



2015 Biodiversity Planning Forum

23–26 June 2015, Salt Rock Hotel and Beach Resort, KwaZulu-Natal

Advancing Experimental Ecosystem Accounting in South Africa



The South Africa I know, the home I understand



Overview

- What is national accounting?
- What is environmental accounting?
- What is ecosystem accounting?
- Key concepts in ecosystem accounting
- Advancing Experimental Ecosystem project



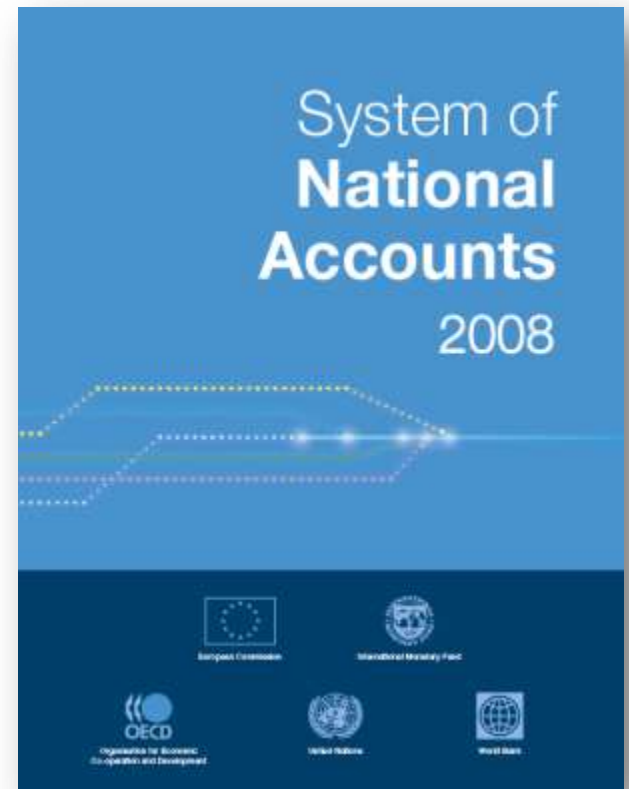
Key points

- It's not necessarily about money
- Science foundations / building blocks for ecosystem accounts – same as for biodiversity planning and NBA
- Translates our science into an accounting framework...
- ...thereby generating info that can be used in a wider range of socio-economic contexts



National accounting

- Dates back to 1930s & 1940s – Great Depression and Second World War
- Formalised in System of National Accounts (SNA) – first published 1953
- Measures how much is produced, consumed and invested in the economy
- Headline statistic = GDP
- Many limitations...



Environmental accounting

- In response to limitations of GDP
- Roots in sustainable development debates from late 80s / early 90s
- → development of System of Environmental-Economic Accounting (SEEA)
 - First published in 1993



System of Environmental-Economic Accounting 2012 Central Framework



United Nations



European Commission



Food and
Agriculture
Organization
of the
United Nations



International
Monetary
Fund



Organization for
Economic Co-operation
and Development



The World Bank

- **SEEA Central Framework**
- Adopted in 2012 as an international standard
- “Conceptual framework on relationship between environment and economy”
- Methods for measuring and quantifying natural resources
- Deals with “individual environmental assets” such as water, minerals, land, timber, fish

- SEEA Central Framework does not deal with ecosystems...



System of Environmental-Economic Accounting 2012

Experimental Ecosystem Accounting



United Nations



European Commission



Food and Agriculture Organization of the United Nations



Organisation for Economic Co-operation and Development



World Bank Group

- **SEEA Experimental Ecosystem Accounting**
- “first step in the development of a statistical framework for ecosystem accounting”
- Subset of environmental accounting
- Ecosystem perspective rather than a more general natural resource perspective

Ecosystem accounting

- Distinguishes between
 - Ecosystem assets
 - Ecosystem services
- Stocks and flows...

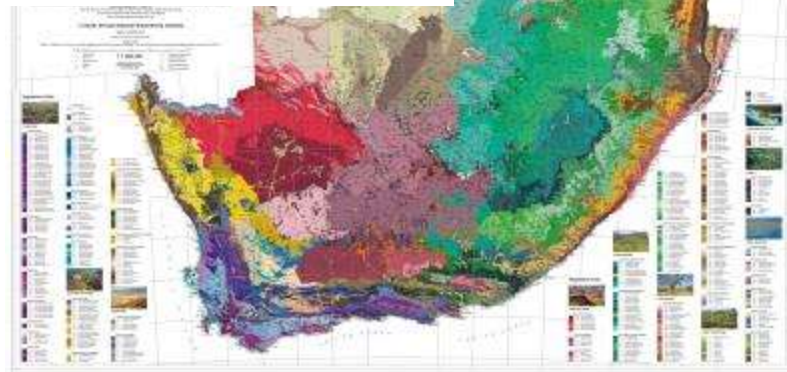


NBA building blocks

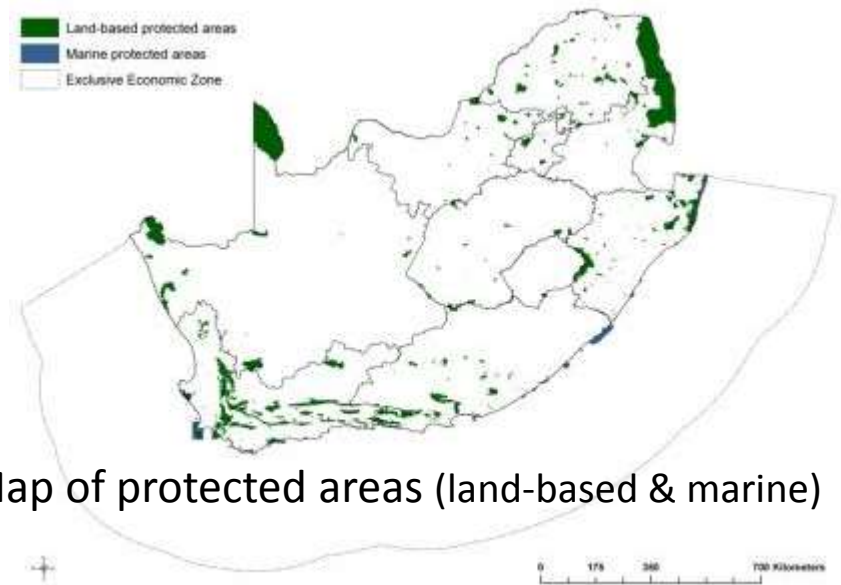
→ Classification & mapping of ecosystem types



e.g. vegetation types

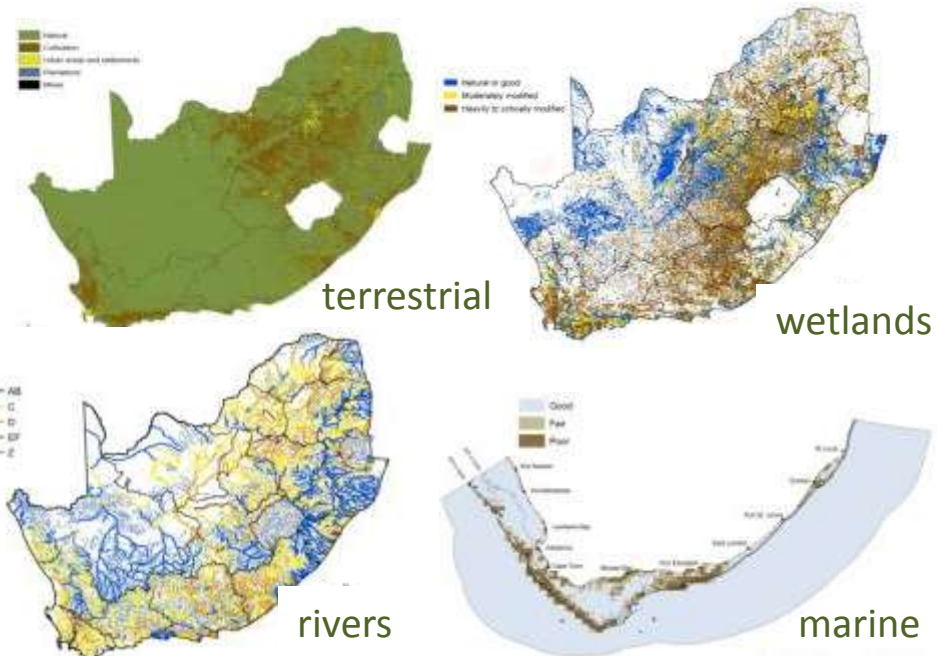


e.g. marine & coastal habitat types



→ Map of protected areas (land-based & marine)

→ Maps of ecological condition



Key concepts in ecosystem accounting

- Ecosystem units → Ecosystem types?
- Ecosystem extent → Remaining extent of ecosystem type?
- Ecosystem condition → Ecological condition
- Basic spatial units



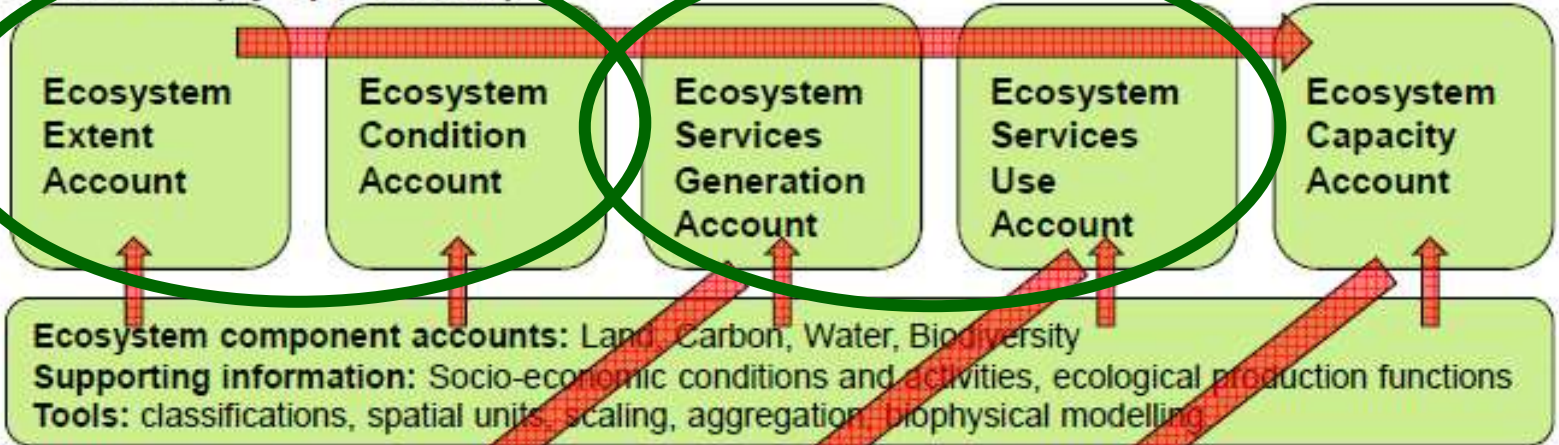
Need to test how best to operationalise these concepts



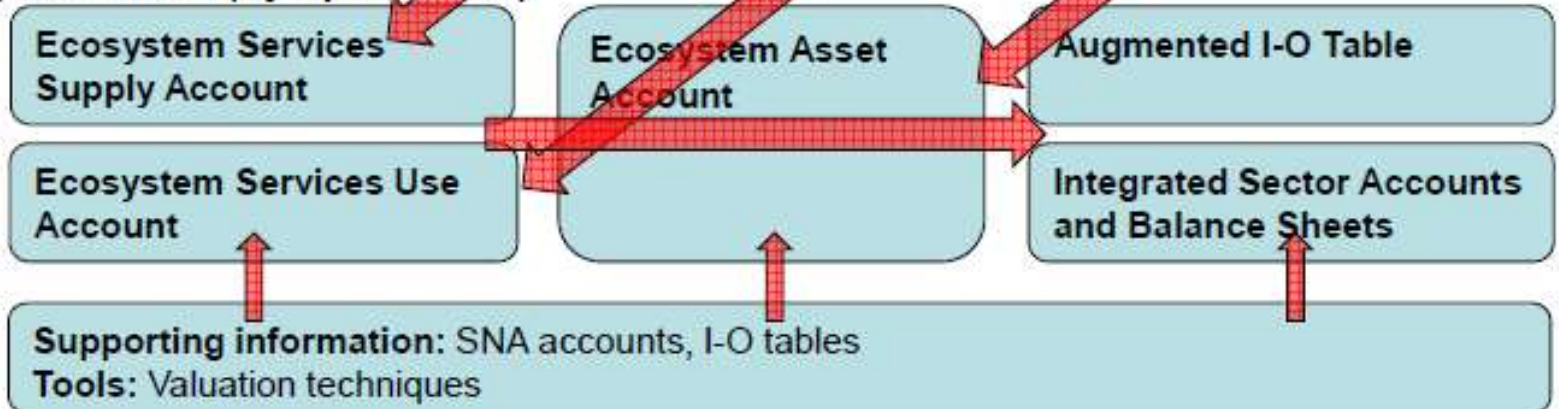


SEEA-EEA Accounts and Linkages

Physical Accounts (by spatial unit)



Monetary Accounts (by spatial unit)



SA well placed to test these accounts...
...and these ones?

What is “the accounting approach”?

- Standardised concepts and definitions
- Systematic regular measurement and recording
 - BUT don't have to wait for perfect data
- **Doesn't necessarily imply monetary valuation**
- Provides info that can be used in many contexts
 - e.g. research, policy (think of the many ways census data is used)
- Takes time and effort to invest in statistical infrastructure



Key partners for ecosystem accounting

- Main agencies currently involved



- Now with additional support: Advancing SEEA Experimental Ecosystem Accounting project – SA one of 7 pilot countries



United Nations
Statistics Division



Convention on
Biological Diversity



NORWEGIAN MINISTRY
OF FOREIGN AFFAIRS

Ecosystem accounts in SA to date

- **Pilot national river ecosystem accounts** underway – draft results for 1999 & 2011
 - Began work June 2013
 - Discussion document ~Oct 2015
- **Pilot provincial land cover accounts** – draft results for KZN 2005-2011
 - Began work August 2014
 - Discussion document ~Oct 2015



National programme of work – initial ideas

- National land accounts
- Accounts for features of interest, such as
 - Key ecological infrastructure areas
 - Biodiversity priority areas?
- Species accounts
- Expand to marine environment?
 - working towards complete national ecosystem asset accounts – terrestrial, freshwater, coastal & marine
- More explicit focus on ecosystem services accounts
- Build links with other accounts and databases, such as
 - Water accounts, National Accounts, Census
- Explore modelling of socio-economic implications based on ecosystem accounts – scenarios

