



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 consistency, Fig 3.1b on Marine should also acknowledge atmosphere and biota interactions in the vertical.

For the same reason, paragraph 3.11 should explicitly mention marine and atmosphere

Clarification on where hand-over from Marine to Terrestrial occurs (on land – e.g. terrestrial habitats like saltmarsh and sand dunes, and in waters e.g. estuaries). This is important because although very small in area, this component is extremely important in delivering services. These are described in the IUCN GET (next section), but explicit mention here would be useful, see in particular, suggestion related to linear features in comment below.

Paragraph 3.23 would be useful to include guidance that definition of EAs should also reflect aspects relating to condition, e.g. Forest on one soil type, compared with the same tree species/forest occurring on a different soil type, or at a different elevation, such that the services provided might differ due to this condition attribute.

Should Paragraph 3.29 explicitly include coastal linear habitats (including but not limited to: sand dunes, saltmarsh, mangroves, estuaries ...) as an example of linear but with measurable area?

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

The Ecosystem Functional Groups appear to be a combination of bio-climatic and natural-human, rather than functional. For example woodland provides many services/benefits, regardless of whether it is natural or plantation, and it occurs in many other EFGs. However, I recognise there is no simple answer and many potential ways to structure this. Some minor points:

Lakes are differentiated by large and small. Reservoirs are not, where do small reservoirs fit.

Canals are very different from storm-water drains (unless you only mean stormwater drains with standing water)

Use of the term 'Drivers' is confusing, as it has different connotations, primarily as a cause of ecosystem change. Would a better term be 'Controlling factors' or 'Determining factors'?

As a minor point, vegetation is a very strong controlling factor on soil (not just the other way around). Soil organic matter is primarily driven by vegetation (and climate), rather than the other way around. E.g. Chen, X., Chen, H.Y., Chen, C., Ma, Z., Searle, E.B., Yu,

Z. and Huang, Z., 2020. Effects of plant diversity on soil carbon in diverse ecosystems: a global meta-analysis. *Biological Reviews*, 95(1), pp.167-183.

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?

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?

Click here and start typing (The length of your response is not limited by this text box.)

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?

There is a bias towards classifying condition of pristine ecosystems. This falls into the trap of assuming that all natural systems evolved in the absence of human influence. In Europe, humans have been extensively modifying the landscape for >6000 years. In Mediterranean areas and the Middle East for considerably longer. What constitutes 'natural' in these systems? The attempt to define reference condition at a point in time (or relative level of condition referring to 'least-impacted' ecosystems) aims to resolve this, but it causes deeper problems. A clear example is Ch5 p27 where "Natural resource management" is described as effectively outside scope as a condition indicator. What does this mean for the >80% of Western European landscapes that are managed in some way (including semi-natural grasslands and woodlands, i.e. non-cultivated land), and that constitute the majority of our natural capital?

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

Click here and start typing (The length of your response is not limited by this text box.)

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

For consistency, Fig 3.1b on Marine should also acknowledge atmosphere and biota interactions in the vertical.

For the same reason, paragraph 3.11 should explicitly mention marine and atmosphere

Clarification on where hand-over from Marine to Terrestrial occurs (on land – e.g. terrestrial habitats like saltmarsh and sand dunes, and in waters e.g. estuaries). This is important because although very small in area, this component is extremely important in delivering services.

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

Click here and start typing (The length of your response is not limited by this text box.)

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

A good job done, considering the scale and complexity of the task, with some neat solutions. BUT ...

A consequence of the focus on ecological condition is that condition indicators relevant to service provision become ignored. Large parts of the text explicitly acknowledge the instrumental perspective (see copied text below), however all indicators focus on ecological condition, and instrumental condition indicators are cast aside, or are defined as out of scope. Instrumental indicators which characterise aspects of 'condition' relevant for ecosystem services are often very different from those which define ecological condition, but there is no clear place in the framework for them. This is particularly relevant for indicators which define condition in relation to delivery of cultural services, which rely on human interaction with the landscape in some way. Access is described as violating a number of criteria (p27), & human interaction with the landscape in almost any form is considered a form of degradation.

e.g. Ch5 p23 "With an instrumental perspective (see also DP 2.1) *those characteristics should be selected, which exert the most influence on the capacity of the ecosystems for providing multiple ES.*⁷ On the other hand, from an intrinsic perspective a good scientific understanding on what constitutes ecological integrity can also be used as a starting point to determine which characteristics need to be considered relevant.⁸ "

Ch5. A general point. Soil carbon (density, NOT stock) is widely recognised as the most important indicator of soil health. According to the framework, this would count as a chemical state condition indicator, but would probably be excluded due to correlation with soil organic carbon stock. This illustrates some tensions remain within the framework but also makes the wider point that taking an instrumental perspective leads to selection of different indicators than taking an ecological condition perspective, particularly for managed land.

Some minor points. Can 'position/location in the landscape' be explicitly mentioned as a structural property in 'landscape and seascape characteristics', since this is key to many functional (service) aspects, such as interception of runoff or sediment, coastal defence, etc.

Water table level (Ch5 p21) is not a physical stock, it is a variable; Groundwater is the stock.

Ch5 p22. Chemical state characteristics. This example “global atmospheric CO2 concentration probably should not be seen as a condition metric” is unhelpful as it introduces confusion. It might be more useful to use an air pollution example (e.g. PM_{2.5} concentration) as a valid example, or explain that CO2 concentration is not valid because it is global (not because it is a concentration)

Ch5, p22. A clearer definition of ‘functional state characteristics’ would be helpful. The text gives lots of examples which are not valid, but no clear examples of what should be considered in this category (other than unspecified composite/summary variables)