

Summary of the talk “Place-based approaches to the assessment of ecosystem services”, presented by Marion Potschin¹

Presentation

Assessing ecosystem services usually involves an evaluation of the biophysical structures and functions in an ecosystem, determining the ecosystem services and benefits related to humans and the valuation of these services. It is important to acknowledge that these different assessments are complementary and co-dependent.

Ecosystem services can be assessed using a habitat-, systems- or place-based approach. They can be addressed from a ‘supply’ side (capacity to provide services) or, often more difficult from a ‘demand’ side (requirements of beneficiaries).

A habitat-based approach starts with identifying habitat service associations (i.e. service themes provided by broad habitats) and habitat pressures such as agricultural expansion. This approach allows mapping of services made on the basis of spatial patterns in underlying components of biodiversity, like habitat types. Such an approach has clear links with existing conservation frameworks and approaches, and underlines the multi-functional character of ‘ecosystems’. They often make use of existing biodiversity or habitat monitoring data. However it is unclear how different habitats should be weighted to make some overall assessment of services, and how habitat combinations influence service output.

A system approach allows mapping of services based on the spatial characteristics of biophysical elements on which the service is functionally dependent, such as a catchment. This approach has the advantage that an overall assessment of service, state and trend can be made and that the generalisation of results is easier. It is however unclear how issues of multi-functionality can be addressed. Systems modelling is complex and present understandings may be limited – especially in the context of predicting spatial pattern.

A place-based assessment of Ecosystem Services (PlacES) attempts to ‘calculate’ the balance between the supply and demand of all Ecosystem Services for a specific area, weighted by the ‘preference scores’ people apply to the individual services in a given place. In this context a place is considered as an area with a common bundle of problems, but also as an area with a local identity. The place-based approach allows

- 1) mapping of services across units that have strong social relevance or resonance;
- 2) a better understanding of local contexts, and therefore priorities and values;
- 3) identification of trade-offs; 4) to test implications of alternative policies through participatory methods. Using a place-based approach makes it however difficult to

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generalise results and to model services at local scales because of uncertainties and lack of base-line data.

There are seven main questions to address the problem of understanding the relationships between quality of place and quality of life and they clearly require participatory methods to answer them:

1. What are the ecosystem services associated with this place that matter to people's well-being?
2. How are these services generated? Do they arise locally or are they generated outside the place or area being considered?
3. How important is each of these services, to which individuals or groups, and for what reasons? The way that flow links areas of production to beneficiaries varies between services. For example do people outside the area of production also depend on these services?
4. How can the importance of these services be prioritised or valued?
5. Do we expect to have enough of each of these services either here or elsewhere in the future?
6. What, if anything, could replace or substitute for each of the benefits obtained from these services, either here or elsewhere?
7. What kinds of management or policy actions are needed to protect or enhance these services and in particular how might actions directed towards one service impact or enhance another?

In conclusion: assessments of ecosystem services have to be spatially explicit and this involves more than mapping alone. The units we deal with have to be socially resonant. A big challenge to overcome is the accusation that ecosystem service assessment deals only with unique cases and is not a scientifically sound methodology.

Discussion

Catrina makes the point that people always have various perspectives on place, also within social and cultural communities.

Different logics are behind perspectives and benefits. It is therefore crucial to identify the area considered. Geographers have abandoned the concept of regional geography because 'uniqueness' does not allow for generalisation.

Penelope asks whether it is possible to combine the place-based, habitat-based and the systems approach in order to arrive at a better ecosystems service assessment?

These approaches are not mutually exclusive. They should actually be combined to incorporate all relevant data

Catrina: Why would one believe in Bayesian networks?

They provide multiple evidence to assess probabilities.

According to Martin, soil is among the most important integral parts of the ecosystem and it appears not to be incorporated in the presented methodology. How did you value the flows without paying attention to soils?

As of today we did not incorporate this issue. Indeed, more attention to soils is needed.

Catherine: Is it possible to continue the same way of assessing biodiversity?

Many ecosystems have been described physiologically. Currently research tries to translate this into ecosystem services. To increase biodiversity requires certain policies, which can be derived from ecosystem assessments. However, biodiversity hotspots for example do not necessarily coincide with ecosystem service hotspots.

Brooke: How useful are valuations if we don't know all the services related to a certain ecosystem?

The way of valuation may be fuzzy and includes many uncertainties, but despite that, we should look at the evidence whether possible investments could improve ecosystem services. An ecosystem approach tries to convince people of an adaptive approach. Valuation of ecosystem services implies uncertainty.

Martin: Ecosystem services are dynamic. How far into the future do we have to sum up valuation?

We need to make this judgement all the time. It is based on the best possible guess.

Imam: How did you deal with stakeholders?

We did one case-study where all different stakeholders were invited for a stakeholder meeting. It appeared that many of them were interested in issues not related to their catchment. Nevertheless it is important to involve stakeholders in order to get support.

Caspar Verwer