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## THEMATIC NOTE

# MEDITERRANEAN WETLANDS

## Status, trends and prospects

Marshes, lagoons, oases, deltas, chotts, sebkhas, peatlands, rivers, shallow coastal waters...

There are many different kinds of wetlands, and they are among the most productive ecosystems on Earth, which contribute the most to human well-being. However, paradoxically, they are also among the areas most highly threatened by human activities. In spite of decades of action in favour of wetlands, they have continued to disappear more rapidly than other ecosystems, and the Mediterranean Region is

no exception to this trend. This loss is often the result of a short-term, utilitarian view of natural resources. Nonetheless, it is still possible to save these fragile and rich habitats, and maintain the benefits they provide for present and future generations. To accomplish this goal, a commitment by everyone is required, from decision-makers to civil society, the private sector, international networks and beyond. We must also invent new forms of action.





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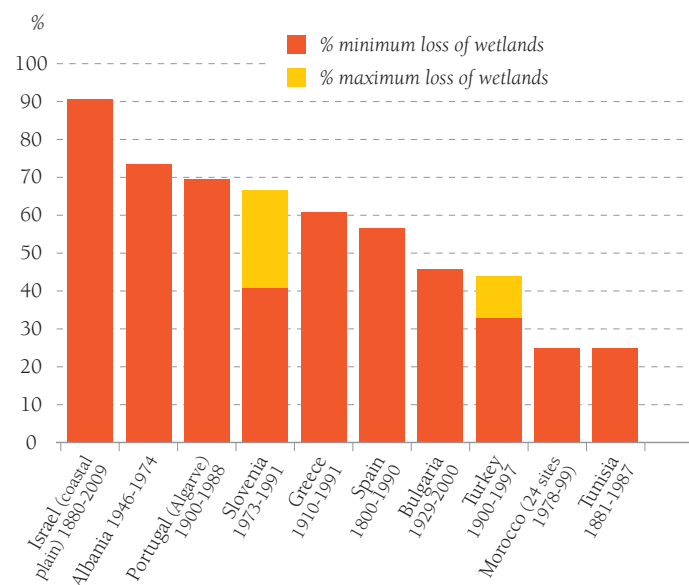
▲ Many wetlands provide traditional fishing opportunities (Gediz Delta, Turkey)

## A LARGE NUMBER OF WETLANDS REMAIN, BUT THEIR DECLINE IS RAPID



There are 15 to 22 million hectares of wetlands in the Mediterranean Region, a fourth of which are artificial, such as dam reservoirs and fish-farming ponds. Nearly **half the surface area of natural wetlands has disappeared since 1900** (Fig. 1), and the trend is continuing.

Fig. 1: Loss of natural wetlands in the Mediterranean Region



▼ The European Pond Turtle suffers from the general decline and fragmentation of its wetland habitats.



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## WETLANDS ARE ESSENTIAL FOR HUMAN WELL-BEING

Wetland habitats provide many services. They play a key role in preserving water resources, and in crop and livestock production, fishing, and tourism. They form a **natural infrastructure**, which mitigates the effects of floods, marine storms and climate change, and purifies polluted water.



The Yellow-Legged Gull, a generalist and competitor species that benefits from the artificialisation of wetlands.

© C. Perennou

+ Yellow-Legged Gull

There are contrasting trends in Mediterranean wetland biodiversity: generally an increase in the western part of the region, but a decline in the eastern part. Numerous specialist animal species have declined sharply. However, many waterbirds have been able to adapt to the abundant resources provided by excessive quantities of fertilisers, the introduction of exotic species, increasingly intensified farming and fishing, and artificial wetlands. Others have thrived thanks to effective protection measures.



The Western Spadefoot Toad, an Amphibian that strongly suffers from urbanization of Mediterranean coastal wetlands.

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- Western Spadefoot Toad

## HABITATS UNDER PRESSURE

Mediterranean wetlands are experiencing various kinds of pressure due to human activities. Agriculture has long had the most significant direct impact. In addition, there is now **urbanisation, mass tourism and infrastructure development**, particularly along the coast and in river valleys. Pressure is increasing due to the growing number of inhabitants on the coast.



▲ Urbanization at the edge of a Mediterranean wetland (Montpellier urban area, France)

●●● **Climate change** is also having a growing impact, by amplifying the severity of droughts. The sea level of the Mediterranean rose by 22 cm in the 20th century, with significant effects on coastal wetlands. This trend is going to worsen.

## INCREASINGLY RARE AND POOR-QUALITY WATER RESOURCES

■ ■ ■ People are starting to realize that ecosystems also need water. However, the quantity of water available for natural habitats, and wetlands in particular, has been falling throughout the Mediterranean Region, most dramatically in the south and east.

Water extraction is the greatest threat to wetlands. **Irrigated agriculture is the greatest water consumer in the region**, accounting for 2/3 of total consumption. Excessive pumping weakens wetlands and the water tables that depend on them, although irrigated surface areas now seem to have stabilised in the European Union and Israel. Overexploitation of groundwater remains a major problem in steppe, desert, and coastal regions.

**River flow rates are falling** almost everywhere, due to water extraction, retention by dams, and climate change.

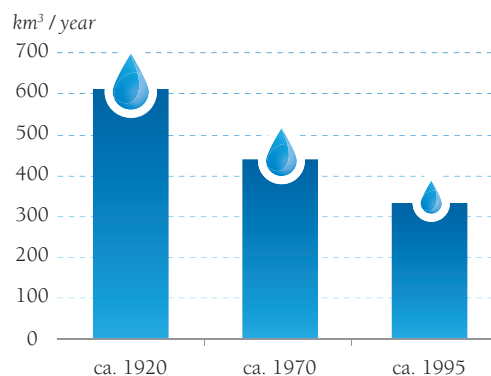


Fig. 2: Cumulated discharge at the mouths of Mediterranean rivers

**Water quality has partially improved in Europe since the 1980s**, due to the reduction of nutrients and heavy metals, although other pollutants (pesticides, drugs) are increasing, stagnating or insufficiently monitored. There are too few data available to assess water quality in the eastern and southern Mediterranean.

## SOCIETIES STARTING TO MOBILISE

■ ■ ■ The first actions in favour of wetlands began during the 1960s. The Convention on Wetlands was signed at Ramsar (Iran) in 1971 in order to protect them. As of 2014, 168 countries have signed it, including all the Mediterranean countries. **The number of “Wetlands of International Importance” in the Mediterranean Region, included in the Ramsar List, has more than doubled** in the last decade (9 Mha in 2014). The number of protected wetlands is also increasing.

Approximately 30% of Mediterranean countries have both a national policy for wetlands and a national wetland committee. However, in reality, in most of these countries, these instruments are not yet very effective. In order to become so, they require the **implementation of concrete actions in the field** (inventories, management plans, monitoring programmes, and restoration) and the **alignment of public policies** to protect water resources and wetlands.



▲ The Tonga Lake Ramsar site in Algeria



▲ Irrigated agriculture in a dry zone, Algeria



# WHAT ARE THE PRIORITIES FOR BETTER PROTECTION OF THESE INDISPENSABLE HABITATS?

■ ■ ■ The riches of Mediterranean wetlands need to be conserved, together with the numerous services provided by these **natural infrastructures**, for the greater good of Nature and human societies. While certain conservation and wise use actions already car-

ried out have been effective, they remain insufficient for rapidly reversing the current degradation trend. Some of the urgent measures to be undertaken are:

**Reinforced legislation** in favour of wetlands, and its **effective application**, in southern and eastern Mediterranean countries – where the pressures are greater but the responses of society less developed.

**Improved water management, taking into account the needs of the environment.** Developments favouring more responsible practices, using less water, and causing less pollution, need to be encouraged.

**More assertive political determination** in the developed countries, so as to ensure **the long-term protection of wetlands still in good condition.**

 Mediterranean Tree Frog  
© T. Galewski

**Extended protection efforts in favour of 'forgotten' wetlands** such as temporary marshes and ponds, watercourses, wet meadows, and riparian woodlands. Though less spectacular than large water bodies, these habitats are nonetheless indispensable for biodiversity, and provide numerous services linked to water.

*This document is a synthesis of the report Mediterranean Wetlands Outlook 2012.*

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