



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS  
STATISTICS DIVISION  
UNITED NATIONS



System of  
Environmental  
Economic  
Accounting

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## 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](mailto: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](mailto: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](mailto: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?**

**3.2.7, 3.2.9, 3.3.0 (Linear features)**

The text recommends to treat narrow linear elements as 1D ecosystem types. Please reformulate this as an option and state, if necessary, that whenever they are treated as 2D elements there should be made an additional calculation for their length (1D-calculation) e.g. for international comparability.

In 3.3.0, second main point, the text says that it is recommended to attribute ditches or hedgerows in agricultural lands to the surrounding ecosystem. Please reformulate this as an option, too.

Rationale:

Taking linear structures as 1D elements can jeopardize the comparability of the ecosystem accounts with other statistics (e.g. for High-Nature-Value-farmland elements, roads and paths, water courses, agricultural land use). In these statistics “linear elements” are already expressed as areas (e.g. area for transportation including narrow paths) or where linear elements are subtracted from the surrounding use (areas under agricultural use that are calculated without linear elements within them).

The experience in Germany shows that linear information e.g. from cadastre maps can be easily transformed to 2D information by buffering techniques and thus consistently integrated into GIS applications based on remote sensing data. So there is no technical need for 1D calculations. Furthermore, attributing a certain quality to agricultural land, depending on linear structures, is possible directly as well as on the basis of specifically determined 2D “linear” ETs found in these areas.

We therefore recommend that every country should decide for itself what kind of way it wants to go with regard to linear elements. However, if there is a certain need for international comparability then rules should be set how information from the accounts are presented (for certain purposes) rather than processed.

**3.5.3 to 3.5.7 EA delineation**

These paragraphs are unfortunately highly theoretical without the necessary practical advice for delineation on the ground. Of course delineation should follow ecological criteria. But even if you have only five criteria and each criterion is measured by five classes then you end up with 3,125 ecosystem types. These 3,125 ET however do not give any answer to the question, what they are good for. It would be helpful to make clear that delineations and classification should be made for purpose. The experience from the German extent account shows that the finest delineations are needed to express the specific contribution of an ET to the preservation of biodiversity (as a service or criteria for condition). All other purposes (e.g. carbon, provisioning services, amenity) require much coarser delineations to be drawn. Some ecosystem service assessments require very small scaled and specialised information (flood protection: topography) that should be used only for that specific purpose and not delineation in general.

In addition, guidance should be provided on which criteria should be used to delineate ecosystems and which should be used to determine the condition of ecosystems.

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

IUCN – GET would be compatible with the classification used in the German ecosystem extent account. Therefore so far ok

During the German accounting work we made the experience that there is a lack of recommendations for the classification of anthropogenic ecosystems that are not intensively used like hedgerows, groups of trees, alleys, field margins etc.

These ecosystems are however relevant for different kind of ecosystem services like pollination, erosion mitigation, amenity value, recreation, etc.

SEEA-EEA should point out where there is a lack for classification and additional rules for classifications should be developed

**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?**

The chapter on ecosystem condition in its current state does not give enough practical guide how to perform a condition account.

One of the most relevant reasons for this is the lack of orientation given about the purposes of an ecosystem condition account. It is not sufficient to state in different ways that the purpose of a condition account is to account for condition. Condition can be defined in very different ways and for very different purposes. So there is urgent need to explain what the relevant targets are that build the background for the analysis of condition. The purposes and targets should be mentioned in the very beginning of the chapter. At present one can find only a very brief reference on this in paragraphs 5.90 to 5.92.

The purposes of condition accounts in the framework of ecosystem accounting should be at best explained in clear distinction to the purposes of the other elements of ecosystem accounting:

Service accounts have the purpose to analyse the current flow of services. Condition accounts on the other hand should collect data that inform about the condition of ecosystems to generate future flows of services. If it is uncertain whether a future use will take place and how intensive it will be, then it makes sense that the condition account delivers data on the capacity of the ecosystem to deliver certain kinds of services.

It should also explained for what kind of services it is most important to report data that are relevant to assess the trends in condition. This can help to reduce the complexity of condition accounts to a manageable dimension. There is some evidence that conditions accounts are most important for the assessment of the ability of ecosystems to provide provisioning services and for biodiversity (the latter in the sense of the contribution of ecosystems to preserve biodiversity in an EAA or at national or international scale as an ecosystem service). Examples that can used to explain this are for instance:

- Soils can deteriorate by erosion while current harvests are still high;

- The buffering capacity of soil layers against pollutants can decrease with the risk of future ground water contamination while the current ground water quality is still good;
- Current annual timber increments can be large while soil, water and climate indicators already show upcoming drought risks;
- A comparison of potential sustainable catches with the trend of current catches can explain the extent of overfishing and give information on the future trends (positive or negative);
- The current species composition of ecosystems can be still favourable while increasing use of pesticides and fertilizers and growing isolation already indicate that habitat conditions deteriorate with the risk of future species loss or unfavourable change of species composition.

Other services are closely connected to condition criteria relevant for provisioning services and biodiversity, which gives further chance to reduce complexity without unduly narrowing the scope of condition accounts. Examples that could be mentioned here are:

- The link between soil fertility and soil carbon content;
- The impacts of changing growth conditions of forests on carbon sequestered in the timber stock;
- Risks to forest stands can be connected to future erosion risks;
- Narrowing species composition which can lead to future declines of pollination services and the associated amount of harvest.
- Deterioration of mangroves and coral reefs which can increase flood risks.

Some of this kind of examples presented in the documented could help the planners of accounts to choose the right expert groups and to organize the interaction between experts in a way that data collection, organization and aggregation could be performed in the most effective, targeted and efficient way

**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?**

Three is a something like a holy an fits for everything.  
Aggregation processes are multifold and normally require more than three steps. But this does not matter. Every aggregation scheme can be divides into three levels if one likes to do it.  
Three is a fine number and can contribute to the harmonization of the approaches of the different countries 😊

**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?**

The idea of change in the positive or negative direction is quite more relevant than fixing levels of reference conditions.  
The answer to the question what is negative or positive should made with reference to targets and purposes (preservation of biodiversity, flood control, healthy groundwater, carbon sequestration) and not with reference to historical conditions.

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

There is urgent need for a systematic explanation of the relevance of targets and purposes for an adequate, effective and efficient typology of characteristics, data and indicators about ecosystem condition. For more explanation on this issue see the answer to question 3, which also deals with the relevance of additional explanation on the purposes and targets of condition accounts in the ecosystem accounting framework when it comes to choosing the relevant condition criteria.

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

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

**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?**

It should be considered whether negative influences on other ecosystems should also be treated as condition parameters. Examples: Green house gases and pollution of groundwater from cropland.