Mini-Symposium / Thematic Session 2

Non-market valuation and environmental accounting

The System of Environmental Economic Accounting – Ecosystem Accounting is a framework to capture changes in natural capital, and the contribution of ecosystem assets and services to standard measures of economic activity. It is a development of the SEEA–Central Framework in that it embraces an ecosystem perspective and extends the production boundary to include non-market goods and services beyond those already included in the System of National Accounts. Challenges around valuation of particular ecosystem assets and the use and supply of ecosystem services still remain. Eliciting exchange instead of welfare values requires adjusting how non-market valuation methods are employed. This mini symposium aims to explore some of these questions. At the end of the symposium, participants will have a better understanding on the applicability of non-market valuation techniques for ecosystem accounting purposes, their limitations, and potential areas for improvement.

Paper 1: Ecosystem accounts meet non-market values: challenges and opportunities
Gabriela Scheufele
Ecosystem accounting for non-market benefits generated by the supply and use of ecosystem services requires monetary values. Such values can be estimated by means of non-market valuation techniques such as contingent valuation, the travel cost method, or discrete choice experiments. However, these methods are designed to estimate welfare values and not exchange values required in ecosystem accounting. To estimate exchange values, exchange prices- the price that would be charged if a market did exist for the service- need to be derived. By doing so, part of the consumer surplus is internalized. This study provides an overview of the challenges and opportunities associated with ecosystem accounting for non-market benefits by discussing conceptual challenges and providing some examples of applications.

Paper 2: Valuing species for ecosystem accounts use discrete choice experiments
Ram Pandit, Michael Burton, Gabriela Scheufele
Incorporating so-called 'species and habitat appreciation benefits' into national accounts is getting traction through the United Nations System of Environmental Economics Accounting- Ecosystem Accounting (SEEA- EA) process. From an environmental economics perspective, such benefits are estimated in monetary terms by non-use values such as the value people attach to the knowledge

that species continue to exist. A prominent challenge is that there are many ways one could frame the WTP question in the DCE. We argue that irrespective of the framings of the DCE question, one can work out the exchange value required for the EA based on the WTP estimates. We show the process of obtaining exchange value from WTP estimate for a range of different framings. This study presents how Discrete Choice Experiments (DCE) can be used for this purpose using the valuation of existence benefits of species and habitats found in the Gunbower-Koondrook-Peericoota Forest icon site as an example.

Paper 3: The benefits of embracing uncertainty in Ocean accounting

Matt Navarro

Sparked by concerns over neglecting uncertainties in Ocean Accounts, this presentation will discuss the opportunity presented for uncertainty to be embraced as a feature rather than a bug of Ocean Accounting systems. We discuss critical points where uncertainties play a role in the management cycle, and where failing to report uncertainties can lead to mismanagement. In short, uncertainties are critical for interpreting information in Ocean Accounts, and translating these interpretations into management decisions as well as providing signposts for Ocean Account developers helping refine methodologies, focus and scope to be more cost-effective.

Paper 4: Accounting for nature-based recreational ecosystem services

Professor Alejandro Caparros, Durham University, UK

Ecosystem accounting is based on exchange value to ensure consistency with national accounts. The estimation of exchange values requires excluding consumer surplus and the deduction of manufactured inputs from output. The recent SEEA-EA argues that exchange values for nature-based recreation can be estimated with various methods, including the Consumer Expenditure (CEX) and the Simulated Exchange Value method (SEV). The former values recreational use based on travel costs incurred, while the latter uses estimated demand to calculate the price that would occur if the ecosystem service were marketed. While consumer expenditures are relevant for the valuation of recreational services, they are already part of GDP. However, the values estimated using the SEV method are not. This paper argues that the travel cost method, CV, and DC experiments provide exchange values when combined with the SEV method. This is illustrated by examples of nature-based recreation in Spanish forests.

Organisers:

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