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THEME: Socio-economic and policies issues

Case Study – Mar Menor (Spain)

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The Mar Menor is one of the largest coastal lagoons on the Mediterranean coastline and is subject to a wide range of uses, including large tourist resorts and intensive agriculture. The importance of the lagoon and its salt marshes in terms of biodiversity has been recognised in numerous international protection schemes: it has been a Ramsar International site since 1994; it is considered a Special Protected Area of Mediterranean Interest (SPAMI), established by the Barcelona Convention in 2001; and a Site of Community Importance (SCI) to be integrated in the Nature 2000 Network (EU Habitats Directive). This zone is also a Specially Protected Area (SPA) for the nest building, migration and hibernation of aquatic birds, and is protected by European legislation (Birds Directive 79/409/CEE).

The distinctive environment of the lagoon has long been attractive for visitors, with the first tourist settlements dating from the first half of the 19th century. However, a surge in touristic activities has taken place in the area since the early 1970s,

characterised by intense urban development along the lagoon perimeter to accommodate the growing seasonal population. The marked seasonality of tourism in the area (July to September) is evident when comparing the numbers of the permanent local population of about 45,000 inhabitants to the tourist population that reaches about 450,000 during summer months.

In mid 1980s, sewage from main urban areas began to be treated with the construction of water treatment facilities. However, overflows of water collectors and discharges of untreated or insufficiently treated effluents can be observed in the area, especially after storms and during the peak summer tourist season. Urban discharges are considered as the main source of phosphorus entering the lagoon (Pérez-Ruzafa et al., 2005; Garcia-Pintado et al., 2007).

Around the same time, water derived from the Tajo-Segura river diversion, generated a profound transformation of the agricultural practises in the adjacent agricultural area, Campo de Cartagena, that changed from extensive dry crop farming of cereals, olives, almonds and carob beans to intensively irrigated crops (Fig. 1). At the present, Campo de Cartagena is one of the most productive and profitable agricultural areas in Europe, and the use of water, fertilisers and pesticides has increased dramatically.



Figure 1. Evolution of the area occupied by intensively irrigated crops (Has.) in the adjacent agricultural area Campo de Cartagena from 1970 to 2010 (Redrawn from Martínez-Fernández and Esteve-Selma, 2005 and completed with data available at www.carm.es).

Due to increased agricultural water usage and decreased groundwater exploitation, phreatic levels have risen, As a result, some watercourses, such as El Albujón wadi, now maintain a regular flux that is fed by ground water with high nitrate levels (Lloret et al., 2005; Velasco et al., 2006).

References

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