Issue 6

Biodiversity accounts and indices

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Task

- Biodiversity is an attribute of ecosystem resilience and therefore an important proxy indicator for assessing changes and risks over time
- Review existing studies on the applicability of biodiversity measures for compiling regular ecosystem diagnostic accounts taking into account data availability

Papers

- Jane McDonald – University of Queensland Key concepts for accounting for biodiversity
- Ivanov et al – Developing a diagnostic species and biotope index

plus

- Per Arild et al – Nature Index ('framework methodology and data' synthesis paper) plus slides
- Gregoire Certain, Olav Skarpaas NINA 'Framework, methodology and data' (Copenhagen May 2011)
- CBD SBSTTA recommendation XV/1
- Ben Ten Brink 'Indicators as communication tools'
- RIVM – Natural Capital Index – framework and application

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Australia paper

- Carried out a review
- Construct an index – focusing on species of flora and fauna
- Biodiversity features in the accounts in several ways:
  - as an environmental asset
  - as an input into economic production
  - as an input into the ecosystem, which generates services
  - as an indicator of ecosystem condition
  - as an ecosystem service
- 3 potential measurement units – monetary; physical; and condition metrics using a set of indicators

Australia recommendations

- Biodiversity indicators can be used for each of the five different components of ecosystem accounts
- Need to test diagnostic capacities of biodiversity indicators
- Best to describe biodiversity as an asset
- Probably most robust for use of biodiversity as input to production
- Precedent of SEEA mixing monetary and physical data should be extended to condition indices

Norway paper

- Nature index consists of 310 biodiversity indicators
- Also included estimate of uncertainty, to guide areas for further research
- Indicators scaled by a reference value to produce an index
- Reference value is intended to reflect an ecologically sustainable state
- Indicator values are between 0 and 1 and can be averaged across different geographical or habitat groups
- Weightings applied to solve issues of ecological significance of the index
- Provides information on the current state of ecosystems

Issues

- Can indices of condition/state of biodiversity be used as an input of data into an account?

- If so, do we agree with Australia paper that there are 5 potential components of accounts to which biodiversity indices might contribute? Which ones are the most relevant?
  - as an environmental asset
  - as an input into economic production
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- Is the methodology for assessing condition against a reference point sufficiently well-established and robust for accounting purposes? What is the way forward?

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