

**REVISION OF THE SYSTEM OF ENVIRONMENTAL - ECONOMIC  
ACCOUNTING (SEEA)**

**SEEA Experimental Ecosystem Accounts**

**Draft material prepared for the Technical Expert Group Meeting on Ecosystem Accounts**

**Meeting in Melbourne, Australia 16-18 May, 2012**

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**List of issues for discussion**

**Background**

This document has been prepared to provide an indication of the key questions and issues that remain unresolved in the context of the drafting of the SEEA Experimental Ecosystem Accounts. It is not an exhaustive list of issues or measurement challenges that might exist or be of relevance. However, in the view of the SEEA Editor, these questions are important in order that more practical issues of measurement might be placed in an agreed context.

The document has been structured by session number as indicated in the provisional organisation of work for the meeting of the Technical Expert Group. Discussants are encouraged to consider these questions in presenting their thoughts on the various issues and participants are encouraged to consider answers to the questions.

## **Session 2: Draft outline**

*Key document/s:* Draft SEEA Part 2, Outline

*Key questions/issues*

1. Are all of the relevant aspects ecosystem accounting incorporated in the outline?
2. Is the balance of material between different topics appropriate?
3. Is the ordering and structure of the document suitable for the preparation of draft text?

## **Session 3: Structure for SEEA Ecosystem Accounts**

*Key documents:* Draft SEEA Part 2, Chapter 2: Principles of ecosystem accounting

*Key questions / issues*

1. What are the main objectives in developing ecosystem accounts?
2. Does the description of the conceptual relationships in ecosystem accounting provide a strong basis of the discussion of ecosystem accounting? In particular are the complexities of ecosystems sufficiently explained?
3. Does there need to be a clearer distinction between measurement in physical and monetary terms?
4. Is the balance of text between the discussion of flows of ecosystem services and the discussion of ecosystems as assets appropriate?
5. Is the distinction made between ecosystem services and material and non-material benefits appropriate?
6. Is the exclusion of supporting services from ecosystem services appropriate?
7. Are the links between ecosystem accounting and the SNA & SEEA Central Framework well explained?

## **Session 4: Ecosystem services measurement and accounting**

*Key documents:* Draft SEEA Part 2, Chapter 3: Principles of ecosystem accounting  
Outcome paper on CICES  
Outcome paper on Criteria and tentative ranking of ecosystem services for inclusion in ecosystem accounting

*Key questions / issues:*

1. What are the appropriate boundaries to set with regard to ecosystem services and CICES? Particular issues concern the treatment of underground natural resources, flows from solar, wind and other abiotic flows, treatment of hydropower, the provision of space by land (and water), amenity services, conservation services, boundary with respect to bequest and existence values, ecosystem disservices (e.g. pests, disease)?
2. Are the proposed tables for the organisation of data on ecosystem services suitable? In particular, should a physical supply and use table for ecosystem services be developed?

3. How should the generation of ecosystem services be attributed to economic units?
4. Is the coverage and explanation of examples of the measurement of ecosystem services appropriate and balanced?

### **Session 5: Carbon accounting**

*Key documents:*

*Key questions / issues:*

1. How should carbon accounting be related to ecosystem accounting? What overlaps exist and where is discussion best placed?
2. What is the appropriate scope for carbon accounting?
3. What parts of carbon accounting remain to be articulated?
4. Draft Chapter 3 of SEEA Experimental Ecosystem Accounts outlines a method for measuring ecosystem services related to carbon sequestration. Is this method appropriate, are there alternatives, and what are the links to carbon accounts?

### **Session 6: Biodiversity accounting**

*Key documents:*

*Key questions / issues:*

1. How should accounting for biodiversity be related to ecosystem accounting? What overlaps exist and where is discussion best placed?
2. To what extent should the SEEA Experimental Ecosystem describe particular methods of assessing biodiversity? Can any measurement principles be established (i.e. dos and don'ts)?
3. What are the key parts of accounting for biodiversity that remain to be articulated?

### **Session 7: Statistical units and scaling of the accounts**

*Key documents:* Draft SEEA Part 2, Chapter 2: Principles of ecosystem accounting

*Key questions / issues:*

1. To what extent should statistical units be defined in relation to individual ecosystem services (which may operate at different spatial scales)?
2. At what level of specificity should the smallest statistical unit be defined and what information is needed to delineate this unit (is land cover sufficient)?
3. Should there be aggregation of statistical units and, if so, for what purpose and can any specific methods be recommended?
4. How should marine ecosystems and the atmosphere be considered in ecosystem accounting?
5. How should statistical units for ecosystems be linked to economic units?

### **Session 8: Capacity and condition measures and degradation**

*Key documents:* Draft SEEA Part 2, Chapter 4: Accounting for ecosystem stock, condition and capacity

*Key questions / issues:*

1. Is the model of stock/condition/capacity appropriate for the assessment of ecosystems and changes in ecosystems?
2. Must an indirect, component or characteristic based approach be used to the measurement of ecosystem stock, condition and capacity? If not, what alternatives might be used?
3. If a component based approach is used how can the components be aggregated to form an overall measure of ecosystem condition and capacity?
4. What role do reference conditions need to play in the assessment of ecosystem condition and capacity?
5. How should degradation be defined and measured?

### **Session 9: Valuation in ecosystem accounts**

*Key documents:* Valuation principles in the SNA and the SEEA  
Summary of approaches to valuing ecosystem services

*Key questions / issues:*

1. Is the explanation of SNA and SEEA valuation principles clear? Are there any issues in adopting these principles as the basis for valuation in ecosystem accounting?
2. Are there other approaches concerning the estimation of prices for ecosystem services that should be mentioned or other aspects that should be discussed?
3. How can individual estimates of ecosystem service flow values between aggregated to estimate national or regional level estimates?
4. Should a valuation of an ecosystem as a whole be described? If so, is this equal to the NPV of all relevant ecosystem services?
5. What information should be organised in basic tables for estimates of the value of ecosystem services?

### **Session 10: Sequence of accounts, aggregation and integration**

*Key documents:* Annotated outline of SEEA Experimental Ecosystem Accounts, Chapter 6  
*Bram's note*

*Key questions / issues:*

1. What are the key policy and analytical uses of data on ecosystems in monetary terms?
2. Should ecosystems be treated as a quasi institutional sector or considered a part of the portfolio of assets managed by standard institutional sectors (i.e. corporations, households, governments)?
3. Should degradation adjusted measures of national accounting aggregates (such as GDP and Net National Income) be described?
4. What issues arise in creating wealth accounts incorporating the value of ecosystems?