

SEEA EXPERIMENTAL ECOSYSTEM ACCOUNTING

SEEA EEA TECHNICAL RECOMMENDATIONS

PAPER PREPARED FOR UNCEEA MEETING, JUNE 2017

14 June 2017

Background

1. In March 2017, a revised draft of the SEEA EEA Technical Recommendations was circulated for a final round of comment to various experts. Comments were received from 31 experts/agencies (a list is provided in Annex 1). As in previous consultations on the Technical Recommendations, the majority of the comments were substantive in nature and exhibited a close and considered reading of the text. This continued and expanding high level of engagement is to be very welcomed and suggests that interest in ecosystem accounting remains high.

2. This note provides a summary of the comments received and proposes a process for responding to the comments and finalising the Technical Recommendations. UNCEEA is asked to take note of the comments and provide feedback on the proposed approach.

Summary of comments

3. As noted, this final round of consultation on the Technical Recommendations generated substantive feedback – over 100 pages of comments were received. Overall, the feedback should be considered positive. While there continue to be substantive technical comments and feedback, this should be considered expected for this type of document in an emerging area of work.

4. Further, the substantive technical comments that were provided point to a growing convergence and maturity in discussion around the key issues in ecosystem accounting. For example, the model described in Chapter 3 relating to the delineation of spatial areas received no substantive criticism even though many suggestions were made for improving the details of the description. This was not the case in earlier versions.

5. It is also clear that, on the whole, the significant issues raised in the previous round of consultation in early 2016 can be considered to have been well resolved. In particular there was little, if any, concern raised on the revised structure and flow of the new document – this had been a significant concern for many in the previous consultation. A consequence of this is that the comments that have been supplied tended to focus on specific technical points and there seemed a greater level of appreciation of the underlying accounting rationale.

6. This conclusion is true at least in relation to most conceptual issues. A number of respondents repeated the point that the document is heavily conceptual and not suitable to provide specific compilation guidance. Many would like to see additional examples and more straightforward step-by-step guidance. This concern is justified and recognised. However, given the resources available to complete the Technical Recommendations, incorporating this type of information has not been possible.

7. It is also fair to say that over the three years that the Technical Recommendations have been developing there has been a distinct advance in the number of ecosystem accounting projects delivering practical experience such that the potential to provide generally agreed compilation advice is far greater now than in the past. In this regard, the combination of the increased clarity on conceptual matters and increased practical understanding provides a good basis for developing more specific guidance.

8. Annex 2 provides an extended summary of the main comments received. The comments have been grouped in the following categories:

- Style, presentation and coverage
- Scope of ecosystem accounting
- Spatial areas
- Ecosystem condition
- Ecosystem services
- Valuation and accounting
- Other comments

9. There are three key issues that emerged from the comments. They concern:

- i. The need for clearer discussion of the connection between land use and land cover in the delineation of spatial units and assessment of ecosystem condition. The SEEA EEA has been moving gradually in the direction of accepting the need, for accounting purposes, to consider measurement of ecosystems in the context of both ecological and socio-economic factors. The comments received in this round further highlighted this need and also indicated this this blending of factors needed to be applied consistently across the accounts, especially in the context of delineating spatial areas and measuring condition. While it is likely that further discussion on this issue will be required, the final version will aim to improve the consistency of the discussion.
- ii. The ongoing discussion of the ecosystem accounting model with respect to the boundaries for ecosystem services, including the boundary between services and benefits and the definition of intermediate services. The comments highlight an ongoing tension in how the boundaries for these flows should be described, notwithstanding a generally common understanding of the conceptual model. In

finalising the Technical Recommendations the comments received on these issues will be used to refine the relevant descriptions further.

- iii. The balance of discussion surrounding the use of non-exchange values within the SEEA EEA framework. The current version aims to provide discussion of both exchange value based valuations and non-exchange value based valuations of ecosystem services. The intention is to provide appropriate context for valuation for different policy and analytical needs. A number of responses noted either a need to limit discussion of non-exchange values or, alternatively, to provide a clearer option for undertaking ecosystem accounting using different valuation assumptions, perhaps as part of complementary accounts.

These issues will be a particular focus in finalising the Technical Recommendations.

Finalising the Technical Recommendations

10. The intention is to finalise the Technical Recommendations by the end of July 2017. The proposed approach is the following:

- i. Consultants Carl Obst and Lars Hein prepare proposed responses to the full set of comments by end June.
- ii. the SEEA EEA Technical Committee to meet in mid July to determine the appropriate responses.
- iii. the Technical Recommendations to be updated by end July based on the decisions of the Technical Committee.

11. All efforts will be made to take into consideration all comments received. Of course, since not all comments indicate agreement on a given issue, it will be necessary for choices to be taken in terms of the appropriate response to be incorporated in the final version. As noted in the previous paragraph, options for responses will be proposed by the consultants for consideration and decision by the SEEA EEA Technical Committee.

12. Further, given the time available compared to the number of comments received, a balance will need to be found in terms of how many substantive changes can be adopted in the final version. Put differently, there are some issues raised that cannot be resolved quickly and others that may be considered fair but less central to the use of the Technical Recommendations (for example, comments in relation to carbon accounting). In these cases, the final version of the Technical Recommendations will, as appropriate, note issues as requiring further research, testing or discussion. In many cases, this additional work may be undertaken as part of the planned revision of the SEEA EEA in the coming 3 years, or as part of providing compilation guidance and related materials.

Issues for discussion/decision

13. UNCEEA members are requested to consider the proposed approach to finalising the Technical Recommendations. Specific comments on the summary of responses from the

consultation round would also be welcome and should be forwarded to UNSD no later than Monday 26 June.

Annex 1: Experts/Agencies responding to the final draft SEEA EEA Technical Recommendations

Gut Ziv – University of Leeds

Leo DeNocker – Vito, Belgium (via BEES)

Sander Jacobs – INBO, Belgium (via BEES)

Statistics Norway & NINA

Kyrgyzstan Statistics Office

Statistics Netherlands

Statistics South Africa

INEGI – Mexico

Statistics Austria

Michael Vardon/Heather Keith – Australian National University

Emil Ivanov – University of Nottingham

Eurostat

European Commission DG Research and Innovation

IBGE – Brazil

UK DEFRA

US Bureau of Economic Analysis

Charles Rhodes – US EPA

SANBI – South Africa

Petteri Vihervaara – Finnish Environment Institute (SYKE)

FAO Statistics Division

Alessandra La Notte – JRC

Steve King – UNEP-WCMC

Statistics Canada

European Commission DG Environment

Michael Bordt – UN ESCAP

Conservation International

CSO India

Mauritius Statistics Office

European Environment Agency

Statistics Sweden

Australian Bureau of Statistics

Annex 2: Summary of comments

The following is a summary of comments from the final round of consultation on the SEEA EEA Technical Recommendations. The summary here covers those comments that point to issues requiring (i) further clarification, (ii) further conceptual discussion or (iii) suggestions for additional content or changes in focus for the document.

The summary does not cover those responses that identified editorial or similar corrections or where suggestions were made for slightly altered or additional text but where the intent in the text was unaffected. While not included here, these types of responses will be taken into consideration in finalising the Technical Recommendations.

Style, presentation and coverage of the Technical Recommendations

The following comments were made in relation to the style, presentation and coverage of the Technical Recommendations:

- Requests for more concise language and concern that the document was too technical in nature and suited primarily to experts in ecosystem accounting
- Request explicit recognition that the TR does not reflect a “cookbook” for ecosystem accounting
- Need for more examples, especially to highlight progress outside of Europe
- Include more direct advice on the datasets required and their potential reliability
- Question the extent to which the TR can leave the door open to further research
- Request for a compilation manual and an applications and extensions document
- Request for additional references and a listing of all published ecosystem accounting outputs
- Include a listing of all tables and figures
- Include guidance on the process for engaging stakeholders in ecosystem accounting and emphasise the need for multiple experts across many disciplines
- Describe the benefits from using the ecosystem accounting framework as the basis for expanding data collection
- Highlight the limitations of the accounts
- Recommend more strongly the fully spatial approach to ecosystem accounting
- Develop a range of scenarios to support analysis
- Clarify further the links to the SEEA EEA and the relative status of the TR.
- Note that the discussion of carbon accounting provides only references to materials and discussion could be expanded.

Scope of ecosystem accounting

The following comments were made in relation to the scope of ecosystem accounting described in the Technical Recommendations:

- Key issue of the extent to which the SEEA EEA should discuss valuation only in the context of SNA aligned values or whether such a limitation would significantly limit the usefulness and relevance of the accounts. Both views were clearly described.
- In the context of applying non-SNA based valuations a proposal was to allow for the development of complementary accounts to allow the accounts to be applied in broader contexts.

- Request to limit the scope of ecosystem accounting to natural areas, i.e., excluding urban and agricultural ecosystems. At the same time, others highlighted the need to ensure these areas were included noting however that urban ecosystem might need special consideration.
- Clarification of the extent to which SEEA EEA can be applied at sub-national scales

Spatial areas

The following comments were made in relation to the description of spatial areas in the Technical Recommendations:

- Provide advice on the appropriate number of classes of ecosystem assets (i.e. number of ecosystem types) especially in the context of time series measurement
- Clarify the links between land cover classes and ecosystem types and the limitations of land cover and land use data for delineating ecosystem assets
- Improve description of the link between ecosystem assets and ecosystem types
- Consider issues in the definition of urban ecosystems
- Explain the treatment of linear features – should they be considered distinct ecosystem assets?
- Review the details provided on compilation of spatial data, the distinction between vector and grid based approach and advice with respect to national spatial data infrastructure
- Explain delineation of spatial areas in the situation where a single ecosystem asset crosses national boundaries
- Explain further the potential to link ecosystem assets to institutional owners
- Clarify the treatment of marine areas with respect to the predominant terrestrial focus of the TR
- Provide a definition of an ecosystem and a landscape

Ecosystem condition

The following comments were made in relation to the measurement of ecosystem condition described in the Technical Recommendations:

- Provide a clearer explanation of the way in which non-ecological factors should be taken into account in the measurement of ecosystem condition. This includes discussing the role of contextual variables (e.g. proximity to population centres) and drivers of changes.
- Explain further the links between condition, ecosystem service flow and ecosystem capacity.
- Consider how non-ecological factors might be applied in the determination of reference condition
- Introduce proposals for condition metrics and a relevant structure for them
- Discuss the impact of scale of assessment in measuring ecosystem condition
- Clarify the meaning of “enabling factors” in the measurement of condition
- Consider discussion of fragmentation metrics

Ecosystem services

The following comments were made in relation to the measurement of ecosystem services described in the Technical Recommendations:

- Describe approaches to the allocation of ecosystem services to individual ecosystem assets in situations where services are generated in landscapes with a mix of ecosystem types
- Clarify the boundary between ecosystem services and benefits, especially in relation to cultivated crops
- Clarify the boundary of non-SNA benefits
- Clarify linkages of ecosystem services to users and beneficiaries
- Clarify definitions of intermediate services and related concepts of intra- and inter-ecosystem flows and ecosystem processes.
- Improve explanation of ecosystem service classifications
- Review selection and description of specific ecosystem services used as examples
- Discuss further the treatment of ecosystem disservices
- Clarify the treatment of carbon sequestration and carbon storage as ecosystem services
- Consider explicitly the treatment of sink services and associated unmediated residual flows
- Discuss issues of aggregation and connections between micro and macro scales especially in the context of biophysical modelling
- Clarify discussion of changes in the production boundary implied by ecosystem accounting
- Review / explain further the structure of Table 5.2 showing the supply and use of ecosystem services
- Clarify definition and role of ecological production functions

Valuation and accounting

The following comments were made in relation to valuation and accounting treatments in the Technical Recommendations:

- Need to clarify the boundary in valuation between the economic and non-economic aspects of ecosystem services
- Explain further the policy rationale for integrated accounts based on exchange values
- Clarify potential to attribute estimates of ecosystem degradation to economic units and explain further degradation adjusted estimates of GDP and wealth, and the link to changes in asset value
- Describe the accounting treatment in the case of investment in ecosystem assets
- Clarify the discussion on the use of restoration cost approaches
- Describe further the institutional assumptions underpinning exchange values in non-market transactions
- Discuss further the role of benefit transfers
- Elaborate and clarify the relevance of individual valuation methods
- Provide additional discussion on the choice of discount rates
- Discuss the use of avertive / defensive health expenditures
- Consider the valuation of biodiversity in the context of exchange values
- Consider the valuation of cultural services and non-use values in the context of exchange values

- Consider the potential to use Land Expectation Value approaches in valuing ecosystem assets and more generally discuss links between market values of land and ecosystem asset values
- Clarify the distinction between ecosystem capacity, sustainable use and potential service flows and explain the effects of scale in their estimation
- Distinguish clearly between pricing and valuation
- Expand description of integrated accounts in chapter 8
- Improve explain of the place of ecosystem capacity in Figure 2.2
- Clarify that the valuation channel #1 does not apply only to provisioning services
- Explain further the different types of integration and the respective roles of balance sheets and supply-use tables
- Consider alternative structure for table 6.1 showing valuation methods

Other comments

The following additional comments were made in about the Technical Recommendations:

- Incorporate discussion on the linkages between accounting for condition, capacity, degradation, risk, resilience and sustainable use
- Highlight the need for measurement of change over time and the potential implications for data collection and methods
- Explain further the role of thematic accounts, the integration of these accounts with ecosystem accounts and the links to SNA and SEEA CF accounts. In particular, explain the connection between biodiversity accounts and condition accounts
- Consider further issues of downscaling of data to ecosystem asset level
- Re-consider current discussion on the length of time required for the completion of accounts and the frequency of compilation
- Explain the requirements for the use of modelled data in accounting
- Discuss issues of accounting at different scales for thematic accounts
- Expand discussion on accounting for biodiversity in Chapter 9
- Provide clear signal that all classifications and table structures are not final or mandatory
- Consider providing recommendations regarding the accounts that should be compiled