



## Putting a price on the Catalan coastal ecosystems

**Ecosystems in the Catalan** coastal system in Spain are worth €2,573 million per year to local citizens, according to new research. By placing a value on ecosystems the research has provided insight into integrated coastal zone management (ICZM) in the area.

**An ecosystems service** is the flow of benefits provided by nature to people. Traditionally ecosystems services are not fully incorporated into coastal zone management. However, their economic valuation could help develop emergent EU policy such as the Marine Strategy Framework<sup>1</sup> and the recent protocol on ICZM in the Mediterranean<sup>2</sup>.

The study estimated the monetary value of 14 services provided by natural and semi-natural coastal ecosystems in Catalonia and for which no economic markets exist. Services with an existing market value, such as fisheries and agriculture, were not included. Some examples of services valued are the regulation of freshwater, erosion control, soil formation and atmospheric gas and climate regulation. The monetary values of the services provided by the different types of environment present along the Catalan coast were derived from previous studies and a total value was calculated.

The results indicated that the Catalan coastal systems delivered an economic value of at least €2,572.85 million to citizens in 2004. On a per hectare basis, the highest valued ecosystem service was protection against disturbances, such as storms and hurricanes (€62,324 per hectare per year), and the beach and dune areas provided the highest per unit benefit (€83,820 per hectare per year). However, in terms of total value, temperate forest had the greatest worth because it covered the largest area.

The study also analysed the values of ecosystems geographically. This indicated that the least developed and more natural regions in the northern and southern areas contributed most to the total value of the area. In comparison the ecosystems of the highly populated Barcelona area contributed only 1.2 per cent.

The research provides an economic value for ecosystem services that could help policy makers make informed decisions about land, its conservation, and coastal management. The method and insights could also be applied to research in other coastal areas. However, the researchers point out that, in most cases, a lack of data means that the figures are likely to underestimate the value of ecosystem services. For example, data show that seagrass beds provide a highly valuable service of nutrient cycling, but as there are no data on the other services it provides its total value is relatively small.

1. See [http://ec.europa.eu/environment/water/marine/index\\_en.htm](http://ec.europa.eu/environment/water/marine/index_en.htm)

2. See <http://ec.europa.eu/environment/iczm/barcelona.htm>

**Source:** Brenner, J., Jiménez, J.A., Sardá, R. & Garola, A. (2010). An assessment of the non-market value of the ecosystem services provided by the Catalan coastal zone, Spain. *Ocean & Coastal Management*. 53: 27-38.

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