



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?

Overall, Eurostat welcomes this draft of the SEEA EA document, which represents very strong progress, and can bring major benefits for consistent measurement of ecosystems and their services. This is reflected by many of the comments below being on specific details. Eurostat specifically supports the use of exchange value as the core element of the valuation chapters.

An overarching comment is about the lack of reflecting some key lessons drawn from the INCA project in the EU. The INCA project tested the SEEA EEA and it made important conceptual and empirical contributions for the revision process. Separate comments are being sent by the European Commission's Joint Research Centre, which flag relevant sections and include references to conceptual clarifications the readers of the revised SEEA EA handbook will find useful. Eurostat explicitly supports these comments and in particular:

- the role of ES potential (i.e. the ecosystem's ability to generate services irrespective of the demand) and the ES demand in generating the ES actual flow
- a clearer recognition how well biomass harvest functions as a proxy for the ecosystem contribution, in particular that there is no good correlation between the amount of harvest (per hectare) and the ecosystem contribution unless the management regimes are taken into account and that alternative approaches (such as energy-based ratios) can be useful if the intensity of management cannot be reflected otherwise.
- A clearer distinction should be made between ES where exceeding the regeneration and absorption rates cause overuse of the service and the other ES. Regeneration and absorption rates only apply to part of "source" and "sink" services, not to all ES (as described in La Notte et al., 2019). These services require that a sustainability threshold is set to calculate a "potential" or "sustainable" flow. All the other ES do not need sustainability thresholds

Another overarching comment is on the context and purpose of the document. While there is strong progress, and ecosystem accounts can play a major role in environmental management, the specific goal of the SEEA EA is still not clearly defined, which means its purpose and capabilities could be overstated. In relation to this:

- Users of the SEEA EA should have an understanding of the role of environmental-economics in decision-making before being introduced to the SEEA-EA. Figure 6.1, and the accompanying Section 6.3 of the supplementary valuation guidelines, are vital context material. We suggest they should be part of the introduction or a summary of the purpose of the SEEA EA. Welfare valuation and wealth accounting methods are equally important parts of decision-processes for the environment. In this context, it should be stated that the SEEA EA should aim to standardise, but never reduce, the types of information provided to decision-makers. Alternate methods should be presented as complementary and any implication that they are competing methods should be avoided. Different methods are appropriate in different contexts, and it is important for users to understand this.

- The opening paragraph (1.1) talks about mainstreaming biodiversity and ecosystems in decision-making processes. However, the standard's reliance on exchange values means that this will not be sufficient alone, rather other approaches will also be required to achieve this goal (including ones that make use of welfare values). This is not a problem in itself, but could be counterproductive if the ecosystem accounts are expected to do more than they actually can (see para A1.8: *"neither the SEEA Central Framework nor the SEEA EA provide a complete set of information for analysing the environmental-economic relationship but that when combined a rich data set can be envisaged."* – this should have more prominence). In not accounting for some material (welfare) implications of biodiversity loss and ecosystem change, the SEEA EA must make clear that other forms of measurement are more suitable for some decision-making processes, in particular welfare valuation approaches that inform policy appraisal. Guidance on the decision context and appropriate tools / value frameworks would be a valuable addition to SEEA EA.

The individual chapters generally reflect the different views on available methods and approaches well. However, the introduction and summary material could benefit from some additional caveats to reflect this rich discussion, clarifying the role of the SEEA EA outputs in relation to policy appraisal and business decision-making. Accounting should be presented as an important component of the suite of economic tools for mainstreaming environmental value.

There is a risk that the SEEA EA material is precedent setting both on valuation approaches, while in practice some elements remain uncertain and/or untested and could be improved, and in potentially setting up exchange value approaches to be perceived as taking precedence over other valuation approaches, which they should not. Therefore, this material should continue to evolve as the consequences of applying proposed approaches are understood.

An additional point to add to the material (e.g. in 11.6) is that exchange values are ambiguous as to how ecosystem service flows have changed, so need to be presented with accompanying physical data. This is a very important point that deserves further treatment.

We also consider the concept of reference conditions to be problematic and requiring further work.

Eurostat totally disagrees with the way the global climate regulation service is described in section 6.4.3 which argues that the relevant service is the carbon stock (carbon retention). This text is very theoretical, ignores the measurement challenges for carbon stock and ignores the policy demand which focuses on carbon sequestration.

Finally, it would be useful to be clearer what the SEEA EA document principally is (a statistical standard), and what it is only at the margin (a guidance document). To increase use of the SEEA EA and integration with related activities it would be useful to develop a guidance document for Ecosystem Accounting.

Comments by sets of chapters

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

The specific goal of the SEEA EA is still not precisely defined. We would draw attention to the goal of the TEEB initiative to 'make nature visible in decision-making' as a relevant purpose that could be adopted.

(1.23) should encourage the combined use of physical and monetary benefits.

(1.30) This is true up to the point that current institutional structures and reliance on exchange values allow. The underlying problem is that current institutional structures often ignore many inputs from ecosystems to production, and this should be highlighted.

(1.49, 1st bullet): Misleading. A wide range does not guarantee comprehensiveness. It is comprehensive because all ecosystem services and assets are in scope.

(2.7) rather than 'future value' the term 'asset value' may be better. Or at least mention 'asset'.

(2.25) Resilience may also change as the nature of the shocks an ecosystem is exposed to change.

(2.34) important conclusion is that that no one perspective can give a complete view.

(2.39) divide up the sentence.

(2.73) timing also has implications for health values.

(2.79) point out that this is why monetary metrics are useful.

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

(3.11) Pelagic (marine) ecosystems should be distinguished by at least sea floor - water column - surface/near surface.

(3.18) Subsoil assets don't fit into the definition of EA as contiguous spaces of a specific ecosystem type (ET) characterized by a distinct set of biotic and abiotic components and their interactions. Typo in para.

(3.19) 'boundary' perhaps better than 'footprint'? 'Footprint' is usually used for other types of ideas.

(3.31) shouldn't the concept of ecosystem type be used here? Its used in 3.3.2.

(3.39) note the implications for measuring cumulative ecosystem effects.

(3.42) this is entirely an environmental judgement, please also bring economics into play – some small linear assets may have very high value, and this should prioritise them for measurement.

(3.4.1) the very useful SEEA-EA workshop discussing 'urban accounts' had data with a wide range of purposes. Some were simply interpreting the implications of SEEA-EA information for urban areas, others were about specific values for urban ecosystems.

Emphasis should be on the latter. Note the reinterpretation doesn't need a thematic account.

(3.55) above it says subterranean is excluded?

(3.80) "relevant for accounting for ecosystem condition and estimating flows of ecosystem services" add: "and their values and policy implications..."

Annexes 3.1 and 3.2 have a lot of relevant material, but not all of it is referenced in the main text.

(4.3) yes, but to communicate 'with relevant caveats'...

(4.14) rather than 'managed' (many environmental changes are random/ illegal/ unmanaged) better 'human driven'? Or add an explanation of what "managed" means in this place.

4.3.3 make links to sections on measuring condition, and on linear features.

5 is there coverage of the condition of linear features?

5.13 term "ecosystem health" isn't described.

5.3.3: Reference conditions are too political, not accepted by all, open to manipulation and impractical, so they are a problematic concept. They do not have the same *clear connections to long-standing ecological theory and measurement* (para 1.20) as the measurement of ecosystem condition.

The suggested alternative is to measure the baseline and a time series of change (retrospectively where possible – e.g. many UK accounts have been back casted 10 years or more).

(5.61) ... *The reference condition corresponds to a state where all condition indicators have a value of 1 (100%)* – this could be impossible, ecologically speaking, due to trade-offs as well as fluctuations/cyclicity (e.g. an ocean upwelling ecosystem with alternating sardine or anchovy dominance).

(5.77) this is dangerous. It opens up the accounts for political/vested interests to choose thematic aggregation indicators and "sum them up" to prove that "everything is alright" (e.g. the condition is stable). A warning should be added.

(5.103) mention here that using umbrella species as indicators has many advantages, i.e. cost-effectiveness.

(5.111) mention this earlier/ given more emphasis.

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

6.2.5 We recognize the effort to somehow distinguish between ecosystem services and abiotic flows, but the section may be confusing

We advise to clearly state that ES are reliant on functioning/healthy ecosystems, abiotic flows not. See your own biodiversity section for the relevant arguments.

The special case is where the usefulness of the abiotic flow depends on functioning ecosystems. This is the case for water where flow moderation by ecosystems, depollution by wetlands and the like impact both the flow and the quality of the water. This should be made clearer.

6.4.3 the text strongly argues that the relevant service is the carbon stock (carbon retention) and is very theoretical. Eurostat has spoken against this at earlier occasions and states its clear disagreement again here. The central figure of interest for policy is the carbon sequestration and the text should give this more weight and clarify that this is equally useful rather than dismissing this approach as “an acceptable proxy in some circumstances”. This is not enough. Policy demand is in the sequestration and not in the storage. Accounting for storage may be a useful complement in that perspective. The text should much more clearly state the usefulness of both measures.

(7.47) A river is not an administrative boundary. Clarify it is an admin boundary following a river.

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

(8.5) suggested edit to first sentence: As ecosystem services and ecosystem assets that SEEA EA aims to extend accounts to cover are not traded directly on markets

(8.7) more important is to emphasise that monetary data should be used in conjunction with physical data to best inform decisions.

(8.11) The exclusion of non-use values from accounts is not completely true, payments to charities/environmental NGOs, for example, might represent non-use values. Similarly, payments for eco-friendly products (e.g. organic food) might also include a non-use / good cause element. Also applies to non-environmental issues – e.g. buying from local bookshop not Amazon. The extent to which the non-use component is part of price paid or part of surplus is variable and not particularly relevant, the point is that price paid does not axiomatically exclude non-use.

(8.19) last sentence is true of ecosystem assets, but not of individual services.

(8.33) influence of external factors, e.g. weather, extreme events should be mentioned here – or explain that this is not part of ‘capacity’ but rather realised flow.

(8.34) the NPV approach implies risk-neutrality, which may not be appropriate.

(8.37) this also applies across assets – e.g. the timber operations could reduce recreation values in the forest but in consequence increase them elsewhere.

(9.22) ignores the situation where farmers are paying beekeepers to put hives in orchards/crops, that would be additional (to the value of land).

(9.25) rents don't always represent a bundle – in some cases the renter may be only interested in one service (e.g. grazing), and may not even hold rights to others (e.g. shooting).

(9.29) The price of extracted natural resources is not zero. It's the resource rents that tend to zero, price equals average cost. Should be clearer.

(9.38) The text is moving between service flows and assets. Therefore, the last sentence is confusing (it seems to imply the whole text was on annual flows only but it was not). The last sentence applies to asset sale prices. The text in the middle applies to land values as well. It would be better to be clear, e.g. for agri land say "annual land rent or land sales prices"

(9.40) clarify relationship to replacement cost re: actual or potential expenditures.

(9.42 – 9.44) This is confusing. Suggest Travel Cost is subdivided into 'Travel Demand Function' (aka the real travel cost model method) and 'Travel Expenditures'.

(9.55) Rather than determining an alternative use, you can just look at market prices for close substitutes.

(9.60) Some deliberative methods are designed to elicit monetary values – references are available.

(9.74) the quality of studies is just as important as the number. There are some meta analyses of wetlands.

10 – needs some explanation of what wealth accounting is. See first comment box.

(10.4) It's not just non-marginal changes, it's that changes in exchange values are ambiguous. For example, increasing value could mean more service, or it could mean less service (increased scarcity) with inelastic demand. The exchange values can only be interpreted alongside the physical flows and the condition.

(10.15) The reference to desertified areas means that they are 'unnaturally desertified' (due to human intervention)?

(10.16) is hard to follow.

(10.61) timber example is ambiguous.

(10.65) under most realistic discounting assumptions, 100 years and infinite will be very similar

(11.6) – see first comment box

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

(12.2) States that accounting values “are always ex post”. However, asset values should reflect expected patterns of flows, so are not ex post.

(12.9) non-use value is 15 in table. In appraisal, you would deduct costs from service flows (thereby affecting the asset values). The approach and in particular what is included in the value applied needs further thought and clarification.

(12.24) It would be good to add another example following on from the above one, to cover how to deal with the farmer emitting wastes that then are purified by an ecosystem, such that the externality in the water system does not arise. Discussion of this issue was missing from chapter 11 but could perhaps be discussed here instead (or as well). Question of who the beneficiary of the purification services is – explain that this could be the farmer, on the grounds that the service enables the emissions which would otherwise need to be controlled at a cost.

(12.31) but note there is reason to assume these restoration expenditures would be justified.

(12.33) is too indirectly phrased and can hardly be understood. Please clarify:

- The costs would not necessarily bear any relation to the social WTP, and would presumably represent an underestimate of them if they actually take place. (12.35) has the same no-relation problem – the costs could be greater than the damages.

- Restoration is a long process and even if the system eventually returns to the pristine state / levels of services, an interim “recovery debt” accumulates. See eg Montero-Serra, I., Garrabou, J., Doak, D. F., Figuerola, L., Hereu, B., Ledoux, J. B., & Linares, C. (2018). Accounting for life-history strategies and timescales in marine restoration. Conservation Letters, 11(1), e12341

(12.47) However, there are also a number of approaches being used at corporate level that share the spatially-defined basis to the ecosystem accounting framework described here (e.g., Corporate Natural Capital Accounting)

(A12.9) for the producer of the good the price will reflect the marginal cost.

(A12.10) the price is also the marginal value of a unit, which is the gross welfare that unit provides. This paragraph's interpretation of Weitzman is flawed w.r.t ecosystem accounting. It assumes the absence of exactly those externalities that the SEEA EA is trying to partially account for.

(A12.14) note omissions of consumer and producer surpluses.

(13.20) The ecosystem services opportunity costs of the shrimp farm (e.g. lost flood protection) should also be accounted for.

13.4 omits discussion of valuation and the sequestration/retention issue.

(13.51) carbon stored dissolved in seawater.

(13.66) cite UN Decade on Ecosystem Restoration
(<https://www.decadeonrestoration.org/>)

Note the contrast between Tables 14.3 and 14.4: all the physical service indicators in 14.3 could also be presented in monetary terms, sometimes in different ways – e.g. total asset value protected from flooding, expected flood damages avoided, etc. – and then in addition the use of the monetary numeraire allows aggregation across services.

(14.53) it can... but not optimally if reliant on exchange values. This is an example of where exchanges values' suitability in SEEA EA shouldn't mean they are automatically preferred in other analyses.