



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>

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General comments

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

The draft has come together very well and is generally very clear. Great to see.

It would be good to have example numbers in all the accounting table structures, so it was obvious how everything balanced and where internal consistency (e.g., extent accounts) is achieved.

What I feel is missing is the need for a broad community to implement SEEA EA at the national level. While NSO may have the mandate for accounts much of the data required will not be collected or curated by NSO but within the biodiversity community.

Community building will be an important step in any national attempt of developing accounts particularly to meet any of the aspirations set out by UNSD in the SEEA EA

Comments by sets of chapters

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

Chapter 1: It may be more streamlined to go from the end of Section 1.1 as quickly as possible to 1.5 and put much of sections 1.2 - 1.4 somewhere else, maybe integrating more of this into annex 1.2. Especially as Section 1.6 still needs to be developed.

Chapter 1 is very long, setting out the history, which means it takes a while to get to the so what, how do I do the accounts? Do you need all the history up front?

In section 1.18, you might like to refer to the two conference of the parties correctly e.g. the Conference of the Parties to the Convention on Biological Diversity

Sections 1.4.3 etc about connections to the central framework and SNA would benefit from a figure for communication purposes

Chapter 2: Up to Section 2.5 of Chapter 2 feels a bit repetitive of what has already come before in Chapter 1. Section 2.2.2 is very useful / helpful. I am not sure if I agree with para 2.17, I understand the general idea that capacity is important to interpreting stocks and flows information, but to say the SEEA EA uses this component to connect them does not seem – strictly – true – otherwise capacity would be in Figure 2.1.

Para 2.21 - why not say that “...with respect to the CBD definition, the SEEA focuses on the measurement of the ecosystem and species level components of biodiversity”. Then start Para 2.23 with ‘At the species level...’. Then everything works well (I think) across Para 2.21 to 2.23.

Para 2.25 - the importance of biodiversity for functional redundancy needs to be highlighted in this discussion on resilience. The importance of resilience to future ecosystem service supply also needs to be highlighted in the subsection.

In Para 2.29 and 2.30 -> more concrete examples would be edifying.

Para 2.32 -> I wonder if there is some conflation emerging here between the concept of Capacity (service use <= sustainable service supply) under current conditions and the ideas of options and insurance values. To avoid this, I think the term needs to be defined here as it pops up latter in the Ecosystem Condition Accounts also. Actually, the definition is in Para 6.125, so why not introduce it here too.

Para 2.38, Point (ii) - I think physical ecosystem services is not meant to be discussed here. Para 2.41 - It might be nice to reference that the condition account provides information on the physical 'capacity' of ecosystem services to supply ecosystem services. Para 2.43 - Chapters 8 and 9 do not just focus on the issues, but also how to do it. Fig 2.3 - could Ecosystem enhancement / degradation also feature in the condition account? Para. 2.55 - I am not sure if (for continuum ii) intrinsic and relational values are at the end of a continuum together – I would say intrinsic where at the end of the continuum after relational. Para 2.64 is very important – good to see it here. Para 2.97 - final bullet, what about ecologically defined areas (such as watersheds?). This would open possibilities for ILM. And SEEA EA being integrated.

Section 2.23 onwards - around this area it is not clear when you are talking about species or ecosystem or both, which will make it difficult to follow for people who are not biodiversity experts

Not sure figure 2.3 adds any real value but does break up the text

Section 2.6 the first sentence does not read well – is there a word missing

Chapter 2 is entitled accounting principles but none of the text is written like a set of principles, but the information is far more useful than chapter 1

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

Chapters 3 and 4 are pretty solid. A couple of minor observations, Sections 3.5.2 and 3.5.3 are useful but seem a bit more general than just ecosystem extent accounting? Para 4.14 - on managed regression => not sure why deforestation is an 'Excluded' example. Possible typo.

Chapter 5: I like that the chapter is referenced correctly, which give you reassurance and a pathway of the flow of knowledge. Though it uses a different format to references compared to earlier chapters in some places.

Chapter 5 is very comprehensive and while technically accurate, I think many people will find it difficult to implement or in some case even understand where to start, as much of the data required will not be already collected at a national scale and not collected by NSOs. Is there a minimum that countries should aim for before building up a comprehensive set of accounts? Showing value and usefulness will often lead to investment

It is good to see Para 5.3 as a follow on to Para 5.2. It is essential to recognise that improving ecological integrity of ecosystems is a management objective in its own right, not just for services supply.

Is Para. 5.26 implying that ecosystem condition characteristics should be limited to the 'attributes of an ecosystem asset' described in Para 5.25? i.e., not the recurrent interactions described in Para 5.25 (these would benefit from examples).

Para 5.35 -> not sure if rivers are the best example for fragmentation at landscape scale – I would have thought (by definition) a river is a single ecosystem asset as it is contiguous from the headwaters to the sea or big lake. The example of fragmentation / connectivity is very helpful, are there any other examples that are relevant? Is the idea to include compositional variation between ecosystem assets of the same type, for instance? Or is this out of scope? If the aim is really focused on just fragmentation / connectivity, it may be simpler just to state this as characteristic No.6 and simplify things.

Para 5.38 - might be nice to throw in a sentence on the importance of functional redundancy with respect to ecosystem resilience (which is discussed earlier in the handbook)

Para 5.50 and 5.51 are very helpful. Good to see this here.

Table 5.2: Ecosystem condition indicator account. How do we get reference levels and indicators for the situation where there are optimal conditions? I.e., when extremes are bad - such as pH or Temp? Also see this NNI reference for Moose populations also: Certain et al., (2012) The Nature Index: A General Framework for Synthesizing Knowledge on the State of Biodiversity.

While there was a discussion on a reference state, I missed a discussion about how difficult this is to reach and will be a negotiation around what the accounts will actually be used for

More could be made about the pros and cons of aggregating of indicators

Para 5.83 -> may be of interest to refer to SDG 15.3.1 as an example of the one out, all out principal in application.

Table 5.6: Ecosystem condition indices reported using discretised ranges. If qualitative condition indicators from other reporting processes are out of scope, it seems strange to arrive at this table.

Section 5.5.3 - pressures data, it would be helpful to highlight if this is an example of the recurrent interactions with human activity introduced in Para 5.25.

Para 5.101. - mentions essential biodiversity variables. Are these as described via GEO BON? (I think so). If so, it would be good to highlight this as it's a nice point of coherence.

Somewhere (maybe between Para 5.102 and 5.103) it would be nice to acknowledge the importance of local species diversity for resilience and options. A statement like “Maintaining local species diversity implies more species (or more species retained) within individual ecosystem assets. As such, a larger number of functional traits is conferred upon the asset (or retained by the asset). Such assets are likely to be characterised as multifunctional, supplying a relatively wider range of ecosystem services, future service options and exhibiting higher ecosystem resilience”.

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

Chapter 6: Para 6.18 - Much better than last time - I like the use of common pool resources, very Hardin.

Para 6.25 - it is very helpful to have the clarification that intermediate services may be supplied by an ecosystem asset to itself. It may be helpful to include that in the definition - there has been some confusion with this term in the past.

Para 6.32 - Spatial functions bullet point. Numbering for iii and ii wrong way around.

Table 6.2 - I am not convinced Air Filtration is the most expansive example here. Why not pick a service with a production or consumption activity? I.e., the government selling a ticket to a national Park so tourist can enjoy an ecosystem appreciation service.

Para 6.45 - Regulating services – suggest replace ‘a variety of biological processes’ with ‘Environmental conditions generally’ (or environmental states / situations if want to avoid condition). The former sounds like going to the toilet and I don’t think it is quite right – coastal storm protection is not a biological process.

I like the discussion of non-use values. In Para 6.60, it would also be good to touch on the bio-physical indicators that the SEEA EA can provide for this ecosystems and species appreciation ecosystem service. Also, these indicators could be discussed in Section 6.4.4 for cultural ecosystem service flows that are hard to measure, say Para 6.103. For example, increases in the stocks of iconic species (I.e., abundance estimates) would be a good indicator for an increase in the aggregate non-use value of Pandas. Or something like that, this language doesn't really reflect well on the Panda.

Chapter 7: – Table 7.1, why is it ‘Total use products’ in the column header in the bottom left quadrant the table? I would have expected Total Ecosystem Service Use. Or similar

Section 7.2.7, Table 7.6. I do not understand the logic of treating SNA benefits associated with cultural ecosystem services different to the way SNA Benefits associated with provisioning services are treated in Para 7.27. Maybe I am missing something but if the park operator charges a park entrance fee to a consumer this would seem entirely equivalent to the farmer and rice example (I.e., you need a subsequent SNA Supply & Use

Paring). Is the story here that the visits are not SNA benefits? (I.e., it is a publicly accessible park free of charge?)

Section 7.2.7 - There is a bit on Chapter 13 that may be useful to also introduce here somewhere. Basically, something like: “whilst the ambition should be to achieve as comprehensive an accounting of physical ecosystem service flows as possible, services such as “Ecosystem and species appreciation services” may be challenging to measure in physical terms. Where cultural ecosystem services are grounded in the biophysical characteristics of ecosystems but are hard to quantify in terms of a ‘flow’. Thus, biophysical indicators will often need to be relied upon to reflect changes in the elements of biodiversity relevant to associated non-use values. Discussed further in Chapter 13. “

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

Chapter 8: Para 8.8 is very welcome, in fact the motivation for Chapter 8 till this point sets out a very good context for monetary values in ecosystem decision-making. Para 8.35 - does estimating NPV not also require deciding on a time period to apply the discount rate? I think this is the lifetime of the asset in point i) but a clarification maybe helpful. I say this because usually NPV is calculated over an economic planning horizon, rather than an asset life – it is all very clear when you get to Section 10.3.5. Generally, the principles set out in this chapter are clear.

Chapter 9: Para 9.9 -> it would be nice to highlight that these imported ecosystem services to an EEA would (ideally) also be recorded as exports for a similar table for the EEA they are supplied from. Para 9.58, Stated Preferences - maybe just finish this with ‘(I.e., using a simulated exchange value approach). Table 9.2 - Directly observed prices exist for some cultural ecosystem services, like paying to visit a national park (as per the example in 9.26, albeit that examples suggests these MAY be economically insignificant they are not always, particularly in national parks in Africa, where admission prices make up a large portion of funding for running the park). Para 9.67 of cultural ecosystem services could also mention providing access (e.g., national park admission); Wildlife watching (e.g., guiding services for bird watching or gorilla trekking). 9.75 -> probably good to highlight that any value transfer (especially meta-analyses) should be based on values that are consistent with exchange values of the SEEA.

Chapter 10: Section 10.2.2 on Ecosystem enhancement is very helpful. Maybe have habitat restoration (or some ecosystem conversion that is nature orientated) in Para 10.29 also. At the moment, this section is very focused more direct human activities. Very much appreciate Para 10.70 - very clear.

Chapter 11: Somewhere in the introduction it would be useful to acknowledge also that there will be ecosystem services that remain beyond monetary calculus and the physical accounts of the SEEA EA will also be needed to understand how development can proceed whilst maintaining their supply.

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

Chapter 12: I like Table 12.1 – I think it would be clearer if row 1 and 2 were also explicitly identified as use values in the table. Second bullet para 12.9 needs to make the link to the 25 units measure of row 3. in the table. In the third bullet of 12.9, why do people who don't visit the site have no non-use values? I think they would, especially as they know what it is that they have a non-use value for. Also, this should be 15, not 25.

Chapter 13: Para 13.7. This is the key advantage of the SEEA over everything else. It allows indicators to be derived from multiple environmental and economic data on the same theme (i.e., not just aggregates). So good to emphasise how important it is for an integrated or holistic approach to decision making on a theme is required, so where multiple trade-offs in an area need to be considered on a regular basis (i.e., in line with land use planning cycles, sector planning cycles, NDC or NBSAP revisions, etc.). In many ways this will relate to combined presentations of the SEEA EA, CF and SNA accounts that are organised around the theme to provide the 'coherent picture' of what is happening, this doesn't seem to come out in Para 13.10. Thematic accounts are also mentioned in Para 13.10 -> but it is 'thematic accounting' I think.

Section 13.3: Para 13.12 - The text limits itself to the CBD. NBSAPs while a tool for the CBD, in some countries are used to encompass all relevant ambitions across biodiversity related Multilateral Environment Agreements (MEAs). The synergies and streamlining reporting across MEA area quite important for many countries. Can SEEA EA play a role here? Furthermore, the CBD has three objectives - conservation is only part of the scope of work.

Section 13.3.2 -> I feel biodiversity assessment may be a bit of a stretch for what is the vision for thematic accounting. I think the title for this subsection should be 'Using the SEEA accounts for integrating biodiversity into decision-making' or something like that. To me this subsection is really focused on the mainstreaming angle. In fact, para 13.14 essentially sets this out and para 13.15 highlights main established, international biodiversity assessment processes.

Para 13.20 and 13.21 need to be better linked to Table 13.1. Potentially an extra paragraph to explore how the different aggregate presented in the table can be combined to get the integrated perspectives on biodiversity and mainstreaming it into development planning. The link to Species Accounts is also needed in here somewhere.

Para 13.22 - it is not clear if the intention for species accounts is to provide a complete inventory of species or to focus on a set of species most relevant to the stated species accounting concerns. I would feel it is the latter.

Para 13.23 - should reference the SEEA CF and make the link to Para 13.111, where species asset accounts are also described. Indeed, established SEEA CF Asset Accounts may be a good starting point for Species Accounts developed in for thematic accounting for biodiversity

Para 13.35 needs to be developed to provide more concrete insight into how to account for ecosystem diversity and diversity across species assemblages at EAA scale. This should link to the supporting note on this topic as an annex.

Para 13.36 starts with thematic accounts – these are Species and (Bio)diversity Accounts. No other thematic accounts are introduced in this subsection. So, should this start thematic accounting?

Section 13.5: Overall, one element that is missing from this is the issue of non-linear relationships in marine and coastal ecosystems between habitat extent, habitat condition and provision of services, and the limited understanding that we have of these relationships. Linked to this is the question how integrated our ocean ecosystem accounts can be.

Another overall comment on the ocean accounts section is that it describes ocean accounts as a set of national, environmental and ecosystem accounts. As valuable as this may be, for a document on ecosystem accounting, the report does not go into any detail on the ecosystem accounting component of ocean accounts. It does not discuss the specific issues related to ecosystem accounting for ocean and coastal habitats, such as the difficulty of monitoring and limited understanding of relationships in these ecosystems.

Nor does the section provide any guidance on how to compile the ocean accounts that are described.

Para 13.64 The opening sentence is confusing and rather uninspiring. Is the ocean being defined as ‘earth’s coastal and marine areas’? I imagine this could be controversial. Moreover, ‘large, deep and mostly unknown’ does not apply to coastal areas.

I think it would be good to have a reference for the impact of pollutant loads on the survival of fish stocks. The respective sentence in the paragraph is describing a very complex problem in a very simplified way, which could be controversial.

Para 13.66 This is a bit difficult to read with the semi-colons and footnotes. The paragraph is also missing a reference to UNEP’s Sustainable Blue Economy Initiative.

Para 13.67 I suggest rephrasing the second half of the first sentence as it reads a bit odd. There isn’t one exclusive economic zone. I would suggest something like ‘up to the limit of countries’ exclusive economic zones (EEZ)’.

Para 13.68 This is missing a reference to monitoring changes in ocean health/ecosystem, or in the health of the underpinning ocean natural capital, changes in coverage and functioning of ecosystems, ability to provide services, productivity.

Para 13.70 I think it is important to add that ocean accounts also add the perspective of ocean and coastal ecosystems.

This paragraph introduces the term ‘technology’. It is not clear to me how this fits in with the ocean accounts. This is also picked up in Figure 13.2 of the Simplified Ocean Accounts Framework but not further elaborated in the accompanying text.

Figure 13.2:

- As Pressures include a reference to SEEA CF, I would suggest also adding these to Ocean Assets (SEEA CF, SEEA EA, IUCN GET) and for Ocean Services (what framework is this drawing from, SEEA EA?).

- It is not clear from the figure that Ocean Governance and Ocean Economy represent satellite accounts.
- GDP and GVA could be added to 'Ocean Economy' as examples for this.
- Para 13.76 on Ocean Governance Accounts refers to presentation of institutional and legal frameworks, social circumstances and measures of ocean-related risks. These account elements are not captured in Figure 13.2.
- The relationships are not clear. How are pressures, assets and services linked? Ocean governance, etc. appear to be overarching, whereas ocean economy appears as an output of the parts in the brackets.

Para 13.74 The ocean services paragraph could do with a bit more detail. Which accounting frameworks is this drawing from?

Para 13.75 What is meant by 'characteristic'? I would leave this out or it might lead to questions about what these characteristics are. Further down, it talks about sectors partially related to the ocean. The paragraph suggests that these are separate from the ocean economy but should be captured in the ocean economy accounts? Is that the intention? Is shipping not the same as marine transportation? Coastal tourism is currently listed under ocean-related activities, whereas boatbuilding is only considered partially related to the ocean – why is that? I think the question how the ocean economy is defined and what should be captured by these accounts needs some further clarification.

“Potentially, the economic value of ecosystem services not counted in these sectors (e.g., charitable contributions to ocean conservation organizations) could be added.” It is not quite clear what this sentence is getting at. I am assuming this refers to capturing non-market values and externalities? The example given is also not clear – in how far are donations to conservation an economic value of ecosystem services?

Para 13.76 The definition that 'spatially-explicit' refers to ecosystem type seems a bit contradictory to how pressure, asset and service accounts are described in paragraphs 13.71-13.72 (i.e. pressures to be presented by catchment area; individual environmental assets). Spatial definition by ecosystem type only holds true for the SEEA EA components of the asset and service accounts.

The paragraph about Ocean Governance Accounts refers to presentation of institutional and legal frameworks, social circumstances and measures of ocean-related risks. These account elements are not captured in Figure 13.2.

Para 13.77 is missing a reference to the community of practice on monitoring of environmental status.

Para 13.79 I think this paragraph needs careful review by data experts. As far as I understand it, from an ecosystem accounting perspective, existing global datasets on ocean ecosystems in their current state are only of limited use for accounting. They mostly consist of snapshots of one point in time, individual datasets are not well aligned with each other or include modelled data, there are many gaps. In particular for high seas ecosystems, I would question whether there are many suitable global datasets. For coastal ecosystems, it might be easier to get data from remote sensing, but even here it becomes difficult as soon as your ecosystems are underwater.

Para 13.79 This last sentence gives the impression that compiling ocean accounts for coastal areas and territorial seas and EEZs is straight forward. I would argue that this is not the case, in particular for marine and coastal ecosystem accounts. Even for ecosystems that are tidal or close to shore, monitoring frameworks are often limited, complete datasets not available and our understanding of these ecosystems is still incomplete.

Subsection 13.5.3 on '*Indicators derived from ocean accounts*' does not read very clearly. I think paragraphs 13.80-13.83 are meant to describe the different indicators that can be derived from the different components of the ocean accounts presented in the previous subsection. It would be good to draw this out a bit more clearly.

Para 13.85 Seems a bit out of place at the end of the subsection on indicators. I would suggest a separate heading for this. Moreover, I think presenting the case studies would be more valuable if it would include examples of how exactly the accounts were used to answer policy questions, what the challenges are that countries are facing, and how these are being addressed. The fact that data availability plays a key role is briefly alluded to at the end of the paragraph. I think as data plays a central role in accounting, and data availability is particularly problematic for ocean ecosystem accounts, it would be worth addressing in a bit more depth 1) what the issues with data are for ocean accounts, and 2) how these issues can be solved.

Section 13.6: The sub-section starts very rapidly on the types of accounts one would develop; it would be good to have a bit more on the decision entry point for this theme. It may be helpful to highlight that urban environments are characterised with a high density of economic actors and environmental stakeholders with different objectives. So, the regular and integrated information the SEEA delivers provides a transparent framework with which to inform green urban development that delivers better outcomes for people and improves the ecological quality of urban environments. Tables 13.5 to 13.7, final column is 'total EEZ'. The link to SDG 11 is good, I would say that should be the focus and put SDG 15.3.1 as an afterthought (actually, I am pretty sure you get all you need for SDG 15.3.1 from a normal extent account anyway)

Section 13.7: Good to see the link back to species accounts in 13.111.

Chapter 14

General

The chapter is called indicators and combined presentations in that order– but it begins with a section combined presentations of accounts not indicators. Suggest the chapter title is changed round. The chapter is looking at two seemingly related topics but does not fully explain two statements (one at the end of para 14.2 – “these presentations may be particularly relevant in the derivation of indicators” and another at the end of 14.14 “they may help support the presentation of indicators for monitoring trends in ecosystem related outcomes”) why and how combined presentations and indicators are related and relevant to each other.

Section 14.2 Combined presentations

In general, combined presentations i.e., the supplementing of ecosystem extent, condition and flows accounts with other statistics and information on environmental

activities, environmental pressures, economic dependence on ecosystems and policy instruments seems like a good idea but the key to such presentations is surely a clear succinct and well written commentary on how all of these pieces of information connect, i.e., contextualisation. Multiple tables of accounts and data by themselves are unlikely to make to achieve the goal described in para 14.4 of supporting “a more informed discussion of the relationship between ecosystems and economic activity in a manner that takes into account spatial and environmental context”. It is suggested that a brief para is included to emphasise the importance of a strong and clear narrative which describes the links between elements in combined presentations.

I would agree that it would make more sense to have the indicators section first. Para 14.4 - I think a sense of combined presentations is set out in the thematic accounting chapter, so would be good to highlight this as an illustration of the “flexibility in design of presentations” (i.e., around different themes). In fact, the example in Para 14.5 is thematic accounting for biodiversity. Section 14.2.4 is sort of too. In fact, I feel that most of this section on combined presentations could be tackled in the introduction to thematic accounting and the relevant themes. This would be more streamlined, and the final chapter could just start at Section 14.3.

Section 14.3 Indicators derived from the SEEA

Correction: Page 270, Para 14.14 - This should read Section 14.4 not 12.4 and 14.5 not 12.5.

Para 14.15. A proper definition of a statistical indicator is needed, this opening sentence doesn't quite do it, I think (actually you get a good sense of this in Para 14.22, just takes a while to get there). Para 14.20, do we need to highlight the integrated indicators are supported by the SEEA, such as ratio indicators of change in GDP / change in aggregate ecosystem condition (I see these come in in Para 14.20 and Para 14.25 too). Para 14.23 - > are aggregates indicators or do we have 'policy relevant aggregates and indicators'.

Para 14.16 It is worth emphasising that, among their many purposes, indicators are important for storytelling for policy makers. Given the target audience point expanded in para 14.17 and that they are intended to be meaningful for non-statisticians this is not to be underestimated.

Section 14.4. Indicator frameworks and the SEEA EA

Para 14.34 -> first sentence highlights the SEEA measures ecosystems diversity. We need to make sure then that there are concrete proposals in this regard made in Section 13.3.

The implications for how SEEA can support the development of the monitoring framework for the post 2020 global biodiversity framework are interesting and these go beyond the immediate scope and content of this chapter. Nonetheless these reflections are set out below.

Table 14.5 gives a potential list of SEEA indicators which could link to the Goals and Targets of the GBF. The proposal to be submitted for negotiation by the Parties to the CBD is that the monitoring framework for the post 2020 biodiversity framework goals and targets should include headline indicators, component indicators and detailed indicators. It is suggested that headline indicators will be reported at national level, using either nationally derived data, global data in the absence of national data (a third choice

is not to report at all). The rigour of the SEEA approach in “reconciling and harmonising data to provide ‘coherent and consistent’ indicators is important.

However, there will be other considerations in the selection of headline indicators which are not related so strongly to data issues so while SEEA can support the global biodiversity framework from a data organisation perspective, it can only go so far. It is interesting to note that the list of proposed headline indicators for Goals and targets from Jillian Campbell and the possible SEEA indicators linked to the Goals and Targets (in Table 14.5) are not a complete match.

Two further questions arise.

- 1) If the role of accounts is to help organise and reconcile data from multiple sources within a given country, there may be some countries who choose to use the accounting framework and some who don’t either on the grounds of capacity or other national circumstances. How will this affect the proposal for countries to report nationally when some data are ‘filtered’ through accounting processes and some don’t?
- 2) What are the implications for the post 2020 GBF of two groups of indicators for the post 2020 framework those which are derived from international statistical standard on ecosystem accounting and those which are not?

Para 14.43: Second bullet could also identify Annual Net primary productivity and changes in above and below ground carbon stores. I think a key point would be for the ecosystem service to supply provisioning services. In combination with information in the condition accounts, this would provide a more informed picture of the land productivity sub indicator.

Section 14.46 I would strongly recommend that you have this section checked by the IPBES Secretariat as it is very out of date. There is a task force on data and knowledge but not one on indicators. In section 14.4.2 I would separate out the intergovernmental (IPBES and Ramsar) from the non-intergovernmental (GEO BON) given the mandates are so very different

Para 14.48: For Ramsar, I believe “Change in the extent of wetland ecosystems” should be a bullet.