DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS

System of Environmental Economic Accounting

System of Environmental-Economic Accounting 2012 – Experimental Ecosystem Accounting Revision

First Global Consultation on:

Chapter 3: Spatial units for Ecosystem Accounting

Chapter 4: Accounting for Ecosystem Extent

Chapter 5: Accounting for Ecosystem Condition

Comments Form

Deadline for responses: 30 April 2020
Send responses to: seea@un.org

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The comment form has been designed to facilitate the analysis of comments. There are nine guiding questions in the form, please respond to the questions in the indicated boxes below. To submit responses please save this document and send it as an attachment to the following e-mail address: seea@un.org.

All documents can be also found on the SEEA EEA Revision website at: https://seea.un.org/content/seea-experimental-ecosystem-accounting-revision

In case you have any questions or have issues with accessing the documents, please contact us at seea@un.org

Question 1: Do you have any comments on the definition and description of ecosystem assets and ecosystem accounting areas and the associated measurement boundaries and treatments?

For Chapter 3 - I think the definition and description of EAs is clear and I like it.

A couple of boundary thoughts on EAs: Para 3.11 – what about the sea surface as well as land surface? Also Para 3.13 – for marine areas – are we working with a single column as an ecosystem asset then? In para 3.34 we find out this is not the case – I think it would be helpful to have a bracketed comment on that earlier in the chapter.

On EAAs. With respect to the bullets in para 3.15 – I would recommend that other areas of interest also link to urban areas and that if protected areas are listed here they may need to be also highlighted alongside urban ecosystem accounts in chapter 12.

Table 3.2 is useful.

Second black bullet in para 3.30 – on hedgerows etc. It would be good to mention links to para 3.32 here.

Question 2. Do you have any comments on the use of the IUCN Global Ecosystem Typology as the SEEA Ecosystem Type Reference Classification?

Para 3.37 – excluding subterranean ecosystems appears to be contradictory to Para 3.12. Where unconfined aquifers are included. I understand groundwater ecosystems are an ecosystem type of the IUCN GET too.

As highlighted before, I am not sure if the IUCN GET is reasonably proportionate. For example, if 50% of the world belongs to the Biome: T7 Intensive anthropogenic terrestrial systems should this really be only 4 ecosystem classes out of 103? I think it needs to be where extensive land-use and mosaics fit in. For instance, High Nature farmland is something of high ecological value in Europe, compared to the big intensively farmed fields. A large number of the national parks in England are characterised by this land-use. I am sure this can be linked to the IUCN GET but this typology is geared to natural ecosystems – so a paragraph needed I think.

It seems odd there is no mention of the IUCN GET in section 3.4 or Annex 3.3. Delineating these ecosystem types would seem an important thing to consider. Even if it is a case of highlighting crosswalking possibilities (actually this comes out in Para 4.10 in Chapter 4 – maybe highlight in Chapter 3 too).

Question 3. Do you have any comments on the recording of changes in ecosystem extent and ecosystem condition, including the recording of ecosystem conversions, as described in chapters 4 and 5?

Using the extent account to record ecosystem conversions seems entirely logical to me.

Great to see Table 4.2. I do very much prefer the structure of this matrix to the one in the SEEA CF! A better explanation of Table 4.2 and I assume a worked example will be included. Need to note the diagonals are stable land cover classes. These may be of interest as likely to be in more stable condition. Worth mentioning perhaps. The reductions and additions (conversions in a more aggregated way) could also be included at the bottom and right of the matrix.

I think the identification of ecosystem extent for a reference condition is a useful proposal. It is helpful that this is outlined again in Para 5.87. I agree with the framing presented in Section 5.4.5 on this topic.

Question 4. Do you have any comments on the three-stage approach to accounting for ecosystem condition, including the aggregation of condition variables and indicators?

Do they all have to be implemented? Only doing stage 1 would be very useful in itself – and actually a pretty big challenge.

Stage 1 rules out qualitative indicators. This would rule out a lot of ecosystem monitoring, EU WFD. Whilst I appreciate this is because they often involve some policy reference point and does not match to the SEEA conceptual basis for a reference, it also means we are restricting the readily available data we can use before we have started. Significant effort is usually already assured for regular processing this data via other policy programmes, so there may be pragmatic reasons not to be too strict on this. Could this be explored in Section 5.4, as is the use of pressure indicators?

Stage 2 – Para 5.55. What about where there is an optimum, central level? See this NNI reference for Moose populations: Certain et al., (2012) The Nature Index: A General Framework for Synthesizing Knowledge on the State of Biodiversity

Stage 3 - Care is needed with normalisation and aggregation, it will be hard to do this in the best way and derive the best weighting of indicators on ecological grounds. This seems a bit glossed over – maybe highlight this n Para 5.73. If one gets to this stage, from an accounting perspective – one would expect to see some effort to aggregate across ETS in an EAA. Why is this not proposed? It will be done for ecosystem extent and services.

Question 5. Do you have any comments on the description and application of the concept of reference condition and the use of both natural and anthropogenic reference conditions in accounting for ecosystem condition?

Seems sensible – Annex 5.5 is useful. Obtaining the value of all variables for a common reference will often be difficult. I would note that item 8 in the Annex 5.5 would suggest that qualitative indicators could be used.

Question 6. Do you have any comments on Ecosystem Condition Typology for organising characteristics, data and indicators about ecosystem condition?

The ECT Class 6 in Table 5.1 includes scale dependent parameters (e.g., landscape diversity) that can only be calculated at the EAA scale. That the ECT Class 6 indicators will be calculated at EAA scale is also explicit in Tables 5.3 to 5.4 and the end of Annex 5.2 on pp.22. But para. 5.53 is confusing, as many landscape level characteristics cannot be calculated from the weighted arithmetic mean of the EA values of the condition indicators, as they are scale dependent / non-additive.

In fact, in Annex 5.2 on pp.22 it states that "The proposed structure of condition accounts expects that indicators be linked to specific ecosystem types. This can be achieved by linking the landscape-level metrics (which were e.g. calculated with a moving window) to the local ecosystem type". This would seem to contradict the core SEEA EEA accounting model and the use of EAs as statistical units.

Nonetheless, the acknowledgement that landscape-level metrics is, conceptually, welcome as it would address a key issue for accounting for biodiversity as a scale dependent parameter. Even being able to do this by ET greatly improves the potential to align the SEEA EEA accounting model with the concept of species-level biological diversity (i.e., beta and gamma diversity within ETs for an EAA). Many of us have been highlighting this a necessary solution for a number of years now. Furthermore, if it is OK to calculate these Class 6 indicators for ETs at landscape scale, why cannot condition indicators be calculated across all ETs at landscape scale?

Overall, I still do not think the issues of scale dependent parameters, including species-level biodiversity, are explained sufficiently in this Chapter. Especially how they will be treated in the accounts and the scales they are reported on, if at all. This also leads to a related comment on Para 5.7, footnote 1 – is a landscape not an EAA? If not how do these spatial areas align in the SEEA EEA accounting model?

Para 5.2 and the definition of ecosystem condition only matches with ECT classes 3, 4 and 5.

Question 7. Do you have any other comments on Chapter 3?

Its seems pretty solid to me!

Para 3.12 is useful. I think this is trying to tackle some of the issues raised in the literature regarding 'Geoservices'. Is this attempt going to be made explicit anywhere? For example: Van Ree, C. C. D. F., van Beukering, P. J. H., & Boekestijn, J. (2017). Geosystem services: A hidden link in ecosystem management. Ecosystem Services, 26, 58-69; and, Pereira, P., Bogunovic, I., Muñoz-Rojas, M., & Brevik, E. C. (2018). Soil ecosystem services, sustainability, valuation and management. Current Opinion in Environmental Science & Health, 5, 7-13.

Question 8. Do you have any other comments on Chapter 4?

Again, this chapter seems pretty solid to me.

Biodiversity and other indicators are highlighted in para 4.2. This is good but I suspect some care will be needed when using ecosystem extent accounts to report on changes in these indicators. The Mutually Exclusive Collectively Exhaustive principle required for the accounts forces unique classifications. Issues and confusions may emerge around how to combine or disaggregate different ecosystem types to get a measures of forest, for instance, that aligns with the FAO definition. Or wetlands to align with the RAMSAR definition. And some types will be relevant to both, e.g., Mangroves. It may be useful to confront this somewhere, or not. But I wanted to highlight it.

Question 9. Do you have any other comments on Chapter 5?

There is a bit more clarity needed in this chapter around the treatment of landscape metrics. As set out in Question 6 response.

Para 5.4 – A key feature of the SEEA EEA is its ability to harmonise ecosystem information for different datasets. As such, the intention of the ecosystem condition account should be integrating this information – rather than building upon it.

I like Para 5.5.

In Para 5.11 Ecosystem characteristics include *recurrent interactions among ecosystem assets, as well as recurrent interactions between ecosystem assets and human society* – what does this mean? Intermediate services? Pressure indicators? Examples would be helpful.

Para. 5.82 - I got confused on the description of a thematic ecosystem asset account for biodiversity. I understood biodiversity accounts would be for EAAs. The SEEA EEA presents a Species account that is for landscape scale, s this would imply the biodiversity account supports ECT Class 6. Also an account of Species Abundances would not,

necessarily, be a Species Diversity account. It would depend on the rationale for data collection used.

Section 5.5 mentions resilience. I think also maintaining future ecosystem service options is important here too. Basically not just the resilience in the current supply to unknown future shocks but also option on services in the future that we are not using. This links well to IPBES and its NCPs