

Virtual Expert Forum on SEEA Experimental Ecosystem Accounting 2020

Session 1: Ecosystem extent and condition

Consolidated breakout notes from day 1

Australia case study: extent and condition

- Excellent presentation from Jim Smart – great photos
- Recognise the need for ecologists' involvement in linking between ecosystem classifications and interpreting condition indicators
- Consider further advice on level at which accounts presented – EFG can work in some cases but will need finer in some other cases
- Consider further use of fine level ecosystem type information as an indicator of condition of a broader ecosystem type
- Important to work through the use of pressure indicators as measures of condition recognising different types of pressure indicators – pollution, management type, etc. Since data about these indicators are commonly available, the link to state indicators as recommended needs to be examined.
- The SEEA ECT is useful for establishing coverage of indicators and understanding data gaps
- Recognise the need for an anthropogenic reference condition but more explanation needed of what this reference condition would be based on theoretically to ensure consistency in establishing anthropogenic reference levels in different contexts

Brazil: extent

Bottlenecks:

- Challenges with multiple ET classes due to underlying data quality, especially with long time series and with a matrix presentation. Also requires regularly updated primary data.
 - Accounts are interrelated--may use other data (such as condition) to supplement data
 - Lack of primary data is widespread (particularly time series)—more guidance on what to do if you are lacking appropriate primary data. Guidance on time series data is important as well.
- Challenges with urban areas with IUCN classification
- The number of classes in a national classification may be great and may not fit neatly into IUCN classes
- Specialists can diverge in opinions on classification; there can be some subjectivity and more guidance can help in reducing subjectivity

Further guidance:

- Description of EFGs can be improved
- Need to better understand the possible interaction between IUCN GET and condition typology

Number of ETs:

- May also want to provide aggregation for ecosystem types (around 10)

Canada case study: extent

1. Transitions areas

- When does extent merge with a change in condition
 - Example provided: A forest by a city provides recreational activity opportunities. When does the forest become a peri-urban area? challenge of measuring condition in ecotone/transitional areas
 - Solution: Adopt nationally relevant criteria, and stick to them. Make them transparent.

2. When global or national level data, of a certain quality, collides with local data, of potentially higher precision.

- The case of Guatemala, where data for forest is of a higher quality, so that theme is covered in a thematic account, but in the extent table the GET may not be of comparable quality; challenge of producing statistics with different land cover and land use datasets; scale as a challenge - relating coarse resolution ecosystem functional groups or ecological geographies to fine resolution local areas and ecosystems.
 - Solution: Footnote.

3. Nomenclature and typology issues. There are several framework that can be applied internationally, and the terminology varies. Also, from one country to the next, and arguably, within national boundaries .

- Various cases in various case studies. real challenge of connecting the different terminologies used at the local scale with the international nomenclature
 - Solution: Requires bridge tables and glossaries.

4. How to handle genetic component in biodiversity of ecosystems ?

- Places that want to track ecosystem condition using gene-level data
 - Solution : Something to be discussed in biodiversity account

5. As an ecosystem, we measure the value of the service, not so much the extent and condition; as economist, how do we deal with that?

- Arguably, building SEEA EEA accounts is the solution. Simply measuring the value of the service provides as many questions as solution (we need to track the value of the asset to understand the full story); Measuring and doing valuation on different ecosystem assets within the same ecosystem type

6. Finding the story

- Providing tables will not provide the narrative required for policy makers and media to use accounting facts.
 1. Solution : Write the accounting narrative in such a way to provide answers to appropriate policy questions

*Note that few participants seemed to have practical experience with extent and condition. Relatively underwhelming participation.

Estonia case study: extent

- Clarify the scope of application of the IUCN GET classification for SEEA EEA. Reference classification is meant for scaling up to an international level.
 - Level 3 probably not the right level for national level policy.
 - Is the functionality of level 3 to use for SEEA EEA SUT regarding the provisioning of services & assets is it detailed enough?
- Comments on IUCN classification:
 - Adding new EFG groups (forest types, etc.)
 - Modifying some existing descriptions
 - Adding an “other” category for undefined categories
 - Aquatic ecosystems is very limited
 - Regional specialists on ecosystems to engage
- Bottlenecks:
 - no well established national typology
 - too detailed data
 - Need more groups
 - Need to understand the functionality on IUCN EFG in broader context as well

India case study: extent and condition

- Perhaps introduce an “Other class” (with indication of biomes) as
- Need to think how to integrate with the economy / management
- Temporal variation is an issue (within a year, but also in several years)
- “Natural” – hard to know what you mean with that (agricultural may be required if not becomes forest) / “we are also one of the species”
- Can’t we first define ES (per ET) , then find condition indicators + references?

Mexico case study: extent and condition

- Information datasets are widespread in different organizations and within organization data may be in different format because generated for different purposes
- the SEEA provides an opportunity to bring together different stakeholders, including general public and academia and move towards standardization of methods and make data compatible
- Mexico used raster to combine information from different data sources and at different scales but could be done also with vectors
- Possible to link to IUCN classes, and any other classification system
- Bayesian network – data driven approach to aggregation. Replicable can be used by other countries and applied with different variables, difficult to communicate, want to link ecosystem extent and condition with ecosystem services
- Chapter 5 should include some text on the Bayesian network approach for aggregation.

Netherlands case study: extent

- Bottlenecks:
 - The descriptions for the IUCN EFGs should be more explicit. It should be clear what is included and what is not.
 - The revision process for the IUCN typology should be made clear and also how the SEEA community could play a role here.
 - Transitional ecosystems and mosaic landscapes provide a particular challenge for classification
 - The functional approach of the IUCN typology provides a challenge to harmonise with the remote sensing data
- Details of the typology
 - The more details the better as we can always aggregate to a higher level
 - More details are often needed for compilation of condition indicators are ecosystem services

Norway case study: condition

What kinds of guidance on **indicators** would be useful?

- How to establish a minimum set of indicators?
→ Balance of 3: what's conceptually important, what can be measured, what is relevant for policy/regional use...
- May be different needs/possibilities for different regions

What are your views on the **aggregation** methods?

- A lot of technical issues... can even produce indicator values go out of the [0-1] range. detailed work is necessary to overcome such
- Flat vs. hierarchical aggregation

What kind of guidance will help countries choose appropriate **reference conditions**?

- Lower reference levels should be more emphasized. We need a standardized methodology for lower reference levels too. The “functional form” of scaling.
- Preferences for (upper) reference may be determined by the background of the people, value perspectives should be exposed

Spain case study: extent and condition

- The case of Spain delivers pragmatic solutions to several obstacles and issues.
- Using a detailed map of 48 forest types (linked to IUCN) capture structure and function (ecosystem condition) (**minimum set of indicators**)
- Using IUCN and LULUCF can help map natural and modified ecosystems.
- A **pragmatic** approach to set a **reference condition** for forest ecosystems (based on least disturbed state of forests inside protected areas) and based on (globally) available/account ready data
- Report condition using a relatively simple and intuitive system for spatial and **thematic aggregation**
- A challenge remains comparability between countries. Maybe possible for extent but challenging for condition. Let's start with building nationwide accounts first and discuss comparability later.

South Africa case study: extent and condition

Spatial units

- IUCN GET is suitable for SEEA reference classification
- In both South Africa and Mexico – generally good crosswalk from national ecosystem classification to GET
- Mismatches with national classification systems are inevitable
- SEEA should give some guidelines on how to deal with mismatches, for example when summarizing national ecosystem accounts to global EFGs
- Suggest further cross-walking tests to other existing systems
- e.g. EUNIS – a Europe-wide ecosystem classification system
- Suggest the working group to examine how to apply EFT and the spatial unit model for the catchment area

South Africa case study: extent and condition

Condition

Three stage approach to condition account is useful

- But some flexibility needed in implementation
- Might not use all three stages in all circumstances
- Stage 1 and 2 require a lot of empirical data
- May be more feasibly or easily applied at the local level or sub-national level

Expert involvement in condition accounting

- Condition assessments often involve experts, e.g. expert rating
- This is a pragmatic approach when empirical data availability is limited or mixed
- Would be useful for SEEA to recognize the role of expert knowledge more explicitly and to give guidance on this
- For example on ensuring that expert input is systematically recorded