Progress on SEEA Experimental Ecosystem Accounts

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General Progress on Technical Issues

- Strong progress in drafting complex ideas
- Problem of aligning terminology and expression with limited set of central concepts
- Very good engagement by Editorial Board
- Very good involvement by group of experts
- Continuing to develop connections to experts in a range of areas

Chapter outline

- 1: Introduction
  - Set context and policy relevance, objectives and measurement basis
- 2: Principles of ecosystem accounting
  - Perspective on ecosystems
  - Relationships between stock and flows
  - Statistical units
  - General measurement issues
- 3: Ecosystem services in physical terms
  - Measurement boundaries and classification
  - Accounting structures
  - Measurement approaches

Chapter outline (continued)

- 4: Accounting for ecosystem capital in physical terms
  - Ecosystem capital model
  - Measurement approaches
  - Accounting for carbon and biodiversity
- 5: Approaches to valuation
  - SEEA valuation principles
  - Approaches to valuation of ecosystem services
  - Aggregation and scaling
- 6: Accounting for ecosystems in monetary terms
  - Sequence of accounts and wealth accounting
  - Related monetary transactions

Objectives of SEEA Part 2

- Accounting requires a focus on the relationship between stocks **and** flows
- Abstraction / simplification of complex "nested" systems
- Underpinned by an approach that is focused on spatial areas
- Aim to
  - Describe the accounting relationships and measurement boundaries
  - Outline possible measurement approaches
  - Present indicative but not definitive accounting structures and accounts

"Experimental" Accounts

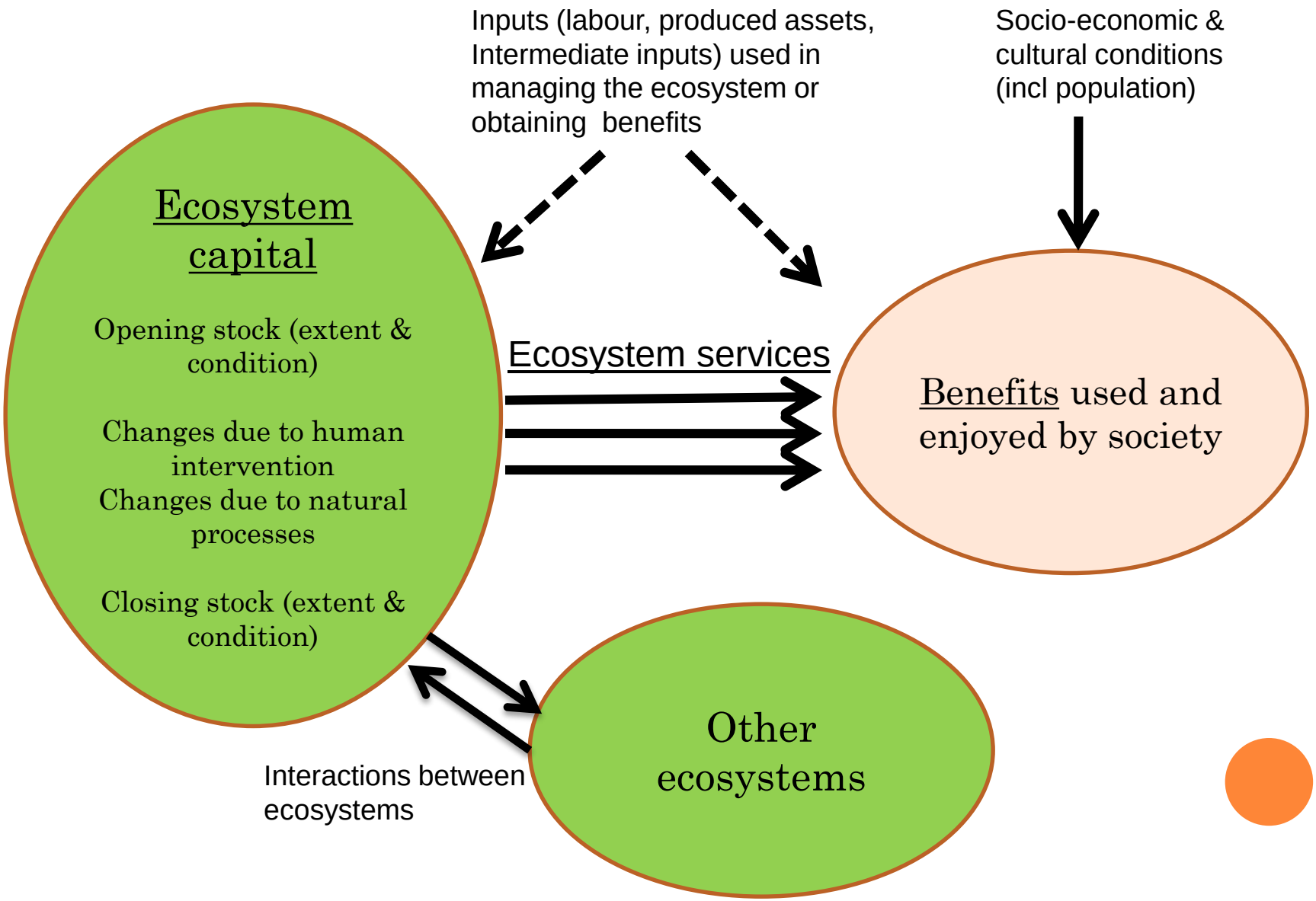
- SEEA-2003 included discussion on these issues
- Ecosystem accounting is a merging of science of ecosystems, national accounts, ecological economics, official statistics – these are well developed fields
- The conceptual model is new but showing strong convergence of key accounting relationships
- The experimentation lies in measurement approaches to estimating the accounting relationships

Status of Chapter 1: Introduction

- First draft seen once by Editorial Board but sense that it covers most key points
- Ambition to explain the relevance and context for ecosystem accounts and their basis in well established areas of ecosystem science, ecological economics, and national accounts and official statistics
- Description of links to SEEA Central Framework and the SNA important
- Needs broad feedback to engage multiple disciplines

Status of Chapter 2: Principles of Ecosystem Accounting

- This chapter outlines basic accounting relationships between ecosystem capital and ecosystem services and benefits
- Challenge to embed SEEA accounting logic of stocks and flows within the frames of reference used by ecologists and economists
- Also develops the idea of statistical units for measuring ecosystems at a national scale
- Needs ongoing and broader discussion to bed down key ideas but convergence on the central concepts is happening
- Outstanding issues
  - Treatment of marine areas and the atmosphere
  - Classification of statistical units for ecosystems


Inputs (labour, produced assets, Intermediate inputs) used in managing the ecosystem or obtaining benefits
Socio-economic & cultural conditions (incl population)
Ecosystem capital
Opening stock (extent & condition)
Changes due to human intervention
Changes due to natural processes
Closing stock (extent & condition)
Ecosystem services
Benefits used and enjoyed by society
Other ecosystems
Interactions between ecosystems

Status of Chapter 3: Ecosystem Services in Physical Terms

- Builds on the concepts of ecosystem services from Chapter 2
- Classification (CICES) developing
- Scope issues around abiotic flows and cultivated biological resources
- Decisions needed on possible structure for accounts and tables
- Further refinement needed of examples and methods
- Well linked to leading ecosystem service researchers and ongoing dialogue needed

Status of Chapter 4: Ecosystem Capital in Physical Terms

- **Ecosystem capital** the term chosen to reflect the measurement of "stock" in ecosystem accounting
- Conceptually must be considered as a combination of quantity – **extent**, and quality – **condition**
- Using measures of extent and condition can assess **ecosystem capacity** to supply ecosystem services.
- Reductions in ecosystem capacity due to human activity are **consumption of ecosystem capital**
- The condition and capacity of ecosystem capital cannot be measured directly thus need to assess components or properties of ecosystems

Chapter 4 (continued)

- Various measurement approaches have developed that can be related within this framework
- For SEEA the link between ecosystem capital and ecosystem services is central
- Work needed on approaches to compiling ecosystem capital accounts and examples of these approaches
- Text developing well on accounting for carbon and biodiversity
- Good connections to those working on various aspects of measuring ecosystem capital and more discussion will take place

Status of Chapter 5: Valuation Approaches

- Text progressing well on explaining SNA and SEEA valuation principles and possible valuation approaches
- Important distinction between valuation of monetary and non-monetary transactions
- Outstanding questions around whether various approaches to valuing public goods are consistent with valuation principles
- Discussion of this issue commenced at Melbourne expert group meeting and will be continued with experts in ecological economics and national accounts

Status of Chapter 6: Ecosystem Accounting in Monetary Terms

- Draft text not developed at this stage because outstanding questions concerning:
  - Approach to valuation for SEEA and the extent to which adjusted SNA measures should be described
  - Appropriate reflection of ecosystems in the sequence of economic accounts
- Technically, Chapter 6 issues are primarily for discussion by national accountants and this will continue
- However, decisions on the set of information described by the SEEA in relation to ecosystem accounting is a broader question

Summary

- Significant progress has been made
- Solid convergence towards core concepts, terminology and possible measurement approaches noting the need to allow experimentation in methods
- Strong links developing with key stakeholders
- Main challenge is determining the appropriate discussion of valuation
- The key ongoing task is discussion of the accounting concepts and approaches with multiple stakeholders across multiple disciplines