological Service presents its conditions, when 'Great Works' are planned, in particular in wetland areas. It is only to be hoped that previous negative experience will help evaluate ambiguous situations and that heritage management will in the future be more systematically and efficiently provided for. It is also to be hoped that all organisations and individuals concerned with wetlands will come to recognise the potential for buried,

waterlogged remains, in some contexts if not in all. To protect and manage these, they need to be identified, and methodical surveys for this purpose would be a welcome development in Greece.

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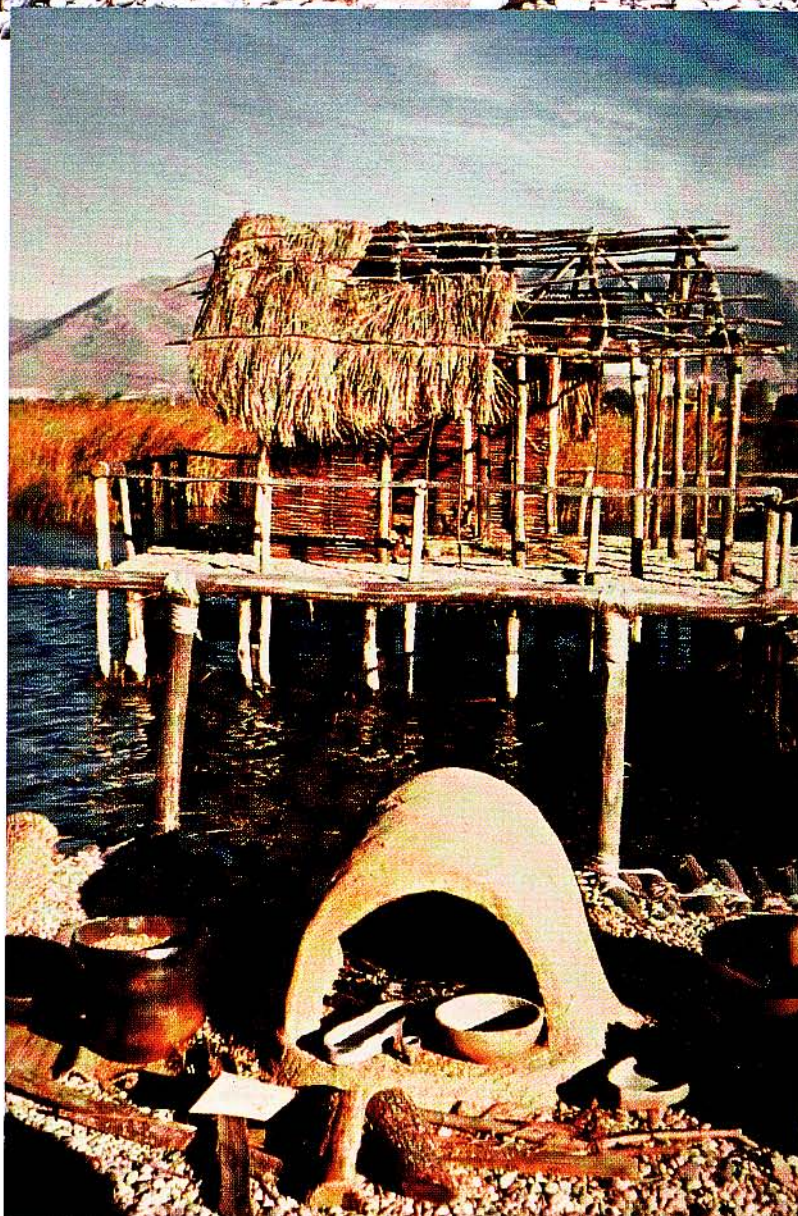
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Pl.12.1 (above): Remains of the multi-arched thirteenth century bridge of Koutsokamara on the Acheloos river, in the area of the construction of the Sykia dam, covered by rubble (Nikos Petrou).



Pl.12.2 (right): Dispilio on Lake Kastoria, Western Macedonia: A reconstruction of a Neolithic lake settlement (Ioanna Anagnostou 1999).