



DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
STATISTICS DIVISION
UNITED NATIONS



System of
Environmental
Economic
Accounting

System of Environmental-Economic Accounting— Ecosystem Accounting

Global Consultation on the complete document: Comments Form

Deadline for responses: 30 November 2020

Send responses to: seea@un.org

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The comments form has been designed to facilitate the analysis of comments. There are six 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: seea@un.org.

All documents can be found on our website at: <https://seea.un.org/content/global-consultation-complete-draft>

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

General comments

Question 1: Do you have comments on the overall draft of the SEEA Ecosystem Accounting?

This is an excellent document—congrats and thank you.

A few thoughts, most of which are detailed in the sections below:

- 1) The use of ES, final ES, intermediate ES and ES flows and ES contribution could be improved by eliminating ES flows and ES contributions. If they all need to be used for historical reference, maybe use them early to define the first 3. Moreover, wherever possible use final ES rather than ES. This would help cement the concept. At present, it could (could) be read as though SEEA is reluctant to embrace the final ES concept.
- 2) The definition of ES and the choice of an ES classification system or ES list had real impact to the selection of methods and the choice of valuation method. The researchers that have documented this are well represented in chapter 5, but their work on ES classification is largely ignored in the rest of the document. I detail ways it can be included.
- 3) With regards to public letter from the Capitals Coalition, I would point to water as a key point for discussion. The Water Footprint method that is commonly used throughout industry considers not just exchanges but returns relative to water availability. Hence using the method provides decision makers clarity on risk and need. A short paper explaining (outside SEEA) explaining SEEA can provide input into the Water Footprint method would clarify the connection. I presume this work is underway in NCAVES. Please keep me on the list for commenting on outputs from that project.
- 4) The remainder of my comments are mostly about clarity and consistent use of terms. Any one is minor, but taken together they note many small changes that would make the document clearer. The most important one is the use of the term “classification system.” UNSD has criteria for what is and is not a classification system. This draft incorrectly labels several lists or groups as classification systems.

Thanks for the opportunity and we look forward to the final document and enjoying the launch next year!

Comments by sets of chapters

Question 2. Do you have comments on Chapters 1-2 of the draft SEEA Ecosystem Accounting?

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

Question 3. Do you have comments on Chapters 3-5 of the draft SEEA Ecosystem Accounting?

In chatp 5, the terms condition, characteristics, state and functioning are used. Reducing the number of terms would help avoid confusion that a different term is sometimes a different concept.

5.28 “while also supporting the incorporation of ecosystem-specific metrics at lower levels.” The metrics are not incorporated into the hierarchy—that would violate the principle of consistency. Maybe “direct reference to”

Sometimes you call ECT a typology sometimes a classification. Is there a need for 2 terms? In 5.29 you try to elevate the ECT to a formal classification system but then recognize the shortcomings. As it presently falls short, a grouping or categorization is more appropriate: Ecosystem Condition Categories, for example. This may seem trivial, but it is at the heart of what accounting is for. For example, in 5.32 groups and similar terms are used, indicating there is a violation of the principles of classification. Indeed, in 5.33 you say that the ECT even violates the principle of mutually exclusivity which is touted in 5.29.

5.37 you introduce “variables” here. Same as metrics and measures? Minimize the number of terms.

Question 4. Do you have comments on Chapters 6-7 of the draft SEEA Ecosystem Accounting?

6.25 – excellent clarification of intermediate ES

6.26 – the “should generally focus on cases where there are observable connections between ecosystem assets that are of high analytical or policy interest” will need clarification as some point in the future. Some of this needed clarification is already in 6.27. maybe amend the sentence above to “should generally focus on cases where there are (1) observable connections between ecosystem assets that are of high analytical or policy interest and (2) that are not the direct measurement of a well-functioning ecosystems condition, ecosystem capacity and biodiversity. For example, dissolved oxygen levels in a lake is a measure of ecosystem condition whereas water purification is

an intermediate service.” These boundaries create more immediate clarity. The background on these two boundaries of an intermediate ES can be provided in 6.27.

I know there is still a group that considers intermediate ES both inter-ecosystem flows and flows directly to people. If this is the case that intermediate ES are just ES. (I feel intermediate ES could be called what they are “ecosystem functions” but I know that is also not in possible at this late stage in the document.) If there is to be a “linking” of the SEEA ES list to NESCS Plus and CICES than this lack of clarity is a significant hindrance.

--also of note, with the possible exception water flow regulation services (depending on how you are defining them), all of the intermediate ES relate to “the cycling energy, nutrients and other materials through the environment (Mori et al., 2013). “ (this sentence is from 6.49).

--do intermediate ES include ALL item that are “of high analytical or policy interest” or just some? Just the ones that have been labelled ES in the MA? If it is not ALL, then this should be noted even if the boundaries of what an intermediate ES are not yet clearly defined. Not defining boundaries leaves groups open to endless debate about what to include. I can see a conversation like..”the literature says X is an ES, therefore it belongs in the tables.” Maybe an example of intermediate ES not to include would also be helpful.

→ all this said about intermediate ES, a statement to the effect of “needing a compelling reason” or including an intermediate ES in the tables is needed. I would even go so far as to recommend a statement about seeking to minimize the use of intermediate ES some of that is in 7.36, but it belong here as well..or at least a reference to it. A good comparison is on the economic side – are their “intermediate benefits” that are sometimes are in the tables?

TABLE 6.3 – the qualifications in cultivated production in the far right hand column is helpful. A bit more may be useful. later in the chapter there is an explanation that crops are a proxy measure for the contribution of ecosystems. Putting a reference to this section and that final is qualified is important. It is my understanding that there is agreement that crops are not final, but that the measurement is difficult, so for now, it is treated as final. This is especially important with livestock systems defined the way they are in 6.79.

6.38 – can you reference NESCS Plus? <https://www.epa.gov/eco-research/national-ecosystem-services-classification-system-nescs-plus>

6.40 – is not an ES classification system—make a clear statement, if violates many of the UNSD’s principles of what constitutes a classification system, not just ‘complete’

6.43 – this paragraph suggests that an ES will change from being a FES to an intermediate ES if the user changes. How does this relate to water filtration? This seems a problematic statement. The difference may be more related to where one defines the line between an ecological end product and an FES.

6.44 give examples of other classification system (e.g., IUCN GET)

6.45 “material” in some contexts represents important or that it will impact the decision being made. consider “physically material”

6.47 it is unclear if the “ progressive expansion” is by national accounting agencies or SEEA standard developers.

--excellent stuff on options values!

6.68 food, FEED, fibre and energy. Should fallow crops (e.g., NOX fixing mustard used for winter cover in the US that is ploughed sprayed with herbicide in the Spring) be defined as a crop, an intermediate ES or an ECP? (FYI -they are usually seeded and sprayed by plane).

6.111 is it worth noting where the “core definition of ES is found” in the SEEA guidance? And is that enough or should this reflect final ES? My instincts are that final should be the deciding factor.

The carrying capacity discussion is very good. An additional note, perhaps in section 6.5.3 on how the provision services of crops and livestock relate to carrying capacity should be noted. New seeds could change yield without any change in extent or condition. New livestock, as it is measured based on water, grass, etc, will not in tables.

Annex 6.2 – if this reference list is to be included, then CICES and NESCS Plus should be referred to throughout the section. For example, in the sections about defining FES and how the reference list is not “full” a reference to these is useful. There are likely others.

I have heard that there are plans to develop some kind of “linking” annex that describes how to relate CICES, NESCS Plus to the SEE ES list. If that is the case it may be worth directly saying something in chapter 6 to the effect that if you are using NESCS Plus, don’t use intermediate ES and if CICES then be careful about adding ES that are not in CICES as it may lead to double counting, tec. Or maybe that is the intent of the annex in which case there should be ample reference in Chapter 6 so that people referring back to a table or section are reminded of the annex.

7.2 “comprehensive coverage as possible is practical”

7.9 there is ample published research from ESMERALDA (czucz et al 2017) and others that the unit of measures is heavily dependent on the identification of the ES – using the MA, TEEB, CICES, NESCS Plus or the table in chapter 6 influences the selection of the units of measure. Chapter 6 finds a great deal of common ground but does not resolve the differences between CICES and NESCS Plus and other ES groups/lists (MA, TEEB). Rather than simply equating the selection of measurement units with data and methods this identification component should be recognized in SEEA.

See: Czúcz, B., Arany, I., Potschin-Young, M., Bereczki, K., Kertész, M., Kiss, M., Aszalós, R., & Haines-Young, R. (2018). Where concepts meet the real world: A systematic review of ecosystem service indicators and their classification using CICES. *Ecosystem Services*, 29, 145–157. <https://doi.org/10.1016/j.ecoser.2017.11.018>

7.12 is the “final” in this phrase clear to all readers. I could read it different ways?

“The columns for Government and Households reflect their final consumption of ecosystem services while the column for non-residents reflects exports of ecosystem services.”

7.20 I question the rationale on the third bullet. Identification of the ES will have a much more powerful effect and address this distinction anyway. It is worth moving this point to 7.9

7.36 the statement the ability of using accounts to record complex interlinkages a bit challenging, because the actual complexity is impossible to capture. I know the statement is not trying to say that, but it leads itself to misinterpretation/misuse. I would drop the first two sentences of this paragraph. The statement in 7.45 is a good example of how this could be done.

Table 7.5 –throughout the standard ES is used when FES (final ES) could be used. If the focus is truly on FES, should the standard should use FES whenever possible. The notes at the bottom of this table it just one example.

7.40 worth a reference to 7.53 here?

7.41 this point about the flows of rice between countries not being considered ES is important to understanding the “proxy” definition of crops as an FES. It would be valuable to include this in chapter 6 (and here in 7.4) as an example of how crops are effective proxy measures of FES.

7.51 you introduce “ecosystem service contribution.” Is that different from a benefit or flow? The only other place this term is used is 9.34.

7.63 worth referring in this para to the discussion on residence discussions?

7.69 please choose a different example. Chapter 6 says that nursery services are neither FES nor intermediate ES. Or just drop it. Pollination is already there.

7.72 and 7.74 could use marine and rivers examples.

7.73 economic modelling or biophysical?

Question 5. Do you have comments on Chapters 8-11 of the draft SEEA Ecosystem Accounting?

8.5 this defence of valuation does not belong in a standard

8.6 also seems unnecessary

8.7 (and throughout), from bullet 2, drop “good”. ES is already defined.

8.27-“help” reduce double counting. “alone it will not reduce”

8.29 why not use the term “intermediate ES” here to help make the connect to chatp 6?

8.37 mentions connections between ES. I don’t think that the ES are connected but that all ES are connected to the asset.

9.11 “intermediate **ecosystem** services” (consistent use of terms)

9.16 Knowing the location of the users can also impact the valuation technique used. For example, when using travel costs methods to value recreation is dependent on the location of the recreator. You say this in 9.21.

9.3 (above 9.3.1) the title of this section “valuing transactions in ES” or maybe “valuing ES transactions” is a clear term that better distinguished the SEEA appropriate valuation techniques from all valuation techniques. Please consider defining this early in the guidance and using it throughout. It would at one force a mental split amount readers, ensure a focus on transactions whenever reading the term, and define these techniques within the context of all valuation techniques.

9.17 this paragraph defines intermediate ES as being consumed in the same way as final ES are consumed. And is says they are directly used by humans either change the clearer definition in chapter 6 or change this one.

9.18 as this is a rank, use numbers, not dots for the bullets

9.22 over the coming years, or maybe as part of ongoing discussions among the CICES and NESCS Plus communities, avoiding double counting when using both Final ES and intermediate ES needs to be more clearly defined – which can be combined and how.

As mentioned in my comments on chapter 6, the choice of an ES classification system or ES list (CICES, NESCS Plus, SEEA list) influences the biophysical metrics and valuation techniques. This should be put in this section as a reminder.

9.36 in reading the different valuation methods, I'm again reminded of the confusion that "less than perfect" ES classification system creates (see la Notte 2020 in Env Impact Assessment Review and Czuzu 2020 in ecological indicators...for a description of the imperfections) and this for a discussion on how with a link of the biophysical metrics to the definition of the ES to valuation techniques:

Czucz, B., Arany, I., Potschin-Young, M., Bereczki, K., Kertész, M., Kiss, M., Aszalós, R., & Haines-Young, R. (2018). Where concepts meet the real world: A systematic review of ecosystem service indicators and their classification using CICES. *Ecosystem Services*, 29, 145–157.
<https://doi.org/10.1016/j.ecoser.2017.11.018>

This disconnect is not trivial.

There is a great mention of how the ES values follow from the biophysical measures of the ES. While this is implicit in the description of the techniques this chapter could be improved by providing guidance on the preference of techniques the measure the final ES itself and not proxies of it. The Czucz article calls (indirectly) for practitioner to stick to a definition of the ES and if there is any derivation, from this to note it. SEEA could do this directly and even use the NESCS Plus or CICES's cascade to identify which element is being valued. This would be especially helpful when aggregating valuations from within a country/EEA into an account or aggregating accounts a regional/national/international levels, especially with the call for the use of benefit transfer techniques. Moreover, it would help with the use of these accounts in other analysis (see Finisdore 2020 Ecosystem Services).

10.40 what is a "relevant users" vs a user?

10.51 and 52 does this need mention of intermedia ES within an EA? Especially if additional information on "linking" SEEA to CICES and NESCS Plus is built?

10.57 would a reminder about ES supply and use being = help in this paragraph?

10.59 ES REQUIRE both the supply and use.

10.62 "some patters of ES use"

10.63 worth stating the MA and IPBES categories such as climate, pollution, invasive species, land use change

10.65 in common law perpetuity is 121 years....just in case you've not had a long conversation with a lawyer..

11.14 "It is possible to design an extended SUT that also incorporates intermediate services supplied by ecosystems. For example, where pollination services are of relevance, an additional row might be added to recognize these flows as inputs to the generation of associated final ecosystem services, e.g., biomass accumulation of crops."

Changed added to included so as to avoid confusion that of summing the intermediate and final. Could also repeat this point. "These intermediate ES may be generated within the ecosystem—in the case of crops for example—or from an different one—in the case of water."

11.24 rewrite "high level asset class" to reflect a hierarchy or a group of asset types. just "high level" could indicate something else, like a biome in ecological contexts.

Excellent example of an extended SUT

Question 6. Do you have comments on Chapters 12-14 of the draft SEEA Ecosystem Accounting?

12.9 third bullet—15?

12.47– data is a good mention, but also the methods of compiling asset accounts are also critical. Indeed with much of the recent literature on CNCA has been much broader than the referenced eftec report. It speaks to risk analysis, operational efficiencies, and credit market access, among others. The BD Protocol and the UK Natural Capital Accounting for Organizations UK (released late November) by BIS (written by eftec and VERY similar to the BD Protocol) speaks to these issues.

12.48 –this paragraph could speak more directly to natural capital accounting methods (classification and for developing ecosystem accounts).

A bigger issue than those two---and I'm not certain of its utility for this document—is the lack of regulatory standards and force companies to comply. and the cost of developing FULL nat cap accounts verses the unproven benefit. A mention of this could be a good reason for corporations to collaboration on harmonization – access to data beyond just regulatory filings.

13.15 it is wroth mentioning state or county/council conservation plans and priority areas?

Finally, the document assumes readers are already sold on the importance and value of ecosystem accounting (the classification and harmonisation of methods creates benefits) . this was probably already discussed –and maybe I missed it in the document—but is there a section in chapter 2 or 14 about generically the values of this in making it easier to classify data, discover data, and avoid the development of new classification/accounting systems?