

Integrating Biodiversity and Economic Values in the Planning and Design of Ecosystem Networks

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Ecosystem networks are key landscape features that support biodiversity. However, ecosystem networks are not only important features for the realisation of ecological values (such as survival of target species), but they are also a source of economic benefits. Ecosystem networks provide, for example, a setting for recreation and tourism, attractive locations for housing and settlement of companies, clean air and water. Therefore, not only nature conservation organisations, but many other stakeholders benefit from the presence and maintenance of ecosystem networks. As a consequence, in decision-making on ecosystem network development, a sound ecological basis is not enough.

Because land is a finite resource, habitats suitable for protected species compete with, for example, agricultural and economic development. In landscape planning, attention is therefore usually focused on the conflicts between ecological and economic interests, rather than on the positive interaction between these two. In addition, there is a lack of good economic indicators of nature that can be implemented in spatial planning, which has resulted in decision making that is not based on a good balance between ecology and economy.

This contribution describes a participatory approach for integrating ecological and economic indicators in decision-making on the spatial development of ecosystems in multifunctional landscapes. The approach under consideration implements biodiversity conservation into spatial decision making on a regional level. Cooperation with various stakeholders (be they ‘economic’ or ‘environmental’) in two Dutch case study areas is the backbone of this contribution. More specifically, the approach seeks to elicit spatially explicit preferences of stakeholders in terms of how they would like to plan and design an ecosystem network in a particular case study area. This information provides valuable input to early stages of the planning cycle.

To that end, the approach involves a search for characteristics of the ecosystem network that can be used as indicators for ecological values and economic functioning. Ecological characteristics that can be relevant are area and spatial cohesion, while recreational facilities and the level of accessibility of the area are examples of economic characteristics. The different indicators will be used to develop scenarios. By using a choice experiment, these scenarios will be presented to the various stakeholders in a case study area. A choice experiment is chosen, because this valuation method can clarify the preferences of respondents for different spatial scenario. The respondents are representatives of stakeholder organisations, such as farmers, nature conservationists, that actually make use of the ecosystem network under consideration. From the results of the choice experiment we can derive the preferences that different stakeholder groups have for different spatial options, and what they are willing to pay for these options. An innovative aspect of the approach is that the approach includes not only an economic indicator, namely the willingness to pay, but that is also identifies an ecological indicator. Results of the choice experiments will be presented and discussed.