

**Mainstreaming Biodiversity in
Production Landscapes: Integrated
Approaches in Design and
Implementation of National Biodiversity
Strategies and Action Plans (NBSAPs)",
16-17 January 2018, Tokyo, Japan**



Biodiversity and Conservation



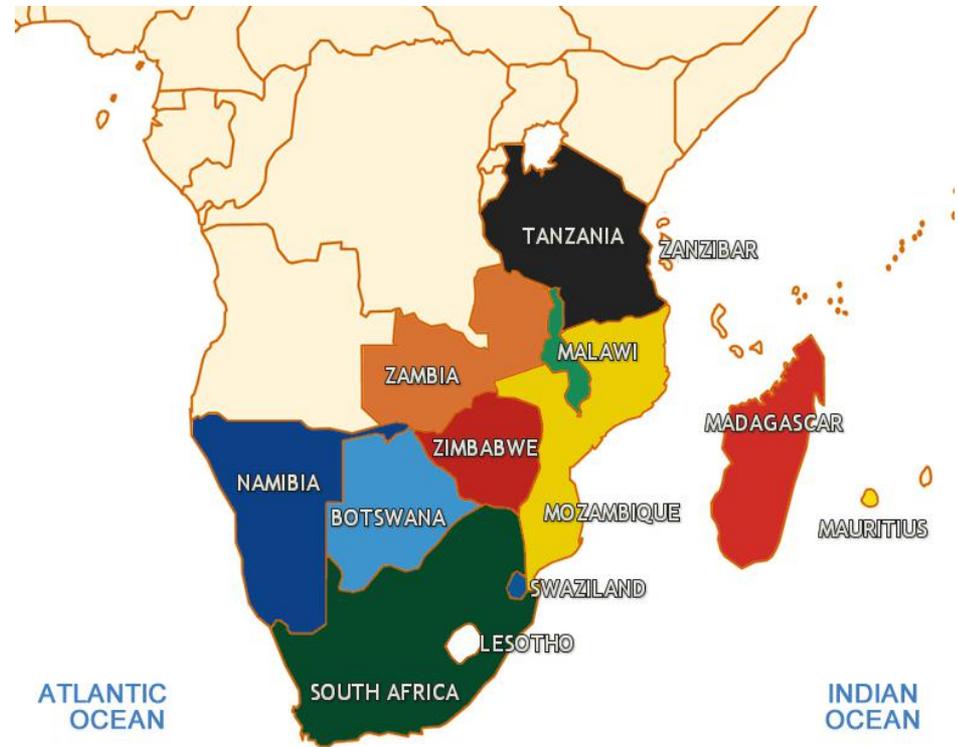
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Status: National biodiversity of South Africa

- Southern tip of Africa
- ~ 1% of global land surface
- > 95000 species
- 5-8% of plant, bird, reptile, & mammal species
- High levels of endemism (particularly in Cape Floral Kingdom)



National Biodiversity Strategy & Action Plan



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South Africa's 2nd National Biodiversity Strategy and Action Plan 2015 – 2025

*Final version
July 2015*



Figure 3. Relationship between the CBD, the NBA, the NBSAP and the NBF (Source: 2009 National Biodiversity Framework)



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National Biodiversity Framework

STAATSKOERANT, 3 AUGUSTUS 2009

No. 32474 3

GOVERNMENT NOTICE

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM

No. 813

3 August 2009

THE NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (ACT 10 OF 2004)

NATIONAL BIODIVERSITY FRAMEWORK

I, Buyelwa Patience Sonjica, Minister of Water and Environmental Affairs, acting under section 38(2) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), hereby publish the National Biodiversity Framework, as contained in the Schedule below.


BUYELWA SONJICA
 MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

S05: Protected areas and conservation areas

29.	Finalise the twenty-year National Protected Area Expansion Strategy, underpinned by national biodiversity targets	DEAT (including MCM), SANParks, provincial conservation authorities, SANBI
30.	Implement the National Protected Area Expansion Strategy	DEAT (including MCM), SANParks, provincial conservation authorities
31.	Establish and strengthen provincial stewardship programmes	DEAT, provincial conservation authorities, NGOs, SANBI
32.	Strengthen programmes that support the informal conservation area system	DEAT; provincial conservation authorities, SANParks, NGOs
33.	Develop and implement a National Botanical Gardens expansion strategy	SANBI



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Summary of NBSAP

VISION: Conserve, manage and sustainably use biodiversity to ensure equitable benefits to the people of South Africa, now and in the future.

SO 1: Management of biodiversity assets and their contribution to the economy, rural development and job creation and social well-being is enhanced

4 outcomes, 21 activities

SO 4: People are mobilised to adopt practices that sustain long-term benefits of biodiversity

2 outcomes, 7 activities

SO 2: Investments in ecological infrastructure enhance resilience and ensure benefits to society

2 outcomes, 8 activities

SO 5: Conservation and management of biodiversity is improved through the development of an equitable and suitably skilled workforce

4 outcomes, 21 activities

SO 3: Biodiversity considerations are mainstreamed into policies strategies and practices of a range of sectors

6 outcomes, 37 activities

SO 6: Effective knowledge foundations, including indigenous knowledge and citizen science, supports management, conservation and sustainable use of biodiversity

5 outcomes, 29 activities

Summary of NBSAP

Vision: Conserve, manage and sustainably use biodiversity to ensure equitable benefits to the people of South Africa, now and in the future.

Management of biodiversity assets and their contribution to the economy, rural development, job creation and social wellbeing is enhanced.	Investments in ecological infrastructure enhance resilience and ensure benefits to society	Biodiversity considerations are mainstreamed into policies, strategies and practices of a range of sectors.	People are mobilised to adopt practices that sustain the long-term benefits of biodiversity.	Conservation and management of biodiversity is improved through the development of an equitable and suitably skilled workforce.	Effective knowledge foundations, including indigenous knowledge and citizen science, support the management, conservation and sustainable use of biodiversity.
<p>1.1 The network of protected areas and conservation areas includes a representative sample of ecosystems and species, and is coherent and effectively managed</p> <p>1.2 Species of special concern are sustainably managed</p> <p>1.3 The biodiversity economy is expanded, strengthened and transformed to be more inclusive of the rural poor</p> <p>1.4 Biodiversity conservation supports the land reform agenda and socio-economic opportunities for communal land holders</p>	<p>2.1 Restore, maintain and secure important ecological infrastructure in a way that contributes to rural development, long-term job creation and livelihoods</p> <p>2.2 Ecosystem-based adaptation (EbA) is shown to achieve multiple benefits in the context of sustainable development</p>	<p>3.1 Effective science-based biodiversity tools inform planning and decision-making</p> <p>3.2 Embed biodiversity considerations into national, provincial and municipal development planning and monitoring</p> <p>3.3 Strengthen and streamline development authorisations and decision-making</p> <p>3.4 Compliance with authorisations and permits is monitored and enforced</p> <p>3.5 Appropriate allocation of resources in key sectors and spheres of government facilitates effective management of biodiversity, especially in biodiversity priority areas</p> <p>3.6 Biodiversity considerations are integrated into the development and implementation of policy, legislative and other tools</p>	<p>4.1 People's awareness of the value of biodiversity is enhanced through more effective coordination and messaging</p> <p>4.2 People are mobilised to conserve and sustainably use biodiversity</p>	<p>5.1 Macro-level conditions enabled for skills planning, development and evaluation of the sector as a whole</p> <p>5.2 An improved skills development system incorporates the needs of the biodiversity sector</p> <p>5.3 Partnerships are developed and institutions are capacitated to deliver on their mandates towards improved service delivery</p>	<p>6.1 Relevant foundational data sets on species and ecosystems are in place and well coordinated</p> <p>6.2. The status of species and ecosystems is regularly monitored and assessed.</p> <p>6.3 Geographic priority areas for the management, conservation and restoration of biodiversity assets and ecological infrastructure are identified based on best available science</p> <p>6.4 Management-relevant and policy-relevant research and analysis is undertaken through collaboration between scientists and practitioners</p> <p>6.5 Knowledge base is accessible and presented in a way that informs decision-making</p>
(21 activities)	(8 activities)	(37 activities)	(7 activities)	(12 activities)	(29 activities)

Projected Loss of Service Value Due to Transformation of Natural Assets in KZN

Habitat type	ES value per ha (R)	Ecosystem Services value 2011 (R)	Ecosystem Services value 2021 (R)	Ecosystem Services value 2031 (R)
Grasslands	4985	11 383 226 762	9 946 642 266	5 794 238 278
Forests	42 776	2 523 915 661	2 205 392 786	1 927 068 094
Rivers (km)	181 032	18 720 604 702	8 720 604 702	18 720 604 702
Savannas	8 545	16 665,552 108	14 562 328 277	8 483 023 484
Coastal and dune vegetation	42 776	595 949 056	520 739 171	303 347 276
Wetlands	417 228	38 375 792 812	33 532 696 020	19 533 871 398
Estuaries and mangroves	486 338	10 764 223 764	9 405 758 603	8 218 734 284
Riparian and floodplain veg and swamp forests	417 132	43 519 497 633	38 027 255 677	22 152 096 616
Sand forests	25 661	308 409 845	269 487 946	235 478 063

TOTAL SERVICES PROVIDED BY	2011	2021	2031
BIODIVERSITY	R 149 billion	R 132 billion	R 89 billion

If current rate of loss continues Treasury will need to find an additional R17 billion to compensate for the loss of essential services biodiversity is providing for free

Case study 1: Biodiversity Stewardship (BSP)

Biodiversity stewardship is an approach to securing land in biodiversity priority areas through entering into agreements with private and communal landowners, led by conservation authorities.

Conservation NGOs often play a key supporting role.



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National Importance of BSP

“The Department of Environmental Affairs, together with related departments such as Agriculture and Rural Development, should investigate the **socio-economic implications** and policy requirements of a system for requiring commensurate investment in **community development and the protection of ecosystem services** to mitigate environmental and social impacts of development.”
(NDP 2030)



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National Biodiversity Strategy & Action Plan and BSP

This programme was incorporated in the NBSAP as follows:

- SO1: *Management of biodiversity assets and their contribution to the economy, rural development, job creation and social wellbeing is enhanced.*
- ***Outcome 1.1 The network of protected areas and conservation areas includes a representative sample of ecosystems and species, and is coherent and effectively managed***
- Activity 1.1.1 Expand the protected area estate across all ecosystems (including marine, estuarine, freshwater and terrestrial), based on the Protected Area Expansion Strategies at national and provincial levels



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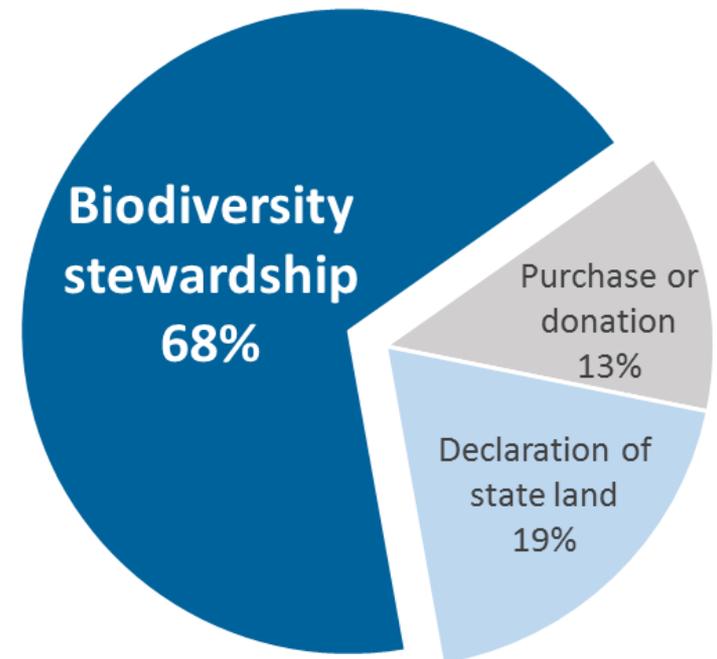
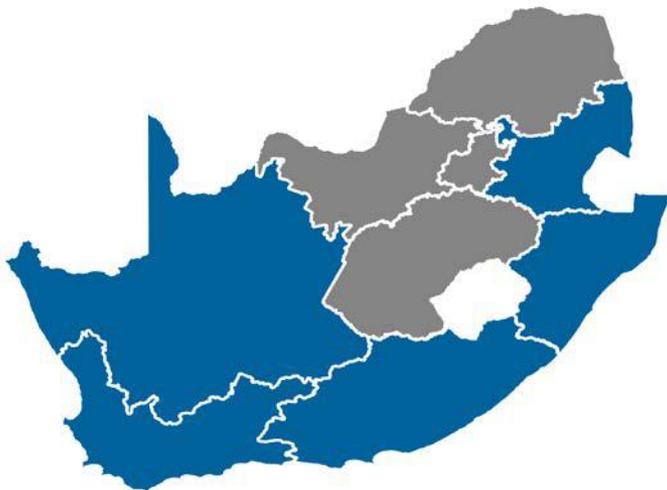


Broader Strategies

The conservation, management and sustainable use of South Africa's biodiversity depends on a range of strategies:

1. Expanding and consolidating the protected area network
2. Reducing loss and degradation of natural habitat in biodiversity priority areas
3. Restoring biodiversity priority areas

For these 5 provinces **BIODIVERSITY STEWARDSHIP** was the **key mechanism** for protected area expansion



Biodiversity stewardship resource mobilisation for protected area expansion

More Cost effective

Biodiversity stewardship sites are

90 – 500x cheaper to establish

4 – 17x cheaper to manage

than state owned protected areas



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Key Challenges

- Ensuring sufficient funding and human capacity for the provincial Biodiversity Stewardship programmes
 - To secure more land through Biodiversity Stewardship
 - To continue to provide technical support to participating landowners into the future
 - Development - agriculture, forestry, coal mining, urbanisation – eg. Mpumalanga Protected Environments
- Increased support to landowners
 - Post declaration support in – eg. Fire breaks, fences and M&E
- Political will and high-level interventions –
 - High level support and understanding of the importance of BDS in not just biodiversity conservation , but for over-all human wellbeing and livelihoods.
 - Need to accelerate the signing of declaration notices by MEC's



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Achievements

540 000 + hectares
of *Biodiversity stewardship* sites
were declared,
that's **one third**
the size of
Kruger National Park



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BSP and contribution to Aichi targets

- **Target 1:** By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably
- **Target 3:** By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions
- **Target 4:** By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits
- **Target 5:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
- **Target 7:** By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity



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BSP and contribution to Aichi targets

- **Target 9:** By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment
- **Target 11:** By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes
- **Target 14:** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable
- **Target 15:** By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification



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Case study 2: Biodiversity and land use project

- The *Biodiversity and Land Use Project* was initiated in 2015 to support municipalities in effectively regulating land use to ensure that biodiversity continues to provide essential ecosystem services to municipal residents-it is a GEF funded project
- This project is being implemented in four districts and their local municipalities which occur in global biodiversity hotspots and national biodiversity priority areas
- NBSAP relevance:
- SO3: Biodiversity considerations are **mainstreamed** into policies, strategies and practices of a range of sectors
- *Outcome 3.2 Embed biodiversity considerations into national, provincial and municipal development planning and monitoring*



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Case study 2: Biodiversity and land use project (cont)

- Land in much of the **Ehlanzeni district** is the subject to prospecting or mining rights, and commercial forestry, urban and informal settlements are expanding
- **uMgungundlovu District Municipality** in KwaZulu-Natal, falls the Maputaland-Pondoland-Albany hotspot. A large percentage of this district is comprised of **high-yield water** catchment areas, with numerous Freshwater Ecosystem Priority Areas
- **Cape Winelands District Municipality** in the Western Cape is found between two globally recognised biodiversity hotspots, the Succulent Karoo and Cape Floristic Region. Much of South Africa's **wine is produced in the area, and it is also an agricultural centre for deciduous fruits and vegetables** .
- **Amathole District Municipality** is located on the south-eastern seaboard of South Africa. The municipality hosts high species diversity at the intersection of five different biomes.
- The area is mostly under communal land tenure, with small-scale crop farming and open grazed livestock



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Case study 2: Biodiversity and land use project - challenges

- Low level of biodiversity understanding
- Limited use of biodiversity information
- Capacity constraints
- Weak compliance monitoring
- Poor co-ordination between departments
- Fiscal obstacles
- Inadequate engagement with landowners



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Case study 2: Biodiversity and land use project - solutions

- Improve biodiversity awareness
- Guidelines to assist in using biodiversity information
- Strengthen municipal capacity
- Improve mechanisms to monitor compliance
- Promote collaboration
- Promote dedicated budget allocations
- Promote biodiversity-friendly practices
- Implementation of biodiversity stewardship agreements on private and communal land coupled with incentives



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Case study 3: Mining and biodiversity

- NBSAP relevance: SO 3: Biodiversity considerations are mainstreamed into policies, strategies and practices of a range of sectors
- Outcome 3.1 Effective science-based **biodiversity tools** inform planning and decision-making
- Many tools were developed, including maps of biodiversity priority areas using systematic biodiversity planning and the best available science
- Guidelines that accompany and add value to maps of biodiversity priority areas include those that inform decision-making in production sectors such as Mining and Biodiversity Guideline Mainstreaming biodiversity into the mining sector



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Case study 3: Mining and Biodiversity

- In South Africa, the grasslands biome covers nearly 30% of the country's land surface area.
 - A rich store of biodiversity assets
 - A region of global significance
 - An important water production landscape - 5 of South Africa's major river systems that have their headwaters in the biome.
- Home to South Africa's economic heartland: 60% of South Africa's commercial crops and 50% of subsistence croplands; 44% of the country's cattle and 32% of its sheep; and 92 % of commercial plantation forestry
- 40% of the biome has already been irreversibly modified, less than 3% under protection



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Case study 3: Mining and biodiversity - mining in Mpumalanga

Proposed expansion of mining in Mpumalanga Province:

- 76% of Mpumalanga's grasslands have been applied for mining rights and prospecting applications (various mining activities)
- Proposed mining expansion – largely to occur within pristine water catchments, e.g. Usuthu and Upper Komatie
- In ecological sensitive areas within Upper Vaal Catchment (Wakkerstroom Wetlands) and Usuthu (Chrissiemeer pans) – which are relatively pristine – mining and prospecting applications continue to be issued

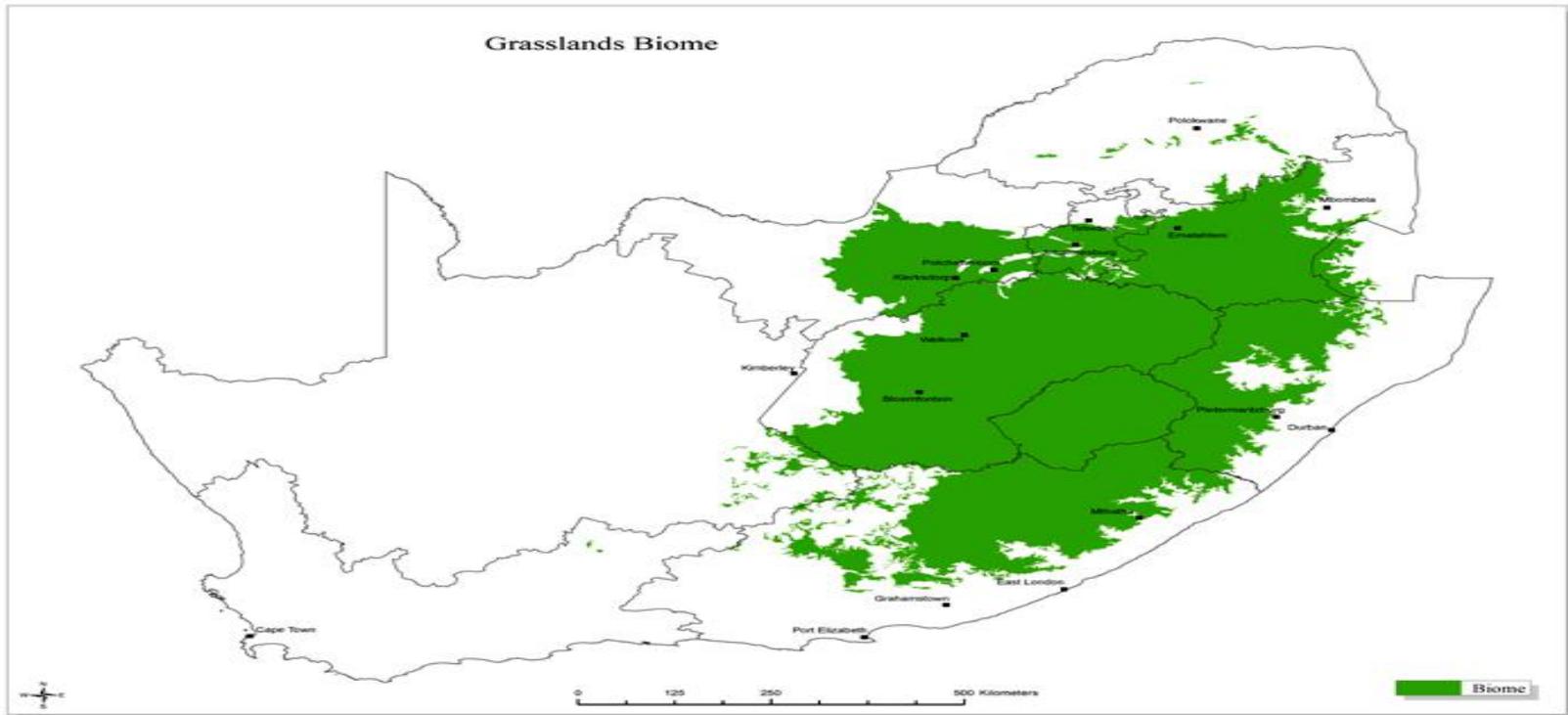


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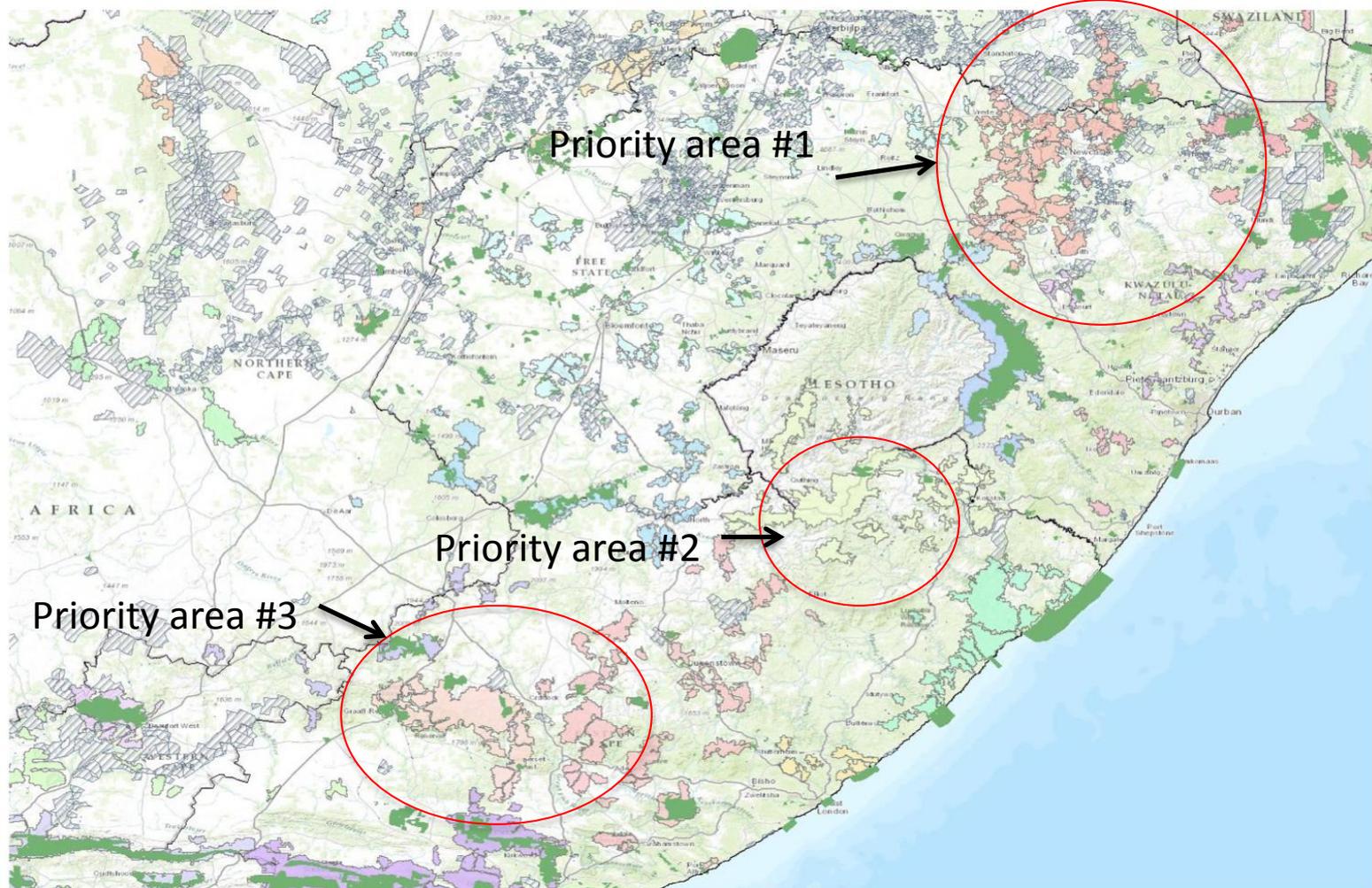
Case study 3: Mining and Biodiversity



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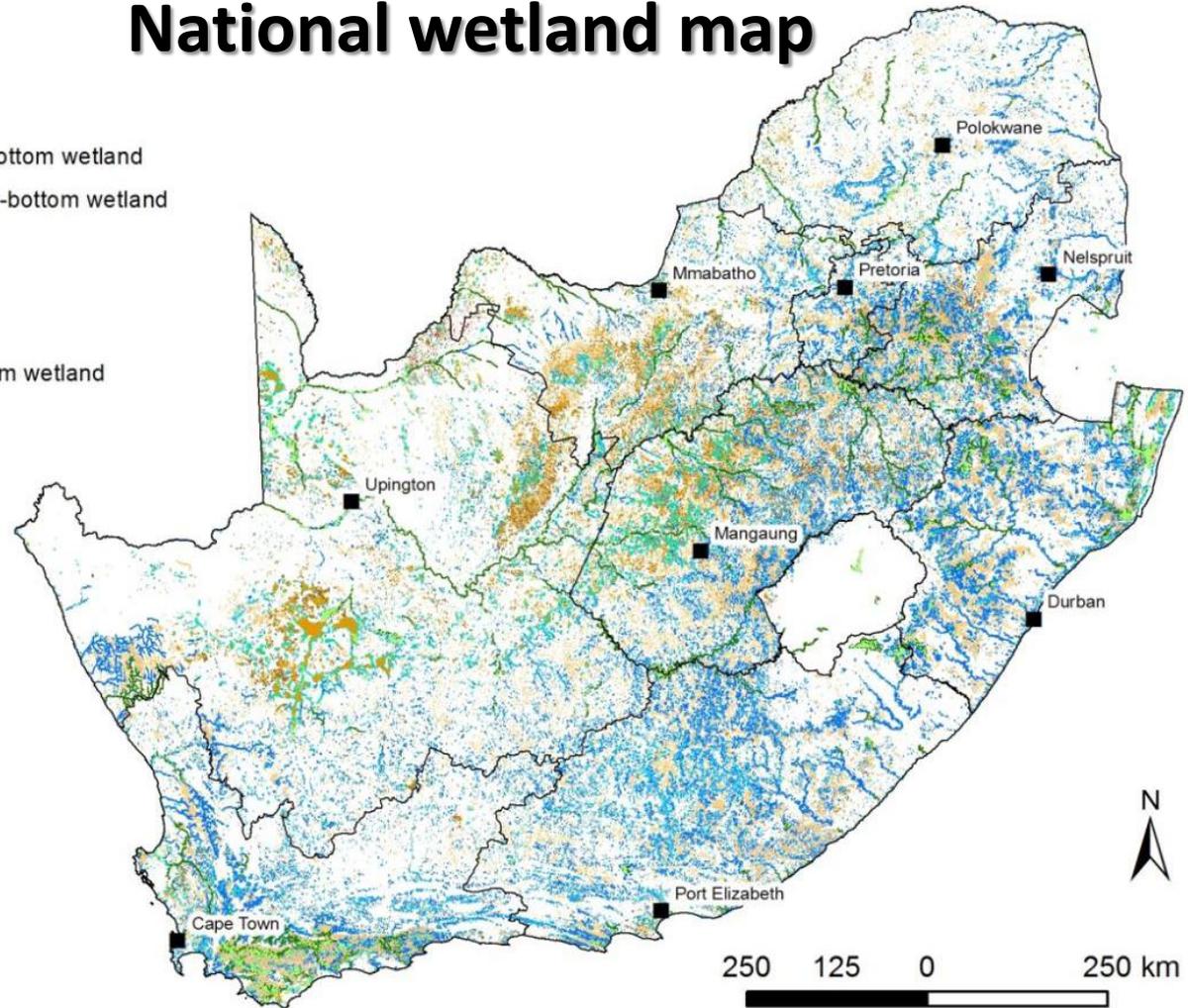
Mining & prospecting rights in priority grassland areas



Wetland types:

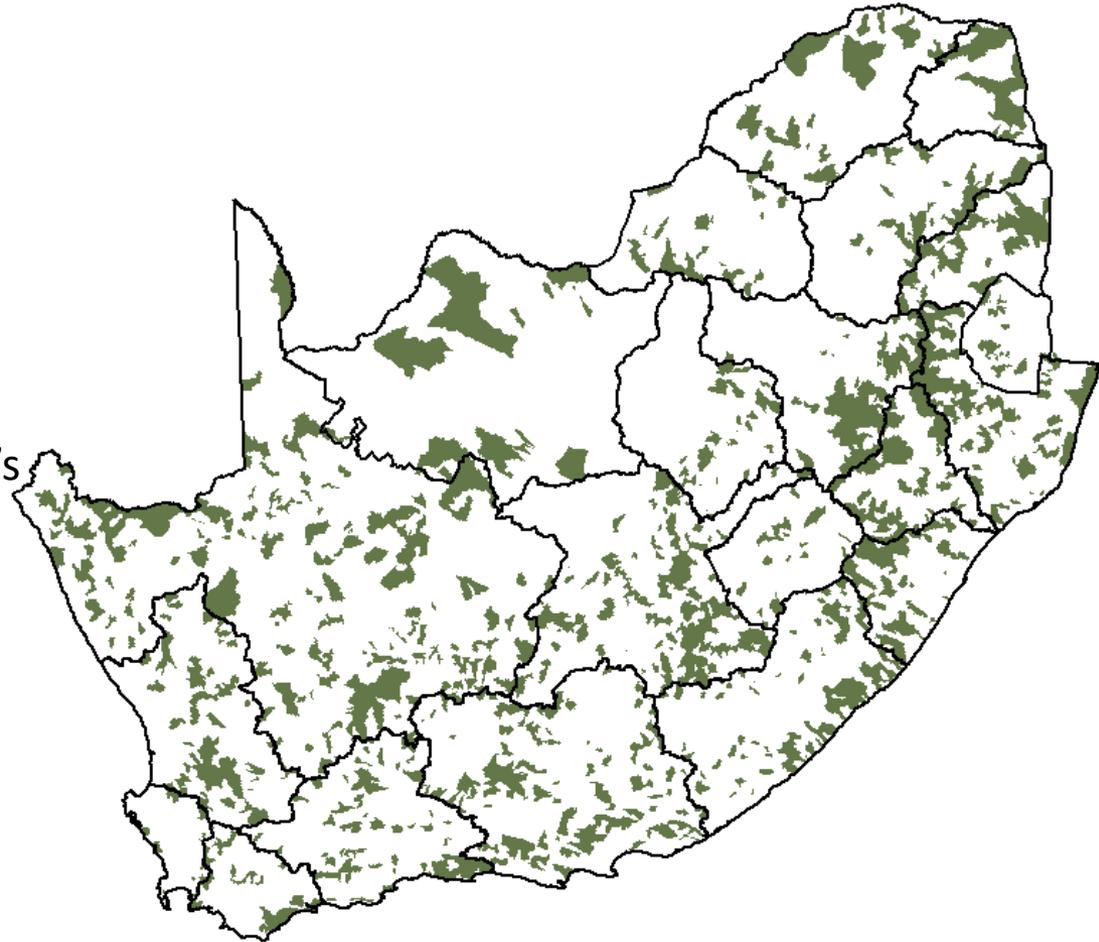
- Slope: Seep
- Slope: Valleyhead seep
- Slope: Depression
- Valley floor: Channelled valley-bottom wetland
- Valley floor: Unchannelled valley-bottom wetland
- Valley floor: Floodplain wetland
- Valley floor: Depression
- Plain: Floodplain wetland
- Plain: Unchannelled valley-bottom wetland
- Plain: Depression
- Plain: Flat
- Bench: Depression
- Bench: Flat

National wetland map



Freshwater ecosystem priority areas

Those catchments that should be maintained in a healthy condition to sustain economic and social development, yet still meet national targets for conserving our freshwater biodiversity
FEPAs comprise 22% of the country's surface area



Case study 3: Mining and Biodiversity

Guideline

- Through the GEF - Grassland Programme – productive engagements, particularly by providing strong scientific and technical support, through involvement with the South African Mining and Biodiversity Forum
- Publication of the Mining and Biodiversity Guidelines endorsed by the Ministers of the then Water & Environmental Affairs and Mineral Resources and the organised mining industry
- Structures in place to promote co-operation: Joint Planning Technical Task Team between Departments of Environmental Affairs and Mineral Resources
- Technical matters elevated to Intergovernmental Planning and Implementation Committee (IPIC) on mining related matters



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MAINSTREAMING BIODIVERSITY INTO THE MINING SECTOR The Guideline

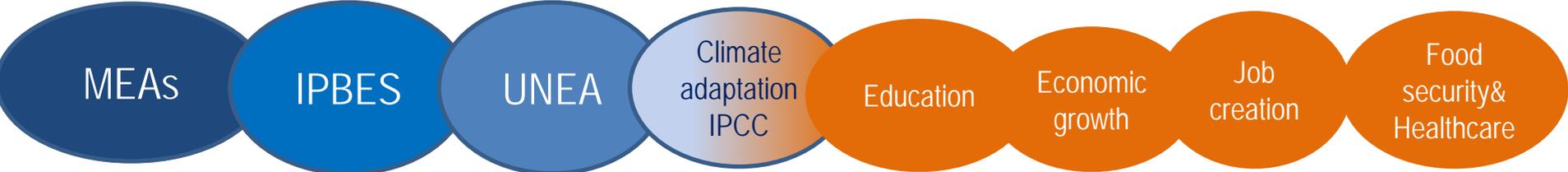
South Africa's Research & Evidence Agenda

Government departments seek research & evidence to respond to

International priorities and agreements

National priorities (eg in National Development Plan)

(some priorities overlap)



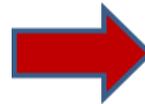
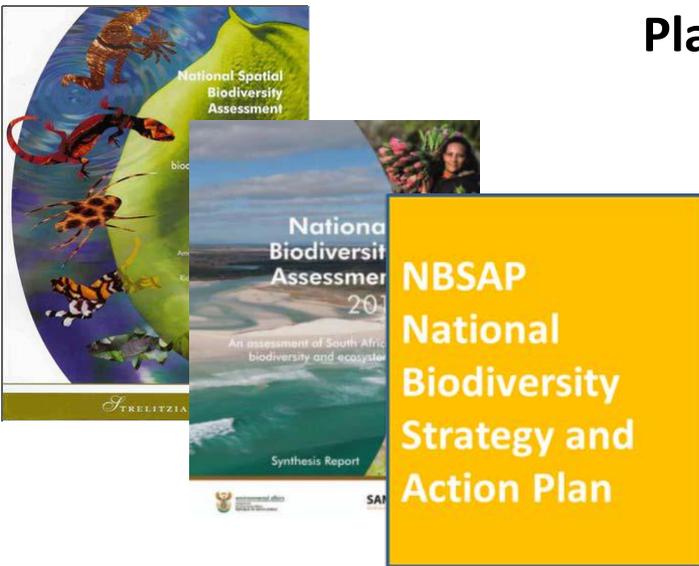
National Biodiversity Research and Evidence Strategy (2015 – 2025)

- Approved by Minister in 2015.
- Broadly describes SA's presidential (DPME) evidence drive to support achievement of the **National Biodiversity Strategy and Action Plan (NBSAP)**, National Development Plan, and the SDGs
- Strategic Objectives
- Overall goal: To provide the knowledge and evidence base for policy and decision making relating to the management of South Africa's biodiversity and its benefits to society
- Accompanied by an **Annual Implementation**

Plan



Aichi Biodiversity Targets



Some of SA's Priority Research and Evidence Needs to promote the mainstreaming/ integration of Biodiversity -Alignment of Aichi with SDGs

Additional Research is needed on the impact of high level management interventions such as:



- The impact on fish numbers and local communities of opening/closing a Marine Protected Area to certain activities
- The biodiversity, ecosystem and social impacts of removing alien species (possibly when planned according to ecological versus social criteria)
- the impact of stopping / initiating culling
- the impact of allowing certain high intensity tourism activities

• Poor information



- The impact of climate change mitigation and adaptation strategies
- on people and organisations
- on monetary savings
- on energy/water consumption

Some Priority Research and Evidence Needs- Short- Medium- Long Term

Additional Research and Evidence needs are required for assessing investments in ecological infrastructure



- Quantification of returns on investment and avoided cost from restoration of ecological infrastructure
- Assessment of the priority areas for investment in ecological infrastructure
- Analysis of the optimal institutional arrangements for ecosystem restoration work in SA
- Assessing the role of public and private investment in maintaining / enhancing ecological infrastructure
- Developing best practice models of EI investment
- Assessing the contribution of investments in ecological infrastructure to jobs and livelihoods
- Marine ecotourism opportunities and constraints
- Use of species and MPAs in both the context of non-consumptive but also where appropriate consumptive use.
- Systematic review of local and global literature to assess role of biodiversity in not only ensuring rangeland productivity, but also ensuring its resilience in response to expected changes in climate associated with anthropogenic climate change
- Piloting new MPA design approaches to improve benefits to people
- Understanding the commercial potential of plant resources, wildlife industry and biotrade market potential
- Externalities or unintended effects resulting from economic activity associated with the economic use of biodiversity
- Assessing the role of the Working For..... Programmes
- SEIAS are now a cabinet requirement

Lessons learned

- Need high level **political support**: alignment with climate change, SDGs and other political priorities- equity and transformation issues in South Africa
- Harness the **potential of communication**: Green/Biodiversity Economy, Natural Capital Agenda/EI
- Apply the **law** as a minimum
- The use of the best **available biodiversity information** should inform all policies, programmes, projects and tool
- Use **best practice** to identify, assess and evaluate the long term avoidance of impacts and conservation of biodiversity
- **Partnerships** between all relevant stakeholders and NGOs should continue to be strengthened through consultation.
- Strengthen **governance structures**, especially at municipal level



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