

# CONTRIBUTION OF CULTURAL SERVICES TO WETLAND RESTORATION



01-Mar-14

An input to the revision of: 'Culture and wetlands: A Ramsar guidance document'

Thymio Papayannis – Stefanos Dodouras

# Contribution of cultural services to wetland restoration

AN INPUT TO THE REVISION OF: 'CULTURE AND WETLANDS: A RAMSAR GUIDANCE DOCUMENT'

## CONTENTS

INTRODUCTION.....	2
WETLAND RESTORATION.....	4
EFFECTIVE COLLABORATION.....	5
LESSONS LEARNT .....	6
INNOVATION FOR MEDITERRANEAN WETLANDS .....	10
IMPROVING CULTURAL INFRASTRUCTURE .....	12
RESTORATION IN THE RAMSAR TECHNICAL GUIDANCE.....	14
TOWARDS INTEGRATED RESTORATION.....	15
EPILOGUE .....	17
SELECTED BIBLIOGRAPHY .....	18

## INTRODUCTION

Since past millennia, human beings in the Mediterranean Basin have been intimately related to wetlands, benefiting from their services, using their significant resources and implicating them in their spiritual quests. As confirmed by archaeological finds, people lived and worked in –or very close to– wetlands, using their valuable resources and services; and still continue to do so in many Mediterranean wetland sites. As a result, cultural aspects have always coexisted with biodiversity and ecosystems, creating integrated cultural and natural heritage. Nowhere is this heritage more evident than in wetland sites, which have resulted from the interplay between the forces of nature and human actions.

Sadly, these cultural values have suffered considerable degradation during the past century, due to the abandonment of traditional activities, population growth and the impact of globalisation. Often, the result is a severance of the links between human beings and wetlands, which is a major factor of wetland loss. As a reaction perhaps to this trend, efforts are being made in many Mediterranean wetlands to maintain cultural traditions that are still alive, to revive those that have disappeared and to create new values meaningful to contemporary societies.

For two decades now, the Ramsar Convention and MedWet, its regional initiative in the Mediterranean, have argued convincingly that the conservation and wise use of this diverse heritage would require an equally integrated approach, and have promoted this view at many levels and with multiple means. Thus, in 2002 and 2005, Ramsar COP Resolutions VIII.19 and IX.21 have advocated ‘Taking into account cultural aspects in the management of wetlands’.

In 2006, the Ramsar Culture Working Group was established, which developed the ‘Ramsar Guidance on culture and wetlands’ and presented it at COP10 (Changwon, Republic of Korea, 2008). In early 2012, far-reaching special events on culture and wetlands have been organised during Ramsar COPs, especially COP11 (Bucharest, Romania, 2012), and the International Symposium on Water and Wetlands in the Mediterranean (Agadir, Morocco, 2012). In 2013, the Ramsar Culture Network was established in collaboration with the World Heritage Centre of UNESCO.

Med-INA, the Mediterranean Institute for Nature and Anthropos, founded in 2003, has played a significant role in these developments and today ensures the Secretariat of the Ramsar Culture Network. Its mission is to promote, mainly in the Mediterranean region, a harmonious relation between Anthropos (humankind) and Nature through the application of the principles of sustainability and, in particular, the wise use of natural resources. Water and wetlands, in all their aspects –including their cultural values– constitute key focal areas for the institute. The MAVA Foundation for Nature has followed with great interest progress made on the integrated approach to natural and cultural heritage and has supported it morally and financially.

In the framework of a MAVA-funded project entitled ‘Using cultural values for wetland restoration’, in the period 2010 to 2014 interventions were planned in three Mediterranean sites, i.e. Lake Karla in Greece, Larnaka Salt Lakes in Cyprus and Tunis Lagoon in Tunisia. The lessons learned from this project are incorporated in this paper and are destined to contribute to the revision of the Ramsar guidance document.

Through all these efforts, the notion of reconnecting people to wetlands through culture –traditional and contemporary– has gained considerable understanding and acceptance. In addition, the socio-economic benefits that could be derived for local societies through the increase of responsible visitors to sensitive natural and cultural sites have started being appreciated.

Sustaining cultures within modern life is an issue of co-existence and progress rather than just a matter of preserving the past. The main challenge, though, remains to devise and implement measures and activities that would create the necessary infrastructure and tools to achieve the desired synergy.

## WETLAND RESTORATION

Anthropic pressures on water and wetlands in the Mediterranean have existed since ancient times and have been documented historically. During the 20th century, however, pressures have dramatically intensified, due to rapidly increasing populations, growing demand for natural resources –especially land and water– and the impact of mass tourism. As a result, the degradation of Mediterranean wetlands has become dramatic and their recent losses are estimated at 50%.

In February 1991, the Grado International Symposium, a major event organised in Northern Italy, concluded with the following mission statement, ‘to stop and reverse the loss and degradation of Mediterranean wetlands’. One year later, it gave birth to the MedWet Initiative, which today brings together 27 states and many international and non-governmental organisations in the frameworks of the Mediterranean Wetlands Committee and more broadly the Ramsar Convention.

Reversing the loss and degradation of wetlands does not imply only defensive measures, but also includes restoration actions. Unfortunately these have been rather limited in the region, as they require long-term efforts and large financial and human resources, while they are often considered politically sensitive due to vested interests. Of course, there have been important success stories such as the Camargue in France, the Doñana National Park in Spain and the Prespa Lakes shared by Albania, Greece and the FYR of Macedonia, but their number is small.

A major difficulty that creates considerable controversy is how to determine the level and the objectives of restoration activities. Practical considerations, and the need to ensure the sustainability of results, often play a key role in establishing a realistic framework. Restoring complex wetland functions, however, often requires much more sophisticated and expensive approaches, which may prove controversial.

It is clear that social consensus is required in developing restoration action plans, which can be achieved only through broad consultation. Gaining public support can be catalysed by re-establishing the traditional cultural links of local societies with water and wetlands. In addition, convincing them of concrete benefits that can accrue from restored wetlands –mainly through increased quality tourism– can greatly contribute to positive attitudes.

A related difficulty in this context is conserving and restoring appropriate cultural practices, which formed part of local traditions but today are disappearing, and facilitating the emergence and growth of contemporary cultural practices. Thus, to obtain synergy, restoration plans and activities are called to address not only biodiversity and cultural issues, but also socio-economic considerations. As mentioned above, this is done best through integrated methods rather than parallel and asymptotic approaches.

## EFFECTIVE COLLABORATION

The crux of the sustainability endeavour lies in its acceptance and implementation at the local level. The challenge with sustainability is that it requires big-picture and long-term thinking at the local level. Unfortunately, in practice, this dialectic situation often leads to confusion intensified by the slipperiness of sustainability rhetoric, local complexities, and the fact that the problem situations are often ill-defined. To add to this complexity, conventional managerial approaches often have difficulties in dealing with the chaotic issues at the interface of policy and practice in different sectors.

The overarching goal should be the development of better planning and decision-making processes, shifting human choices, public and private investments, and government policies toward those that offer regions greater security for a sustainable future. Yet, one of the main hurdles in this case is the confusion about the roles and responsibilities of all involved stakeholders.

In Algeria, Tamentit Oasis constitutes a cultural landscape, created by human actions over thousands of years in the middle of an inhospitable terrain. This wetland is one of the few places in the Mediterranean where human works and nature are so closely related. Tamentit Oasis is threatened by several factors, the most serious being modern agriculture, entailing the use of high-volume pumps that decrease the aquifer. As a result, the flow of the foggaras –an irrigation system developed by the locals– is also decreased, leading to the danger of eventual extinction of the oasis.

In addition, a karstic wetland ecosystem can be found in the vicinity of Kizören Obruk in Turkey, where one of the world's oldest prehistoric cities, Çatalhöyük, was built almost 10,000 years ago. Kizören Obruk, a designated Ramsar site, is the only freshwater source for human use in the area. Nonetheless, in 2003 observations carried out in Kizören Obruk, where the exposed groundwater constitutes a 125m-deep lake, suggest about 30m drop of water level compared to the late 1970s.

Furthermore, the Greek island of Lemnos –that hosts some of the most important insular Mediterranean wetlands– is subject to intense construction and tourism pressures. Limassol wetland in Cyprus is a significant nesting place for many endangered species; yet, increased water demand for agriculture, tourism and households has resulted in a now reduced salina lake. The Larnaka Salt Lakes are a unique Mediterranean landscape fashioned over thousands of years through the co-existence of humans and nature. In recent decades, some of the damage caused over time to this fragile ecosystem has been reversed. However, the site's sensitive environmental balance could benefit still further through the elimination of other threats it continues to face, as well as from a coordinated promotion of its values, thereby offering visitors a more integrated cultural and environmental experience.

On the other hand, the management bodies of Orbetello in Italy and Prespa Lakes in Albania, Greece and the FYR of Macedonia aim to promote culture, nature and social well-being, through a number of events and attractions. The Neretva Delta in Croatia, a Ramsar site since 1992, had over the years suffered by intensive urban and industrial development whereas Hutovo Blato in Bosnia and Herzegovina, a Ramsar site since 2002, used to be known as the 'hunters' paradise'. Recently, common priorities for future joint management activities were identified by local stakeholders in both countries so as to protect and promote the areas' diverse ecosystems and habitats as well as their cultural and historic heritage.

Apparently, effective collaboration is increasingly being recognised as a valuable tool in wetland restoration initiatives. It is an emergent process that can respond well to complexity and controversy as new players are

brought in to the scene, joint learning is promoted, value differences of stakeholders are constructively explored, while there is a joint ownership of decisions and shared responsibility for outcomes.

As outlined above, not everyone is a fan of collaboration, though, probably for any number of reasons. Many argue that processes called ‘collaborative’, ‘community-based’ and/or ‘stakeholder-driven’ have actually experienced a number of severe failures in addressing wetland issues, especially in the Mediterranean. Such approaches can become co-opted by economic development interests, and may not be accountable to public and scientific review processes. Indeed, in many cases –such as, the partial restoration of Lake Karla in Greece – mutually agreeable solutions are not appearing as they were predicted to appear. Overall, however, many parties are finding more and more reasons to work together, if only from having exhausted other means of problem-solving.

The suspected causes of wetland degradation and loss can be easily pinpointed. Several pitfalls can also be identified –e.g. diminished availability of resources, losing sight of purpose, clarity of functions, and political interests involved– to any participative wetland restoration process. Nonetheless, collaborative efforts tend to break down ideological differences, mistrust and other barriers to decisions. At the same time, they can foster strategic plans that are based on a shared passion for wetlands with which people can identify, and capitalise on a shared sense of place to build trust and civil dialogue. Such efforts, contribute to best practice by tailoring its significant features and, then, they can be made, broadly, applicable.

Perhaps, with few exceptions, environmental concerns and more specifically the protection of wetlands are still of low priority for many governments in the Mediterranean, as they face relevant issues with a mixture of disinterest and annoyance. Indeed, true government support is important, if not critical, in the success of any wetland restoration initiative. But, building consensus remains the most valuable aspect of such efforts in any culture, simply because it can assist in making new solutions to ever-lasting wetland problems possible. Thus, while government support is important, government interference and over-control jeopardise any possibility of successful integrated approaches developing.

People and institutions alike do not change because someone tells them to. They have to be involved in understanding and realising the need for change, making decisions about change, and then going through the process themselves. A key step is to assist local stakeholders –through a participatory, integrated approach– to understand and take ownership of the man-agement and stewardship issues regarding wetland restoration and management.

## LESSONS LEARNT

Culture, tangible or intangible, is perceived as the way of life of a society, which is being constantly structured and changing. Thus, the distinctive texture of wetlands should not be sought only in the listing of their typical visible ingredients. Rather, it can be found in the continuum of time as inscribed by the passage of various communities, whose interaction with nature engraved a distinctive physical reality.

The success of any strategic initiative does not require dissociating wetland features (e.g. culture, aesthetics, history, ecology, etc.) from present and future development, but it lies in moving beyond the need to 'preserve the heritage' to more broad considerations such as 'way of life'. Sustainability challenges do not fit neatly into the natural or social science boxes. They are complex, uncertain and are inescapably socio-cultural.

Med-INA's work during the past decade revealed that for effective wetland restoration and management, there is a clear need to identify and challenge the root causes of continuing wetland degradation; develop capacity and deeper partnerships among stakeholders; and devise broad strategic plans aimed towards a long-term vision for these sensitive ecosystems. Such plans, in line with the best international practice and the intent of various major restoration initiatives targeting wetlands, need to be based on a participatory management approach that can both involve and provide clear benefits for the local communities.

More specifically, a key lesson is that effective management of wetlands is extremely important. The effective restoration and, then, sustainable management of wetlands are complicated processes that require the resolving of many theoretical and practical matters. The situation becomes more complex when trans-boundary and trans-disciplinary issues come to surface, where substantial and distinct environmental, economic, social and cultural concerns can be observed.

Several Mediterranean wetland sites have the rare advantage of having locally established management bodies, which are properly organised, e.g. the Skocjan Caves in Slovenia, the Camargue in France and the Doñana National Park in Spain. The partners of such bodies include, inter alia, specialists on archaeology, biology, culture, tourism and other disciplines, whereas their management plans respect the integrity of the sites and look carefully at all aspects of site management, including both natural and cultural heritage.

Another lesson is the need for strong political backing at all levels. In the Mediterranean Basin, few countries have policies and strategies concerning wetlands; Slovenia is one of the most advanced in this area. In Prespa, the Society for the Protection of Prespa (SPP) has put together an integrated programme that contributed to the development of practical mechanisms leading to the conservation of both the natural and cultural heritage; the appreciation and dissemination of the area's cultural values; the promotion of applied research to underpin integrated management in Prespa and inform future initiatives; the study of the habitation and land use patterns in Greek Prespa in order to gain a more substantial understanding of the relation of humans with nature in the area; the development of a physical plan (i.e. regulations on land use and building construction) for the Greek side of Prespa, in harmony with the legitimate request for improving the living conditions of the local communities; the study of the area's common architectural tradition; and the preservation of its culinary traditions, based on local products, in the context of mild tourist developments.

A third lesson learnt is the importance of traditional knowledge and indigenous practices that honour human-ecological interdependencies. The cultural values of wetlands seem to be shifting from the traditional methods of resource use to a growing interest in social aspects. Hence, efforts are being made to integrate them in economic activities (such as production of quality agricultural goods, ecotourism and gastronomy), as an asset

in the fight for global competitiveness. Once traditional knowledge is recorded and safeguarded, it could be used in a creative manner to the benefit of wetlands.

In Narta (Albania), Zaranik and Burullus (Egypt) the local authorities successfully coped with the challenge of simultaneously improving fish catches using modern methods and maintaining traditional artefacts, wherever possible. Also, the production of handicrafts using traditional wetland resources, such as reed, is being revitalised in several wetlands such as Castro Marim, Santo Andre (Portugal) and Kune-Vain (Albania) lagoons. Salinas are still operating in Narta and Zaranik. Also, the examples of local products such as the internationally appreciated bottarga of Orbetello, or the organic dried beans of Prespa, are characteristic.

Another major rationale is related to risk communication. Fearing, for instance, that stakeholders' support for wetland restoration could wane, real-world examples of wetland restoration –to which management bodies could point to demonstrate the benefits of such projects– should come in handy. Certain activities that are being –or have been– abandoned can perhaps be maintained or re-established, while it can also provide useful guidance for contemporary methods of wetland resource uses, e.g. in agriculture, fisheries, stock-breeding or freshwater management.

However, the numerous, and inherently complex issues that are included in wetland restoration and management result in a high degree of uncertainty since important sustainability parameters tend to be ignored. Such conflicts arise from the lack of a set of robust criteria to appreciate wetland values and the inability to consider them as 'capital' rather than 'luxury good'.

In 2012, several academics, government and NGO representatives met in Venice, Italy, to discuss the links between ecological and economic crises in the Mediterranean at the international conference 'Securing competitiveness for the Mediterranean'. With the support of MAVA Foundation, Global Footprint Network and UNESCO-Venice, several workshops have been organised across the region to better inform decision-makers and identify alternative strategic initiatives.

Although the financial crisis is global, nations are impacted unevenly. So, attention should also be given to political pressures that may fulfil short-term goals while ultimately missing the big picture. When it comes to wetland restoration, providing opportunities for locally-owned businesses and jobs was always a major component of a viable solution. A perspective looking out several years ahead must be adopted by all stakeholders if communities are to take on major change.

Close co-operation has been established with fishery authorities and fishermen's associations regarding interventions aiming at the improvement of hydrological conditions such as freshwater inflow, reduction of human disturbance and monitoring of hydrological parameters, e.g. Evros Delta and Northern Greece fisheries. In addition, co-operation with livestock breeders has contributed to a reduction of over-grazing pressure, restriction of hunting activity in biodiversity core areas and enhancement of habitat rehabilitation, e.g. Kus Golu (Turkey), Camargue and Hutovo Blato.

Last but not least, cultural events resulting from folklore and social traditions play an important role in strengthening the identity of the communities living in or near wetlands and, at the same time, attract visitors who are searching for new and meaningful experiences. The incorporation of cultural and natural values in tourist activities has resulted in a number of negative developments, putting pressure on wildlife habitats, landscapes, archaeological, historic and geological sites, water and air quality, demographics and traditional settlements. But, this can be prevented by appropriate visitors' management and filtering. Much more difficult is to avoid the loss of authenticity and the grotesque transformation of local heritage that may result from

touristic exploitation of culture, leading to a permanent severance of the links between societies and their past traditions. Yet, the promotion of research and educational activities can provide positive results both for the conservation and restoration of such sites and for the local inhabitants as demonstrated in the Camargue, Prespa Lakes, Neretva Delta, Castro Marim, Albufera de Valencia, Doñana, Narta and Sečovlje Salina.

Wetland management is changing. The narrowly defined management practices that have for long been dominating are being replaced by more comprehensive approaches. Integrated approaches represent the forerunners of this change, and they are thus loaded with expectations. Whatever the management needs of Mediterranean wetland sites may be, the consultative process is very important in order to enable all stakeholders to examine the sustainability priorities that would guide decision-making.

## INNOVATION FOR MEDITERRANEAN WETLANDS

Wetlands are places of memory, made up of both tangible and intangible elements that people use to give meaning to the world they live in. The list of stories that a wetland can tell is endless. These sensitive ecosystems can, among other things, reduce flooding, improve biodiversity, store carbon and enhance water quality, representing a valuable part of the world's natural heritage. So, on one hand, wetlands are cradles of biodiversity, providing the resources and services upon which countless species –including humans– depend for survival.

Wetlands can act as a kind of genetic code of an area. Traditions and ways of life associated with wetlands stretch back before folk memory to the very roots of human society. Wetlands are a fundamental element of individual and collective well-being and an indication of civilisation. What is seen today is the result of many changes and events that have overlapped. Among these transformations there are not only those of natural kind, but also those brought about by humans. Thus, wetlands are also a stage for the actions of many generations; a stage composed of many changes and on which the lives of people play out.

In this light, sharing and interpreting the natural and cultural values of wetlands can make us citizens of the world. However, the history of many Mediterranean wetlands reveals how the connections between local people and nature have been severed. The main drivers of wetland transformation, degradation and loss are natural dynamics and, more significantly, human actions. Wetlands are under threat from pressures ranging from habitat pollution, land use changes and water abstraction to urban development, tourism growth and climate change. Despite this, a shared vision for wetlands does not exist, primarily because their management is often guided by the vested interests of a particular sector.

A basic prerequisite for sustainable wetland management is the kind of commitment from human societies that stems from a strong sense of local identity and lifestyle, and which is consistent with the ecological characteristics of the area and seeks to challenge the wider community on environmental ethics and social responsibility. Understanding the value of wetlands helps provide a firm foundation for the protection and enhancement of these sensitive ecosystems and, thereby, balance the requirements of humans and nature.

Apparently, there is more to culture than sheer nostalgic sentiment; human culture is never inherently fixed, but is always being re-interpreted according to the prevailing social contexts of our times. In other words, the ecological parameters of wetlands cannot be managed unless the human culture that shaped them is appreciated.

Strategic wetland management, therefore, should not concentrate on short-term plans based upon the past, but instead focus on integrated approaches that point to the relationship between nature and humankind. There is a need for action at all levels and amongst all stakeholders if the opportunities of working with nature are to be realised and the risks of losses appreciated and acted upon.

Integrated strategies need to be case-specific, and to be undertaken in situ so as to be more efficiently coordinated and responsive to particular pressures within a site. They can be implemented by a range of people so as to involve local concerns, but also encompass wider perspectives. Such responses may include, among other things, a decrease in pressures from productive activities, the introduction of environmentally sensitive development practices, an informed populace, enhancement of cultural services and research on the wetlands' carrying capacity under different socio-economic conditions.

## The role of responsible tourism

Natural and cultural heritage tourism has been widely acknowledged as a key tool in regional sustainable development. In the Mediterranean Basin, natural and cultural heritage forms an integral part of the tourism industry, attracting many domestic and international visitors every year.

At the same time, several areas began to grow disillusioned with mass tourism. On one hand, this is the outcome of central policies that have not fully exploited the potential of natural and cultural heritage destinations, thereby jeopardising the quality of the touristic product on offer. On the other hand, local authorities do not have the means to evaluate the quality of their product and, as a result, they lack the incentives to develop sustainable forms of management. Perhaps the most critical obstacle of all is the lack of integration and co-ordination of activities.

Generally speaking, the areas that benefit the least from tourism are the ones that are most vulnerable to its negative impacts. Human societies living around wetlands may differ in terms of their historical experiences, vulnerability to external influences and ecological situations. Many of them, however, share common concerns regarding their geographical isolation, infrastructure, tourism issues and the need to preserve their unique local heritage and identity. Such complex situations must be seen as opportunities that can be transformed into success stories.

Essentially, local communities and administrations should, through multi-stakeholder networking, become key agents of innovation –be it through products, processes, or business models– in their own right and create a sense of local ownership of issues and developments affecting them. Wetlands enhance landscapes, regulate microclimates, foster biodiversity, strengthen regional values and image, support the tourism industry and provide additional income and jobs. In the Mediterranean, such special features should form the basis for effective wetland restoration, and a future that is sustainable.

Carefully managed, small-scale tourism developments – where local people are in control– can foster sustainability by enabling resident communities to improve their well-being, maintain their traditional socio-cultural values and promote them as part of the area's identity; a characteristic example in this case is the ecotourism initiatives run by the Royal Society for the Conservation of Nature (RSCN) in Jordan. In this context, Mediterranean wetlands can be the vehicles for positive change as long as it is portrayed as a guardian of local culture and nature. Integrated strategies are the essence of this potential, focusing neither on the assumptions of development nor on nostalgic notions of the past, but trying to promote sustainability through the character and history of a place.

Applying innovative ideas for the protection of wetlands by capitalising on the natural and cultural heritage of the area may offer a window of opportunity for sustainable regional development. The big challenge remains whether such ideas will be embraced by local societies to gradually become a permanent feature of their traditions.

## IMPROVING CULTURAL INFRASTRUCTURE

During these troubled –financially and politically– times, with the right lens to look through, a country can see the connection between its environmental profile and overall prosperity. Therefore, safeguarding the benefits of wetland services for society must be weighed against the potential benefits of development. But making such decisions is difficult. Besides environmental, economic and socio-cultural factors, the impact of any changes on stakeholders at all levels –local, regional and global– must be considered for the wise use of wetlands.

Improving the cultural infrastructure of wetland sites through concrete actions is perhaps the most effective means for reaching synergy. A few characteristic examples may provide a better understanding and encourage future action.

### - **Developing knowledge**

The investigation of the natural and cultural heritage of sensitive sites in a holistic manner, and the interrelation of the two, is often missing and must be developed by multidisciplinary teams.

In the case of Prespa Lakes, for example, an integrated approach to nature and human beings has been promoted through the works of distinguished scientists that have been instrumental in making the area known and attracting national and international visitors.

For Lake Karla, a major Mediterranean site drained in the 1960s and today under partial restoration, the Med-INA team, with the contribution of local experts, has prepared a detailed walking guide that covers both natural and cultural aspects within a historic and geographic context . It is a work that will be useful both for the visitor and the local inhabitant, including the youth.

A very good model of integrated presentation of wetland knowledge is the recent publication of the Camargue encyclopaedia . Hopefully, similar works can be encouraged for other major wetland sites in the region.

### - **Disseminating knowledge**

It is not sufficient to gather and process knowledge about wetland heritage, but this knowledge must be disseminated to appropriate audiences: local, national and international. Publications are useful in this, but sometimes they do not reach the appropriate readership.

In the case of the Larnaka Salt Lakes, Med-INA has attempted to reach a broader public through specially designed panels placed in the city airport and harbour, along with the printing of a brochure that has been widely distributed and through public awareness activities. The existence close to the wetland of a major spiritual Islamic site (Umm Haram shrine – Hala Sultan Tekke), as well as important prehistoric finds, has provided the opportunity to attract the interest of international visitors.

A very effective means to disseminate integrated knowledge is through the operation of visitor centres. Interesting models are the centres in Sekovlje Soline and Skocjan Caves in Slovenia, the Sidi Boughaba education and visitor centre in Morocco and the recently completed visitor centre of Ghar el Melh in Tunisia –

still not operating fully due to lack of staff. However, it should be noted that visitor centres are expensive to establish and to operate and require highly trained staff, especially when cultural aspects are incorporated. Thus, a substantial visitor centre has been proposed for Larnaka but its construction has been postponed twice. On the other hand, a very good option seems to be the case of Doñana National Park, where the visitor centre and the management body premises are hosted at the same facility.

#### **- Managing visitors**

The promotion of the cultural heritage of wetlands can increase visitor flow, which strengthens conservation efforts and has positive contributions to local economies, as in the case of Kerkini Lake and Prespa Lakes in Northern Greece. Beyond providing the necessary facilities for visitors –usually through appropriate centres– visitation of sensitive sites must be managed carefully, so that negative impacts can be minimised.

Thus, in the case of Tunis Lagoon, the carrying capacity study led by the University of Valencia in collaboration with Med-INA aims at estimating the capacity of the sensitive Chikly Island area and in devising the appropriate measures for managing effectively visitor pressures. Besides contributing to the restoration of the Tunis Lagoon, the study is expected to provide a very useful model for other Mediterranean wetland sites with similar conditions.

As mentioned earlier, the loss of understanding of the importance of wetlands to human life has contributed to the destruction of the greater part of Mediterranean wetlands. In spite of the misuse and degradation of their resources, the Mediterranean wetlands are still host to an impressive biodiversity. Local communities are beginning to comprehend that this very biodiversity, along with the local natural and cultural heritage, are a powerful comparative advantage this region holds in global competition, which can yield considerable financial and social benefits, and which is also a vital means to improve quality of life.

Perhaps the most difficult task shall be to improve practices at the level of local authorities, because there pressures from private interests are direct and intense. Here, the role of civil society –and especially of local environmental organisations– will be decisive.

## RESTORATION IN THE RAMSAR TECHNICAL GUIDANCE

For almost a decade, the Ramsar Convention has been addressing the issue of the cultural aspects of wetlands and their incorporation in the work of the Convention and of its Contracting Parties. For many conservationists it has become clear that the fate of wetlands depends on human attitudes and activities, and that incorporating cultural values in their work can promote conservation and wise use efforts.

In accordance with Resolution IX.21, the 'Ramsar Guidance on culture and wetlands' was released by the Bureau in 2008, attempting to provide a framework for integrated approaches in wetland management. The 70-page document includes various sections on culture and wetlands, as well as a number of general and specific objectives with concrete actions suggested for their implementation.

It is proposed that the lessons learned from the Med-INA project 'Using cultural values for wetland restoration' (2010-2013) should be incorporated in the 'Ramsar Guidance on culture and wetlands' as the following, additional, general objective 'to use cultural practices in order to strengthen wetland conservation initiatives'. Med-INA will propose the addition of this objective to the planned revision of the Ramsar guidance.

O... – To use cultural practices in order to strengthen wetland conservation initiatives.

The following key actions are suggested to implement the above objective:

- a) carry out an inventory of cultural resources and practices related to the wetland site in restoration;
- b) disseminate broadly knowledge of the cultural heritage of the site among local inhabitants and visitors in order to raise interest and support for restoration actions;
- c) identify and encourage the cultural practices that have a direct positive impact on wetland functions and consider their sustainability;
- d) incorporate in restoration plans both the natural and the cultural heritage;
- e) take into account visitor flows in restoration planning and provide management measures and appropriate facilities;
- f) Promote good practice case studies.

As wetland sites that have been restored are the result of human interventions and not only of natural processes, it is clear that they will require long-term human monitoring and eventually management at least until wetland functions are substantially re-established. Thus, such caretaking responsibilities must be assigned quite early in the process, preferably to the agencies that have planned and executed the initial restoration processes.

## TOWARDS INTEGRATED RESTORATION

All activities of human endeavour, including economic systems, social dynamics and relationships with the natural environment, become important centrepieces of our evolving and increasingly globalised culture. This approach leaves us wondering about how the dynamics of culture play themselves out in day-to-day reality.

On a more practical level, for the integrated restoration of a wetland site, which takes fully into account not only biodiversity aspects but also its cultural heritage, a number of steps should be carefully considered. These include:

- Establishment of a dedicated multidisciplinary team of experts from the natural and human sciences. The team must find a common language and work closely together in developing a common approach, taking into account the characteristic natural and cultural elements of each site.
- Collection by the team of international knowledge and experience, as well as lessons learned, from similar restoration efforts in other parts of the world. Wetland restoration may be challenging and expensive, however, many wetland restoration success stories exist and may serve as a source of knowledge and inspiration.
- Research on the natural and cultural heritage of the site, determining of interrelations, past history and degree of degradation, as well as contemporary pressures and trends. The results of the research are critical, as they will indicate the character of the natural and cultural heritage of the site, as well as the options for their sustainable and integrated management.
- Proposal of detailed restoration objectives for all key areas, which would include de-scription, responsibilities, required resources, time scale and success indicators.
- Consultation with major stakeholders and the public on the restoration objectives with the aim to achieve a substantial degree of consensus. Without the support of local communities, most conservation initiatives are likely to fail.
- Development of an action plan for reaching the objectives agreed and implementing the restoration scheme. The action plan should address both the relief of pressures causing degradation and concrete actions for redressing damaged areas and re-establishing wetland functions. The plan must be approved by the pertinent authorities so that implementation can proceed.
- In parallel, preparation of information, public awareness and participation campaigns that will be carried out in conjunction with restoration actions, ensuring the involvement of the public that is considered necessary for the successful implementation of the action plan.
- Scheduled monitoring and review of the restoration process, involving public consultation, and launching of corrective measures if required.
- Completion of the restoration activities and evaluation of their results; investigation on complementary interventions to ensure the sustainability of the restoration scheme and the continuous support of the local communities.

Further analysis of the resources provided by wetlands, of their status and trends as well as the dissemination of the findings should aim to mobilise stakeholders on the need to protect, manage and use these ecosystems

on sustainable manner. Although the overall approach should be integrated bringing together all the disciplines required, there could be decentralised actions, as long as central coordination, information exchange and consultation remain.

## EPILOGUE

The Mediterranean Basin has been inhabited for millennia and today is attracting dramatically increasing population, both permanent and transient. These shores are currently being subjected to a wave of rapid urbanisation to satisfy real or perceived needs, often in response to short-term development pressures. That is why, perhaps, the relation of humankind with nature and the quest for a harmonious co-existence to the benefit of both have been considered as crucial issues in this particular region.

Culture –while it includes traditions and customs– is, first and foremost, about the changing dynamic of how people live their lives, individually and collectively. When it comes to wetlands, cultural heritage reveals itself through the practices of salt harvesting, fishing, the weaving of nets, rice growing, boat building, animal grazing, and the building of huts and fish-traps with reeds, amongst other things. These everyday activities are some of the cultural aspects deeply entwined with Mediterranean wetlands.

Culture and nature are interwoven, and the factors that threaten one will eventually jeopardise the other. Undeniably, culture is a product of human beings and their social structures, and retains a high degree of complexity, interrelatedness and continuity that defies simplifying approaches. Yet, in spite of the inherent difficulties, culture must be treated in an integrative way, always looking for links and relationships that may be missed.

The brief comments above make clear that wetland restoration is a difficult and expensive process, with results that cannot be guaranteed. It is obvious, therefore, that conserving wetlands and avoiding their degradation through pre-emptive measures and actions is a preferable option, as discussed during the Agadir International Symposium on Water and Wetlands in February 2012. On the other hand, it can be argued that the willingness of societies to invest in the restoration of the natural and cultural heritage of wetlands is a strong indication of their recognised values to humanity and a positive omen for their future.

## SELECTED BIBLIOGRAPHY

- Benessaiah, N. (1998), *Mediterranean wetlands: socioeconomic aspects*, Ramsar Bureau, Gland, Switzerland.
- Blondel, J., Barruol, G. and Vianet, R. (2013), *L'encyclopédie de la Camargue*, Buchet et Chastel, Paris, France.
- Bonnet, B., Aulong, S., Goyet, S., Lutz, M. and Mathevet, R. (2005), *Conservation of Mediterranean wetlands – Integrated management of Mediterranean wetlands*, Station biologique de la Tour du Valat / MedWet, Arles, France.
- Casimir, M. (2008), *The mutual dynamics of cultural and environmental change*, Berghahn Books, New York, USA.
- Catsadorakis, G. (1999), *Prespa: a story for man and nature*, Society for the Protection of Prespa, Aghios Germanos, Greece.
- Coles, B. and Olivier, A. (2001), *The heritage management of wetlands in Europe*, Short Run Press, Exeter, UK.
- Davidson, N. (2001), *Wetlands and cultural heritage conservation*, Ramsar Bureau, Gland, Switzerland.
- Deil, U., Culmsee, H. and Berriane, M. (2005), 'Sacred groves in Morocco: a society's conservation of nature for spiritual reasons', *Silva Carelica* 49, pp. 185-201.
- Dodouras, S. and Lyratzaki, I. (2012), "Culture and wetlands in the Mediterranean: the case of Lake Karla, Greece", *Proceedings of the International Conference on Marine and Coastal Ecosystems, 25-28 April 2012*, Tirana, Albania, pp. 249-256.
- Huckbay, J., (2006), "Creating a road map to collaborative management of environmental conflicts". In: M., Theophanides and T., Theophanides, (eds), *Environmental engineering and economics*, ATINER, Athens
- IUCN (2012), *Ecological restoration for protected areas*, IUCN, Gland, Switzerland.
- Kanakoudis, V., (2012), *Integrated Master Plan for the sustainable development of the under restoration Lake Karla – Past, present and future: walking the path from the environmental crime to natural asset preservation*, Interreg IVC Project 039R2 – Sustainable Integral Management for Water Areas: Sigma for Water, University of Thessaly, Volos.
- Kovani, E. (2002), *Drained lakes: a study of sustainability and cultural history*, EKKE, Athens, Greece.
- Millennium Ecosystems Assessment (2005), *Ecosystems and human well-being: wetlands and water synthesis*, World Resources Institute, Washington DC, USA.
- Novo, F. and Cabrera, C. (2005) *Doñana; water and biosphere*, Doñana 2005 Project, Spanish Ministry of the Environment, Madrid, Spain.
- Papayannis, T. (2004), 'Tourism carrying capacity in areas of ecological importance'. In: H., Coccossis and A., Mexa (eds), *The challenge of tourism carrying capacity assessment*, Ashgate, Aldershot, UK.
- Papayannis, T. (2008), *Action for culture in Mediterranean wetlands*, Med-INA, Athens, Greece.

Papayannis, T. and Salathé, T. (1998), *Mediterranean wetlands at the dawn of the 20th century*, Ramsar Bureau-Tour du Valat, Arles, France.

Papayannis, T. and Pritchard, D. (2008), *Ramsar guidance for culture and wetlands*, Ramsar Convention, Gland, Switzerland.

Papayannis, T. and Pritchard, D. (2011), *Culture and wetlands in the Mediterranean: an evolving story*, MedINA, Athens, Greece.

Ramsar COP8 (2002), *Wetlands: water, life and culture*, 8th Meeting of the Conference of the Contracting Parties to the Convention on Wetlands, 18-26 November 2002, Valencia, Spain.

Standring, K. (eds) (2009), *Prespa Walking Guide*, Society for the Protection of Prespa, Aghios Germanos, Greece.

Viñals, M. (2002), *Wetland cultural heritage*, MedWet / SEHUMED, Madrid, Spain.

Viñals, M., Morant, M., Alonso-Monasterio, P. and Sánchez, M. (2005), *Progress in the incorporation of cultural values in the effective management of Mediterranean wetlands*, Universidad de Valencia, Valencia, Spain.