

WHAT IS THE DURBAN METROPOLITAN OPEN SPACE SYSTEM



D'MOSS is an acronym for the Durban Metropolitan Open Space System. D'MOSS is a system of open spaces, comprising **74671ha** of land and water that incorporates areas of high biodiversity value linked together in a viable network of open spaces.

Examples of areas included in D'MOSS are nature reserves (e.g. Roosefontein, Paradise Valley and Burman Bush), large rural landscapes in the upper catchments, riverine and coastal corridors. Some areas of privately-owned land are also included in D'MOSS. D'MOSS is mapped by the Biodiversity Planning Branch of the Environmental Planning and Climate Protection Department (EPCPD) using the Systematic Conservation Planning approach which is recognised by National and Provincial environmental authorities as the accepted methodology for the prioritisation of areas for biodiversity and ecosystem service protection in South Africa.

From a natural resource perspective, D'MOSS includes dams; estuarine environment including sand and mudbanks, mangrove and swamp forests; forests including dune, coastal and scarp forests; wetlands including floodplains, swamp forest and reedbeds; grassland including the threatened Ngongoni and Sandstone Sourveld grasslands; dry valley thicket; and woodland including wooded grasslands.

D'MOSS thus provides a unique opportunity to conserve many of South Africa's threatened ecosystems and species including the endangered Sandstone Sourveld grasslands; the critically endangered *Brachystelma natalense* (a small herbaceous plant); and the endangered Oribi, Spotted Ground Thrush, and Pickersgill's Reed Frog. If protected and managed, D'MOSS will assist the province and the country in meeting biodiversity conservation targets.

WHY IS D'MOSS IMPORTANT?

Apart from contributing to the attainment of provincial and national biodiversity conservation targets, D'MOSS provides a range of ecosystem services to all residents of eThekweni, including the formation of soil, erosion control, water supply and regulation, climate regulation, cultural and recreational opportunities, raw materials for craft and building, food production, pollination, nutrient cycling and waste treatment.

From a climate adaptation perspective, the biodiversity that is protected within D'MOSS plays an important role. The impacts of sea level rise for example can be reduced by ensuring the protection of well vegetated fore-dunes and setting coastal developments back from vulnerable areas. Increased flood events can be moderated by ensuring that wetlands and floodplains are protected and where necessary

rehabilitated. Predicted increased temperatures can also be alleviated by D'MOSS as vegetated areas help to reduce temperatures.

D'MOSS also plays a substantial role in climate change mitigation. Wetlands and forest ecosystems store the most carbon, while disturbed woodlands and alien thickets store the least. These more degraded D'MOSS areas offer restoration opportunities using poverty alleviation projects, providing benefits to biodiversity, people and the climate.

D'MOSS BOUNDARIES AND D'MOSS GIS

D'MOSS is designed to maintain:

- as many functional ecosystems as possible;
- the widest range of open space types (e.g. grassland, forests, wetland);
- physical links between open spaces to allow for the flow of genetic material, energy, water and nutrients;
- physical links to and between significant sources of biodiversity (e.g. Pondoland and Maputaland centres of plant diversity) to prevent local species extinctions in the eThekweni Municipal Area; and
- physical links along the coast, connecting river catchments to marine sources of biodiversity.

D'MOSS boundaries do change, usually for one of the following reasons:

- the attrition of the D'MOSS as a result of development;
- the addition of areas to the D'MOSS as a result of mitigation measures imposed during the development approval process; and
- changes to the composition of habitats as a result of ecological disturbance.

THE VALUE OF D'MOSS TO THE CITY



According to a World Bank report produced in 2017, natural and semi-natural systems within the eThekweni Municipal Area give rise to flows of ecosystem services worth at least R4.2 billion per year. The total asset value of these areas was estimated to be at least R48-62 billion

Without these free services, the municipality would require an unaffordable increase to its budget to provide these services, especially in the rural areas, where communities rely heavily on the natural environment for daily needs.

These ecosystem services help meet our basic needs and enhance our quality of life. The Biodiversity Impact Assessment Branch of the Environmental Planning and Climate Protection Department (EPCPD) is responsible for assessing, and in some cases, regulating development that is proposed within or adjacent to D'MOSS to ensure that biodiversity is protected and the supply of ecosystem services is maintained. This ensures that the quality of life of all residents is enhanced and contributes to ensuring that eThekweni will be able to respond to the expected impacts of a changing climate.

THE 2017 AMENDMENT TO D'MOSS.

Reasons for the Amendment of the D'MOSS Layer.

The Municipality is obligated to comply with laws which legislate on behalf of the environment. The identification of environmentally significant areas within the eThekweni Municipal Area (EMA) through the Systematic Conservation Assessment and D'MOSS, contributes towards meeting the National Environmental Management Principles of the National Environmental Management Act, 1998 (Act No. 107 of 1998). These Principles include ensuring that development is socially, environmentally and economically sustainable. Within this context, sustainability means the avoidance or minimising the disturbance of ecosystems and to this end, cognisance must be taken of the consequences of depleting ecosystems beyond the point at which their integrity is jeopardised. To support these Principles, the City's Integrated Development Plan through Programme 1.2 ensures the long term sustainability of the natural resource base by seeking *“to protect specific natural environments, terrestrial and aquatic, within the eThekweni Municipal Area (EMA) in order to secure a sustainable supply of ecosystem services (ES) for its residents and visitors.”* This is achieved through the application of the D'MOSS Layer.

In addition, as a component of the Land Use Scheme, the D'MOSS Layer is required to be reviewed at least every five years. This requirement is provided for under sub-section (1) of Section 27 of the Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013).

The eThekweni Municipality has a long history of open space planning, dating back to the early 1980s. The extent of the D'MOSS has increased significantly, largely due to changes in the extent of the Municipal area, since its initial adoption in 1989 as a policy, and is now a key environmental spatial instrument entrenched within the Spatial Development Framework (SDF) and land use schemes as part of the City's hierarchy of spatial plans. The methodology for undertaking environmental spatial planning has evolved over time, taking on board best practice science and approaches of the time. Systematic Conservation Planning, including the step of the production of a Systematic Conservation Assessment (SCA), is currently recognised by National and Provincial environmental departments responsible for environmental matters as the accepted methodology for the prioritisation of areas for biodiversity and ecosystem service protection in South Africa. The advantages of this approach over more conventional methodologies¹ include:

- repeatability (the potential to compare different editions within and between regions);
- objectivity (the relatively unbiased nature of this approach);
- efficiency (targets are met with the smallest land and water area possible); and
- flexibility.

The development of a SCA is a collaborative process and its preparation involves the use of existing biodiversity information, as well as information on the ecological processes that sustain this biodiversity and the 'costs and opportunities' that potentially threaten or support its existence. Based on this

¹ Cowling, *et al*, 2003

information, areas are prioritised according to explicit goals or targets. These targets are determined by the National Government. Information arising from this assessment process may then be used to identify priority areas for environmental action.

Objectives of the Amendments.

A primary objective of the SCA has been to inform the production of an updated version of the D'MOSS Layer. The approach taken for this update was to:

- include previously not included critical biodiversity areas;
- include amendments resulting from Environmental Authorisations for development granted by the Provincial Department of Economic Development, Tourism and Environment Affairs;
- remove areas where transformation of natural areas has occurred; and
- include important wetlands previously not included.

For further information, visit our website on www.durban.gov.za/dmoss_tp_amendments