

# Securing a sustainable and thriving future: using accounts related to protecting nature in South Africa

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Natural Capital Accounting CoP Policy Forum 2023  
7 September 2023



# Overview

- SA's policy related to nature protection
- What are the main accounts produced (and what indicators they support)
- Methods, models and tools
- What more is needed?
- How to use accounts and inform policy?
- Concluding comments

# South Africa's policy related to nature protection

## WHITE PAPER ON CONSERVATION AND SUSTAINABLE USE OF SOUTH AFRICA'S BIODIVERSITY

*"Thriving people and nature"*

Vision: An inclusive, transformed society living in harmony with nature, where biodiversity conservation and sustainable use ensure healthy ecosystems, with improved benefits that are fairly and equitably shared for present and future generations.

## MEDIUM-TERM STRATEGIC FRAMEWORK

Targets for expansion of protected and conservation areas are set by government to meet provincial, national and international goals.

KUNMING- MONTREAL GLOBAL BIODIVERSITY FRAMEWORK Target 3 to conserve 30% of the world's surface by 2030 is to be achieved in an ecologically meaningful, economically sustainable and socially inclusive manner.

## NATIONAL DEVELOPMENT PLAN

Highlights the importance of PA as national assets

## NATIONAL SPATIAL DEVELOPMENT FRAMEWORK

and its National Ecological Infrastructure Framework, which incorporates strategic water source areas, protected areas, and Critical Biodiversity Areas

## SUSTAINABLE DEVELOPMENT GOALS

14 and 15 call for conservation and sustainable use of marine and terrestrial ecosystems.

## NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT, 2003 (Act No. 57 of 2003)

Overarching goal to protect and conserve ecologically viable areas representative of biological diversity, and natural landscapes and seascapes.

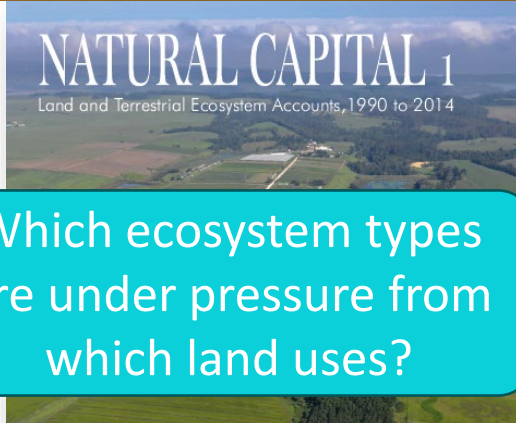
## NATIONAL PROTECTED AREA EXPANSION STRATEGY

Guides decisions on the declaration of protected areas in terms of NEM:PAA

## NATIONAL WATER & SANITATION MASTER PLAN – goals for securing SWSAs

# What are the main accounts produced?

## Land and terrestrial ecosystem accounts, 1990 to 2014

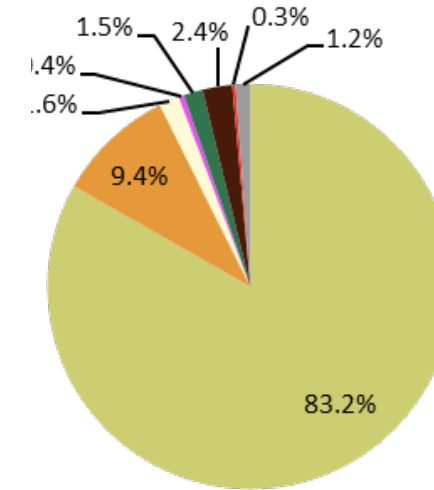
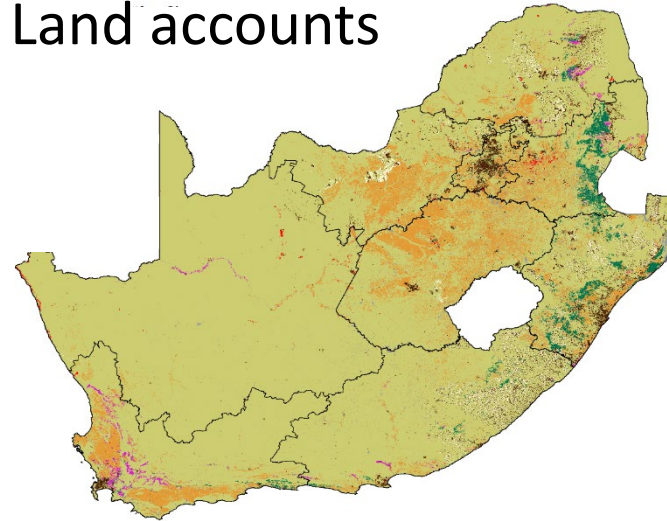


Which ecosystem types are under pressure from which land uses?

Which ecosystem types that are approaching critical thresholds that may impact their functioning

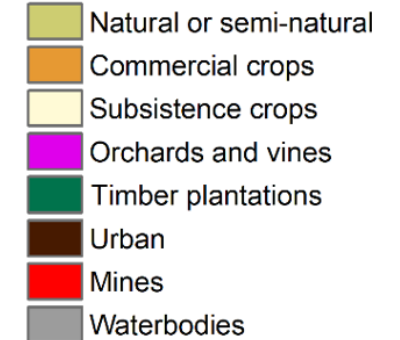
→ Directly useful for GBF indicator for Goal A on extent of natural ecosystem types & UN Convention to Combat Desertification

### Land accounts

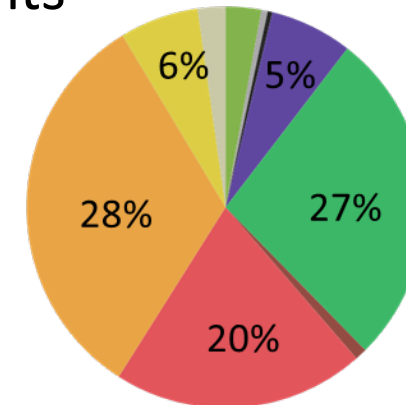
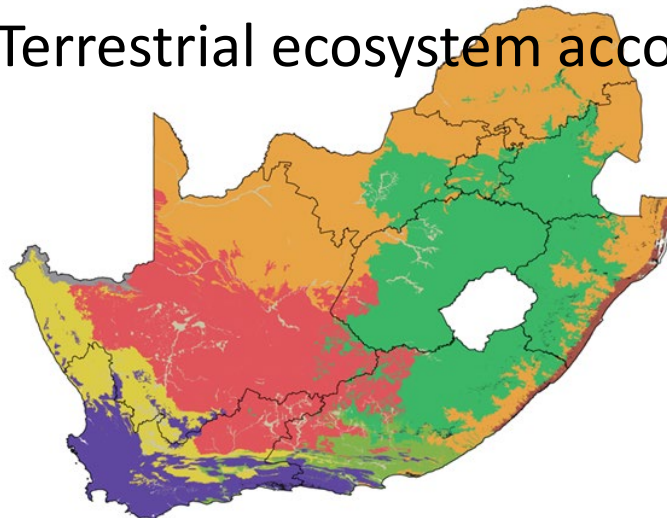


### National land cover (tier 2)

2014



### Terrestrial ecosystem accounts

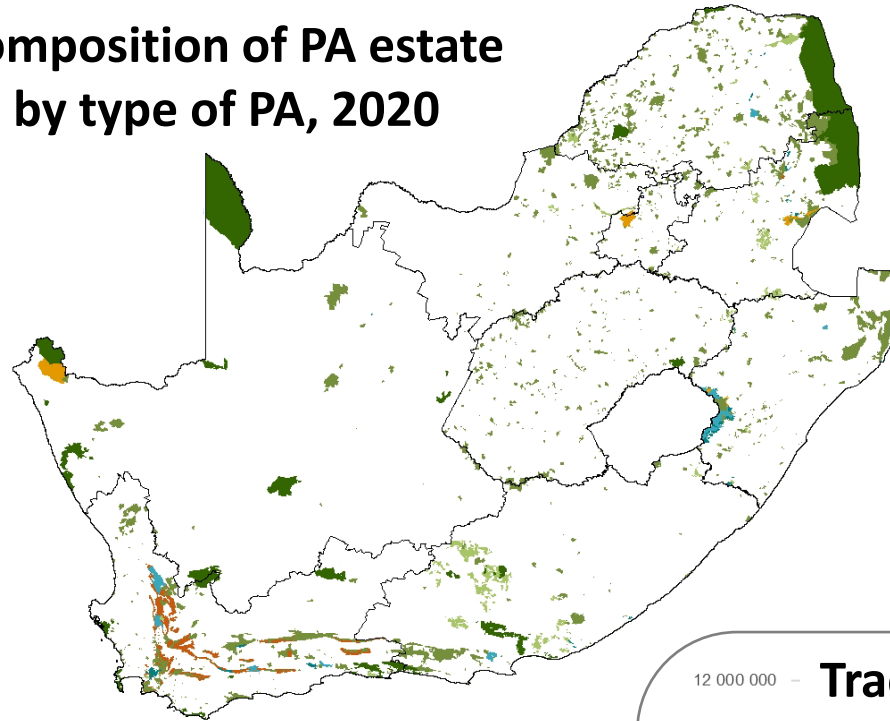


### Biomes

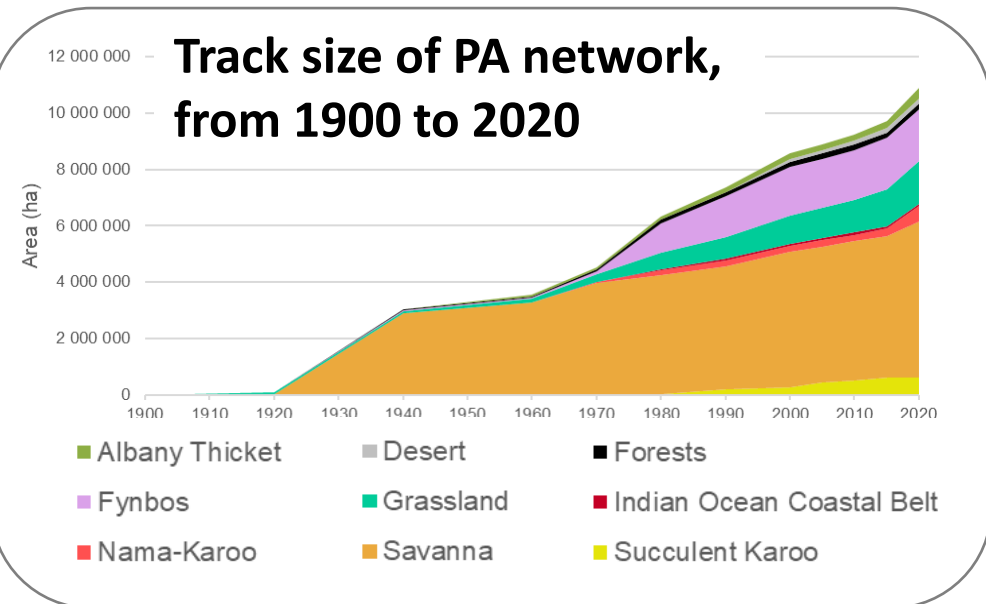
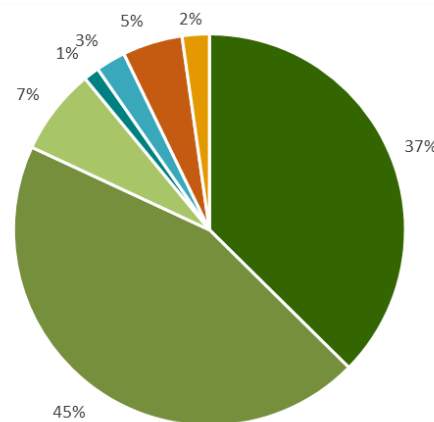


# Accounts for SWSAs, 1990 to 2020

## Composition of PA estate by type of PA, 2020



## Types of PA as per Protected Areas Act



## NATURAL CAPITAL 2

Accounts for Protected Areas, 1900 to 2020

Which ecosystem types are protected by which types of protected areas?

Size of the PA estate

Proportion of country, province or biome protected

→ Directly useful for GBF headline indicator for Target 3

# Accounts for SWSAs, 1990 to 2020

## NATURAL CAPITAL 3

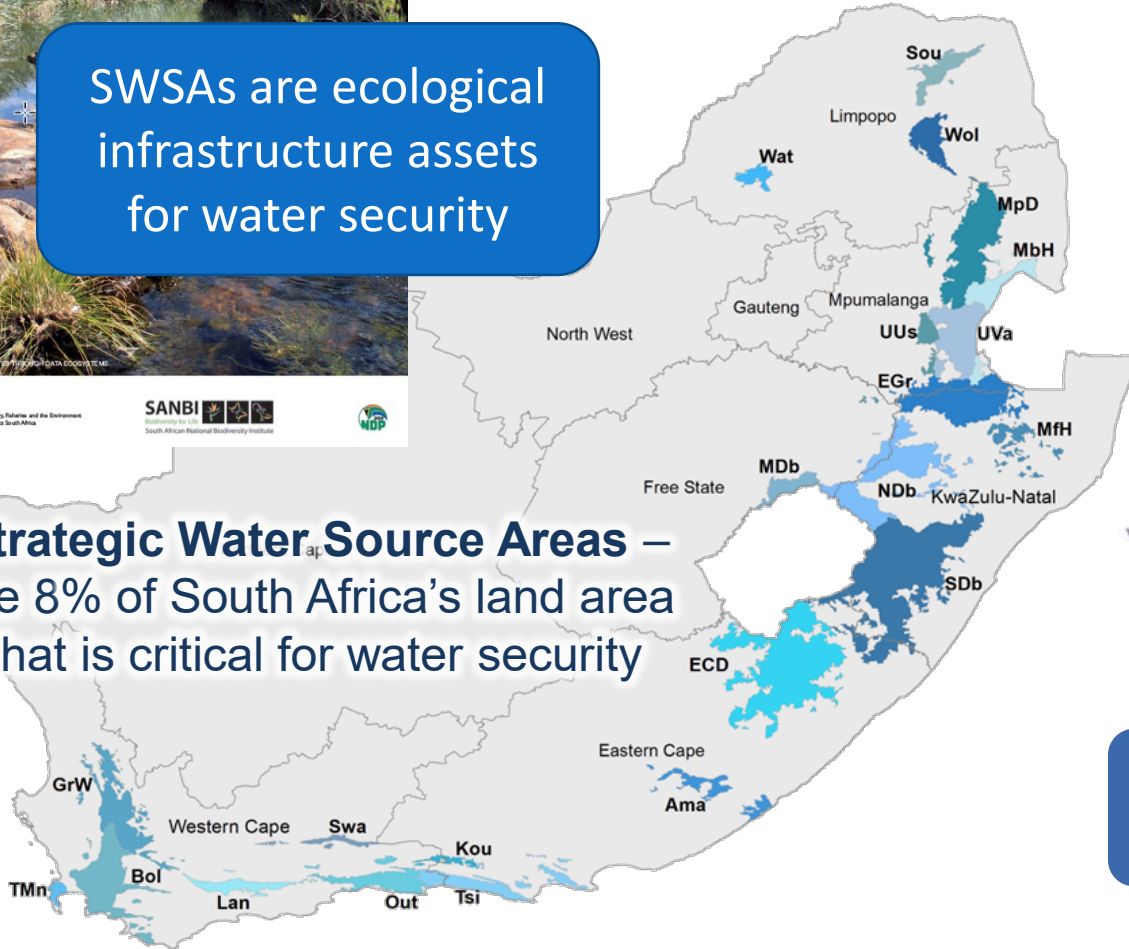
Accounts for Strategic Water Source Areas, 1990 to 2020



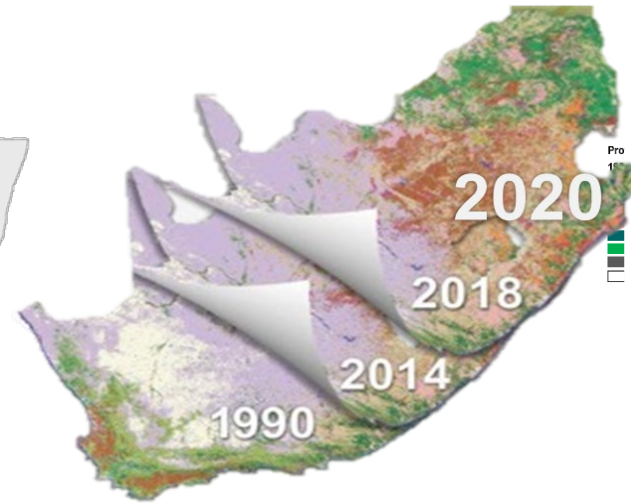
SWSAs are ecological infrastructure assets for water security



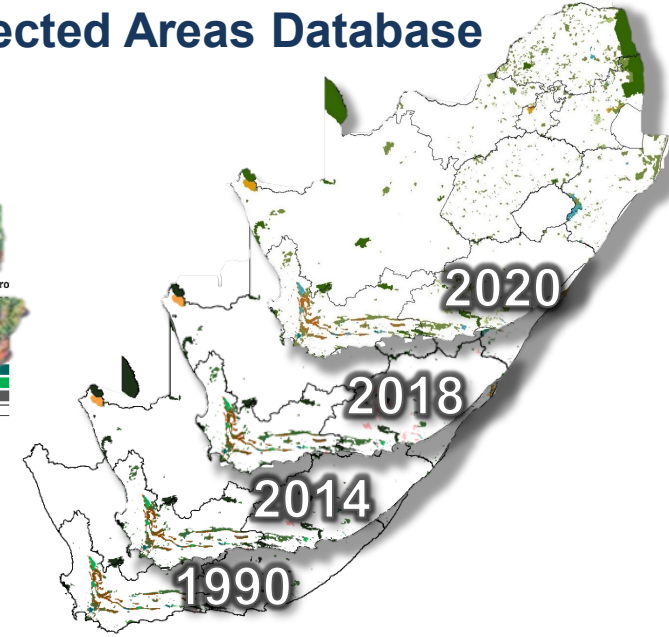
**Strategic Water Source Areas** – the 8% of South Africa's land area that is critical for water security



Essential data foundations include the **National Land Cover** and the **South African Protected Areas Database**



Land accounts for SWSAs, 1990 to 2020



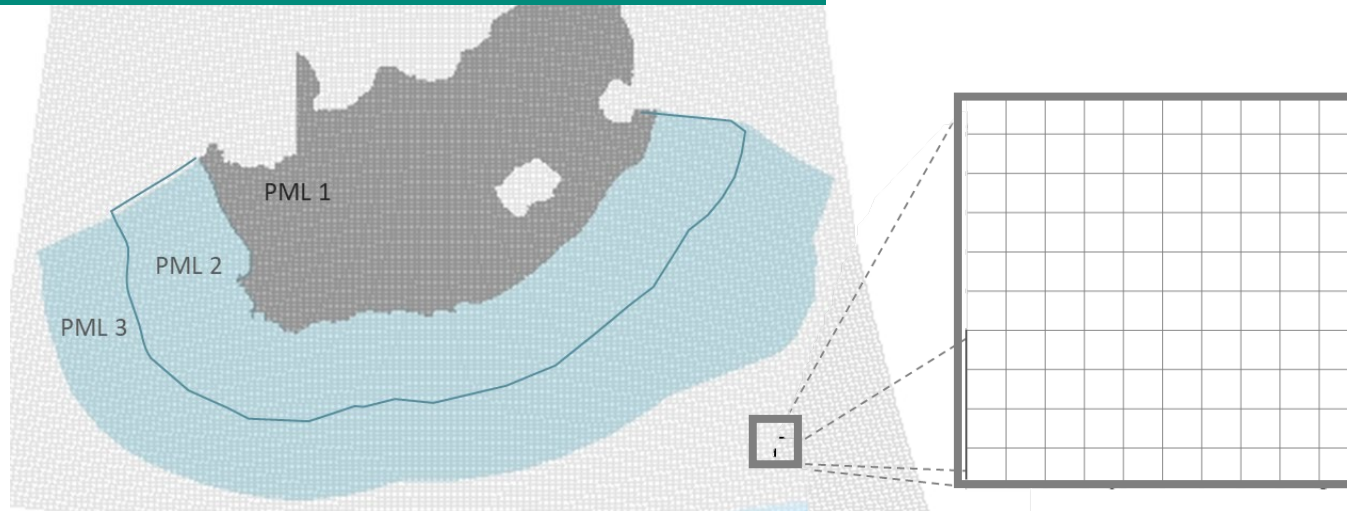
Accounts for PA's in SWSAs, 1990 to 2020

→ Directly useful for GBF Target 3, NWSMP, DFFE MTSF

The accounts track changes in land cover and protected areas within SWSAs over three decades from 1990 to 2020, in biophysical terms.

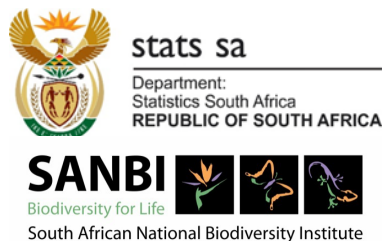
# Methods, models and tools

## Spatial framework for accounts

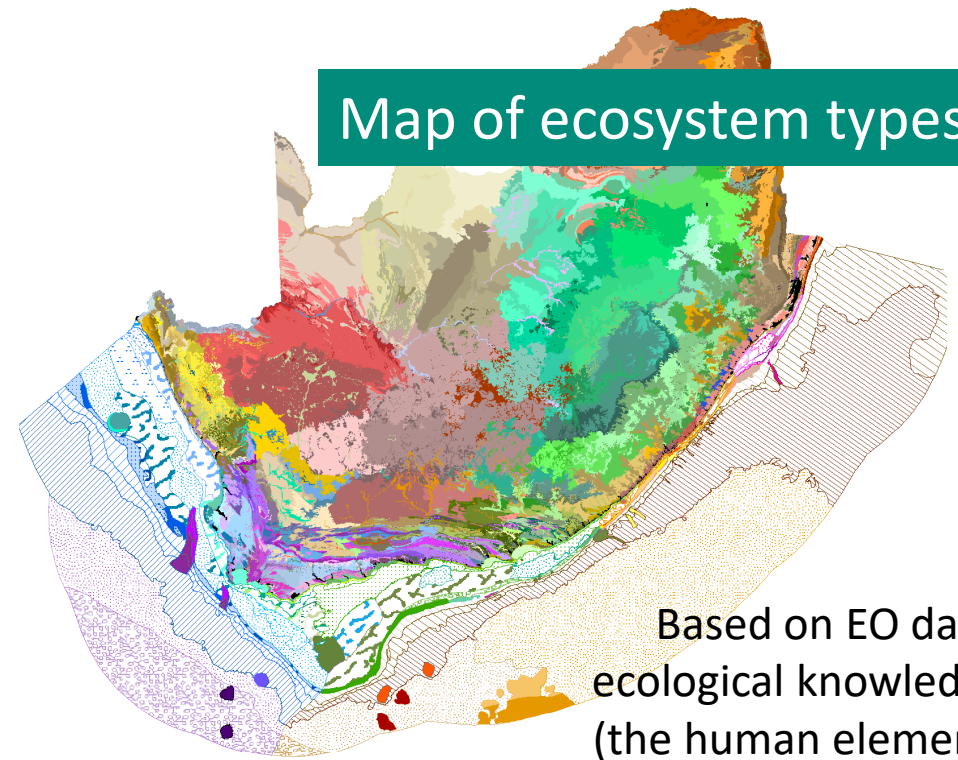


Applied a grid-based Basic spatial unit (BSU) of equal sized cells of 100m x 100m (1 ha cell area) to delineate ecosystem assets in practice

- PML 1: SA mainland
- PML 2: SA mainland marine territory
- PML 3: SA mainland continental shelf claim



## Map of ecosystem types



Based on EO data, ecological knowledge (the human element) and field / in situ data.

## Tools

- ArcGIS
- EnSym
- MS Office – Excel
- Tested ARIES

# A range of accounts are needed...

**LTEA** highlight which ecosystems are below the threshold where ecological functioning is likely impacted, and which land uses are driving this.

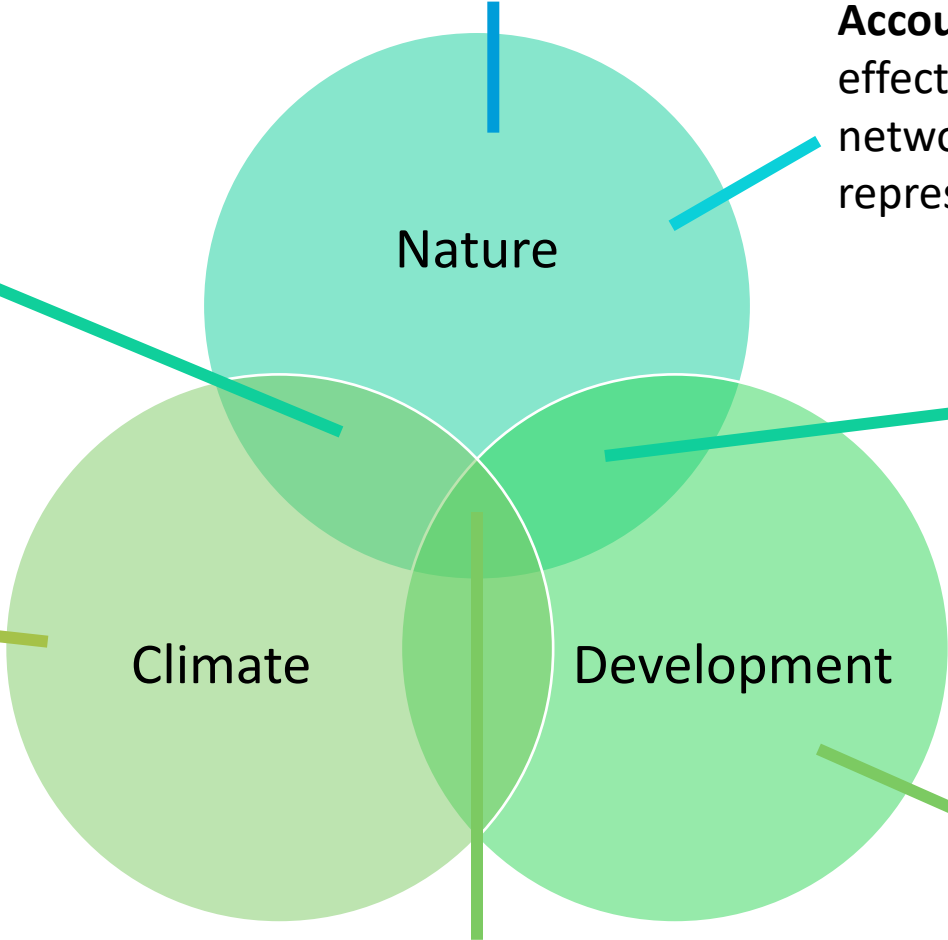
**Accounts for protected areas** tell us effectiveness of the national PA network in achieving an ecologically representative coverage & targets

**Accounts for SWSAs** focus land cover and PA's in national ecological infrastructure assets for water security (people and development)

**Biodiversity Economy Satellite Accounts** quantify the contribution of biodiversity (including conservation activities) to GDP and employment – making the economic and social case for cons.

Exploring **biocarbon accounts for South Africa** that link ecosystem condition and carbon sequestration

**Air emission accounts** under development



**Experimental ecosystem service accounts for one province**

Same foundational information also feeds **assessments of nature related risks and ecosystem services** under different economic and climate change scenarios

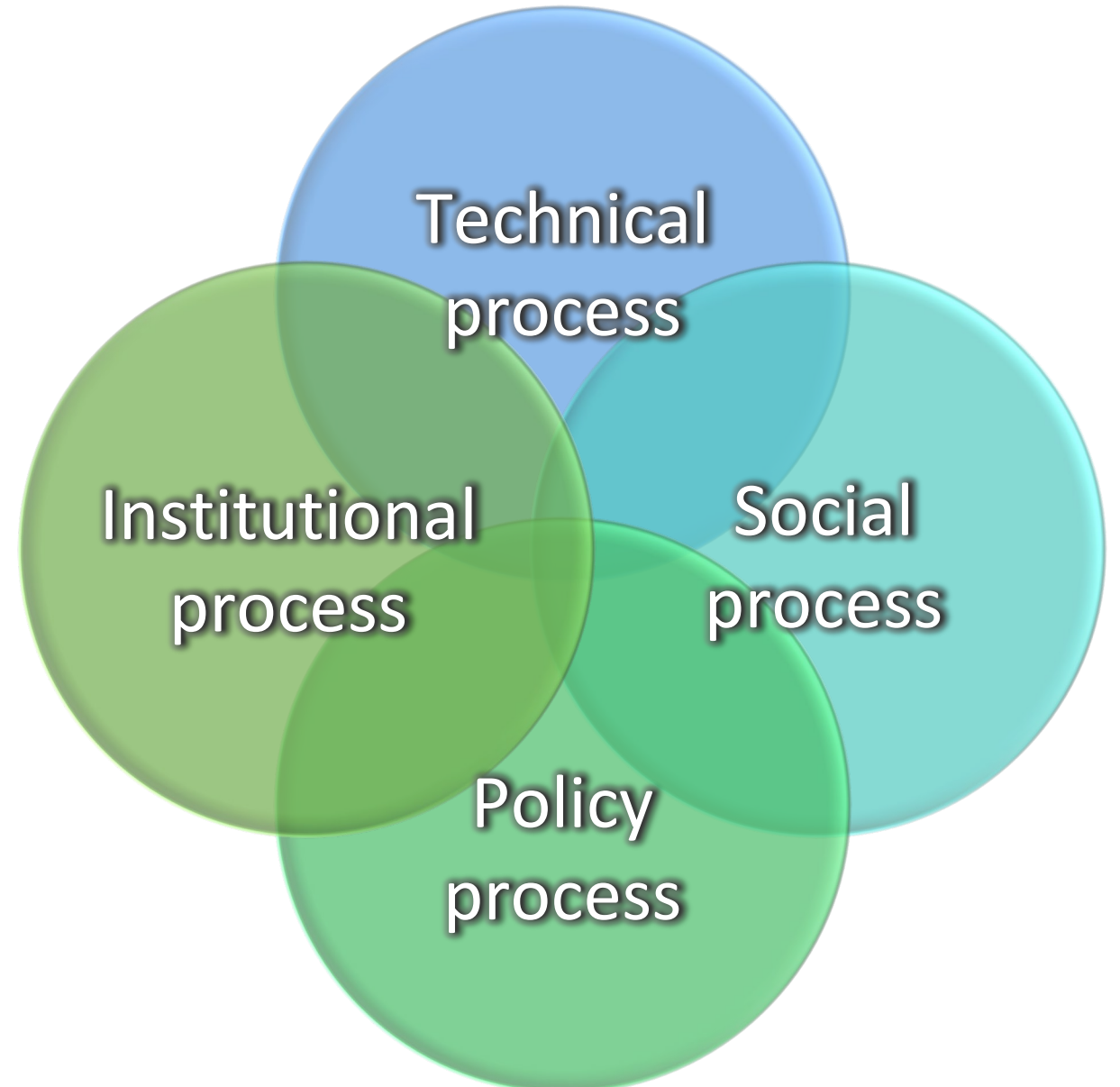


# To respond to policy needs, we need more...

- South Africa has a well developed protected area network, both on land and in the sea (**marine protected areas must be included**)
- Comprises protected areas falling under the mandates of national, provincial and local spheres of government, supplemented by state, private and community areas (**ownership of PAs is policy relevant**)
- Expanded nature conservation functions to private and communal lands, through among others, conservancies, natural heritage sites, community conservation areas, and cooperative conservation models such as biodiversity stewardship sites and biosphere reserves – several of which are types of *Other Effective area-based Conservation Measures* (OECMs). (**typology and databases recording time series of recognized OECMs is needed for inclusion in accounts to report on GBF Target 3**)
- A range of types of use are enabled through the different types of protected areas and conservation areas (e.g. crop and rangelands, agro-ecosystems, extensive wildlife systems, fishing) (**socio-economic benefits derived from PAs in biophysical terms, in terms of employment, or monetary terms**)

# How to use accounts and inform policy?

- Accounts do not make policy recommendations
- Informing policy begins with good **social process** (e.g. validation workshops & TWG)
  - Social learning process to integrating something new or different into conventionally accepted ways of doing things (mainstreaming)
  - Sense-checking and interpretation in light of variation that is natural in environment and climate, and uncertainty that is inherent in data
- **Institutional process**
  - presentations to ministerial working groups
- Nature is protected through a range of **policies**.
  - Policy advisors part of the team



# Concluding comments

- Simple statistics like the extent of PA or proportion of provinces, SWSAs protected can inform policy, strategies and plans.
- You don't need perfect data.
- A range of accounts are relevant to informing policy related to protection of nature for a sustainable and thriving future, in part because nature is protected through a range of policies across sectors.
- Policy is informed by a range of evidence and policy makers being aware of and able to access information from accounts is key.
  - The technical process of compiling accounts is part of mainstreaming biodiversity conservation.
- National Statistical Office (NSO) publishing accounts raises the profile of PA info and gives similar status.

# Thank you



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