Pioneering SEEA EA in South Africa: challenges, lessons learnt, and the way forward

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System of Environmental Economic Accounting – Ecosystem Accounting (SEEA-EA) (e-Learning course)

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Overview

When and how did South Africa start working on SEEA?

Which accounts were prioritised and why?

Lessons learnt through compiling ecosystem accounts in South Africa?

What were the outcomes?

What were some challenges, lessons learned, or what could have been done differently?

What are the future plans for this work?

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When and how did South Africa start working on the SEEA implementation?

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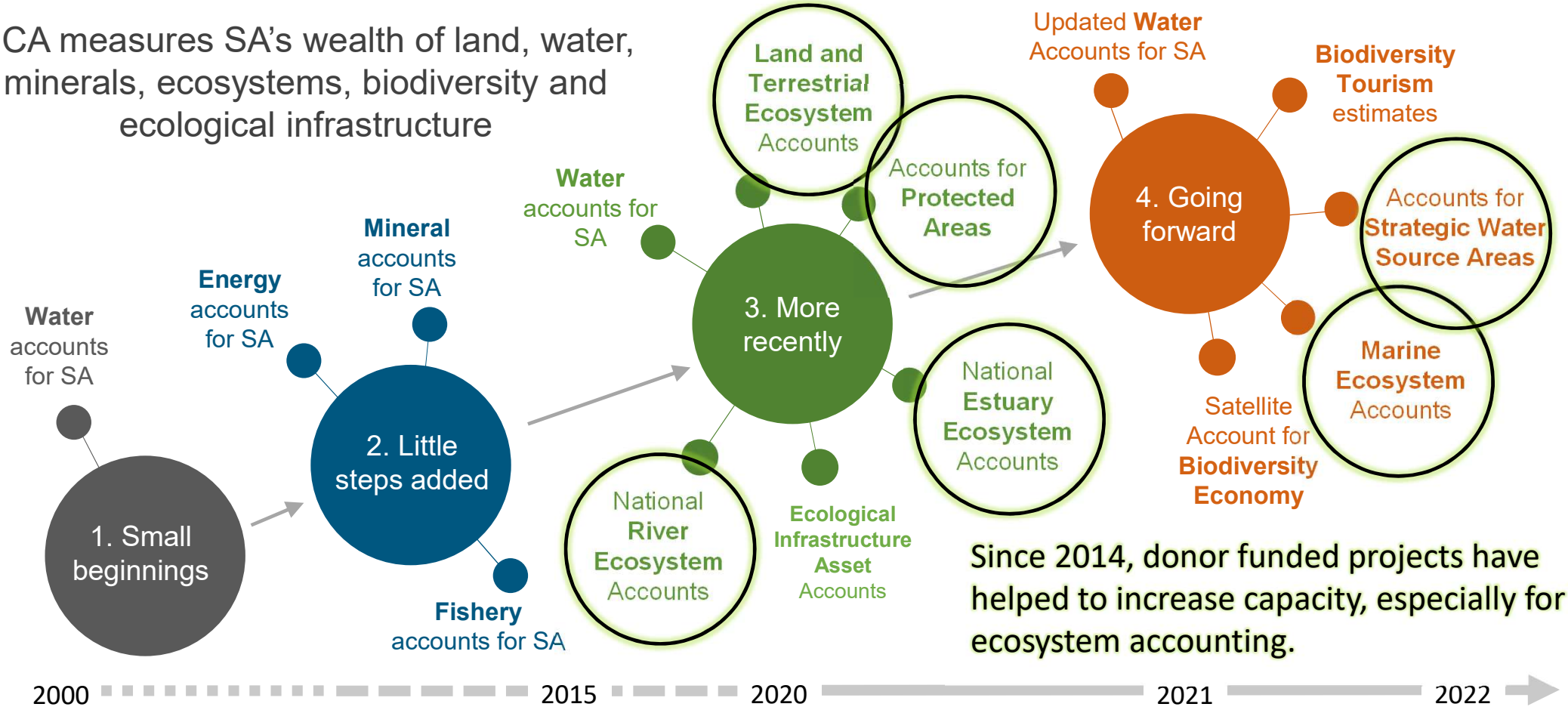
Snapshot of NCA in South Africa

NCA measures SA's wealth of land, water, minerals, ecosystems, biodiversity and ecological infrastructure



Since 2014, donor funded projects have helped to increase capacity, especially for ecosystem accounting.

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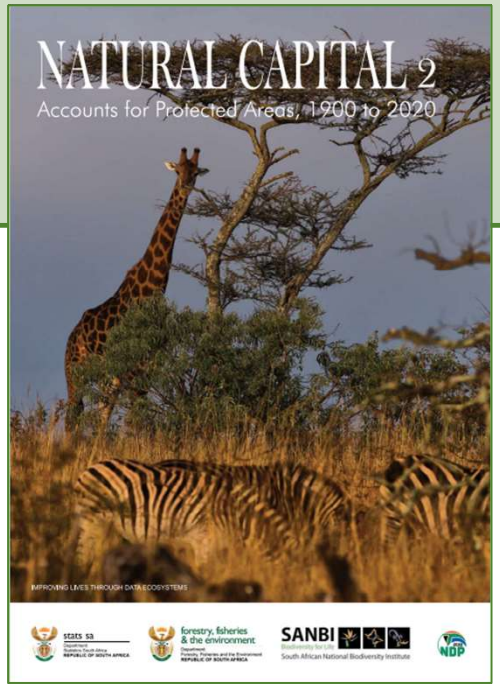
Stats SA's new *Natural Capital* series

Land and Terrestrial Ecosystem Accounts, 1990 to 2014: Released in December 2020

1

Accounts for Protected Areas, 1900 to 2020: Released in October 2021

2



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Which accounts were prioritised and why?

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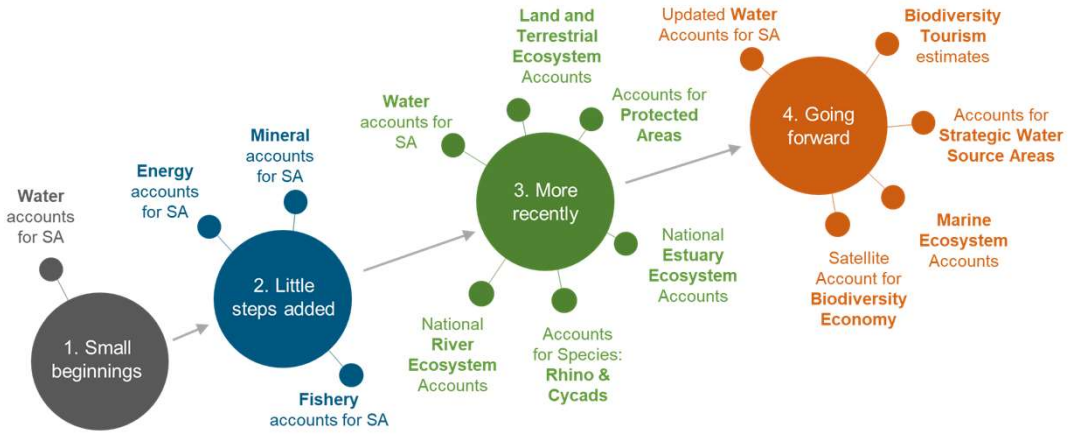
Which accounts were prioritized and why?

- Evident from the snapshot that several accounts have been compiled
- Initially informed by data availability & feasibility
- NCAVES introduced stakeholder engagement and consideration of policy relevance
- Now guided by the National NCA Strategy



Example: Land and Terrestrial Ecosystem Accounts were piloted at sub-national level in ANCA and were confirmed as feasible with methodology tested, AND they were prioritised by stakeholders in a workshop AND they were considered relevant to policies such as the National Development Plan (NDP), National Spatial Development Framework (SDF) and Sustainable Development Goals (SDG)

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Lessons learnt through compiling ecosystem accounts in South Africa

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Overview and lessons learnt pertaining to…

1. Classification of ecosystems
2. Spatial framework for accounting
3. Land and terrestrial ecosystem accounts, 1990 to 2014
4. Testing ecosystem condition accounts
5. Ecosystem service accounts in biophysical terms
6. Ecosystem service accounts in monetary terms
7. Thematic accounts
8. Lesson from testing global indicators

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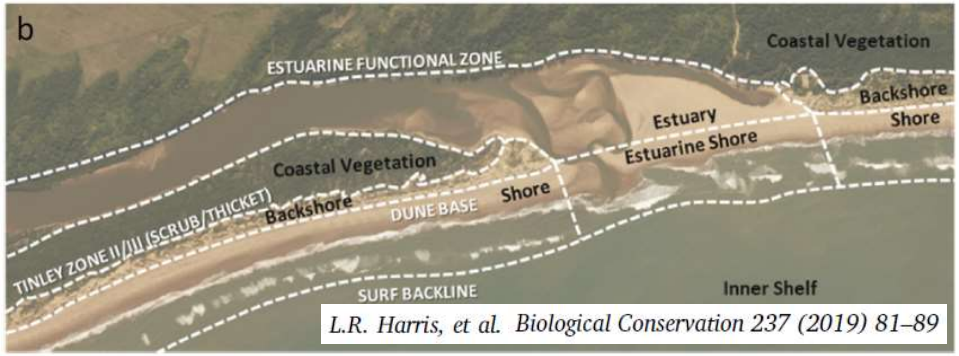
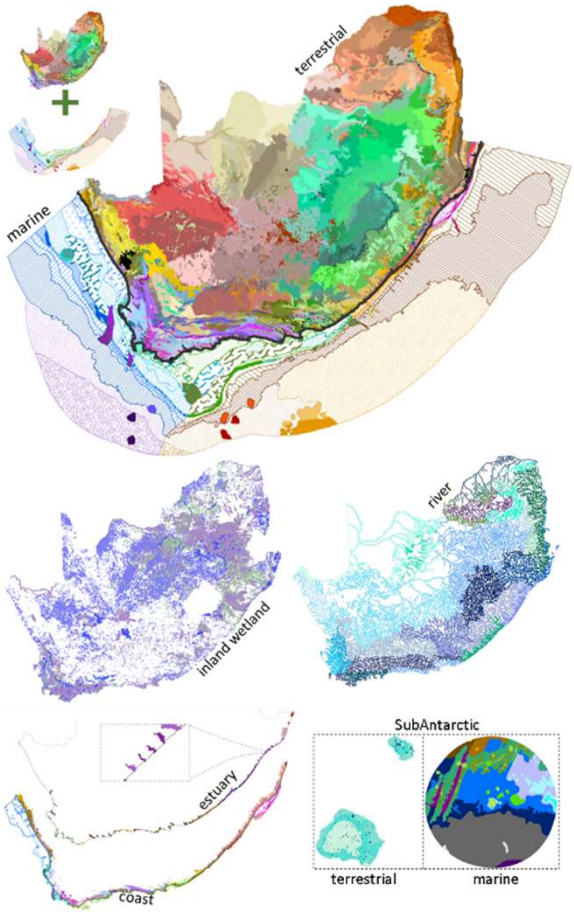
1. Classification of ecosystems

- SA National Ecosystem Classification System (SA-NECS) developed and maintained by the National Ecosystem Classification Committee (NECC) convened by SANBI.
- Integrated map of national ecosystem types for all realms = no double counting

Seamless integration through fine-scale mapping along the coast





Ecosystem types mapped based on **historical extent** (or as close as possible)

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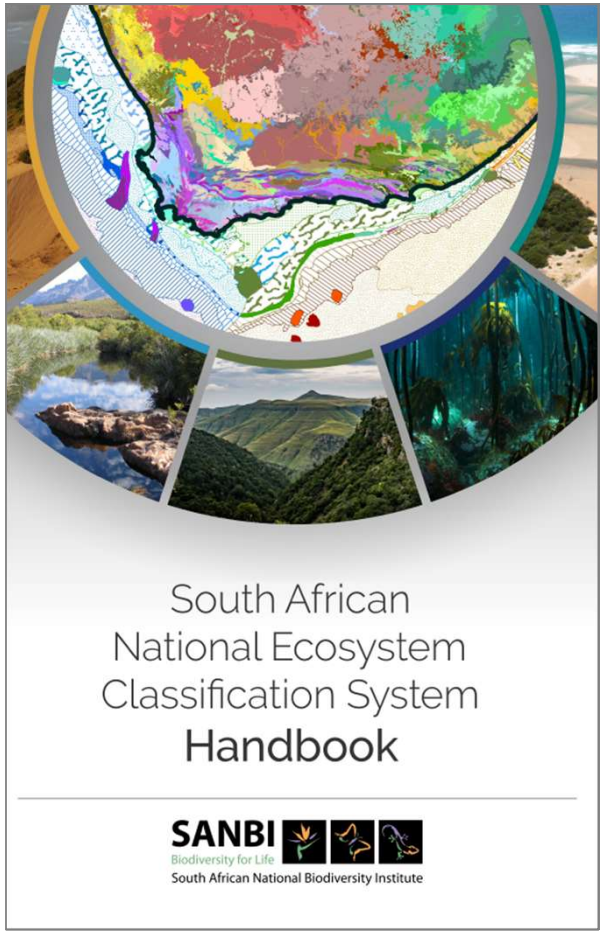
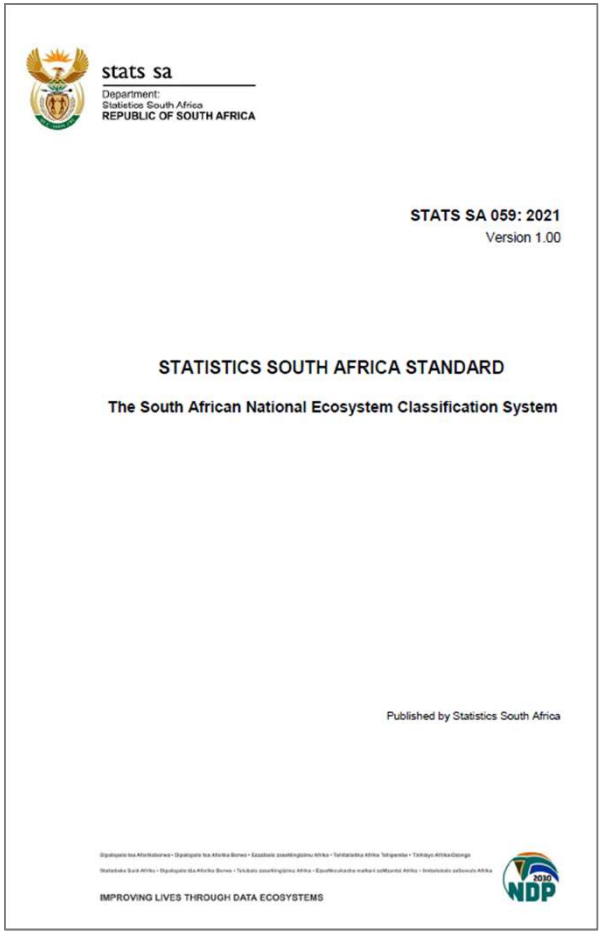
1. Classification of ecosystems



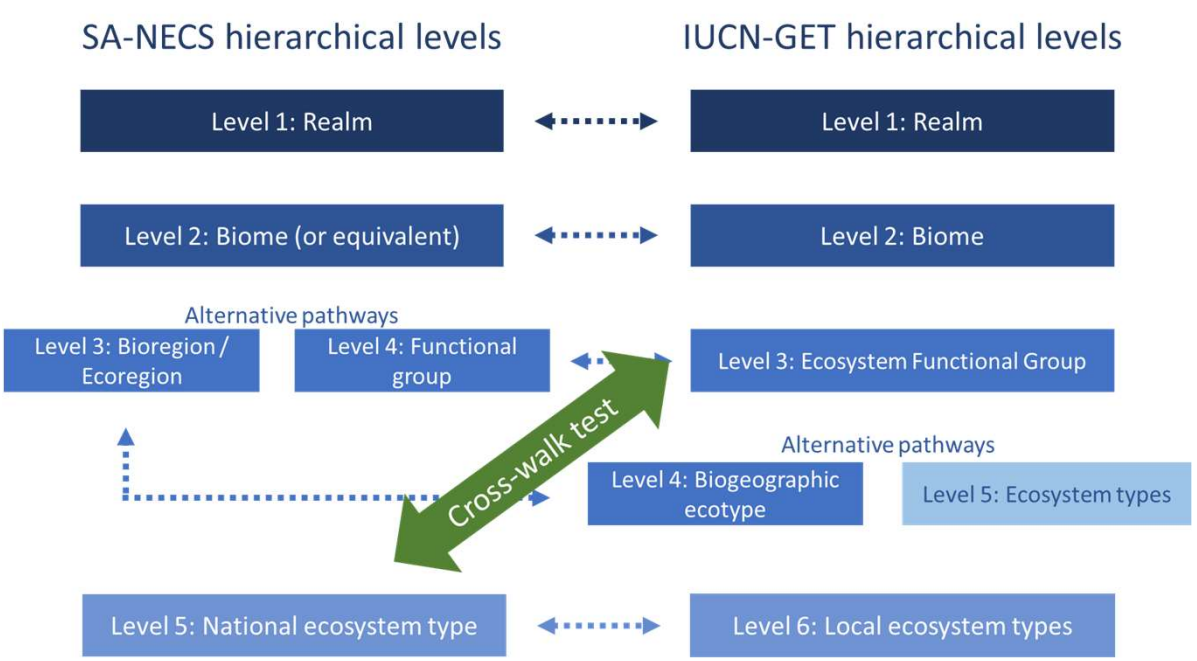


Stats SA Standard for SA National Ecosystem Classification System (SA-NECS) approved in Feb 2021

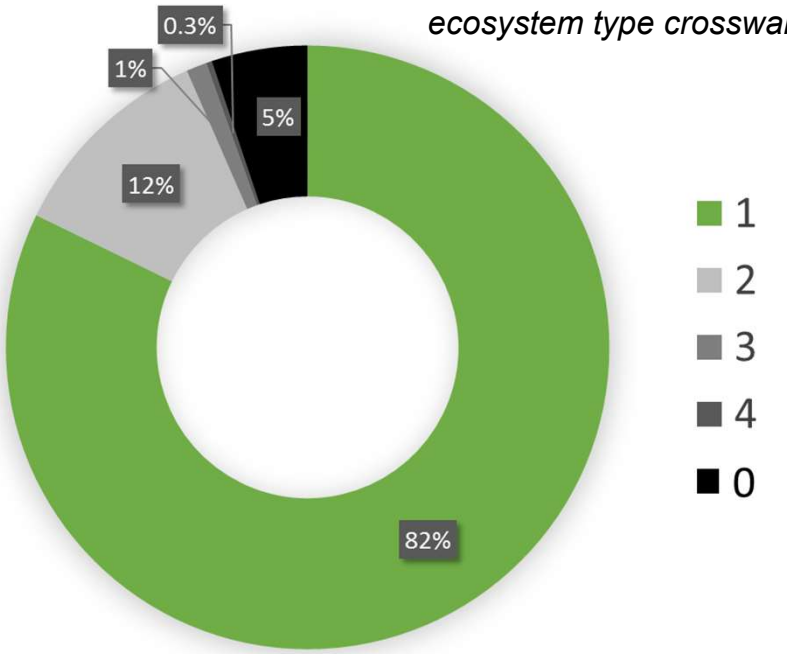
Mainstreams ecosystem classification systems into Stats SA giving them similar status to classification systems related to the economy.

1. Classification of ecosystems

Testing alignment of SA-NECS with IUCN-GET



Number of EFGs to which an SA ecosystem type crosswalks



- Results of crosswalk were generally good - 82% of SA's ecosystem types can be cross-walked to one of the IUCN-GET Ecosystem Functional Groups (L3)
- However, results varied by realm with several challenges for wetlands and overall poor crosswalk for marine realm

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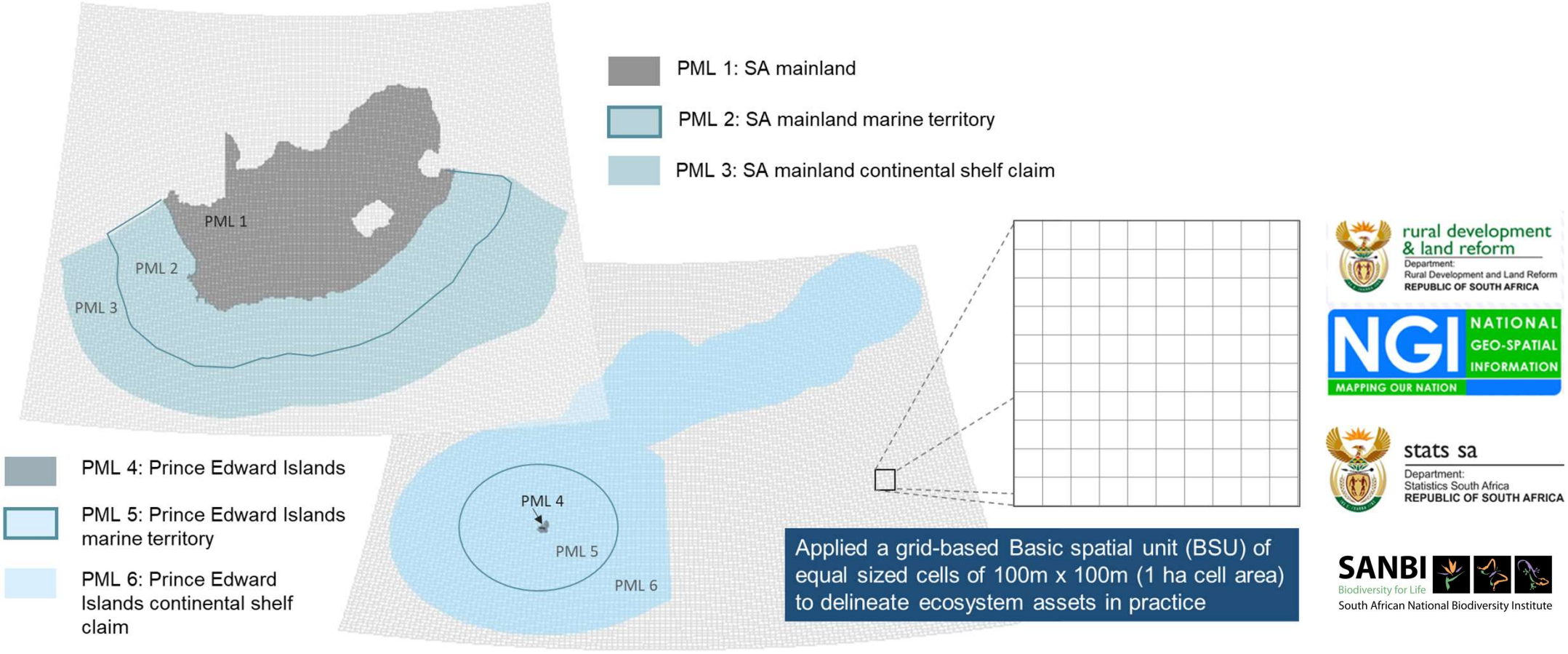
2. Spatial framework for accounting

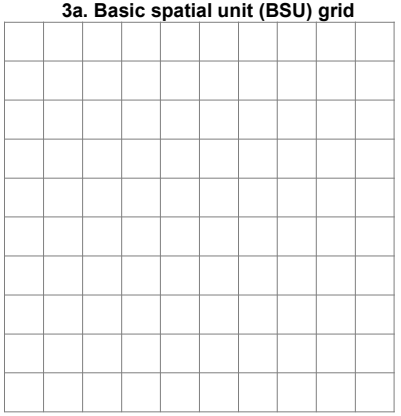


2. Spatial framework for accounting

Summary of spatial framework for accounting

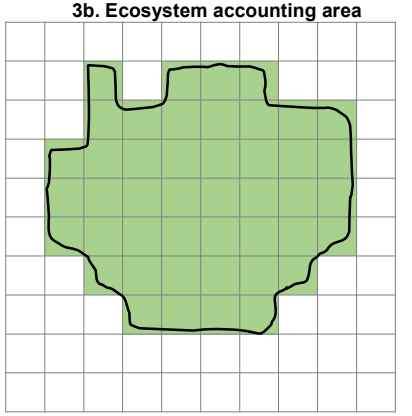
- BSU to delineate ecosystem assets in practice
- Primary ecosystem accounting area
- Secondary ecosystem accounting areas
  - Provinces
  - Biomes
  - Catchments
  - Municipalities
- All foundational data for accounts were annotated to the BSU

3a. Basic spatial unit (BSU) grid



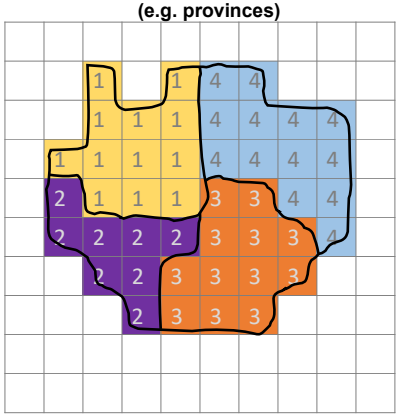
Referred to as BSU layer in GIS context

3b. Ecosystem accounting area



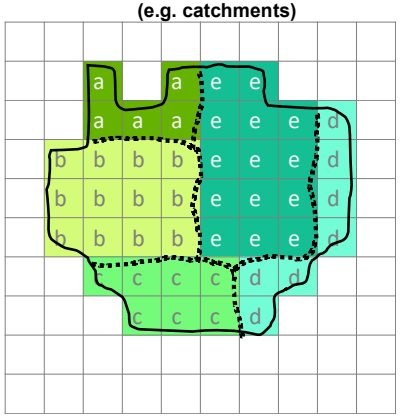
Represented by primary master layer 1 in GIS context

3c. Secondary ecosystem accounting areas (e.g. provinces)



Represented by a secondary master layer for provinces in GIS context

3d. Secondary ecosystem accounting areas (e.g. catchments)



Represented by a secondary master layer for catchments in GIS context

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3. Land and terrestrial ecosystem accounts, 1990 to 2014

- Released in Dec 2020
- **Land accounts** summarised by province and district municipality
  - Foundational data: national land cover provided by

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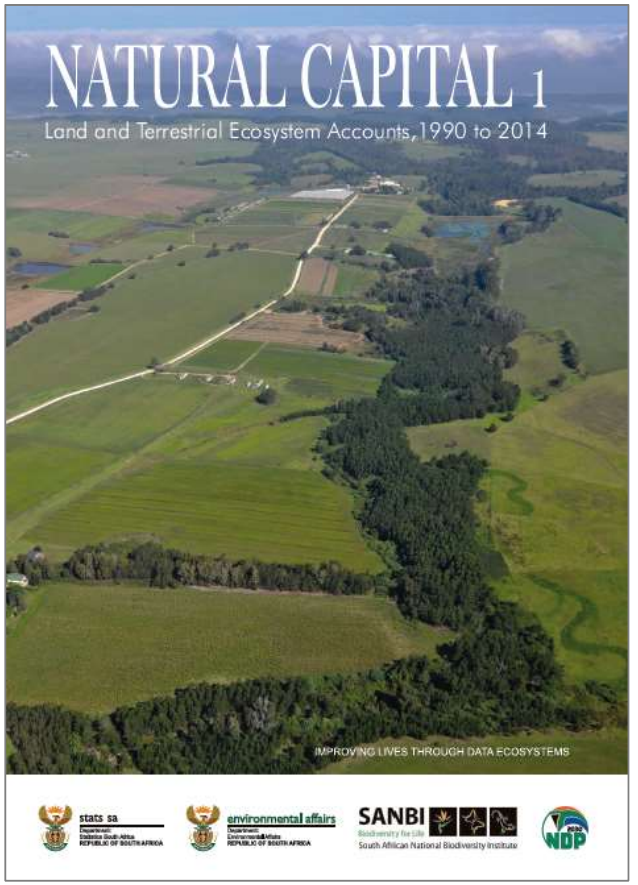
- **Extent account for terrestrial ecosystem types** summarised by biome
  - Foundational data: SA-NECS



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3. Land and terrestrial ecosystem accounts, 1990 to 2014

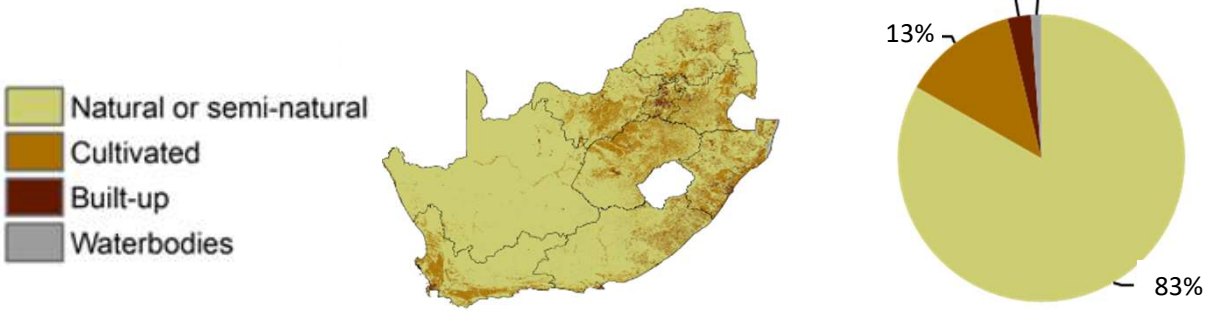
Land account for broad land cover classes (tier 1) at the national level, in hectares

Broad land cover classes (tier 1)	Natural or semi-natural	Cultivated	Built-up	Waterbodies*	TOTAL
Opening stock 1990	**100 710 016**	**16 156 026**	**3 003 883**	**2 096 528**	**121 966 453**
Additions to stock	3 366 559	1 991 959	597 238	288 754	6 244 510
Reductions in stock	2 540 175	2 339 226	400 503	964 606	6 244 510
Net change in stock	826 384	(347 267)	196 735	(675 852)	
Net change as % of opening	**0.8%**	**-2.1%**	**6.5%**	**-32.2%**	
Unchanged (opening - reductions)	98 169 841	13 816 800	2 603 380	1 131 922	
Unchanged as % of opening	97.5%	85.5%	86.7%	54.0%	
Turnover (additions + reductions)	5 906 734	4 331 185	997 741	1 253 360	
Turnover as % of opening	5.9%	26.8%	33.2%	59.8%	
Closing stock 2014	**101 536 400**	**15 808 759**	**3 200 618**	**1 420 676**	**121 966 453**

*The large net decrease in the extent of waterbodies reflects primarily that 1990 was a much wetter year than 2014.

By far the majority of South Africa's land area is **natural or semi-natural**

Not much change between 1990 and 2014 at the national level for tier 1 – BUT this hides a lot of sub-national variation and changes at tier 2 and 3



3. Land and terrestrial ecosystem accounts, 1990 to 2014

Grouping of 72 National Land Cover classes into nested tiers

Broad land cover classes *Tier 1: 4 classes*	Main land cover classes *Tier 2: 8 classes*	Detailed land cover classes *Tier 3: 20 classes*	National Land Cover (NLC) classes *Tier 4: 72 classes*
Natural or semi-natural	Natural or semi-natural	Natural or semi-natural	8 land cover classes
Cultivated	Commercial crops	Cultivated commercial fields	4 land cover classes
		Cultivated commercial pivots	3 land cover classes
		Sugarcane	6 land cover classes
	Subsistence crops	Subsistence crops	3 land cover classes
	Orchards and vines	Orchards	3 land cover classes
		Vines	3 land cover classes
	Timber plantations	Timber plantations	3 land cover classes
Built-up	Urban	Urban parkland	4 land cover classes
		Urban industrial	1 land cover class
		Urban commercial	1 land cover class
		Urban built-up	4 land cover classes
		Urban residential	4 land cover classes
		Urban township	4 land cover classes
		Urban informal	4 land cover classes
		Urban smallholding	4 land cover classes
		Urban village	4 land cover classes
		Urban school and sports ground	1 land cover class
	Mines	Mines	5 land cover classes
Waterbodies	Waterbodies	Waterbodies	3 land cover classes

Natural or semi-natural classes grouped as a single class at Tier 1, 2 and 3

Intensively modified classes grouped into three tiers:

- align with **intensity of ecological impact**
- link to **socio-economic drivers** in the landscape as far as possible

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3. Land and terrestrial ecosystem accounts, 1990 to 2014

Extent account for terrestrial ecosystem types summarised by biome

Natural biomes derived from National Vegetation Map

Intensively modified biomes derived from National Land Cover

Biomes	Albany Thicket	Desert	Forest	Fynbos	Grassland	IOCB	Nama-Karoo	Savanna	Succulent Karoo	Azonal vegetation	Cultivated*	Built-up*	Water-bodies**	TOTAL
Historical extent	**3 531 231**	**626 207**	**462 518**	**8 165 366**	**33 090 325**	**1 171 284**	**24 936 548**	**39 418 522**	**7 821 579**	**2 742 873**	**-**	**-**	**-**	**121 966 453**
Additions to extent	0	0	0	0	0	0	0	0	0	0	16 156 026	3 003 883	2 096 528	21 256 437
Reductions in extent	230 091	8 237	70 673	2 253 375	11 330 606	619 656	420 995	5 396 119	251 373	675 312	-	-	-	21 256 437
Net change in extent	(230 091)	(8 237)	(70 673)	(2 253 375)	(11 330 606)	(619 656)	(420 995)	(5 396 119)	(251 373)	(675 312)	-	-	-	
Net change as % of historical	**-6,5%**	**-1,3%**	**-15,3%**	**-27,6%**	**-34,2%**	**-52,9%**	**-1,7%**	**-13,7%**	**-3,2%**	**-24,6%**	-	-	-	
Closing extent 1990	**3 301 140**	**617 970**	**391 845**	**5 911 991**	**21 759 719**	**551 628**	**24 515 553**	**34 022 403**	**7 570 206**	**2 067 561**	**16 156 026**	**3 003 883**	**2 096 528**	**121 966 453**
Opening extent 1990	**3 301 140**	**617 970**	**391 845**	**5 911 991**	**21 759 719**	**551 628**	**24 515 553**	**34 022 403**	**7 570 206**	**2 067 561**	**16 156 026**	**3 003 883**	**2 096 528**	**121 966 453**
Additions to extent	44 432	1 142	24 900	241 184	1 444 446	75 114	146 910	1 160 055	38 422	189 954	1 991 959	597 238	288 754	6 244 510
Reductions in extent	36 008	1 260	7 689	196 035	1 180 183	63 783	78 038	885 303	33 631	58 021	2 339 226	400 503	964 606	6 244 286
Net change in extent	8 424	(118)	17 211	45 149	264 263	11 331	68 872	274 752	4 791	131 933	(347 267)	196 735	(675 852)	
Net change as % of opening	**0,3%**	**0,0%**	**4,4%**	**0,8%**	**1,2%**	**2,1%**	**0,3%**	**0,8%**	**0,1%**	**6,4%**	**-2,1%**	**6,5%**	**-32,2%**	
Net change in relation to historical extent	(221 667)	(8 355)	(53 462)	(2 208 226)	(11 066 343)	(608 325)	(352 123)	(5 121 367)	(246 582)	(543 379)	-	-	-	
Net change as % of historical	**-6,3%**	**-1,3%**	**-11,6%**	**-27,0%**	**-33,4%**	**-51,9%**	**-1,4%**	**-13,0%**	**-3,2%**	**-19,8%**	-	-	-	
Closing extent 2014	**3 309 564**	**617 852**	**409 056**	**5 957 140**	**22 023 982**	**562 959**	**24 584 425**	**34 297 155**	**7 574 997**	**2 199 270**	**15 808 759**	**3 200 618**	**1 420 676**	**121 966 453**

* Cultivated areas, built-up areas and waterbodies are treated as biomes for the purpose of the ecosystem extent account table. There is no reliable spatial information on the historical extent of waterbodies, subsistence cultivation or habitation.

** The large net decrease in the extent of waterbodies reflects primarily that 1990 was a much wetter year than 2014. Waterbodies include both natural and artificial water bodies (such as dams).

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3. Land and terrestrial ecosystem accounts, 1990 to 2014

Proportion of EAA (SA mainland) covered by specific ecosystem types

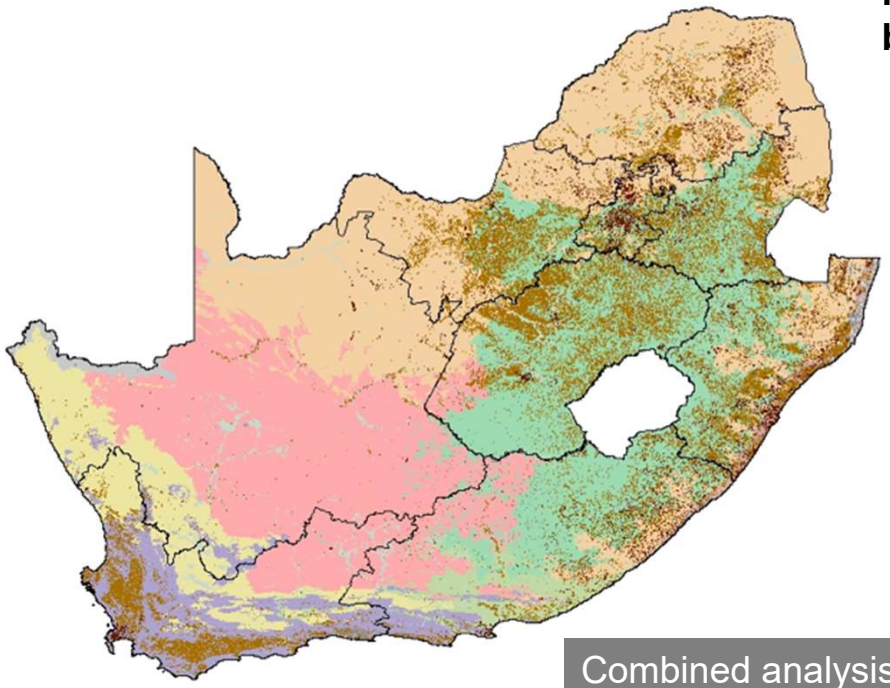
2014

Intensively modified "biomes"

- Built-up
- Cultivated
- Waterbodies

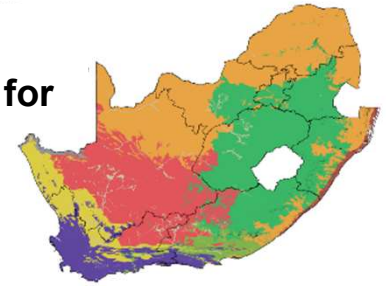
Natural or semi-natural biomes

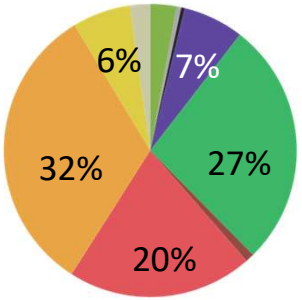
- Albany Thicket
- Desert
- Forest
- Fynbos
- Grassland
- Indian Ocena Coastal Belt
- Nama-Karoo
- Savanna
- Succulent Karoo
- Azonal Vegetation
- Provincial boundary



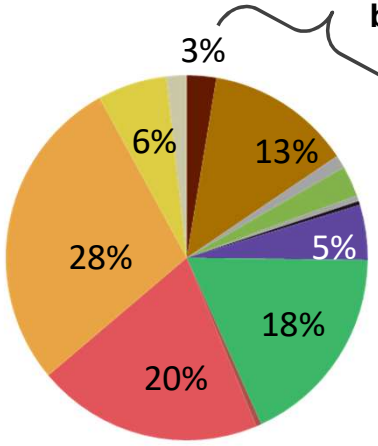
Combined analysis

Historical reference for natural biomes





Intensively modified biomes have replaced portions of natural biomes



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3. Land and terrestrial ecosystem accounts, 1990 to 2014

Net change in area covered by specific Ecosystem Types
(expressed in absolute or percentage terms)

Some remarkable changes in intensively modified ETs 1990 – 2014

Centre-pivot irrigated cultivation increased by 220%, from 240 000 ha to 770 000 ha

- Large ecological impacts including on water

Area of informal urban settlements almost doubled, from 31 000 ha to 60 000 ha

- Significant challenges for urban planning and service provision

3. Land and terrestrial ecosystem accounts, 1990 to 2014

Percentage of area changed [we've called this percentage **spatial turnover**]

Definition

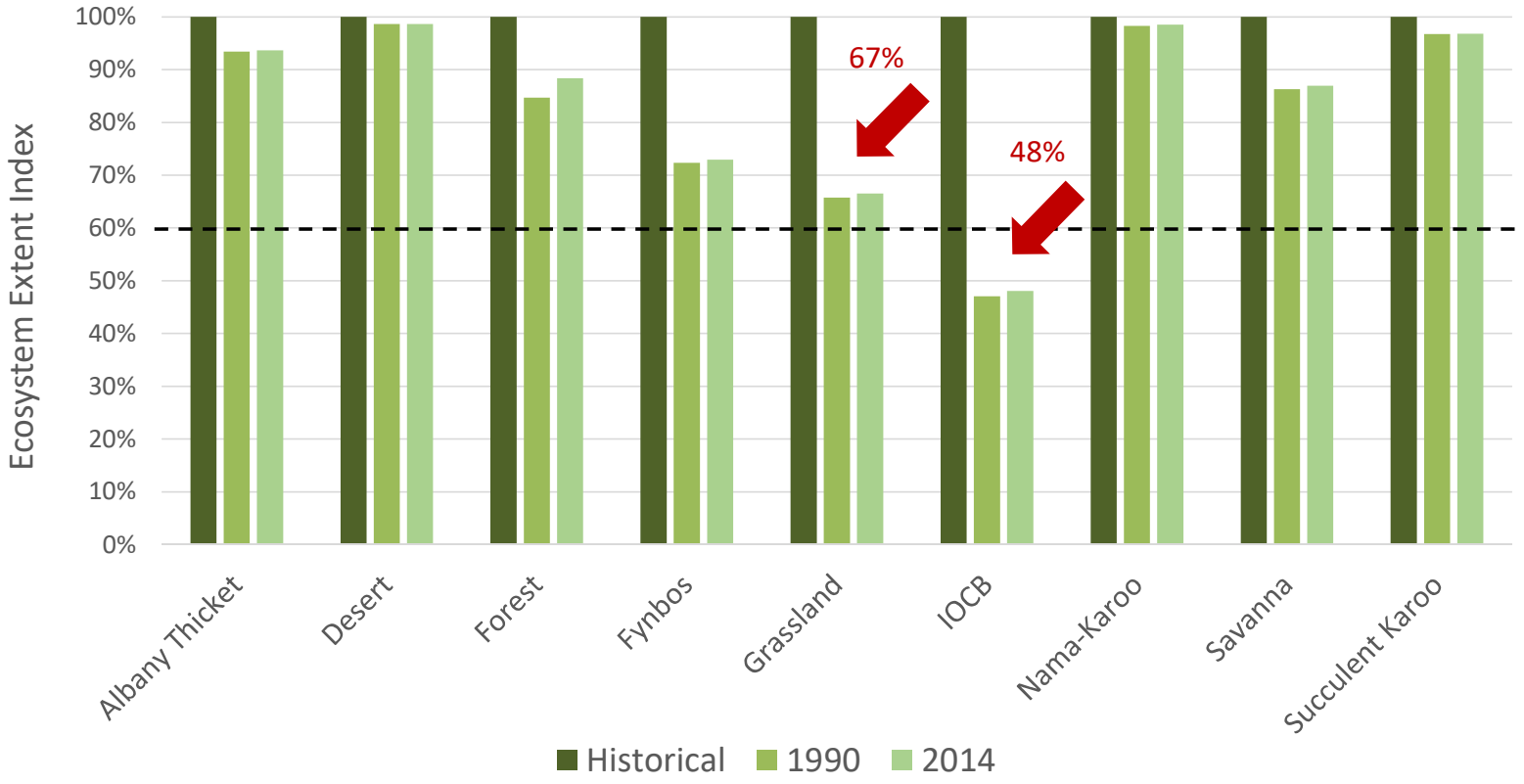
- (additions + reductions) / opening extent
- Can indicate socio-economic changes in the landscape

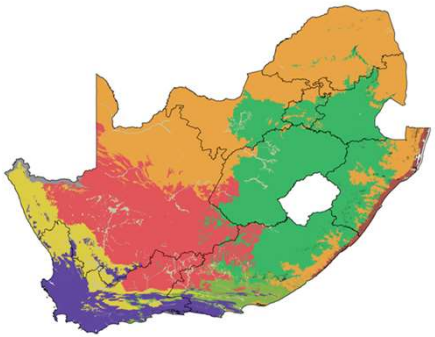
Example

- **Net change** in subsistence crops of **only 1.1%**
  - from 1.95 million ha in 1990 to 1.97 million ha in 2014
- BUT **turnover was 46%** - indicating substantial changes in where cropping took place
  - Change matrix and maps can provide additional info to help interpret these shifts

3. Land and terrestrial ecosystem accounts, 1990 to 2014

Ecosystem Extent Index can be evaluated against thresholds, for example, a threshold for ecological functioning





Ecological function threshold

Biomes

- Albany Thicket
- Desert
- Forests
- Fynbos
- Grassland
- Indian Ocean Coastal Belt
- Nama-Karoo
- Savanna
- Succulent Karoo
- Azonal Vegetation
- Provincial boundary

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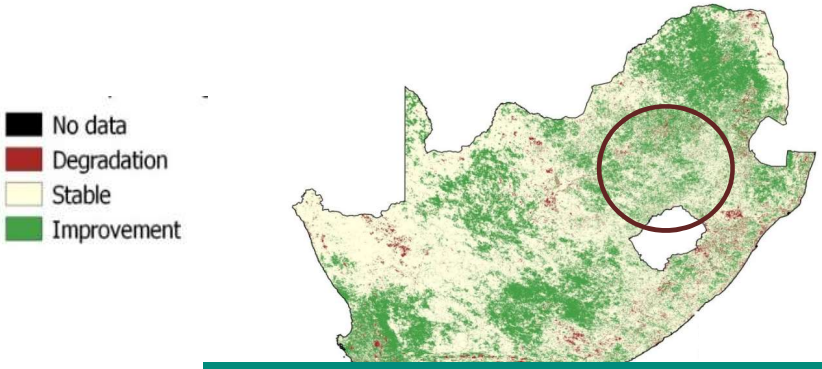
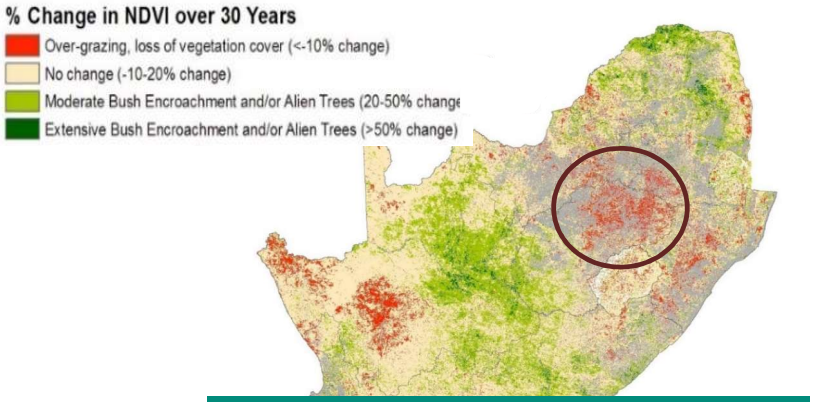
4. Testing ecosystem condition accounts

Terrestrial ecosystem condition accounts

- Primary challenge is that it is difficult to distinguish between natural or semi-natural condition in terrestrial ecosystems based on remotely sensed imagery.
- Globally, normalized difference vegetation index (NDVI) is often used as an indicator of condition, with increases assumed to be improvements in condition.
- SA context, this gives results an unreliable results
  - increased NPP is not always positive
  - can signify degradation **in the case of bush encroachment, invasive alien plants**
- NDVI alone cannot provide a suitable measure. Method for ecosystem condition accounts still being developed.



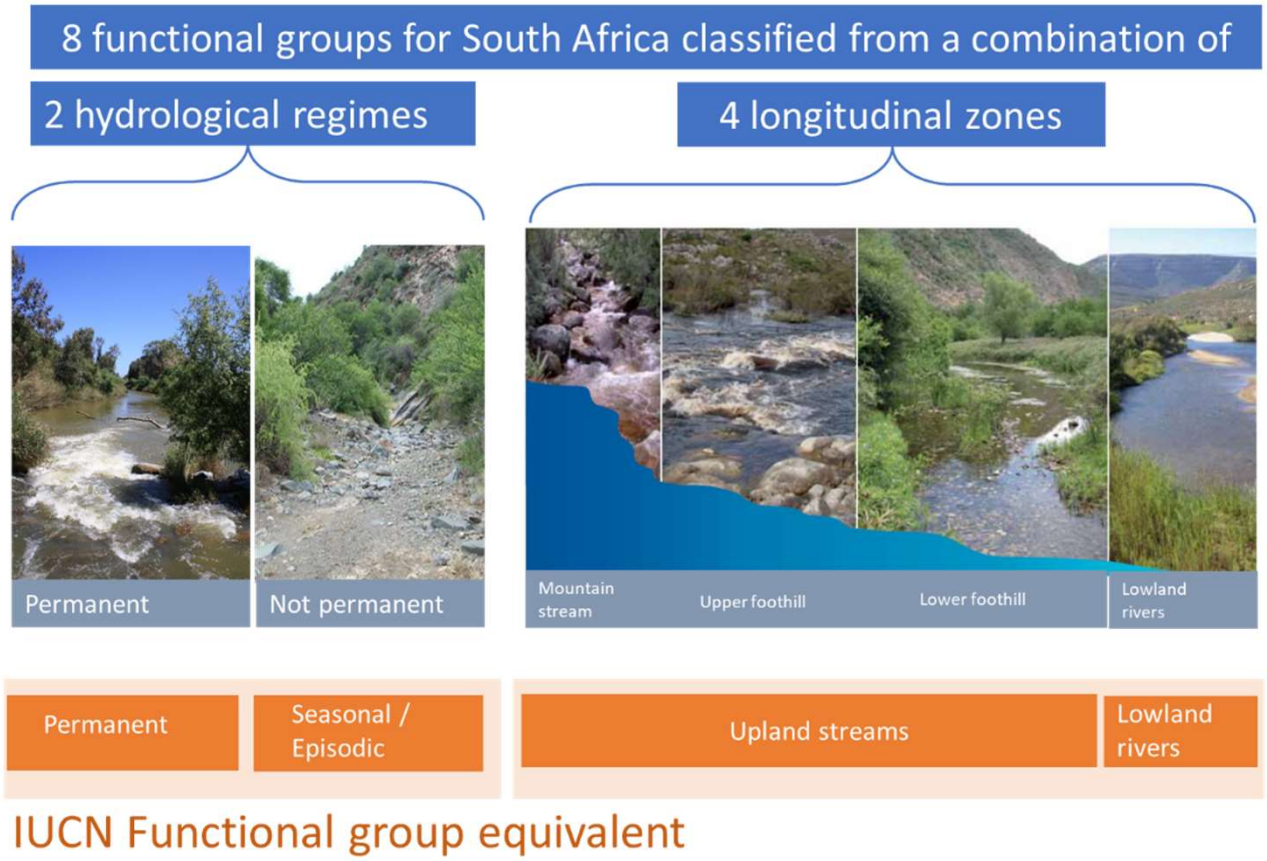
Trends.Earth output (global approach)
MODIS 2014 Productivity state degradation



Best available South African map: % change in NDVI over 30 years

4. Testing ecosystem condition accounts

Terrestrial ecosystem condition accounts

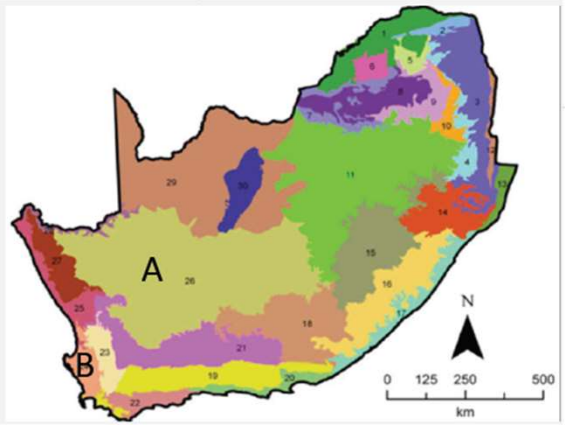


- Four indicators of condition:
  - Flow of water
  - Water quality
  - Condition of instream habitat
  - Condition of riparian habitat
- Provide a condition score = Present ecological state (PES) for each river reach
- Assessed relative to a reference condition of natural

Natural or near-natural
Moderately modified
Heavily modified
Unacceptably modified

4. Testing ecosystem condition accounts

SUB-INDICES OF RIVER CONDITION			
FLOW	*WATER QUALITY*	*RIPARIAN HABITAT*	*INSTREAM HABITAT*
Changed flow and flood regimes	Changed physico-chemical conditions	Changed riparian and river wetland zones due to flow modification and physical changes (assesses structure for biota and functioning)	Temporal and spatial
EXAMPLES OF ASSOCIATED VARIABLES OR PROXIES FOR VARIABLES			
• Presence of urban and agriculture land use • Presence of inter basin transfers, weirs, dams • Water abstraction data • Agricultural return flows • Sewage releases	• Extent of algal growth and invasive macrophytes (e.g. water hyacinth) • Activities such as mining, cultivation, irrigation (i.e. agricultural return flows) • Presence of sewage works, urban areas, industries, etc.	• Land use/cover quantified 10m, 50m an 100 m from river • Activities such as agriculture, mining, urba areas, inundation etc. • Presence and impact of invasive alien woody vegetation	



Indicator	Category A	Category B	Category C	Category D	Category E/F
	Pristine	Near natural	Moderately modified	Significantly modified	Severely modified
composition of riparian		indigenous species	hardy indigenous species and/or	exotics and/or weedy indigenous	of two species, often >80% exotics

LESSONS:

- Proxies are often used for variables where data is not available.
- Data for many variables is partial (even when proxies are used) and different for different EAs, so in practice it is not possible to be fully systematic about moving from variables to indicators to sub-indices. This may especially be the case in a developing country context.
- Rather, this requires gathering whatever data is available on a range of variables, and then putting this through a sense-making and synthesis process involving experts.
- Expert knowledge and interpretation is required to derive meaningful indicators of condition.

4. Testing ecosystem condition accounts

National River Ecosystem Accounts: Extent and condition of river ecosystem assets (informal discussion document published by SANBI in 2015)

Based on data from two detailed national assessments by Department of Water & Sanitation

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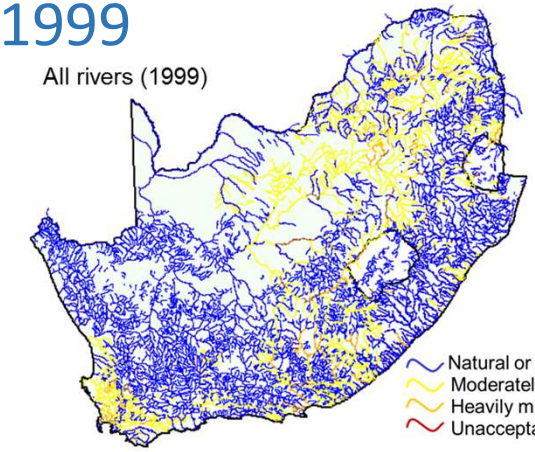
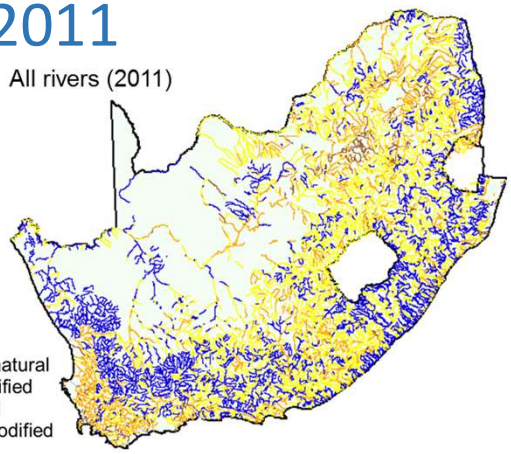
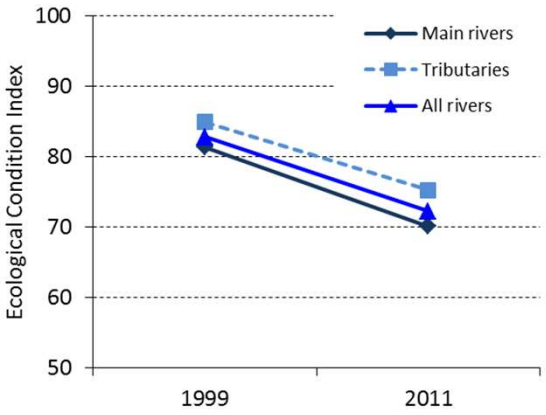
1999



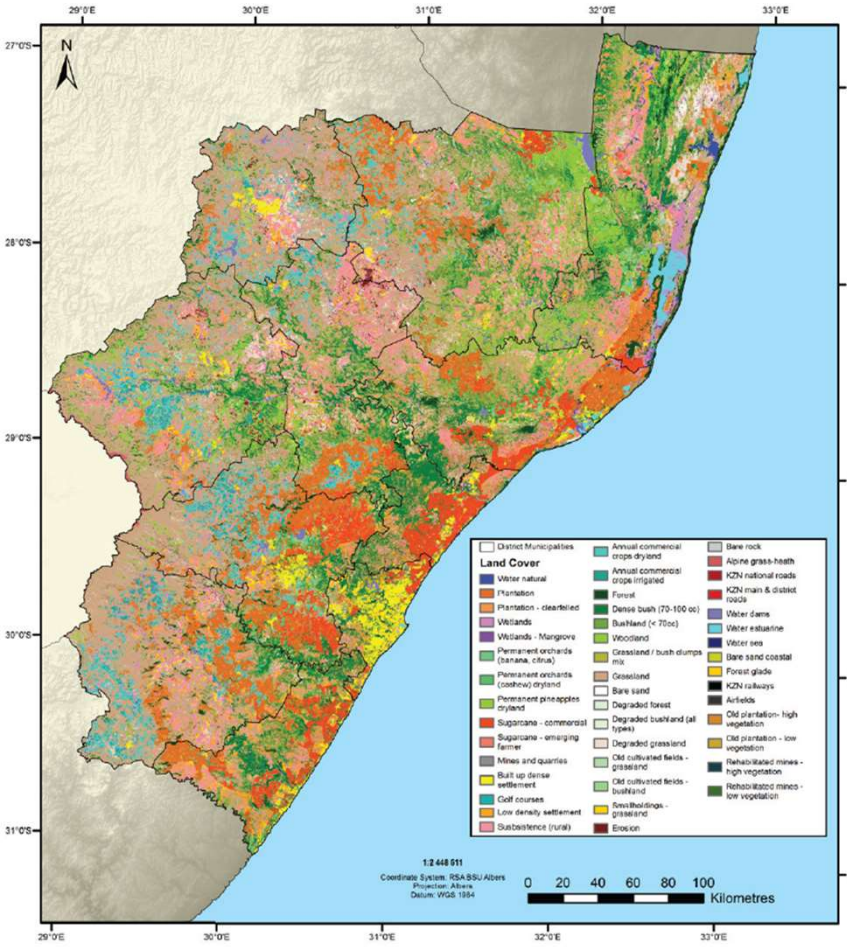
2011

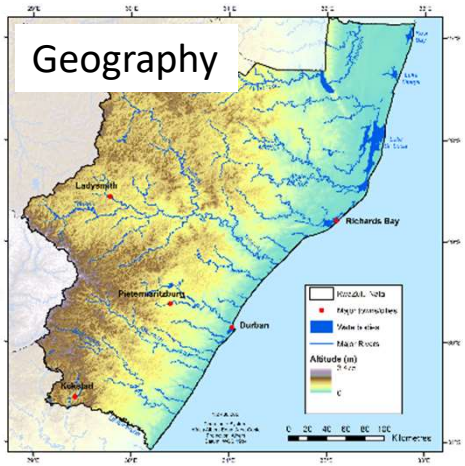


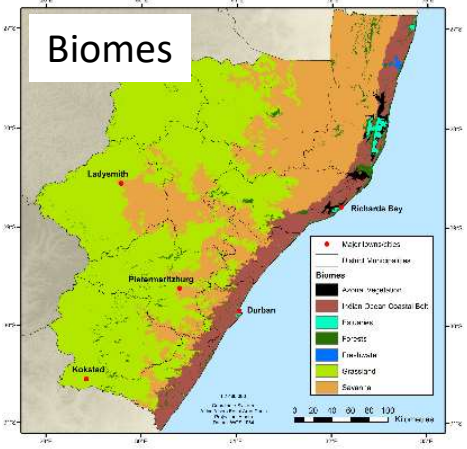


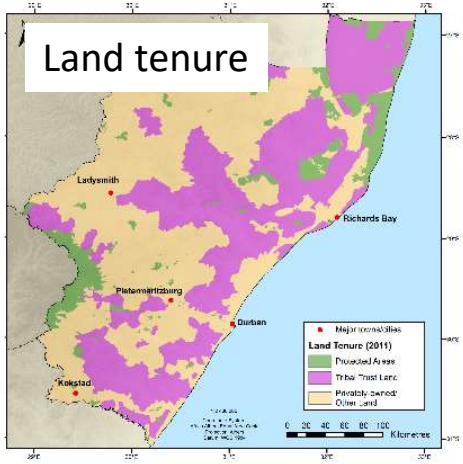
National River Ecosystem Condition Index Declined from 83% in 1999 to 72% in 2011

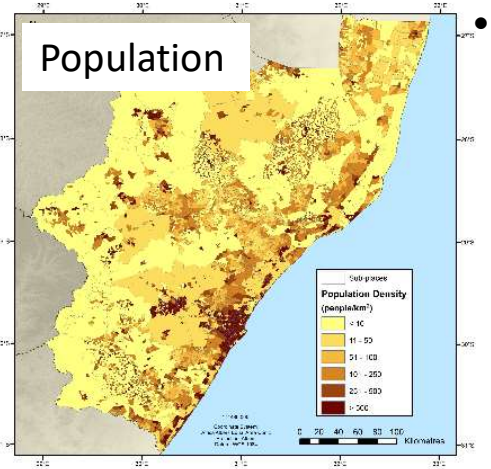
5. Ecosystem service accounts in biophysical terms











- BSU
- SUT tables summarised by biome
- 2005 and 2011

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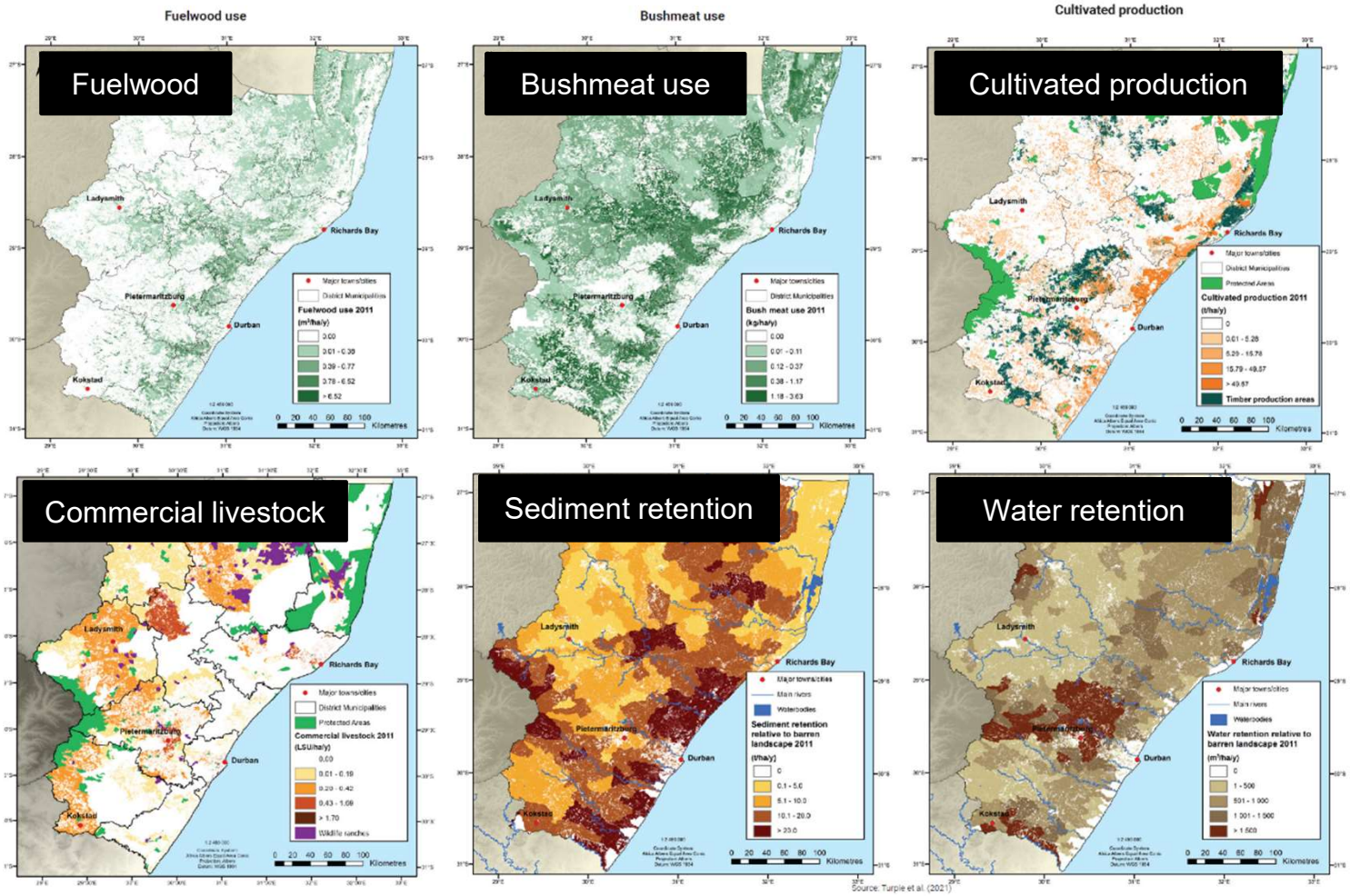
5. Ecosystem service accounts in biophysical terms



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5. Ecosystem service accounts in biophysical terms

Table 14: Total biophysical supply per ecosystem type 2005

	Biome								
Resource	**Freshwater ecosystems**	**Grassland**	**Indian Ocean Coastal Belt**	**Savanna**	**Forests**	**Estuaries**	**Cultivated**	**Urban green space**	**Total**
Wild harvested wood products (m³)	3 523	695 638	235 125	787 294	267 047	169			**1 988 796**
Wild harvested non-wood products (tons)	834	46 494	11 489	34 952	2 911	38			**96 718**
Livestock production (LSU)	1 716	684 698	52 162	289 663	2 010	340			**1 030 589**
Crop production (tons)							43 305 781		**43 305 781**
Experiential value (R millions)	14	237	179	218	55	24	85	885	**1 698**
Carbon storage (Tg C)	5	512	61	348	33	0	279		**1 237**
Pollination (R millions)	0	12	6	31	2	0			**51**
Flow regulation (million m³)	78	3 315	421	2 198	634	36			**6 682**
Flood attenuation (R millions)								31	**31**
Sediment retention (million tons)	2	45	6	27	18	2			**99**
Water quality amelioration (tons P)	-	3 829	525	5 394	97	6			**9 850**

Table 15: Total biophysical supply per ecosystem type 2011

	Biome								
Resource	**Freshwater ecosystems**	**Grassland**	**Indian Ocean Coastal Belt**	**Savanna**	**Forests**	**Estuaries**	**Cultivated**	**Urban green space**	**Total**
Wild harvested wood products (m³)	3 801	606 438	209 311	711 853	247 102	190			**1 778 695**
Wild harvested non-wood products (tons)	797	41 514	8 544	26 819	3 054	27			**80 755**
Livestock production (LSU)	1 931	649 341	46 529	228 654	2 629	284			**929 368**
Crop production (tons)							43 611 653		**43 611 653**
Experiential value (R millions)	21	326	194	297	81	36	162	1 009	**2 217**
Carbon storage (Tg C)	5	459	49	312	3	0.2	341		**1 197**
Pollination (R millions)	0	11	5	30	2	0.00			**48**
Flow regulation (million m³)	50	3 236	446	2 224	157	0.67			**6 113**
Flood attenuation (R millions)								24	**24**
Sediment retention (million tons)	1	38	5	22	9	0.07			**75**
Water quality amelioration (tons P)	-	3 068	381	4 348	75	4			**7 876**

5. Ecosystem service accounts in biophysical terms

Ecosystem Service	Economic User							
	Agriculture, Forestry & Fisheries	Water supply	Trade, catering & accommodation	Other sectors	House-holds	Government	Rest of world	Total
Wild harvested wood products (m^3)					1 988 797			1 988 796
Wild harvested non-wood products (tons)					96 718			96 718
Livestock production (LSU)	669 423				361 166			1 030 589
Crop production (tons)	41 859 229				1 466 552			43 305 781
Experiential value (R millions)			812	885				1 698
Carbon storage (Tg C)							1 237	1 237
Pollination (R millions)					51			51
Flow regulation (million m^3)	6 682							6 682
Flood attenuation (R millions)					31			31
Sediment retention (million tons)		99						99
Water quality amelioration (tons P)		9 850						9 850

Table 17. Total biophysical use per economic user (2011)

Ecosystem Service	Economic User							
	Agriculture, Forestry & Fisheries	Water supply	Trade, catering & accommodation	Other sectors	House-holds	Government	Rest of world	Total
Wild harvested wood products (m^3)					1 778 695			1 778 695
Wild harvested non-wood products (tons)					80 755			80 755
Livestock production (LSU)	640 389				288 977			929 366
Crop production (tons)	39 659 499				4 006 242			43 665 741
Experiential value (R millions)			1 117	1 009				2 217
Carbon storage (Tg C)							1 197	1 197
Pollination (R millions)					48			48
Flow regulation (million m^3)	6 113							6 113
Flood attenuation (R millions)					24			24
Sediment retention (million tons)		75						75
Water quality amelioration (tons P)		7 876						7 876

Source: Turpie et al (2021)

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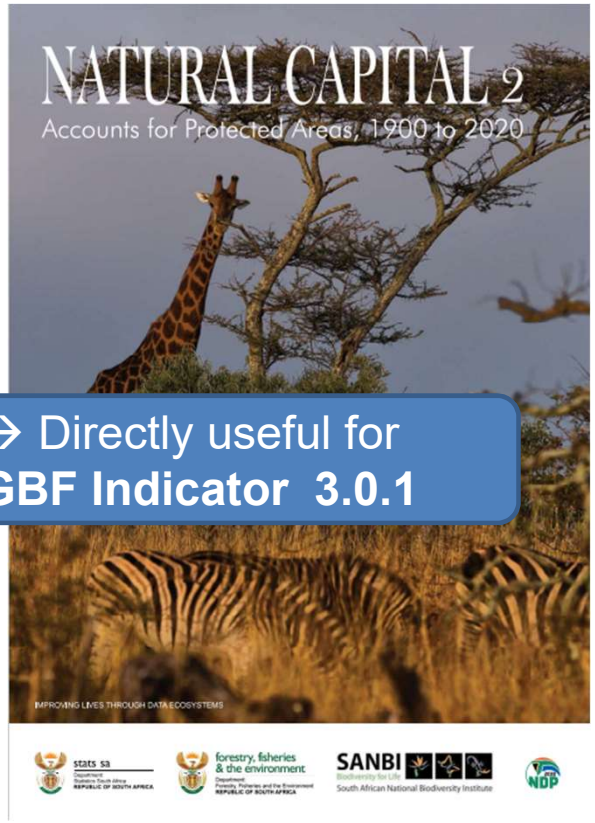
6. Ecosystem service accounts in monetary terms

- Developers of accounts have the option to transform these measures of the physical flow of services into monetary terms, using accounting principles.
- This study shows that it is feasible to compile monetary accounts for ecosystems using various statistical data sources and valuation methods. It provides a framework for extending this to a national scale in South Africa
- Caveats to be
  - Monetary v res used in convention
  - Interpretati elled do not capture the
  - As such, th hich dimensions are include tation of results are best fo
  - Ecosystem supporting well-being of large numbers of people
  - A range of monetary metrics and non-monetary metrics need to be used. Number of HH dependent on a particular ecosystem service or amount of employment in industry sectors that depend on ES can provide powerful complements or alternatives to monetary valuation.

LESSONS:

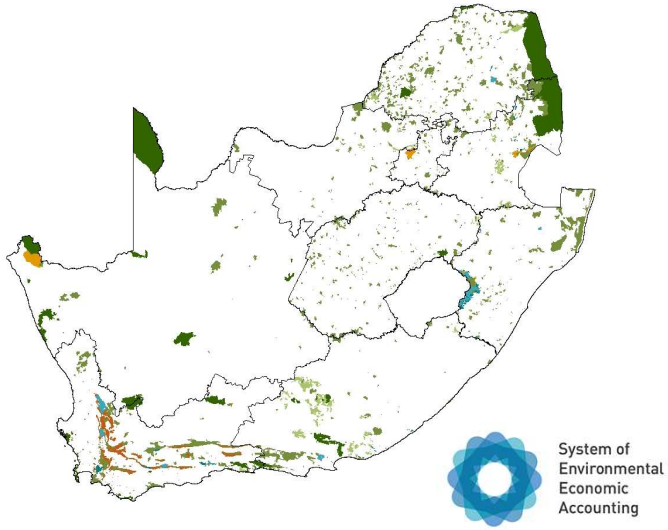
- Setting up monetary ecosystem accounts required considerable effort and resources.
- At least initially, the accounts require at least 15-20 person months over a 2- to 3-year period.
- This requires sufficient expertise given the highly technical nature of the work in a field that is rapidly evolving.

7. Thematic accounts: Accounts for Protected Areas, 1900 to 2020

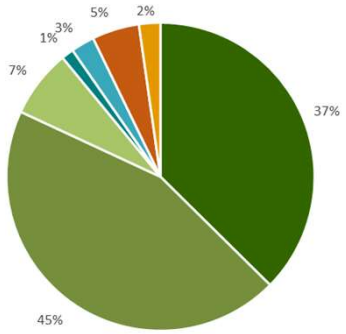


→ Directly useful for **GBF Indicator 3.0.1**

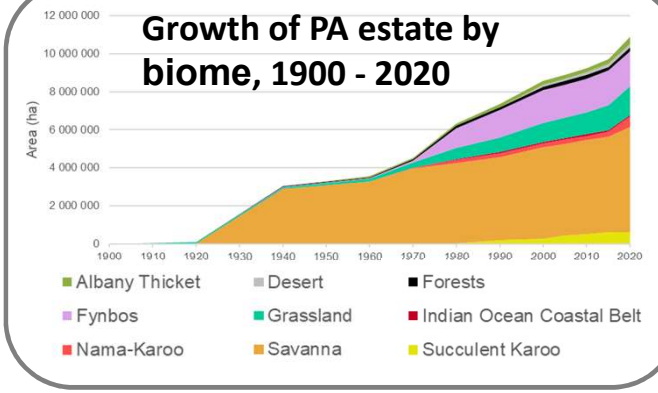
2nd publication in Stats SA's ***Natural Capital*** series, released Oct 2021



Composition of PA estate, 2020



Growth of PA estate by biome, 1900 - 2020



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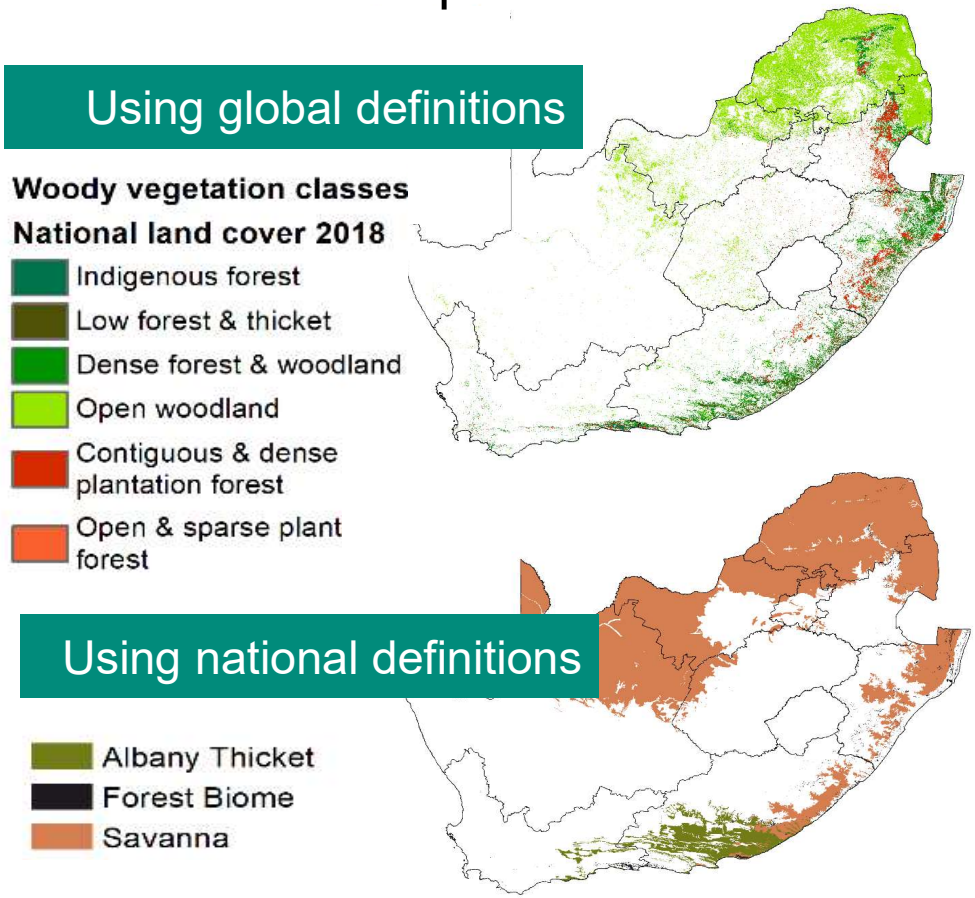
8. Lesson from testing global indicators

Importance of ecologically based delineation of ET & national experts

Estimates for South Africa ~2014 using different datasets	ha	% SA land area	Comments
EC JRC Global dataset 30 m	571 551	0.5	• Misses small wetlands (the majority of wetland area) • Under-estimates during drier seasons/years (SA is semi-arid)
Global Lakes and Wetlands database	1 536 066	1.3	
Land & Terrestrial Ecosystem Accounts (SA NLC 30m) *	1 420 676	1.2	
South African Inventory of Inland Aquatic Ecosystems (SAIIAE)	4 123 798	3.4	Official national wetland inventory curated by SANBI, robust estimate o full extent.

Most accurate

Using global definitions



Using national definitions

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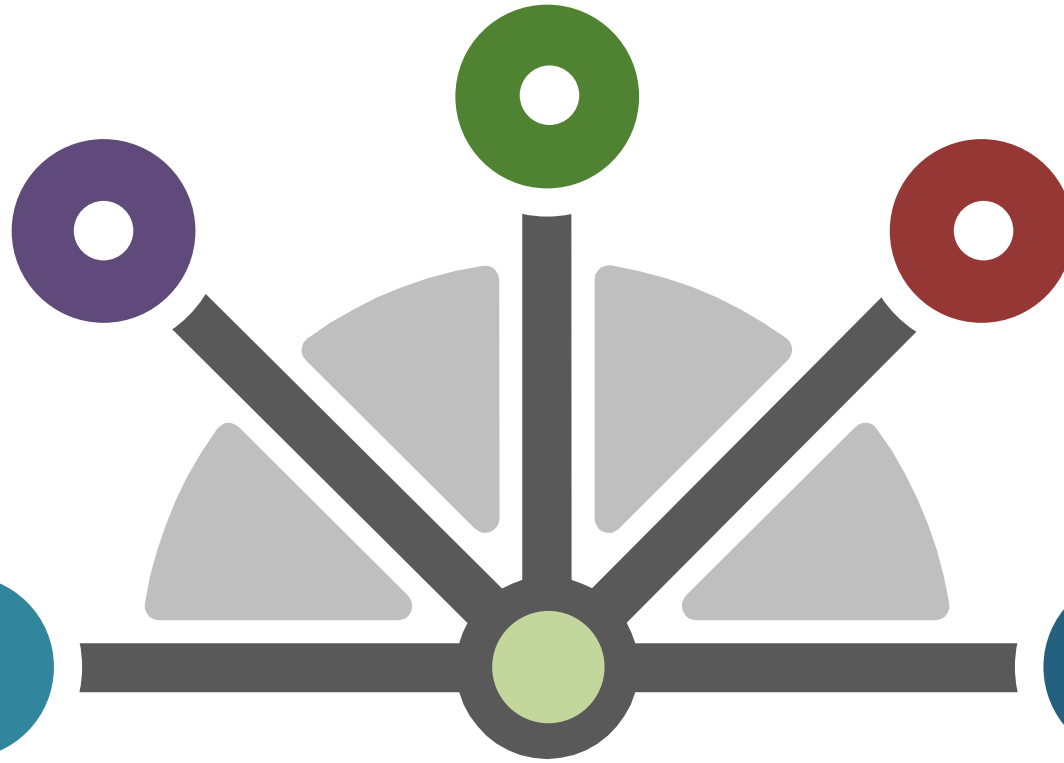
What were the outcomes, especially in terms of applications of the accounts for analyses and policy?

What were the outcomes?



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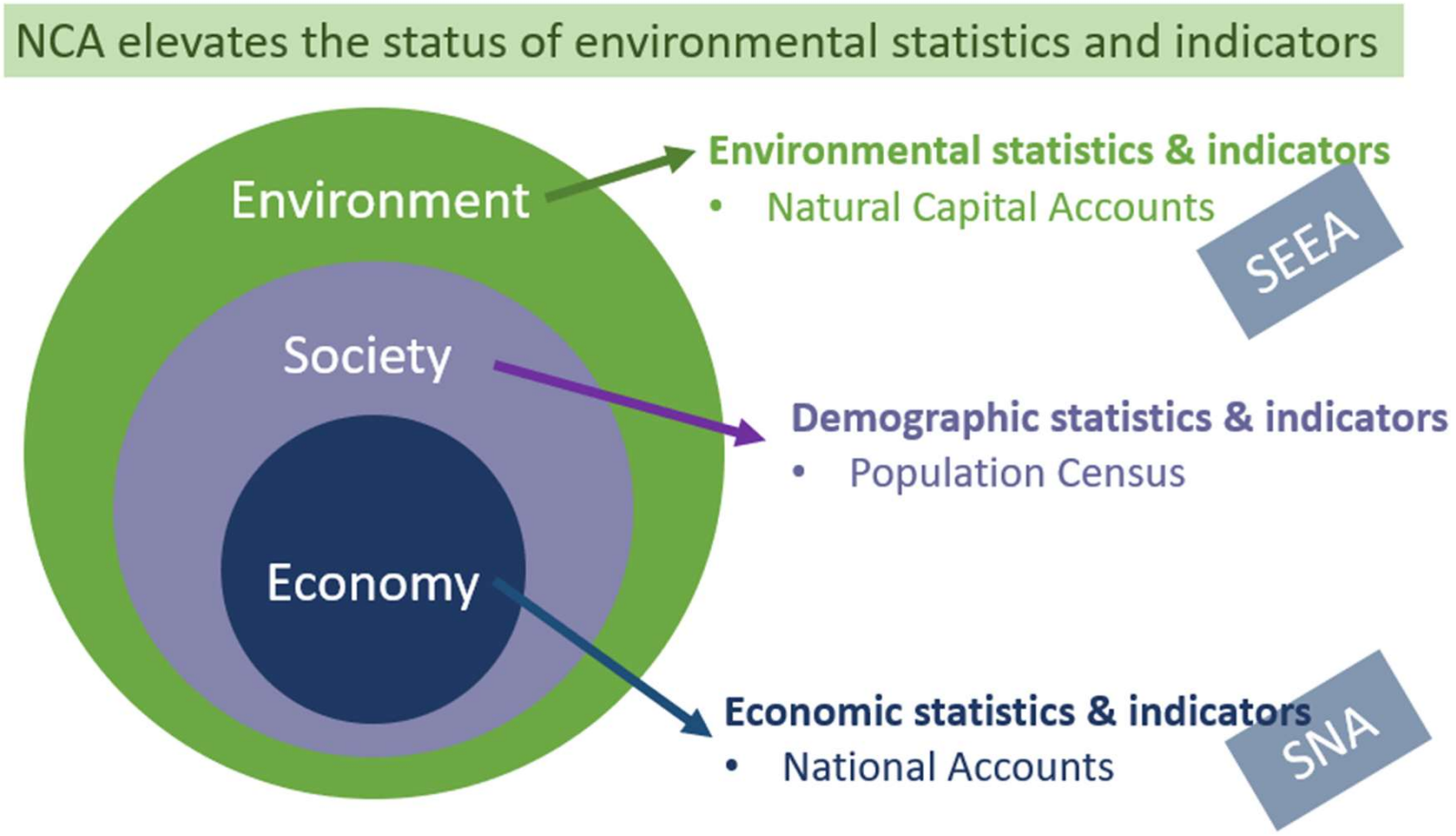
What were some lessons learned, take aways and challenges?

NCA is a powerful mainstreaming tool

- National statistical offices (NSOs) provide credibility
- Opens up new audiences
- Boosts inclusion of ecosystems and biodiversity into national policy and decision making



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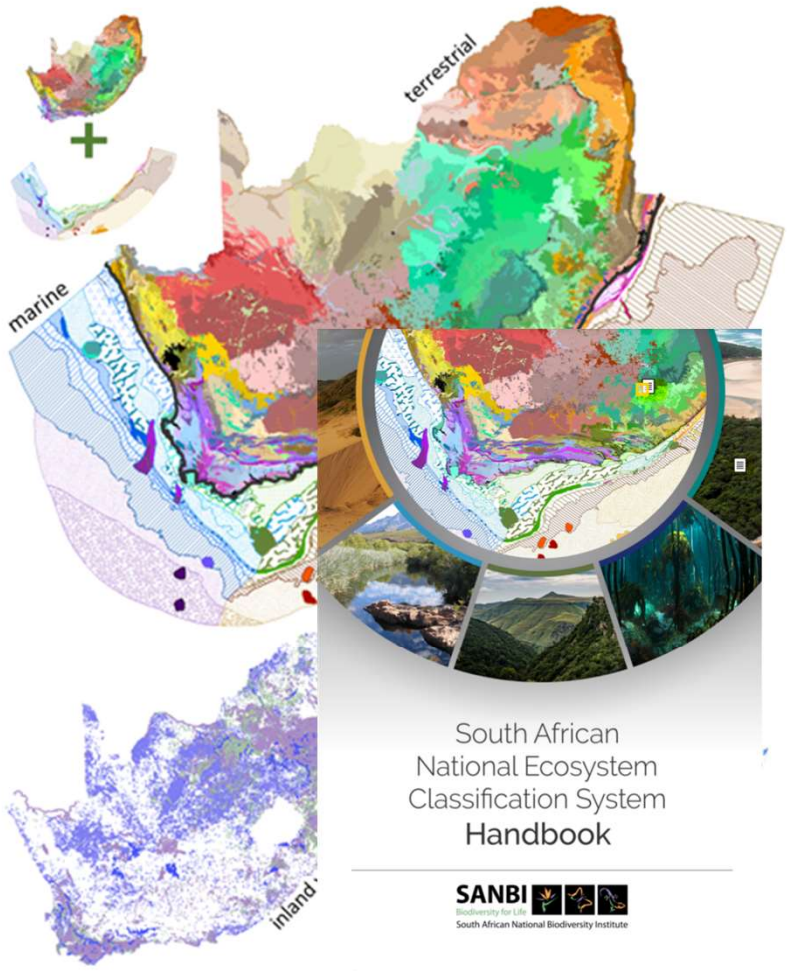
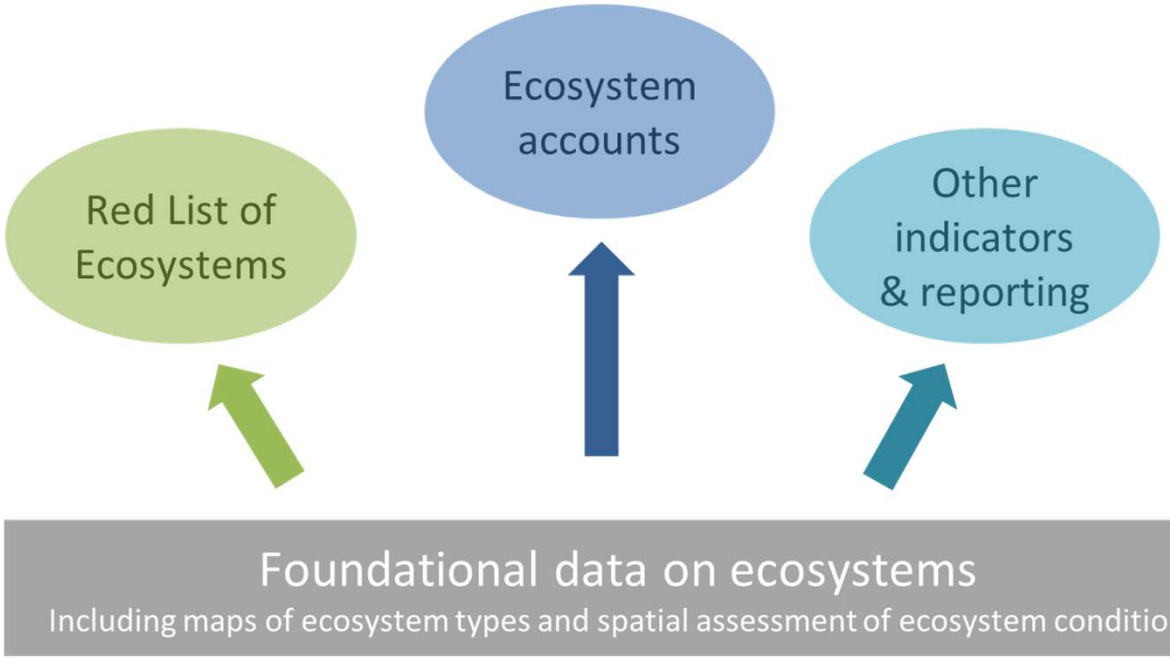
Good science on ecosystems underpins good ecosystem accounts



The same science underpins ecosystem accounting as what underpins the red list of ecosystems.



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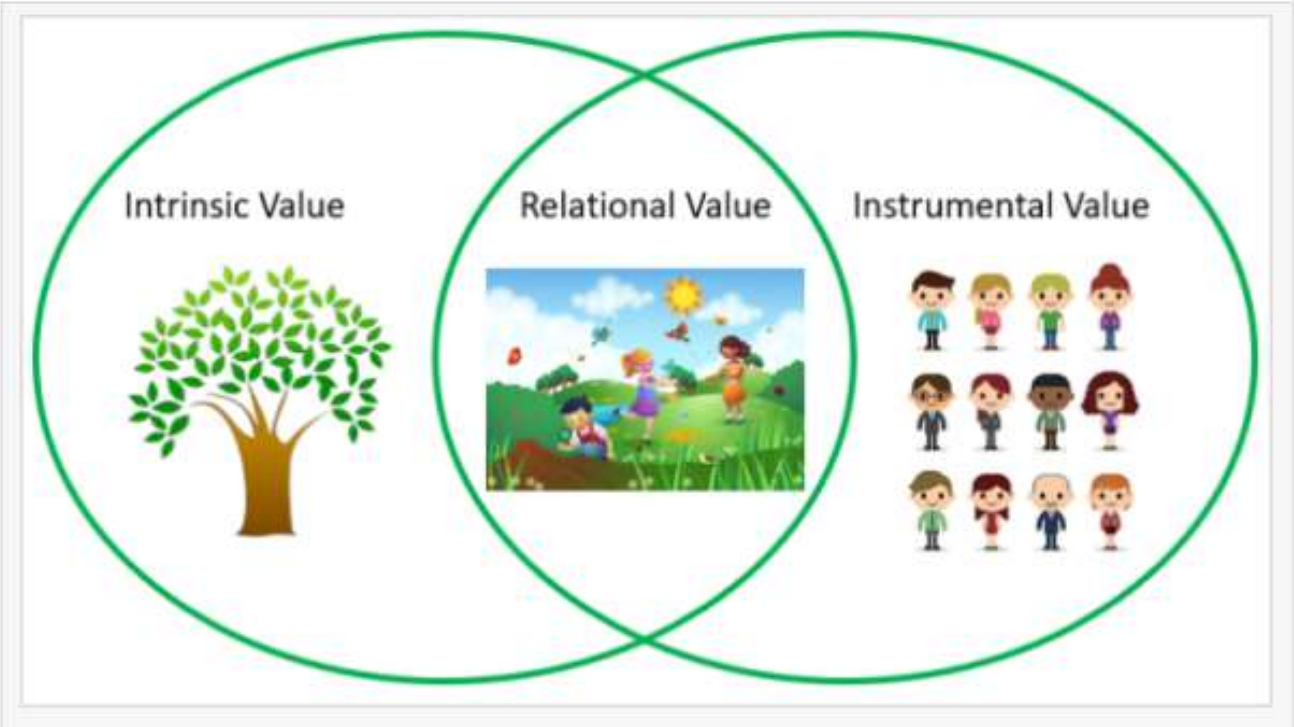
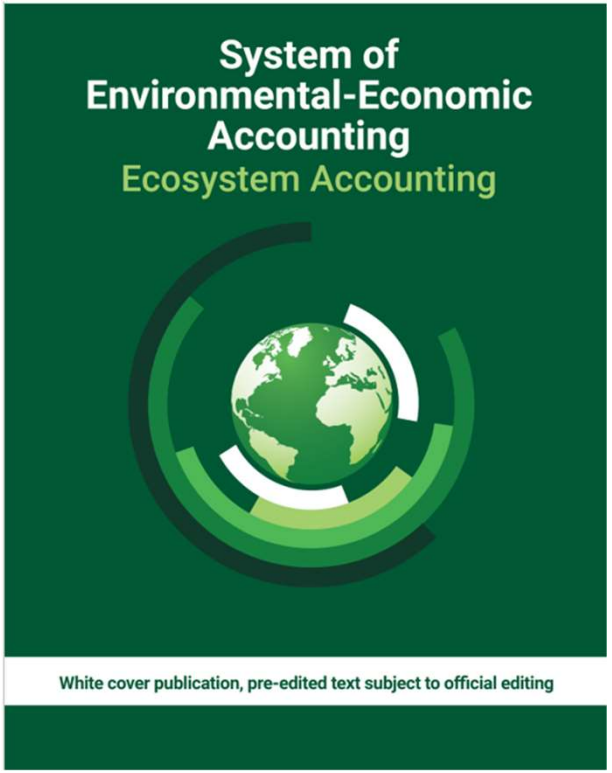
SEEA Ecosystem Accounting can support multiple value perspectives on nature





- Accounting is not always about money!
- Biophysical metrics are powerful in their own right – can be used in many different applications

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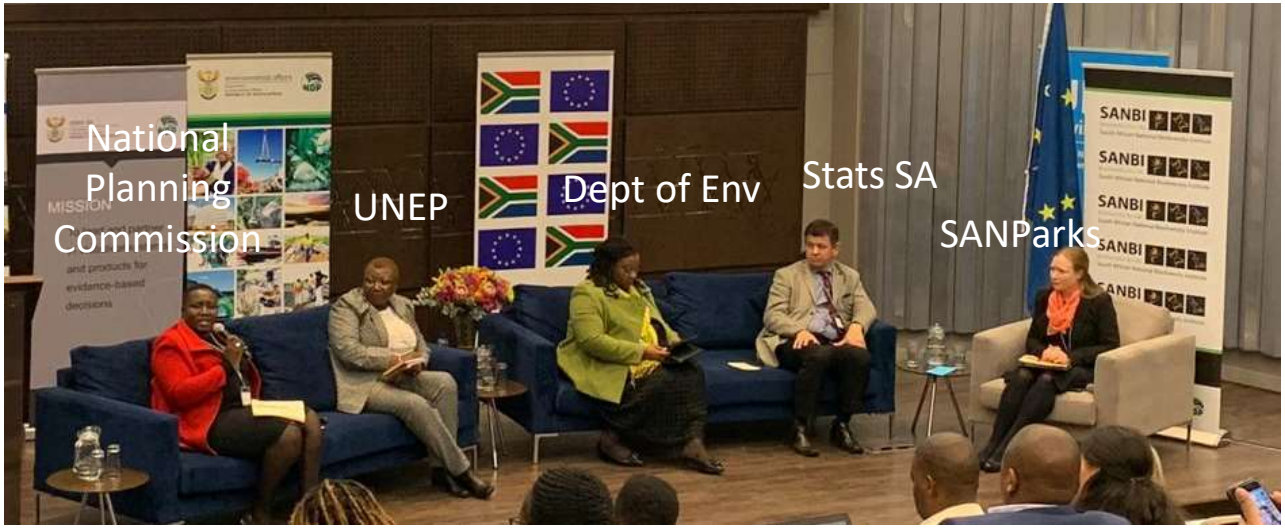
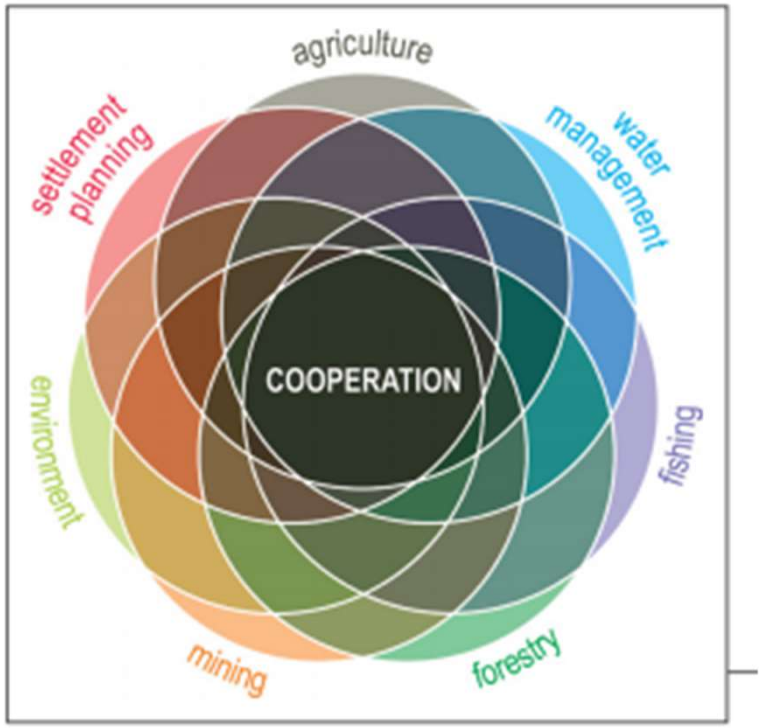
Ecosystem accounting can catalyse new relationships and partnerships

- Collaboration between ecologists, economists and statisticians
- Collaboration across sectors
- These partnerships aren't formed overnight
- Requires champions



Panel discussion at the National NCA Forum, July 2019



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Importance of social process

- Allocate time & experienced capacity to the social process of coming to agreement with a range of key stakeholders on the spatial framework for accounts, the classification systems, and strengthening the data infrastructure and human capacity to make sense of, validate, interpret and draw policy recommendations.
- To see national ownership, capacity development and long-term compilation of accounts, country-led coordination and social process management capacity is almost more important than technical expertise.
- External consultant capacity should work in an embedded model.
- SA country context is similar to other mega diverse and developing countries so there are likely to be parallels to other countries in Africa.
- Actively nurture and engage with NCA communities of practice (CoP) regionally, nationally and globally.




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Donor resources have helped to unlock and leverage national capacity

Advancing Natural Capital Accounting 2014-2015

1

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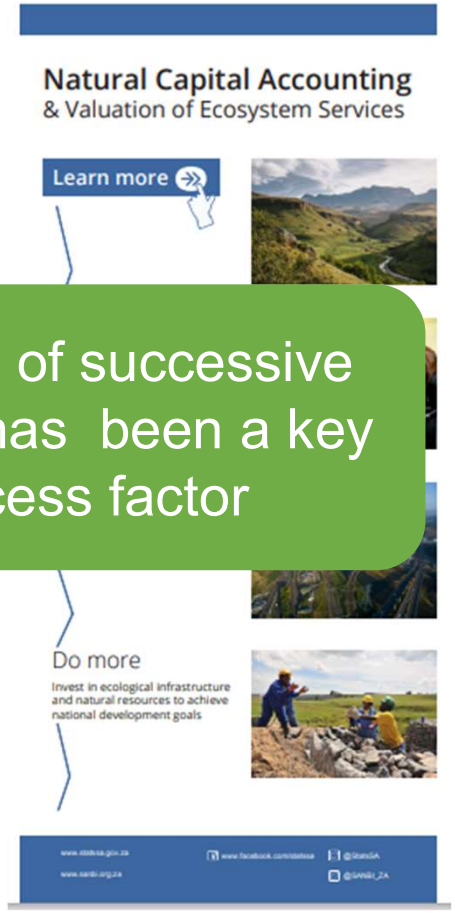
Convention on Biological Diversity
NORWEGIAN MINISTRY OF FOREIGN AFFAIRS

Layering of successive projects has been a key success factor



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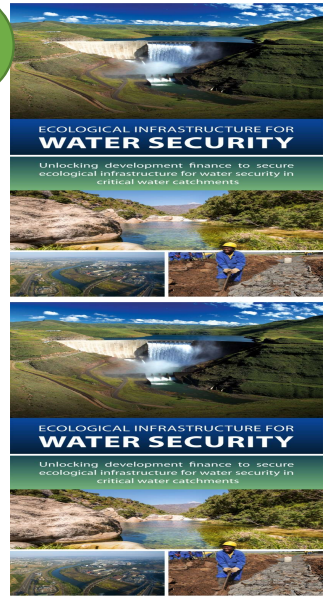

EI4WS 2019 – 2023
→ has an NCA component

2 NCAVES 2018 - 2021

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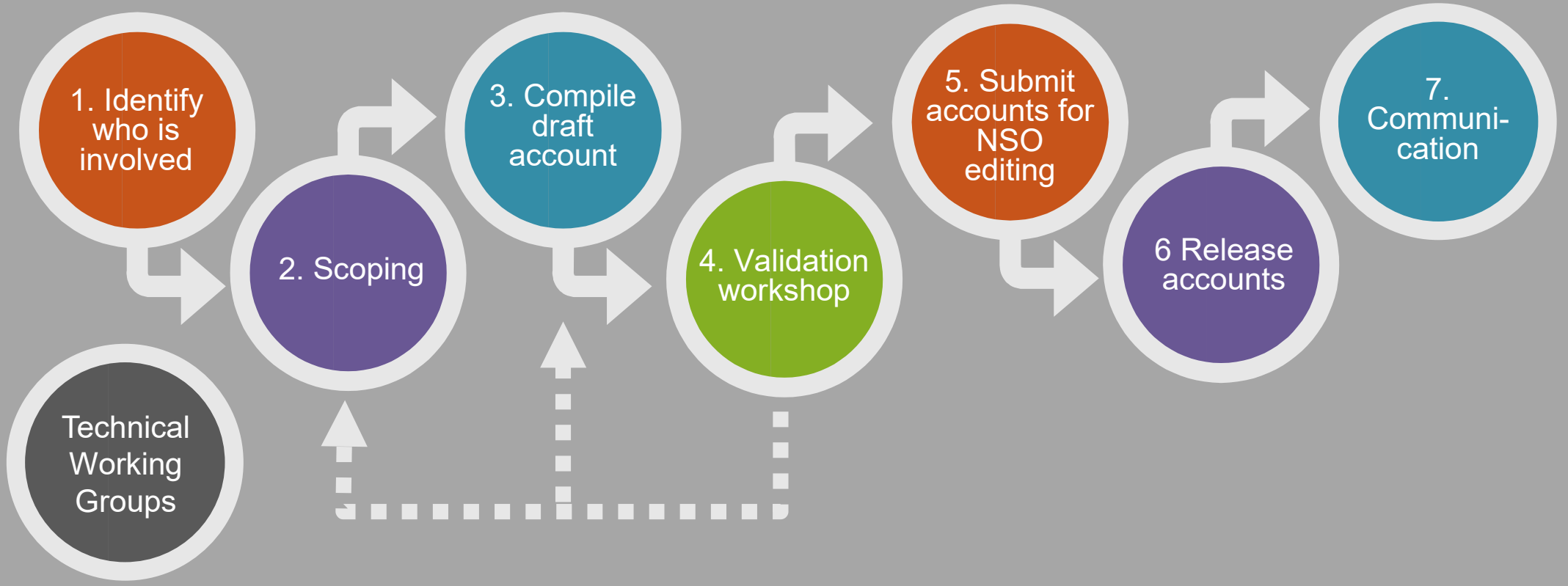
Lessons learnt about the process for the compilation of accounts



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Reflections

1

It is important to adopt an integrated approach to environmental and economic data to be able to understand the impacts and dependencies of the economy on the environment

2

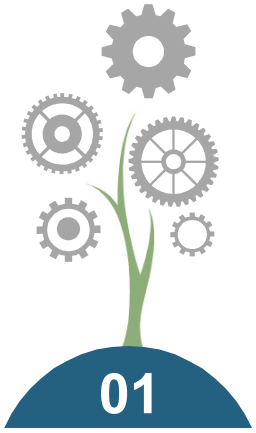
Regular production of natural capital accounts using the SEEA to bring together social, economic and environmental data can provide standardised statistical information – not only comparable between countries but also between administrative units within a country

3

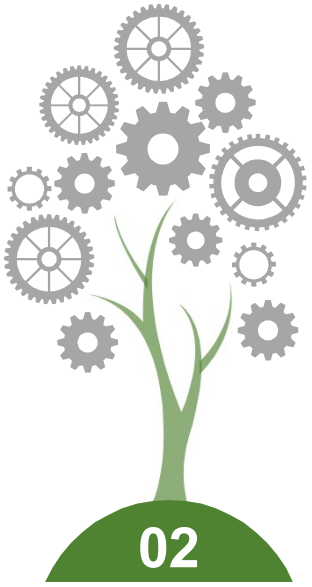
Helps to set up institutional mechanisms as will be discussed in the next slide

It helps to set up Institutional mechanisms and arrangements

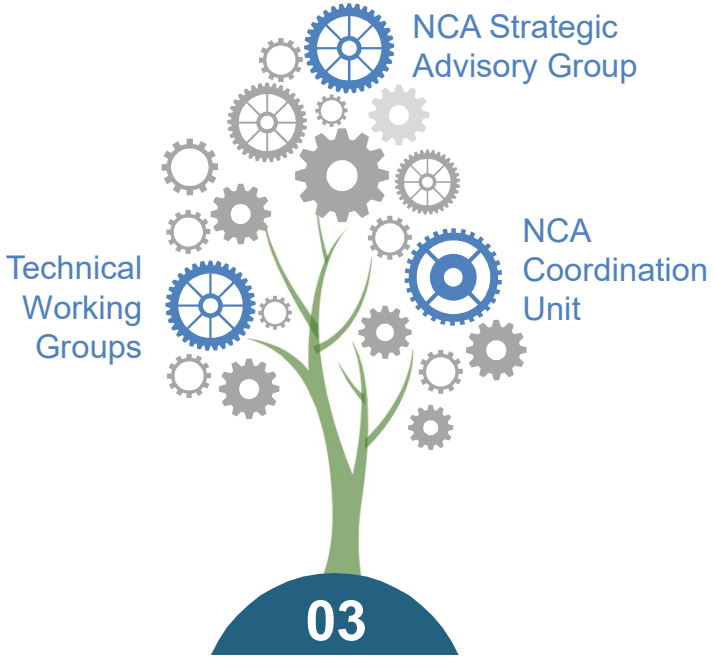
01 Stats SA Environmental-Economic Accounting Division will coordinate implementation and monitoring of the National NCA Strategy



02 Embracing partnerships and growing new working relationships to advance NCA



03 Three key institutional mechanisms are important to support the implementation of the National NCA Strategy



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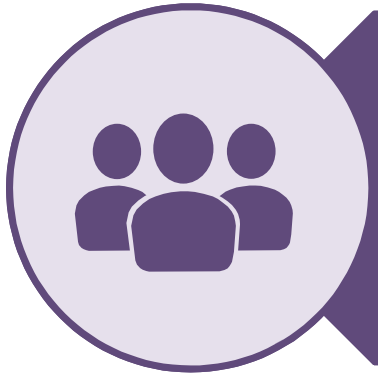
Some of the challenges

Interest in natural capital accounts is growing faster than current institutional capacity



Clarifying roles and responsibilities if Stats SA are to release natural capital accounts compiled by other institutions that are developed outside of the scope of any existing formal agreements

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What are the future plans for this work?

National NCA Strategy to take NCA forward in SA

Published by Stats SA in June 2021

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REPORT
04-01-00

National Natural Capital Accounting Strategy

A ten-year strategy for advancing Natural Capital Accounting in South Africa

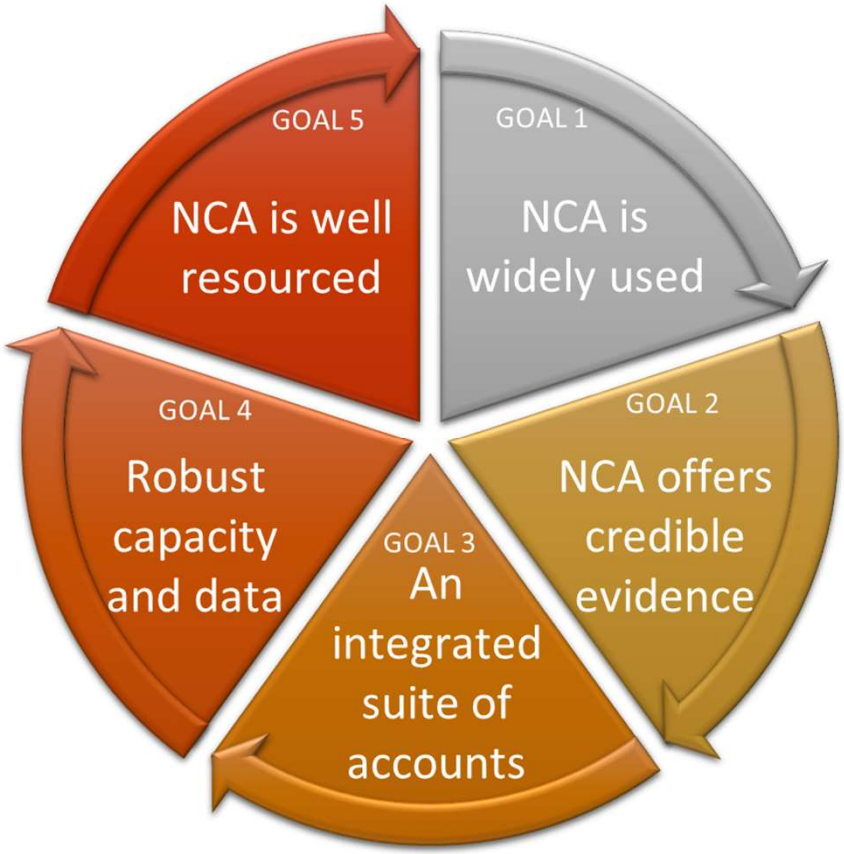
June 2021

Embargoed until:
3 June 2021
11:30

Vision:

Natural capital accounting is widely used to provide credible evidence for integrated planning and decision-making, in support of the development needs of the country

Intensive co-development process with range of stakeholders over three years



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National NCA Strategy – two funding scenarios

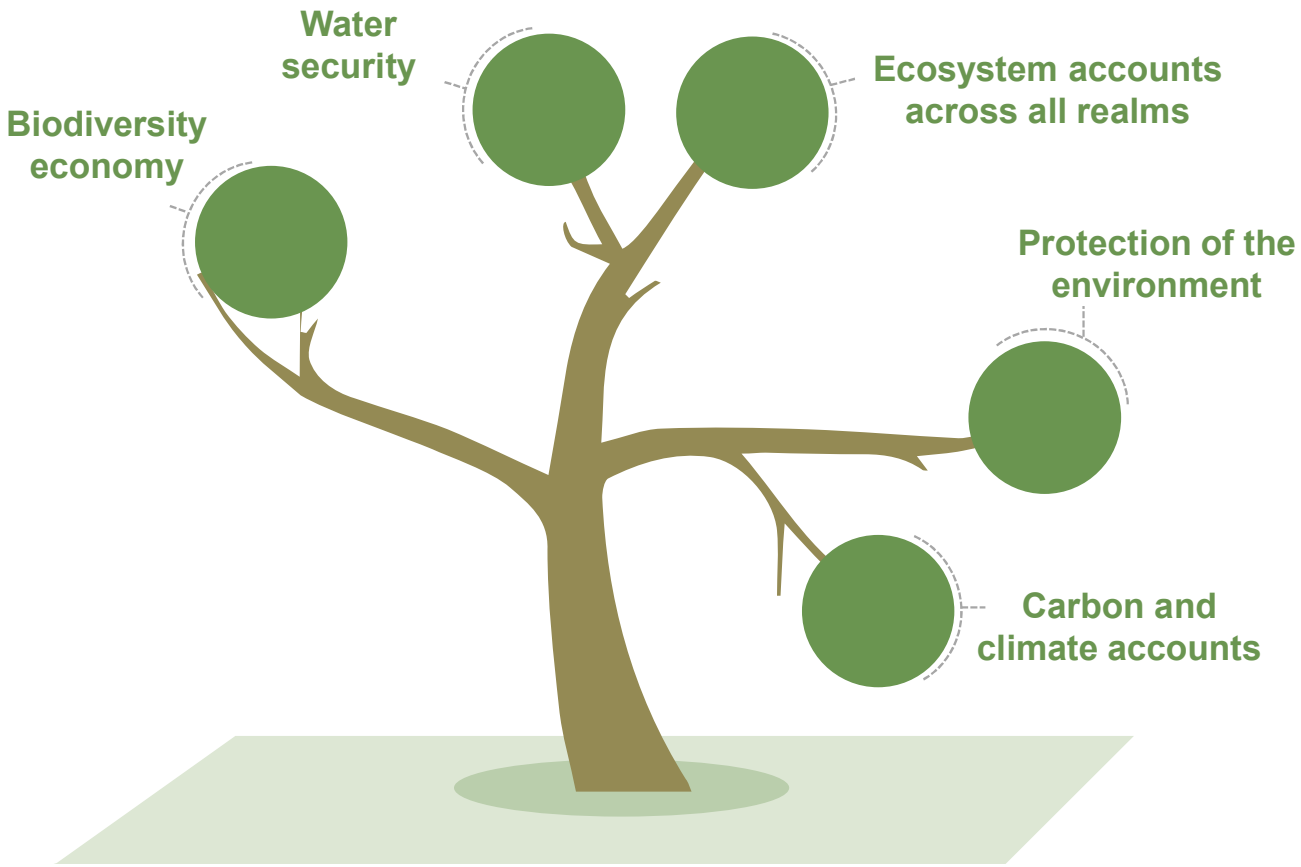
- Low-road activities:
  - can be undertaken with existing human and financial resources

- High-road activities:
  - are only possible with additional resources

Significant co-finance built into low road, could be supplemented by further investment (e.g. from donors)

Into the future: NCA priorities on the high road. Four clusters for investment have been identified

1. Regular production of natural capital accounts in key areas



2. Mainstreaming natural capital accounts in policy and reporting.

3. Enabling and catalysing NCA over the long term.

4. Establishing a research and innovation hub to drive advancements in NCA and support a pipeline of expertise

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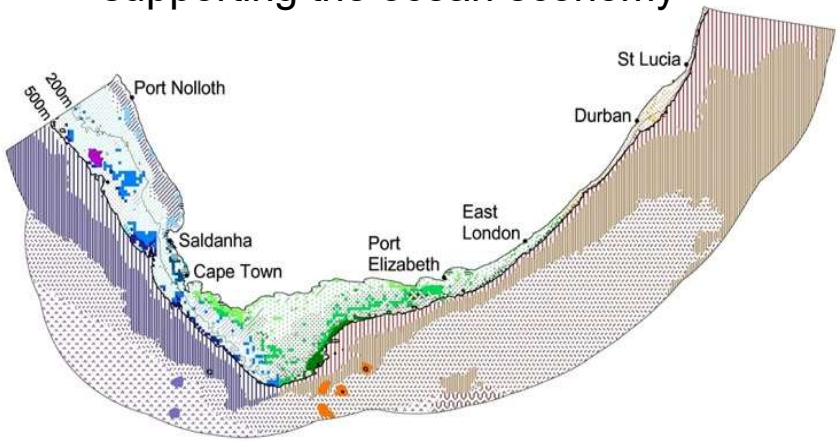
Future plans for NCA and SEEA implementation in South Africa

Future accounts in Stats SA's *Natural Capital* series

Aim: full suite of ecosystem asset accounts across all realms

Accounts for **marine ecosystems assets** – supporting the ocean economy



→ Feeding into Marine Spatial Planning

Accounts for estuarine ecosystems

Accounts for river ecosystems

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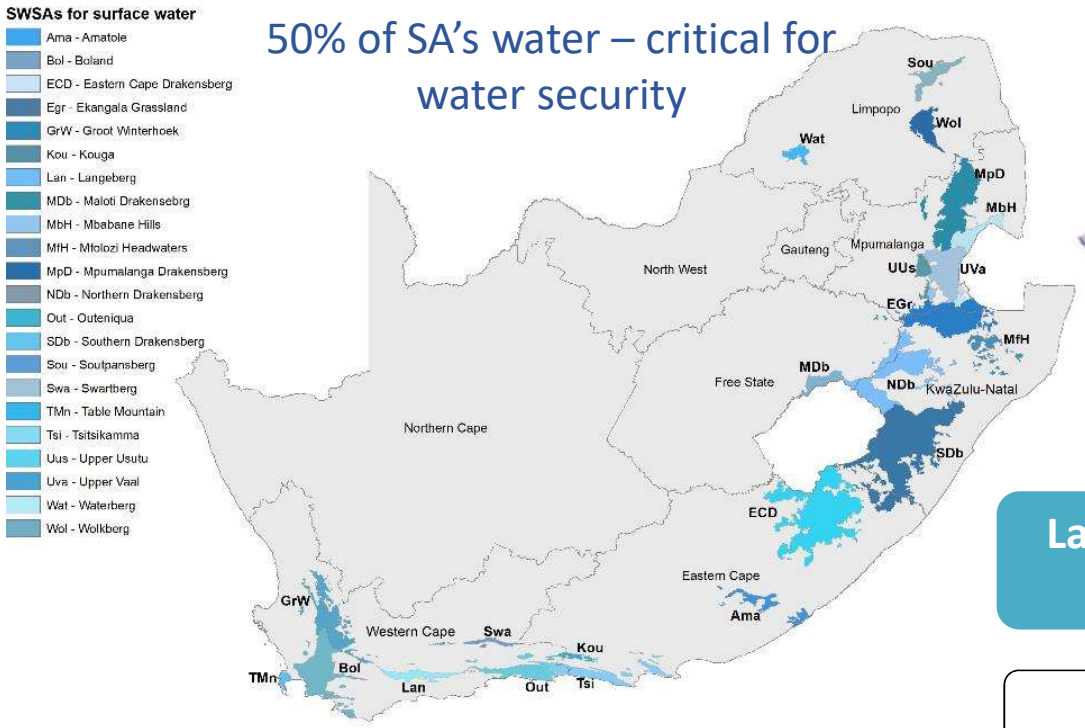
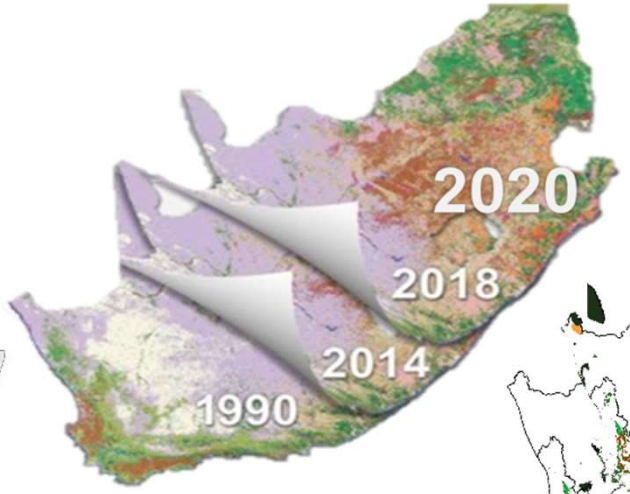
Future plans for NCA and SEEA implementation in South Africa

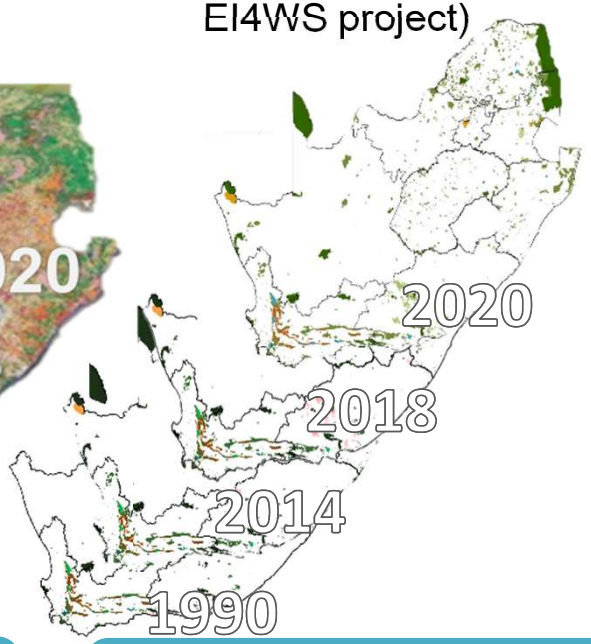
Work underway: **Accounts for Strategic Water Source Areas**

(part of GEF-funded EI4WS project)

Strategic Water Source Areas – the 10% of land that delivers 50% of SA's water – critical for water security







Land accounts for SWSAs, 1990 to 2020

Accounts for PA's in SWSAs, 1990 to 2020

Reported for all SWSAs together and per SWSA

Future plans for NCA and SEEA implementation in South Africa

Work underway: **Biodiversity Economy Satellite Account**

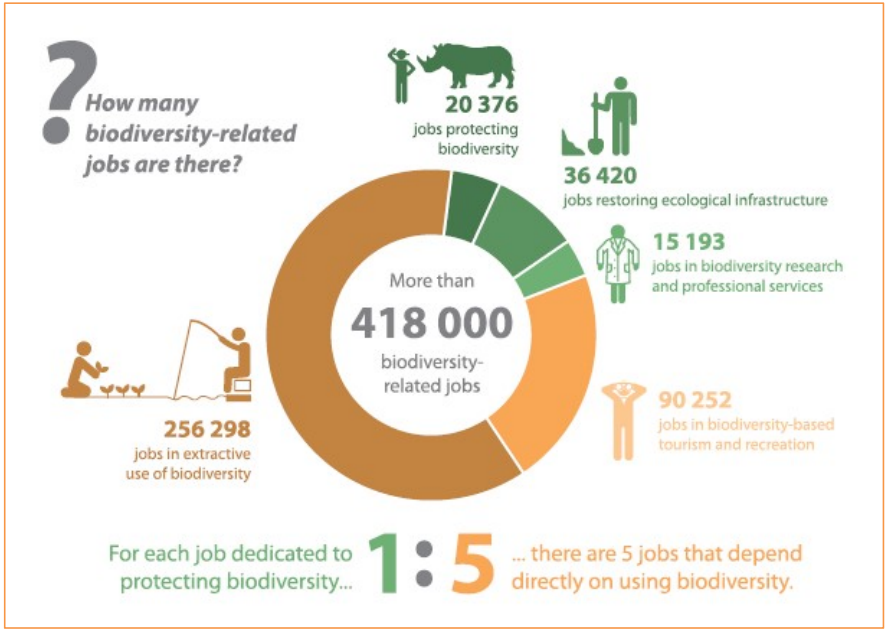
- Aim to quantify the contribution of biodiversity to GDP and employment

Biodiversity-related economic activity

A. Conserving biodiversity (sectors/activities that contribute directly to conserving or managing biodiversity)

B. Using biodiversity (sectors/activities that depend directly on utilising biodiversity)

- Draw information from **Supply & Use Tables** that are the core of national accounts



Builds on previous work on biodiversity-related employment, undertaken in the **National Biodiversity Assessment 2018**

Making the economic & social case for biodiversity

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