State of Biodiversity Report 2008/2009

(Produced June 2010)

To provide qualitative and quantitative data that describe the status of biodiversity in the eThekwini Municipal Area.

ETHEKWINI MUNICIPALITY
ENVIRONMENTAL PLANNING & CLIMATE PROTECTION DEPARTMENT
BIODIVERSITY | CLIMATE | PEOPLE

Background

In the 2003/2004 municipal financial year, the Environmental Planning and Climate Protection Department (EPCPD) (then known as the Environmental Management Department) initiated regular State of Environment Reporting for the city of Durban. This was in line with the municipal 2002/03 - 2006/07 Integrated Development Plan (IDP) which established sustainable development as a core goal for local government in Durban.

In 2008/2009, the decision was taken to realign the reporting process to reflect the biodiversity focus of the department, and as such State of Environment reporting was replaced with State of Biodiversity reporting. The intention of State of Biodiversity Reporting is to present qualitative and quantitative data which describe the status of biodiversity in the eThekwini Municipal area and to highlight key threats to this biodiversity.

This is the eThekwini Municipality's first State of Biodiversity Indicators report. The main purpose of this report is to provide an introduction to the new reporting process and give an overview of the selected indicators.

Box 1: What is Biodiversity?

The term biodiversity refers to the variety of life on Earth and includes all species, habitats and ecosystems that are found in any region. Biodiversity also includes the genetic difference within and between species.

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1. Profile of Durban

Durban is an African city located on the east coast of South Africa in the province of KwaZulu-Natal (KZN). Durban's landscape ranges from the rural to the urbanized, and has a diverse society which faces a complex mix of social, economic, environmental and governance challenges. As such it must address the full range of global sustainable development challenges which means meeting the needs of an ever growing population while maintaining environmental integrity. The eThekwini Municipality is the local government body responsible for governing and managing Durban.

The following key statistics describe Durban in 2008/2009:

- A municipal area of 2 297 km^2 (229 700 ha) in size (1.4% of the province of KZN);
- A population of over 3 million (over one-third of the population of the entire province). Durban is ethnically diverse, with a cultural richness of mixed beliefs and traditions. This mix adds vibrancy and depth to the experience of living, working and visiting the city;
- Durban has the largest and busiest port on Africa's east coast – total exports equated to R51.3 billion and total imports to R67.7 billion in 2008;
- Manufacturing, tourism, finance and transport are the four largest economic sectors;
- Tourism is concentrated along the coast, with emerging eco- and cultural-tourism opportunities in the western areas; and
- Durban's Gross Value Added (GVA[1]), which amounted to R125.9 billion in 2008, comprises 65.3% of the total GVA for KwaZulu-Natal and 10.8% of the national economy.

1. The Gross Domestic Product (GDP) is the total value of all goods and services produced within the economy in a given period. Gross Value Added (GVA) is a measure of economic value and is used in the estimation of Gross Domestic Product (GDP). It measures the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used in production.

2. The natural environment

South Africa is the third most biodiverse country in the world[2], and Durban contains:

- Three of the country's eight terrestrial biomes;
- Eight broad vegetation types;
- Over 2 000 plant species;
- 97 kilometres of coastline with a diversity of beach types and productive rocky shores;
- 17 river catchments and 16 estuaries;
- 4 000 kilometres of rivers; and
- An open space system of approximately 74703 ha (2008/2009), representing almost one-third of Durban's total municipal area.

2. The biodiversity of South Africa 2002: Indicators, trends and human impacts (2002). Endangered Wildlife Trust, Struik Publishers, Cape Town.

3. Myers, N. (1988). The Environmentalist 8 187-208.

Box 2: Durban as a biodiversity hotspot

The term "biodiversity hotspot" was first coined by British environmentalist Norman Myers in 1988[3]. These are the Earth's biologically richest and most endangered terrestrial regions. South Africa is the third most biodiverse country in the world and the only country with more than one biodiversity hotspot. Durban is located in the middle of the Maputoland-Pondoland-Albany hotspot which lies along the east coast of southern Africa. The region has been described as floristically, climatologically and geographically complex and the high degree of endemism in the region is attributed to this complexity.

3. The value of Durban's natural environment

To ensure the sustainability and resilience of Durban's ecological and socio-economic natural assets, it is necessary to plan and manage these assets. The Durban Metropolitan Open Space System (D'MOSS) incorporates areas of high biodiversity value linked together in a viable network of open spaces in the eThekwini Municipal area. The value of D'MOSS comes from the ecosystem goods and services that are provided by the biodiversity contained in the different habitat types included in the system (see Figure 1 on pages 6 and 7).

The environmental services provided by Durban's open space system are valued at approximately R4 billion per annum (2006), which makes the preservation of this resource a key priority.

Resilience: The ability to recover from a disturbance and still retain its ability to function.
Sustainable development: Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

4. Importance of State of Biodiversity reporting

An effective State of Biodiversity reporting programme which tracks trends over time is arguably one of the most valuable means of informing policy makers, the public and other stakeholders about the status of natural resources, and the sustainability of resource use patterns.

The current report collates information relevant to the 2008/2009 municipal financial year in line with the 2006 - 2011 Integrated Development Plan which stipulates the need to "ensure the long-term sustainability of the natural resource base" (Plan 1 Programme 3).

The indicators were chosen based on how meaningful they are in characterising and monitoring biodiversity in Durban and the reliability of the available data. Most indicators are linked to D'MOSS which is used as a key planning tool, contributing to the attainment of provincial and national biodiversity targets. D'MOSS is mapped by the Biodiversity Planning Branch of the EPCPD in consultation with relevant experts.

The indicators that were chosen are based on their ability to provide information in a meaningful way to:

a) Assist policy makers in benchmarking biodiversity conservation efforts in the urban context; and

b) Evaluate progress in reducing the rate of biodiversity loss in urban ecosystems.

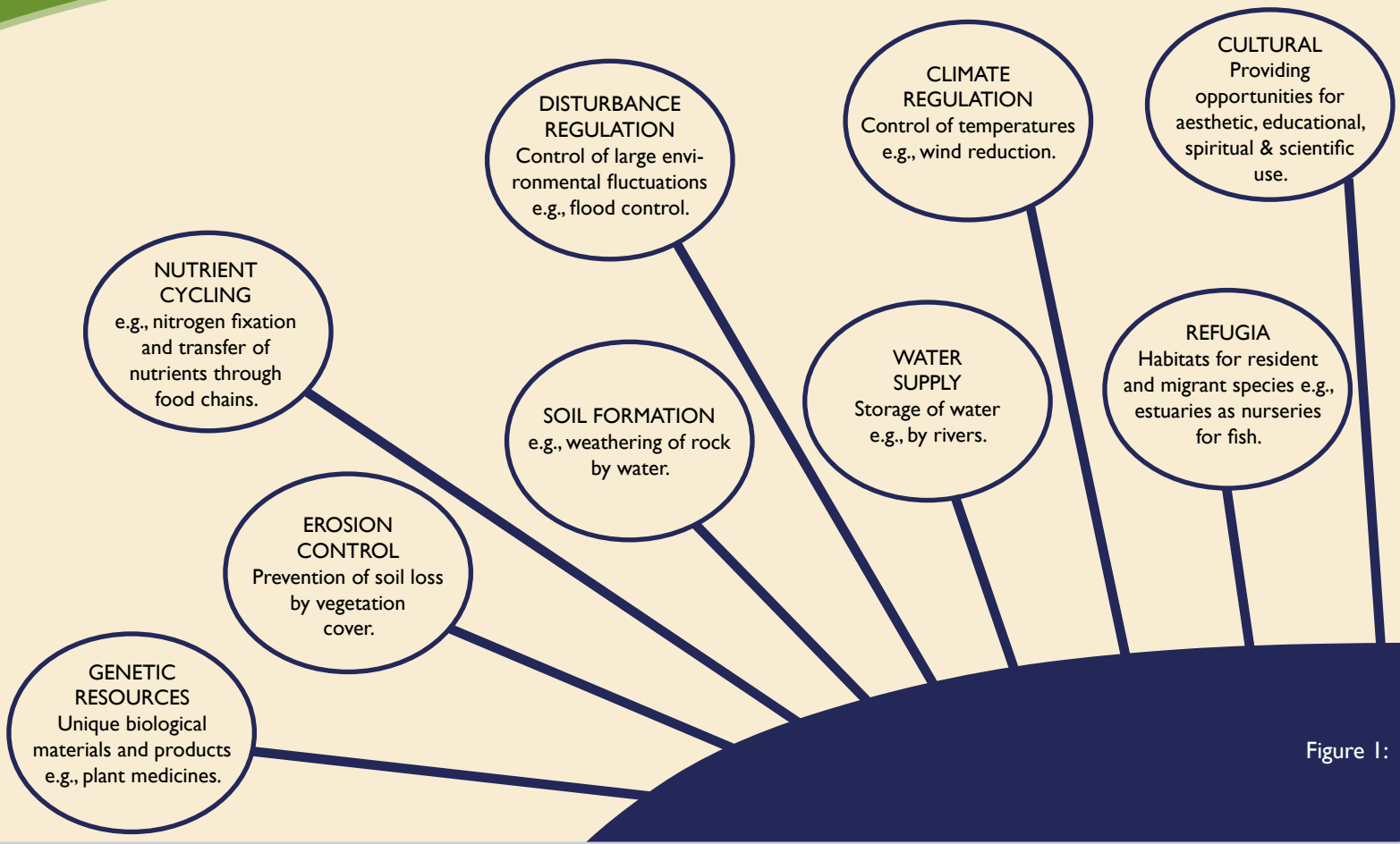
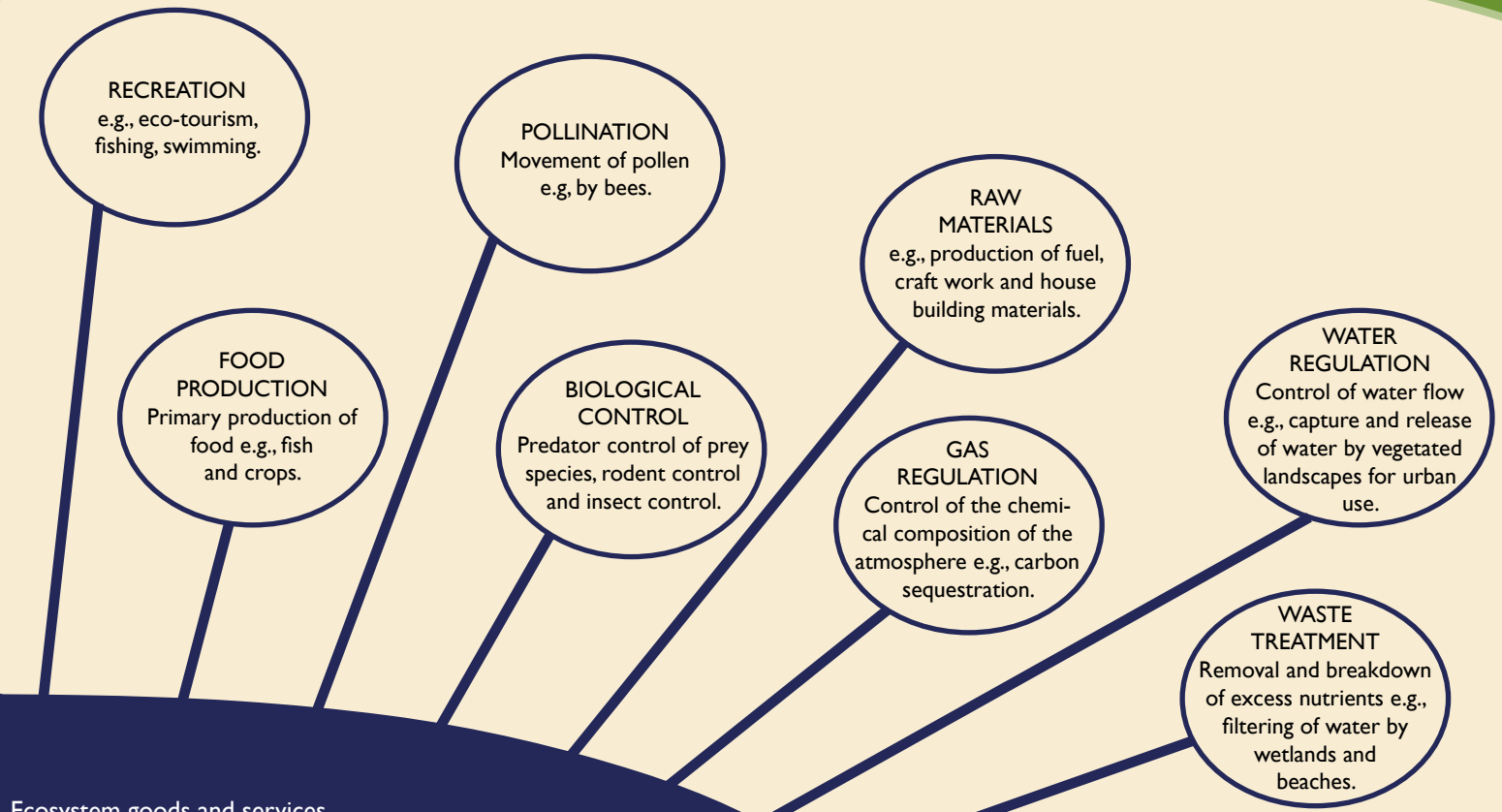

DISTURBANCE REGULATION
Control of large environmental fluctuations e.g., flood control.
CLIMATE REGULATION
Control of temperatures e.g., wind reduction.
CULTURAL
Providing opportunities for aesthetic, educational, spiritual & scientific use.
NUTRIENT CYCLING
e.g., nitrogen fixation and transfer of nutrients through food chains.
SOIL FORMATION
e.g., weathering of rock by water.
WATER SUPPLY
Storage of water e.g., by rivers.
REFUGIA
Habitats for resident and migrant species e.g., estuaries as nurseries for fish.
EROSION CONTROL
Prevention of soil loss by vegetation cover.
GENETIC RESOURCES
Unique biological materials and products e.g., plant medicines.

Figure 1:

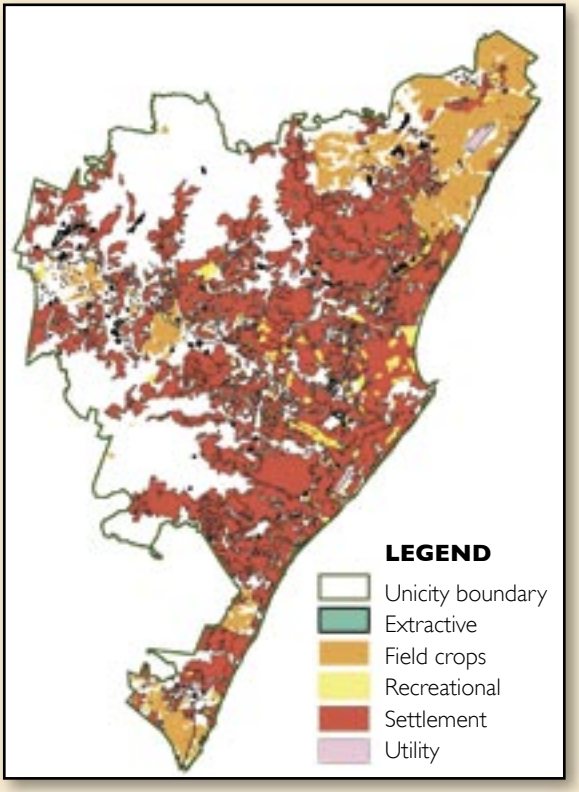

RECREATION
e.g., eco-tourism, fishing, swimming.
POLLINATION
Movement of pollen e.g, by bees.
RAW MATERIALS
e.g., production of fuel, craft work and house building materials.
WATER REGULATION
Control of water flow e.g., capture and release of water by vegetated landscapes for urban use.
FOOD PRODUCTION
Primary production of food e.g., fish and crops.
BIOLOGICAL CONTROL
Predator control of prey species, rodent control and insect control.
GAS REGULATION
Control of the chemical composition of the atmosphere e.g., carbon sequestration.
WASTE TREATMENT
Removal and breakdown of excess nutrients e.g., filtering of water by wetlands and beaches.
Ecosystem goods and services

5. Indicators

5.1 How much land has been transformed?

A city, by definition, has a high proportion of modified land area and ongoing development pressures result in this transformed area changing over time. It is often difficult to quantify this change because of the many different sources of information contained within a number of databases located throughout the Municipality. Because of the dynamic nature of this indicator and the need to collate information from various different sources, this indicator will be updated once every three years.

Figure 2 *shows the areas of the city that have been transformed and the categories of this transformation and is based on 2008 aerial photos of the eThekwini Municipal area. In the 2008/2009 municipal financial year this accounted for 49.1 % of Durban (Figure 2 excludes sparse rural settlements).*



Transformed areas in a city landscape can pose interesting questions around conservation and management. A waste water treatment works or private garden, while technically classified as 'transformed' could harbour a wealth of biodiversity or serve as an important biodiversity corridor. Biodiversity corridors serve as critical habitat linkages. They enable species to move between core protected areas and so meet their ecological and behavioural requirements. This is a particularly important with the looming threat of climate change and the possibility it raises of habitat change and range shifts in certain species.

It is, however, important to note that natural, continuous habitats with no or low levels of disturbance, are more resilient and are better able to provide the ecosystem goods and services that we depend on for meeting our basic needs. As areas within the eThekwini Municipal area get more transformed, it will become increasingly difficult to maintain these linkages. The value of the information provided through this indicator lies in its ability to enable decision makers to evaluate the rate and extent of transformation of natural ecosystems. This information can be used to drive processes that increase conservation efforts and reduce this transformation.

Box 3: Rare frogs in the most unlikely of places

Amphibians are currently the most threatened group of animals on Earth. Habitat destruction, pollution and climate change, among other things, has resulted in about one third of all known species being threatened with extinction and 43% of species experiencing declines. An isolated population of the The Pickersgill's Reed Frog *(Hyperolius pickersgilli)* was discovered by chance in a disturbed wetland next to the waste water treatment works in Isipingo (near Durban International Airport). This frog is Red Listed as Endangered and is of particular interest as it is known to occur in only 10 isolated sites along the entire KZN coastline. The wetlands of Mt. Moreland (also in the eThekwini Municipal Area) appear to host one of the biggest known populations of this species. This further brings to light the importance of maintaining Durban's green open spaces.

Hyperolius pickersgilli

5.2 Total area of D'MOSS

In 2008/2009 D'MOSS covered an area of 74 703 ha, representing approximately 33 % of the total municipal area. The D'MOSS spatial layer is a dynamic one, undergoing modifications and refinements as new information becomes available. The mapping of D'MOSS is done from the latest aerial imagery, however, the collection of new data regarding the extent and nature of habitats is ongoing, and is refined as new specialist information becomes available.

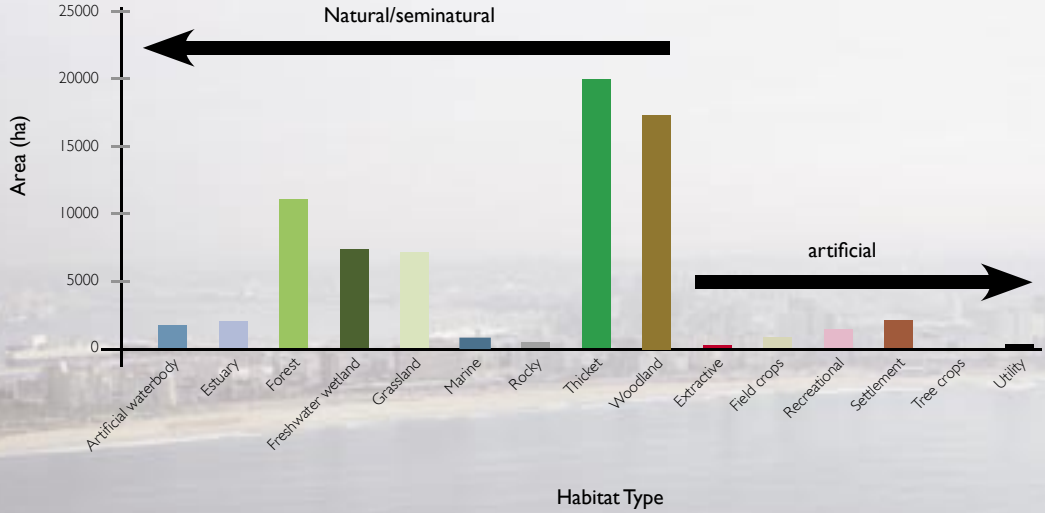


Figure 3: *Summary of the different D'MOSS habitat types and their extent.*

Box 4: Protecting key aquatic resources

Between 2007 and 2009, the EPCPD commissioned two studies as part of a pilot internship programme with the University of KwaZulu-Natal. This was a step towards improving the municipality's knowledge of biodiversity in marine and estuarine ecosystems, both of which have historically received little attention in the urban context. The results of these studies have raised awareness around aquatic ecosystems as biodiversity assets and stressed their importance in the provision of ecosystem services.

D'MOSS habitats	area (ha)
Artificial waterbody	1988.64
Estuary	2364.73
Forest	11272.53
Freshwater wetland	7515.73
Grassland	7216.99
Marine	707.91
Rocky shore	465.08
Thicket	20857.24
Woodland	17954.62
Extractive	166.14
Field crops	759.17
Recreational	1312.10
Settlement	1746.15
Tree crops	56.82
Utility	319.87
Sum	74703.71

Box 5: An uncommon visitor in Durban

In 2009, a flock of African Openbills *(Anastomus lamelligerus)* took up residence along the La Lucia Ridge Office Park. They were also recorded in many other places in Durban and the rest of the country. These birds are listed as Near Threatened according to the Red Data List and have a range much further north of Durban (in South Africa mainly in the Kruger Park and Zululand). What has brought them to our city is subject to debate, but deteriorating habitat conditions and climate change are being considered as explanations.

Anastomus lamelligerus

5.3 Percentage of D'MOSS that is protected

While the D'MOSS spatial layer is an important decision making tool, assisting in the preservation of environmentally sensitive areas within Durban, most of D'MOSS falls on privately owned land and is thus not formally protected. The EPCPD attempts to restrict development as far as possible in these instances, and uses other tools to proactively secure land that falls within D'MOSS, thus affording another level of protection to these environmentally important areas. These include:

a) Non User Conservation Servitudes (NUCS):
In some instances, the outcome of the development assessment process requires the registration of a conservation servitude over that portion of the application property that is within D'MOSS. Developers are thus required to register a conservation servitude over the portion of the property which requires protection from development. The area affected by the servitude remains in the ownership of the land owner and can be used for purposes that do not compromise the integrity of the natural environment.

Figure 4. *Currently, there are 43 registered conservation servitudes in the city (33 of which were requested by the EPCPD) covering an area of 55.11 ha. Examples of conservation servitudes in the Outer West region of Durban are shown here.*

b) Rezoning:

Land in the city is zoned for a number of different uses, e.g., industrial, residential, and agricultural. Historically, when demarcating areas of the eThekwini Municipal area into zones, environmental sustainability and resilience was not taken into account.

For this reason, it has been necessary to initiate a rezoning process in certain areas in order to better protect the globally significant biodiversity of Durban. This project is being undertaken in a way that aims to have the minimum impact on existing development 'rights'. These data will only be available for the 2009/2010 reporting period.

c) Land Acquisition:

In some restricted instances, threatened or important areas are protected through acquisition. This is achieved by either a) purchasing the property from the owner at an agreed upon value or b) registering a conservation servitude on the property.

In 2008/2009, 4.33 ha of land were acquired by the EPCPD for environmental conservation. These included properties in Kloof and Pinetown. In total, 101.33 ha of land have been acquired since 2003/2004.

d) Nature Reserve proclamation:

Work is currently being undertaken on the provincial proclamation of 11 municipal nature reserves. These are: Roosfontein, Burman Bush, Empisini, Mariannwoods, New Germany, Paradise Valley, Pigeon Valley, Silverglen, Springside, Virginia Bush, and extensions of the Krantzkloof Nature Reserve.

This exercise will give these nature reserves a higher conservation status, thus further protecting Durban's biodiversity assets.





Box 6: Giba Gorge Environmental Precinct

The Giba Gorge Environmental Precinct (GGEP) is the first Special Rating Area that the EPCPD has been involved with. A special rating area means that landowners (165 in total in the GGEP) contribute levies (through the municipal rating system) toward the maintenance of a natural area. The GGEP is thus a cooperative project between private landowners and the municipality to manage a common natural asset for conservation purposes.

This is an inspiring initiative that demonstrates government and the public working toward a common goal of environmental conservation. Giba Gorge and surrounds, encompass a variety of important habitats, plants and animals as well as sites of archaeological significance. The funds that are collected are used for alien plant clearing, the construction of trails, soil erosion control, river health monitoring and paying conservation management staff among other things. For more information, go to: www.ggep.org

5.4 Species abundance

In terms of representing urban biodiversity, three taxonomic groups are commonly surveyed i.e., plants, birds and butterflies.

In Durban, reliable, quantitative data sets for most groups of organisms are difficult to obtain because of the lack of long-term monitoring initiatives. For the purposes of this report only data that are collected consistently and quantitatively are utilised.

Ghost crab

Fiddler crab

Egyptian Goose

Jellyfish

Red Duiker

i) Water birds of Durban Bay [4]

One of the most comprehensive biodiversity data sets available is for bird species in Durban Bay. Bird species counts started in July 1999 and are ongoing. What started out as birdwatchers enjoying the diversity of avifauna in Durban Bay has become a key dataset for the eThekwini Municipal area, demonstrating trends in water bird species diversity and abundance. The ten-year dataset demonstrates the decline in the overall abundance of water birds in Durban Bay over the study period (Figure 5).

A key driver of the changes observed is the ongoing attrition and infilling of the Bay's natural habitats (only 855 ha of the original 1 970 ha of aquatic habitat remain). Certain key habitats have been transformed to a small percentage of their original extent e.g., only 3% (15 ha of the original 440 ha) of the mangrove habitat is all that remains and is now protected as a Natural Heritage Site by agreement with the Port authorities. The same trends are likely to be evident in many other bird populations in Durban, where habitat transformation is also a major threat to their survival.

4. Information (data and graphs) provided by David Allan (Natural Science Museum).

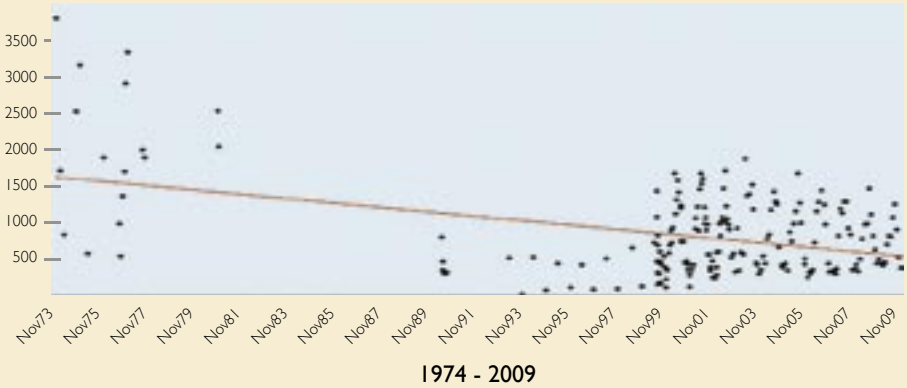


Figure 5. *Decline of water birds in Durban Bay from 1974 to 2009*

Pink-backed Pelican

Pied Kingfisher

ii) Black-headed Dwarf Chameleon [5]

Bradypodion melanocephalum is a regionally endemic chameleon and its range is restricted to the coastal belt of KwaZulu-Natal. In 2002, Ezemvelo KZN Wildlife (EKZNW) initiated the monitoring of this species at two localities within Durban i.e., Chameleon Park and a plot of land within D'MOSS next to the Edwin Swales Business Park. Chameleon Park was formed through a collaborative effort between the Cato Manor Development Association (CMDA), EKZNW and the eThekwini Municipality.

At the time, the CMDA was in the process of developing a business park on the corner of Solomon Mahlangu Drive (previously Edwin Swales VC) and Vusi Mzimela Road (previously Bellair) and it was found that this high priority conservation species was found to occur there. The development was allowed to go ahead with the proviso that a chameleon habitat was maintained and managed. The black-headed dwarf chameleon was then re-introduced into what is now called Chameleon Park as well as to a strip of D'MOSS land next to the Edwin Swales Business Park.

5. Information (data and graphs) provided by Adrian Armstrong (Ezemvelo KwaZulu-Natal Wildlife).

Bradypodium melanocephalum

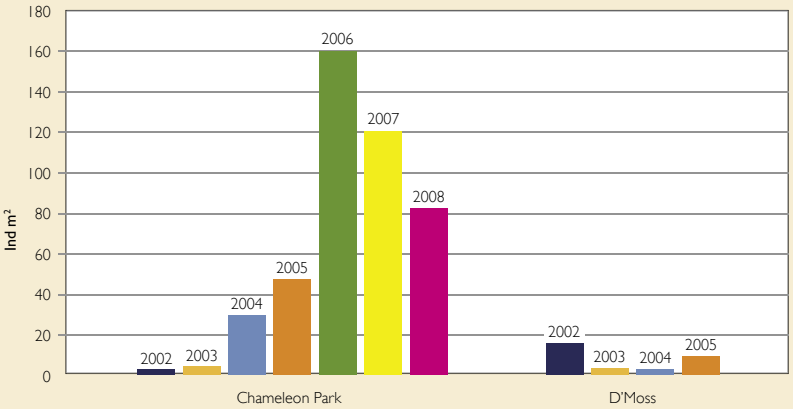


Figure 6. *The results from the past eight years of monitoring show that the black-headed dwarf chameleon population increased between 2002 and 2007 at Chameleon Park, but then declined by 50 % over the following two years. Counts for the D'MOSS habitat (Edwin Swales), labelled "'D'MOSS" on Figure 5, was suspended in 2006 because of a lack of invasive alien control at the site.*

The results indicate that the sub-population of the black-headed dwarf chameleon in Chameleon Park has not yet stabilized since the re-introduction in 2002. According to experts, the results also show that the re-introduction of black-headed dwarf chameleons to the D'MOSS strip may be a failure and the way forward would be to increase the protection status and management of these important Chameleon habitats.

5.5 Threats to Biodiversity in Durban

i) Invasive alien species

Invasive alien species are plants, animals, pathogens and other organisms that are not indigenous to an ecosystem, and which may cause economic or environmental harm or adversely affect human health.

In particular, they impact adversely upon biodiversity, including causing the decline or elimination of indigenous species through competition, predation, or transmission of pathogens, and the disruption of local ecosystems and ecosystem functions.

It is estimated that 6% (amounting to 3 780 ha) of D'MOSS has been seriously affected by invasive alien plant species. It is, however, very difficult to quantify alien plant coverage in the eThekwini Municipal area mainly because of the widespread nature of the problem and the lack of available resources e.g., trained staff that are able to traverse all areas of the eThekwini Municipal area through on the ground investigations.

Progress is being made in gathering this type of information (at least for nature reserves within the municipal area) but these data will only be available for inclusion in the 2009/2010 State of Biodiversity report.

Box 7: Attack on alien crows!

The invasion of the House Crow *(Corvus splendens)* began in 1972 and by 1989 over 2000 of these birds were reported to occur in the city. Apart from displacing indigenous fauna, the crows are responsible for spreading certain diseases and pose a threat to infrastructure and subsistence farming. Since 1989, several projects were launched by the then Durban City Council to eradicate these invasive species. At the time of this report, the highly successful project headed by Natural Resources (Parks, Leisure and Cemeteries Department) has whittled the population of House Crows down to no more than 10 individuals.

Port Jackson Willow *(Acacia saligna)*

St. Josephs Lily *(Lilium formosanum)*

In the 2008/2009 municipal financial year, the EPCPD had a budget of approximately R 3.24 million allocated to invasive species control in Durban. Two teams, Working on Fire (WoF) and Working For Ecosystems (WfE) were appointed to carry out this task. Both WoF and WfE are sustainable development programmes that aim to alleviate poverty and develop skills by employing people to manage aspects of the environment such as the burning of grasslands and invasive alien species control. Both programmes also have a strong education and training component.

The Natural Resources Division of the Parks, Leisure and Cemeteries Department, were given a budget of R 601 900 to undertake alien clearing in areas which they are responsible (Table overleaf).

In addition, the Department of Agriculture and Environmental Affairs (now the Department of Agriculture and Environmental Affairs and Rural Development) commissioned three emerging weeds teams to work exclusively in the eThekwini Municipal area. These teams identify potential invaders and educate stakeholders about the dangers of the emerging weeds.

Emerging weeds are plants, often with horticultural value, already present but not yet naturalized in either urban or rural municipal areas, that may cause significant transformation of ecosystems, as well as biodiversity or economic impacts or losses, should they establish and become invasive. Emerging weeds in Durban include those shown on pages 18 and 19.

Tree of Heaven *(Ailanthus altissima)*

Pompom weed *(Campuloclinium macrocephalum)*

Jacaranda *(Jacaranda mimosifolia)*

Ant Tree *(Triplaris americana)*

Table 2. Allocation of funds by Natural Resources Division toward alien clearing

Reserve/open space	Budget
Alfred Park	R 5,000
Beacon Park	R 8,000
Bird Santuary	R 12,000
Bird Santuary	R 5,000
Burman Bush	R 8,000
Collard Park	R 8,000
Dorothy place	R 8,000
Ilanda Wilds	R 16,000
Irvenia Park	R 15,000
Kennard Mountainrise	R 8,000
Kingfisher Creek	R 15,000
Marion Woods	R 9,300
Palmiet	R 30,000
Paradise Valley	R 9,300
Pigeon Valley	R 8,000
Queen Elizabeth	R 8,000
Roosfontein	R 15,000
Silverglen	R 15,000
Silverglen Wetland Park	R 15,000
Treasure Beach entire	R 15,000
Umbilo	R 20,000
Van Riebeeck Park	R 15,000
Westmead & Motola	R 20,000
Woodlands	R 8,000
Wright Place	R 8,000
Total	**R 601,900**

Box 8: Working on Fire

Working on Fire (WoF) is a national sustainable development programme that aims to alleviate poverty and develop skills by employing people to manage fires and other environmental issues such as invasive alien plant control.

In April 2009, a dedicated Working on Fire team was appointed to operate within eThekwini Municipality. The team, which has adopted the name 'Igagasi Hotshots', consists of 25 crew members, 1 driver, 1 supervisor and 1 project manager and is made up of 100% youth and 22% women. All new team members are sent to the WoF Nelspruit training academy where they receive comprehensive training in weed control, fire fighting, health and safety and HIV awareness.

WoF operates almost exclusively in areas of land acquired for conservation purposes by the EPCPD. These sites are prioritised for management-based on the level of invasion and their biodiversity value. Most grassland ecosystems require periodic burning and this, along with the removal of invasive alien plants, ensures that these ecosystems remain ecologically resilient.

ii) Climate change

In addition to invasive alien species, climate change is a significant threat to biodiversity. It is extremely difficult, however, to source accurate, local data on the subject. In addition, there exists a gap between when data are collected (or modelled) and when it is made available. For the purposes of this reporting process, climate change information will be included within the body of the text but not reported as an 'indicator'.

In Durban, the following changes have been predicted to occur:

- Both maximum and minimum temperatures in Durban are predicted to rise by 2°- 3°C by the end of the century.
- Rainfall in Durban is predicted to remain the same or increase slightly in the future. The distribution of this rainfall will change; with majority falling in short intense bursts.
- The sea level along the Durban coastline is rising at present by 2.7 cm every decade. Projections indicate that this rate may accelerate in the future.
- Due to these changes in temperature and rainfall, the bio-climatic envelopes (distributions of plants and animals based on climatic variables) in which the fauna and flora of Durban exist could shift. This places additional pressure on Durban's biodiversity.

The EPCPD is responsible for the development and implementation of the Municipal Climate Protection Programme, with aims to improve the city's resilience to climate change impacts through a number of programmatic interventions.

Box 9: Buffelsdraai Community Reforestration Project

This project was initiated in 2008/2009 to assist in offsetting the carbon emissions that will be generated by the 2010 FIFA Soccer World Cup™ activities in Durban. It is located in the buffer zone around the Buffelsdraai Regional Landfill site (near Verulam). Indigenous trees being planted in old cane lands will result in the re-establishment of a 650 ha indigenous forest that will sequester carbon dioxide (CO_2). This forest will also restore biodiversity, improve catchment management and cleanse important water supplies. 'Treepreneurs' from local communities collect and propagate seedlings for planting, which they trade for goods at 'treestores'. Twelve facilitators manage approximately 500 'treepreneurs' who operate in the Buffelsdraai, Osindisweni, KwaMashu and Ndwedwe areas, and supply trees to the Buffelsdraai Community Reforestation project. It is intended that similar projects will be rolled out at suitable sites throughout the eThekwini Municipal area in the future.

Table 3. Summary of the State of Biodiversity Indicators

Shortlisted indicators	Detailed description of data	Time interval of reporting	2008/2009	Additional information
1. How much land has been transformed	Changes to the land class layer because of new developments, climate changes impacts (losing beaches etc.)	triennually	112827.65 ha in total to date	49.1 % of the eThekwini Municipal area.
2. Total area of D'MOSS	Data expressed per habitat type	annually	74 703 ha	33 % of the eThekwini Municipal area.
3. Percentage of D'MOSS with some form of protection	D'MOSS areas included: in proclaimed nature reserves, as part of NUCS's, protected because of changes to town planning schemes or due to land acquisition	annually	NUCS: 55.11 ha	The NUCS database is currently being revised by the EPCPD.
			Land acquisition: 4.33 ha	a) Portion 1 of Erf 241 Pinetown b) Erf 543, Kloof.
			Proclaimed nature reserves: nil during 2008/2009	The proclamation of the Roosfontein Nature Reserve is currently in the final stages.
4. Patterns in abundance of certain species of fauna/flora	Trending data that are collected consistently and reliably from year to year e.g., bird counts of Durban Bay.	annually	General decrease in waterbird and chameleon species abundance.	For future reports, additional species may be included as information becomes available.
5. Invasive alien species and climate change	Where possible, data for these threats will be presented e.g., budgets available for invasive alien species clearing or extent of invasive alien area cleared. If not possible, key facts/events will be included in the body of the text.	annually	The EPCPD had R3.24 million to tackle invasive alien species in the eThekwini Municipal area.	Budgets are not necessarily a useful biodiversity indicator. For this reason, the EPCPD are attempting to collate information regarding the extent of invasive alien species cleared every year. These data is not yet available.

Conclusion

This is the eThekwini Municipality's first State of Biodiversity Indicators report. The main purpose is to provides an introduction to the new reporting process which aims to provide meaningful biodiversity information that can be used to achieve a more sustainable and environmentally acceptable development path in the city. The next report will be for the 2009/2010 financial year in and will be produced in December 2010 to ensure that the data that are reported on are the most recent and relevant data for the respective indicators.

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