

Science for Environment Policy

Cultural ecosystem services: new valuation method tested in Turkey

A process to help identify and value cultural ecosystem services has been developed by researchers and is demonstrated in a recent Black Sea case study. This highlighted the value of anchovies to Turkish identity: respondents to a survey said that they would be willing to pay 135 Turkish lira (€49) per year in order to fund environmental management that protects this culturally important species.

As part of the EU ODEMM project¹, the researchers present a new approach to identifying and valuing cultural ecosystem services that could be developed into a working method. They used the case of marine food web protection in the Black Sea to test out their approach which consists of a valuation survey and four components.

1. Develop possible scenarios of environmental change, and identify possible links between culture and the environment in question

These two tasks should be conducted simultaneously, and form the basis of a public survey which gathers economic information to help value cultural ecosystem services (see component 4 below). The environmental scenarios were developed in the Black Sea case by scientists who identified key species in the marine food web, and pressures on these species, such as eutrophication and overfishing.

Possible links between Turkish culture and food webs in the Black Sea were first brainstormed by the ODEMM project team. These were then presented to 18 residents of Istanbul and Şile (a Black Sea coastal town) who verified and elaborated on the links. One significant link identified was the significance of the Black Sea's overall health to the residents' sense of being Turkish; a strong food web allows them to participate as they wish in activities that are important to their cultural identity, such as non-commercial fishing.

2. Map the culture–environment links onto an existing classification system for ecosystem services

This involves matching the culture–environment links to established categories of ecosystem service. For instance, the residents who reviewed the cultural links emphasised the importance of eating anchovies to Turkish culture. Anchovies were not seen primarily as a form of sustenance; therefore the researchers felt they were best classified as a cultural service, not a 'provisioning' service.

3. Develop ways of communicating the cultural ecosystem services

The culture–environment links need to be communicated to a wider audience as part of the public survey in a way that is both ecologically and culturally meaningful. In the Turkish survey, the services were illustrated with pictures.

4. Confirm the culture–environment links

The valuation survey should confirm the cultural ecosystem services. The Black Sea survey, completed by 291 residents of Istanbul and Şile, asked respondents how much extra they would be willing to pay on their annual water bill to maintain the health of the Black Sea, for example, through increases in the visibility of flagship species, such as seagulls, anchovies and turbot. They were also asked how much they would pay to change the availability and quality of anchovies specifically.

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Contact:

Corinne.Baulcomb@sruc.ac.uk;
Salman.Hussain@UNEP.org
Klaus.Glenk@sruc.ac.uk

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They were told whether 'moderate', 'substantial' or no change in environmental management would be needed to achieve varying degrees of change in these culturally relevant attributes.

Among many other results, the survey revealed that respondents would be willing to pay, on average, an extra 135 Turkish lira (€49) per year for a substantial management programme that boosts anchovy numbers and quality. In contrast, they would pay just 61 lira (€22) for a substantial programme that increases flagship species' visibility. If a survey of this type was rolled out over a larger proportion of the population, then the different willingness to pay values could potentially be used to rank the respondents' priorities, as well as help inform valuations of ecosystem services, the researchers say.

The researchers conclude that their approach needs developing further, for example, to understand how to generalise valuations from survey respondents across an entire population, but feel that it shows promise.



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