Action Plan for Implementing the Convention on Biological Diversity's - Programme of Work on Protected Areas

South Africa

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Description of protected area system

National Targets and Vision for Protected Areas

South Africa's protected area network currently falls far short of sustaining biodiversity and ecological processes. In this context, the goal of the National Protected Area Expansion Strategy (NPAES) is to achieve cost-effective protected area expansion for ecological sustainability and increased resilience to climate change. The NPAES highlights ways in which we can become more efficient and effective in allocating the scarce human and financial resources available for protected area expansion. It sets targets for protected area expansion, provides maps of the most important areas for protected area expansion, and makes recommendations on mechanisms for protected area expansion.

Protected area targets are action targets that indicate how much of each ecosystem should be included in protected areas, and help to focus protected area expansion on the least protected ecosystems. Where possible, the NPAES uses biodiversity thresholds as a basis for setting protected area targets, so that protected area targets have an underlying science-based ecological logic. The move away from looking simply at the number of hectares included in the protected area network, towards considering how those hectares are distributed across different ecosystems, is a key feature of this NPAES. It means that meeting protected area targets is not just about numbers of hectares, and that some hectares contribute more to meeting protected area targets than others.

The NPAES uses two factors, importance and urgency, to identify priority areas for protected area expansion. An area is considered important for the expansion of the land-based protected area network if it contributes to meeting biodiversity thresholds for terrestrial or freshwater ecosystems, maintaining ecological processes or climate change resilience, or a combination of these. Using systematic biodiversity planning techniques, the NPAES identified 42 focus areas for land-based protected area expansion (Figure 1). These are large, intact and unfragmented areas suitable for the creation or expansion of large protected areas. In addition to the focus areas, threatened ecosystems are also important for protected area expansion. Urgency is determined by the extent to which spatial options for meeting protected area targets still exist, which is often linked to the degree of competing land or resource uses in an area, which in turn often correlates with land prices.

Table 1 below indicates a summary of the targets that South Africa will be focussed on towards achieving it own targets of representivity and will also assist the achievements of the international targets set by CBD.

Table 1. Summary of land-based and marine protected area targets, and areas still required to meet targets

	20-year target	Current protection level*	Addition needed to meet 20-year target	Addition needed in next 5 years
Land-based	12%	6.5% (7.9 m ha)	8.8% (10.8 m ha)	2.2% (2.7 m ha)
Marine inshore**	No-take: 15%	No-take: 9.1% (334 km)	No-take: 6% (234 km)	No-take: 1.5% (59 km)
	Total: 25%	Total: 21.5% (785 km)	Total: 9.6% (353 km)	Total: 2.4% (88 km)
Marine offshore: mainland EEZ	No-take: 15%	No-take: 0.16% (1 671 km^2)	No-take: 14.8% (159 111 km^2)	No-take: 3.7% (39 887 km^2)
	Total: 20%	Total: 0.4% (4 172 km^2)	Total: 19.6% (210 205 km^2)	Total: 4.9% (52 551 km^2)
Marine offshore: Prince Edward Islands EEZ	No-take: 15%	No-take: 0% ***	No-take: 15% (70 032 km^2)	No-take: 3.8% (17 508 km^2)
	Total: 20%	Total: 0% ****	Total: 20% (93 376 km^2)	Total: 5% (23 344 km^2)

The value of protected areas are that that they provide for priority ecosystems and catchments, protected areas help to secure the provision of important ecosystem services, such as production of clean water, flood moderation, prevention of erosion, carbon storage, and the aesthetic value of the landscape. Marine protected areas can play a particularly important role in keeping our fisheries sustainable, for example by protecting nursery grounds for commercially important fish species.

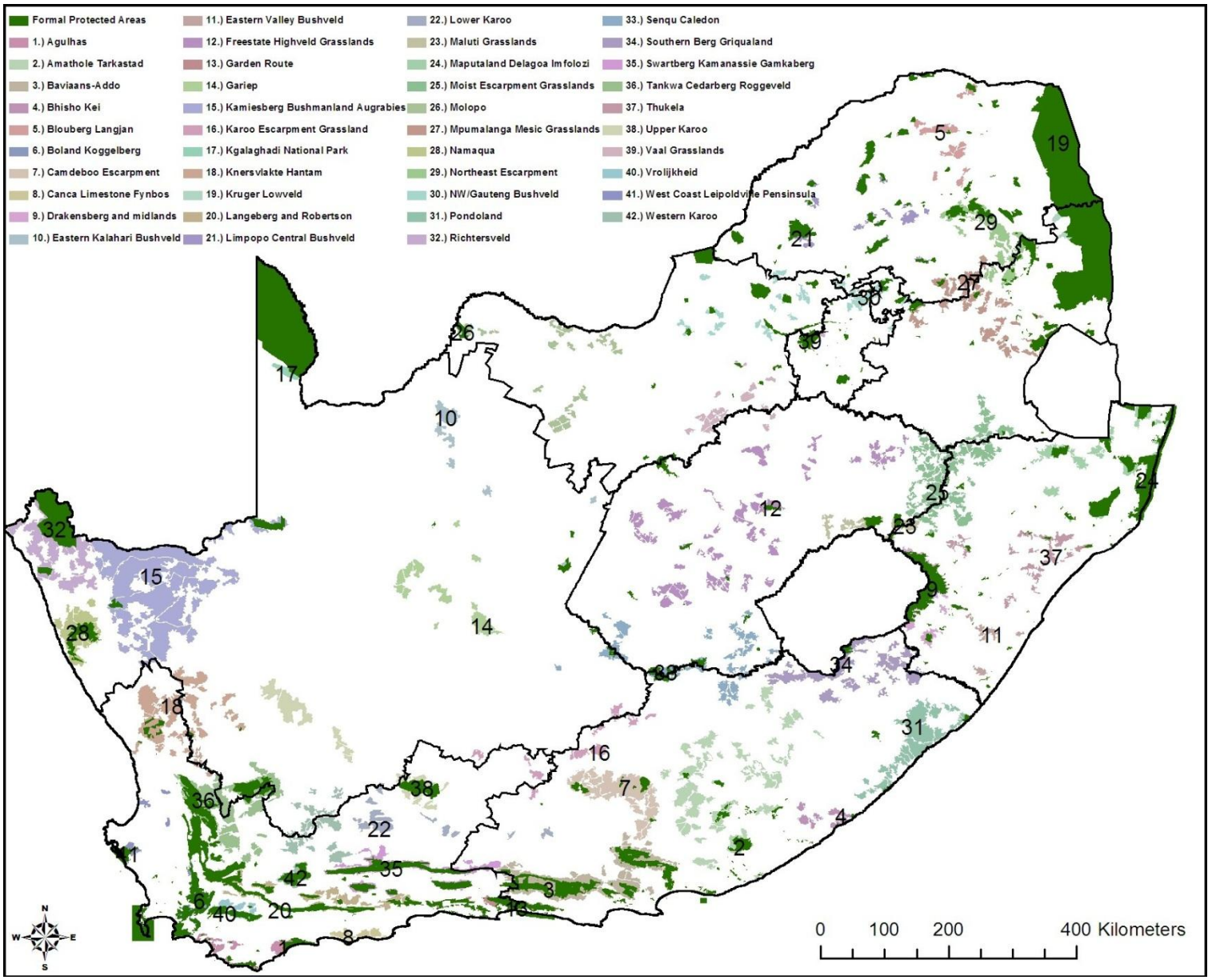

Figure 1. Priority areas for expansion of protected areas

Coverage

The state controlled protected area estate in South Africa consists of more than 480 protected areas (In process of verification). The protected area estate covers 7.9 million hectares, and includes the following types of protected areas:

- Special nature reserves declared in terms of section 18 of the National Environmental Management: Protected Areas Act, 2003
- National Parks declared in terms of the National Parks Act, 1976, or in terms of Section 20 of the National Environmental Management: Protected Areas Act, 2003.
- Nature Reserve declared in terms of section 23 of the National Environmental Management: Protected Areas Act, 2003, or declared in terms of provincial legislation for conservation purposes (Areas managed by the provinces).
- Protected Environments declared in terms of section 28 of the National Environmental Management: Protected Areas Act, 2003
- World Heritage Sites declared in terms of the World Heritage Convention Act, 1999 (Act No. 49 of 1999).
- Marine Protected Areas declared in terms of section 43 of the Marine Living Resources Act, 1998
- Forest areas which include specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act, 1998
- Mountain Catchment Area declared in terms of the Mountain Catchment Areas Act, 1970.
- Local protected areas declared as nature reserves or protected environments and managed by municipalities.

These types of protected areas are not exclusive, and a number of protected areas have a dual or even multiple classifications. Such protected areas are consequently subject to different regulatory regimes and standards for conservation.

In addition privately owned nature reserves are also declared as part of the protected area estate under a range of different names including game reserves or parks. These areas also form part of the protected area estate once declared under legislation.

Management authorities are appointed in terms the relevant national or provincial legislation to manage protected areas and perform related conservation functions. The management authorities include:

- National organs of state such as South African National Parks or national departments, who are responsible for managing national protected areas (Areas declared by the national Minister).
- Provincial organs of state such as provincial conservation agencies or environmental departments, which are responsible for managing provincial protected areas.
- Municipalities which are responsible for managing local protected areas.
- Private owners which are responsible for declared nature reserves and protected environments

The national statutory body responsible for the administration and management of all national parks is South African National Parks (SANParks), which controls 50.3% of the protected area estate spread across 22 protected areas.

World Heritage Authorities are responsible for the management of declared World Heritage Sites under the World Heritage Convention Act, 1999.

Provincial protected areas, comprising 39% of South Africa's protected area estate, fall under provincial control, which is managed by a mix of statutory bodies and line departments that, in terms of Section 5 of the Constitution, have concurrent competence for nature conservation.

There are 94 local protected areas managed by municipalities, which are widely scattered across the country and the biomes, comprising a mere 0.6% of the protected area estate.

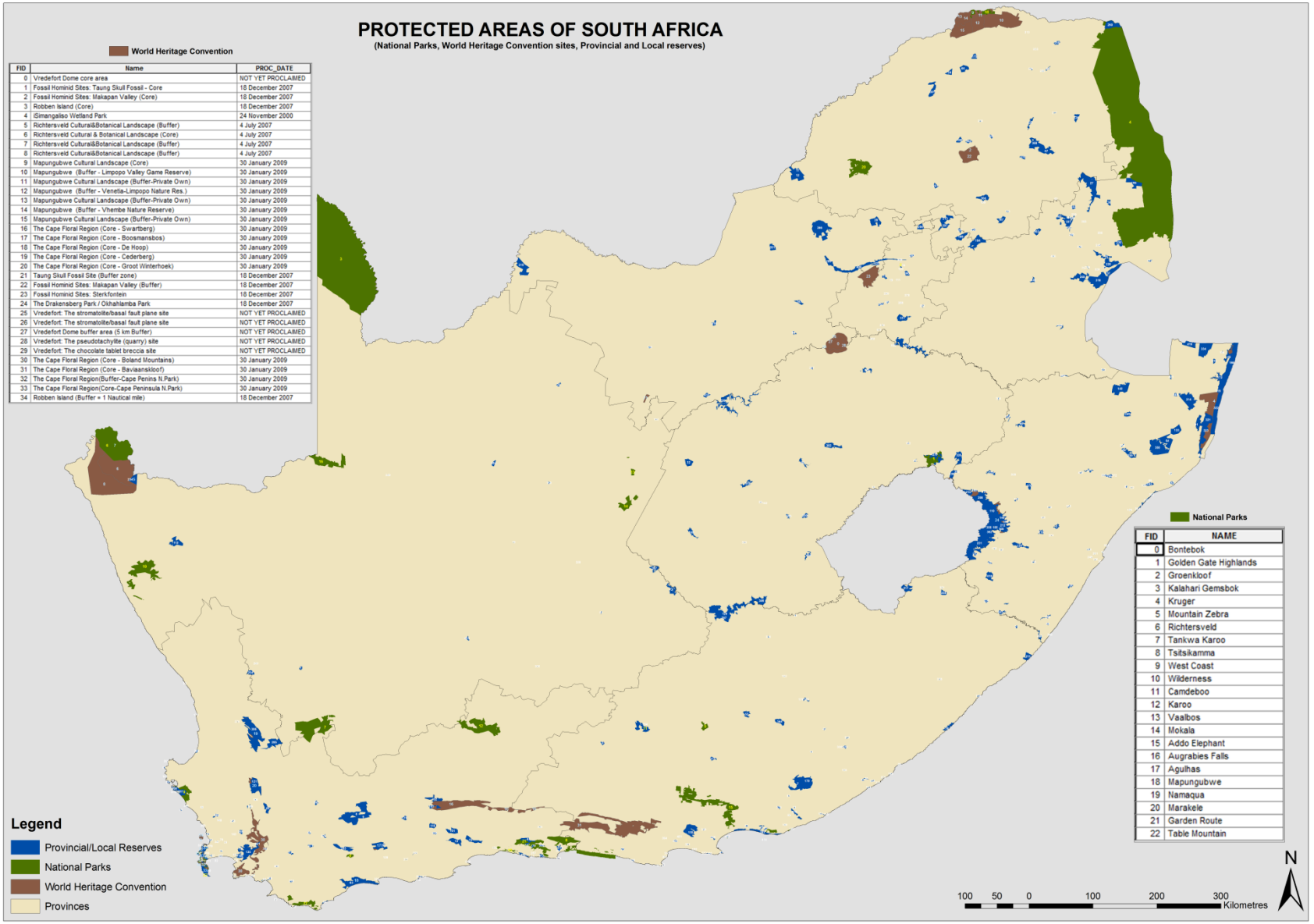

Figure 2. Protected Areas of South Africa

South Africa also has a number of protected areas that falls within World Heritage Sites and Biosphere Reserves. These areas as well as the Trans Frontier Conservation Areas and marine protected areas are reflected on the following map.

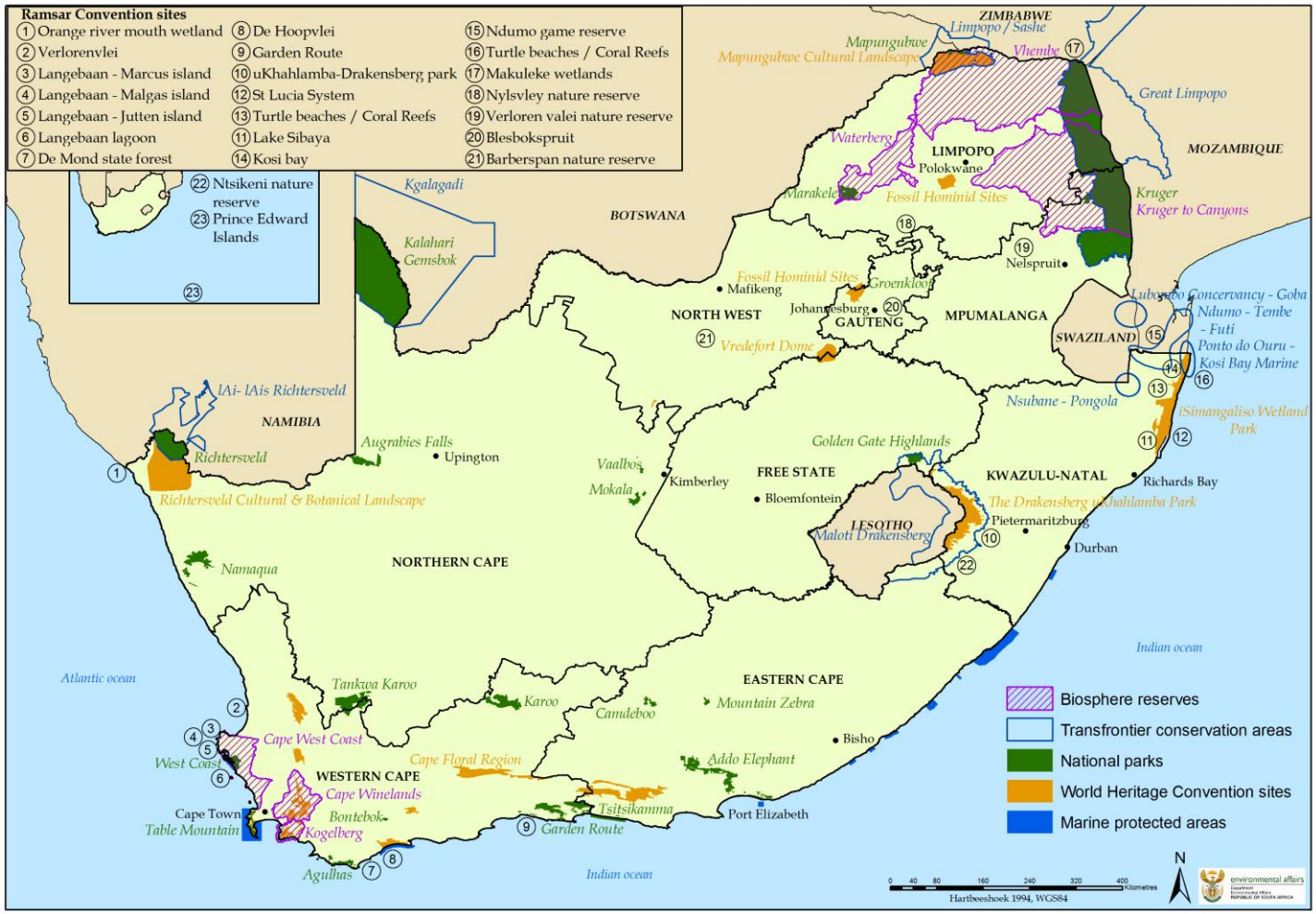

Figure 3. International designated areas in South Africa

Description and background

Protected areas are vital for ecological sustainability and adaptation to climate change, serving as nodes in our ecological infrastructure network. They can also support land reform, rural livelihoods, ecosystem services and socio-economic development.

Below are four of the most important contributions of protected areas, some of them only partially realised and all worthy of further attention:

- biodiversity conservation and ecological sustainability,
- adaptation to climate change,
- land reform and rural livelihoods, and
- socio-economic development, including ecosystem services.

Trans-frontier conservation areas (TFCAs), of which there are six shared between South Africa and our neighbouring countries, provide opportunities for scaling up all of the above contributions of protected areas and for strengthening the links between ecological sustainability benefits and socio-economic benefits.

Governance types

Protected areas are areas of land or sea that are formally protected by law and managed mainly for biodiversity conservation. Protected areas recognised in the National Environmental Management:

Protected Areas Act (Act 57 of 2003) and are considered formal protected areas in the NPAES. The Protected Areas Act distinguishes between several categories of protected area: special nature reserves, national parks, nature reserves, and protected environments. It also recognises world heritage sites, marine and coastal protected areas, specially protected forest areas, and mountain catchment areas. The following table indicates the different protected areas and their responsible sphere of government:

Table 2. Protected areas and their field of responsibility

	Protected Area	**Legislation**	**Responsible sphere**
	Special nature reserve	NEMPAA	National
	National Park	NEMPAA	National
	Nature Reserve	NEMPAA	Provincial
	Protected Environment	NEMPAA	Provincial
	World Heritage Site	WHCA	National
	Marine Protected Area	MLRA	National
	Specially Protected Forest Reserve	NFA	National
	Forest Nature Reserve	NFA	National
	Forest Wilderness Area	NFA	National
	Mountain Catchment Area	MCAA	Provincial

Table 3. A summary table of acronyms for the different legislation

Legislation	Acronym
National Environmental Management: Protected Areas Act, 2003	NEMPAA
World Heritage Convention Act, 1999	WHCA
Marine Living Resources Act, 1998	MLRA
National Forests Act, 1998	NFA
Mountain Catchment Areas Act, 1970	MCAA

Key threats

Pressures and threats are extrinsic to protected areas. These may be the forces of nature or the actions of other authorities within or adjoining the protected area which have a detrimental effect on the integrity of the protected area.

Pressures are influences that have been experienced in the past 5 years or longer and threats are either the manifestation of the pressure into the future (next 5 years) or expected influences that have not yet occurred. Management should be pre-emptive to these threats. By also listing a pressure as a threat, management is indicating that under the current management regime, the threat is unlikely to diminish. It is important to note that issues such as lack of staff or inadequate budget are within the power of management to solve and are dealt with in the METT-SA.

During the development of the METT-SA all the authorities on whom the METT-SA had been tested, had applied some form of review of pressures and threats in their organization and the respondents were able supply the necessary information, often from their management plans. Thus, in the initial stages of the project, it was assumed that all authorities had applied some form of assessment of pressures and threats during the compilation of management plans. As the assessment was expanded into other authorities, it was soon realized that this was not the case and that there were varying interpretations of the concept in different organizations. Many of the managers were identifying aspects of management as pressures and threats. Also, it was clear that the distinction between the two was not clearly understood. A standard list of pressures and threats with definitions was then produced. This was applied to the remaining protected areas. At a workshop held in Pretoria on 24th & 25th February 2010, the standard list was adapted further. This list was then used to edit the pressures and threats that had previously been recorded for some protected areas so that all protected areas corresponded to the same definitions. Thus the data cannot be regarded as reliable and results reported here indicative only.

No weighting was given and the results are the solely the percentage occurrence as recorded for each protected area. As a result, the data recorded merely as an occurrence, is not entirely reliable and should be used to show trends at best. Initial analyses showed that there were some trends, but that the data is unreliable. In order to make some use of the data collected, the data for pressures and threats was combined so that each occurrence either as a pressure or a threat was combined as an occurrence of that the pressure/threat for a specific protected area. For convenience the combined pressure/threat is referred to as threats in the section that follows. The percentage occurrence of the combined threats is listed in Table 15.

The METT-SA Version 2 (2010) has been amended to contain the standard list of pressures and threats and which will be scored according to the RAPPAM system to indicate the relative influence of each pressure and threat and the differences over time. In order to ensure that the pressures and threats are consistently applied it is recommended that the scoring system be thoroughly tested and amended as required in conjunction with each authority.

Table 4: Summary of the percentage occurrence of combined threats expressed as a percentage for 214* protected areas ranked from highest to lowest incidence

Threat	**Percentage Occurrence**
Invasive plants	72
Illegal extraction of resources (poaching)	65
Inappropriate fire regime	53
Boundary integrity	42
Climate change	41
Land use changes on boundaries	40
Alien animals	37
Historical land use (erosion)	36
Water resource management outside of protected area.	36
Protected area isolation & fragmentation	34
Habitat shifting and alteration	31
Pollution	30
Tourism & recreation impacts	30
Unsustainable use of resources	23
Disease: Indigenous and exotic	21
Servitudes	21
Waste disposal	18
Socio-economic levels in adjoining areas	17
Vandalism & crime	17
Mining and Mining rights. Extraction of non renewable resources	17
Farming practices on boundaries	14
Water extraction in protected area	14
Land claims/disputes	11
Purposeful species eradication	6
Water provision for wildlife	6

* 15 of the protected areas were not included as the completed sheets only reflected management concerns such as budget and staffing.

Barriers for effective implementation

A number of factors have been identified that is not only negatively hampering the effective management of protected areas, but will also be barriers against effective implementation of the Action Plan. These barriers are discussed below.

In general the assignment of management responsibility for protected areas is based on historical factors and does not follow an ecosystem or bio-regional approach. At a bioregional level across all the provinces the allocation of responsibility for management of protected areas remains highly fragmented, with many contiguous and proximate protected areas falling under different management authorities. This is particularly pronounced in the biodiversity rich areas of the Cape Floristic Kingdom, and along the eastern escarpment stretching from the Eastern Cape up to Limpopo province.

Management authorities must also work within multiple legal systems, with different regulatory requirements sometimes applying to the same portion of land. There are significant differences across the different management authorities in terms of the relationship between the regulatory and management authorities, the size and composition of governance structures, the combination of functions assigned to management authorities, the roles played outside of protected area boundaries, and the ease with which status of protected area can be changed. This level of diversity in management arrangements is not conducive to a more coordinated approach to conservation management.

At least 10% of the protected areas in the database have undefined or unknown legal status, especially state forests, catchment areas and private nature reserves. The legal status of a number of protected areas is not clear, and remain un-surveyed, adding to the legal uncertainty. These factors are in part due a wide spread shortage of in house legal services across the management authorities.

An analysis of the financial and HR issues related to effective management of conservation agencies and the ability to implement such an action plan, has suggests a 30% aggregate underfunding of conservation. Conservation functions in provinces appear seriously underfunded, largely because they must vie for provincial allocations along with other critical social functions such as health, education and social welfare. The single largest expenditure item on the budgets is human resources, making up 60% of total budgets; operating costs comprise 37% and capital items a very small 3%. There is a worrying trend of excessive growth in expenditure on personnel crowding out operational expenditure.

Another barrier identified is the limited understanding of the biodiversity value of the protected area estate. Further work is needed in this area in order to inform future management decision making.

In summary the biggest barrier towards implementation could be distressed protected areas management authorities that are the least likely to be able to engage with an increasingly complex management mandate. Thus, they are the least likely to deliver sufficient socio-economic benefits to local communities or negotiate with major stakeholders, ultimately placing their portion of the protected area estate at risk of being reallocated to alternative land use types.

Status, priority and timeline for key actions of the Programme of Work on Protected Areas

Status of key actions of the Programme of Work on Protected Areas

Status of key actions of the Programme of Work on Protected Areas	Status
• Progress on assessing **gaps in the protected area network** (1.1)	3
• Progress in assessing **protected area integration** (1.2)	2
• Progress in establishing **transboundary protected areas** and **regional networks** (1.3)	3, In progress, six established
• Progress in developing **site-level management plans** (1.4)	2, In progress
• Progress in assessing **threats** and opportunities for **restoration** (1.5)	2
• Progress in assessing **equitable sharing** of benefits (2.1) • Progress in assessing protected area **governance** (2.1)	3 4
• Progress in assessing the **participation** of indigenous and local communities in key protected area decisions (2.2)	3
• Progress in assessing the **policy environment** for establishing and managing protected areas (3.1) • Progress in assessing the **values** of protected areas (3.1)	4 2
• Progress in assessing protected area **capacity** needs (3.2)	3
• Progress in assessing the **appropriate technology** needs (3.3)	1
• Progress in assessing protected area **sustainable finance** needs (3.4)	2
• Progress in conducting **public awareness** campaigns (3.5)	2
• Progress in developing **best practices and minimum standards** (4.1)	3
• Progress in assessing **management effectiveness** (4.2)	3
• Progress in establishing an **effective PA monitoring system** (4.3)	3
• Progress in developing a **research program** for protected areas (4.4)	1
• Progress in assessing opportunities for **marine** protection	3
• Progress in incorporating **climate change** aspects into protected areas	1, number of aspects already addressed, but needs focus

Status: 0 = no work, 1 = just started, 2 = partially complete, 3 = nearly complete, 4 = complete
(Insert notes as appropriate)

Combined action plan

1. Background

The CBD Programme of Work on Protected Areas (PoWPA) consists of 4 Programme elements namely:

1. Programme element 1: Direct actions for planning, selecting, establishing, strengthening, and managing, protected area systems and sites
   - Building protected area networks and the ecosystem approach
   - Site-based protected area planning and management
   - Addressing threats to protected areas

2. Programme element 2: Governance, participation, equity and benefit sharing
   - Improving the social benefits of protected areas

3. Programme element 3: Enabling activities
   - Creating an enabling policy environment
   - Capacity building
   - Ensuring financial sustainability

4. Programme element 4: Standards, assessment, and monitoring
   - Management standards and effective management
   - Using science

2. Phases of PoWPA

Phases	Potential outcome of each phase
PHASE I (2004 – 2006)	• **"Master plan" for protected areas.** Completing, in effect, a "master plan" for the system of protected areas (key elements include, for example: plans for filling ecological gaps; securing financial resources; building capacity; promoting governance arrangements; and addressing policy, legislative and institutional barriers). • **Studies and assessments,** for input into "master plans", covering, for example, socio-economic contributions of protected areas, ecological gaps in protected area systems, and types of governance arrangements. • **New protected areas.** Establishment of new protected areas where urgent action is required.
PHASE II (2007 – 2008)	• **Threats.** Mechanisms in place to address key threats. • **Financial resources.** Sufficient financial resources secured. • **Indigenous and local communities.** Policies and mechanisms to support indigenous and local community participation and equitable sharing of costs and benefits. • **Standards.** Standards adopted for all major aspects of protected areas.

PHASE III (2009 – 2015)	• **Effective systems of protected areas.** Comprehensive, ecologically representative, and effectively managed systems of protected areas. • **Integration** of protected areas into wider land and seascapes.

Prioritization and Action plan for PoWPA and for achieving Target 11

Priorities are indicated on a scale of 1 to 5 with 1 being most urgent actions to be undertaken

	Action	Priority	Timeline	Budget
	Identified Actions			
A	Ensure full and effective **participation of indigenous and local communities** and of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas • Effective implementation of the People and Parks programme • Effective implementation of the Biodiversity Stewardship programme, including the Biodiversity Stewardship Land Reform Initiative	**1** **2**		
B	Management of invasive alien species • In progress			
C	Develop and implement sustainable finance plans in accordance with national legislation and systems, for protected-area systems • Management authorities should explore all available funding options in order to ensure effective management of protected areas • Shared services amongst management authorities of the protected areas estate i.e research, knowledge management, booking system and specialist scientist needs to be investigated towards implementation • Stronger valuation of ecosystem services, taking into account the findings of The Economics of Ecosystems and Biodiversity study	**2** **2** **2**		

	• Financial support, including co-operation with NGO's, to fund the implementation of the Biodiversity Stewardship Programme, which will address Protected Area Expansion on privately owned land	**2**		
D	**Public awareness, understanding and appreciation** of the importance and benefits of protected areas is significantly increased. • Develop a process towards making the case for biodiversity and protected areas	**1**		
E	Develop regional guidelines, best practices and tools, to improve the effectiveness of transboundary protected-area cooperation • Evaluate the quality of such cooperation	**?**		
F	**Capacity building** programmes and initiatives are implemented to develop knowledge and skills at individual, community and institutional levels • Development of Human Resource plans by all management authorities • Organise Learning Exchanges to address capacity building for the implementers of the Biodiversity Stewardship Programme • Capacity to monitor implementation of Biodiversity Stewardship Programme contracts need to be created. • Capacity to monitor implementation of Biodiversity Stewardship Programme contracts.	**2**		
G	Frameworks developed for **monitoring, evaluating and reporting** protected areas management effectiveness • Monitoring and evaluation of the conservation effectiveness of protected areas using the METT	**2**		

	assessment should be conducted with reserve managers through workshops on a yearly basis • 60% of all protected areas need to achieve a score of 68% management effectiveness by March 2012 • Climate-change adaptation and mitigation should be included in management-effectiveness' assessments • Adapt the METT assessments to include the Biodiversity Stewardship Programme in these assessments	**1** **1**		
H	National and regional systems are established to enable effective **monitoring** of protected area coverage, status and trends at national, regional and global scales, and to assist in evaluating progress in meeting global biodiversity targets. • All declarations and boundary descriptions of protected areas need to be verified and corrected • Updated declared private natures reserve data needs to be compiled and verified	**1** **1**		
I	In the **marine** area, a **global network** of comprehensive, representative and effectively managed national and regional protected area system is established. • to establish and/or strengthen a range of measures for long-term appropriate management of marine protected areas • Identified shortcomings in relation to marine protected areas to be addressed by coastal provinces	**2** **2**		
J	All protected areas to have **effective management** in existence • The management plans for all protected areas have to be completed and approved	**1**		

K	All protected areas and **protected area systems are integrated into the wider land and seascape** • Harmonization of legislations that govern the management of protected areas in the country. • All provincial protected areas expansion strategy (PPAES) to be completed. • Provinces (Free State, Gauteng and Eastern Cape) need to secure viable grassland areas as protected areas	**1** **1** **2**		

Priority actions for fully implementing the Programme of Work on Protected Areas:

(Insert priority actions)

1. Capacity building
    a. PA assessment , Management and planning
    b. Law Enforcement/training
    c. Co-management
    d. Sustainable financing
    e. Sustainable utilization
    f. Infrastructure development
    g. Infrastructure maintenance
    h. Human capital development
    i. Internal processes (eg game management etc) – training

j. Climate change mitigation and adaptation

2. PA integration (eg corridors, connectivity, biosphere reserves etc)
3. PA Valuation
4. Education & awareness (in relation to the broader citizens eg community, civil society etc)

Key assessment results

Ecological gap assessment

In the development of the National Protected Area Expansion Strategy (NPAES, 2008) a systematic biodiversity planning approach was used to build representation and persistence into the design of the protected area network in a proactive, efficient and explicit manner. The explicit goal of systematic biodiversity planning was to identify areas that are required to meet biodiversity targets. A rapid assessment of broad surrogates of biodiversity (such as biomes, vegetation groups and marine bioregions) demonstrated how well the existing protected area network represents biodiversity in general, and where the spatial gaps were.

At the highest level of terrestrial biodiversity assessment, the biome, the protected area network in South Africa does not afford sufficient protection to the majority of biomes and marine bioregions (see Table 5). Only four of the 11 biomes (waterbodies, forests, fynbos and desert) have their protected area target secured in the protected area network. The other seven biomes have varying proportions of their protected area target under formal protection, with some biomes, such as the Nama karoo, having a mere 7% of the protected area target (or 1% of the biome) secured. Similarly, only 19 (43%) of the vegetation groups and 141 (34%) of the vegetation types have their protected area target met within the protected area network (see Table 6). Importantly, even those biomes that are well-represented at the biome scale, such as fynbos, are not fully secured because within the biome there are several vegetation groups and types that are not adequately represented.

Table 5: Area protected and percentage of protected area target met by biome

Biome data			Area protected		
Biome	**Biome area (ha)**	**Biome PA target(ha)**	**PAs (ha)**	**% of PA target**	**% of biome**
Waterbodies	67 300	8 800	54 300	614	81
Forests	471 500	108 700	176 200	162	37
Fynbos Biome	8 395 200	1 257 600	1662 600	132	20
Desert Biome	716 400	130 700	159 800	122	22
Savanna Biome	41 266 300	4 233 900	3779 600	89	9
Albany Thicket Biome	2 913 300	303 300	208 000	69	7
Azonal Vegetation	2 898 300	405 800	203 000	50	7
Indian Ocean Coastal Belt	1 428 200	195 700	97 000	50	7
Succulent Karoo Biome	8 328 700	1 025 300	434 700	42	5
Grassland Biome	35 449 300	4 771 500	701 300	15	2
Nama Karoo Biome	24 819 600	2 769 900	180 400	7	1

The fact that most of South Africa's protected areas were proclaimed for ad hoc or opportunistic reasons and that they generally occur where there are few competing land uses, results in a bias towards certain vegetation groups and

vegetation types. Fourteen of the 44 vegetation groups and 114 of the 438 vegetation types have their protected area targets exceeded by at least 150% in the protected area network. However, it is important to note that these biases can occur because protected areas are established for valid reasons other than biodiversity representation, e.g. mountain catchments and water security. The NPAES focuses on under-represented ecosystems as well as those required to ensure persistence of biodiversity and adaptation to climate change.

Table 6: Number of vegetation groups and vegetation types for which the protected area target has been met in the protected area network (shown as a proportion of the total number per biome)

Biome	**Vegetation groups for which protected area target has been met**		**Vegetation types for which protected area target has been met**	
Number / total	%	Number / total	%	
Albany Thicket Biome	0 / 1	0	3 / 14	21
Azonal Vegetation	2 / 6	33	15 / 34	44
Desert Biome	1 / 2	50	6 / 15	40
Forests	2 / 2	100	8 / 12	67
Fynbos Biome	5 / 12	42	50 / 119	42
Grassland Biome	0 / 4	0	10 / 72	14
Indian Ocean Coastal Belt	0 / 1	0	2 / 3	67
Nama-Karoo Biome	0 / 3	0	1 / 14	7
Savanna Biome	3 / 6	50	29 / 87	33
Succulent Karoo Biome	5 / 6	83	15 / 63	24
Waterbodies	1/1	100	2 / 3	67
Total	**19 / 44**	**43**	**141 / 438**	**32**

Management effectiveness assessment

In assessing the effectiveness of the management of South Africa's protected areas, the following steps were taken. A review of international best practice was followed by a review of assessments done in South Africa by various management authorities in the country. This was followed by a study tour to Australia, led by the Department of Environmental Affairs with representatives from most of the management authorities in South Africa. These three activities informed the CEO's Forum (CEO's of all the conservation agencies) decision to –

- Undertake a national assessment of the management effectiveness of South Africa's protected areas led by the Department of Environmental Affairs;
- To use the Management Effectiveness Tracking Tool as adapted for South Africa (METT-SA) to do the assessment to establish a common baseline; and
- To establish a sub-committee to oversee the project

Two meetings of the sub-committee were held. The first introduced the tool to be used, a version of the WWF/World Bank's Management Effectiveness Tracking Tool adapted for South Africa known as the METT-SA Version 1(2008), and discussed the process to implement the project. The second meeting was held to review the tool after having completed the exercise, and to consider improvements for a METT-SA Version 2.

The members of the sub-committee were also responsible for convening workshops for their individual management authorities where the background and reasons for the study were presented; the METT-SA was introduced as the tool of choice for the study and then guiding the participants through an exercise of applying the METT-SA. In the case of SANParks, workshops were held with each cluster (management unit). The management authorities themselves were responsible for completing the score-sheets for each protected area and submitting them for analysis.

Two hundred and thirty protected areas were assessed for their management effectiveness. This equates to approximately 78% of South Africa's protected areas listed in the Register of Protected Areas.

Total scores (including supplementary items) ranged from 10% to 86%, with a total mean of 49% with a standard deviation of 10.72. One hundred and eight (47%) protected areas scores were below the mean, 121 (53%) above the mean and only 31 (14%) above the 67% level for sound management. The distribution of these scores is illustrated in Figure 2.

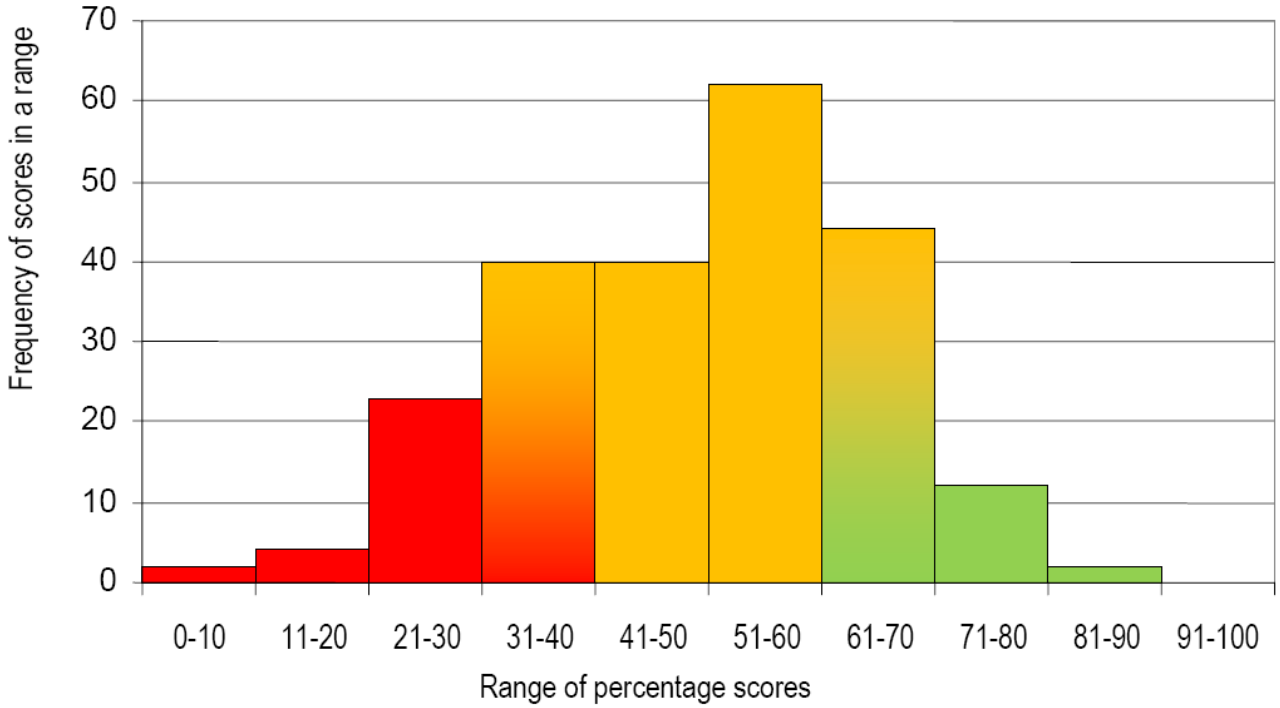

Figure 4: Percentage occurrence of total percentage scores for all protected areas

Where Red = less than 33%: management clearly inadequate; orange = 33-67 %: basic management with significant deficiencies; green = 67% and above: sound management

Although there are 52% of protected areas scoring above 50%, the national average is brought down by the large number of nature reserves scoring below 40%. Further analysis will seek to find the cause of the lower performing areas.

Sustainable finance assessment

In 2010 a review of the institutional arrangements for the management of protected areas was completed by the Department of Environmental Affairs (DEA) in order to seek ways to improve the management of protected areas and conservation of biodiversity in South Africa. The review is based on an assessment of the status quo of existing protected area management authorities, and an overview of regional trends and case studies in protected area management.

On average for all conservation budgets, 75% of authority budgets are funded by treasury allocations, and 21% by own revenue. The single largest expenditure item is human resources, making up 60% of total budgets; operating costs comprise 37% and capital items a very small 3%. There is a worrying trend of excessive growth in xpenditure on personnel crowding out operational expenditure. In terms of own revenue the high performers are SANParks and the provincial agencies in KwaZulu Natal and North West. SANParks generates 75% own income largely due to the high profile and marketability of the national parks. CapeNature stands out in terms of its ability to raise other grant revenue. In general it appears that independent parks boards are better able to diversify and raise their own funding. Also, agencies focused exclusively on conservation management are in general more capable of raising own funding and earmarking resources for conservation and revenue raising. Provincial departments appear to have little or no incentive to maximise revenues, and are faced with multiple and often competing objectives, which means that the conservation function has to compete for resources with other environmental and non-environmental functions. Recently merged Parks Boards appear to be equally incapable of generating their own revenue, largely as a result of organisational disruption and diversion of attention to reorganisation issues.

The RB Martin formula has been used to estimate minimum conservation costs for protected areas and compare these with disclosed budgets, which suggests a 30% aggregate underfunding of conservation. Conservation functions in provinces appear seriously underfunded, largely because they must vie for provincial allocations along with other critical social functions such as health, education and social welfare. Regardless of the final figure, there appears to be ample evidence from a number of sources that conservation is seriously underfunded in aggregate, and that a comprehensive review of the funding requirements for conservation is required.

Capacity needs assessment

The same 2010 review indicated that with respect to HR issues, HR costs make up between 50% and 80% of management budgets, constituting the largest single expenditure item. The average vacancy rate above 40% is very

concerning, and is the product of insufficient funds and high staff turnover. Some critical HR issues have been raised by conservation experts from the different authorities, including high staff turnover, changes in political leadership, loss of institutional memory, lack of skilled staff, lack of alternative career pathing, the impact of mergers on organisational performance, the shift of resources away from conservation, the impact of vacant and frozen posts and transferred positions, compounded by poor leadership.

Unfortunately due to the difficulty in distinguishing between HR and Tourism budgets and functions, it has been difficult to accurately determine the specific needs related to HR issues.

Policy environment assessment

The White Paper on Conservation and Sustainable Use of South Africa's Biological Diversity (Government Notice 1095 of 1997) in its assessment of the state of protected area management at the time as being "fragmented, polarised, and inefficient" due to the oversubscribed number of government departments dedicated to nature conservation. The White Paper further argued that:

"Divided responsibilities, together with a duplication of effort, a profusion of laws, and most importantly, a lack of co-ordination, have been major factors hampering the effective conservation of biodiversity. Aggravating this has been a lack of integration of biodiversity considerations into national decision-making, weak political will with regard to environmental conservation, and the insufficient and declining allocation of resources to conservation."

The National Environmental Management: Protected Areas Act (Act no 57 of 2003) was developed in 2003 and came into effect on 1 November 2004. The Protected Areas Act is the cornerstone of the State's efforts to fulfil its constitutional mandate to protect areas for the purposes of nature conservation. The Act spells out the different types of protected area that can be established in South Africa. They are:

- Special Nature Reserves (which include reserves previously described as Special Nature Reserves under the Environment Conservation Act);
- Nature Reserves (which include nature reserves established as such under provincial legislation prior to the enactment of the Protected Areas Act)
- National Parks (including any national parks established prior to the new Act as well as any 'lake areas' established under the Lake Areas Development Act, 1975);
- Protected Environments (including areas established as Protected Environments before the commencement of the Protected Areas Act in terms of provincial legislation);
- World Heritage Sites;
- Specially Protected Forest Areas, Forest Nature Reserves and Forest Wilderness Areas established under the National Forests Act, 1998; and
- Mountain Catchment Areas.

Following the promulgation of the Protected Areas Act and the Biodiversity Act, a number of key research initiatives have been undertaken and policies developed. This included the development of the National Spatial Biodiversity Assessment, which laid the basis for the development of the National Biodiversity Strategy and Action Plan (NBSAP) and the National Biodiversity Framework. On the basis of the methodologies developed through these initiatives, combined with the recognition of the benefits that can be accrued from the protection and conservation of ecosystems, the National Protected Area Expansion Strategy (NPAES) was developed. This has more recently been complemented by the Biodiversity Stewardship Programme, and the Policy on Buffer Zones for National Parks

Protected area integration and mainstreaming assessment

The National Protected Area Expansion Strategy (NPAES, 2008) indicated that historically, the protected area network has been biased towards some ecosystems, such as indigenous forests, mountain fynbos and lowveld savanna, and has done a poor job of protecting others. Aquatic ecosystems, including rivers, wetlands, estuaries and offshore marine ecosystems, have been especially neglected. Increased focus is required on the need for South Africa's protected area network to include a representative sample of all ecosystems, as discussed further in Chapter 3 on protected area targets.

The long-term persistence of biodiversity depends not only on conserving a representative sample of biodiversity but also on maintaining a complex set of ecological processes, such as the functioning of river corridors and movement of species between uplands and lowlands. Ecological processes often occur across very large areas and over long periods of time, so they can be difficult to capture in the protected area net work. Nevertheless, it is possible to take some ecological processes into account in the design of the protected area network. Spatial aspects of ecological processes that have been mapped and included in the NPAES, as explained in Chapter 4, include climate and landscape heterogeneity, coastal ecological processes, habitat heterogeneity, river-associated movement corridors, free flowing rivers, and rivers supporting priority estuaries.

For protected areas to achieve their full potential contribution to ecological sustainability, they need to include a representative sample of all ecosystems as well as key ecological processes, and we need to shift towards an integrated terrestrial and aquatic approach to protected area design and management. This is especially important in South Africa where water scarcity means that freshwater ecosystems are under even greater pressure than terrestrial ecosystems. Estuaries can provide a focal point for integrating the design of terrestrial, freshwater and marine protected areas. Ideally seamless integration is required between terrestrial, freshwater, estuarine, inshore and offshore marine protected areas, to maximise the ecological sustainability benefits of protected areas. The NPAES moves some way towards this ideal, but further work is needed. Future revisions of the NPAES will include more detailed work on aquatic ecosystems and on integrating the design of aquatic and terrestrial components of the protected area network.

Protected area valuation assessment

An assessment completed in 2001 quoted two examples of the monetary returns generated by biodiversity namely bird watching, which from foreign visitors alone is estimated to bring R10- 25 million per annum into the country; and the Cape wild flower industry which is estimated at R150 million per annum of which 80% is as foreign exchange (Cape Action Plan for the Environment; 2000). South Africa's biodiversity is no less important at the local level. The turnover of medicinal plants has been estimated at US$ 60 million per annum for raw products alone (Mander, 1998). Marine and coastal environments are not just important for tourism and recreation, but are the basis for the fishing industry. The Cape fishing industry on its own is worth about R 1.6 billion per annum. The industry is also an employer of a large number of people and sustains a small scale fishing industry which affords empowerment opportunities for previously disadvantaged communities.

A Project to indicate the value of biodiversity called "Making the case for Biodiversity" was initiated in 2011. Linked to this project another assessment was initiated in 2011 to determine the value of protected areas. The target date for completion of this assessment is 2013.

Climate change resilience and adaptation assessment

The NPAES indicated that healthy natural ecosystems can increase resilience to the impacts of climate change, by allowing ecosystems and species to adapt as naturally as possible to the changes and by buffering human settlements and activities from the impacts of extreme climate events. A sufficient protected area network supports the persistence of biodiversity within the broader landscape and safeguards the long-term provision of ecosystem goods and services (such as sufficient clean water, pollination etc.) on which we all depend, even in the face of stresses such as climate change. Intact ecosystems (i.e. ecosystems that are in a natural or near natural state) withstand stresses better than highly modified and fragmented landscapes, and natural landscapes secured within protected areas are the anchor on which survival of broader ecological systems will depend.

This role of protected areas is worthy of greater emphasis in the global debate on climate change adaptation. South Africa has a unique opportunity to take a global lead in giving protected areas a central role in our climate change response strategy. An implication of this is that protected area expansion should prioritise protection of living connected
landscapes. Protected areas should be expanded to incorporate altitudinal gradients and topographic range, intact river corridors, coastal dune cordons, and a greater range of microhabitats, in order to conserve the climatic gradients required to give us some leeway for climate change. The ability of species and systems to adapt to climate change will depend on landscapes that are sufficiently connected to allow species to move. These factors have been taken into account in identifying important geographical areas for protected area expansion, as explained in Chapter 4.

Freshwater ecosystems are likely to be particularly hard hit by rising temperatures and shifting rainfall patterns, and yet healthy, intact freshwater ecosystems are vital for maintaining resilience to climate change and mitigating its impact on human wellbeing.6 In the western part of South Africa, which is likely to become dryer, intact rivers and wetlands will help to maintain a consistent supply of water; in the eastern part of the country, which is likely to become wetter, intact rivers and wetlands will be important for reducing flood risk and mitigating the impact of flash floods. This reinforces the importance of including freshwater ecosystems in land-based protected areas, and moving towards integrated aquatic and terrestrial design of the protected area network.

In 2011 South Africa developed a National Climate change White Paper. This White Paper presents the South African Government's vision for an effective climate change response and the long-term, just transition to a climate-resilient and lower-carbon economy and society.

All states in the Southern African sub-region face the challenges of rural and urban poverty, limited water or access to water resources, food insecurity, and other development challenges. Thus, although countries of the sub-region may have differing developmental priorities, they often face similar risks due to climate change and may also have similar adaptation needs. South Africa will therefore strive to develop climate change adaptation strategies based on risk and vulnerability reduction, in collaboration with its neighbours where appropriate, and seek to share resources, technology and learning to coordinate a regional response.

Regarding the "Biodiversity and Ecosystem" section, South Africa will integrate climate change into the management of biodiversity and ecosystem services as follows in regard to protected areas:

- Expand the protected area network (in line with the National Protected Area Expansion Strategy) where it improves climate change resilience, and manage threatened biomes, ecosystems, and species in ways that will minimise the risks of species extinction. A regulatory framework to support investment in conservation or land rehabilitation as a way of offsetting the environmental impacts of new property developments will be explored.
- Encourage partnerships for effective management of areas not under formal protection, especially freshwater ecosystem priority areas, critical biodiversity areas, ecological support areas and threatened ecosystems.