

Integrated water resources and coastal zone management in European lagoons in the context of climate change



THEME: Socio-economic and policies issues

CASE STUDY AREA: Ria de Aveiro (Portugal)

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The Ria de Aveiro with a population of 333,114 inhabitants (2010) in the watershed area, has considerable regional and national economic importance, namely through the activities related to: port facilities, industries, aquaculture, salt-production, fishing, tourism, recreational activities, agriculture (e.g. Alves et al., 2011, <http://www.polisriadeaveiro.pt/>). In addition to this, it also supports an important artisanal fishery, shellfish collecting and sport fishing activities (e.g. <http://ec.europa.eu/fisheries/>).

The coastal lagoon has one of the largest areas of contiguous salt marsh in Portugal, housing important resident and wintering populations of waders. The Ria de Aveiro is classified under the Natura 2000 Network, being considered as a Special Protected Area (SPA), by the EC Birds Directive (Council Directive 2009/147/EC on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended)), and by the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora).

Concerning the salt-production in Ria de Aveiro, the salt pans occupy about 15 km². The number of active salt pans has decrease from about 500 in the 15th century, to 270 fifty years ago, and only 8 remain nowadays (Silva, 2010). Many of them are now abandoned or replaced by aquaculture tanks, as a consequence of the low profitability of the sector. Due to the lack of maintenance of the abandoned salt pans, their protective walls are destroyed by the strong currents inside the lagoon as well as by the vessels' wake waves. This destruction will result in a significant increase of the flooded area in Ria de Aveiro, increasing the current velocities in the adjacent channels and the lagoon tidal prism, and therefore the saline intrusion (Picado et al., 2010). The bottom morphology will be affected in unknown ways.

References

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