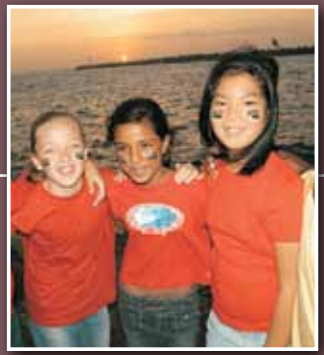
ETHEKWINI MUNICIPALITY

State of the Environment Report 2003/4:

HEADLINE INDICATORS REPORT

2007/8 Municipal Financial Year



2003/2004

2004/2005

2005/2006

2006/2007

ETHEKWINI MUNICIPALITY

THE VISION

THE ETHEKWINI MUNICIPALITY'S VISION IS THAT :

"By 2020 the eThekwini Municipality will be Africa's most caring and liveable city".[1]

[1] eThekwini Municipality Integrated Development Plan 2006-2011.

State of the Environment Report

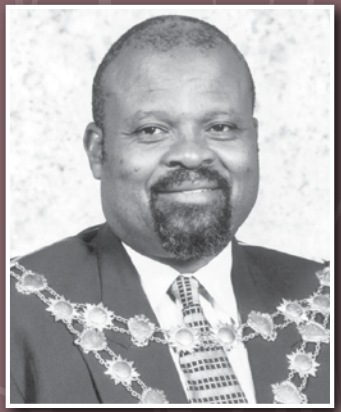
HEADLINE INDICATORS REPORT

2007/8 Municipal Financial Year

This is eThekwini Municipality's State of the Environment Headline Indicators Report for 2007/2008 produced in the 2008/2009 financial year.

Headline Indicator Reports are annual publications, which track trends over time in key environmental sectors that are affected by municipal activities.

MAYOR'S FOREWORD



EThekwini Municipality is committed to providing a safe and healthy environment for this generation and generations to come. We understand that the state of the environment affects us all, our quality of life, our jobs, and all other activities. The environment, through Durban's rich biodiversity assets, acts as a key service provider, meeting the basic needs of the city's communities, rich and poor, as well as providing essential services to industrial and commercial development.

The Integrated Development Plan (2006-2011) of the eThekwini Municipality has identified sustainable development as a core value in order to meet the challenges facing our city. Degradation of the environment threatens its ability to deliver the ecological goods and services which Durban depends upon.

State of the Environment reporting is vital for Durban and its people in tracking the environment's ability to function sustainably. State of the Environment reporting is an internationally accepted tool for reporting on environmental management. It provides information necessary for decision makers in our government, our communities and our places of work to assess the impacts of municipal activities on the environment over time.

I commend the State of the Environment Headline Indicators Report as a tool which demonstrates cooperation between government departments and other stakeholders in collecting data which will improve municipal planning and governance of the environment for years to come.

Mayor Obed T. Mlaba
eThekwini Municipality

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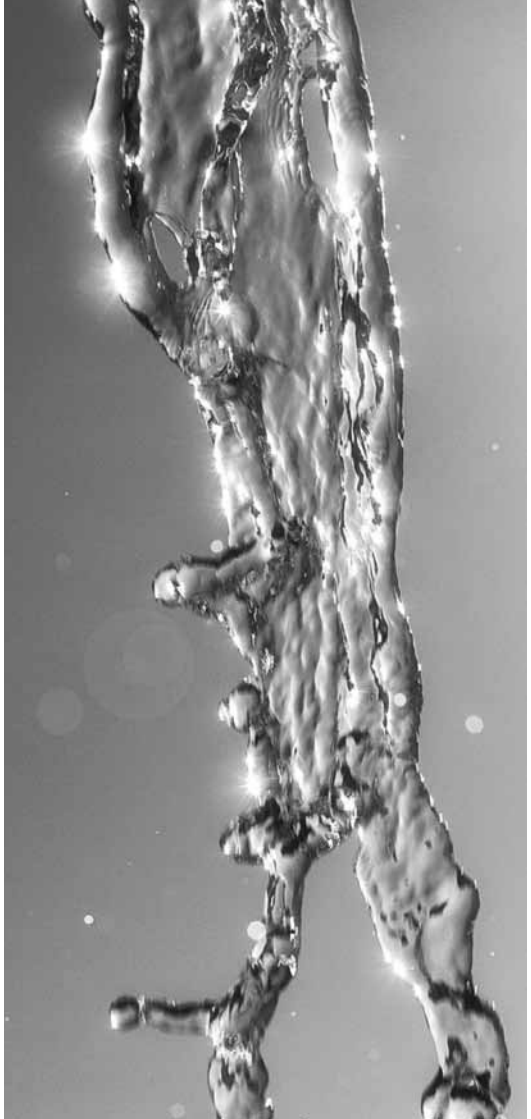
LIST OF ACRONYMS

AIDS:	Acquired Immune Deficiency Syndrome
CCP:	Cities for Climate Protection
CEROI:	Cities Environmental Reports on Internet
CFL's:	Compact Fluorescent Lamps
CSCM:	Coastal, Stormwater and Catchment Management
DEAT:	Department of Environmental Affairs and Tourism
DSM:	Demand Side Management
DSW:	EThekwini Cleansing and Solid Waste Unit
DMOSS:	Durban Metropolitan Open Space System
DWAF:	Department of Water and Forestry
E. Coli:	*Escherichia coli*
EE:	EThekwini Electricity Unit
EMD:	Environmental Management Department
EMEMP:	EThekwini Municipality's Environmental Management Policy
EMS:	Environmental Management System
EWS:	EThekwini Water and Sanitation Unit
GDP:	Gross Domestic Product
GHG:	Greenhouse Gas
GIS:	Geographical Information System
GVA:	Gross Value Added
H:h:	Low Hazard Waste
HIV:	Human immunodeficiency virus
ICLEI:	International Council for Local Environmental Initiatives (now known as Local Governments for Sustainability)
IDP:	Integrated Development Plan
IPCC:	Intergovernmental Panel on Climate Change
IUCN:	International Union for the Conservation of Nature
ISO:	International Organization for Standardization
KZN:	KwaZulu-Natal
LFG:	Landfill Gas
LPG:	Liquid Petroleum Gas
MDP:	Master Drainage Plans
MPP:	Multi-Point Plan
NBSAP:	National Biodiversity Strategy and Action Plan
NEES:	National Energy Efficiency Strategy
NEMA:	National Environmental Management Act (Act 107 of 1998)
NEM:	National Environmental Management
BA:	Biodiversity Act (NEM: BA, 2004)
NGOs:	Non-Governmental Organizations
NRD:	Natural Resources Division
NSBA:	National Spatial Biodiversity Assessment
POP:	Persistent Organic Pollutant
PU:	Purchasing Unit
RHP:	River Health Programme
SABS:	South African Bureau of Standards
SANBI:	South African National Biodiversity Institute
SDB:	South Durban Basin
SOE:	State of the Environment
SoR:	State of Rivers
TWQR:	Target Water Quality Range
WTW:	Wastewater Treatment Works
NUCS:	Non-user Conservation Servitude

UNITS OF MEASUREMENTS

CO_2:	Carbon dioxide
CO_2eq:	Carbon dioxide equivalent
Ha:	Hectare
GWh:	Gigawatt hour
Kl:	Kilolitre (1000 litres)
kl/passenger/km:	Kilolitre per passenger per kilometre
km:	Kilometre
km^2:	Square kilometre
kt:	Kilo ton
kW:	Kilowatt
kWh:	Kilowatt hour
kWh/m^2:	Kilowatt hours per square metre
l/d:	Litre per day
m^3:	Cubic Metre
ml:	Millilitre
Ml/d:	Mega litres per day
Mt:	Mega ton
MWh:	Megawatt per hour
pm:	Per month
PM10:	Particulate matter (<10 microns)
ppb:	Parts per billion
SO_2:	Sulphur dioxide
t :	Ton
tpa:	Ton per annum
V:	Volt



1.1 The place

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 the city 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.

EThekwini Municipality is the local government body responsible for governing and managing Durban. Durban:

- Is 2 297 km^2 in size (1.4 % of the province of KZN);
- Has an annual municipal budget of R25.89 billion (2007/2008);
- Has 18 141 municipal employees;
- Has a population over 3.4 million (over 1/3 of the population of the entire province); and
- Has a high rate of HIV/Aids prevalence (KZN Province has an infection rate of 37.5 %).

1.2 The economy

The EThekwini Municipality was awarded the highest credit rating (A1+) of any local authority in South Africa in August 2007 by the Global Credit Rating Company, in terms of its economic profile:

- Durban has the largest and busiest port on Africa's east coast - 2 642 165 (67.7% of total containers handled in SA) were handled in 2007/2008;
- 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)[2] comprises 65.5 % of the total GVA for KwaZulu-Natal and 10.8 % of the National economy.

[2] The Gross Domestic Product (GDP) is the total value of all goods and services produced within the economy in a given period. The adjective gross means that no provision has been made for depreciation or appreciation of these goods and services over that time. The value of "final goods and services" is used to avoid double counting in GVA calculation.

1.3 The ecosystem

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

- Three of the country's eight terrestrial biomes;
- Eight broad vegetation types;
- Over 2 000 plant species;
- 97 kilometres of coastline;
- 17 catchments and 16 estuaries;
- 4 000 kilometres of rivers; and
- An open space system of 64 708 ha (2007/2008), representing almost 1/3 of Durban's total area.

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 priority.

1.4 The people

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. 68 % of Durban's population is of working age, and 28 % are under the age of 19. The demographic breakdown of the population is as follows:

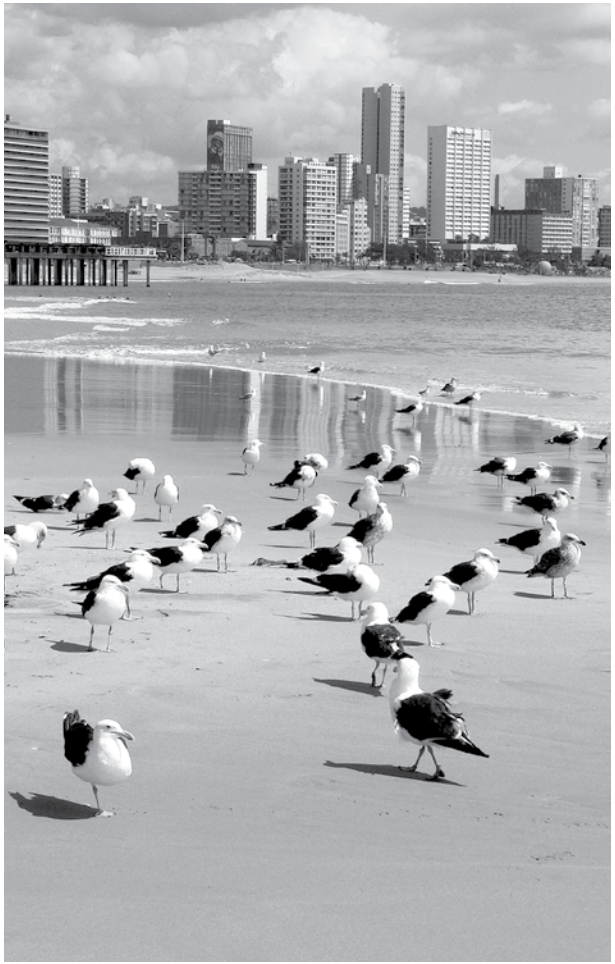
- Black African 68 %;
- Asian 20 %;
- White 9 %; and
- Coloured 3 %.

Durban's population ranges from the very rich to the very poor. The city's per capita income was R37 515 per annum in 2007/2008. The Quality of Life Survey[3] estimates that 20 % of households have a total income of less than R1 500 per month. This income is considered the minimum that a family of four needs to meet basic living standards.

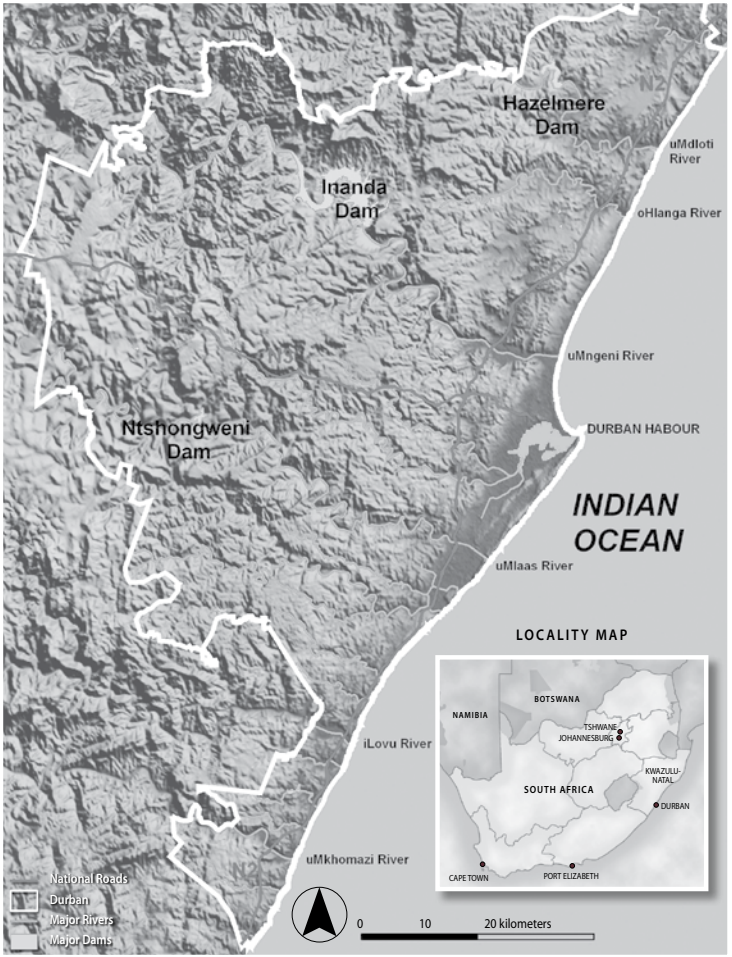
1.5 Planning the path to sustainability

Durban was the first city in South Africa to accept the Local Agenda 21[4] mandate as a corporate responsibility in 1994. Similarly, Durban became the first city in South Africa to accept the Local Action 21[5] mandate, which emerged from the World Summit on Sustainable Development in 2002. The Municipality's Integrated Development Plan (IDP) (2006-2011)[6] provides the vision and mechanism for achieving long-term sustainability. Reporting on environmental management through the State of Environment process is linked to the IDP and its performance management system.

[3] Quality of Life Survey is undertaken annually by the eThekwini Municipality's Corporate Policy Unit.
[4] Local Agenda 21: The global agenda for local authorities for socially, economically and environmentally sustainable development adopted at the 1992 Earth Summit.
[5] Local Action 21: A mandate to local authorities worldwide to move from agenda to action and ensure accelerated implementation of sustainable development.
[6] Although subsequent versions of the IDP have been released, eThekwini Municipality Integrated Development Plan 2006-2011, is referred to throughout this report.



RELIEF MAP OF DURBAN



The 2006-2011 IDP establishes sustainable development as a core function for local government in Durban. The Environmental Management Department (EMD) of the Development Planning, Environment and Management Unit has initiated State of Environment reporting for Durban in order to provide environmental information within the wider context of sustainability reporting.

State of Environment reporting is an internationally accepted tool for monitoring and reporting on environmental management in achieving long-term sustainability. The State of the Environment Headline Indicators Report is the annual technical report, which highlights trends to be assessed and evaluated. These indicators contribute to the IDP review process on a yearly basis.

The issue of environmental sustainability is particularly critical to a city such as Durban where the environment continues to act as a key service provider, meeting people's basic needs in terms of:

- Climate regulation;
- Flood attenuation;
- Recreation;
- Food, water and air;
- Building materials and fuel; and
- Waste-treatment, amongst many other services.

2.1 Importance of regular State of Environment reporting in Durban

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

The EMD has structured State of Environment reporting in Durban so that the process:

- Contributes to the IDP review and outcomes-setting process and the municipal performance management system;
- Highlights trends (positive and negative) in environmental performance;
- Initiates the use of internationally, nationally and locally acceptable environmental indicators which allow for comparability; and
- Communicates information about the city and its quality of environmental management to local, provincial, national and international stakeholders.

The current report reflects the State of the Environment Headline Indicators Report for the 2007/2008 financial year and identifies trends in the data collected over the past five years. This will be the last such report within this cycle of reporting.

State of the Environment reports typically include information on:

- The condition of the environment (including background on environmental impacts and trends in environmental quality);
- Causes of environmental change; and
- What authorities and individuals are doing to improve environmental conditions, whether this is effective, and what more could be done.

The three fundamental characteristics of State of the Environment reports are:

- The interpretation, assessment and integration of high quality data to generate meaningful information;
- The development of spatial and temporal trend information; and
- The identification of linkages between biophysical and socio-economic considerations for sound sustainability reporting.

2.2 Legal environment for State of the Environment reporting in Durban

The requirement for State of the Environment reporting is included in Chapter 2 of the IDP (2006-2011), which stipulates the need to ensure the long-term sustainability of the natural resource base. A State of the Environment Report is an essential first step in any triple bottom line reporting system.[7] The preparation of an IDP is required under the Municipal Systems Act (Act No. 32 of 2000).

The National Environmental Management Act (NEMA) (Act No. 107 of 1998) states that national departments and all other organs of state must have an environmental management plan and report annually (NEMA, Chapter 3, Section 16 (1b)). This facilitates access to information on the state of the environment (NEMA, Chapter 7, Part 2, Section 31 (1a)). A State of the Environment Report also complies with the requirements of the Promotion of Access to Information Act (Act No. 22 of 2000), which recognises people's right of access to information.

EThekwini Municipality's Environmental Management Policy (EMEMP), and the Durban Metropolitan Open Space System Plan (D'MOSS) provide the departmental policy framework within which the EMD dispenses its State of Environment reporting responsibilities.

[7] A triple bottom line framework allows for the full cost of activities to be accounted for through the assessment of social, economic and environmental impacts of that activity.

3.1 Indicators

State of the Environment reporting is made up of indicators against which environmental performance is measured. An indicator is a way of expressing a large quantity of data, or complex information, in a simple and meaningful form. Indicators are increasingly used to provide a convenient format for information showing the current state of the environment, as well as acting as a gauge for management performance and interventions while predicting responses to these interventions. Indicators require reliable raw data derived from a consistent methodology applied year on year, which can be analysed and used to highlight trends to monitor what is changing, how this change is occurring and the sustainability of these changes over time. Indicators exist at different scales and can reflect global, national and local level information.

3.2 Trending

Trending is an indication of change per indicator over time. This represents the fourth Headline Indicators Report since the completion of the 2003/2004 full State of the Environment Report. The following symbols have been used to indicate change in the indicators:

↑ Indicates increase;

↓ Indicates decrease;

~ Indicates trend currently unclear (could be increase or decrease);

- Indicates no significant change; and

No symbol – Indicates that there is insufficient data to comment or that data cannot be trended e.g. acquisition of land for protection as biodiversity asset which is variable due to need, budget and conservation priority.

3.3 Assumptions

The State of the Environment Headline Indicators Report (2007/2008) is to be read in conjunction with the State of the Environment Report (2003/2004).[8] This will assist in contextualizing the baseline against which impacts on the environment are assessed. For various reasons some of the data have been incorrectly reported in the previous years. Therefore, trending for these indicators may not be a reliable indication of change over time. The data that were incorrectly reported are indicated by an (*).

[8] Refer to www.durban.gov.za/durban/services/departments/environment for the State of the Environment Report (2003/2004).

3.4 Themes

Durban reports on the following themes in its State of the Environment reporting process:

- Biodiversity
  - Terrestrial biodiversity
  - Aquatic biodiversity
  - Estuaries and marine environment
- Water
- Emissions, Effluent and Wastes
  - Wastewater
  - Drainage and stormwater
  - Air quality
  - Climate disruption
  - Noise pollution
  - Solid waste
- Energy
- Materials and Suppliers

3.5 Stakeholder consultation

Both internal municipal sectors and external stakeholders were consulted during the indicator selection process undertaken for the 2003/2004 State of the Environment report. These indicators have not changed since this original selection, as data collection needs to be consistent every year in order to establish trends.

The term "biological diversity" or "biodiversity" means the variability among living organisms from all sources including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part, and also includes diversity within species, between species, and of ecosystems (NEM: BA, 2004).

South Africa is regarded as the world's third most biodiverse country. Durban contains three of the country's eight terrestrial biomes namely: savanna, forest and grassland. The aquatic biomes include both freshwater and marine habitats in 17 major river catchments, 16 estuaries and 97 km of coastline. In order to sustain Durban's natural environment, both the terrestrial and aquatic environments need to be planned and managed as critical ecological and socio-economic assets. DMOSS is the footprint which defines the environmentally important land in the city. An estimate undertaken in 2006 of the value of the environmental goods and services supplied by natural areas included in DMOSS, suggests that they are worth in excess of R4 billion per annum. This excludes the value of natural environments to the tourism sector.

Undeveloped terrestrial open spaces and aquatic environments contain ecosystems comprising of living and non-living elements. These deliver environmental goods and services such as soil for agriculture, clean drinking water, building materials, flood control, clean air, food and medicinal plants. Natural or undisturbed open spaces and water bodies are the most functional ecosystems, providing the most benefit in terms of the goods and services they provide, and are therefore the most important to conserve. Of particular significance are large coastal and upper catchment areas and the surrounds of strategic water resources.

Nationally, DEAT is responsible for the protection and management of South Africa's unique biodiversity asset. In 2004 the South African National Biodiversity Institute (SANBI) (mandated by DEAT) released South Africa's first National Spatial Biodiversity Assessment (NSBA) as part of a National Biodiversity Strategy and Action Plan (NBSAP). This is a positive indication of the commitment of the South African Government towards conserving, utilising and managing South Africa's biodiversity assets in a sustainable manner.

Within eThekwini Municipality, the Environmental Management and Parks, Leisure and Cemeteries Departments are responsible for planning, securing and managing the sustained supply of environmental goods and services from Durban's biodiversity asset. Members of the Municipality's Natural Science Museum provide scientific and research expertise in their areas of speciality.

4.1 Terrestrial biodiversity

The aim of this section is to establish the baseline for future quantitative monitoring of Durban's terrestrial biodiversity through the objective assessment of patterns and trends over time.

TERRESTRIAL BIODIVERSITY INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Spatial extent of DMOSS.	63 115 ha	64 037 ha	64 399 ha	64 405 ha	64 708 ha	↑	Nett increase in area as a result of the development assessment process.
2. Percentage of the DMOSS that is protected[9].	No data available.	9.1 %	* ~~9.4 %~~ 9.0 %	9.5 %	No data available.	~	No capacity in EMD to collect and evaluate these data during 2007/08 due to the lack of a GIS officer.
3. Area of land acquired by the Municipality for protection and management of the biodiversity asset.	46 ha adjacent to Silverglen Nature Reserve & 4 ha adjacent to New Germany Nature Reserve Total: 50 ha	12 ha of KwaZulu-Natal Sandstone Plateau Sourveld in Drummond Total: 12 ha	Erf 223 Forest Hills, Margaret Cresent: 2 ha Erf 2-5 of 197 Crestview, Inanda Rd: 1.8 ha Total: 3.8 ha	Erf 130 Clansthal: 0.18 ha Erf 223 Forest Hills: 0.54 ha Ptn 2-5 of Erf 197 Crestview: 1.78ha Ptn 2 of Erf 244 Pinetown: 0.4 ha Total: 2.9 ha	Erf 26 St Helier: 0.6 ha Erf 88 Cliffdale: 5.2 ha Erf 89 Cliffdale: 3.1 ha Lot 3644 Pinetown: 21.6 ha Total: 30.5 ha		Land area acquired annually is variable due to *inter alia* changes in need, budget, and conservation priorities.
4. Area of each vegetation type (ecosystem) falling within the DMOSS spatial layer transformed in the reporting period.	No data available.	No data available.	8 ha	60 ha	12 ha Refer to Table 1.	~	Refer to footnote 11.

[9] Protected areas include those are zoned, proclaimed or agreed to as a conservation servitude. Conservation servitudes, like any other servitude, are registered against the Title Deeds of the property and are shown in the Surveyor General Diagrams. The servitude area remains in the ownership of the landowner but cannot be developed, and must be managed for conservation purposes. In compensation, rates relief is available.

* Data erroneously reported.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
5. Extent of land cleared and maintained of alien vegetation by the Municipality annually (in terms of location, area cleared, source of funding).	No data available.	38.3 ha	151.53 ha	145.75 ha	124 ha	~	Activity subject to fluctuations in funding.
6. DMOSS land secured in ways other than municipal acquisition e.g. zoned private open space or the subject of an environmental servitude.	50 ha	49 ha	81 ha	69 ha	No data available.	~	This figure depends on the number and the location of applications submitted to the Municipality. No data available for 2007/08 due to the lack of a GIS officer within the EMD.
7. Number of development applications falling on DMOSS land.	No data available.	No data available.	118	303	163	~	This figure depends on the number and the location of applications submitted to the Municipality.
8. Extent of DMOSS land lost to other forms of land use.	No data available.	214 ha	8 ha	60 ha	12 ha	~	Refer to footnote 11.

[11] The information contained in Table 1 is an extract from the GIS database of data that was originally captured from aerial photography in 2002 at a scale of 1:5000. In some cases, as a result of this mapping scale, habitat allocations are not a true reflection of ground conditions. The development assessment process tends to occurs at a much finer scale, where site conditions are examined in detail. The loss of 12 ha from DMOSS whilst accurate in extent is not accurately represented by ecosystem. In many cases DMOSS lost is disturbed land or land that was included in DMOSS in error as a result of the original mapping scale.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
9. Number of Red Data Book species of different taxonomic groups occurring in Durban.[10]	Incomplete data collection.	Plants - 93, Invertebrates - 8, Amphibians - 5, Reptiles - 2, Birds - 43, Mammals - 26	Plants - 93, Invertebrates - 8, Amphibians - 5, Reptiles - 2, Birds - 43, Mammals - 26	Plants - 93, Invertebrates - 8, Amphibians - 5, Reptiles - 2, Birds - 43, Mammals - 26	Plants - 93, Invertebrates - 8, Amphibians - 5, Reptiles - 2, Birds - 43, Mammals - 27	-	One new red data mammal species added to the list due to new distribution record.
10. Number of developments planned or subsequently altered to protect Red Data book species or maintain biodiversity in sensitive areas (DMOSS only).	No data available.	No data available.	No data available.	No data available.	No data available.		No change as there is no capacity in EMD to collect and evaluate these data due to a lack of a GIS officer.
11. How much land falling within the DMOSS spatial layer is estimated to be densely infested by alien plants?	6 % or 3 780 ha	6 % or 3 780 ha	6 % or 3 780 ha	6 % or 3 780 ha	No data available.		No data collected for the 2008/2009 financial year.
12. The number of muthi trader vendors and medicinal plant species available for purchase in Durban.	No data available.	288 trading licences were issued for the Warwick Junction Market in 2005. Approximately 564 plant taxa recorded as traded in Durban.	288 trading licences were issued at the Warwick Junction in 2005. Approximately 564 plant taxa recorded as traded in Durban.	Warwick Market (Durban Central): 93 muthi trading permits issued. Ezimbuzini Wholesale Market (Umlazi): 125 muthi trading permits issued.	Warwick Market (Durban Central): 139 muthi trading permits issued. Ezimbuzini Wholesale Market (Umlazil): 33 muthi trading permits issued.		No permits were issued for approximately 8 months due to the lack of staff.
13. Number of city staff and size of budget allocated for the management of the DMOSS per annum.	No data available.	R2 297 970 & 114 municipal staff	R2 416 300 & 116 municipal staff	R 2 292 350 & 119 municipal staff	R 5 951 860 & 197 municipal staff		EMD operation budget R 5 336 220 (3 staff working on the DMOSS). NRD operation budget R 615 640 per annum. 102 temporary staff to manage DMOSS.

[10] Refer to www.durban.gov.za/durban/services/departments/environment for lists of Red Data Book species occurring in Durban.

TABLE 1. DMOSS TRANSFORMED IN 2007/2008[11]

General cover type	Detailed cover type	Area lost (m²)	Area lost (ha)
Alien Vegetation	**ALL**	**9 941.01**	**0.99**
Alien Vegetation	Alien Woodland	9 941.01	0.99
Forest	**ALL**	**45 904.09**	**4.59**
Forest	Coastal Lowland Forest	15 817.71	1.58
Forest	Coastal Scarp Forest	28 358.34	2.94
Forest	Dune Scrub and Forest	1 728.04	0.17
Grassland	**ALL**	**61 598.51**	**6.16**
Grassland	Primary Grassland	23 802.00	2.38
Grassland	Secondary Grassland	37 796.51	3.78
TOTAL		**117 443.61**	**11.74**

[11] The information contained in Table 1 is an extract from the GIS database of data that was originally captured from aerial photography in 2002 at a scale of 1:5000. In some cases, as a result of this mapping scale, habitat allocations are not a true reflection of ground conditions. The development assessment process tends to occurs at a much finer scale, where site conditions are examined in detail. The loss of 12 ha from DMOSS whilst accurate in extent is not accurately represented by ecosystem. In many cases DMOSS lost is disturbed land or land that was included in error as a result of the original mapping scale.

TABLE 2. ALIEN PLANT ERADICATION REPORT[12]

Site	Ha Land cleared	Cost	Species removed	No of municipal staff	Method used
Burman Bush Nature Reserve	3 ha	R11 900,00	Balloon vine	4 temporary staff	Mechanical and chemical
			Trifid weed		
			Lantana		
Hillcrest	20 ha	R 27,590.00	Lantana Camara	11 temporary staff	Mechanical and chemical
			Chromolaena odorata		
			Eucalypus sp		
			Melia azedarach		
			Wild ginger		
			Bracken		
Marian Wood Nature reserve	17 ha	unknown	Chromolaena odorata	32 municipal staff and 8 temporary	Mechanical and chemical
			Lantana Camara		
			Tecoma Stans		
			Solanum Mauritianum		
			Hedychium coronariumj		
			Tithonia Diversifolia		
			Ricinum Communis		
			Schinus Terebinthifolius		
			Litsea Glutinosa		
			Melia Azedarach		
			Montana Hibiscifolia		
Maxmead Moss	3.1 ha	unknown	Chromolaena odorata	32 municipal staff	Mechanical and chemical
			Lantana Camara		
			Tecoma Stans		
			Solanum Mauritianum		
			Hedychium coronariumj		
			Tithonia Diversifolia		
			Ricinum Communis		
			Schinus Terebinthifolius		
			Litsea Glutinosa		
			Melia Azedarach		
			Montana Hibiscifolia		

Site	Ha Land cleared	Cost	Species removed	No of municipal staff	Method used
New Germany Nature Reserve		R42 550,00	Lantana	24 municipal staff and 18 temporary staff	Mechanical and chemical
			Triftweed		
			Mexican Sunflower		
			Ginger		
			Bugweed		
			Syringia		
			Camphor		
			Pine		
			Castor Oil		
			Balloon Vine		
			Litsep		
			Braken Fern		
			Sward Torn		
			Guava		
			Yellow Bells		
			Madira Vine		
			Canna		
Paradise Valley Nature Reserve	35.18ha	unknown	Chromolaena odorata ,	32 municipal staff and 20 temporary staff	mechanical and chemical
			Lantana Camara		
			Tecoma Stans		
			Solanum Mauritianum		
			Hedychium coronariumj		
			Tithonia Diversifolia		
			Ricinum Communis		
			Schinus Terebinthifolius		
			Litsea Glutinosa		
			Melia Azedarach		
			Montana Hibiscifolia		

Site	Ha Land cleared	Cost	Species removed	No of municipal staff	Method used
Pigeon Valley Nature Reserve	2ha	R 7 140.00	Morning glory	5 temporary staff	mechanical and chemical
			Wandering Jew		
			Madeira Vine		
			Indian laurell		
Pinetown Moss	6.45 ha	unknown	Chromolaena odorata	32 municipal staff	mechanical and chemical
			Lantana Camara		
			Tecoma Stans		
			Solanum Mauritianum		
			Hedychium coronariumj		
			Tithonia Diversifolia		
			Ricinum Communis		
			Schinus Terebinthifolius		
			Litsea Glutinosa		
			Melia Azedarach		
			Montana Hibiscifolia		
Silverglen Nature Reserve	28.5ha	R 60 000.00	Pinus spp	6 municipal staff and 8 temporary staff	mechanical and chemical
			Eucalyptus gradis		
			Chromolaena odorata		
			Iantana camara		
			Ricinus communis		
			Ipomea indica		
			Ipomea alba		
			Cardiospermum gradiflorum		
			Tithonia diversifolia		
			Melia azedarach		
			litsea glutinosa		
			Pereskia spp		
			Tecoma stans		
			Ageratum conyzoides		
			Litsea glutinosa		
			Schinum teribinthifoius		
			Casuarina equisetifolia		

Site	Ha Land cleared	Cost	Species removed	No of municipal staff	Method used
Silverglen Nursery		R 15 000	Riciaus Communis	4 municipal staff and 2 temporary staff	mechanical and chemical
			Ageratum		
			Cardiospermum		
			Aristolochia		
			Thelechilonia		
			Thelechilonia		
			Thelechilonia		
			Andredera		
			Passiflora		
			Passiflora		
Westmead Moss	8.3ha	unknown	Chromolaena odorata	32 municipal staff and 8 temporary staff	mechanical and chemical
			Lantana Camara		
			Tecoma Stans		
			Solanum Mauritianum		
			Hedychium coronariumj		
			Tithonia Diversifolia		
			Ricinum Communis		
			Schinus Terebinthifolius		
			Litsea Glutinosa		
			Melia Azedarach		
			Montana Hibiscifolia		

[12] Balloon Vine (*Aristolochia elegans*), Blackjack (*Bidens pilosa*), Brazilian Pepper Tree (*Schinus terebinthifolius*), Bugweed (*Solanum mauritianum*), Camphor Tree (*Cinnamomum camphora*), Castor-oil Bush (*Ricinus communis*), Dutchman's Pipe (*Cardiospermum grandiflorum*), Elephant Grass (*Pennisetum purpureum*), Exotic Ginger (*Hedychium spp.*), Giant/Spanish Reed (*Arundo donax*), Guava (*Psidium guajava*), Horsetail Tree (*Casuarina equisetifolia*), Indigo Berry (*Passiflora suberosa*), Indian Laurel (*Litsea glutinosa*), Jacaranda (Jacaranda mimosifolia), Invading Ageratum (*Ageratum conyzoides*), Kariba Weed (*Salvinia molesta*), Lantana (*Lantana camara*), Mexican Sunflower (*Tithonia diversifolia*), Madeira Vine (*Anredera cordifolia*), Moonflower (*Ipomoea alba*), Morning Glory (*Ipomoea indica*), Pearl Acacia (*Acacia podalyriifolia*), Pereskia (*Pereskia aculeata*), Pom Pom Weed (*Campuloclinium macrocephalum*), Rivina (*Rivinia humilis*), Slash Pine (*Pinus elliotii*), Saligna Gum (*Eucalyptus grandis*), Syringa (*Melia azedarach*), Sword Fern (*Nephrolepis exaltata*), Tree Daisy (*Montanoa hibiscifolia*) Triffid Weed (*Chromolaena odorata*), Yellow Bells (*Tecoma stans*), Water Lettuce (*Pistia stratiotes*), Water Hyacinth (*Eichhornia crassipes*) and Wedelia Daisy (*Thelechitonia trilobata*).

4.2 Aquatic biodiversity

Rivers perform a number of important social, commercial, industrial, spiritual and ecological functions, all of which need to be managed, preserved and enhanced in order to conserve Durban's biodiversity.

The 2003/2004 State of the Environment Report identified the need for citywide river health monitoring as a critical (but as yet unaddressed element) of Durban's sustainability reporting strategy.

The River Health Programme (RHP), initiated by the EMD, was designed to provide baseline data on the ecological state of Durban's rivers from 2005 to 2007, through the assessment of the condition of biological communities in terms of fish, aquatic invertebrates, riparian vegetation and river habitats. Results of these surveys are documented in eThekwini Municipality's 2005-2006 and 2006-2007 State of Rivers reports.

RIVER HEALTH INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector response
1. Total average effluent discharge volumes to rivers.	220 Ml/day	263 Ml/day	229 Ml/day	230 Ml/day	242 Ml/day	~	This figure is influenced by development, urbanisation and storm conditions. Storm conditions increase level of wastewater treated as a result of rain and infiltration of stormwater into sewer system.
2. Number of exceedances of *E. coli*[13] levels at river sampling sites.	78 of 104 sites or 81 % of sampling sites exceeded TWQR for *E. coli.*[14]	86 of 119 sites or 72 % of sampling sites exceeded TWQR for *E. coli.*	45 of 58 sites or 78 % of sampling sites exceeded TWQR for *E. coli.*	79.4 % of samples exceeded TWQR for *E. coli.*	74.6 % samples exceeded TWQR for *E. coli.*	~	*E. coli* exceedance is dependent on the location of sampling e.g. above or below the wastewater treatment works or around informal residential communities. *E. coli* exceedance could also be as a result of failure of existing sewer infrastructure.
3. Percentage compliance with DWAF discharge standards from sewage outfalls to river.	88 % discharge released to rivers was DWAF compliant.	92.1 % discharge released to rivers was DWAF compliant.	73 % discharge released to rivers was DWAF compliant.	72 % discharge released to rivers was DWAF compli-ant.	71 % discharge released to rivers was DWAF compliant.	~	Compliance is dependent on the capacity and effectiveness of the wastewater treatment works. Percentage compliance is variable due to equipment failure, the need for infra-structural investments and tighter trade effluent controls for performance improve-ments. The decrease in compliance since 2004/05 indicates that the wastewater treatments were under stress from over-loading, increased industrial pollution and inadequate infrastructure capacity.

[13] *Escherichia coli (E. coli)* presence in water is a strong indication of recent sewage or animal waste contamination.

[14] Target Water Quality Range (TWQR) for full contact (swimming) recreational water contact. *E. coli* <130 coliforms/100ml is suitable for full contact bathing.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector response
4. Number of phosphorus exceedances at river sampling sites per annum.[15]	* 53 % of sites exceeded the environmental criteria for phosphorus.	* 48 % of sites exceeded environmental criteria for phosphorus.	* 89 % of sites exceeded environmental criteria for phosphorus.	23.1 % of samples exceeded the environmental criteria for phosphorus.	17.95 % samples exceeded the environmental criteria for phosphorus.	~	Trending over the past 5 years is not possible as the reporting of phosphorus exceedances was not consistent. Results previous to 2006/07 were based on different criteria and were largely a measure of outfall water quality rather than river water quality. Reporting since 2006/07 has been standardised and there has been a slight decrease in the number of exceedances.
5. Number of ammonia exceedances at river sampling sites per annum.[16]	* 100 % of sites exceeded the environmental criteria for ammonia.	* 100 % of sites exceeded the environmental criteria for ammonia.	* 100 % of sites exceeded environmental criteria for ammonia.	0 % of samples exceeded the environmental criteria for ammonia.	5 % of samples exceeded the environmental criteria for ammonia.	~	Trending over the past 5 years is not possible as the reporting of ammonia exceedances was not consistent. Results previous to 2006/07 were based on different criteria and were largely a measure of outfall water quality rather than river water quality. Reporting since 2006/07 has been standardised and there has been a slight increase in the number of exceedances.
6. Extent of river and riparian zones cleared of alien invasive plants per annum.	No data available.	No data available.	No data available.	No data available.	No data available.		Data collection not in place.
7. Number and extent of wetlands in Durban.	No data available.	5 913ha	5 913ha	5 948 ha	5 948 ha Refer to Table 3.		No change in wetlands since 2006/07.

[15] The calculation for the phosphorus exceedance is based on the environmental criteria which is >1mg/l.
[16] The calculation for ammonia exceedance is based on the environmental criteria which is >10 mg/l.
* Data erroneously reported.

TABLE 3. NUMBER AND EXTENT OF WETLANDS IN DURBAN

General type	Detailed type	Total area in DMOSS 2007/2008 (m^2)	Total area in DMOSS 2007/2008 (ha)
WETLANDS	**ALL**	**59 475 493**	**5 948**
Wetland (non woody)	**ALL**	**57 396 910**	**5 740**
Wetland (non woody)	Estuarine Wetland	964 340	96
Wetland (non woody)	Floodplains	49 896 124	4 990
Wetland (non woody)	Freshwater Wetland	6 536 446	654
Wetland Forest	**ALL**	**2 078 582**	**208**
Wetland Forest	*Barringtonia racemosa Forest*	235 580	24
Wetland Forest	*Hibiscus tiliaceus Forest*	4 095	0
Wetland Forest	Mangrove Forest	562 407	56
Wetland Forest	Not Applicable	431 486	43
Wetland Forest	Swamp Forest	845 014	85

4.3 Estuaries and marine environment

Estuaries and the rivers which flow into them, are transition zones at the mouth of rivers where riverine and marine environments meet, and the health of the estuary is dependent on the quality of these two environments. Functional estuaries support a diverse range of habitats with the warm, generally shallow waters receiving nutrients from up stream and the sea, which makes them highly productive and important ecosystems.

Estuaries are generally known as the nurseries of the sea because they contain large amounts of food and shelter for fish and other fauna. To ensure that our estuaries continue to provide the ecological goods and services upon which we depend, ongoing protection and management is needed.

MARINE AND ESTUARINE INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Extent of dune and coastal vegetation that is protected within Durban.	No data available.	1 150 ha	1 150 ha	1 149 ha	No data available.	-	Data not available for the 2007/08 financial year due to lack of a GIS officer.
2. Percentage DWAF compliance of discharge to marine outfalls per annum.	96 % of effluent released to marine outfalls was DWAF compliant.	98.6 % of effluent released to marine outfalls was DWAF compliant.	93 % of effluent released to marine outfalls was DWAF compliant.	93 % of effluent released to marine outfalls was DWAF compliant.	78 % of effluent released to marine outfalls was DWAF compliant.	~	Compliance is dependent on the quality of industrial effluent received.
3. Number and extent of estuarine wetlands in Durban.	No data available.	96 ha	96 ha	96 ha	96 ha Refer to Table 3.	-	Estuarine wetlands have not been remapped since 2004/05.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
4. Quantity of sediment moved per annum to maintain Durban's beaches.	No data available	251 615 m^3	36 690 m^3	239 532 m^3	228 713 m^3	~	Volume of sand pumped was slightly below the long term transport rate. Over the next three years a temporary scheme will be in operation.
5. Number per category marine recreational licences sold per annum in Durban.[17]	No data available.	No data available.	* 31 759 permits	* ~~32 661 permits~~ * 31 759 permits	32 661 permits	↑	Figures represent KZN Wildlife data only.
6. Number of non-swimming days at Durban's beaches due to poor water quality per annum.	1 day at Bay of Plenty & 2 days at Battery Beach. 3 days in total	4 days at Bay of Plenty; 6 days at Battery Beach; 3 days at South Beach; 5 days at Country Club; 2 days at Ansteys; 2 days at Addington; 5 days at Umhlanga Main; 3 days at Bronze Beach. 30 days in total	3 days at Bay of Plenty; 5 days at Battery Beach; 3 days at South Beach; 5 days at Country Club; 2 days at Ansteys; 2 days at Addington; 3 Days at Westbrook; 4 Days at Umhloti; 2 Days at North Beach. 29 days in total	9 days at Bay of Plenty; 11 days at Battery Beach; 11 days at South Beach; 8 days at Country Club; 8 days at Ansteys; 6 days at Addington; 6 days at Westbrook; 4 days at Umhloti; 7 days at North Beach; 4 days at Bronze Beach; 5 days at Umhlanga Rocks; 5 days at Amanzimtoti. 84 days in total	10 days at Bay of Plenty; 11 days at Battery Beach; 10 days at South Beach; 12 days at Country Club; 6 days at Ansteys; 17 days at Addington; 16 days at Westbrook; 4 days at Umhloti; 10 days at North Beach; 10 days at Bronze Beach; 7 days at Umhlanga Rocks; 15 days at Amanzimtoti. 134 days in total	↑	Number of swimming beaches monitored: 2003/2004: 2 2004/2005: 11 2005/2006: 12 2006/2007: 12 2007/2008: 12 Figures reflect exceedance from the Blue Flag standard. From 2010 the water quality standards will be in accordance with the newly introduced Durban Beach monitoring programme standards.

[17] Refer to www.durban.gov.za/durban/services/departments/environment for lists of Red Data Book species occurring in Durban.
* Data erroneously reported.

5. WATER

Access to a secure and safe water supply has been a key determinant in human settlement patterns in Durban. Water supply is a municipal responsibility undertaken by the eThekwini Water and Sanitation Unit (EWS). EWS is responsible for the distribution of potable water and the provision of affordable and acceptable services for the disposal of sewage, including conveyance and treatment where appropriate and control of water pollution as well as the provision of ancillary services.

WATER SUPPLY INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Unit cost of piped water.	R4.48/kl	* ~~R5.82/kl~~ R5.83/kl	R6.27 / kl	R7.21/kl	R7.21/kl	↑	Increase since 2003/04 was due to cost of roll out of free basic water plus increasing infrastructure maintenance.
2. Volume of water treated for supply and purchased by EWS.	798 Ml/d	805 Ml/d	* ~~883 Ml/d~~ 806 Ml/d	832 Ml/d	877 Ml/d	↑	Increase due to roll out of water to unserviced areas and new housing and industrial development.
3. Percentage of piped water not complying with health standards.	1.4 %	1.6 %	1.8 %	0.99 %	0.99 %	~	Within national norms and showing improvement since 2005/06. No corrective action required.

* Data erroneously reported.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
4. Number of households without access to potable water.	73 500 households	55 432 households	49 747 households	32 228 households	33 721 households	~	The number of households are determined each year from a count using the latest set of aerial photography. Although access to water was provided to an additional 7 931 households from July 2007 to June 2008, the influx of people into Durban from outside the Municipal area resulted in an increased backlog in 2007/08.
5. Daily volume of non-revenue water lost.[18]	224 Ml/d	193 Ml/d	* ~~94 Ml/d~~ 256 Ml/d	255 Ml/d	319 Ml/d	~	Sales have decreased by 3.3 % but system input volume increased by 5 %. Department has increased efforts to reduce non-revenue water 3 fold.
6. Volume of recycled wastewater sold in Durban.	35 Ml/d	36 Ml/d	39 Ml/d	34 Ml/d	34 Ml/d	-	Volume based on industry demand for secondary water.

[18] Non-revenue water means the difference between the amounts of water pumped to the water mains versus the amount billed to customers. This is mainly due to leaking water mains, illegal connections and incorrect metering.
* Data erroneously reported.

6. EMISSIONS, EFFLUENTS AND WASTE

EThekwini Municipality receives wastewater and effluent from domestic dwellings and industry throughout Durban. It treats the water and discharges it to rivers and the ocean. The Municipality also provides an engineered stormwater system to deal with the impacts of urban development and to protect life and property from flooding. The Drainage and Stormwater and Wastewater sections of this document report on the environmental impacts of these operations. These sections (section 6.1 and 6.2) need to be read in conjunction with the Aquatic Biodiversity section (4.2) which deals broadly with the impacts of wastewater on the natural environment. The Air Quality section (Section 6.3), considers air emissions and their impact on local air quality with a focus on the South Durban Basin (SDB), given its level of industrial development and the proximity of people to industry in this area. This section also considers air pollutants, Greenhouse Gas (GHG) emissions and briefly considers noise impact, which is included in South Africa's National Environmental Management: Air Quality Act (No. 39 of 2004). The bulk of Durban's solid waste is deposited in one of 3 landfill sites managed by the Municipality. The Solid Waste section (Section 6.6) of the report considers the waste that is disposed of by residents and industries in Durban, the impact of the waste in place in these landfills and preparations for new landfill sites.

6.1 Wastewater and sanitation

Planning for the provision of wastewater services, particularly for low-income and informal settlements as well as the increasing densification of middle and higher income areas, is a key challenge in Durban. Wastewater forecasting requires authorities to plan for future urban growth, while at the same time meeting the current requirements to alleviate the environmental health problems associated with poor sanitation.

WASTEWATER INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Number of households without access to sanitation facilities in Durban.	187 500 households	144 016 households	211 317 households	152 880 households	168 216 households	~	The number of households is determined each year from a count using the latest set of aerial photography. Although a total of 13 838 UD toilets were provided from July 2007 to June 2008, the influx of people into Durban from outside the Municipal area resulted in an increased backlog in 2007/08.
2. Volume of treated wastewater discharged to sea daily.	245 Ml/d	222 Ml/d	217 Ml/d	240 Ml/d	261 Ml/d	~	This figure is influenced by development, urbanisation and storm conditions. Storm conditions increase level of wastewater treated as a result of rain and infiltration of stormwater into sewer systems.
3. Volume of treated wastewater discharged to rivers daily.	220 Ml/d	263 Ml/d	229 Ml/d	211 Ml/d	242 Ml/d	~	This figure is influenced by development, urbanisation and storm conditions. Storm conditions increase level of wastewater treated as a result of rain and infiltration of stormwater into sewer system.
4. Rate of compliance with marine discharge permit.	96 %	98.6 %	93 %	95 %	78 %	~	Compliance is dependent on the quality of industrial effluent received.
5. Rate of compliance with river discharge permit.	88 %	92.1 %	80 %	80 %	71 %	~	Compliance is dependent on the capacity and effectiveness of the wastewater treatment works. Percentage compliance is variable due to equipment failure, the need for infrastructural investments and tighter trade effluent controls for performance improvements. The decrease in compliance since 2004/05 indicates that the wastewater treatment works were under stress from overloading, increased industrial pollution and inadequate infrastructure capacity.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
6. Wastewater treatment capacity in Durban.	720 Ml/d	742 Ml/d	742 Ml/d	681 Ml/d	681 Ml/d	~	No significant increase in treatment capacity as no significant change in wastewater facilities.
7. Utilisation of existing wastewater treatment works.	64.5 %	65 %	65 %	70 %	74 %	↑	Increase in demand.
8. Warnings and prosecutions from DWAF to EWS in 2007/2008.	0	0	0	0	0	-	No major non-compliance from EWS, hence no warnings and prosecutions were issued.
9. Warnings and prosecutions for non-compliant discharges to its sewers by EWS.	No data available.	290	820	669	840	~	The Municipality is approaching the National and Provincial Departments to cooperatively prosecute offending companies.

6.2 Drainage and stormwater

Stormwater drains are designed to help prevent flooding on both public and private property and to protect water quality of the receiving surface waters. Proper stormwater drain maintenance is crucial for flood control and water quality protection. The Coastal, Stormwater & Catchment Management (CSCM) Department of the Municipality's Engineering Unit, manages and maintains the engineered stormwater system. The function of this system is to protect people, property and the natural environment through the provision of a cost-effective, optimal water drainage path. Although discharge from the wastewater systems is treated before being released into rivers, discharge from the stormwater system receives no treatment. Any pollutant that enters the stormwater system will therefore be directly discharged into available water bodies.

DRAINAGE INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Capital/infrastructure at risk from floods.	No data available.	No data available.	No data available.	No data available.	No data available.		Limited resources and funding to conduct this work.
2. Dwellings in informal settlement at risk from floods within 1:100 year floodline.	No data available	3 540	3 734	2 958	4 887	~	This figure will alter as the coverage of the floodline data increases. The increase in 2007/08 was as a result of more floodline studies being completed for rivers within Durban and informal settlements being identified within these new coverages. The Slums clearance program is dealing with informal settlements within the 1:100 year floodline.
3. Number of stormwater system blockages.	3 542 storm water pipes & 1 037 inlet pipes.	1 037 storm-water pipes & 3 516 inlet pipes.	876 stormwater pipes & 2 692 inlet pipes.	796 stormwater pipes & 3 293 inlet pipes.	596 stormwater pipes & 6 688 storm water inlets.	~	Figures dependent on the frequency of maintenance. Measures in place to increase cyclic maintenance.
4. Number of insurance claims associated with flooding processed by the Municipality.	10 claims to the total value of R31 525.	52 claims to the total value of R 149 672.	No claims.	129 claims to the total value of R291 807.10.	147 Claims to the total value of R1 251 112.07.	~	Increase in claims due to the drainage system in some areas being inadequate, incorrectly constructed and not being maintained over a considerable period of time e.g. the flooding claim lodged in March 2008 by the Merebank Residents (Ward 68).

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
5. How many rivers have Master Drainage Plans (MDP) in place?	No data available.	1 pilot study initiated at Ohlanga River.	1 pilot study at Ohlanga River 80 % complete.	1 pilot study at Ohlanga River study 85 % complete.	2 pilot studies – 1. Ohlanga River study 95 % complete. 2. EIA process for the first two attenuation ponds on the Palmiet River has commenced. Study is 60 % complete.		The Ohlanga River and Palmiet River will give guidance to the development of the protocol to develop these plans for all other rivers in Durban.
6. Number of properties within the 1:100 year flood line.	* Formal 10 500 Informal 10 000	* Formal 14 345 Informal 476 322	* Formal 18 487 Informal 494 588	15 859	17 766	↑	This number has increased in 2007/08 as floodline studies for more rivers within Durban were completed.
7. Annual rainfall in developed areas in Durban.	No data available.	No data available.	No data available.	No data available.	No data available.		Data for the former old central area of Durban is almost ready for publication. The goal is to cover entire Durban with a grid of rain gauges. Finance has been set aside to achieve this.
8. Number of blockages of the sewer system per 100 km of network.	552	Average: 625	Average: 637	Average: 1 015	Average: 735	~	Proactive and preventative measures have been implemented with regards to blockages in critical and major problematic areas, which led to the decrease in 2007/08.

* Data erroneously reported.

6.3 Air Quality

The SDB has a mix of heavy industrial activity and residential settlements in close proximity. In response to this problem, an inter-governmental process established the Air Quality Monitoring Network in December 2003 as one of many strategic projects included within the Multi-Point Plan (MPP) for the SDB. The main aim of the plan is to improve air quality to meet health standards.

The Air Quality Monitoring Network extends into the City centre and to three other background monitoring sites. The two main sources of air pollution that the network targets are industrial and traffic emissions.[19]

AIR QUALITY INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Total priority pollutant emissions to air for Durban.	531 000 tpa	530 000 tpa	* ~~530 00 tpa~~ 529 500 tpa	529 500 tpa	523 603 tpa	↓	Reduction from major industries. Changes in processes at Mondi and reductions of emissions from Engen Refinery.
2. Number of short-term exceedances (24hr or less) and associated pollutants and number of days above the guideline:							These data indicated an improved monitoring system. Meteorological factors have contributed to more cold fronts and more rainfall during 2007/08.
• Number of daily PM10 exceedances;	36	22	29	81	70	~	Decrease at Settlers and Southern Works in 2007/08 due to changes in processes at Mondi and reductions in emissions from Engen Refinery
• Number of daily SO_2 exceedances;	34	28	9	12	0	~	
• Number of 10 minutes SO_2 exceedances.	No comparable data but expected to have been >1000	991	147	337	43	~	This is also evident in the number of 10 minutes SO_2 exceedances.
3. Number of complaints about air quality.	1 050	1 216	1 295	1 480	1 075	~	1. The complaints system was improved resulting in no duplication of complaints. 2. Down time of major industries in 2007/08. 3. Decrease in levels of priority pollutants in some areas during 2007/08.

19 EThekwini Health Department. 2008. EThekwini Air Quality Monitoring Network: Annual report, Durban, South Africa.

* Data erroneously reported.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
4. Percentage of licensed sources that do not comply with permit conditions.	No data available.	No data available.	No data available.	No data available.	No data available.		Monitoring system in development.
Total number of point sources requiring a permit.	No data available.	± 1000	± 1000	± 1000	± 1000	-	Information collected on the basis of air monitoring stations.
Total number of sources permitted for air quality.	No data available.	886	± 900	± 910	± 1000	↑	New and existing businesses were permitted.
5. Is there an air quality management plan in place for Durban and, if so, what is its degree of implementation?	Yes, the plan is 60 % complete.	Yes, the plan is 70 % complete. Currently engaged in situational analysis.	Yes, the plan is 80 % complete. Currently engaged in situational analysis.	100 % complete.	100 % complete.	↑	Currently in the implementation phase.
6. What is the emission inventory for Durban?							
Priority Pollutant							
• Particulates	14 000 tpa	14 000 tpa	14 000 tpa	14 000 tpa	14 000 tpa	-	Reduction from major industries. Changes in processes at Mondi and reductions in emissions from Engen Refinery. Mondi is now using coal boiler instead of an oil boiler. Sapref and Tongaat Hullet updated their emissions inventory.
• Carbon monoxide	349 000 tpa	349 000 tpa	349 000 tpa	349 000 tpa	349 000 tpa	-	
• Oxides of nitrogen	46 000 tpa	46 000 tpa	46 000 tpa	46 000 tpa	46 000 tpa	-	
• Sulphur dioxide	31 000 tpa	30 000 tpa	*~~30 000 tpa~~ 29 500 tpa	29 500 tpa	23 603 tpa	↓	
• Organic compounds	91 000 tpa	91 000 tpa	91 000 tpa	91 000 tpa	91 000 tpa	-	
Total	531 000 tpa	530 000 tpa	*~~530 000 tpa~~ 529 500 tpa	529 500 tpa	523 603 tpa	↓	

* Data erroneously reported.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
7. Percentage of sources in Durban that are licensed.	No data available.	No data available.	No data available.	No data available.	No data available.		Emissions to atmosphere not regulated. Not a municipal function.[20]
8. Licensed sources in Durban that do not comply with permit conditions.	No data available.	No data available.	No data available.	No data available.	No data available.		Not a municipal function.[20]
9. Percentage of non-compliant licensed sources in Durban for which there was remedial action by the Municipality.	No data available.	No data available.	No data available.	No data available.	No data available.		Not a municipal function.[20]
10. Percentage of air pollution related complaints that were acknowledged by the Municipality.	No data available.	100 %	100 %	100 %	100 %	-	Improved management system in place to record data.
11. Percentage of air pollution related complaints that were attended by Municipality.	No data available.	80 %	100 %	100 %	100 %	-	Tracking system fully operational.
12. Percentage of air pollution related complaints that were resolved by Municipality.	No data available.	No data available.	* ~~No data available.~~ 40 %	80 %	70 %		30 % of complaints that were received were referred to other municipal departments for investigation.

[20] At first it was understood that this was a municipal function. It has now been established that it is the responsibility of Provincial and National Departments to monitor licenced sources in Durban.
* Data erroneously reported.

6.4 Climate disruption

Climate change poses the single largest threat to the global environment, society and economy. While national leadership continues to press for Greenhouse Gas (GHG)[21] reductions, eThekwini Municipality has developed a Municipal Climate Protection Programme to address mitigation, adaptation and avoidance measures in Durban.

Climate change will impact on the economy, health and social structures, infrastructure and the environment in Durban and the maintenance and protection of natural systems is key to mitigating these impacts. By 2020 water stress will increase and food security will decrease, which will exacerbate malnutrition. Projected sea level rise will affect low lying coastal areas, such as Durban. Towards the end of the 21st century GVA will be affected with additional consequences for fisheries and tourism.

Studies confirm that Africa is one of the most vulnerable continents to climate change because of multiple stresses and low adaptive capacity.[22]

GHG emissions are emitted locally through activities such as vehicle and electricity use and land filling our waste. The current rate of climate change is attributable directly and indirectly to human activities. Various factors contribute to climate change by increasing the concentration of GHG's in the atmosphere e.g. the burning of fossil fuels, waste decomposition and ecosystem destruction. It is the responsibility of individuals and governments to make choices with regards to transportation, energy supply and efficiency, solid waste and land use which will determine the trajectory of GHG emissions and climate disruption into the future.

[21] The main GHGs are carbon dioxide, methane, nitrous oxide, hydroflurocarbons and perflurocarbons.
[22] Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: Impacts, Adaptation and Vulnerability: Summary for Policy Makers. Brussels, Belgium.

CLIMATE DISRUPTION INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Total CO_2eq [23] emissions from the eThekwini Municipality activities.	1.25 Mt CO_2eq	1.25 Mt CO_2eq	1.12 Mt CO_2eq	1.12 Mt CO_2eq	1.12 Mt CO_2eq	~	GHG inventory figures were taken from last study conducted in 2005/06, which was expanded to include community GHG emissions. The next inventory will be conducted in 2009/10 financial year.
2. Total CO_2eq emissions for Durban.	20 Mt CO_2eq	20 Mt CO_2eq	23 Mt CO_2eq	23 Mt CO_2eq	23 Mt CO_2eq	~	GHG inventory figures were taken from last study conducted in 2005/06, which was expanded to include community GHG emissions. The next inventory will be conducted in 2009/10 financial year.
3. CO_2eq saved by Municipal Projects.	No data available.	128 tons CO_2eq	917 tons CO_2eq	300 tons CO_2eq	1. 48 000 tons CO_2eq (La Mercy & Marianhill landfill sites) 2. 39 000 tons CO_2eq (Bisasar landfill site) Total = 87 000 tons CO_2eq	~	3 Landfill gas projects resulted in 87 000 tons of CO_2eq being mitigated.
4. Number of international initiative/partnerships to reduce CO_2 emissions for the Municipality.	Four: ICLEI/ CCP 1 Emissions Inventory & 3 landfill gas to energy projects (Bisasar; Mariannhill & La Mercy).	Four: ICLEI/ CCP 1 Buildings Energy Efficiency Pilot Programme & 3 landfill to gas projects (Bisasar; Mariannhill & La Mercy).	Four: ICLEI/ CCP 1 Buildings Energy Efficiency Pilot Programme & 3 landfill to gas projects (Bisasar; Marian-nhill & La Mercy).	Four: ICLEI/ CCP 1 Buildings Energy Efficiency Pilot Programme & 3 landfill to gas projects (Bisasar; Mari-annhill & La Mercy).	Three: 3 Landfill gas projects (Bisasar; Mariannhill & La Mercy).	-	The landfill gas project is in operation at Bisasar, Marianhill and La Mercy landfill sites.[24]
5. Percentage change per annum in GHG emissions.	No change.	No change.	15 % increase	No change.	No change.	-	GHG inventory figures were taken from last study conducted in 2005/06, which was expanded to include community GHG emissions. The next inventory will be conducted in 2009/10 financial year.

[23] All GHG emissions are measured in a single unit, CO_2eq, whereby the appropriate emissions factor is calculated back to a CO_2 equivalent factor.

[24] Although the La Mercy landfill site is now closed, the landfill gas project is in operation as the waste in place still emits methane gas which will be captured and converted to electricity.

6.5 Noise pollution

In urban centres noise is pervasive and can negatively affect human health and well being. Problems related to noise include hearing loss and stress, factors which bring about a reduction in people's quality of life.

NOISE INDICATOR

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. The number of noise pollution related complaints received by the Municipality.	219	337	208	256	915	~	Better data recording.
2. Percentage of these which were acknowledged by the Municipality.	No data available.	100 %	100 %	100 %	100 %	-	Tracking system fully operational.

6.6 Solid waste

The Cleansing and Solid Waste Department (DSW) manages the Municipality's four landfill sites: Bisasar, Buffelsdraai, La Mercy and Mariannhill. The landfill site at La Mercy has reached its capacity and is closed but remains under the management of DSW. Future capacity is planned at Lovu. In addition, two privately owned permitted landfill sites for low hazardous waste are situated at BulBul Drive and Shongweni.

Solid waste is a product of consumption, and produces impacts such as odour and leachate, which may impact on communities living close to landfill sites; climate disruption is also exacerbated through the production of methane. Across Durban many communities, businesses, and individuals are aware of the need to reduce and better manage solid waste through a coordinated mix of waste minimization, recycling and reuse. In order to make recycling work, we must buy recycled products and packaging to create a market for recycled goods and reduce the volume of solid waste generated. In so doing we reduce local and global impacts, which affect people, the economy and ecosystems now and into the future.

SOLID WASTE INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Quantity of waste generated within Durban per annum.	1.5 million tons	1.6 million tons	1.65 million tons	1.65 million tons	1.8 million tons	↑	Increase in economic activity has resulted in more waste being produced.
2. Remaining capacity of existing Municipal landfills.	7 million m^3 (Bisasar only)	13 million m^3 (Bisasar Rd, Mariannhill & La Mercy)	62 million m^3 (Bisasar Rd, Mariannhill & Buffelsdraai)	60 million m^3 (Bisasar Rd, Buffelsdraai Mariannhill & La Mercy)	58.6 million m^3 (Bisasar Rd, Mariannhill & Buffelsdraai)	~	Awaiting approval of new sites at Shongweni & Harrison Flats. Figure excludes capacity at Lovu site. Limited space at Bisasar Rd due to design adjustments.
3. Quantity of waste collected annually by the Municipality.	433 366 tons (Bisasar only)	528 821 tons (Bisasar, La Mercy & Mariannhill)	558 054 tons (Bisasar, La Mercy and | Mariannhill)	570 000 tons (Bisasar Rd, Mariannhill & Buffelsdraai)	550 142 tons (Bisasar Rd, Mariannhill & Buffelsdraai)	~	An increased number of contractors have been employed by the Municipality to collect waste.
4. Quantity of waste under management of eThekwini Municipality per annum.	981 000 tons	1.2 million tons	1.28 million tons	1.24 million tons	1.41 million tons	↑	Combination of improved collection and the boom in construction industry.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
5. Quantity of low hazardous waste land filled per annum by private companies.	136 770 tons/ annum	85 539 tons/ annum	83 011 tons/ annum at Shongweni 73 780 tons/ annum at BulBul Drive Total = 156 791 tons/annum	114 843.4 tons/ annum at Shong-weni 126 036 tons/ annum at BulBul Drive Total = 240 879.4 tons/annum	164 232 tons/ annum at Shongweni 139 316 tons/ annum at BulBul Drive Total = 303 548 tons/annum.	↑	The increase in 2007/08 can be attributed to improved segregation of waste and increased development.
6. New landfill capacity permitted.	Proposed: Buffelsdraai 50 million m^3; Lovu 8 million m^3 Permitted: 0	Proposed: Buf-felsdraai 50 million m^3; Lovu 8 million m^3 Permitted: 0	Proposed: Lovu 8 million m^3 Permitted: Buffelsdraai 50 million m^3	Proposed: Lovu 8 million m^3 Shongweni 80 million m^3 Assmang 60 million m^3 Permitted: 0	Proposed: Lovu 8 million m^3 Shongweni 80 million m^3 Assmang 60 million m^3 Permitted: 0		No new were sites permitted. EIA reports to be submitted during 2008/09.
7. Quantity of waste collected versus number of collection trucks.	433 366 tons by 140 trucks. 3 095.47 tons/ truck	528 821 tons collected by 160 trucks. 3 305.13 tons/ truck	558 054 tons collected by 157 vehicles. 3 554.48 tons/ truck	570 000 tons collected by 160 trucks. 3 562.5 tons/ truck	550 142 tons collected by 165 trucks. 3 334.19 tons/ truck	~	An increased number of contractors have been em-ployed by the Municipality to collect waste.
8. Quantity of leachate treated annually.	Mariannhill = 30 000 litres/ day	Mariannhill = 30 000 litres/ day	Mariannhill = 30 000 litres/ day	Mariannhill = 30 000 litres/ day	Mariannhill = 30 000 litres/day Buffelsdraai = 10 000 litres/day Total = 40 000 litres/day	↑	Buffelsdraai treatment plant was commissioned during 2007/08.
9. Cost to Municipality for removal of illegal dumping.	R1 000/ton. Absorbed into the total DSW budget of R250 million.	Estimate R1 100/ton. Absorbed into total DSW budget of R327 million.	Estimate R 1 200/ton. Absorbed into total DSW budget R223 million.	Estimate R1 300/ton. Absorbed into total DSW budget of R244 million.	Estimate R1 500/ton Absorbed into total DSW budget of R308 million.	↑	A separate budget is not provided for the removal of illegal dumping and theses costs are included in the street sweeping budget. Inflation has a substantial impact on the costs.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
10. Percentage waste generated and safely disposed.	88.4 %	80.3 %	87.5 %	89.8 %	95.2 %	~	Since 2005/06 there has been an increase in waste collected by private companies and an increase in the quantity of waste under the management of eThekwini Municipality.
11. Number of landfill complaints.	48	63	33	53	36	~	Number of landfill complaints: Bisasar Rd = 33 (25 from a single complainant) Mariannhill = 2 Buffelsdraai = 1
12. Waste generated per person.	0.5 tons/ person/annum	0.5 tons/person/ annum	0.5 tons/ person/annum	0.5 tons/ person/annum	0,5 tons/ person/annum	-	Figure taken from 1999 waste study conducted by DSW. Study not repeated since.[25]
13. Number of organisations with waste minimisation projects.	635 organisations	Schools 280 Businesses 250 Communities 190 Total = 720 organisations	Schools 280 Businesses 250 Communities 190 Total = 720 organisations	Schools 320 Businesses 480 Communities 250 Total = 1 050 organisations	Schools 320 Businesses 480 Communities 250 Total = 1 050 organisations		No change as the number of organisations with waste minimisation projects have not been updated since 2007.
14. Cost of waste collection for the Municipality.	R139.34 million	R137.04 million	R147.58 million	R195.35 million	R248.77 million	↑	Costing method changed to comply with legislation. Management costs distributed across all divisions.
15. Rand/rate value per ton of waste to move per kilometre.	No data available.	No data available.	No data available.	No data available.	No data available.		Management tracking system not available at present. Tracking system motivated for.

[25] The waste study was conducted in 1999 and it is uncertain whether the same study will be conducted again.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
16. Quantity of recycled waste managed by the Municipality per annum from their premises.	920 tons paper 2 276 tons metal 775 tons glass 119 tons plastic 52 tons cans 6 460 tons oil 7 tons batteries Total = 10 609 tons	1 628 tons paper 1 536 tons metal 400 tons glass 352 tons plastic 65 tons cans 6 925 tons oil Total = 10 906 tons	2 352 tons paper 2 568 tons metal 888 tons plastic 936 tons glass 120 tons cans 7 230 tons oil 20 tons batteries Total = 14 114 tons	414.11 tons paper 608 tons cardboard 258.27 tons plastic 230.13 tons bottles (glass) 87.26 tons cans 282.67 tons subgrade 20.34 tons copper 4.64 tons brass 38.57 tons aluminium 734.64 tons steel 5.84 tons cable 37.94 tons batteries 4.94 tons radiators 10.15 tons lead 0.48 tons zinc 147.84 tons stainless steel 5.56 tons non ferrous 7.9 tons oil Total = 2 899.25 tons	666 tons paper 2 925 tons cardboard 438 tons plastic 433 tons bottles 182 tons cans 34 tons copper 14 tons brass 82 tons aluminium 3 408 tons subgrade 7 tons radiators 28 tons lead/zinc 360 tons stainless steel 23 tons non ferrous 35 tons oil Total = 8 635 tons	~	The range of recycled waste has increased and there is a better break down of recycled waste that is managed by the Municipality. The tonnage for various recycled items has fluctuated over the years. There has been a significant decrease in the amount of recycled oil that is managed. A decrease in the tonnage of recycled paper is also noted; however there has been an increase in the amount of recycled cardboard that is managed. The fluctuation in tonnage of recycled items cannot be explained.
17. Percentage of households with access to waste collection services.	94 %	97 %	98 %	98.3 %	99 %	↑	Properties that did not have service to waste collection were identified and provided with service.

7. ENERGY

Most people think of energy only as electricity. Petroleum products and biomass are also components of Durban's energy sector. This section focuses on electricity, as this is the dominant form of energy purchased and supplied by the Municipality.

In South Africa, Eskom is the main electricity generator. Eskom relies on coal-fired power stations to produce approximately 96 % of its power. This results in CO_2 being emitted and impacts significantly on local air quality through the emission of priority pollutants such as nitrogen oxide, sulphur dioxide and particulate matter. While there are no local coal-fired power stations in Durban, it is important to recognize that the local impact of Durban's electricity consumption is experienced elsewhere in the country. Coal-burning power stations are the largest contributor to GHG emissions in South Africa.

The eThekwini Electricity Department (EE) supplies approximately 632 112 customers in an area covering over 2 000 km^2. Electricity is purchased at 275 000 volts from Eskom. It is then transmitted and distributed for use by the full spectrum of customers ranging from the large, sophisticated industrial and commercial sector, to the rural and peri-urban informal communities.

ENERGY INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Total bulk of electrical energy purchased by eThekwini Electricity from Eskom for Durban.	* ~~10 800 GWh~~ 10 10 804 GWh	11 054 GWh	11 186 GWh	11 580 GWh	11 752 GWh	↑	Increase in demand.
2. Electricity usage intensity for households (kWh/household).	520 kWh/month/household	512 kWh/month/household	536 kWh/month/household	541 kWh/month/household	549 kWh/month/household	↑	It is possible that the increase since 2005/06 can be attributed to communities buying and using more electrical appliances.
3. Electricity usage intensity for municipal offices.	No data available.	342.2 kWh/m^2	* ~~213.123 GWh~~ No data available.	No data available.	No data available.		The 2004/05 figure was derived from surveys undertaken in two municipal buildings as part of the Buildings Energy Efficiency Programme. Parameters for the data have not been confirmed since the first study and data collection is currently not in place.
4. Number of tons atmospheric pollution arising from power generation activity.	*~~9.7 kt~~ 9.7 Mt CO_2eq	*~~10.8 kt~~ 10.8 Mt CO_2eq	*~~10.96 kt~~ 10.96 Mt CO_2eq	*~~13.89 Mt CO_2-eq~~ 11.09 Mt CO_2eq	11.75 Mt CO_2eq	↑	Figure is based on total electricity purchased from Eskom by eThekwini Municipality and Eskom's average CO_2 emission figure.

* Data erroneously reported.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
5. Does the Municipality have an integrated energy policy?	No	No	No	In preparation.	In preparation.		The Durban Energy Strategy development process began in 2006/07 financial year. The strategy is still in the process of being finalised.
6. Number of oil spills at electricity substations.	0	0	1	0	0	-	There were no oil spills at the substation since 2006/07.
7. Number of kilolitres of liquid fuel used by the Municipality.	4 520 kl	Diesel: 3 735 292 kl Petrol Unleaded: 2 792 651 kl Petrol Leaded: 1 386 953 kl	Diesel: 2 101 458kl Petrol: 384 038 kl	Diesel: 3 268 600 kl Petrol: 3 728 072 kl	No data available.	~	From the beginning of 2006 all petrol engine council vehicles used 95 octane-unleaded fuel.
8. Number of power disturbances to industry resulting in flaring.	5	6	1	6	3	~	Based on feedback from Engen refinery.
9. Technical and non-technical electricity losses.	614 GWh	552 GWh	629 GWh	648 GWh	636 GWh	~	Electricity loss is due to heat energy lost through transmission processes because of more electricity being distributed and illegal connections.
10. Liquid fuel usage intensity, kl/passenger/km of municipal fleet.	No data available.	54 million total kilometres travelled.	41 million total kilometres travelled.	53 million total kilometres travelled.	No data available.	~	No system in place to calculate kl/passenger/km.
11. Area of land cleared of natural vegetation to make way for overhead transmission lines.	No data available.	0.4 ha	0.878 ha	1.130 ha	0.62 ha	~	Fewer overhead lines were constructed during 2007/08.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
12. Number of environmental impact related complaints received by the Municipality.	No data available.	No data available.	No data available.	No data available.	No data available.		No facility to separate and manage environmental complaints.
13. Number of Demand Side Management (DSM) projects implemented by the eThekwini Municipality.	0	2 by eThekwini Electricity & eThekwini Electricity has assisted 20 municipal customers to implement DSM.	Fitment of 600 000 Compact Fluorescent Lamps	0	0	~	No DSM projects were implemented in 2007/08.
14. Savings in tons CO_2eq and in Rands identified through energy efficiency interventions implemented in the Municipality.	No data available.	Buildings Energy Efficiency Programme, CO_2eq saving gained from no cost interventions total 128 tons and financial saving of R53 000 per annum.	Buildings Energy Efficiency Programme, CO_2 saving gained from implementing no cost interventions total 917 tons and financial saving of R236 600 per annum.	Buildings Energy Efficiency Programme, CO_2eq saving gained from no cost interventions total 300 tons and financial saving of R121 000 per annum	No data available.		
15. Percentage of energy supplied by eThekwini Municipality which is renewable.	No data available.	Less than 1 %	Less than 1 %	Less than 1 %	Less than 1 %	-	Other source is Landfill Gas-to-Electricity Project at Bisasar Rd and Mariannhill landfill site.

8. MATERIAL AND SUPPLIERS

The Procurement Unit (PU) of eThekwini Municipality is responsible for the purchasing of goods and services. Council policy plays an important role in the selection of appropriate suppliers and goods throughout Durban. The PU is divided into the Supply Chain Management Department and the Policy and Support Department, each with a critical role to play in purchasing.

There is currently no Eco-Procurement Policy in place nor is there a "green purchasing" system in operation within the Municipality. However, the Unit has recognised this as an area for attention and development.

The PU of eThekwini Municipality spent approximately R808 million on goods and services during the 2007/2008 financial year, which gives the Municipality the buying power to 'green' its suppliers through eco-procurement requirements.

ENERGY INDICATORS

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
1. Total materials used, other than water, by type (stock items).	No data available.	Refer to Appendix 1 in 2004/05 report.	Refer to Appendix 1 in 2005/06 report.	Refer to Appendix 1 in 2006/07 report.	Refer to Appendix 1.		Top 20 stock items used by the Municipality.[26]
2. Quantity and nature of persistent organic pollutants (POPs) purchased per year, being materials that are governed by international treaties	No data available.	No data available.	No data available.	No data available.	No data available.	~	Monitoring system in progress to monitor the purchase of banned substances.

[26] The top six stock items purchased by the Municipality are fossil fuel based and contribute to GHG emissions. This is an area of concern that needs to be addressed in the Eco-procurement Policy.

Indicator	2003/4	2004/5	2005/6	2006/7	2007/8	Trend	Sector Response
3. Number of municipal suppliers with Environmental Management Programmes or ISO 14001 accreditation.	No data available.	6 out of top 20 suppliers.	9 out of top 20 suppliers.	10 out of top 20 suppliers.	12 out of top 20 suppliers. Refer to Appendix 2.	↑	Better information collection system.
4. Number of suppliers to eThekwini Municipality with materials containing substances of concern, POPs or banned substances.[27]	No list of suppliers.	No list of suppliers.	No list of suppliers.	No list of suppliers.	No list of suppliers.		Monitoring system in progress to monitor materials containing substances of concern.
5. Total purchasing power of the municipality.	R587 million	R597 million	R737 million	R720 million	R808 million	↑	Figure excludes bulk electricity and water purchases.
6. Does the municipality monitor for banned substances in the materials purchased?	No	No	No	No	No		Monitoring system in progress to monitor for banned substances.
7. Status of implementation of an environmental purchasing policy for eThekwini Municipality.	Policy still to be developed.	In progress.	In progress.	In progress.	In progress.	-	Policy development deferred due to need to initiate Supply Chain Management Program.

[27] Refer to www.durban.gov.za/durban/services/departments/environment for a full list of materials containing substances of concern.

9. CONCLUSION

This is the eThekwini Municipality's fourth State of the Environment Headline Indicators Report, which reports against the indicators outlined in the 2003/2004 SOE Report. The main focus of this report has been to provide quantitative data that can be used to determine the Municipality's success in achieving a more sustainable and environmentally acceptable development path.

The reader of this report is encouraged to read this report together with the full State of the Environment report for 2003/2004 (www.durban.gov.za/durban/services/departments/environment).

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APPENDIX 1: STOCK ITEMS USED

Item Number	Description	Total Value
6140076	Asphalt Mix D	21,627,315.00
1200022	Diesel	14,446,426.00
6140030	Asphalt Mix B	9,665,144.00
1200255	Petrol 95	6,882,687.00
6140085	Asphalt Mix D with Latex	4,915,719.00
6140012	Asphalt Mix A	3,054,005.00
567706	A4 Paper White Bond	2,618,709.00
0560841	Toilet Paper-White	1,652,188.00
8050913	Pool Cleaner Gas Liquid	832,419.00
0030053	Green Refuse Bags	731,326.00
8668497	Tyre 750Rx16 New Steel 14 Ply	728,353.00
4900298	Crusher run 37.5	674,377.00
7211556	Foam Compound Alcoseal	633,376.00
8669065	Tyre 315/80 x22.5 New Tubeless	624,992.00
8115893	Line Nylon 3.5mm diameter	589,204.00
4321019	Cement 50 kg	580,163.00
1200111	Engine Oil Diesellube 700 Super	553,617.00
0155046	Sun Screen SPF 17 100ml	525,845.00
8669074	Tyre 11Rx22.5 SR New Steel	481,352.00
941944	Wheelbarrow Solid Tyre	458,642.00
	TOTAL	**72,275,859.00**

APPENDIX 2: TOP 20 SUPPLIERS

Supplier	ISO Acc	SABS Acc	Remarks
Masana Petroleum	N	N	BEE for BP
Mdubane Energy Services	Y	Y	BEE for Engen-Accredited
Mecer Computers	Y	Y	ISO Accredited
McCarthy Volkswagen	N	N	Dealer
Key Parts Wholesale	N	N	Dealer
McCarthy Volkswagen	N	N	Dealer
Ocean Stationery	N	N	Retailer
Bell Equipment	Y	Y	OE Supplier (Agent)
Williams Hunt	N	N	Dealer
Ramdhani Sand and Stone	N	N	Transporter
CHM Vuwani Computers	N	N	Dealer
V-Tech Electronics	Y	Y	Agent
Kolphen Tyres	Y	Y	Agent for Dunlop-Accredited
Afrisam South Africa	Y	Y	ISO Accredited
Pinetown Agricultural Equipment	N	N	Agent
Durban South Nissan & Renault	Y	Y	OE Supplier (Agent)
Mercedes Benz Commercial	Y	Y	OE Supplier (Agent)
Man Truck & Bus S.A.	Y	Y	OE Supplier (Agent)
Much Asphalt	Y	Y	ISO Accredited
Datcentre Motors Pty Ltd	N	N	Dealer

OTHER KNOWN SUPPLIERS NOT COVERED IN TABLE TO THE LEFT

Supplier	ISO Acc	SABS Acc	Remarks
Nampak Tissue	Y	Y	ISO Accredited
Geochem	Y	Y	ISO Accredited

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