The Integration of Ecosystem Service Assessments and Valuation in Environmental and Social Impact Assessments

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Proliferation of Ecosystem Service Assessments and Valuation Studies

- From 1980-2010, 460 “ecosystem service studies” had been published according to ISI Web of Science (Seppelt et al. 2011)
- Including other publications, up to 3,000 valuation studies had been conducted as of 2008 (Slootweg and van Beukering, 2008)

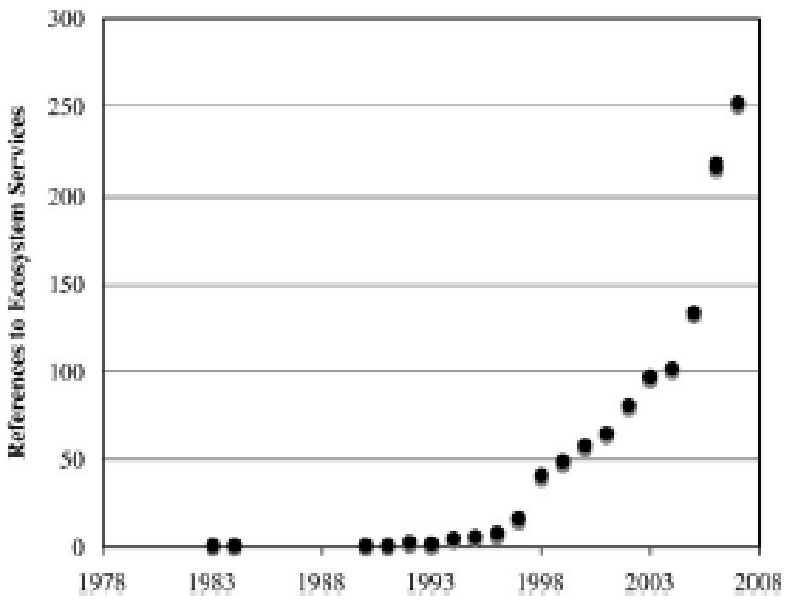


Fig. 1 –Number of papers using the term “ecosystem services” or “ecological services” in an ISI Web of Science search through 2007. “Environmental services” as a search term, was left out as it returned publications related to hospital environments. Therefore, the graph is indicative but clearly an underestimate.

From Fisher et al. 2009

Yet, Relatively Few Studies Have Influenced Decision Making

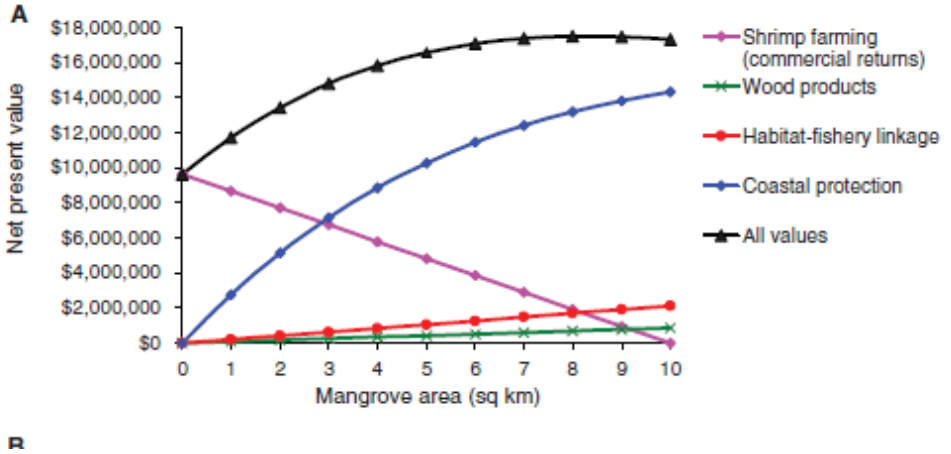
- Many studies have not been conducted in relation to a specific threat
- Scale of the study and scale(s) of the threats facing ecological stocks and flows are not always compatible
- Results don't always reach key decision makers or stakeholders
- Biophysical assessments are time consuming and expensive so people often use secondary data, which for some services, makes the valuation studies irrelevant
- Influencing decisions and policies takes more time than is often available to those who undertake the studies

However, Ecosystem Service Assessments and Valuations are Ideally Suited for ESIAs

- Ecosystem Services can help bridge the social and environmental disconnects of an ESIA

- Clear, potential threats associated with development projects makes cost-benefit analyses of likely changes in ecosystem services more useful and relevant to decision makers

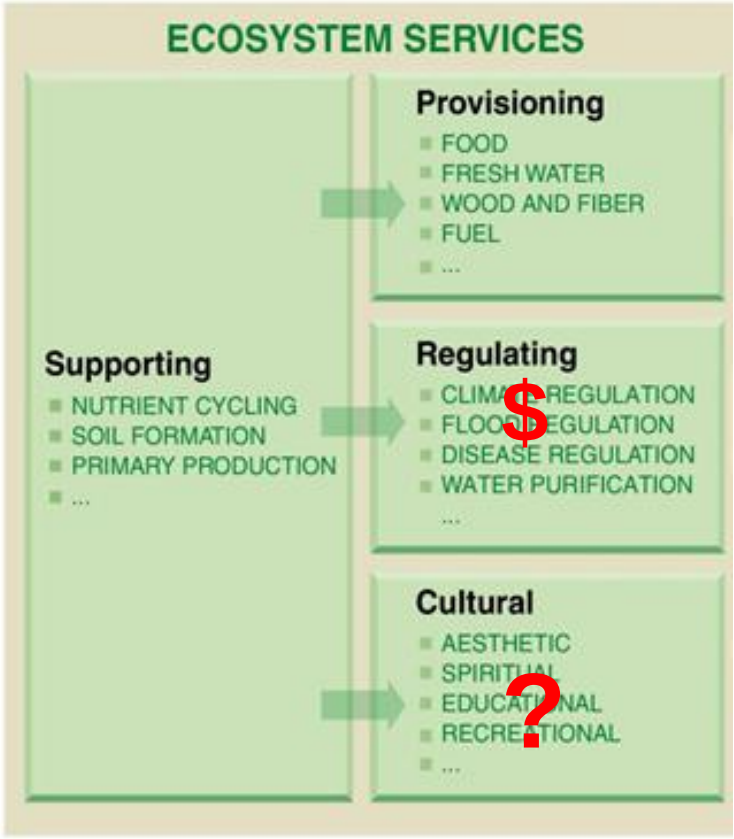
- Ecosystem service assessments/valuation can help illustrate the tradeoffs that may impact project developers, affected communities, and Government and may reveal ways to minimize negative impacts/optimize benefits



From Barbier et al. 2008

Challenges to Integrating Ecosystem Service Assessments and Valuation into ESIAs

- Ecosystem services have rarely been stated as a priority issue in impact assessment guidelines
- A systems approach is necessary as different ecosystem services manifest over different spatial scales
- Certain ecosystem services can be expensive and/or scientifically difficult to assess in a meaningful way
- Best practice guidelines and standards are lacking for conducting ecosystem services assessments and/or valuation



Proliferation of Tools and Approaches for Assessing and Valuing Ecosystem Services

Best practice guidelines on which tools /approaches are most useful in different contexts (with respect to data availability, time, money, social and ecological context, accuracy, etc.) are needed.

Sub-Global Assessment Network

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Summary

Integrating assessments of the stocks/flows and values of ecosystem services into ESIAs can provide a more accurate , holistic understanding of the true costs/benefits of a project to the developer, Governments, lending institutions, communities, and other affected stakeholders. However,

- Ecosystem service assessments and valuation must be explicitly stated as a priority in impact assessment guidelines to promote their use
- Best practice standards and guidelines are needed to support ecosystem service assessments and/or valuations in ESIAs
- Useful data is lacking for many ecosystem services (particularly regulating and cultural services) because they can be timely, expensive and/or difficult to assess
- However , progress and innovation is occurring rapidly , which should make integration of ecosystem services into ESIA easier with greater benefit s to project developers and affected communities