

# Culture and wetlands in the Mediterranean: Using cultural values for wetland restoration

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## Introduction – culture in wetlands conservation

Classic conservation methods tend to leave out certain important factors in the areas they want to protect, such as humans and many traditional activities. Protection measures in order to be successful need support from the local communities, which usually is hard to get because the people's needs are not taken always into consideration. However, taking into account both natural and cultural heritage into the decision-making and planning processes can increase public support, can increase visitation of sites, can make local economies stronger, promote sensitisation and build public pressure for more effective protection of wetlands.

Since its establishment in 2003, Med-INA has understood well that culture must be part of all sustainable wetland management plans. During the period 2004-2007, it started studying and analysing mostly Mediterranean wetland sites with important cultural values. In 2008, aiming to record and disseminate knowledge on culture and wetlands in the Mediterranean, Med-INA published the book 'Action for culture in Mediterranean wetlands' with the assistance of a wide network of collaborators, experts on conservation and culture. In 2008, Med-INA also assisted to the drafting of the Ramsar Guidance on Culture and Wetlands. In the framework of the project 'Cultural aspects of Mediterranean wetlands' and to show the benefits that can result from following the Ramsar guidance objectives, Med-INA also published the book 'Culture and wetlands in the Mediterranean: an evolving story' on the implementation of the Guidance in the Mediterranean Region.

The next step in Med-INA's work came in 2011 with the launching of the current project, which is again supported financially by the MAVA Foundation. The project aims to show how certain cultural aspects, the way they are described in the Ramsar Guidance can lead directly to more effective nature conservation actions, which take into consideration people who live nearby or visit wetlands; in order to apply this knowledge locally, three diverse Mediterranean pilot-sites were selected. It must be stated that MedWet is a valuable partner in this project, providing guidance and expertise. The project is now closing with this meeting, which focuses on a common factor for all three sites: tourism and how different its role may be as a cultural agent.

## Identification of three major wetland sites

So, three major Mediterranean wetland sites were selected as case-studies, one in the East, one in the North and one in the South Mediterranean. Those sites are Larnaka Salt Lakes in Cyprus, Lake Karla in Greece, and Lake Tunis in Tunisia. We are going to look briefly into each site's natural and cultural assets, the threats they are under and the main project activities that took place there.

### *Larnaka Salt Lakes, Cyprus*

#### **Natural aspects of the site**

In Cyprus, the Larnaka Salt Lakes, an important natural and cultural habitat since antiquity, are located in the southeast part of the island, and co-exist with the national airport. The lake complex consists of four interrelated lakes, the main one named Salt Lake (Alyki).

Alyki has a special high salinity that adds ecological value to the site that is an ideal environment for the reproduction of *Artemia salina*, the brine shrimp, upon which flamingos, emblem of the region of Larnaka, and other waterfowl feed. Other important elements of the biotope are the halophytic communities at the edge of the lakes, the Tekke forest, and the Paticheion forest. The complex is a Ramsar site, a Natura 2000 site, Special Protected Area and an Important Bird Area.

### **Cultural aspects of the site**

In Larnaka Salt Lakes, two important archaeological sites can be found. The first is a prehistoric settlement, which was a cosmopolitan harbour town dating from the Late Bronze Age (2000 BC), and one of the earliest known places of political organisation in Cyprus. Several studies show that the adjoining salt lake was navigable in antiquity, providing an ideal harbour. A second important archaeological site was discovered during restoration works in 2002 at the Hala Sultan Tekke, built on the lake shores, the findings dating back to the Late Archaic, Classical and Hellenistic periods. A statue of Artemis *Paralia* (*by the beach*, in Greek) was discovered in the salt lakes region, indicating the presence of a corresponding temple. This would have been a rare sanctuary as the sites where Artemis was worshiped are found usually on the mainland, suggesting that the area in ancient times was particularly rich in game. The lake complex was also the most important salina of the eastern Mediterranean during medieval times, salt being one of the most important products of the island for centuries and a source of great wealth. Alyki Lake also hosts the monument of Hala Sultan Tekke, where Um Haram, a relative of the Prophet Muhammad died. Today the shrine is considered one of the holiest sites for Muslims worldwide.

### **Threats and restoration actions**

Larnaka Salt Lakes face a number of threats, including eutrophication from the use of pesticides, urban pressures, pollution and waste dumping. It is managed though by the Committee for the Protection of the Larnaka Salt Lakes, which consists of representatives from all the responsible authorities. Many of the hazards that threatened the site in the past were dealt with successfully since the establishment of the Committee, such as uprooting alien tree species from the lakes' shores, fencing parts of the lake and progressively restricting dangerous practices around the site.

The project activities focused on organising promotional activities that direct visitors to the site, in areas with great visitation, like the Larnaka airport and port, and the Skarinou Centre of Environmental Education. More specifically, Med-INA installed educational panels and disseminated educational material to visitors and students, with the support of Larnaka Municipality, the Cypriot Organisation of Tourism and the Larnaka Tourism Board. At the same time, it promoted more solid synergies among local authorities and stakeholders and opportunities for long-term sustainability. It is worth mentioning that not all local stakeholders support such initiatives, though. After a few months of hospitality, Larnaka airport decided that they no longer wished to host the educational panel, so it was relocated to the Skarinou Center of Environmental Education. Med-INA wishes to express its appreciation for making this happen to both the Larnaka Municipality and the Skarinou Centre and is looking forward to continue its cooperation with them, ensuring that public awareness will continue to rise and promote restoration activities. You will hear more later today about the site from Mr Karakatsanis and Alexis Michaelidis.

## ***Lake Karla, Greece***

### **Natural aspects of the site**

In Greece, Lake Karla used to be one of the most beautiful Mediterranean wetlands, with very high biodiversity and lively culture especially in the local fisheries. It is located at the north-eastern part of Thessaly plain in Greece.

In the early 1960s, it was drained in order to provide land for agriculture and protect surrounding farmlands. However, the results were disastrous. The local fishermen economy was destroyed, the aquifer levels dropped, salt water intruded and salinated the fields, which were progressively abandoned and waste-water –formerly filtered by the lake– ended up untreated into the sea. A few years

ago, the government decided to restore Karla at a very high cost. This cost was covered in part by the EU, but the re-flooded lake resulted in a reservoir-like structure, and faced a number of environmental and management obstacles. But, after the re-flooding of the lake, waterfowl and wetland vegetation reappeared.

### **Cultural aspects of the site**

The broader area of the lake was inhabited since the Early Palaeolithic Era (30000-8000 BC). For centuries, the rich natural habitat supported more than a thousand fishermen and their families, being the largest lake of the country. It was also a hunters' paradise hosting the largest number of bird species, a number only to be surpassed by the Danube Delta in south-eastern Europe in the mid 20<sup>th</sup> century. The lake supported the socio-economic life of many villages and not just those found by its shores.

Lake Karla was a significant resource provider during WWII, when it supported the entire Thessaly plain population with fish. When it was drained, the fishermen's traditional way of life ended suddenly and they either became farmers or left to seek jobs in urban centres, becoming workers. However, Karla has not stopped to surprise us with its cultural wealth, as ever since the restoration works, new important archaeological findings keep coming to light.

### **Threats and restoration actions**

More and more today, the situation is described by some as critical. It is believed there are no adequate water quality monitoring mechanisms and no plans for alternative and sustainable agriculture. Untreated water is entering the re-flooded lake, and the smooth operation of the Management Authority of the Lake is going through some difficult stages regarding its financial and administrative status. You will hear later in detail more on the challenges Lake Karla faces by prof. Kagkalou and Maria Chamoglou who work for the area's management body.

Med-INA is encouraging local stakeholders such as the management body of the protected area, the Municipality, and the local university to work together and adopt a more holistic approach and joint management methods. Med-INA also developed an innovative walking guide that is user-friendly and describes the important characteristics of the local natural and cultural heritage. The guide may contribute to developments that will be in harmony with the local environment and culture, e.g. creation of opportunities for recreation, promotion of the area's image and of environmental education programmes and promoting sustainability. The managing authority is planning to develop the local tourism industry through bicycle routes, view and recreational points and a museum. Moreover, Med-INA participated in an important research study of the international SIGMA for Water Project, which attempts to evaluate the situation and make proposals for improvements.

## ***Tunis Lake, Tunisia***

### **Natural aspects of the site**

Now on the Lake of Tunis: it is found at the lowest part of the Gulf of Tunis, was formed in the 11<sup>th</sup> century AD. Although the lake is somehow a separate basin due to silting, disconnected from the sea, it is not though disconnected from its surrounding environment. The factors that influence it are extensive.

It is divided into North and South Lakes, as in 1881, the French dredged a navigation canal to allow boats to enter the Tunis harbour. The lake is providing food for more than 100 bird species that spend their winters in the lake, along with the yellow-legged gull and egrets that nest there. Commercial fisheries operating in the Lake produce up to 500 tones a year. The Lake was seriously degraded during the 20<sup>th</sup> century due to modern urban development. It is a Ramsar site, an IUCN category IV natural reserve and a wetland of national importance (category VIII), it is protected by the Forestry code and is a Natural Reserve since 1993.

### **Cultural aspects of the site**

When the lake was still open to the sea, a Carthaginian port of the 2<sup>nd</sup> century BC was situated there and its remains are still visible today. The Fort of Chikly, built on the island of Chikly, was initially constructed by the Aghlabids between 800 and 900 AD and was later abandoned. The Spanish rebuilt it in the 16<sup>th</sup> century, used it for the defence of the city and called it 'Santiago Fort'. The Fort was restored in the 1990s. Ceramics, coins and brightly coloured mosaics from the Roman and Byzantine periods were also discovered at the site. The cultural interest of the Lakes is also linked to the proximity of the medina of Tunis, a UNESCO World Heritage Site enclosed by the modern city of Tunis, including approximately 700 monuments (palaces, mosques, mausoleums, etc.) from the Almohad and Hafsid period (from the 13<sup>th</sup> to 16<sup>th</sup> centuries AD).

### Threats and restoration actions

Littering, eutrophication, domestic wastewater, industrial runoff, poor drainage, population growth and urban development compromised the site in the 20<sup>th</sup> century. Traditional fishing and hunting were also abandoned and little relevant written documentation exists. In the second half of the 20<sup>th</sup> century, in the framework of large residential urbanisation programmes, clean-up operations were carried out and the circulation of water improved significantly. At the same time, though, the lake's shores were reclaimed, the city expanded, and the natural habitat endangered, along with the cultural values. However, we can see today the results of the large sanitation programmes that were undertaken, in the very improved quality of water and the progressive recovery of the ecological functions of the lake.

Trying to reconnect the cultural aspects of the site with the natural habitat, the stakeholders responsible for its protection, that is a number of NGOs and environmental institutions and administrations in collaboration with Med-INA and MedWet, share the idea of a Centre for Ecological and Cultural Interpretation of Lake Tunis across the nature reserve of the island of Chikly. The centre's role will be to present the site of Chikly to the public, communicating its historical and cultural significance, the ecological fragility of the environment and the need for their protection. Med-INA, along with the other members of the Working Group supports the completion of a number of studies and the establishment of a legal and institutional framework. The preliminary results of the carrying capacity study for the area surrounding Chikly Island will be presented later today by prof. Vinals.

### Epilogue

Summing up, we can say that although conservationists have been trying for decades to protect the natural environment, they have met many obstacles. To assist to their work, bottom-up and holistic solutions seem rather promising and provide tools and methods closer to nature's and people's needs.

Med-INA's work on integrated approaches has taken another step forward with this project. The three case studies concern sites in different countries and socio-economic settings. Together they provide a wider range of cultural and natural elements, which can be a source of inspiration for wetland managers who wish to take into account culture for more effective nature conservation. The activities carried out in the three pilot sites can contribute, in accordance with the Ramsar guidance on culture and wetlands, directly or indirectly and in the short and long term in the promotion of the sites' values, tourism, education, research and awareness raising. Definitely, they are very important but only parts of the puzzle that concerns the urgent need for integrated interventions. We are looking forward to continue working together with all our valuable partners and intend to make one further step, by applying our knowledge to a single site. We believe that incorporating natural and cultural aspects into wetland management may lead to more sustainable conservation strategies for the benefit of both the environment and people.