Resource Mobilization Information Digest N° 334 January 2013

Sectoral Integration of Biodiversity in South Africa

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1. Introduction

South Africa reported[1] that mainstreaming biodiversity can be viewed as the incorporation and integration of biodiversity as an important aspect of planning, decision‐making, land‐use and production methods to achieve sustainable development, particularly in those sectors whose core business is not biodiversity conservation. Factors that contribute to successful mainstreaming of biodiversity include good scientific information and understanding; institutional capacity and commitment; strategic crosssectoral and public‐private partnerships; and a willingness by the scientific and biodiversity community to take advantage of opportunities to demonstrate that biodiversity‐friendly policies can provide socio‐economic opportunities for the poor (Pierce et al. 2002).

Although it still faces challenges, South Africa is making good progress towards mainstreaming biodiversity in both the public and private sectors. This note examines the successes achieved and challenges faced. This is done by firstly describing the cross‐sectoral co‐ordination measures. Thereafter, the extent to which South Africa has adopted the ecosystems approach is summarised, and mainstreaming biodiversity in land‐use planning and decision‐making (including environmental assessment) is discussed.

Cross‐sectoral coordination

The responsibility for managing and conserving biodiversity cuts across several national, provincial and local government departments as well as government agencies, NGOs, the private sector and communities. For the fragmented and decentralised model to be effectively implemented, crosssectoral co‐ordination is essential. The measures that South Africa has taken in this regard are summarised in this section. This is done by firstly providing an overview of the biodiversity management framework and then discussing the cross‐sectoral planning mechanisms and coordinating structures. Cross‐cutting national plans and strategies are then described. The section concludes by assessing progress of the measures in cross‐sectoral co‐ordination.

2. Overview of biodiversity management framework

The management of biodiversity in South Africa is guided primarily by the White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity (DEAT 1997) ("the White Paper on Biodiversity"). This policy document was informed largely by the commitments assumed when South Africa become a signatory to the CBD in 1995.

South Africa has three spheres of government – national, provincial and local – with the powers and functions of each sphere set out in the Constitution. Responsibility for management of biodiversity is allocated between various government departments and agencies at the national, provincial and local

[1] South Africa (2010). South Africa's Fourth National Report to the Convention on Biological Diversity, Department of Environmental Affairs and Tourism, March 2009, 135 pp.

level (Table 1). Certain functions are exclusive national, provincial or local government competences, while other functions are concurrent competences. Most functional areas of relevance to the conservation and use of biodiversity are set out in Schedule 4 of the Constitution, which describes functional areas of concurrent national and provincial legislative competence. These concurrent responsibilities include many functional areas relevant to the conservation and use of biodiversity such as agriculture, environment, nature conservation, pollution control, regional planning and development, soil conservation, urban and rural development, and tourism. National competences of relevance include land reform, water resources, forest resources, marine resources and national parks and botanical gardens.

Table 1: Organs of state with environmental management responsibilities and their functions (DEAT 2008c)

Sector	Responsibilities
Environmental Affairs and Tourism	Air quality, pollution control and waste management, environmental impact management, biodiversity conservation, marine and coastal management
Water Affairs and Forestry	Water resources, water services, veld, forests and forestry, mountain catchments
Agriculture	Agricultural resources, pests, regulation of fertilizers, farm feeds, and agricultural remedies, GMOs, aquaculture, animal breeding
Land Affairs	Development facilitation and principles governing land development, land use
Provincial and Local Government	Municipal planning, integrated development plans, municipal service delivery, disaster management
Science and Technology	Research support
Arts and Culture	National heritage, including World Heritage Sites and museums
Education	Education and research
Health	Hazardous substances
Minerals and Energy	Access to minerals and petroleum resources, nuclear energy, mine-related health and safety
Transport	Maritime law, movement of substances, harbours

DEAT, SANBI, SANParks, DWAF, World Heritage Site Authorities and provincial conservation agencies are organs of state whose core business includes biodiversity conservation. SANParks, the provincial conservation agencies, and in the case of three provinces, the provincial environment affairs or conservation department, manage protected areas. The management of biodiversity outside of protected areas is the responsibility of either the provincial environment affairs or conservation department or the provincial conservation agency, depending on the provincial legislation. Apart from these institutions whose core business is biodiversity, there are several other national, provincial and local organs of state whose policies, programmes and decisions impact directly on how South Africa's biodiversity is managed. Local government is responsible for:

- Implementing the environmental policies, plans and programmes of national and provincial government,
- Ensuring alignment between its IDPs and provincial Environmental Implementation Plans,
- Ensuring that IDPs comply with NEMA principles.

The allocation of biodiversity management responsibilities makes co‐operative governance between the national, provincial, and local spheres of government essential for effective implementation. Cooperation between different national government departments is also important as biodiversity issues are of relevance to virtually every government institution. Measures implemented to facilitate this co‐operation are discussed in the following sections.

3. Cross‐sectoral biodiversity coordination

The White Paper on Biodiversity recognises that to implement the CBD successfully requires integration of the conservation and sustainable use of biodiversity into relevant sectoral or crosssectoral plans, programmes and policies.

A key objective of NEMA is to establish institutions that promote co‐operative environmental governance and procedures for co‐ordinating environmental functions exercised by all organs of state. DEAT is the lead agent in environmental governance and is thus responsible for:

- Establishing national environmental norms and standards,
- Ensuring compliance with national policy, laws, norms and standards on environmental management,
- Establishing procedures to review the environmental impacts of government policies, plans and programmes.

Chapter 3 of NEMA provides for procedures for environmental governance and requires national departments that exercise functions that may impact on the environment to prepare Environmental Implementation Plans (EIPs), while those national departments that exercise functions involving management of the environment are required to prepare Environmental Management Plans (EMPs) which must be updated every four years. These EIPs and EMPs have recently been updated in 2008.

Departments whose activities may impact on the environment and need to produce EIPs are listed in Schedule 1 of NEMA as being the Departments of Agriculture, Defence, Environmental Affairs and Tourism, Housing, Land Affairs, Trade and Industry, Transport, and Water Affairs and Forestry.

Departments with responsibilities for managing the environment and which need to produce EMPs are listed in Schedule 2 of NEMA as being the national Departments of Environmental Affairs and Tourism, Health, Labour, Land Affairs, Minerals and Energy, and Water Affairs and Forestry, as well as all nine provinces. DEAT is required to monitor compliance with the EIPs and EMPs, while each province must ensure that municipalities in that province comply with the relevant provincial EIP.

Annual reports on progress in implementing the plans should be produced. In practice, most EIPs and EMPs tend to consider biodiversity weakly.

For South Africa to manage its biodiversity effectively and meet its obligations under the CBD requires the participation and co‐operation of various national departments. These national departments as well the various provinces should incorporate relevant biodiversity issues into their strategic and annual implementation plans and allocate appropriate budgets for biodiversity management activities.

DEAT plays a central co‐ordinating and monitoring role for the sector. The following intergovernmental structures are of relevance to biodiversity management:

- Director‐General clusters. The various national departments are clustered into the following areas – Economic and Employment; International Relations, Peace and Security; Social Sector; Governance and Administration; and Justice, Crime, Peace and Security. DEAT's environmental programmes require integrated implementation across these clusters, although DEAT has recognised the need for a cluster that focuses on the environment to ensure integration into the policies and programmes of all three spheres of government;

- A ministerial forum (MINMEC) promotes co‐operative governance between the national line function minister and his or her provincial counterparts. MINMEC comprises the Minister and Director General of DEAT and the provincial ministers / Members of Executive Councils (MECs) for environmental affairs;

- MINMEC is supported by the technical committee (MINTECH) and interaction with the provinces takes place through this structure which was established to facilitate co‐ordination between DEAT and the provincial environmental departments. MINTECH comprises the Director General of DEAT, representatives of SANBI and SANParks, and the heads of department responsible for environmental management and biodiversity conservation in the provinces;

- Four Working Groups have been established under MINTECH with Working Group 1 focusing on biodiversity and heritage. DEAT co‐ordinates this working group;

- The Committee for Environmental Co‐ordination (CEC) was established under NEMA to promote co‐operative governance and procedures for co‐ordinating environmental functions exercised by all organs of state. However, this structure no longer functions and is in the process of being disbanded under an amendment to NEMA.

4. Cross‐cutting national plans and strategies

Since 1994 South Africa has strived to create a democratic society based on the principles of equity, non‐racialism and non‐sexism. Policies and programmes have been developed to improve the quality of life of all South Africa's people, with poverty alleviation as a fundamental aim. At the same time, the country is part of the global community and has committed itself to several international priorities through participation in various forums and being party to multi‐lateral agreements.

To give effect to the above, South Africa has developed a number of cross‐cutting national plans and strategies. Important plans and strategies specific to biodiversity have already been highlighted in Chapter 2, with other cross‐cutting polices being the White Paper on Sustainable Forest Development in South Africa (1996), the National Water Policy (1997) and the White Paper for Sustainable Coastal Development in South Africa (2000). Other relevant plans and strategies are the National Framework for Sustainable Development in South Africa, the Anti‐Poverty Strategy and the Millennium Development Goals, summarised below from a biodiversity perspective.

National Framework for Sustainable Development in South Africa

In July 2008, DEAT published the National Framework for Sustainable Development (NFSD) (DEAT 2008a). The purpose of this framework is to set out South Africa's national vision for sustainable development and specify strategic interventions to re‐orientate South Africa's development path in a more sustainable direction. It proposes a national vision, principles and areas for strategic intervention. The NFSD will provide the basis for the development of a national sustainable development strategy and action plan. This action plan and the mobilisation of resources will take place in the second phase of the process, while the third phase will involve the roll‐out, implementation, monitoring and review of the action plan.

The NFSD vision is as follows:

"South Africa aspires to be a sustainable, economically prosperous and self‐reliant nation state that safeguards its democracy by meeting the fundamental human needs of its people, by managing its limited ecological resources responsibly for current and future generations, and by advancing efficient and effective integrated planning and governance through national, regional and global collaboration" (DEAT 2008a, page 8).

The framework identifies five strategic priority areas for action and intervention that are necessary to reach the desired state of sustainable development:

- Enhancing systems for integrated planning and implementation,
- Sustaining ecosystems and using natural resources efficiently,
- Economic development via investing in sustainable infrastructure,
- Creating sustainable human settlements,
- Responding appropriately to emerging human development, economic and environmental challenges.

The NFSD thus recognises the inter‐connection between ecosystems, natural resources and sustainable development and that South Africa's biodiversity provides a basis for economic growth and development, with specific examples cited including: marine resources as a basis for the fishing industry;

rangelands that support commercial and subsistence farming; indigenous species form the mainstay of the horticultural and agricultural industries; the tourism industry that relies on the diversity and abundance of wildlife and heritage; natural landscapes as backdrops for the film industry, and indigenous plants for the medicinal industry.

Within the context of the development priorities identified, the NFSD proposes that interventions and actions be undertaken in respect of the following environment‐related areas:

- Value of ecosystems: recognising that ecosystem functioning is critical to achieve sustainable development, it is suggested that awareness and understanding of the value of ecosystems is raised and improved in all sectors of society so that the co‐dependencies of social systems and ecosystems be recognised. The quantification and monitoring of the value of ecosystem services to the economy and lives of people needs to be internalised in production and consumption costs and prices and incorporated in relevant planning and budgeting processes.

- Improving aquatic ecosystems, specifically water availability and water quality.

- Investing in protecting and enhancing ecosystem services.

- Dematerialising the economy. This refers to improvements in the efficiency of production and consumption systems by reducing the quantity of materials and energy per unit of production and reducing to zero the waste outputs that are predominantly disposed of in landfills, air, marine and aquatic systems.

- Air quality enhancement and monitoring through investment in clean technologies.

- Energy efficiency.

- Food security and natural‐resource based livelihoods. This includes a national soil rejuvenation programme.

- Economic and fiscal instruments as incentives for environmental reform in support of sustainable development.

- Implementation of international agreements.

The NFSD therefore incorporates biodiversity‐related matters as prominent factors that will need to be included in the national sustainable development strategy and action plan to be drafted during the next phase of the process. If implemented in line with the framework, these measures will support biodiversity and achievement of the CBD goals.

Anti‐Poverty Strategy

In October 2008, South Africa released a draft discussion document Towards an Anti‐Poverty Strategy for South Africa (Republic of South Africa 2008). This document seeks to create a strategy to eradicate

poverty by creating economic opportunities and enabling or empowering communities or individuals to access these opportunities. The strategy will support government's aim to create "a better life for all". The document has been released for public comment and consultations are underway, whereafter it will be finalised and the programme of action implemented.

The draft strategy identifies nine pillars for poverty reduction. Pillar eight is environmental sustainability, recognising that strategies and programmes are required to link economic opportunities for the poor to the protection and rehabilitation of ecosystems, reversing environmental degradation and promoting eco - tourism.

Millennium Development Goals

South Africa has adopted the Millennium Development Goals (MDGs). A full review of progress towards meeting these goals will not be presented in this report. However, Target 9 of Goal 7 of the MDGs is relevant to biodiversity as it requires integration of the principles of sustainable development into policies and programmes and reversing the loss of environmental resources. The indicators for environmental sustainability are the proportion of land area covered by forest, percentage of area protected to maintain biological diversity, energy used (kg of oil equivalent per $1 000 of GDP), and carbon dioxide emissions per capita.

The progress towards meeting this target is difficult to assess. Elsewhere in this report, the extent to which biodiversity and sustainable development have been incorporated into policies and programmes is highlighted. In general, such integration has been done at a policy level and is also happening at the implementation level. A general observation is that progress is being made in this regard in South Africa.

With respect to the quantitative indicators, the following observations are made:

- The proportion of South Africa that is formally protected area is 6.5% (DEAT & SANBI 2008), while the MDG goal is 10% by 2015. South Africa has a protected area target of 8.7% by 2013 and 12% by 2028.

- The proportion of land area covered by forest in South Africa is naturally very small, with the indigenous forest biome (as opposed to forestry plantations) making up less than one percent of the country's surface area. Despite their small surface area, forests make a disproportionably high contribution to the conservation of South Africa's biodiversity (Geldenhuys & MacDevette 1989), being second only to fynbos in terms of plant species richness per unit area (Gibbs Russel 1985). In addition, they provide essential habitat to at least 10% of all South Africa's IUCN red listed vertebrate species (EWT 2002). Globally, South African forests are recognised as having the highest tree diversity of any temperate latitude forest, with between three and seven times more tree species than other forested areas of the southern hemisphere, this despite covering the smallest area in comparison to other counties.

- There are not sufficient data to report on progress on the energy and carbon emissions indicators.

5. Progress on cross‐sectoral coordination

Although the policies, legislation and structures for cross‐sectoral planning and co‐ordination, as summarised above, are generally in place, in practice co‐ordination efforts have fallen short of expectations. Specific observations in this regard are as follows:

Plans

- Relevant national government departments are required by NEMA to have submitted updated EIPs and EMPs during 2007. The Minister of Environmental Affairs & Tourism granted an extension of a year and these plans were prepared and submitted during 2008.

- In spite of these plans having been prepared and submitted, there are concerns regarding the seriousness with which many departments treat the plans, with the perception being that they are often prepared as a compliance measure rather than being seen as part of the department's core functions, with implementation of the plans lacking. This is reflected by the fact that many departments do not have a "focal point" for environmental/biodiversity matters, nor do they include biodiversity in their annual plans or allocate budgets to biodiversity‐related activities.

- Progress reports on the EIPs and EMPs should be prepared annually, but there is general noncompliance with this requirement.

Co‐ordination and co‐operation

- An internal report by DEAT during 2007 concluded that the Committee for Environmental Coordination (CEC) was not an effective body. This CEC was intended to be the key forum to promote the integration and co‐ordination of environmental functions by the relevant organs of state and to promote the objectives of the EIPs and EMPs as it consisted of the Director Generals of ten national departments are was chaired by the Director General of DEAT. Although required to meet four times each year, the CEC had not met since 2005. A decision has been taken to abolish the CEC. An amendment to NEMA has been passed to implement this and in terms of the amended legislation, the Minister may establish any forum or advisory committee and determine its composition and functions as required.

- Working Group 1 of MINTECH is an important forum for co‐ordinating biodiversity management between national and provincial government. Although it meets quarterly and is functioning, the general view is that this body could play a stronger leadership role to co‐ordinate the efforts of the biodiversity sector.

- While there are examples emerging of structures being established to facilitate co‐operative governance, there are also instances of lack of communication between different government departments which impact on biodiversity. An example of such lack of communication is that the Department of Minerals & Energy has in some cases issued prospecting permits for mining in protected areas or other important biodiversity areas such as forests, without consulting with the other relevant

departments. Lack of co‐ordination between DEAT, the provincial environmental authorities and DWAF is also noted in development applications that require both a water license from DWAF and environmental authorisation from the environmental department of DEAT or the provinces, as these processes run in isolation from each other. A better integrated approach could facilitate enhanced decision‐making in the interests of biodiversity.

Box 1: Co-operative governance in development planning in the North West Province

In recent years a plethora of economic and development related legislation, as well as policy and strategy frameworks (initiated by all three spheres of Government), impacted on the North West Province's spatial environment. Examples include:

- The National Spatial Development Perspective 2006 (NSDP),
- The North West Provincial Growth and Development Strategy (NW GDS 2005),
- The review of various District and Local IDPs, growth strategies and SDFs,
- The North West State of the Environment Report 2002,
- THE NBSAP 2005.

An analysis of these documents clearly points to the need for a common understanding of provincial spatial structuring challenges, relating to economic, social and environmental areas of significance and the interconnection thereof.

In the North West Province it was realised that the only way to ensure environmental protection (including biodiversity) in planning processes, is to integrate environmental and biodiversity priorities into existing spatial planning processes of municipalities. A very close working relationship was therefore established between the North West Department of Agriculture, Conservation and Environment and the North West Department of Developmental Local Government and Housing, South African Local Government Association of the North West, the Office of the Premier and IDP managers of municipalities. All these parties, together with other provincial departments and national departments meet quarterly as the North West Development Planning Forum, to ensure integration and harmonisation of plans, strategies and policies to strengthen the municipal IDP processes (including Spatial Development Frameworks). This forum was thus established to support cooperative governance.

Furthermore, the North West Province has drafted a provincial Land Use Management Bill (still to be gazette for comment) which provides for the integration of environmental issues into any land-use decision-making processes to ensure ecologically sustainable development. This Bill requires that a Provincial Spatial Development Framework (PSDF) be developed every five years. This PSDF must be informed by the provincial Biodiversity Conservation Assessment. It is also required that all municipal SDFs be aligned to the PSDF. The implication is that all important biodiversity areas, corridors and protected areas will be reflected in the municipal SDFs to ensure the protection of areas that are of environmental importance. The municipalities are very willing to join forces on this new way of compiling SDFs and in this way, environmental and biodiversity concerns can be covered early on in the planning stages and not only at the project specific level through EIAs and Environmental Management Plans.

The relevant authorities are aware of the shortcomings in the cross‐sector co‐ordination highlighted above and steps have been identified to improve the situation. In addition to the co‐ordination between organs of state, the White Paper on Biodiversity recognises the limited capacity of government to implement biodiversity policy and that support is needed by government by entering into partnership arrangements. Such partnerships are required between organs of state, nongovernmental organisations (NGOs), community‐based organisations, holders of traditional knowledge, the private sector, the scientific community and private individuals and structures and mechanisms to integrate and co‐ordinate the efforts of the various parties need to be established.

The National Freshwater Biodiversity Collaboration (NFBC) has been proposed and is an example of a cross‐sector collaborative initiative (Maree 2007) (Box 2). The NFBC is being taken forward as part of SANBI's newly established Freshwater Programme, which will provide the secretariat function for the NFBC.

Box 2: National Freshwater Biodiversity Collaboration (Maree 2007)

The responsibility for managing, using and conserving freshwater biodiversity includes several national, provincial and local government departments and institutions as well as other stakeholders such as NGOs and local communities. The fragmentation of responsibility and accountability is reflected in the state of research and implementation related to the management, use and conservation of freshwater biodiversity, where people are often working in isolation from each other.

It is in this context that the National Freshwater Biodiversity Collaboration (NFBC) has been proposed as a collective forum for co-operation, idea sharing and networking amongst researchers, managers, funders and implementers who have an interest in freshwater biodiversity. Participation is voluntary and intended to support rather than hinder current or potential projects.

The co-ordination of the NFBC will be the responsibility of a secretariat to be housed at SANBI, as part of SANBI's recently established Freshwater Programme. An inclusive and representative Steering Committee will be established. Funders' commitments to the NFBC will be obtained by way of Memoranda of Understanding.

The objectives of the NFBC are:

• To provide a forum for funders and implementers to align their investments and efforts in the management and conservation of freshwater biodiversity;

• To provide a forum for partners (researchers and other stakeholders) to share information, knowledge and best practices with implementers, and to get input from implementers on needs and priorities;

• To provide access/links to objective, independent, credible information on freshwater biodiversity-related matters;

• To provide and promote opportunities and mechanisms for capacity building including: raising awareness at various levels from the public to senior government officials; training at technical, specialist and management levels; and development of information material packaged appropriately for different audiences.

6. Linkages with other UN Conventions

Climate change

Climate change has been identified as a threat to South Africa's biodiversity. Several biodiversity‐related policies recognise this threat and suggest appropriate responses. For example, the NBSAP's Outcome 4 of Strategic Objective 3 is "an integrated national programme facilitates adaptation to the predicted impacts of climate change on biodiversity across the landscape and seascape" (DEAT 2005a page 89). The NBF also recognises the climate change threat and Priority Action 15 is to develop and implement an integrated programme for ecosystem adaptation to climate change, with an emphasis on ecosystems vulnerable to climate change impacts (DEAT 2007a). The NPAES places strong emphasis on increasing resilience to climate change as a core goal for protected area expansion (DEAT & SANBI 2008).

From the above it is clear that climate change has been recognised as a threat in the biodiversity planning process. In addition, South Africa has demonstrated a commitment to addressing climate change and became a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) in 1997 and since then has participated actively in the UNFCCC and the Kyoto Protocol.

South Africa developed a National Climate Change Response Strategy (DEAT 2004) with the objective of supporting the principles of the White Paper on Integrated Pollution and Waste Management as well as other national policies including those relating to energy, agriculture and water. The response strategy recognises the importance of biodiversity in maintaining ecosystem functioning, its economic value for tourism and its role in supporting subsistence lifestyles, while also noting that plant and animal biodiversity (together with the health, maize production, rangelands and water resources) are amongst the most vulnerable sectors to climate change (DEAT 2004). The strategy suggests several interventions, including some that are directly or indirectly related to biodiversity management – water resource

management and contingency planning, adaptation of rangeland practices, changes in forestry practices and protecting plant, animal and marine biodiversity.

However, the strategy does not focus strongly on ecosystem adaptation to climate change, and does not emphasise the role that intact natural ecosystems can play in increasing 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. This shortcoming is recognised in the NBF which prioritises an integrated national programme to facilitate adaptation to the predicted impacts of climate change on biodiversity across the landscape and seascape, with an emphasis on vulnerable ecosystems, especially freshwater systems, and sustainable livelihoods.

Climate change continues to receive attention with the Long Term Mitigation Scenarios (Scenario Building Team 2007) approved by cabinet during 2008. This will be used to develop an implementation plan and South Africa's National Climate Change Policy.

Desertification

Desertification is not only about the spread of deserts, but refers to land degradation in arid, semiarid and sub‐humid climates, which cover 91% of South Africa (DEAT 2005c). Land degradation is the persistent decrease in the supply of ecosystem goods and services as a result of changes in soil or vegetation, and includes deforestation and the effects of drought.

South Africa ratified the United Nations Convention to Combat Desertification (UNCCD) in 1997. A national action programme to combat land degradation and alleviate rural poverty has been developed (DEAT 2005c). This action plan clearly recognises and responds to the strong linkages between desertification, biodiversity and climate change, noting that South Africa should coordinate and have a synergistic approach to implementation of the three conventions.

7. Cross‐cutting programmes and projects

Various multi‐sectoral programmes have been initiated either at an international level or within South Africa that support the objectives of the CBD, with many of them linking biodiversity conservation with socio‐economic development in line with government's social objectives. They also present important opportunities to mainstream biodiversity considerations in developmental planning, capacity building and community empowerment. The programmes generally involve a number of different government departments in all three spheres of government and include initiatives with a development or social emphasis (Box 3). Over and above the bioregional and ecosystem programmes and the cross‐cutting programmes in Box 3, other programmes with a conservation emphasis include:

- People and Parks
- Large Marine Ecosystem Programmes including the Benguela Current Large Marine Ecosystem (BCLME)

- Trans Frontier Conservation Areas (TFCAs)

- World Heritage Sites, of which South Africa has eight, with three of them inscribed as Natural sites (Cape Floristic Region Protected Areas, iSimangaliso Wetland Park and Vredefort Dome); one a Mixed site (uKhalamba Drakensberg); and the remaining four as Cultural sites (Fossil Hominid Sites of Sterkfontein and environs, Mapungubwe Cultural Landscape, Richtersveld Cultural and Botanical Landscape and Robben Island)

- Biosphere Reserves

- Blue Flag Beach Programme

- Business and Biodiversity Offset Programme (BBOP).

Box 3: Overview of programmes with cross-cutting biodiversity and socio-economic developmental focus

Expanded Public Works Programme (EPWP)

National government programme providing additional work opportunities and training / capacity building with aim to create one million jobs between 2004 and 2009 with focus on unemployed, particularly women, youth and disabled.

Social Responsibility Programme

DEAT's contribution to the national Expanded Public Works Programme addresses the department's core responsibilities of environmental management (including biodiversity) and tourism, while contributing to job creation, skills development, SMME development and the upliftment of households, especially those headed by women.

Integrated Sustainable Rural Development and Urban Renewal Programmes

A ten year government strategy that focuses on integrating existing programmes in the poorest 13 rural and eight urban nodes with the overall objective being to work together with communities and other partners to alleviate poverty and improve the quality of life in rural and urban areas through improved co-ordination and viable institutions that address social, economic, environmental and governance needs.

Working for Water

Programme managed by DWAF and aims to reduce the invasion of alien invasive vegetation, especially in river systems and catchments, while creating jobs, developing skills and creating secondary industries.

Working on Wetlands

SANBI manages the programme that aims to champion the protection, rehabilitation and sustainable use of wetlands through co-operative governance and partnerships. The focus is on re-instating the ability of wetlands to provide ecosystem services and using rehabilitation projects to create employment and build capacity.

Working on Fire

Managed by DWAF, this is a public private partnership aimed at promoting an integrated approach to fire management and involves collaboration between a number of national departments, statutory bodies, the private sector and civil society. As with other programmes, it aims to create employment and build capacity.

LandCare

A community-based, government-supported project aimed at combating desertification. Managed by the Department of Agriculture, it seeks to encourage and support sustainable land use practices, raise awareness and promote a resource conservation ethic while reducing poverty and creating jobs through natural resource rehabilitation, improvement and conservation.

CoastCare

Falling under the Marine & Coastal Management Branch of DEAT, this partnership between the private and public sectors promotes sustainable coastal development by supporting national and provincial priority projects, coastal community projects, education and training programmes and providing decision support materials.

8. Biodiversity initiatives in business and production sectors

There is recognition amongst South Africa's policymakers of inter‐linkages between biodiversity and business and the need to mainstream biodiversity priorities into the policies, plans and activities across a range of stakeholders whose core business is not biodiversity, but whose day‐to‐day activities impact on biodiversity. This recognition is reflected in the NBSAP which includes several objectives and

targets aimed at key production sectors, with agriculture, forestry and mining highlighted as production sectors with a significant impact on biodiversity. The NBF has as one of its Priority Actions to work with key production sectors to minimise the loss and degradation of natural habitat in threatened ecosystems and critical biodiversity areas. The NBF identifies major sectors that are land and resource users as agriculture, aquaculture, property development, plantation forestry, mining, fisheries, and biofuels, and notes that these sectors have a role to play as custodians of the country's biodiversity. The planning frameworks therefore recognise the need to mainstream biodiversity into business practices. It is encouraging that the plans have resulted in action with initiatives being implemented in a number of sectors, as summarised below.

To reduce the pressure on biodiversity caused by the agriculture and fishing sectors, the biodiversity sector has in recent years established partnerships with a number of industries, with the initiatives aimed at enhancing sustainable production through the development and implementation of bestpractice guidelines and other mechanisms. The guidelines seek to increase long‐term productivity without compromising the environment while also contributing to socio‐economic development.

Mechanisms encourage biodiversity‐friendly methods of production with the aim of reducing the loss of natural habitat, over‐abstraction of water resources and over‐harvesting of marine resources.

The mechanisms involve labelling and certification schemes to accredit the production methods (Petersen 2007, GreenChoice 2008). While the costs of the initiatives, especially the costs of the biodiversity conservation measures, are initially partially funded by donors, they are increasingly being covered by the premium prices that producers are able to charge, especially in overseas markets – this involves participation in labelling and certification schemes or working through international trade organisations that accredit producers. The initiatives fit in at various stages along the value chain and involve appropriate market mechanisms (Box 4) (Petersen 2007). Most of these programmes have been initiated by NGOs or through the bioregional programmes such as C.A.P.E. Consumers are also trending towards more environmentally responsible purchases, causing retailers to put pressure on suppliers to adopt environmentally‐friendly practices. This pressure has resulted in market‐leaders in the retail sector reviewing their supply chains and product procurement policies (GreenChoice 2008).

In response to the growing environmental awareness, the biodiversity sector launched GreenChoice in 2008. It is co‐ordinated by WWF‐SA and Conservation International, and supported by the Green Trust. The initiative was created to support the sustainable initiatives in the agricultural and marine sectors to secure ecosystem health, and its objectives are aligned to the NBSAP and the bioregional and ecosystem programmes. Its mandate is to reach out to both established and emerging business and biodiversity enterprises, facilitating assistance on technical issues related to biodiversity best practice as well as ensuring preferential market access and seeking to promote a suite of sustainable products. It is also tasked with creating a greater awareness of the environmental impacts of the production of food, flowers and fibres. It provides a platform for a concerted and creative effort from government, farmers, scientists, retailers and consumers to pursue broader product stewardship policies that support sustainable agriculture and fisheries. The GreenChoice initiative's functions include (GreenChoice 2008):

- Supporting the consolidation of existing and emerging projects that support biodiversity responsible production across the supply chain;
- Co-ordinating communication and lesson sharing between projects;
- Changing the way food is produced and consumed by focusing on the gate keepers of this process – the retailer and suppliers – and their purchasing and marketing departments;
- Creating awareness amongst consumers about biodiversity-responsible products and thus increasing market demand for such products;
- Lobbying government and industry bodies around the issues of sustainable production.

In preparation for COP 9, South Africa prepared a summary of the business case for biodiversity and good business practice (Petersen 2007), which provides an overview of biodiversity and business in South Africa and summarises the main established business and biodiversity initiatives. An overview of certain of the initiatives is provided below: wine (Box 4), fishing (Box 5), honey, indigenous cut flowers, sugar rooibos tea, and potatoes (Box 6). Apart from these, there are several other initiatives in the following sectors (Petersen 2007, GreenChoice 2008):

- red meat including ostrich,
- citrus,
- pecan nuts,
- tourism (including Fair Trade in Tourism),
- forestry (including Forestry Stewardship Council standards),
- mining (Mining and Biodiversity Forum established),
- wool,
- retail.

The initiatives are at different stages of development, but show good potential as there is a demonstrated level of support from the relevant industry sector bodies and participants in these sectors. The momentum that these initiatives are creating is encouraging and significant gains have been made, which will hopefully contribute to a new direction for biodiversity conservation in the country.

Box 3: Value chain and mechanisms for production sectors

Value chain:	Producers	Products	Retailers	Consumers
Mechanisms:	Voluntary producer commitments	Eco-labels/procurement advice	Voluntary procurement commitments	Consumer awareness campaigns

Box 4: Biodiversity and Wine Initiative

South Africa is the world's eighth largest wine producer, with some 90% of the production taking place in the Cape Floristic Region, which comprises the highly threatened fynbos biome. The expansion of land under vines increased as export markets opened up for the wine producers, causing concern amongst conservationists.

In 2004, the wine industry and biodiversity sector formed a partnership in the Biodiversity and Wine Initiative (BWI), which developed biodiversity guidelines for the industry. The guidelines were designed to be practical and realistic to implement, but with maximum conservation benefits.

The BWI aims to prevent further loss of habitat in critical sites and increase the area of natural habitat in contractual protected areas. Farmers are assisted with assessing the biodiversity value of their land, implementing biodiversity guidelines and identifying unique marketing elements. Farming practices that enhance the suitability of vineyards and surrounding areas to biodiversity are promoted. Landowners who enter into a biodiversity agreement and establish a contract nature reserve may qualify for a property rates rebate of up to 100%.

One of the strategies is to identify and enlist interested producers as champions who will implement the guidelines, conserve critical ecosystems and incorporate a biodiversity experience into their winery experience.

Currently, BWI has 13 champions, ten co-operative cellar members and 112 members. This accounts for over 110 000 ha or almost 100% of the vineyard footprint in the Cape winelands. A BWI label, featuring a sugar bird on a protea, has been launched, which allows consumers to identify BWI member's wines.

The first phase of the BWI was funded primarily by CEPF with support from the Green Trust, the Botanical Society of South Africa, Wines of South Africa and Winetech.

Box 5: Fishing industry initiatives

In common with the rest of the world, there are concerns about the depletion of South Africa's marine fish stocks, with enforcement of laws often problematic. There is particular concern about linefish stocks where populations of many species are overexploited or even collapsed.

The Southern African Sustainable Seafood Initiative (SASSI) was developed by WWF-SA to inform and educate all participants in the seafood trade, from wholesalers, retailers, restauranteurs, caterers to consumers. The objectives are to promote voluntary compliance with the law through education and awareness, shift consumer demand away from overexploited species to more sustainable alternatives, and create awareness of marine conservation issues.

SASSI produces a species list, based on latest available research, as a fold-up wallet booklet. This classifies species as green (relatively healthy and well managed populations), orange (already overexploited or come from problematic fisheries), or red (may not be legally bought or sold in South Africa). In addition to the booklet, consumers can SMS a species to a dedicated number and receive an immediate reply on its category.

The SASSI initiative is housed by WWF-SA and funded by the Green Trust and Pick 'n Pay. A Restaurant Participation Programme allows two levels of participation – SASSI Aware (deals in green and orange listed species) and SASSI Champion (deals only in green listed species), with participants voluntary agreeing to adhere to a number of guidelines.

There is a recognised need to address value adding at the level of subsistence fisheries.

Box 6: Other sector initiatives

Honey industry

As a result of the large number of threatened honey badgers being caught in traps by bee-keepers, a partnership was formed in 2001 between the industry organisation, retailers, conservation authorities and three NGOs to address the problem. The initiative involves extension services to convince bee-keepers to adequately protect their hives, auditing adherence and providing accreditation to participating producers, with a sticker indicating honey as "badger friendly". The project was expanded to include all major fruit industries in the Western Cape.

Indigenous cut flower industry

The Agulhas Plain in the Western Cape is home to rich biodiversity but much of the natural vegetation has been replaced by vineyards and commercial farming. Flora and Fauna International, with the support of donors, created the Flower Valley Conservation Trust to take ownership of land, homesteads, flower processing plants and the export business. The goals of the trust are to conserve biodiversity, promote the sustainable use of fynbos and assist local communities to improve their quality of life. In order to build a viable commercial operation it was necessary to expand the business and develop a marketing strategy, and to achieve this a partnership was entered into with a UK-based group of investors. A relationship was entered into with the UK supermarket chain, Marks & Spencer, and by mid-2006, 330 000 bouquets of fynbos had been sold in more than 200 stores, while creating 62 sustainable jobs in South Africa. Efforts are being made to build up the network of certified suppliers by working with 20 neighbouring farms and picking operations, with guidelines provided as well as training and marketing support. Work is being done with the Western Cape's provincial conservation agency, CapeNature, to develop an accreditation system for biodiversity-friendly harvesting practices.

Sugar industry

Sugar cane is noted for its heavy water consumption, impacting on wetlands, rivers and estuaries, while poor management practices lead to soil

erosion and loss of habitat for animal species. Several parties, including government departments and agencies, the South African Sugar Association, SA Cane Growers and local grower's associations, have established the Sustainable Sugar Initiative, an environmental management system for sugar cane, which is being implemented in KwaZulu-Natal. The Sustainable Sugarcane Farm Management System is a management and extension tool to assist users to manage sugarcane farms in an economically, socially and environmentally sustainable manner. In 2006, WWF-SA and the South African Sugar Association signed an MoU which focuses on conserving freshwater and estuarine habitats and promoting biodiversity.

Rooibos tea

Tea made from the rooibos plant (Aspalathus linearis) has a growing market in South Africa and overseas as it contains healthy anti-oxidants and no caffeine. The area under cultivation, which falls within the Cape Floristic Region, increased from 14 000 ha in 1991 to 60 000 ha in 2006, threatening endemic plant and animal species.

The Greater Cederberg Biodiversity Corridor and South African Rooibos Council commissioned the Rooibos Biodiversity initiative to generate a sustainable production strategy for the industry, while delivering economic opportunities and social benefits. The initiative includes a set of biodiversity guidelines, promoted through a system of champions, with implementation tied to an auditing and certification scheme. Joint research and planning for expansion is also undertaken.

Potato farming

Potato farming is a core economic activity of the Sandveld region in the Western Cape and falls within the Cape Floristic Region with important biodiversity including 65 rare and threatened plant species, 30 of which are endemic, as well as the Verlorenvlei wetland, a RAMSAR site. Ploughing the natural habitat for both potatoes and rooibos has made this the second most highly threatened ecosystem in South Africa, while unpermitted extraction of groundwater is also common. In response, a draft set of guidelines was released in 2007 as a joint initiative of Potatoes South Africa and CapeNature, with participation from retailers. The guidelines are aimed at stimulating greater awareness amongst producers and promoting responsible farming practices in support of biodiversity conservation. Sections include soil management, irrigation practices, fertilization practices and integrated pest management. Participation is voluntary with participants self-scoring themselves and submitting scores to an auditing agent. Record keeping is required on all inputs and outputs with a log of relevant activities. A three-tier system recognises best-practice that exceeds the legal requirements, with Candidate, Gold or Platinum status accorded to participants.

9. Fiscal incentives

CBD Article 11 requires each party, as far as possible and appropriate, to adopt economically and socially sound measures that act as an incentive for the conservation and sustainable use of biological resources. South Africa is making good progress towards adopting such incentives. The National Treasury is involved in a policy dialogue with the environmental sector on the role that market‐based instruments, such as taxes and charges, can play in environmental fiscal reform.

Existing environmental taxes, such as fuel, plastic bag, water and electricity levies, raise revenue but do little to improve the environment and are not earmarked for environmental purposes.

In 2006 National Treasury released a draft policy paper entitled A Framework for Considering Market‐Based Instruments to Support Environmental Fiscal Reform in South Africa. The policy paper outlines the role that market‐based instruments, specifically environmentally‐related taxes and charges, could play in supporting sustainable development in South Africa and outlines a framework for considering their potential application, with a focus on fiscal reform and the policies and measures capable of contributing to both the state's fiscal requirements and environmental objectives. Certain of the measures identified in the framework are in the process of being implemented.

The Protected Areas Act and the Biodiversity Act provide the legal basis and tools for protection of biodiversity by private landowners entering into partnership agreements to conserve their land for biodiversity. This can be achieved through Biodiversity Management Agreements in the Biodiversity Act or through the incorporation of private land into the protected area network through contractual

Protected Environments or contractual Nature Reserves/National Parks in terms of the Protected Areas Act. The formal declaration of private land as part of the protected area network places restriction on the use of the land which has potential land value implications, and involves the landowner incurring management costs.

A set of mechanisms was introduced in the Revenue Laws Amendment Act, passed in December 2008 and effective from March 2009, to provide incentives for biodiversity conservation by private landowners and to promote conservation stewardship. In terms of the amendments, certain conservation management costs are tax deductible for taxpayers who have their land declared a protected area and enter into a contract agreement. The extent of the incentive applicable to a particular landowner is dependent on the level of security of the conservation agreement – more secure agreements which demand a higher level of commitment and cost from the landowner may qualify for substantial incentives (Box 7). The introduction of these fiscal incentives is of great importance for supporting the implementation of the National Protected Area Expansion Strategy, which identifies contractual protected areas as a key mechanisms for protected area expansion.

Box 7: Fiscal incentives for biodiversity introduced in 2008, effective from 1 March 2009

Alien and invasive vegetation: Expenses incurred are to be allowed as a deduction for farming purposes. This applies to all farming activities and is not dependent on the area being subject to a biodiversity management agreement.

Biodiversity Management Agreement: Requires a minimum contract of five years. All conservation and maintenance expenses incurred under the agreement are treated as expenditure incurred in the production of income and for purposes of trade, and are thus deductible as an expense for tax.

Protected environment, nature reserve, national park: Requires a minimum contract period of 30 years. All conservation and maintenance expenses are deductible from taxable income.

Nature reserve or national park: Requires a minimum contract period of 99 years. In addition to the conservation and maintenance expenses above, the value of the land declared that is used only for conservation purposes can be deducted from the taxable income over a ten year period.

Additional biodiversity-related fiscal reforms under discussion are (DEAT & SANBI 2008):

- Reducing transaction costs associated with land acquisition for protected areas by exempting transactions from transfer duty, estate duty, VAT, capital gains tax and donations tax;

- Removing perverse incentives in municipal property rates, which actively discourage conservation, and developing property-rates based tools for willing municipalities to implement in order to encourage effective land management;

- Using EPWP funding as an incentive to encourage landowners to enter into contract agreements – this will provide assistance with rehabilitation by clearing invasive alien species and in wetlands as well as fire control.

10. Ecosystem approach

Overview

At COP 5 in 2000, the ecosystem approach was endorsed and it was recommended that parties apply this approach. The CBD defines the ecosystem approach as “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

Application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources".

The COP 5 decision further notes that the ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organisation which encompass the essential processes, functions and interactions among organisms and their environment. It recognises that humans, with their cultural diversity, are an integral component of ecosystems. The approach requires adaptive management to deal with the complex and dynamic nature of ecosystems and an incomplete knowledge or understanding of their functioning.

South Africa has embraced the ecosystem approach, as reflected in its plans and implementation of its programmes. For example, the NBSAP recognises that ecosystem services underpin the economy and human well‐being and responds directly in Strategic Objective 3: "Integrated terrestrial and aquatic management minimises the impacts of threatening processes on biodiversity, enhances ecosystem services and improves social and economic security".

The NBSAP outcomes and activities are drafted to support achievement of this objective. The NBF Priority Actions also reflect the importance of the ecosystem approach as many of these actions support this approach. The ecosystem approach is integral to the National Protected Area Expansion Strategy which recognises the important role that protected areas play in supporting functional ecosystems and the provision of ecosystem services.

It is not only at the planning level that the ecosystem approach is recognised, but more importantly programmes are designed and implemented with ecosystems and their functioning as a central component. South Africa has initiated several bioregional and ecosystem programmes in both the terrestrial and aquatic environments.

Moreover, South Africa is party to six Transfrontier Conservation Area (TFCA) initiatives that involves all six its neighbours (Box 8).

Box 8: Transfrontier Conservation Areas (TFCAs)

Kgalagadi Transfrontier Park: Bi-lateral agreement between South Africa and Botswana signed in 1999.

Greater Limpopo Transfrontier Park and Resource Area: Signed in 2002 between South Africa, Zimbabwe and Mozambique.

!A!-!Ais Richtersveld Transfrontier Conservation Park: Signed in 2003 with Namibia.

Maloti-Drakensberg Transfrontier Park and Development Area: Signed with Lesotho in 2001.

Lubombo Transfrontier Conservation Area: Protocol signed in 2000 with Swaziland and Mozambique. This TFCA comprises five separate initiatives under the protocol, four of which involve South Africa including the only marine TFCA (Ponto do Ouro-Kosi Bay Marine and Coastal TFCA).

Limpopo Shashe Transfrontier Area: Between South Africa, Zimbabwe and Botswana.

The TFCAs are jointly established with neighbouring countries and are contiguous protected areas or conservation areas across international boundaries where the responsible authorities agree to manage the area as an integrated unit under an agreed management plan. They can include both formal protected areas and conservation areas under private or communal ownership. Although the joint management objectives vary between the TFCAs, the biodiversity objectives are central and may include the removal of fences to open up migratory routes, the translocation of mammals and joint utilisation of natural resources, while socio‐economic benefits such as the establishment of tourism with community involvement are also promoted. The TFCAs are still in the process of being implemented and face challenges such as cross‐border security concerns including movement of tourists across international borders, unequal resources and levels of commitment between collaborating countries, unclear and under‐capacitated institutional structures and general lack of human, financial and infrastructural (such as tourism facilities) resources. In spite of these challenges, progress is being made and many of the TFCAs are starting to deliver their objectives.

Bioregional and ecosystem programmes

South Africa has adopted a bioregional and ecosystem approach to conservation planning and implementation (Box 9), with a series of bioregional and ecosystem programmes in priority biomes under threat. These multi‐stakeholder initiatives aim to secure the conservation of priority biodiversity within a specific biome or bioregion and include a high‐level vision, strategy and action plan that co‐ordinates several site‐specific projects that address conservation, social and economic needs. The initial focus was on biodiversity hotspots, such as the Cape Floristic Region and the Succulent Karoo, but the initiatives have expanded to other important ecosystems such as grasslands, the marine environment and the freshwater environment. Although the programmes are at various stages of implementation, indications are that they are achieving successes in several ways.

Firstly, significant international funding, particularly from the Global Environment Facility (GEF), has been mobilised, and together with the local co‐financing component has ensured there is a considerable pool of funds available to initiate and undertake the programmes.

Secondly, substantial resources and effort were allocated to the planning phase of the programmes. This involved consultations with a wide range of stakeholders from different departments in all three spheres of government, the private sector, civil society / NGOs and local communities. This participatory approach seems to have resulted in generally wide‐spread support for the programmes.

Thirdly, the programmes have been successful at integrating conservation and socio‐economic objectives.

Finally, the establishment of “independent” programme co‐ordination units housed in SANBI has seemingly overcome potential problems with “ownership” of the initiative by a single agency.

Box 9: Overview of Bioregional and Ecosystem Programmes
Bioregional programmes are multi-sectoral partnership programmes aimed at conserving biodiversity in South Africa’s most threatened biomes

and ecosystems, making links with socio-economic development.
SANBI co-ordinates five bioregional programmes:
• Cape Action for People and the Environment (C.A.P.E.) in the fynbos biome
• Succulent Karoo Ecosystem Programme (SKEP) in the succulent karoo biome
• Grasslands Programme in the grasslands biome
• Marine Programme
• Freshwater Programme
Overall AIMS of Bioregional Programmes
• To promote the conservation of biodiversity both within and outside of protected areas
• To promote the sustainable use of natural resources and the development of sustainable livelihoods based on a biodiversity economy
• To strengthen partnerships, institutions and governance and continue to involve communities throughout the lifespan of the project
• To support implementation of projects and guide them to ensure that funds are optimised to achieve maximum conservation benefit
WHERE do bioregional programme operate?
• In priority threatened biomes or ecosystems (e.g. Cape Floristic Region, freshwater), identified through science
• In systematically identified spatial biodiversity priority areas throughout the landscape, not just in protected areas
• Operating at different spatial scales (e.g. whole biome, whole province, sub-biome corridor, district, local level)
WHAT do bioregional programmes do?
• Focus on priority actions for biodiversity needed in the biome, identified through science and stakeholder consultation
• Generally different for each biome (depends on e.g. which pressures on biodiversity are greatest)
HOW do bioregional programmes do what they do?
• Through pilot projects, demonstration models, testing and pioneering innovative new ways of doing things
• Through partnerships and networks with a range of organisations in the public, private and NGO sectors
• Using SANBI's capacity to convene, facilitate and co-ordinate, and to catalyse collaborative implementation among this range of partners
• With co-ordination units that play the role of strategy development, programme and project development, hosting knowledge networks, information sharing, fundraising, trouble shooting, linking with relevant international initiatives, capacity development, developing M&E frameworks, packaging information for various audiences, providing advice based on best available science, promoting biodiversity concerns in support of wise decision-making
• Generally similar across each biome
WHY do we have bioregional programmes?
• Impact (lessons rolled out, scaled up, contribute to policy development and implementation)
• Giving effect to SANBI's mandate in terms of the Biodiversity Act

The bioregional and ecosystem programmes are summarised briefly below.

Cape Action for People and the Environment (C.A.P.E.)

The C.A.P.E. programme seeks to conserve biodiversity in the Cape Floristic Region and adjacent marine environment while at the same time delivering benefits to the people of the region. The programme is focused on the fynbos biome of the Cape Floral Kingdom, which is the smallest of the world's six plant kingdoms with exceptionally high floral biodiversity, but is also highly threatened.

The stocktaking and strategy phase was initiated in 1998 with funding from the GEF and was coordinated by WWF‐SA in partnership with government, communities and the private sector. The outputs of this phase identified key ecological patterns and processes that needed to be conserved as well as the threats and causes of biodiversity loss that needed to be addressed. A spatial biodiversity plan identifying the key areas that needed to be conserved as well as a broad programme of activities for a 20‐year period were produced to serve as a basis for implementation of the programme.

SANBI is the programme manager for C.A.P.E. and hosts the co‐ordination unit. Several stakeholders are formally involved and responsible for implementation of various components of the programme.

These stakeholders include SANParks, the relevant provincial conservation agencies (CapeNature and Eastern Cape Parks), municipalities, NGOs, the private sector and academic institutions. Phase I of the 20 ‐ year, three ‐ phase implementation is due to end in 2009. The phase is on track to achieve its objectives of expanding the area under conservation, removing barriers causing biodiversity loss and laying the foundations for a biodiversity economy.

Significant funding has been mobilised for the C.A.P.E. programme, with the following donor funds received to date:

- $12.5 million from the GEF for developing the initial C.A.P.E. Strategy, capitalising the Table Mountain Fund to act as a funding facility for ongoing work and supporting the project to develop the Cape Peninsula National Park (now the Table Mountain National Park);
- $11.3 million GEF funding for the C.A.P.E. Biodiversity Conservation and Sustainable Development Project;
- $3.1 million GEF funding for the C.A.P.E. Agulhas Biodiversity Initiative;
- $6 million from the Critical Ecosystem Partnership Fund (CEPF);
- $1.6 million CEPF consolidation grant.

Central to the C.A.P.E. strategy is a landscape ‐ level approach to biodiversity conservation through landscape initiatives that include biodiversity corridors, mega ‐ reserves and biosphere reserves. This landscape approach has been necessary due to the high diversity within the Cape Floristic Region where biodiversity changes rapidly from area to area – to conserve a representative sample of this biodiversity requires an approach that “collects” the remaining fragments of biodiversity from all over the landscape and links these together. The landscape ‐ level approach facilitates the sustainable management of a mosaic of land uses where people live and work, but with the creation of corridors of continuous natural habitat across the landscape. These corridors include formal protected areas and high ‐ value biodiversity on private land through biodiversity stewardship agreements. Landscape initiatives under the C.A.P.E. programme include the Greater Cederberg Biodiversity Corridor, the Gouritz Initiative, the Garden Route Initiative, the Agulhas Biodiversity Initiative, the Baviaanskloof Megareserve, the Cape West Coast Biosphere Reserve and the Kogelberg Biosphere Reserve.

C.A.P.E. is a multi ‐ faceted programme and is involved in conservation, development and related initiatives across a wide range of areas. The programme goal and strategic objectives are set out in Box 10.

Box 10: C.A.P.E. Programme goal and strategic objectives

Programme Goal

By the year 2020, the co-operation of capable institutions ensures that the biodiversity of the CFR is conserved, sustainably utilised and effectively managed, delivering significant benefits to the people of the region in a way that is embraced by local communities, endorsed by government and recognised internationally.

Strategic Objective 1: Effective Protection

An adequate and representative protected area network is secured and effectively managed. This involves working towards the securing and effective management of an adequate and representative protected area network (incorporating terrestrial, freshwater and marine priorities). This may be through expanding state-owned protected areas or reaching formal agreements with private and communal landowners to protect their biodiversity through biodiversity stewardship.

Strategic Objective 2: Wise Regulation

Wise development, regulation and use of natural resources safeguards biodiversity. This involves the wise development, regulation and use of natural resources in order to safeguard our biodiversity. This may be through effective water and land-use planning, decision-making and regulation or through business and biodiversity initiatives that work in production sectors.

Strategic Objective 3: Integrated Management

Integrated and co-ordinated management of natural resources ensures ecosystem integrity, resilience and functionality. This involves integrated and co-ordinated management of aquatic and terrestrial natural resources to ensure ecosystem integrity, resilience and functionality. This may be through effective removal of invasive alien species and restoration, through sustainable land management, co-ordinated fire management or sustainable management of aquatic resources, including groundwater, rivers, wetlands, estuaries, marine.

Strategic Objective 4: Sustainable Benefits

The sustainable use of biodiversity delivers direct socio-economic and cultural benefits to local communities. This involves the sustainable use of biodiversity resources to deliver socio-economic benefits for local communities, and particularly marginalised groups. This may be through opportunities for small business development in nature-based tourism or products made from sustainably harvested natural resources, or job creation and skills training through alien clearing, restoration in priority sites or developing infrastructure for nature-based tourism.

Strategic Objective 5: Capable Institutions

The required enabling environment is established and sustained. This involves building and sustaining an enabling environment (including institutional and professional capacity, policy and legal framework, strategic and operational alignment, and stakeholder support) for effective biodiversity conservation. This may be through developing policies and legislative instruments, through building the capacity of partner institutions to carry out their mandates, or though developing effective arrangements for co-operative governance and stakeholder participation.

Strategic Objective 6: Shared Knowledge

An established managed network for learning and research underpins the programme and informs policy, planning and practice. This involves establishing a managed network for learning and research to underpin the partnership programme and to inform policy, planning and practice. This may be through a co-ordinated research programme, a more effective understanding of the benefits accrued to society by ecosystem services, or the facilitation of networks to share lessons learnt, solve problems collectively and develop best practice.

To support C.A.P.E.'s strategic objectives, a range of projects and activities have been initiated. The list below provides examples of the types of projects – this list is not exhaustive but does provide an idea of the range of activities undertaken.

- Biodiversity management by
  - o Protecting water resources in river systems;
  - o Incorporating biodiversity issues into fire management systems;
  - o Co‐ordinating a strategy for invasive alien species;
  - o An estuary management programme;
  - o Urban biodiversity conservation;
  - o Managing wetlands;
  - o Co‐ordination of key players in climate change;
  - o Marine Protected Area projects.

- Facilitating biodiversity planning in:
  - o A renosterveld conservation and management project;
  - o Fine - scale biodiversity planning in priority lowland areas;
  - o Integrating biodiversity priorities in land - use planning and decision - making;
  - o Making spatial biodiversity information available.
- Biodiversity stewardship.
- Monitoring and evaluation (M&E):
  - o An M&E framework to measure the progress of the partnership programme towards its high level objectives, as well as its overall purpose, is currently being drafted. The framework will incorporate both quantitative indicators and qualitative aspects through case studies;
  - o An M&E handbook for project implementers has been developed as part of the toolbox following the development of a project handbook.
- Building a biodiversity economy by promoting:
  - o Economic activity that uses biodiversity in a sustainable way such as harvesting of wild flowers;
  - o Creating jobs and opportunities for small business development in previously disadvantaged and marginalised communities such as horticulture and biodiversityfriendly tourism;
  - o Sustainable agriculture, fisheries and animal husbandry through stewardship;
  - o Land uses that are compatible with biodiversity;
  - o An understanding of the value of the region's biodiversity to sustaining livelihoods and jobs.
- Conservation education through:
  - o Capacity building;
  - o Resource materials development;
  - o Schools support;
  - o Conservation education networking.
- Institutional strengthening through:
  - o Capacity building of conservation managers;

o Creating a learning network;

o Creating a spatial biodiversity information system;

o An institutional sustainability programme of work.

Box 11: Biodiversity Stewardship

The ultimate goal of biodiversity stewardship is to safeguard threatened habitats and create secure biodiversity corridors within production landscapes by keeping people on the land and involving them in the conservation of these threatened habitats.

Biodiversity stewardship provides a powerful tool to assist government fulfilling its mandate to conserve biodiversity outside of state-owned protected areas. Acquiring land to expand the protected area network is generally expensive and biodiversity stewardship provides a cost-effective alternative by landowners committing though formal agreements or contracts to conserve and manage biodiversity on their own land, including private farms, communal land and land owned by municipalities. Biodiversity stewardship can be used to conserve areas with high biodiversity value and link them with a network of other protected areas and conservation areas in the landscape, while ensuing that landowners who commit to this alternative enjoy tangible benefits from their conservation actions.

Biodiversity stewardship programmes are being implemented in several provinces, including KwaZulu-Natal, Mpumalanga and the Eastern Cape, but it is in the Western Cape Province that the programme is most advanced – it is a component of C.A.P.E. and is co-ordinated through the provincial conservation agency, CapeNature. In this province, landowners are given three options for stewardship:

1. Contract Nature Reserves are legally recognised contracts or servitudes on private land to protect biodiversity in the long term.
2. Biodiversity Agreements are negotiated legal agreements between the conservation agency and a landowner for conserving biodiversity in the medium term.
3. Conservation Areas are flexible options with no defined period of commitment and include conservancies.

Successes thus far in the Western Cape include:

• CapeNature has secured 40 Contract Nature Reserves, 12 Biodiversity Agreements and 19 Conservation Areas through the Stewardship Programme.

• The Greater Cederberg Biodiversity Corridor and the Gouritz Corridor have also secured conservation land in the above categories using the biodiversity stewardship methodology.

• Competent extension staff members have been developed within CapeNature who are able to negotiate legal contracts and provide landowners with ongoing management support.

• Areas of priority biodiversity which provide ecosystem services have been secured, some with potential for tourism-related economic activities.

The C.A.P.E. partnership programme unites government and civil society to achieve the objectives of conserving biodiversity and create benefits for all the people of the Cape Floral Kingdom. There are 23 signatories to the C.A.P.E. Memorandum of Understanding, including NGOs, national and provincial government departments and conservation agencies. These conservation agencies, CapeNature and Eastern Cape Parks, play a key role in housing and managing many of the C.A.P.E. programmes, such as the stewardship programme, and will take over elements of the C.A.P.E. programme on a permanent basis over time.

As a pioneer in large - scale, multiple - stakeholder conservation planning and implementation in South Africa, the C.A.P.E. programme has not been without its challenges, but it has overcome these to be a model for other biome initiatives in the country. Its success can be ascribed to the strong awareness and collaboration amongst the diverse stakeholders. This has been achieved through focus on:

- Mainstreaming by incorporating biodiversity conservation objectives into all production sectors and government programmes;

- A participatory approach that encouraged stakeholder ownership of the initiative;

- Private sector involvement in certain key sectors through public private partnerships;
- Technical and financial assistance from international partnerships;
- A strong and independent programme co‐ordination unit that facilitated a co‐ordinated approach to the programme.

Succulent Karoo Ecosystem Programme (SKEP)

The succulent karoo biome is the only entirely arid global biodiversity hotpot. It covers 116 000 km2 and stretches from southern Namibia through Namaqualand into the Little Karoo. Over 6 000 plant species, 250 bird species, 78 mammal species and 132 reptile species occur in the area, of which some 40% are endemic. The biome is under severe threat from human activities such as prospecting and exploitation of the mineral resources, over‐grazing on commercial and communal land including ostrich farming, and the illegal collection and trade of succulents (SKEP 2003).

After a consultative and inclusive planning phase, SKEP commenced in 2003 as a 20‐year strategy with implementation funding for five years of $8 million from the Critical Ecosystem Partnership Fund (CEPF). The programme is jointly implemented by South Africa and Namibia. A core principle of the programme is to develop conservation as a land‐use rather than "instead of land‐use". During the planning phase it was established that only 3.5% of the biome is formally protected and that 27% was in a relatively pristine state (SKEP 2003).

An innovative approach during the planning stage was to enlist local experts working in existing organisations involved in conservation or land‐use issues at a sub‐regional level. The local representatives, known as Champions, were responsible for soliciting information from and communicating the message of SKEP to local stakeholder groups. This approach solicited local support for the programme and its vision. The socio‐political, economic and institutional issues raised at the local level were integrated with scientific expertise to inform the conservation planning reflected in the 20‐year strategy for the programme. The planning process sought to identify areas with the highest concentration of biodiversity, the areas of greatest vulnerability and opportunities for sustainable land ‐use and development. Conservation targets were set and nine priority geographic areas were identified as the most efficient locations for achieving these targets.

The strategy identified the following four strategic focal areas as priorities (SKEP 2003):

- Increasing local, national and international awareness of the unique biodiversity of the Succulent Karoo;
- Expanding protected areas and improving conservation management, particularly through the expansion of public‐private‐communal‐corporate partnerships;
- Supporting the creation of a matrix of harmonious land uses;

• Improving the institutional co‐ordination to generate momentum and focus on priorities, maximise opportunities for partnerships and improve sustainability.

The strategy includes an implementation plan. A feature of the implementation arrangements is the continuation of the Champions concept that was successfully used during the planning phase. This ground level approach uses sub‐regional co‐ordinators, and an assistant, based in the field for each of the five sub‐regions. They act as a dedicated SKEP unit to build awareness and capacity amongst stakeholders and formalise Advisory Committees in each sub‐region which includes representatives from a wide sectoral base. SKEP priorities are implemented at the local level with an integrated effort from local agencies, communities, corporations and private and communal farmers (DEAT 2005b).

The CEPF grant ended in February 2008. At that time a review of the first five years of the 20‐year strategy was undertaken. Key results from this review were (CEPF 2008, SANBI 2008):

• 2.9 million hectares of land has been added to the conservation estate through establishment of conservancies, stewardship agreements and the incorporation and designation of state land, although this includes land in both South Africa and Namibia including the soon to be proclaimed 2.6 million ha Sperrgebiet National Park in Namibia. Across both countries, this reflects an increase in conserved land to 5.8%, almost double the amount under conservation in 2003;

• Land management has improved on 3 million ha of land based on activities such as invasive alien clearing and biodiversity‐friendly management practices;

• Seven ecological corridors have been reinforced as a result of anchor projects that have improved co‐ordination, collaboration and synergy between projects;

• $4.5 million has been leveraged for conservation in the succulent karoo by projects receiving CEPF grants – once again this includes amounts in both South Africa and Namibia;

• Best practice guidelines from the wine, rooibos, 4x4 and potato industries have been developed and are in process for the ostrich industry. Best practice for rehabilitation of mine dumps has been developed and is under implementation;

• CEPF projects have contributed to the alleviation of poverty via job creation and improvements in livelihoods with:

o at least 395 short to medium term jobs created, of which 336 were in South Africa. Many of these jobs are biodiversity‐based in the tourism sector;

o the SKEPPIES Fund, a small grants facility combining conservation initiatives with local development imperatives created 19 businesses and 109 local jobs (note that these jobs are already included in the jobs created under the previous bullet); added value to 14 local businesses and developed the capacity of 350 people to engage in development and conservation activities while helping to conserve nearly 1 000 ha of biologically rich land;

- SKEP conservation targets and priorities have been integrated into South African and Namibian institutional frameworks for biodiversity conservation while relevant national and provincial government agencies have made formal commitments through the singing of Memoranda of Understanding (MoU).

Planning for the next phase of SKEP is at an advanced stage with a strategic plan for 2009 to 2014 currently being developed. This second phase will focus on consolidating the programme and the achievements from the first phase.

As with the C.A.P.E. programme, SKEP has adopted innovative approaches to obtain wide‐spread support for conservation in a high priority biodiversity area and has achieved significant environmental and socio‐economic successes in its first five‐year phase (CPEF 2008).

Eastern Cape Co‐ordination Unit for Bioregional Programmes

The Eastern Cape is one of South Africa's nine provinces. It has a largely rural population and is one of the poorest provinces in the country, but is of great biodiversity significance with eight of South Africa's nine biomes occurring in the province. In addition a portion of each of the three globally recognised biodiversity hotspots in South Africa (the Cape Floristic Region; the Succulent Karoo and the Maputaland‐Pondoland‐Albany hotspot) falls within the Eastern Cape.

SANBI and the Eastern Cape Provincial Government have entered into a partnership to establish the Eastern Cape Implementation Committee for Bioregional Programmes. This multi‐stakeholder partnership allows the participating agencies to co‐ordinate their biodiversity related activities and align environmental, social and economic goals with the bioregional and ecosystem programmes (SANBI 2008). There are six initiatives that fall wholly or partly within the Eastern Cape: C.A.P.E., SKEP, the Grasslands Programme, the Subtropical Thicket Ecosystem Programme (STEP), the Wild Coast Programme and the Maloti‐Drakensberg Transfrontier Conservation Area Project.

Commitment of stakeholders has been obtained by signature of an MoU by key government departments at provincial and national level, conservation agencies, municipalities, environmental NGOs and the Development Bank of South Africa.

STEP is one of the initiatives that falls wholly within the Eastern Cape. The main aim of the programme was to conduct a thorough biodiversity planning exercise in South Africa's thicket biome. Objectives included (DEAT 2005b):

- A conservation planning framework and implementation strategy for the conservation of subtropical thicket;
- Prioritisation of conservation actions;
- Spatial biodiversity information for incorporation into regional, provincial and national land‐use planning frameworks;

- Capacity building in the development and application of spatial biodiversity planning products;
- Creating awareness of the value and status of the thicket biome.

Implementation of the programme is in progress with focus on the Fish River and Sundays River valleys.

The Mainstreaming Biodiversity into Planning and Development project is a capacity building project aimed at Eastern Cape's land‐use planners and decision‐makers with the objective of increasing capacity around the natural environment and specifically the incorporation of biodiversity information into land‐use planning processes.

Grasslands Programme

Grasslands have long been recognised as important for both biodiversity and economic development. Grasslands cover 29% of South Africa's land area and are an important habitat for birds, including the threatened blue cranes and swallows, mammals, reptiles and butterflies. They also harbour important wetlands with five of South Africa's 19 RAMSAR sites occurring in grasslands (SANBI 2008). There are 72 vegetation types in grasslands of which one is listed as critically endangered, 14 endangered and 24 vulnerable while 83% of river systems in grasslands are threatened, with 48% critically endangered. It is estimated that in South Africa, 30% of grasslands are irreversibly transformed and only 1.9% of the biome is formally conserved.

Grasslands provide essential ecosystem services that are necessary for economic development, but are in turn threatened by certain of these developments. The major land uses of the grasslands biome include urban development (South Africa's largest urban and industrial area of Gauteng is located in grasslands); coal mining; plantation forestry; as well as agriculture, including cultivation (mainly cereals) and livestock production. The correct location of these activities, as well as appropriate management practices, offers opportunities to align development and conservation objectives. Similarly, the reverse also applies, implying that the intention is not to prevent development but to ensure that it is appropriately located and managed. Accordingly, the Grasslands Programme is looking to promote development planning and practices that ensure the sustainability of the grasslands biome.

A Grasslands Forum that brought together government role players from various provinces was established in 2002. A series of initiatives through this forum resulted in the Grasslands Programme, a twenty‐year initiative with its strategic goal being to "secure the biodiversity and associated ecosystems services of the grasslands biome for the benefit of current and future generations".

As with C.A.P.E. and SKEP, the development of the Grasslands Strategy during the planning phase involved the participation of a range of stakeholders, and this multi‐stakeholder approach continues in the implementation phase. The programme is hosted by SANBI and is a strategic partnership between national, provincial and local government, the private sector, academic institutions and civil society. The GEF has approved $8.3 million funding for the first five years which will focus on implementation of a mainstreaming strategy. The programme has the support of 14 institutions providing co‐financing of

$36.7 million (SANBI 2008). The institutional arrangements for implementation are that the various components will be implemented by agencies and roleplayers in the sectors of focus, specifically:

- The forestry component is being implemented through the industry association, Forestry SA;
- The urban component is being implemented through the department responsible for land‐use planning, the Gauteng Provincial Department of Agriculture, Conservation and Environment;
- The coal mining component is being undertaken by SANBI through the Working for Wetlands programme which has experience in engaging with coal mining roleplayers;
- The agriculture component is being implemented by various agencies due to it diversity and complexity. These are:
  - o WWF‐SA and the Botanical Society of South Africa for the Wakkerstroom/Luneburg Demonstration District Project in Mpumalanga,
  - o Mpumalanga Tourism and Parks Agency for the biodiversity stewardship programme in Mpumalanga,
  - o Ezemvelo KZN Wildlife for the biodiversity stewardship programme in KwaZulu‐Natal,
  - o Additional partnerships for implementation will be formalised in the Eastern Cape and the Free State where site level activities are planned.

The Programme's initial focus will be to mainstream biodiversity objectives into the major production sectors, namely: agriculture, forestry, urban development and coal mining, by seeking to lift a number of barriers to conservation within the production sector institutions. Identified barriers are market failure, systemic and institutional capacity weaknesses and limited know‐how for biodiversity management. This will be achieved through interventions at three levels: macro‐level policy interventions, market‐level interventions, and site‐level interventions in demonstration districts. The project's main outcomes and interventions are summarised below.

Outcome 1: The enabling environment for biodiversity conservation in production landscapes is strengthened

- The enabling policy and regulatory framework is deepened,
- A knowledge management system for the Grasslands Programme is developed,
- Capacity of stakeholder institutions to engage effectively in mainstreaming biodiversity management into production practices is increased.

Outcome 2: Grassland biodiversity conservation objectives mainstreamed into agriculture

- Rangeland management systems that incorporate biodiversity management objectives are piloted,

- Biodiversity‐friendly livestock/game production systems are promoted through certification schemes,
- Land‐use allocation and decision‐making processes reflect biodiversity conservation priorities

Outcome 3: The forestry sector directly contributes to biodiversity conservation objectives in the grasslands biome

- Management of existing unplanted forestry owned land is improved,
- Biodiversity stewardship arrangements are operationalised,
- Certification systems are strengthened,
- Appropriate expansion of new forestry plantations in terms of location.

Outcome 4: Grassland biodiversity management objectives mainstreamed into urban economy in Gauteng

- Biodiversity toolkit (policy, guidelines, decision‐support tools) is developed for use by province and municipalities within urban areas,
- Mainstreaming capacity of urban stakeholders is strengthened through targeted awareness, communication and training,
- Priority areas are secured as biodiversity refugia.

Outcome 5: Biodiversity management secured in coal mining sector

- A biodiversity offset scheme is developed,
- Coal mine expansion is planned using biodiversity information.

The Grasslands Programme commenced implementation in 2008, and is still in its early stages of implementation. Thus far, the programme has engaged the forestry sector and aims to secure 37 priority biodiversity sites on forestry owned land in the next five years, with the declaration of the first pilot site of 759 ha in KwaZulu‐Natal as a protected area at an advanced stage. Biodiversity stewardship with private land owners in KwaZulu‐Natal, Mpumalanga and Gauteng is also progressing. Guidelines on how to declare priority biodiversity sites as protected areas in the urban environment have been developed and a strategy for biodiversity offsets in Gauteng is being developed.

A key challenge that the programme is encountering is creating sufficient capacity and institutional “buy‐in” for mainstreaming. Individual champions and drivers, with the skills required to drive a biodiversity agenda within the strategic plans, policies and goals of other sectors, are key to delivering on a mainstreaming agenda. Similarly, securing real institutional commitment and support within institutions in other sectors is not easy, and is frequently tested when commitment in principle needs to

translate into commitment in action and delivery. It is important if the Grasslands Programme is to be sustainable and successful in the long term that these agencies integrate the projects as part of their core activities and allocate staff and budget to them once the GEF funding is completed.

Marine Programme

SANBI, together with the Marine and Coastal Management (MCM) branch of DEAT, co‐ordinates a Marine Programme in partnership with WWF‐SA, with a strong focus on offshore Marine Protected Areas (MPAs). The current MPA network is not representative as it is biased towards inshore areas and the east coast, with several marine bioregions and habitat types without any formal of protection while others fall short of the targets (Sink & Attwood 2008). In response to the inadequate level of formal protection of the offshore ecosystems, the Offshore Biodiversity Initiative (OBI) has been initiated as a flagship project of the Marine Programme. One of the outputs from this project is the publication of Guidelines for Offshore Protected Marine Areas in South Africa (Sink & Attwood 2008). A brief overview of the project and guidelines is presented below.

The OBI aims to facilitate the development of a representative offshore MPA network based on the best available scientific information, for the conservation of the country's offshore biodiversity and the wise use of its offshore marine resources. It further aims to ensure that there is broad support from the various offshore marine use sectors. The project is being developed jointly by SANBI and the MCM branch of DEAT, with financial support from the WWF Green Trust and in consultation with the Department of Minerals & Energy, the Petroleum Agency of South Africa and stakeholders from commercial fishing, mining, petroleum and other maritime industries (Sink & Attwood 2008).

The development of Offshore MPAs contributes to a representative MPA network for South Africa and seeks to reverse the progressive degradation of offshore environments and resources, contribute to sustainable use and allow the recovery of impacted habitats and fish stocks while meeting international biodiversity commitments. A holistic and inclusive approach has been followed, with various stakeholders from government, NGOs and industries such as petroleum, commercial fishing, marine diamonds, marine transport, waste disposal and the navy involved, with the recognition that MPA planning should be integrated with the management of fisheries and other maritime industries. Efforts will be focussed on vulnerable offshore habitats such as cold water coral reefs, sponge beds and other fragile deep water communities that are slow to recover if the seabed is damaged.

The Sink & Attwood (2008) Offshore MPA guidelines outline the rationale, objectives, and proposed approach for the establishment of a representative system of Offshore MPAs for the South African Exclusive Economic Zone (EEZ) and territorial waters. The guidelines intend to communicate the proposed aims and methods to interested parties to stimulate debate and encourage participation in a consultative process of establishing the MPAs. The guidelines were refined following a stakeholder workshop in 2007.

The objectives of the OBI include the establishment of an ecologically representative network of effectively managed MPAs that include all marine habitat types in all marine bioregions in South Africa to (Sink & Attwood 2008):

- Contribute to the long‐term persistence of offshore biodiversity and its underlying processes;
- Contribute to sustainability of fisheries and ecosystem‐based management of resources;
- Provide undisturbed areas for scientific study and long‐term monitoring;
- Advance integrated spatial development planning and management arrangements for the Exclusive Economic Zone;
- Promote appropriate non‐consumptive use of the offshore marine environment.

The proposed approach recognises and addresses the problems associated with previous attempts to secure protection for offshore habitats. Key elements of the proposed approach are (Sink & Attwood 2008):

- Systematic biodiversity planning based on best available existing scientific and socio‐economic research;
- Integrated spatial planning framework with shared spatial data between sectors and collaboration between and within government departments. The following components are needed to support spatial biodiversity planning:
    - Detailed national marine habitat classification and habitat maps;
    - Mapping of ecological processes;
    - Mapping of pressures and threats to biodiversity;
- Application of other experiences of MPAs and spatial planning;
- Stakeholder involvement in the planning and implementation process;
- Consideration of appropriate trade‐offs among the interests of biodiversity and other interest groups. This will seek to mainstream biodiversity in the marine sector by:
    - Collating and distributing biodiversity best practice information for mainstreaming;
    - Piloting implementation of new approaches to marine biodiversity research and conservation;
- Raising awareness of MPA benefits, design and supporting science;

- Identifying and addressing implementation and management concerns including compliance and monitoring of offshore MPAs;

- Ongoing alignment with policy and legislation.

- SANBI's Marine Programme co-ordination unit will continue to play a lead role in co-ordinating efforts in the marine biodiversity sector, inter alia, through the collation of data for the NSBA 2010 and effecting the implementation of the Offshore MPAs.

Other biodiversity-related initiatives in the marine environment are shown in Box 11.

Box 11: Marine biodiversity initiatives

The Responsible Fisheries Programme was launched in 2002 by WWF-SA and BirdLife South Africa. This programme focuses on assessing and reducing the by-catch of threatened seabirds, sharks, turtles and cetaceans in the Benguela Large Marine Ecosystem.

The WWF Sanlam Marine Programme, co-ordinated through SANBI, is an initiative with three aims: to establish and implement a network of effectively managed and ecologically representative MPAs by 2020; to restore at least half of the overexploited fish stocks to sustainably managed levels by 2020 and maintain the status of all sustainably exploited fish stocks; and to apply an ecosystem approach to fisheries in South Africa and reduce associated negative environmental impacts of fishing practices to acceptable levels by 2012. The programme also has cross-cutting activities that target community development and conservation education.

Freshwater Programme

Recognising the value and threatened status of South Africa's freshwater biodiversity, and the need to build competence and leadership in this area, SANBI is in the process of establishing a programme focusing on freshwater biodiversity, in line with the establishment of other bioregional and ecosystem programmes. The Freshwater Programme will provide a home for the National Freshwater Biodiversity Collaboration, the National Freshwater Ecosystem Priority Areas (NFEPA) project, Working for Wetlands, the National Wetland Inventory and other relevant initiatives, in a way that promotes integration, coordination and synergy between them. It will thus allows a programmatic approach to be adopted, expressed through the co-ordinated and coherent operation of more discrete initiatives and projects. The programme is in its infancy and will focus on a strategy development process in 2009 in order to identify opportunities and key areas for intervention. Key to the programme's operation will be developing strategic relationships with other organisations with shared objectives, especially DWAF.

11. Mainstreaming biodiversity in land-use planning and decision-making

Mainstreaming biodiversity implies integrating biodiversity concerns into planning and decisionmaking at the appropriate levels. South Africa has three spheres of government – national, provincial and local – with the powers and functions of each sphere set out in the Constitution. Certain functions are exclusive national, provincial or local government competences, while other functions are concurrent competences. For mainstreaming to be effective, biodiversity needs to be an integral part of the planning and decision-making processes in all three spheres of government. This section briefly assesses the degree to which biodiversity considerations are included in land-use planning and decision-making.

There are several tools available to promote the sustainable use and management of biodiversity in the country. Although certain of the specific tools are still under development, environmental considerations, including biodiversity, need to be taken into account in the following processes:

- Land ‐ use/spatial planning, including at the local government level through Spatial Development Frameworks (SDFs), which are the spatial component of municipal Integrated Development Plans (IDPs);
- Land ‐ use management, including applications for changing the land use of an area;
- Specific project ‐ related applications, including environmental authorisation, water use licenses, heritage permissions and agricultural permits such as for cultivation of virgin soil.

Land ‐ use planning takes place primarily at the local government level, although it is informed by the National Spatial Development Perspective and Provincial Spatial Development Frameworks. The biodiversity sector is putting significant effort into developing tools that will allow biodiversity to be integrated in municipal planning processes as this will promote land ‐ use decisions that are compatible with the biodiversity importance of the area in question.

South Africa introduced a system of Integrated Development Planning in terms of the Municipal Systems Act, 32 of 2000. This planning process requires municipalities to prepare five ‐ year strategic Integrated Development Plans (IDPs) that are reviewed annually in consultation with communities and stakeholders. These IDPs seek to promote integration by balancing the social, economic and ecological pillars of sustainability. The IDPs not only inform municipal management, but they also guide the activities of any agency from the other spheres of government, corporate service providers, NGOs and the private sector within the municipal area.

Spatial Development Frameworks (SDFs) are required as an integral component of all IDPs and provide strategic guidance on the nature and location of development within the municipality. The SDF is a critical instrument for biodiversity conservation – if areas of biodiversity importance can be reflected in the SDF, this will help to guide development by ensuring that the type of development in an area is appropriate to its biodiversity.

The importance of developing appropriate biodiversity tools for inclusion in planning processes is encapsulated in the NBF's Priority Action 3 – the need to integrate biodiversity considerations in land ‐ use planning and decision ‐ making by developing tools for supporting and streamlining environmental decision ‐ making. The NBF further highlights the specific practical tools that can be developed for officials, consultants and decision ‐ makers (Box 12), such as listing of threatened ecosystems in terms of the Biodiversity Act, provincial spatial biodiversity plans and bioregional plans. Certain of these planning tools are themselves priority actions in the NBF. The tools are mostly still in the process of being developed, but once this has been done, they could be powerful in integrating and standardising biodiversity considerations in environmental decision ‐ making across all spheres of government.

Progress is being made with integrating biodiversity into land‐use planning and decision‐making. In the Eastern Cape, SANBI's Mainstreaming Biodiversity into Planning and Development project is a capacity building project for the province's land‐use planners and decision‐makers with the aim to increase the capacity to incorporate biodiversity information into the planning process (SANBI 2008).

In the Western Cape, one of the components of the C.A.P.E. programme is the Integrating Biodiversity into Land Use Decision‐making project. The project is implemented by SANBI in partnership with the Western Cape Department of Environmental Affairs and Development Planning and aims to improve the integration of biodiversity into land‐use planning and decision‐making through a combination of activities, including supporting the strengthening of co‐operative governance where appropriate and required; providing accurate, relevant and useful information to land‐use decision‐makers; providing appropriate training and targeted awareness‐raising; and facilitating one‐on‐one follow up and support to decision‐makers. The outputs of the project include:

- Training and capacity building of provincial and municipal staff,
- The development of an integrated spatial biodiversity layer for the Western Cape,
- The integration of biodiversity into several municipal SDFs,
- A study monitoring compliance with biodiversity‐related Conditions of Authorisation for successful development applications.

Current challenges regarding integrating biodiversity into land‐use planning and decision‐making processes include the following:

- The strategic context for decisions at a site‐specific level is still being developed, with provincial spatial biodiversity plans being important tools in this regard;
- Biodiversity information is generally not yet well integrated into municipal SDFs;
- Threatened vegetation types, ecosystems and habitats are generally not incorporated in planning and decision‐making, but the forthcoming listing of threatened ecosystems in terms of the Biodiversity Act will assist in closing this gap;
- Guidelines for specialist biodiversity studies as part of the EIA process (for example, on qualifications of the specialist and contents of the specialist report), have been developed for the Western Cape (Brownlie 2005) but not for all the provinces;
- In most cases decisions are made in isolation by the various relevant authorities, while integrated decision‐making that considers all relevant aspects such as, for example, biodiversity, water and agriculture matters, would be preferable;

- The link between healthy functioning ecosystems, economic development and social well‐being is generally not well understood by planners and decision‐makers;

- Apart from the lack of awareness about biodiversity, poorly capacitated institutions with inadequate corporate governance and individuals lacking relevant experience and skills hamper effective decision‐making.

It is anticipated that the tools under development will go some way to addressing the current shortcomings. Future national reports will contain information on these tools and their effectiveness in application.

Box 12: Tools to assist land-use planning and decision-making

The following tools are being developed to support and streamline environmental decision-making and to enable the integration of biodiversity considerations in multi-sectoral planning processes:

• Identification and listing of threatened ecosystems (NBF Priority Action 18). The listing of threatened or protected ecosystems is provided for in the Biodiversity Act. A draft list of threatened terrestrial ecosystems has been developed based on clear criteria and best available science, and work is underway to develop lists of threatened aquatic ecosystems. Supporting material, such as how listed ecosystems should be taken into account in planning and decision-making, will also be available. Together with the other planning tools mentioned hereunder, listed threatened ecosystems will support and streamline sound environmental decision-making.

• Development of provincial spatial biodiversity plans (NBF Priority Action 16). These plans, at a provincial scale, are based on a systematic biodiversity assessment incorporating terrestrial and aquatic features and identifying geographic biodiversity priority areas with accompanying guidelines for land-use planning and decision-making. They will be integrated into other planning tools such as provincial growth and development strategies, PSDFs, EIA supplementation projects and provincial state of environment reports. They also serve as a basis for provincial protected area expansion planning. Four provinces already have spatial development plans and they are in the development process in most other provinces.

• Publication of bioregional plans for districts or groups of local municipalities which identify critical biodiversity areas in which loss of natural habitat should be avoided (NBF Priority Action 17). The Biodiversity Act provides for the publication of bioregional plans that will underpin integrated management of terrestrial and aquatic systems in priority areas and will provide a tool for supporting and streamlining environmental decision-making. A Guideline for Bioregional Plans has been approved and will be gazetted shortly. Several provinces are developing bioregional plans in line with these guidelines, based on their provincial spatial biodiversity plans.

• Ecosystem guidelines for environmental assessment and generic terms of reference for biodiversity specialist studies as part of EIAs. These are aimed at dealing with the shortcoming that biodiversity specialist studies in EIAs are often limited to species of concern and do not address ecosystem functioning or cumulative impact. These tools have been published for the Western Cape Province (De Villiers et al. 2005, Botanical Society of SA Conservation Unit 2007) and will be developed for other provinces.

• Framework for guiding decisions on trade-offs for decision-makers. In land-use decisions, conflicts between, for example, biodiversity management and job creation, cannot always be avoided, and trade-offs need to be made in some cases. A framework will be developed to guide decision-makers about how to weigh up biodiversity against socio-economic considerations, taking into account threatened ecosystems and critical biodiversity areas

• Policy framework for biodiversity offsets. A biodiversity offset involves setting land aside in the same or similar ecosystem, at the cost of the developer, where there is unavoidable residual damage to biodiversity as a result of a development. A policy framework will be developed to ensure a consistent approach to the implementation of biodiversity offsets.

Agriculture, particularly the cultivation of virgin soil, has been the single biggest cause of irreversible habitat loss in the Cape Floristic Region. However, a complex legislative environment and administrative fragmentation inhibit the coherent, consistent and effective incorporation of biodiversity considerations in agricultural decision‐making, with three statutory bodies at the national and provincial spheres of government involved in decision‐making about cultivation.

Permits are issued for the cultivation of virgin land under regulations issued in terms of the Conservation of Agricultural Resources Act, 43 of 1983, (CARA), and the EIA regulations of NEMA, which came into effect in 2006, require environmental authorisation following a Basic Assessment for the transformation or removal of indigenous vegetation of 3 ha or more, while a full EIA is required where the developed area is 20 ha or more. The listing of threatened ecosystems under the Biodiversity Act for which regulations and notices have not yet been issued or gazetted, will provide an additional instrument to protect sensitive areas such as the Cape Floristic Region, from further cultivation.

In the Western Cape, several government departments (the provincial Department of Environmental Affairs and Development Planning, national Department of Agriculture (DoA), DWAF and CapeNature) entered into a Memorandum of Agreement (Agreement of co‐operation concerning the streamlining of the application and review processes for the cultivation of agricultural fields).

This agreement recognises the constitutional imperative to co‐ordinate and streamline the requirements of the various authorities and aims to ensure that the regulatory objectives of all authorities are satisfactorily served, decision‐making is well informed and integrated, administrative action is lawful, reasonable and procedurally fair, and actual and potential conflicts are resolved. The agreement deals with co‐ordination of the respective mandates for applications for ploughing permits under CARA and the environmental authorisation under the EIA regulations, and DoA has to withhold issuing a cultivation permit until the provincial environment affairs department has commented on the application. However, the agreement does not indicate if DoA is obliged to consider these comments or any recommendations made, and in practice DoA has issued permits in conflict with recommendations. Neither the Memorandum of Agreement nor the NEMA regulations provide an unambiguous and explicit legal mechanism to ensure that environmental implications of cultivation are binding on permits issued under CARA where less than 3 ha of threatened vegetation is to be cultivated, although the listing of threatened ecosystems should close this gap (De Villiers 2007).

De Villiers (2007) identified a number of legal and administrative factors that have militated against the effective consideration of biodiversity in land‐use decision‐making in the Western Cape. The report focussed mainly on the situation prior to the introduction of the new EIA regulations under NEMA in 2006, but many of the issues highlighted are still valid and there is still concern as the regulations do not require environmental authorisation for the cultivation of less than 3 ha of virgin land.

More recently, De Villiers & Hill (in press) highlighted the difficulty of stemming biodiversity loss due to cultivation in the lowlands of the Cape Floristic Region. This was attributed to:

- A reactive and fragmented focus on cultivation‐related impacts at the level of the farm rather than anticipating and assessing changes to affected ecosystems beyond the property boundaries;

- Neglecting and failing to manage cumulative impacts from repeated and similar farm‐level developments that individually do not seem significant but in aggregate have negative impacts at a larger scale;

- A lack of sustainability objectives that give strategic guidance to land‐use planning and decisionmaking in areas with high biodiversity value and good agricultural potential;

- The relative isolation of farms and their distance from major centres results in logistical challenges for the EIA process, such as lack of local Environmental Assessment Practitioners, significant time and travel expenses to undertake the EIA processes and reduced value of public participation;

- The risk of regulatory non‐compliance and delays because farmers prefer to ‘go it alone’ due to the perceived high costs of appointing an Environmental Assessment Practitioner.

To address the shortcomings identified above, De Villiers & Hill (in press) suggest the use of Strategic Environmental Assessments (SEAs) to, inter alia, address cumulative impacts at a broader temporal and spatial scale. The benefits of a more strategic approach include:

- Providing a mechanism for public engagement in sustainability discussions at a strategic level;

- Reducing the time, effort and cost in conducting reviews of individual projects;

- Including socio‐economic assessments at scales larger than farm level;

- Compensating for unavoidable, irreplaceable loss of biodiversity through instruments such as biodiversity offsets.

Positive steps have been taken over the past few years to address the mainstreaming of biodiversity into EIAs by the Botanical Society’s Biodiversity in Environmental Assessment project (Box 13), and DEAT’s review of the EIA process presents an opportunity to ensure that biodiversity is better integrated at the project level. Furthermore, the new tools that are in the process of being developed will provide support for integrating biodiversity at the planning level.

However, it is clear that there are challenges in achieving this objective. One of the biggest challenges is to ensure that there is strong co‐operation and agreement across all the national, provincial and local government departments involved and consistency in taking decisions on developments that impact on biodiversity. A further challenge is the need to build capacity at all levels of government, particularly local government, to implement the various tools that are being developed.

Box 13: Biodiversity in Environmental Assessment project

The Botanical Society of South Africa, an NGO, launched a Biodiversity in Environmental Assessment (BEA) project to better incorporate biodiversity priorities identified through systematic biodiversity planning in EIAs, to support off‐reserve biodiversity conservation (De Villiers et al. 2008). The approach to this biodiversityinclusive EIA was geared towards contributing to three pre‐requisites for mainstreaming, i.e. enabling legislation and policy; guidelines that detail the steps and levels of

assessment for biodiversity - inclusive EIAs, and providing information on biodiversity. The project also recognised that biodiversity capacity had to be built in the EIA sector (De Villiers et al. 2008).

The project was launched in 2004 and the broad areas of activity undertaken were (De Villiers et al. 2008):

- Commenting on the biodiversity and procedural aspects of EIA processes, and occasionally on applications for cultivation or mining rights;
- Developing the Fynbos Forum Ecosystem Guidelines for Environmental Assessment in the Western Cape (De Villiers et al. 2005);
- Presenting training to environmental assessment practitioners and the provincial environmental department;
- Integrating key biodiversity questions into the official Basic Assessment checklist;
- Exploring strategic, ecosystem - scale alternatives to agri - environmental decision - making in areas with a high coincidence of intensive farming activity and threatened ecosystems.

The achievements, shortcomings of the EIA process and key lessons that emerged from the project include (De Villiers et al. 2008):

Achievements include:

- Development of terms of reference for biodiversity assessments that have been adopted by the provincial environmental department;
- Inclusion of key references to the NSBA and spatial biodiversity plans in the official Basic Assessment Questionnaire;

Main shortcomings with the EIA process were identified to include:

- The failure to consider ecological processes and issues and the bigger conservation context, such as laws and biodiversity plans;
- Poor or no consideration of alternatives;
- Passing baseline surveys or sensitivity studies as biodiversity assessments;
- Failure to provide effective recommendations on ecosystem management;
- Undue reliance on environmental management plans to manage significant impacts on biodiversity.

Lessons and challenges identified are:

- Key biodiversity considerations seem to have the greatest prospect of being adequately addressed when they are raised as early as possible in the EIA process;

- There has been limited uptake of systematic biodiversity planning to support the assessment and evaluation of cumulative impacts on biodiversity at the ecosystem scale;

- The definition of "biodiversity" and the requirements for a biodiversity assessment have caused confusion, including the level at which biodiversity should be reported (genetic, species or ecosystem), the dependability of vegetation types as biodiversity surrogates, and the qualification and expertise of a biodiversity specialist;

- There are unresolved questions regarding spatial thresholds for maintaining ecological persistence;

- The implications of climate change for project‐level biodiversity present a challenge;

- The role of EIAs as vehicles for off‐reserve conservation is inhibited by the absence of explicit, statutorily endorsed limits to the loss of biodiversity and ecological functioning beyond set thresholds;

- There is no monitoring of biodiversity loss or gains arising from the EIA process.