

An overview of coastal Apulian wetlands (Southern Italy)

Giorgio De Giorgio¹, L.E. Zuffianò¹ and **M. Polemio**¹

¹CNR-IRPI, National Research Council – Research Institute for Hydrogeological Protection
Via Amendola 122 I, 70126 Bari, Italy

ABSTRACT

The Apulian peninsular coastline (940 km) includes many urbanized areas and coastal wetlands, the latter in some cases interested by huge touristic transformations.

The region is dominated by large and deep karstic and coastal aquifers and by some minor porous coastal aquifers the coastal outflow of which create tens of coastal wetlands. They should be considered dependent by groundwater outflow and by dynamic equilibria with sea, in terms of seawater intrusion and ingression.

For a long time, these areas were considered unproductive, sources of malaria, and were depopulated. During the second half of the last century, relevant reclamation works were realized, the coastal areas have assumed a role of primary importance for the social and economic development. This has led to a growing anthropic pressure along the coast that has led to a progressive deterioration of the coastal wetland environments.

High vulnerability to pollution, overexploitation trend, increasing seawater intrusion effects and global groundwater quality decrease threaten the hydrological and ecological equilibria of these water systems.

The collective awareness of the important role played by the transition environments, gave rise to a conceptual innovation on the protection and enhancement of wetlands.

The research is finalized to define an inventory of the regional coastal wetlands, focusing on that the role of groundwater outflow is relevant if not prevailing.

For each of these wetlands were defined a number of information and characteristics based on bibliographical knowledge and field surveys. The geological and hydrological conditions were recognized. On this basis, the hydrological and hydrogeological conceptualization was ended, permitting to define a steady state hydrological balance of wetlands. The role of seawater intrusion and ingression and the role of these in terms of salinity is analyzed. The scope is to offer a global overview of these wetlands to promote a systematic approach to their safeguard.