SEEA Experimental Ecosystem Accounts (SEEA Part 2)

Draft Outline
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16 April, 2012

Background

The following outline has been developed building on earlier discussions on the possible content of SEEA Part 2, discussion at the 1st meeting of the Editorial Board for SEEA Part 2, and a subsequent round of feedback from Editorial Board members. It covers all of the 10 key measurement issues that have been set out in relation to ecosystem accounts. (The measurement issues are listed at the end of this note).

Based on discussion at the Editorial Board it was confirmed that all of the issues that were considered to be in scope of SEEA Part 2 have been identified. Nonetheless, it is likely that further development of the content and structure through the process of drafting and consultation will occur. Hence this document represents at starting point for the organisation and coverage of relevant text.

It is intended that this draft of the outline will be presented and discussed again at the Ecosystem Accounts Expert Group meeting to be held in Melbourne from 16-18 May, 2012. The focus of that discussion is to allow any clarification of intended content and to identify any potential missing areas.
SEEA Experimental Ecosystem Accounts: DRAFT OUTLINE

Chapter 1: Introduction

Context, purpose and motivation for SEEA Part 2
  Incl links between ecosystem accounts in SEEA compared to local approaches and broad global approaches (such as TEEB)

Ecosystem accounts policy applications and relevance (incl. links to sustainability) (covered by Issue 1)

Links to SEEA Parts 1 & 3

Chapter 2: Ecosystem accounting structure

Definition of ecosystems and ecosystem services
  Relationships between ecosystem structures, functions, services and benefits
  Basic model of relationships between ecosystem services and ecosystem stocks, condition and capacity
  Classification of ecosystem services
  Relationships between ecosystems, hydrological networks, the atmosphere, sub-soil resources

Statistical units (covered by Issue 3)
  Structure of land cover and ecosystem accounting units
  Geographical boundaries (incl treatment of coastal and marine environments)
  Classifications of ecosystem accounting units
  Relationship to economic and administrative units

Accounting structures (covered by Issue 2)
  Ecosystem service flow accounts
  Asset accounts
  Sequence of accounts

Key measurement issues
  Integrating information across different spatial scales
  Time of recording and length of accounting period
  Baselines and reference points
  Degradation and depletion
  Constructing index numbers

Relationships to SEEA Part 1 and SNA
  Link to production boundary and physical flows
  Link to individual environmental assets
  Links to business accounting
Chapter 3: Accounting for flows of ecosystem services in physical terms

General principles in measuring ecosystem services
Measurement scope for different types of services
Quantitative and qualitative measures
Criteria for selecting most relevant ecosystem services (covered by Issue 9)

Measurement techniques for selected ecosystem services
Provisioning services
Water supply
Carbon sequestration
Air filtration
Tourism and recreation
Coastal protection
Erosion and sedimentation control
Amenity, cultural and social benefits

Chapter 4: Accounting for ecosystem stocks in physical terms

Key concepts
Concepts of stock, condition and capacity of ecosystems
Relationship to degradation
Relationship to resilience

Component based approaches to measurement
Description of general approach
Selection of relevant components
Use of quantitative and qualitative information

Description of specific components
Land use/land cover change accounts
**Components to be determined (possible inclusions carbon, water, biodiversity, soil, timber)

Summary measures of ecosystem capacity (covered by Issue 7 & 2)
(Possible reference to EEA and Wentworth Group approaches)

Related accounts
Carbon accounts (covered by Issue 4)
Biodiversity accounts (covered by Issue 6)

Chapter 5: Approaches to valuation for ecosystem accounts (covered by Issue 10)

Explanation of SNA valuation principles
Valuation of market and non-market production
Links to consumer surplus, welfare, etc
Valuation of flows, assets, changes in assets
Relationship between prices and values

Approaches to valuation
Net Present Value NPV (resource rents, discounting)
Restoration cost & Damage avoidance approaches

Valuation techniques
Techniques for valuation of ecosystem services
(provisioning, regulating, cultural)
Techniques for the valuation of ecosystems

Challenges of measurement and interpretation (incl. valuing ecosystems under uncertainty, complex ecosystem dynamics)

Chapter 6: Accounting for ecosystems in monetary terms (covered by Issues 2 and 10)
Uses of estimates in monetary terms
Integration of ecosystem accounts and economic accounts in monetary terms
Sequence of accounts and recording degradation
Aggregate measures (Degradation adjusted measures of income and saving)
Relationship to SNA balance sheets and wealth accounting

Treatment of taxes, subsidies and other transactions related to ecosystems
Incl payments for ecosystem services, links to environmental protection and resource management accounts

Annexes

List of references

List of issues for SEEA Experimental Ecosystem Accounts
1. Policy applications
2. Structure of accounts
3. Land cover mapping, land cover classifications and accounting units
4. Carbon accounts, Nitrogen and Phosphorous balances, and Soil accounts
5. Landscape accounts and landscape ecological potential
6. Biodiversity accounts and indexes
7. Ecosystem health/Total ecological potential
8. Classification of ecosystem services
9. Prioritisation of ecosystem services
10. Principles of monetary valuation