

Science for Environment Policy

Coastal ecosystem services' valuation by stakeholders improves planning decisions

A framework to value marine and coastal zone ecosystem services, which acknowledges but transcends monetary value, has been proposed by researchers. Using this approach, coastal managers can integrate the different values placed on ecosystem goods and services by various stakeholders to assess how these values affect planning decisions.

The valuable goods and services, such as greenhouse gas regulation, erosion control and fisheries supply, provided by coastal and marine ecosystems to support human wellbeing are under threat. To help protect these services, sustainable development which balances growth in marine and coastal zones with strategies to protect the environment is needed.

It has been argued that methods to value ecosystem services need to go beyond monetary valuation and should also integrate ecological and social values. One way this can be achieved is to use a participatory approach to decision making, which involves all stakeholders in policy developments and assessments.

The framework developed by the researchers includes such a participatory approach to value marine and coastal ecosystems. There are three stages to their framework. The first stage, 'setting the scene', identifies the institutional context of the decision-making. This helps managers understand the rules and regulations governing the decision to be made and the key factors that influence the decision. This stage is also used to identify relevant stakeholders, such as businesses, the public sector and civil society organisations, which might influence or be affected by coastal zone policy.

The second stage, 'deepen understanding', helps all stakeholder groups develop a shared overview of the problem, understand the long-term impacts of a decision on ecosystem goods and services, and allows stakeholders to assign values to the goods and services that would be affected by the decision. This can be achieved through focus groups or stakeholder mapping.

The third stage, 'articulate values', enables all stakeholders to discuss the different values placed on ecosystem services to gain a deeper awareness of the implications of a decision. Various methods, including citizen juries, can be used for this.

By progressing through these three stages, stakeholder values can be integrated into the development and management of marine policies. Which methods and tools are used within each stage depends on the type of decision being taken and its particular circumstances.

The researchers, based in Portugal, suggest that this framework could be used, for example, in the marine and coastal planning processes required by the [Portuguese Marine Spatial Plan¹](#) which aims to safeguard the sustainable use of resources in the sea and coastal zone. The framework can integrate top-down (e.g. proposals by government agencies) and bottom-up (e.g. business proposals for aquaculture or recreational activities) approaches in marine spatial planning and ensure a sustainable supply of ecosystem services.

Although participatory approaches may be resource intensive and time-consuming, the researchers conclude it is essential to involve stakeholders in the valuation, planning and management of complex environmental issues decisions, in order to improve decision-making and ensure successful implementation of coastal management policies.



October 2014
Thematic Issue 46

Coastal Zones

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Source: Lopes, R. and Videira, N. (2013) Valuing marine and coastal ecosystem services: An integrated participatory framework. *Ocean & Coastal Management*: 84: 153-162.
DOI:10.1016/j.ocecoaman.2013.08.001

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To cite this article/service: "[Science for Environment Policy](#)"; European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.

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