INTEGRATED

RESERVE MANAGEMENT PLAN

UITKAMP WETLAND NATURE RESERVE

June 2011

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AUTHORIZATION PAGE

This Integrated Management Plan for the Uitkamp Wetland Nature Reserve was drafted by the Reserve Manager and recommended by the Reserve Planning Team, a multi-disciplinary team consisting of:

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INTEGRATED RESERVE MANAGEMENT PLAN

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City of Cape Town

Uitkamp Wetland Nature Reserve

June 2011

ISBN NUMBER

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List of abbreviations used

APO	**annual plan of operations**
C.A.P.E	**Cape Action for People and the Environment**
CDF	**Conservation Development Framework**
CFR	**Cape Floristic Region**
EIA	**environmental impact assessment**
GIS	**geographic information system**
IDP	**Integrated Development Plan**
IMEP	**Integrated Metropolitan Environmental Policy**
IRMP	**Integrated Reserve Management Plan**
LBSAP	**Local Biodiversity Strategy and Action Plan**
METT-SA	**Management Effectiveness Tracking Tool South Africa**
MOU	**memorandum of understanding**
NEMPA	**National Environmental Management Protected Areas Act**
PAR	**protected-area review**
RPC	**Reserve Planning Committee**
SWOT	**strengths, weaknesses, opportunities, threats**
UAG	**Uitkamp Action Group**

PART 1

DESCRIPTION

1. INTRODUCTION

Uitkamp Wetland Nature Reserve plays an important role in natural processes by providing food, shelter and breeding grounds for indigenous plants and animals. The majority of seasonal wetlands in Cape Town have been transformed by urban development or agriculture, making the conservation of the few remaining sites even more important. Therefore, it is fundamental to conserve Uitkamp Wetland Nature Reserve for the survival of many species.

Uitkamp Wetland Nature Reserve is home to many bird, mammal, reptile and amphibian species. Some of the fauna species include *Raphicerus melanotis* (Cape Grysbok), *Atilax paludinosus* (Water Mongoose), *Otocyon megalotis* (Bat Eared Fox), *Macronyx capensis* (Cape Longclaw), *Bubo africanus* (Spotted Eagle Owl) and *Ardea melanocephala* (Black Headed Heron). There are more than 140 plant species, of which 30 are threatened.

The strategic management planning process (which resulted in the development of an Integrated Reserve Management Plan, or IRMP) for Uitkamp Wetland Nature Reserve began with the definition of the vision followed by the purpose for the reserve. This purpose is then supported by desired states for the reserve. The reserve objectives contribute to realising the purpose and desired states. For each desired state, a number of management objectives are identified. These management objectives are then implemented through the identification of outputs. Objectives for each desired state are prioritised for the five-year time horizon of the plan. Time frames, deliverables, performance indicators and targets are then allocated for each objective, or a group of linked outputs contributing to the desired state.

In context, this IRMP is a dynamic document, and the detailed subsidiary plans should be updated on an annual basis or as soon as new information comes to light that may better inform decisions on responsible land management. The IRMP, which is a requirement of the National Environmental Management Protected Areas Act, Act 57 of 2003, should be updated every five years.

1.1 Aim of the Integrated Reserve Management Plan

The aim of the IRMP is to ensure that Uitkamp Wetland Nature Reserve has clearly defined objectives and activities to direct the protection and sustainable use of its natural, scenic and heritage resources over a five-year period. The IRMP thus provides the medium-term

operational framework for the prioritised allocation of resources and capacity in the management, use and development of the reserve. The IRMP intends to add value and continuity by clearly stating management objectives, scheduling action, and providing management guidelines.

The planning process for Uitkamp Wetland Nature Reserve takes place against the backdrop of (i) the City of Cape Town's Integrated Development Plan (IDP) (Anon 2010[2]); (ii) the City of Cape Town's Integrated Metropolitan Environmental Policy (IMEP) (Anon 2003[1]); (iii) the biodiversity strategy (Anon 2003[2]) and Local Biodiversity Strategy and Action Plan (LBSAP) (Anon 2009[1]), and (iv) the bioregion (Cape Action Plan for People and the Environment, or C.A.P.E). The major elements of the IRMP are this document (overall strategy, vision and context), the detailed subsidiary plans (as required), and an annual plan of operations (APO). The IRMP for Uitkamp Wetland Nature Reserve is supported by a State of Biodiversity report (Holmes *et al.* 2008), operational guidelines, and a monitoring and evaluation framework to ensure ongoing implementation and review of protected-area management activities (figure 1).

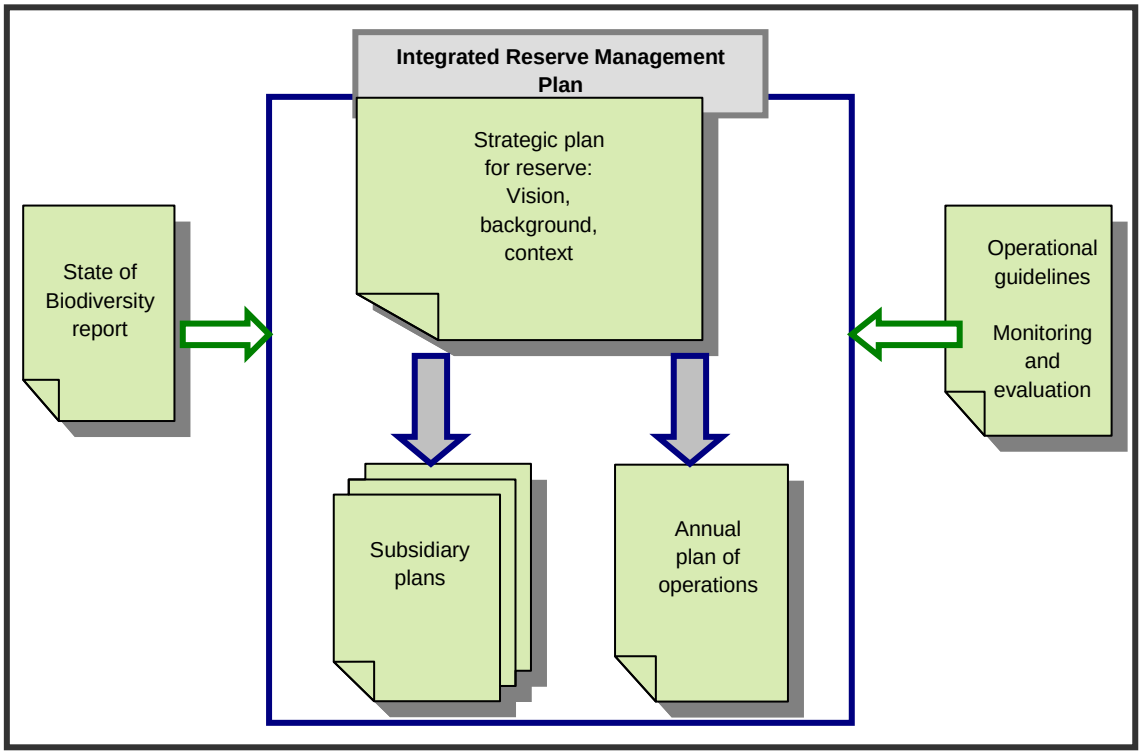


Figure 1: Elements of the IRMP

The IRMP for Uitkamp Wetland Nature Reserve forms part of a tiered series of policies, legislation and related planning documents at the sector, institutional, agency and local levels (figure 2).

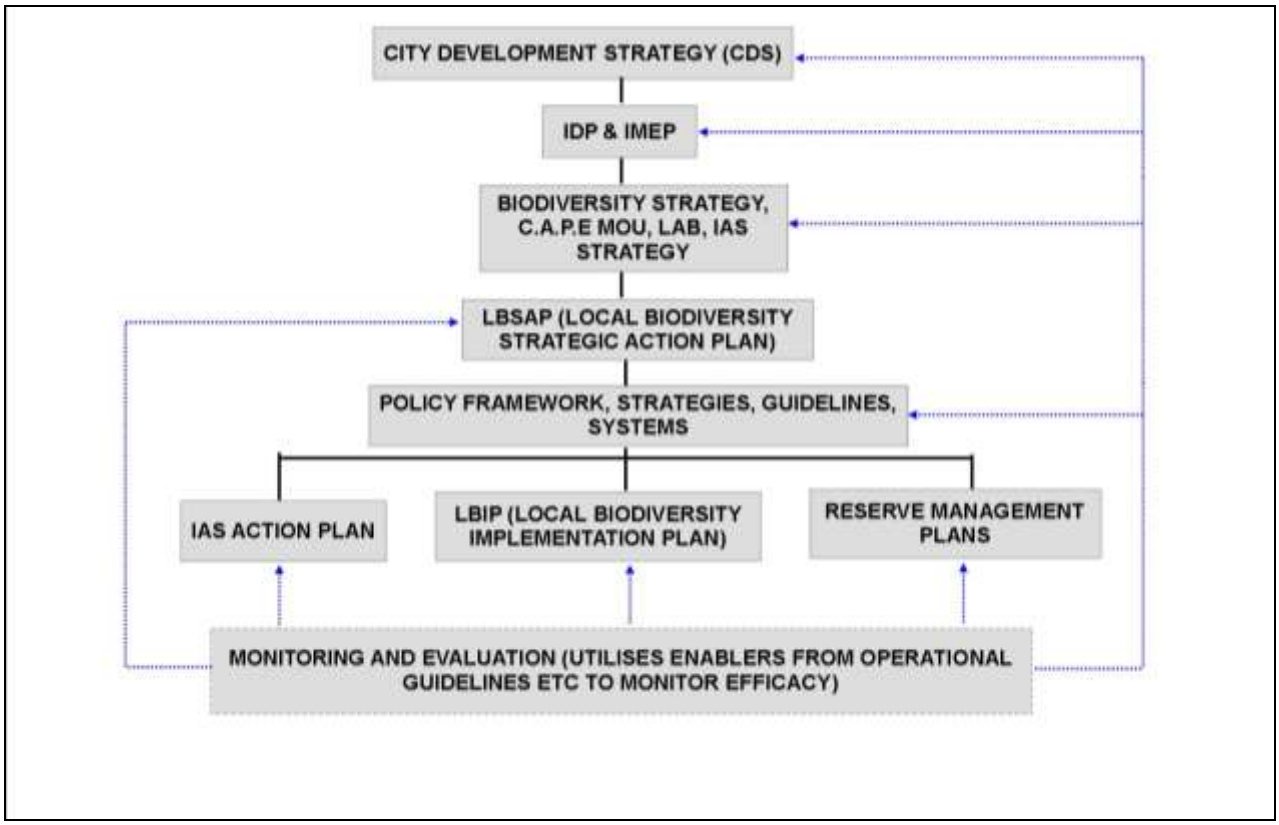


Figure 2: Legal and planning framework for the IRMP

Where possible, emphasis has been placed on the following:

- Assigning responsibility for management interventions
- Scheduling said management interventions
- Quantifying management costs

This approach is specifically intended to create a mechanism whereby management intervention can be monitored and audited on an annual basis.

The drafting of this management plan has been guided by a small interdisciplinary Reserve Planning Committee (RPC) comprising the branch manager, the regional manager, the area manager, various specialists, and other interested and affected persons. Repeated drafts of

the IRMP were presented to, and discussed by, the RPC before broader circulation for public participation.

Pre-engagement workshops were held with community partners from March to May 2010. This afforded key community partners an opportunity to provide their input at an early stage. Where practical, the ideas and outputs from the workshops have been incorporated into the IRMP.

1.2 Location and extent

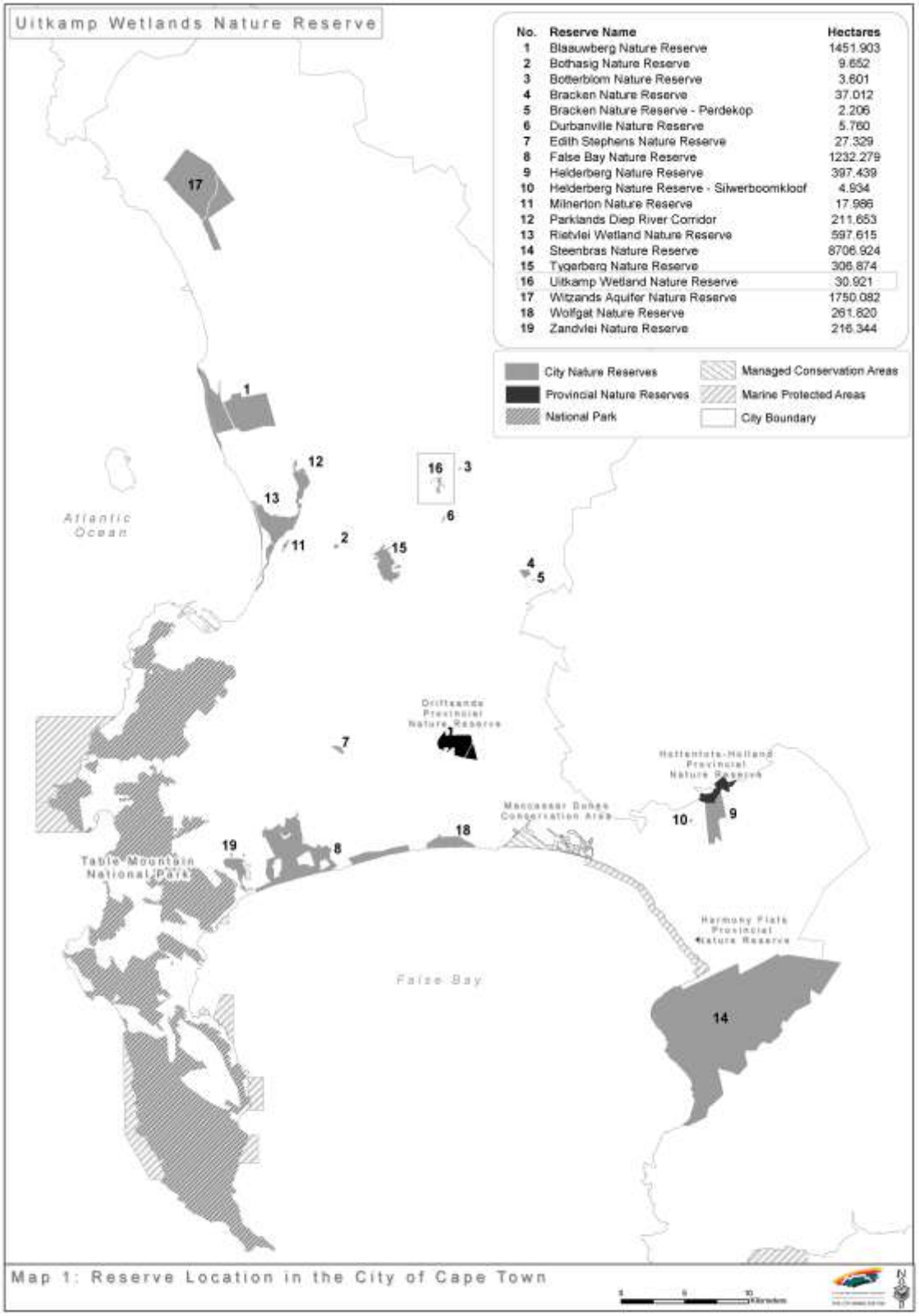
Uitkamp Wetland Nature Reserve, a core floral conservation site, is situated in D'Urbanvale, a suburb of Durbanville Hills. The wetland is situated within the City of Cape Town area, in the Durbanville region (see map 1). The site lies on the northern outskirts of Durbanville, on the lower eastern slopes of the Durbanville Hills, with Kanonkop as the highest point in the west. It is located within the Biodiversity Management Branch's central region. The centre of the reserve is approximately 33 km north of the Cape Town city centre, and covers an area of approximately 31 ha in extent (33° 48' 57.60" S, 18° 38' 25.65" E).

2. DESCRIPTION OF LANDHOLDINGS AND OWNERSHIP

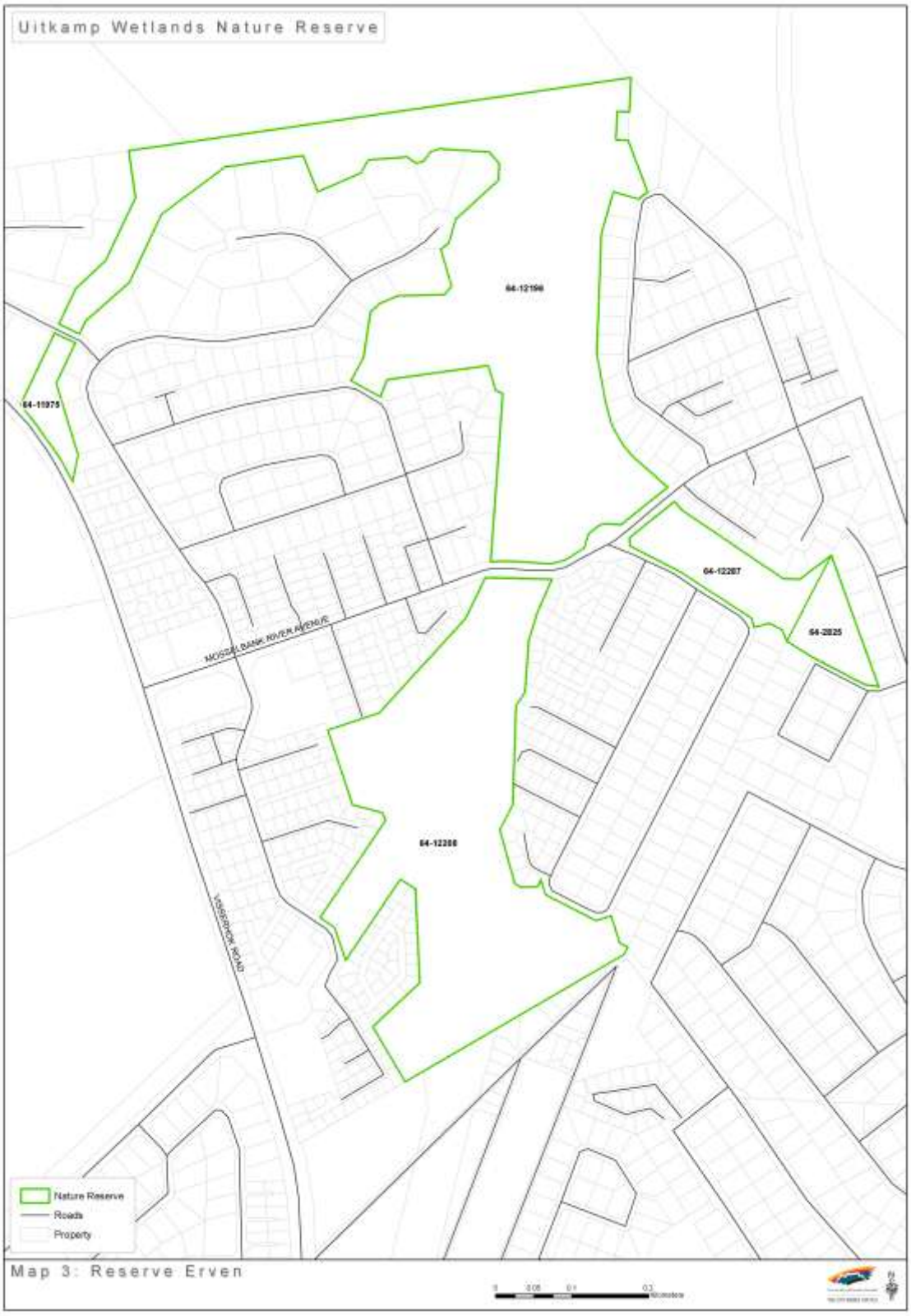
2.1 Property details and title deed information

While the entire Uitkamp Wetland Nature Reserve is approximately 31 ha in extent (see map 2), it consists of erven 11975, 12196, 12287, 12208, 12204 and 2825 (map 3). All the erven are situated in the City of Cape Town municipality (see appendix 3 for SG diagrams).

Nature Reserve refers to the area declared as such on the properties in terms of the National Environmental Management Protected Areas Act (NEMPA) as depicted on map 3.


Uitkamp Wetlands Nature Reserve
No. Reserve Name Hectares
1 Blaauwberg Nature Reserve 1451.903
2 Bothasig Nature Reserve 9.652
3 Botterblom Nature Reserve 3.601
4 Bracken Nature Reserve 37.012
5 Bracken Nature Reserve - Perdekop 2.206
6 Durbanville Nature Reserve 5.760
7 Edith Stephens Nature Reserve 27.329
8 False Bay Nature Reserve 1232.279
9 Helderberg Nature Reserve 397.439
10 Helderberg Nature Reserve - Silwerboomkloof 4.934
11 Milnerton Nature Reserve 17.986
12 Parklands Diep River Corridor 211.653
13 Rietvlei Wetland Nature Reserve 597.615
14 Steenbras Nature Reserve 8706.924
15 Tygerberg Nature Reserve 306.874
16 Uitkamp Wetland Nature Reserve 30.921
17 Witzands Aquifer Nature Reserve 1750.082
18 Wolfgat Nature Reserve 261.820
19 Zandvlei Nature Reserve 216.344
City Nature Reserves
Provincial Nature Reserves
National Park
Managed Conservation Areas
Marine Protected Areas
City Boundary
Atlantic Ocean
Table Mountain National Park
False Bay
Map 1: Reserve Location in the City of Cape Town


Uitkamp Wetlands Nature Reserve
Reserve Boundary
Date of Aerial Image: March 2009
Map 2: Reserve Boundary


Uitkamp Wetlands Nature Reserve
64-12198
64-11975
64-12287
64-2825
MOSSEL BANK RIVER
64-12288
VISSERSKOK ROAD
Nature Reserve
Roads
Property
Map 3: Reserve Erven

2.2 Landscape perspective

The reserve falls within the Cape Floristic Region (CFR). The CFR is the smallest yet richest of the world's six floral kingdoms, and the only one to be found entirely within one country. This rich biodiversity is under serious threat for a variety of reasons, including conversion of natural habitat to permanent agricultural area, inappropriate fire management, rapid and insensitive development, overexploitation of water resources, and infestation by alien species. The region has been identified as one of the world's 'hottest' biodiversity hot spots (Myers *et al.* 2000).

In response to this challenge, a process of extensive consultation involving various interested parties, including local government and non-governmental organisations, resulted in the establishment of a strategic plan (C.A.P.E Project Team 2000) referred to as Cape Action Plan for People and the Environment, which identified the key threats and root causes of biodiversity losses that need to be addressed in order to conserve the floristic region. This resulted in a spatial plan identifying areas that need to be conserved and a series of broad programme activities that need to take place over a 20-year period. Based on the situation assessment and analysis of threats, three overarching, mutually complementing and reinforcing themes were developed:

- To establish an effective reserve network, enhance off-reserve conservation, and support bioregional planning
- To strengthen and enhance institutions, policies, laws, cooperative governance, and community participation
- To develop methods to ensure sustainable yields, promote compliance with laws, integrate biodiversity concerns with catchment management, and promote sustainable eco-tourism

The C.A.P.E partnership was formed and works together to implement the C.A.P.E vision and plan by strengthening institutions, supporting conservation efforts, enhancing education, developing tourism benefits, and involving people in conservation. The City of Cape Town was one of the 19 founding signatories of the C.A.P.E memorandum of understanding (MOU).

Uitkamp Wetland Nature Reserve forms an important platform and integral link in the City of Cape Town's biodiversity network (Anon 2009[2]) (see map 5). This network ensures that parcels of land worthy of conservation are included in a protective network, connected to

other parcels of conservation-worthy land. Uitkamp Wetland Nature Reserve links up with Tygerberg Nature Reserve (also managed by the City of Cape Town) via farmlands.

2.3 Physical environment

2.3.1 Climate

The climate is described as Mediterranean, characterised by warm, dry summers from November to March, and mild, rainy winters from June to August. The reserve is situated between 134 and 160 m above sea level. The maximum temperatures range between 18 ^{o}C and 32 ^{o}C, while the minimum temperatures range between approximately 6 ^{o}C and 14 ^{o}C. Mean rainfall per annum is approximately 774,38 mm, as recorded over a seven-year period from 2003 to 2009 by a D'Urbanvale resident (figure 3 and appendix 1). The prevailing summer wind comes from the south-east, and the winter winds from the north and north-west. The strongest winds are mainly from the north and north-west, and persist for much of the winter season.

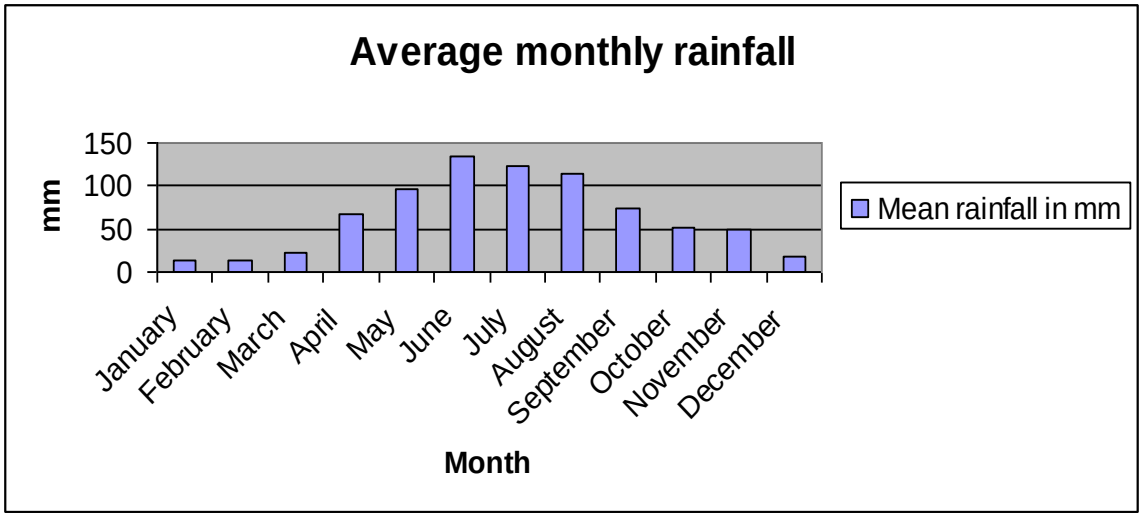


Figure 3: Summarised average monthly rainfall from 2003 to 2009

2.3.2 Geology, geomorphology, soils and land types

The underlying geology appears to be variable, with Malmesbury shales dominating, although there are important areas of exposed shallow dolomite and small areas of ferricrete (koffieklip) and sandstone. Soils are generally heavy, brown loams, with some dark clay in the alluvial flats. The near-surface soils over most of the western side of the site consist of approximately 0,5 m organic-rich clay, underlain by stiff clay stratum. Soils on the eastern and southern sides consist of clay, sandy laterite, underlain by a stiff clay stratum. In the lower-lying parts near the main watercourse is a laterite layer approximately 1,2 m deep, acting as an aquifer.

2.3.3 Hydrology and aquatic systems

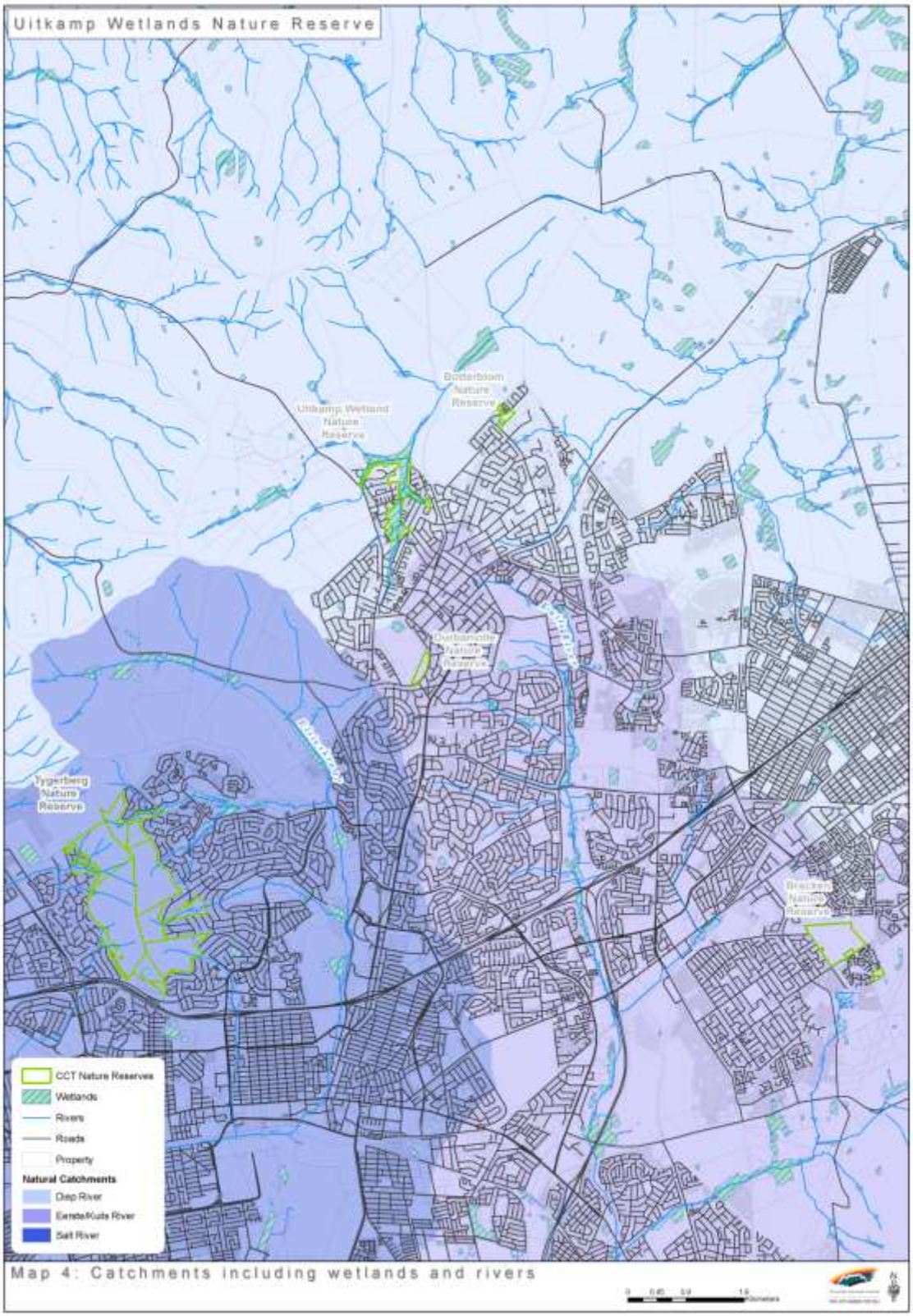
Uitkamp Wetland Nature Reserve is located in the Mosselbank catchment (part of the greater Diep/Mosselbank river system, which ultimately drains down towards Milnerton) (see map 4). A recent stormwater master plan developed for the Durbanville North area included Uitkamp wetlands. A freshwater consultant, Toni Belcher, provided input on the status of the wetlands and rivers as part of the master plan exercise.

Certain parts of the wetland function as an important aquifer, replenishing underground water in this generally dry area, giving rise to the Mosselbank river. Uitkamp Wetland Nature Reserve receives the majority of its water from stormwater pipelines and rain. The Roads & Stormwater Department clears the vegetation in front of most of the stormwater outlets once a year to ensure that there is no obstruction or blockage of the water flow. It is however important to liaise with and monitor the activities of the Roads & Stormwater Department to prevent unnecessary damage to the vegetation of the reserve.

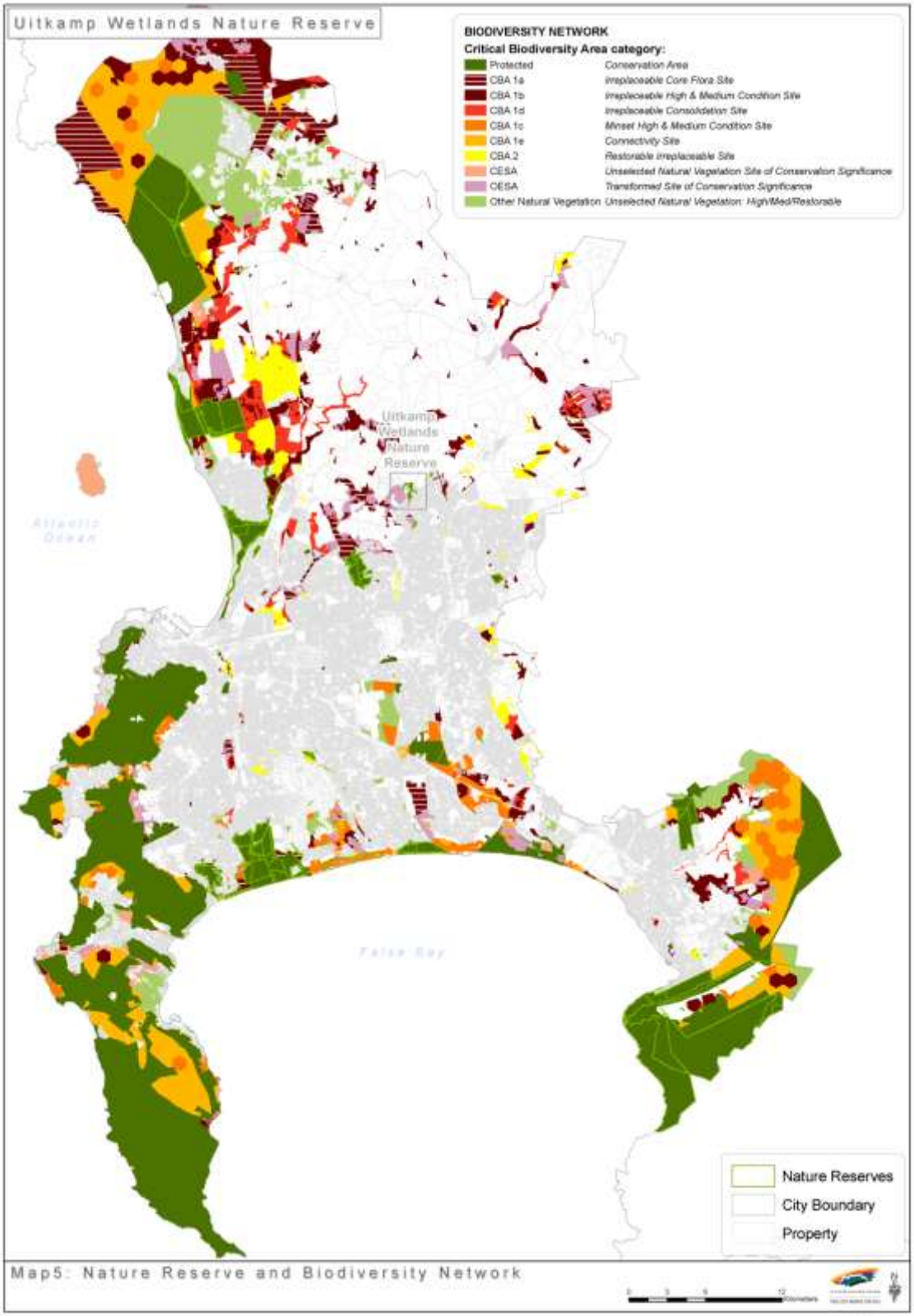
Although surface water movement may be limited, underground water movement is likely to be considerable, as it is probably flowing above a sub-surface impermeable clay layer.

Degraded wetlands are located at the heads of the drainage areas. These areas are negatively influenced by nutrient enrichment from the adjacent upstream properties, and are thus dominated by species such as *Typha capensis* (Bullrush) and *Pennicetum clandestinum* (Kikuyu Grass). Much of the indigenous wetland vegetation has been swamped by these two aggressive plant species, making it a low conservation priority. The dense mats of vegetation will however have an important filtering function, removing nutrients and allowing the downstream portions to remain relatively intact and un-invaded.

Natural wetlands occur along large portions of the drainage areas, and are relatively intact and support natural species assemblages dominated by *Watsonia angusta, Juncus capensis, Zantedechia aethiopica* and *Restionaceae* species. Species diversity, and therefore conservation priority, is fairly high in this habitat.



Map 4: Catchments including wetlands and rivers


Uitkamp Wetlands Nature Reserve
BIODIVERSITY NETWORK
Critical Biodiversity Area category:
Protected
Conservation Area
CBA 1a
Irreplaceable Core Flora Site
CBA 1b
Irreplaceable High & Medium Condition Site
CBA 1d
Irreplaceable Consolidation Site
CBA 1c
Minset High & Medium Condition Site
CBA 1e
Connectivity Site
CBA 2
Restorable Irreplaceable Site
CESA
Unselected Natural Vegetation Site of Conservation Significance
OESA
Transformed Site of Conservation Significance
Other Natural Vegetation
Unselected Natural Vegetation: High/Med/Restorable
Uitkamp Wetlands Nature Reserve
Atlantic Ocean
False Bay
Nature Reserves
City Boundary
Property
Map5: Nature Reserve and Biodiversity Network

2.4 Biological environment

It is important to note that all species lists are continuously updated.

2.4.1 Vegetation

The predominant vegetation type is Swartland Shale Renosterveld, with some areas of Cape Flats Sand Fynbos on sandy colluvuim. The vegetation is of conservation significance locally, regionally and nationally, as both national types are considered Critically Endangered (Rebelo e*t al.* 2006).

Cape Flats Sand Fynbos is endemic to the City of Cape Town area. It occurs at an altitude of 20–200 m. Approximately 85% of this vegetation type is transformed. The landscape features are moderately undulating and flat plains, with dense, moderately tall, ericoid shrubland containing scattered, emergent, tall shrubs. Proteoid and restioid fynbos is dominant, with asteraceous and ericaceous fynbos occurring in drier and wetter areas respectively. Cape Flats Sand Fynbos has acid, tertiary, deep, grey regic sands, usually white, often Lamotte form. This vegetation type occurs within a winter-rainfall regime, with precipitation peaking from May to August. Mists occur frequently in winter. The mean daily maximum and minimum monthly temperatures are 27,1 °C and 7,3 °C for February and July respectively. Frost occurs on about three days per year. This is the wettest and the coolest of the West Coast sand fynbos types. The endemic taxa include low shrubs, such as *Erica margaritacea, Aspalathus variegata* (probably extinct)*, Athanasia capitata, Cliffortia ericifolia, Erica pyramidalis, E. turgida, E. verticillata, Leucadendron levisanus, Liparia graminifolia, Serruria aemula, S. foeniculace* and *S. furcellata.* The endemic succulent shrubs include *Lampranthus stenus.* Geophytic herb species that might be found is *Ixia versicolor*, and the graminoids include *Tetraria variabilis* and *Trianoptiles solitaria.*

Swartland Shale Renosterveld occurs in the Western Cape in large, generally continuous areas of the Swartland and the Boland on the West Coast lowlands, from Het Kruis in the north, southwards between the Piketberg and Olifantsrivierberge, widening appreciably in the region around Moorreesburg between Gouda and Hopefield, and encompassing Riebeek Kasteel, Klipheuwel, Philadelphia, Durbanville, Stellenbosch to the south, and Sir Lowry's Pass Village near Gordon's Bay. It occurs at an altitude of 50–350 m. Approximately 9,8% of this vegetation type occurs within and 90,2% outside the City of Cape Town boundaries. Similar transformation rates occur nationally (92%) and within City of Cape Town borders (91%).

The vegetation and landscape features consist of moderately undulating plains and valleys, supporting low to moderately tall leptophyllous shrubland of varying canopy cover, as well as

low, open shrubland dominated by renosterbos. Hillocks (heuweltjies) are a very prominent local feature of the environment, forming 'hummockveld' near Piketberg, and giving Tygerberg Hills its name. Stunted trees and thicket are often associated with the heuweltjies. Disturbed areas are dominated by *Athanasia trifurcata* and *Otholobium hirtum*. Patches of *Cynodon dactylon* also occur in abundance.

Swartland shale renosterveld has clay soils derived from Malmesbury group shales (specifically the Porterville formation in the north and east, and the Moorreesburg formation in the west). The soils contain prismacutanic and pedocutanic diagnostic horizons, and Glenrosa and Mispah forms are predominant.

It occurs in a winter-rainfall regime, with an annual average rainfall of 270–670 mm (mean: 430 mm), peaking from May to August. Mean daily maximum and minimum temperatures are 29,6 °C and 6,3 °C for February and July respectively. Frost occurs on three or four days per year. Mists are common in winter.

The endemic taxa incluce low shrubs such as *Leucadendron verticillatum, Aspalathus acanthophylla, A. horizontalis, A. pinguis subsp. longissima, A. pinguis subsp. occidentalis, A. puberula, A. rectistyla, Cliffortia acockii, Lotononis complanata* and *Serruria incrassata.* The succulent shrubs include *Erepsia ramosa, Ruschia patens* and *R. pauciflora.* The herb species include *Indigofera triquetra,* while geophytic herbs include *Aristea lugens, Babiana angustifolia, B. latifolia, B. odorata, B. secunda, Hesperantha pallescens, H. spicata subsp. fistulosa, Lachenalia liliflora, L. mediana var. rogersii, L. orthopetala, Lapeirousia fastigiata, Moraea gigandra, M. tulbaghensis, Oxalis fragilis, O. involuta, O. leptocalyx, O. levis, O. macra, O. perineson, O. strigosa* and *Pelargonium viciifolium.*

During a botanical survey at Uitkamp wetland in 1998, the following vegetation communities were identified (Anon 1998):

- Degraded wetland
- Natural wetland
- Lowland renosterveld
- Olive and taaibos thicket
- Degraded thicket
- Elegia recta flats
- Karooid vegetation on dolomite
- Degraded wetland invaded by Port Jackson

- Taaibos thicket
- Rooigras and *Athanasia capitata* flats
- *Juncus effusus* wetland

Habitat type

- Taller thicket
- Shorter thicket
- Dolomite wetland

The main environmental factors that determine vegetation community distribution are moisture levels. In the wettest areas, species diversity tends to be lower, and the community is dominated by fewer species.

A total of 279 plant species, of which approximately 30 are threatened species, have been recorded to date. Fifteen invasive plant species have been recorded and confirmed (see appendix 4).

Not many aquatic plant species have been recorded/confirmed to date, and this is an aspect that requires special attention. The most abundant aquatic plant species are *Typha capensis* and *Juncus effusus*.

The most dominant and invasive plant species in the reserve are *Pennisetum clandestinum* and *Typha capensis* (indigenous invader). The invasive plant species list is still being updated.

2.4.2 Fauna

During the environmental impact assessment (EIA) before the development of D'Urbanvale, a faunal survey was conducted at Uitkamp Wetland Nature Reserve. This study focused mainly on mammals. Therefore, it is a priority to update the faunal species list. The D'Urbanvale community also assists in this.

2.4.3 Mammals

The mammal fauna of Uitkamp Wetland Nature Reserve consist mostly of smaller mammals, many of which are nocturnal and inconspicuous. Often found are middens, scat and spoor, which indicate these species' presence in the reserve. The antelope species that are confirmed to occur at Uitkamp Wetland Nature Reserve are *Sylvicapra grimmia* (Common Duiker), *Raphicerus campestris* (Steenbok) and *Raphicerus melanotis* (Cape grysbok).

During a survey that was completed in 1998, prior to the D'Urbanvale residential development, very few animal species were noted in the field. The species list was therefore mainly derived from desktop studies that listed probable species to occur on site. Mammal lists have only been actively updated since 2009, and it is expected that this list will be extended.

It is believed that *Herpestes ichneumon* (Large Grey Mongoose) is the top resident predator at Uitkamp Wetland Nature Reserve. Although *Caracal caracal* (Caracal) and *Vulpes chama* (Cape Fox) have been seen near the reserve, and their scat found inside the reserve, they are not thought to be resident in the reserve but rather just occasionally pass by in search of food. This also goes for *Otocyon megalotis* (Bat-eared fox), which has been observed inside the reserve. Some other confirmed predators in the reserve are *Galerella pulverulenta* (Small grey mongoose), *Cynictis penicillata* (Yellow mongoose) and *Atilax paludinosus* (Water mongoose).

Hystrix africaeaustralis (Porcupine) is a prominent species that can be found in all areas of the reserve. Although not confirmed, *Lepus saxatilis* (Scrub hares) and *Lepus capensis* (Cape hares) are likely to occur in the reserve. Mice, rat and shrew species have been actively surveyed since 2010 only. *Rhabdomys pumilio* (Striped Field Mouse), *Mus minutoides* (Pygmy Mouse) and *Myosorex varius* (Forest Shrew) have been identified to date. It is expected that other species might also occur in the reserve. (Please see appendix 5 for the mammal species list.)

2.4.4 Birds

Uitkamp Wetland Nature Reserve has a diverse bird fauna. Birds play an important role at the site with respect to seed dispersal. The bird species have been recorded since 2009 only, and the list could therefore still be increased. To date, 67 bird species have been identified. The Uitkamp Action Group (UAG) assists mainly with updating bird species lists. The Tygerberg Bird Club has also been approached to do bird observations at Uitkamp Wetland Nature Reserve, and it is hoped that they would be able to assist from 2011. (Please see appendix 6 for the bird species list.)

2.4.5 Reptiles

There are 13 confirmed reptile species at Uitkamp Wetland Nature Reserve. This list is expected to increase when an in-depth reptile survey is conducted. (Please see appendix 7 for the reptile species list.)

To date, four lizard species, six snake species and three tortoise species have been recorded for Uitkamp Wetland Nature Reserve. Of the lizard species, the most common is

Pachydactylus geitje (Ocellated Gecko). To dat, only non-venomous and mildly venomous snakes have been recorded to date in the reserve. Some snake species that are present in the reserve include *Duberria lufrix* (Common Slug Eater), *Pseudaspis cana* (Mole Snake) and *Crotaphopeltis hotamboeia* (Redlipped/Herald Snake). *Pelomedusa subrufa* (Marsh Terrapin) and *Homopus areolatus* (Parrot Beaked Tortoise) also occur in the reserve.

2.4.6 Amphibians

Only one confirmed amphibian species, namely *Strongylopus grayii* (Clicking Stream Frog) is known to occur at Uitkamp Wetland Nature Reserve. This list is expected to increase when an in-depth amphibian survey is conducted. (Please see appendix 8 for the amphibian species list.)

2.4.7 Invertebrates

Various research and monitoring projects still need to be conducted within the reserve to obtain sufficient data for documentation purposes. Species that are seen regularly are *Argiope flavipalpis* (Golden Orb Spider) and *Dira clytus* (Cape Autumn Widow Butterfly). (Please see appendix 9 for the invertebrate/insect species list.)

2.4.8 Fish

Studies still need to be conducted in the area. Therefore, no recorded data for fish species have been captured.

2.5 Socio-political context

2.5.1 History

Portions 12 and 13 of the farm Uitkamp, No 189, Durbanville, were rezoned from agriculture to sub-divisional area in 1991. Uitkamp Wetland Nature Reserve was surveyed as part of the Tygerberg and Environs Management Plan (Wood & Low 1993).This highlighted the conservation importance of the area. This rezoning was renewed every two years. The latest renewal of the rezoning of the property, on 8 December 1997, was granted on the condition that the rezoning and sub-divisional plan be subject to the principles of integrated environmental management, which included an assessment of the environmental impacts of the sub-divisional plan. This proposed the development of high and low-density housing on approximately 100 ha of land (Anon 1998).

Doug Jeffery Environmental Consulting and Facilitation Services was appointed by the AFM Louw Family Trust and Immo Invest (Pty) Ltd in accordance with section 22 of the Environmental Conservation Act, Act 73 of 1989, to compile an EIA report prior to the commencement of the development. The development was eventually named D'Urbanvale.

Uitkamp Wetland Nature Reserve was identified as a Core Floral Conservation site. Botanists recognised the significance of the area, and set aside the wetland. The natural remnants after the development were zoned as public open space, and were transferred to the Tygerberg municipality.

The Tygerberg municipality, along with six other municipalities, merged to form the City of Cape Town in December 2000. Therefore, this reserve is now under the management of the City of Cape Town, more specifically the Environmental Resource Management Department.

2.5.2 Socio-economic context

The socio-economic profile of the community surrounding Uitkamp wetland ranges from affluent, large households to the north-eastern side, to more dense developments on the southern side. Uitkamp Wetland Nature Reserve is included in Ward 21, Subcouncil 7. Ward 21 comprises Aurora, Bellville South, Chantecler, Durbanville, Durbanville Hills, Eversdal, Glen Ive, Roosendal, Stellenberg, Stellenryk, Valmary Park and Vygeboom.

Several neighbourhood watches operate in close cooperation with the Metro Police and the South African Police Service. Also, various small venues are used for theatre in the Durbanville area. The area also has various non-profit organisations, such as Durbanville Garden Club, Kenridge Women's Club, Rotary Club, D'Urbanvale Residents Forum and UAG, to mention a few.

The subcouncil is sensitive to community aspirations, needs and participation, and supports all activities aimed at preserving the area's rich natural environment, while fulfilling its role as a facilitator of meaningful and systematic socio-economic development and good governance. The subcouncil is the interface between the City of Cape Town and its communities, and plays an important role in promoting public participation in Council's plans and policies. It also promotes short-term job creation by using unemployed residents for litter cleaning, alien plant removal and fencing, in particular at Uitkamp Wetland Nature Reserve. The upliftment of our communities and the continuous assessment of service delivery, community needs and budget priorities are ongoing activities.

2.6 Protected-area expansion

It is possible to expand Uitkamp Wetland Nature Reserve to the south by incorporating a small piece of land belonging to the City of Cape Town Parks Department. This area is approximately 4 ha in size. Furthermore, a corridor through private land should be

maintained between Uitkamp Wetland Nature Reserve and Tygerberg Nature Reserve, and towards the Mosselbank river.

3. PURPOSE, VISION/MISSION, SIGNIFICANCE/VALUE

3.1 Purpose of the protected area

Uitkamp Wetland Nature Reserve is of extreme high biodiversity significance at a local, regional and national level. This site was identified as a Core Floral Conservation site. The reserve conserves a unique combination of habitats, ecosystems and species, many of which are either rare or endemic to the area. The primary purpose of the reserve is therefore the **conservation of this unique biodiversity and associated ecosystem features and functions.**

In conserving this unique biodiversity, secondary objectives will include the following:

- The conservation of Critically Endangered Swartland Shale Renosterveld and Swartland Silcrete Renosterveld
- Promoting sound environmental education principles
- Developing visitor infrastructure, facilities and services, such as footpaths and trails

3.2 Vision and mission

3.2.1 Vision

Integrated Development Plan vision

The vision of the City of Cape Town remains as follows:

- To be a prosperous city that creates an enabling environment for shared growth and economic development
- To achieve effective and equitable service delivery
- To serve the citizens of Cape Town as a well-governed and effectively run administration

To achieve this vision, the City recognises that it must:

- actively contribute to the development of its environmental, human and social capital;
- offer high-quality services to all who live in, do business in, or visit the city as tourists; and
- be known for its efficient, effective and caring government.

C.A.P.E vision

We, the people of South Africa, are proud to be the custodians of our unique Cape Floral Kingdom, and share its full ecological, social and economic benefits now and in the future.

Environmental Resource Management Department vision

To ensure that sustainable and equitable development is combined with sound environmental practice for a healthy local environment, which sustains people and nature, provides protection for our unique resources and results in an enhanced quality of life for all.

Biodiversity Management Branch Vision:

To be a City that leads by example in the protection and enhancement of biodiversity; a City within which biodiversity plays an important role, and where the right of present and future generations to healthy, complete and vibrant biodiversity is entrenched; a City that actively protects its biological wealth, and prioritises long-term responsibility over short-term gains.

Uitkamp Wetland Nature Reserve vision

To manage and restore the natural assets of Uitkamp Wetland Nature Reserve by partnering with people to ensure the area's survival for present and future generations.

3.2.2 Mission

Biodiversity Management Branch mission

- To manage biodiversity proactively and effectively
- To ensure an integrated approach to biodiversity between City of Cape Town line functions and departments, and actively pursue external partnerships
- To adopt a long-term approach to biodiversity
- To ensure sustainability of our rich biodiversity
- To adopt a holistic and multifaceted approach to biodiversity
- To continue to measure and monitor the City of Cape Town's performance in the protection and enhancement of biodiversity
- To continue to measure and monitor the state of biodiversity in Cape Town

Uitkamp Wetland Nature Reserve mission

- To restore and maintain biodiversity through the implementation of the objectives of Uitkamp Wetland Nature Reserve
- Promotion of biodiversity as an asset in all communities and schools
- Social upliftment and economic development through the conservation and enhancement of biodiversity

- Participation and partnerships

3.3 Significance of property (biodiversity, heritage and social)

Uitkamp Wetland Nature Reserve accommodates two nationally important vegetation types, both critically endangered. It forms an integral part of the City of Cape Town's biodiversity network, and also contains a seasonal wetland. Wetlands are threatened worldwide.

The reserve has a confirmed bird species list of 67, a plant species list of 266, and a mammal list of 16 confirmed species. Although small, the reserve is privileged to have a Friends group, the UAG. The UAG is responsible for, but not limited to, various activities in a specific management block at the reserve.

Summary of qualifying site assessment criteria

- The reserve hosts two significant vegetation types.
- The reserve is home to over 266 plant species, of which more than 30 are threatened species.
- Through natural open space and agricultural land, the wetland is connected to extensive natural areas to the north and east.

PART 2

MANAGEMENT POLICY FRAMEWORK

4. ADMINISTRATIVE AND LEGAL FRAMEWORK FOR THE MANAGEMENT AUTHORITY

4.1 Legal framework

Table 1: Legal framework for Uitkamp Wetland nature reserve

The following is a list of legislation applicable to the management of City of Cape Town's Biodiversity Management Branch. Repealed legislation has been included in greyed-out text for information purposes only.

Legislation: **Acts, ordinances, bylaws**	**Relevance:** **Description**	**Amendment:** **Latest amendment date**	**Comment:** **Other notes**
Constitution of the Republic of South Africa, Act 108 of 1996	Lists South African citizens' environmental rights	N/A	Chapter 2: Bill of Rights assigns citizens with particular rights
ENVIRONMENTAL LEGISLATION			
National legislation			
National Environmental Management Act (NEMA), Act 107 of 1998	One of the most important environmental laws relating to most aspects of the environment, including environmental impact assessments (EIAs), environmental information and legal standing, etc.	• Amendment Act 56 of 2002 • Amended by GN 26018, Vol 464 of 13 February 2004	Provides for cooperative environmental governance
National Environmental Management: Biodiversity Act, Act 10 of 2004	The objectives of the Act are to provide for: • the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; • the protection of species and ecosystems that warrant national protection; • the sustainable use of indigenous biological resources; • the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; and • the establishment and functions of a South African National Biodiversity Institute.	N/A	The development of the IRMP will assist in ensuring that the objectives of this Act are achieved in the reserve.

	In essence, the Act was put in place to safeguard the important biodiversity attributes in the country, while allowing people to benefit equally from the natural resources. In order to achieve these goals, the Act made provision for the South African National Biodiversity Institute (SANBI), which has been designated certain functions and afforded powers and duties in respect of this Act.		
National Environmental Management: Protected Areas Act, Act 57 of 2003	To provide for: • the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and natural landscapes and seascapes; • the establishment of a national register of all national, provincial and local protected areas; • the management of those areas in accordance with national norms and standards; • intergovernmental cooperation and public consultation on matters concerning protected areas; and • matters in connection therewith.	• Amendment Act 62 of 2008 • Amendment Act 15 of 2009	Regulations Notice 1029 of 2009 lists specific regulations for reserves proclaimed by the Member of the Executive Council (MEC) (draft August 2009).
Conservation of Agricultural Resources Act (CARA), Act 43 of 1983	The CARA regulations contain a list of alien invasive vegetation categorised according to their legal status. The Act regulates the sale, position and use of listed species.	• Amended by GN R 2687 of 6 December 1985 and GN R 280 of 30 March 2001	Alien invasive plant legislation to be included under the Biodiversity Act in future
National Veld and Forest Fire Act, Act 101 of 1998	Relates to veld fire prevention, fire protection associations, fire danger indexing, enforcement of fire legislation, and the fighting of fires	N/A	A detailed fire management plan will be developed.
Marine Living Resources Act, Act 18 of 1998	Regulates conservation of the marine ecosystem and the long term sustainable utilisation of marine living resources		
Environment Conservation Act, Act 73 of 1989	The Environment Conservation Act is the other law that relates specifically to the environment. Although most of this Act has been replaced by NEMA, some important sections still remain in operation. These sections relate to: • protected natural environments; • littering; • special nature reserves; • waste management;	• Environment Conservation Amendment Act 98 of 1991 • Environment Conservation Amendment Act 79 of 1992 • Environment Conservation Second Amendment Act 115 of 1992 • Environment Conservation	

	• limited-development areas; • regulations on noise, vibration and shock; and • EIAs.	Amendment Act 94 of 1993 • Environment Conservation Second Amendment Act 52 of 1994 • Proclamation R27 of 1995 • Proclamation R43 of 1996 • National Environment Management Act 107 of 1998	
National Water Act, Act 36 of 1998	Relates to all use of water and the management of all water resources in South Africa	•	
National Environmental Management: Air Quality Act, Act 39 of 2004	To provide for enhancing the quality of ambient air for the sake of securing an environment that is not harmful to the health and well-being of the people		Promulgated to give effect to section 24(b) of the Constitution. The South African Air Quality Information System is a web-based system that provides information on the quality of ambient air across the country.
Animal Protection Act, Act 71 of 1962	To consolidate and amend the laws relating to the prevention of cruelty to animals	Animal Matters Amendment Act, Act 42 of 1993	
Animal Diseases Act, Act 35 of 1985	Provides for control measures relating to animal diseases		
Animal Health Act, Act 7 of 2002	Regulates animal health		
Game Theft Act, Act 105 of 1991	Regulates the ownership and protection of game		
Mountain Catchment Areas Act, Act 63 of 1970	Provides for catchment conservation		Administered under the Western Cape Nature Conservation Board Act, Act 15 of 1998
National Heritage Resources Act 25 of 1999	Provides for the protection of heritage resources		N/A
World Heritage Conservation Act 49 of 1999	Incorporates the World Heritage Convention into South African law		N/A
Problem Animal Control Ordinance, Ordinance 26 of 1957	Regulates problem animals		Administered under the Western Cape Nature Conservation Board Act, Act 15 of 1998
Mineral and Petroleum Resources Development Act, Act 28 of 2002	Provides for equitable access to, and sustainable development of, mineral and petroleum resources		
Atmospheric Pollution Prevention Act, Act 45		Entire Act repealed on 1 April	

of 1965		2010 in favour of the National Environmental Management: Air Quality Act, Act 39 of 2004	
Provincial legislation			
Land Use Planning Ordinance, Ordinance 15 of 1985	The purpose of the Ordinance is to regulate land use and to provide for incidental matters related to land use.	• Assented to on 22 November 1985 • Western Cape Land Use Planning Ordinance, 1985, Amendment Act, 2004	Although it might not have a direct application in the management of nature reserves, it does affect the surrounding properties, and could possibly be used to control activities/developments around the reserves to minimise negative effects, for example in applying zoning restrictions.
Cape Nature and Environmental Conservation Ordinance, Ordinance 19 of 1974	The purpose of this Ordinance is to regulate wild animals and plants, and the establishment of nature reserves.	Publication date 1 September 1975	Administered under the Western Cape Nature Conservation Board Act, Act 15 of 1998
Western Cape Nature Conservation Board Act, Act 15 of 1998	The purpose of this Act is to promote and ensure nature conservation, render services and provide facilities for research and training and to generate income		Biodiversity agreements are signed under this Act.
Municipal legislation			
Integrated Metropolitan Environmental Policy (IMEP), 2001	Envisages a set of Citywide aligned strategies dealing with all aspects of the environment.		Influenced the Biodiversity Strategy, 2003
Biodiversity Strategy, 2003	To be a city that leads by example in the protection and enhancement of biodiversity	• Draft amendment for 2009–2019	Influenced the development of the IRMP
City of Cape Town Bylaw relating to Stormwater Management, LA 31420	To provide for the regulation of stormwater management in the area of the City of Cape Town, and to regulate activities that may have a detrimental effect on the development, operation or maintenance of the stormwater system	• Publication date 23 September 2005	Communication strategy and action plan will take effect to address the issues with the relevant departments
City of Cape Town Air Pollution Control Bylaw, LA 12649	The purpose of this bylaw is to give effect to the right contained in section 24 of the Constitution of the Republic of South Africa Act (Act 108 of 1996) by controlling air pollution within the area of the Council's	• Publication date 4 February 2003	

	jurisdiction; to ensure that air pollution is avoided, or, where it cannot be altogether avoided, is minimised and remedied.		
Bylaw relating to Community Fire Safety, Province of the Western Cape, LA 11257	The purpose and scope of the bylaw is to promote the achievement of a fire-safe environment for the benefit of all persons within the municipality's area of jurisdiction, and to provide for procedures, methods and practices to regulate fire safety within the municipal area.	• Publication date 28 February 2002	A fire management plan to be designed
City of Cape Town Draft Animal Bylaw, 2009	The purpose of the Bylaw is to formulate a new single bylaw, including ten different municipal dog bylaws and the Animal Protection Act of 1962. The Bylaw includes chapters on dogs, cats, poultry and working equines.	• Draft, 2009	
HUMAN RESOURCES/ADMINISTRATION LEGISLATION			
National legislation			
Occupational Health and Safety Act, 1993	To provide for the health and safety of persons at work, and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety, and to provide for matters connected therewith.	Occupational Health and Safety Amendment Act, No 181 of 1993	
Basic Conditions of Employment Act, Act 3 of 1997	Provides for control measures pertaining to employment	• Amendment Act 11 of 2002	
Labour Relations Amendment Act, Act 66 of 1995	The Act aims to promote economic development, social justice, labour peace and democracy in the workplace.	• Labour Relations Amendment Act, 42 of 1996 • Afrikaans Labour Relations Amendment Act, 1998 • Labour Relations Amendment Act, 127 of 1998 • Labour Relations Amendment Act, 2000	

		• Amendment Act 12 of 2002	
Local Government Municipal Systems Act, Act 32 of 2000	Establishes core principles, processes and mechanisms relating to local government		
Promotion of Equality/Prevention of Unfair Discrimination Act, Act 4 of 2000	Provides for the prevention of discrimination and other related matters		
Criminal Procedure Act, Act 51 of 1977	Makes provision for procedures and related matters in criminal proceedings	• Criminal Procedure Amendment Act, Act 65 of 2008	
Firearms Control Act, Act 60 of 2000	To establish a comprehensive and an effective system of firearms control and, to provide for matters connected therewith		
Civil Aviation Act, Act 13 of 2009			
Fencing Act, Act 31 of 1963	Regulates all matters relating to fencing		
Hazardous Substances Act, Act 15 of 1973	Controls substances that may cause injury or ill health to, or death of, human beings by reason of their toxic nature		
Land Survey Act, Act 8 of 1997	Regulates land surveying, beacons and other related matters		
Promotion of Access to Information Act, Act 2 of 2000	Promotes access to information		
Promotion of Administrative Justice Act, Act 3 of 2000	Provides for the promotion of administrative justice	• Amendment Act 53 of 2002	
Regional Services Council Act, Act 109 of 1985	Regulates and controls land, land use and other related matters		
Skills Development Act, Act 97 of 1998	Promotes the development of skills		
State Land Disposal Act, Act 48 of 1961	Regulates the disposal of state-owned land		
Subdivision of Agricultural Land Act, Act 70 of 1970	Regulates the subdivision of agricultural land		
Tourism Act, Act 72 of 1993	Provides for the promotion of tourism, and regulates the tourism industry		A tourism strategy is envisaged.
Public Resorts Ordinance, Ordinance 20 of 1971	Regulates nuisance and pollution control		
Municipal Ordinance, Ordinance 20 of 1974	Regulates pollution and waste management		
South African National Road Agency Limited and National Roads Act, Act 7 of 1998			

Aviation Act, Act 74 of 1962	Provides for the control, regulation and encouragement of aviation activities in the Republic of South Africa	• Repealed in favour of the Civil Aviation Act, Act 13 of 2009	
Provincial legislation			
Western Cape Land Administration Act, Act 6 of 1998	Regulates land and land use		
Western Cape Planning and Development Act, Act 7 of 1999	Regulates planning and development within the province		
Municipal legislation			
City of Cape Town Bylaw relating to Filming, LA30441	The purpose of the Bylaw is to regulate and facilitate filming in Cape Town.	• Provincial Gazette 6277, 24 June 2005	
City of Cape Town Bylaw relating to Streets, Public Places and the Prevention of Noise Nuisances, 2007	The purpose of the Bylaw is to regulate activities in streets and public places, and to prevent excessive noise nuisance	• Promulgated 28 September 2007, PG 6469; LA 44559	
City of Cape Town Bylaw relating to signage		•	

4.2 Administrative framework

Uitkamp Wetland Nature Reserve falls under the City of Cape Town's Biodiversity Management Branch of the Environmental Resource Management Department in the Strategy and Planning Directorate. The reserve is under the supervision of the Durbanville area manager. The reserve is further located in the central region, and is the management responsibility of a contract reserve manager, assisted by Nature Conservation students and interns, funds permitting. From time to time, the reserve also makes use of the central-district roving team, which consists of five operational staff members (see appendix 2 for the current staffing complement for the Durbanville region). The organogram that was approved by Council does not include the current staffing complement, and it is therefore recommended that it be revised. The operational management of Uitkamp Wetland Nature Reserve is supported by various other City of Cape Town departments, including, but not limited to, Law Enforcement, Water & Sanitation, City Parks, Roads & Stormwater, Human Resources, and Finance.

5. PROTECTED-AREA POLICY FRAMEWORK & GUIDING MANAGEMENT PRINCIPLES

5.1 Management objectives

5.1.1 Biodiversity and heritage objectives

The following table lists the management objectives for Uitkamp Wetland Nature Reserve:

Table 2 Biodiversity and Heritage Objectives for Uitkamp Wetland Nature Reserve

High-level objective	*Objective*	*Sub-objective*	*Initiative*	*Low-level plan*
CONSERVATION OF REPRESENTATIVE, FUNCTIONAL ECOSYSTEMS To conserve a representative sample of the region's ecosystems in a linked landscape, and maintain or restore environmental processes to enable natural spatial and temporal variation in structural, functional and compositional components of biodiversity	**Representative ecosystems** To incorporate a spectrum of viable aquatic and terrestrial ecosystems characteristic of Uitkamp Wetland Nature Reserve, and to re-introduce missing elements where possible	**Consolidation and expansion of land areas** Consolidate protected areas, focusing on underrepresented ecosystems, functional linkages and processes	(1) Identify underrepresented habitats/ecosystems (2) Consolidate reserve boundaries (4) Establish corridors linking Uitkamp Wetland Nature Reserve with other natural areas	Reserve expansion plan (to be compiled)
		Re-introduction of biota Where possible, re-establish locally extinct or depleted biodiversity components and populations in accordance with International Union for Conservation of Nature principles and guidelines	(1) Re-establish indigenous herbivore complement within constraints of reserve size and urban setting	Faunal management plan (to be compiled)
		Fire management Apply appropriate fire regime in fynbos areas (frequency, season, intensity, size)	(1) Implement a fire management plan in accordance with objectives of conserving biodiversity and threatened biota (2) Monitor impact of fire management regime	Fire management plan (to be compiled)
		Threatened biota Maintain viable populations of threatened species in order to meet obligations in	(1) Maintain viable populations of rare/threatened plant and animal	Branch-wide threatened-biota plan (to be

		terms of international agreements and conventions	species (identify, locate and monitor populations of priority species)	compiled)
		Monitoring plan Implement and maintain an approved monitoring plan for the reserve	(1) Implement and maintain a biological monitoring programme for the reserve	(1) Branch-wide monitoring plan (to be compiled) (2) Erosion plan (to be compiled)
	Rehabilitation Rehabilitate degraded areas, including the re-establishment of natural biodiversity patterns, and the restoration of key processes that support the long-term persistence of biodiversity	**Vegetation** Re-establish physical, chemical and biological processes in degraded vegetation areas	(1) Rehabilitate all old, degraded sites	Flora management plan (to be compiled)
		Alien plants and other alien biota Control and, where possible, eliminate alien biota to facilitate re-establishment of natural biodiversity patterns and process in invaded areas	(1) Establish the distribution and density of invasive species (2) Prioritise areas for alien removal, focusing on biodiversity restoration (3) Implement removal programmes for priority species and areas	(1) Invasive-plant management plan (draft) (2) Invasive-animal management plan (draft)
MITIGATE INTERNAL and EXTERNAL PRESSURES To reduce threats and pressures and limit environmental impacts resulting from non-biodiversity management aspects and operations on surrounding land and resource use	**Reconciling biodiversity with other reserve objectives** To ensure that non-biodiversity management aspects of reserve operations are informed and constrained by biodiversity conservation	**Internal developments** Minimise the impacts associated with the development of visitor and reserve management infrastructure, and ensure that such developments do not compromise biodiversity objectives	(1) Reserve zoning (2) Develop and implement Conservation Development Frameworprk (CDF) (3) Develop in accordance with EIA process (NEMA) and corporate policies (4) Establish visitor carrying capacities (5) Implement green standards and environmental best practice based on	(1) CDF (to be compiled) (2) Infrastructure plan for high-intensity use zone (to be compiled) (3) Infrastructure maintenance plan (to be compiled)

	objectives, and that the impacts of these activities on biodiversity are minimised	**Internal activities** Minimise the impacts associated with visitor and reserve management activities, and ensure that such activities do not compromise biodiversity objectives	corporate policy	
		Extractive resource use Minimise the impacts of extractive resource use, and ensure that such activities are aligned with corporate guidelines, are within management capacity constraints, and do not compromise biodiversity objectives	(1) Quantify current extractive resource activities (2) Define opportunities and constraints in line with corporate guidelines (3) Regulate resource use according to adaptive management process	
	Reconciling biodiversity with external threats To reduce external threats and pressures, and limit impacts of surrounding land and resource use on biodiversity conservation within the reserve	**External developments** Minimise the impacts associated with inappropriate developments outside the reserve	(1) Engage regional land management authorities, including IDPs and spatial development frameworks at local & regional level (2) Align with bioregional planning, including explicitly identified areas for the maintenance of important biodiversity patterns and processes with appropriate land use guidelines (3) Provide input into planning and decision-making processes for external development that may compromise reserve and biodiversity network objectives (4) Negotiate to ensure that external developments are not visually obtrusive or out of character with the park	Branch-wide communications strategy (in draft)

		External activities Negotiate to ensure that external resource and land use does not detrimentally affect ecological processes within the reserve	(1) Negotiate to mitigate or improve the management of external potentially detrimental impacts (2) Encourage eco-friendly resource use and land management practices on adjacent properties (3) Mitigate the impacts of oil and other pollution events through appropriate contingency planning	Risk management plan (to be compiled)
		Hydrological and water chemistry changes Participate in activities for the maintenance of river flow regimes and water chemistry within limits for the maintenance of ecosystem processes in aquatic ecosystems within the reserve	(1) Lobby for appropriate catchment categorisation (currently general authorisation) (2) Encourage enforcement of legislation applicable to the management and protection of aquatic resources (3) Facilitate regular assessments of river health (4) Address the issue of sewage and other point-source pollution of aquatic systems	Environmental risk plan (to be compiled)
		Illegal harvesting of resources Prevent the illegal collection, removal and destruction of physical and biological resources	(1) Public liaison (2) Law enforcement	(1) Branch-wide security operational manual (to be compiled)
WILDNESS/REMOTENESS To maintain and restore wildness/remoteness in Uitkamp	**Range of experiences** Provide a range of visitor experiences		(1) Reserve zoning (2) Develop CDF and sensitivity-value analysis	(1) CDF (to be compiled) (2) Reserve expansion plan

Wetland Nature Reserve so that the spiritual and experiential qualities of wildness are maintained, enhanced or, where necessary, restored	**Sense of place** Maintain or restore appropriate sense of place		(1) Implement and update CDF (2) Establish and apply appropriate visitor carrying capacity (3) Negotiate to ensure that external developments are not visually obtrusive or out of character with the reserve	

5.1.2 Socio-economic objectives

Table 3 Socio-economic objectives for Uitkamp Wetland Nature Reserve

High-level objective	*Objective*	*Sub-objective (where required)*	*Initiative*	*Low-level plan*
Nurture productive and mutually beneficial partnerships that result in gains in economic and/or biodiversity equity	Enhance socio-economic benefits to local communities	N/A	(1) Contribute to local community development by supporting the Expanded Public Works Programme/poverty relief projects (2) Contribute to local skills development by supporting the skills and learnership programmes (3) Identify and facilitate the creation of business opportunities in association with the reserve (4) Support community-based social development initiatives	Branch-wide local socio-economic development plan (to be compiled)
	Increase environmental awareness and encourage	Inspire visitors and communities to consider the environment as an	(1) Develop and implement an interpretation plan that feeds into both	(1) Branch-wide education strategy an action plan (to be

	participation in conservation initiatives	interrelated and interdependent system, of which they are an integral part	the education and zoning plans (2) Implement environmental education and youth development programmes suited to the needs of each focus group (i.e. tailor-made programmes for each focus group)	compiled) (2) Regional environmental education and community involvement strategy (to be compiled)
		Educate learners, educators and other community focus groups to be able to take environmental action		
		Support educators and community leaders with resource and information materials	(1) Establish and market an environmental resource centre and outdoor classrooms, with a range of interpretive and information resources	
Support cooperative governance that will build custodianship	Maintain good reserve/community/ stakeholder relations	N/A	(1) Identify and involve all relevant stakeholders in the reserve advisory forum (2) Develop effective communication mechanisms and responsibilities for representatives	(1) Branch-wide communications strategy (in draft) (2) Branch-wide stakeholder relationship plan (to be compiled)
	Effective cooperative governance	Minimise degrading impact and consequences of inappropriate development in and around the reserve	(1) Establish and maintain good working relationships with relevant government departments as well as internal City of Cape Town departments	
		Ensure support/buy-in for management decisions through participatory decision-making processes	(1) Define roles and responsibilities with stakeholder groups, partnerships and government through written agreements/terms of reference and MOUs	
			(1) Plan for visitor infrastructure and facilities, as identified by the CDF (2) Develop and implement the infrastructure management plan (in compliance with State of Infrastructure report) (3) Compile a State of Infrastructure	(1) Infrastructure management plan (to be compiled) (2) Branch visitor facilities plan (to be compiled)

			report	
Enhance the City of Cape Town's reputation	Enhance the reserve's reputation	N/A	(1) Develop and implement a communication plan to promote reserve activities	
Advance strategic human resource management	To ensure good human resource management	N/A	(1) Implement and support learnerships and volunteer programmes (2) Ensure that all staff have access to training initiatives, as per the Workplace Skills Plan (3) Ensure that all corporate human resource policies are adhered to	Regional standard operation procedures manual (to be updated)
Financial management	To ensure sound financial management practices are applied to and underpin the reserve	N/A	Manage cost spending appropriately	Branch-wide business plan (to be compiled)

5.2 SWOT analysis

Strengths

- Community support and involvement
- Community development, environmental education and awareness opportunities
- Add value to neighbouring and surrounding community (i.e. D'Urbanvale and greater Durbanville)
- Active Friends group, i.e. UAG
- Interest from D'Urbanvale Residents Forum
- Rich biodiversity
- Ecological systems are still relatively functional
- Identified as core floral conservation site
- Staff component (although not permanent)
- All staff and management have experience and knowledge in managing protected areas

Weaknesses

- Invasive alien species
- Small size of reserve
- Shape of reserve not ideal
- Fragmentation of the site
- Inadequate capacity (permanent staff)
- Not own budget
- No permanent staff
- Insufficient appropriately trained staff to ensure that all biodiversity objectives are met, e.g. basic field ranger, law enforcement
- Public's ignorance about applicable environmental legislation
- Condition of current infrastructure, e.g. fence, gates, sign boards
- No footpaths, boardwalks, ablution or other visitor facilities
- No access control
- Services such as sewer line, power line and stormwater outlets in Uitkamp Wetland Nature Reserve

Opportunities

- Environmental education and public awareness and involvement
- Community buy-in

- Creating recreational/visitor facilities, e.g. footpaths
- Continued support from the reserve's Friends group and D'Urbanvale Residents Forum
- Strengthened inter-departmental and other role-player working relationships and buy-in
- Increase staff capacity
- Job creation
- Scenic beauty
- Low-crime area
- External funding opportunities
- Underground passes for fauna movement
- Linking up with surrounding landowners, sharing knowledge and resources in order to manage the biodiversity network effectively

Threats

- Sustainable long-term funding to upgrade and maintain reserve, and for permanent staff
- Lack of environmental education and awareness
- Different departments involved at Uitkamp not always willing to work together
- Servitudes, i.e. Eskom power lines, sewage pump station, stormwater outlets situated within reserve
- Stormwater and sewage causing eutrophication (over-enrichment of water bodies through excessive nutrients that enter the system)
- Invasive species (fauna and flora)
- Potential inhabitation by vagrants
- Edge effect from neighbouring houses, i.e. digging of trenches, garden escapes, domestic fauna, dumping, etc.
- Shape and fragmentation of site
- Lack of appropriate training
- Loss of biodiversity due to aspects such as inappropriate fire, invasive alien species, illegal activities and bad land use practices

5.3 Protected-area policy framework and guiding management principles

5.3.1 Community participation

A visionary stakeholder engagement process was held on 9 April 2010. Interested and/or affected parties and organisations were invited to attend this workshop. The purpose of the

workshop was to gather ideas from the public of what their vision is for Uitkamp Wetland Nature Reserve for the future.

Uitkamp Wetland Nature Reserve will strive to nurture productive and mutually beneficial partnerships, which, in turn, will result in economic and/or biodiversity equity. This will be achieved through applications and motivations for internal as well as external funding. In its ideal state, the reserve can contribute to the social upliftment of its surrounding neighbourhoods. There are already established interest groups involved, namely the UAG and D'Urbanvale Residents Forum.

The reserve will continue to contribute to raising environmental awareness, and will encourage community participation.

The main aims of the reserve's environmental education/awareness will be:

- to inspire visitors and communities to consider the environment as an essential system, of which they are an integral part; and
- to develop and implement environmental education programmes suited to the needs of various focus groups.

In order to develop and maintain good reserve/community/stakeholder relations, all these relevant groups need to be identified. An effective communication system also needs to be developed in order to liaise efficiently with interested and affected groups.

5.3.2 Safety and security

A safety and security audit still needs to be completed for the reserve. Reported incidents to date include vagrancy, poaching, and gardeners defecating in the reserve.

5.3.3 Tourism development and management

Uitkamp Wetland Nature Reserve is not a tourism attraction, and will be used primarily by the local communities for activities such as specialist tours, such as birding.

5.3.4 Infrastructure management

At present, Uitkamp Wetland Nature Reserve has a lot of infrastructure. Many of these structures are managed by other departments of the City of Cape Town and Eskom. Various City of Cape Town departments and Eskom share responsibility for some of these structures, such as stormwater outlets, a pump station, pipelines and power lines. It is necessary to complete a full audit of all infrastructure within the reserve, and to document the current uses and structural integrities. Infrastructure that is or could be used, should be

regularly maintained. Infrastructure with no use should be demolished and the sites rehabilitated. It is recommended that a management plan be compiled specifically to control the activities of the various departments involved at the reserve.

5.3.5 Biodiversity conservation management

5.3.5.1 Community-based natural resource management

Currently, no harvesting of any natural resources is permitted in Uitkamp Wetland Nature Reserve. Research on the amount of harvesting and the species harvested across the city is currently under way. Harvesting of natural resources would most probably not be sustainable in the reserve due to factors such as the small size of the site.

5.3.5.2 Fire management

Fire plays an essential ecological role in the life cycle of renosterveld species. Fire is crucial to the long-term conservation of species within Uitkamp Wetland Nature Reserve, and is therefore considered an important component of reserve management. One of the most important factors of fire management is time of year, frequency and intensity of fires. Too frequent fires, or fires that burn outside the prescribed burning period for the particular vegetation type, present a threat to some species, such as those that are considered slow-growing species, which may be entirely eliminated. If fire is excluded from the area, forest species can invade, resulting in fynbos species being lost.

Uitkamp Wetland Nature Reserve needs an ecological burn every five to seven years. The fire management regime for Uitkamp Wetland Nature Reserve involves the monitoring of wildfires. Not much data are available to determine the age of the veld. It is important to know when the last fires occurred in a particular natural area in order to determine the age of the veld, which, in turn, would enable the reserve management to establish when a controlled ecological burn or an independent wildfire burn is required. All possible actions are taken to prevent the spread of fire onto the adjacent properties. All unnatural fires that threaten the reserve ecologically, or create a threat to infrastructure and/or public safety, are controlled. The staff of the Biodiversity Management Branch will not fight any structural fires.

Prescribed burning of vegetation is a management option in areas where vegetation becomes too old and there is a risk of species loss. The use of prescribed burning practices would assist in maintaining a vegetation mosaic that promotes plant and animal diversity. However, it is important to have accurate fire records to facilitate the initiation of prescribed burns in the reserve as needed.

Fire may also be used to reduce the risk of uncontrolled, runaway fires, by reducing the fuel load, especially on the urban edge and in those areas that may pose a risk to infrastructure or the public.

Firebreaks and other fire control measures required by law will be implemented where necessary and feasible. Due to the reserve's small size and many Red Data-listed plant species, the fire break width is limited to a maximum of 1,5–2 m.

The nature of the area's terrain, property boundaries and extensive areas of surrounding natural field and agricultural land increase the chances of fire spreading both into and out of the reserve. Reasonable pre-fire protection measures are necessary, as well as a plan of action in the event of wildfire. Interaction with various City of Cape Town departments and independent stakeholders, and continuous public and private landowner involvement, are important.

Fire management implementation in Uitkamp Wetland Nature Reserve involves the following:

- Application of guidelines on seasonal burning intervals and species requirements acquired from relevant documentation and biophysical specialists
- Accurate record keeping of all fires, including details and maps
- Application of post-fire monitoring programmes
- Application of fire data to determine prescribed burning needs
- Development and implementation of a fire protection and response plan, including affected City of Cape Town departments and private landowners neighbouring the nature reserve

5.3.5.3 Soil erosion and control

Within Uitkamp Wetland Nature Reserve, natural erosion processes are allowed to take their course without interference, except where necessary. In the case of man-made and natural areas that are negatively affected, appropriate management action will take place. Disturbed areas and areas affected by unnatural erosion will be controlled by means of appropriate methods.

Soil management implementation in Uitkamp Wetland Nature Reserve includes the following:

- Identification and recording of all soil erosion sighted, including the assessment and development of restoration plans where required
- Eroded areas should be mapped
- Application of fixed-point monitoring programmes at identified soil erosion sites
- Accurate documentation of management actions applied to restoration sites

5.3.5.4 Invasive-species management

The management of invasive species is not only a priority within Uitkamp Wetland Nature Reserve, but also within the entire Biodiversity Management Branch. Invasive species need to be controlled and, where possible, eliminated in order to facilitate the re-establishment of local indigenous species and processes in invaded areas.

Invasive-species management within the reserve is applied in accordance with the City of Cape Town's invasive alien species strategy and in coordination with various government-funded initiatives, including Working for Water and Working for Wetlands. Invasive alien plant species could spread rapidly should management fail to continue to implement a properly planned and coordinated programme.

Until recently, invasive species management had been focusing on woody alien plant species, such as *Acacia saligna* (Port Jackson) and *Acacia cyclops* (rooikrans). Herbaceous weeds had been largely ignored. Recent monitoring and the development of an extensive herbaceous weed and grass species survey throughout the Biodiversity Management Branch's jurisdiction have shown that some herbaceous species already pose a risk to biodiversity in the area, while others have the potential to become one.

In order to protect indigenous species from invasive aliens, the following is required:

- Prioritisation of areas for alien removal, focusing on biodiversity restoration
- The implementation of removal or control measures for priority species and areas
- The development and implementation of an invasive and alien species management plan

Although not in practice yet, invasive and alien faunal species need to be eradicated from the reserve. However, formal plans outlining the monitoring and removal of identified species are required.

5.3.5.5 Species introductions

Several fauna species that previously occurred in Uitkamp Wetland Nature Reserve may no longer be present or may be down to small numbers.

Prior to the re-introduction of any species, a full proposal is required. Such proposal should include possible reasons why this particular faunal species no longer exists in the reserve. Investigation into the availability of suitable habitat for the species with reference to public utilisation of areas is required, as is a full investigation into the historical occurrence and status of the species. The effect of re-introducing species to the area must also be researched. Re-introduction of potentially dangerous and problematic species may also require a public participation process. An investigation of suitable sources is also necessary.

All proposed re-introductions need to be approved by the Biodiversity Management Branch's faunal management committee before implementation. Recommendations and approvals are required from the operational director as well as from provincial authorities. The implementation of any re-introduction programmes must be specified in a plan of action, and documented accurately.

5.3.5.6 Strategic research

Research topics beneficial to the management of Uitkamp Wetland Nature Reserve require identification. These subjects can then be prioritised and then further pursued.

An effort needs to be made to obtain copies of data and results from projects conducted within the reserve's boundaries, for future reference.

5.4 Sensitivity analysis of Uitkamp Wetland Nature Reserve

The reserve is a considerable asset to the City of Cape Town, and significantly contributes to national conservation targets of threatened vegetation types. It also provides a service, although small-scale, to schools.

The development of the sensitivity and zoning plan is one of the steps required in compiling a CDF for the reserve. CDFs are tools to resolve the various land use needs, and to outline visitor user zones and the positioning and nature of new infrastructure, paths and facilities.

The CDF process has grown in response to the requirements of the National Environmental Management Biodiversity Act (2004), and seeks to comply with the spatial planning requirements of the Act. The CDFs will ensure that best practice and sustainable development principles are integrated with spatial planning within protected areas.

The sensitivity-value analysis is the landscape analysis portion of the broader CDF. It is a multi-criteria decision-support tool for spatial planning, designed to present the best available information in a format that enables defensible and transparent decision making. The sensitivity-value process is based on the principle that the acceptability of a development (or placement of a structure) at a site is based on that site's value (arising from the site's biodiversity, heritage, aesthetic or other values) and its sensitivity or vulnerability to a variety of disturbances (Purves 2010).

The sensitivity-value analysis, the CDF and the associated zoning plan should form part of an adaptive management system. They will grow and change over time as the understanding of the landscapes and ecosystems improves. However, they will never replace the need for detailed site and precinct planning and EIA compliance at site level.

A full sensitivity-value analysis was not undertaken for these reserves. The small size of the nature reserves did not warrant any extensive analysis, resulting in a fairly straightforward subsequent zoning process. Only roads, structures and disturbed areas were mapped.

All geographic information work was carried out in ESRI's ArcMap, version 9.3.1, using the ArcInfo licence level, with Spatial Analyst and 3D Analyst extensions. See appendix 10 for the complete sensitivity-value analysis and zoning process.

5.5 Zoning plan of Uitkamp Wetland Nature Reserve

5.5.1 Zoning informants

This section briefly outlines the values underlying the identification of broad tourism use zones. It is important to remember that the landscape/biodiversity analysis is just one of the informants in the zoning process. Although the biodiversity analysis is intrinsically a relatively objective scientific process, other informants to the zoning process are not.

Although every attempt is made to place high sensitivity-value sites into more protected zones where possible, the zoning process is essentially a compromise between environment and development. In particular, the identified high-value sites are often the key biodiversity assets that need to be made available to the eco-tourism market in an appropriate manner. The biodiversity layers and the spatial management of the reserve are directly linked during the identification of special management areas (where applicable). Even within broad high-

tourist use zones, some areas are likely to be subject to very tight conservation controls (potentially involving complete exclusion of human impacts from an area).

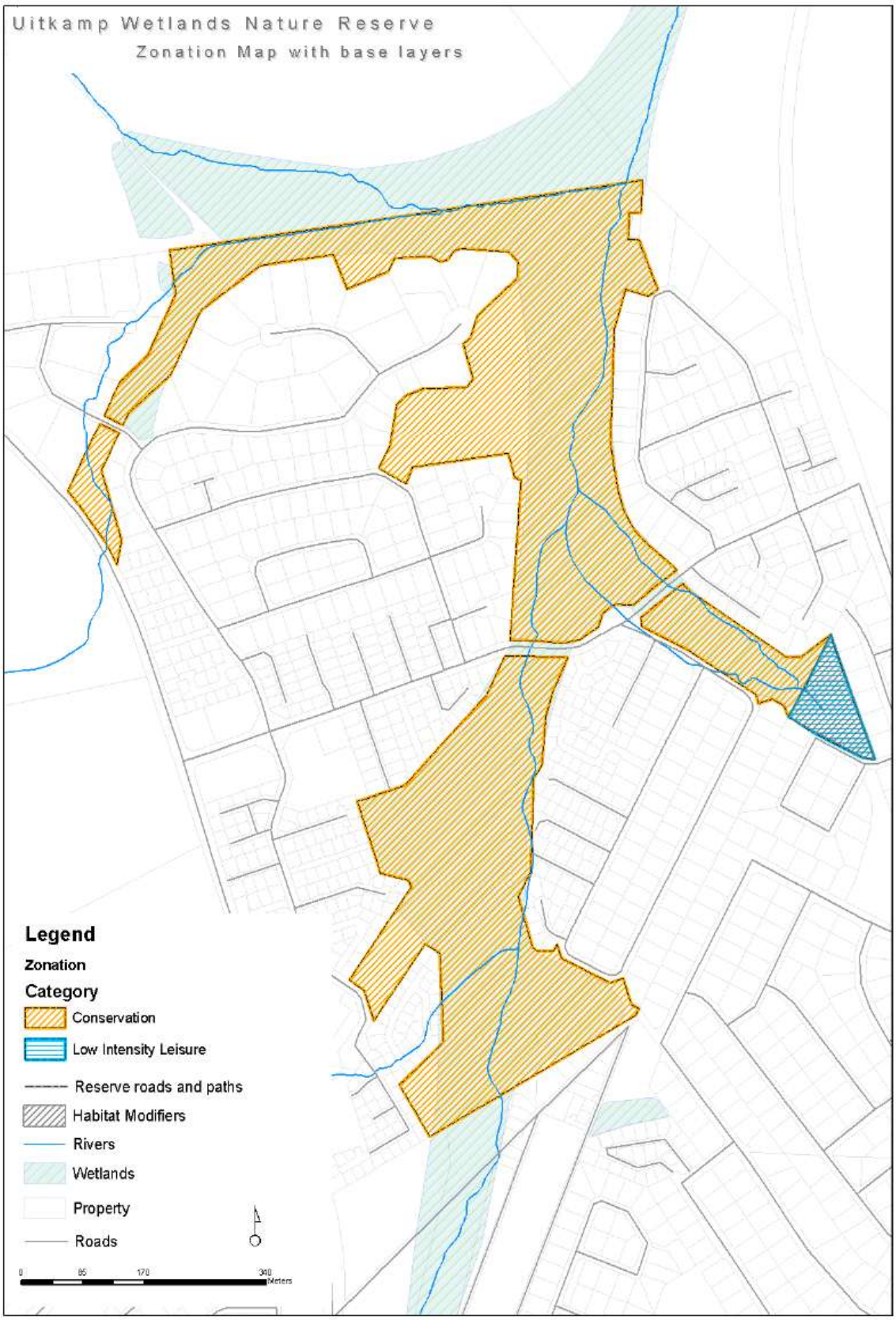
Underlying decision-making rules used in the zoning process

- The zoning process is aimed at striking a *balance* between environmental protection and the development required to meet the broader economic and social objectives of the reserve.
- The zoning process takes into account existing development footprints and tourism access routes.
- This is based on the underlying principle that, all else being equal, an existing transformed site is preferable to a greenfield site, from a biodiversity perspective.
- Infrastructure costs are dramatically increased when developments take place away from existing infrastructure.
- Existing tourism nodes and access routes are a reality of the economic landscape, and it would not be possible to shut down existing tourism sites that compromise the development objectives of the reserve.
- Where existing development nodes, tourist sites and access routes occur in areas with high sensitivity-value, the broad-use zoning aims to keep the development footprint as small as is realistically possible, preferably within the existing transformed site.
- Where possible, sites with high biodiversity sensitivity-value are put into stronger protection zones.
- Peripheral development is favoured and should, where possible, be located outside the conservation area.
- Two key points need to be emphasised:
    - The designation of a broad-use zone does not imply that all sites within that zone would be suitable for all the development types anticipated. Detailed site level planning is still required, and many sites may prove to be unsuitable at a site/precinct/EIA level of planning.
    - Special management areas/overlays need to be formalised and linked to the management plans.

5.5.2 Zoning definitions and descriptions

The zoning definitions and descriptions were workshopped with reserve and regional managers. Four categories were decided on, namely primary conservation zone, conservation zone, low-intensity leisure zone and high-intensity leisure zone. Please see

map 6 for the Uitkamp zoning map (see appendix 10 which outlines the proposed zoning and zone descriptions). The process is still linked to the zoning used for the CapeNature reserves, as there should be general alignment of the broader-use zones to enable comparison and integration if provincial documents so require (Purves 2010). For a full zoning summary report, please refer to appendix 10 and map 6.



Map 6: Zoning map

6. DEVELOPMENT PLAN

The development plan for the reserve still needs to be compiled. Uitkamp Wetland Nature Reserve is conserving some of the few remaining patches of critically endangered vegetation types in Cape Town. It is thus essential that every last square meter of degraded vegetation is restored and rehabilitated.

For these reasons, the following recommendations are made:

- The placement of any facility within the low-intensity use zone should be carefully considered. Options for locating any facilities should be investigated outside the reserve.
- The low-intensity use area should be prioritised for rehabilitation.

7. COSTING PLAN

An operational budget is allocated for the Durbanville area, which includes three nature reserves, namely Uitkamp wetland, Durbanville and Botterblom nature reserves (table 4). The invasive alien plant budget is the only budget that Uitkamp does not have to share.

Table 4: Broad category breakdown for management interventions for the Durbanville area for the period 2011 - 2016

Management action: Uitkamp	Funding source	Approximate costs 2011–2012	Approximate costs 2012–2013	Approximate costs 2013–2014	Approximate costs 2014–2015	Approximate costs 2015–2016
1. Invasive alien plant programme • Clearing of important alien vegetation	Invasive alien species funding	R30 000,00	R31 500,00	R33 075,00	R34 811,00	R36 551,57
2. Repairs and maintenance	Operating	R18 631,26	R	R	R35 946,69	R37 744,02
3. Fencing	Capital expenditure	-	-	-	-	-
4. Infrastructure development •	Capital reserve fund	-	-	-	-	-
6. Human resources • Salaries, wages • Employee-related costs • Employee costs	Operating	R577 854,47 R129 989,15 R707 843,62	R624 082,10 R140 388,28 R764 471,10	R674 008,66 R151 619,34 R825 628,78	R727 929,35 R163 748,88 R891 679,08	R786 163,69 R176 848,79 R968 720,15
7. General expenses • General operating costs • Other materials • Contracted services	Operating	R128 009,90 R12 416,77 R3 944,92	R138 250,69 R13 410,11 R4 260,51	R149 310,74 R14 482,92 R4 601,35	R161 255,59 R15 641,55 R4 969,46	R174 156,03 R16 892,87 R5 367,02
8. Special projects	Capital expenditure	-	-	-	-	-
Note: Human resource costs are escalated at 8% per annum. Operating expenditure is escalated at 5% per annum.						

PART 3

MONITORING & AUDITING

8. MONITORING & AUDITING

8.1 Annual audit procedure

8.1.1 Management Effectiveness Tracking Tool South Africa (METT-SA)

The METT-SA is a rapid, site-level assessment tool adapted from the World Bank and Worldwide Fund for Nature (WWF) system (second edition, 2007). The system is based on the idea that good protected-area management follows a process comprising six distinct stages or elements:

It begins with understanding the **context** of existing values and threats (where are we now?), then progress through **planning** (where do we want to be?), followed by allocation of resources (**inputs**) (what do we need?). As a result of management actions (**processes**) (how do we go about it?), it eventually produces products and services (**outputs**) (what were the results?), which result in impacts or **outcomes** (what did we achieve?).

This version has been compiled so that it can be applied to the full range of protected areas managed by all C.A.P.E partners. It also applies to protected areas in other regions, and, with minor adaptations, could be applied outside of South Africa as well. It may also be used for marine protected areas (MPAs) and islands, but, in the long run, it may become necessary to amend the system to be more specific to these areas. In addition, a system for off-reserve conservation areas, such as conservancies or stewardships, may need to be developed.

When applying METT-SA, it is important for the following to be kept in mind:

- The METT-SA is intended to report on the reserve's progress. Thus, the score is the baseline against which future assessments are made to see if there has been an improvement.
- It is site-specific and must therefore not be used to compare scores between different protected areas.
- It is a useful tool to give indications of management trends. In this version, the six elements of the management process, as defined in the original version, are scored as subsets of the total. This gives an indication of where management should strive for improvement.
- It is not intended to replace more detailed assessments as part of adaptive management systems.

- The METT-SA has limitations in the quantitative measurement of outcomes, and these should be measured by more objective and quantitative systems.
- This version adjusts the total score where questions are irrelevant.
- Often, low scores on some questions could be a reflection on the organisation as a whole, and do not necessarily point to issues over which the protected-area manager has control. **The performance of managers should therefore under no circumstances be measured against the METT-SA results.**

Tracking the trends of management effectiveness is a long-term process, and instant improvements are unlikely. Generally, the METT-SA is applied at three-year intervals, but an annual application is acceptable if it is understood that changes may only be slight. The METT-SA for Uitkamp Nature Reserve was undertaken in 2007, and the results are presented in appendix 11. The METT-SA will be repeated in approximately September 2011.

8.1.2 Protected-area review (PAR)

The PAR is an internal review conducted annually to assist managers in reviewing their sites, and to allow for adaptive management actions to be taken where necessary (and within managers' control).

8.2 Management plan review

Every five years, this management plan should be reviewed, and adjusted where necessary. To achieve this, the following questions (and others as needed) should be addressed:

- Did this management plan make a meaningful contribution to the management of Uitkamp Wetland Nature Reserve?
- Were individual management 'prescripts' realistic and achievable? Were they written clearly or was there room for misunderstanding?
- Were budgets for each management activity realistic? Were the allocated budgets too much or too little?
- Were sufficient staff members with the right qualifications allocated to each management activity?

There will be some overlap between the review and the audit, and they should therefore be done on the same day, by the same team.

8.3 Biodiversity monitoring

Table 5: Biodiversity Actions, Responsible parties, means of verification and frequency

Action	Responsible party	Means of verification	Frequency
South African Biodiversity Database To record and track biodiversity on a specific site	Reserve staff Students and interns Members of the public	Acceptance of data on the database website	Monthly
Vegetation monitoring Invasive alien vegetation Aspects to be monitored include the effectiveness of the operation, the effectiveness of the follow-up, methods used, compliance with the alien-clearing schedule, and environmental damage such as herbicide spillage	Reserve staff Reserve manager, students and interns	Weekly inspections Final inspections Field verification sheets	Weekly Once-off – completion of contract Annually – to determine management unit clearing plan
Fire mapping All veld fires must be accurately mapped and recorded to build up a useful record that will assist with veld interpretation. These records will take the guesswork out of the effects of fire when it occurs on the property. A simple map indicating the extent and date of the burn is the minimum requirement.	Reserve staff Reserve manager, students and interns	Veld age map, fire map	Post-fire
Post-fire recruitment	Reserve staff Reserve manager, students and interns	Stratified sampling plots	Post-fire Six months 12 months Annually for three years
Abundance, density and structure	Reserve staff Reserve manager, students and interns	Fixed-point photography Presence, abundance, density	Annually
Threatened species	Reserve staff Reserve manager, students and interns	Field observation sheet	Seasonally

Faunal monitoring Nocturnal species counts	Reserve staff Reserve manager, students and interns	Vehicle line transect	Bi-monthly
Bird diversity	Reserve staff Reserve manager, students and interns	Field observations	Weekly
Small mammals	Reserve staff Reserve manager, students, interns and field staff	Stratified random Sherman trap array	Seasonally
Fauna diversity	Reserve staff Reserve manager, students, interns and field staff	Camera trapping	Every second week
Water monitoring Rainfall	UAG	Field collection equipment	Daily
Water quality	Reserve staff Reserve manager, students and interns Scientific Services	Field collection equipment	Quarterly

PART 4

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9. REFERENCES

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PART 5

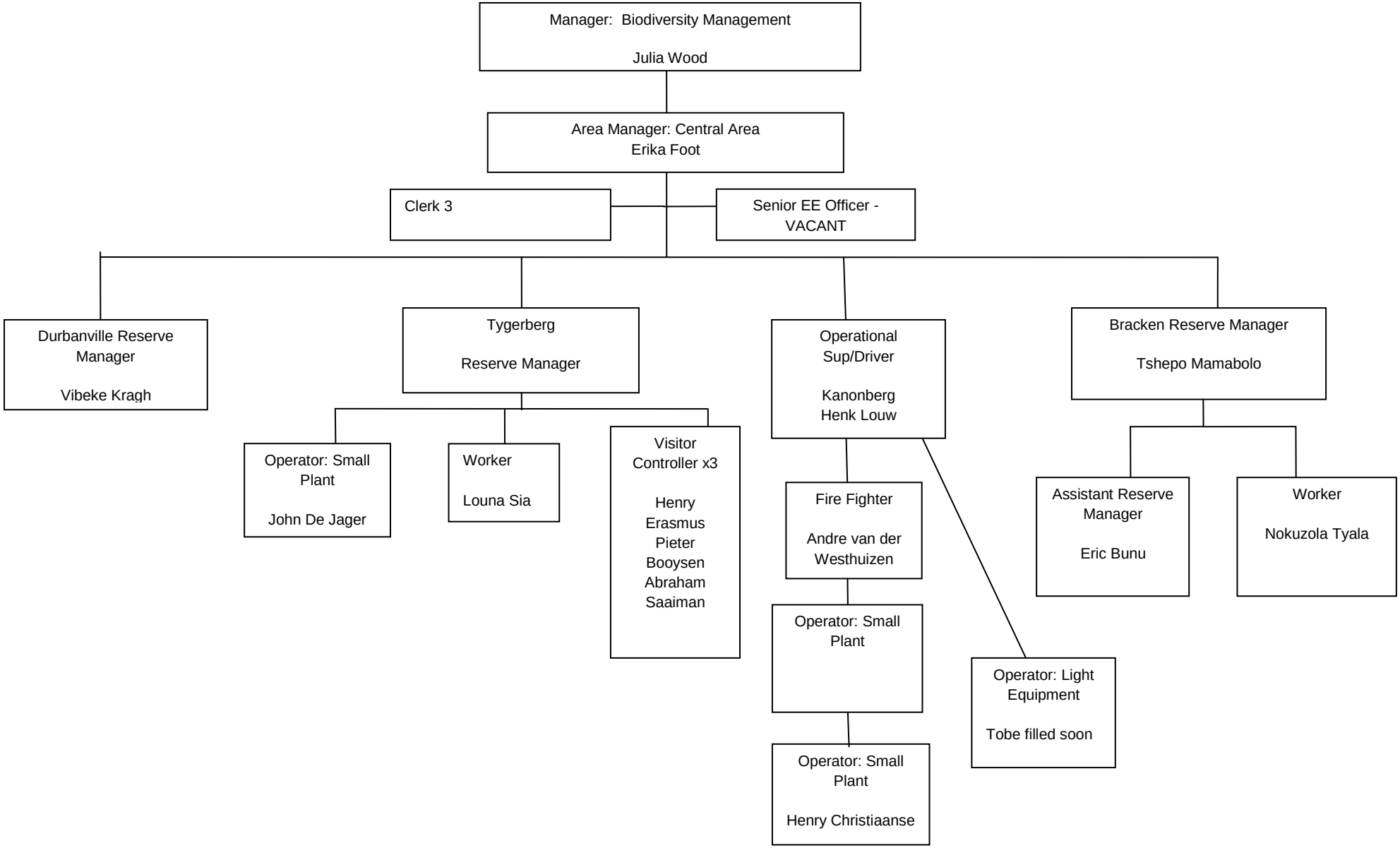
10. APPENDICES

A. Charts and Tables

Appendix 1: Rainfall Table

Month	Mean rainfall in mm
January	13.69
February	14.29
March	21.46
April	67.07
May	96.18
June	133.26
July	122.07
August	114.51
September	73.86
October	51.29
November	48.43
December	18.71

Appendix 2: Organograms of the Central Region



Appendix 3: Surveyor General (SG) diagrams

Appendix 4: Plants

Species Name	Common Name	Alien
Adenogramma glomerata		No
Agathosma ciliata		No
Albuca goswinii		No
Anthospermum aethiopicum		No
Antimima aristulata		No
Aponogeton distachyos		No
Arctopus echinatus		No
Aristea africana		No
Aspalathus aculeata		No
Aspalathus angustifolia		No
Aspalathus cymbiformis		No
Aspalathus hispida~		No
Aspalathus spinosa spinosa		No
Asparagus asparagoides		No
Asparagus capensis		No
Asparagus declinatus		No
Asparagus rubicundus		No
Asparagus stipulaceus		No
Athanasia capitata		No
Athanasia crithmifolia		No
Avena barbata		Yes
Babiana ambigua		No
Babiana angustifolia		No
Babiana stricta		No
Baeometra uniflora		No
Berkheya armata		No
Berkheya rigida		No
Bobartia indica		No
Bulbinella triquetra		No
Carpanthea pomeridiana		No
Carpobrotus edulis		No
Centella glabrata~		No
Centella macrocarpa~		No
Cephalophyllum parviflorum		No
Chasmanthe aethiopica	Suurkanol	No
Chlorophytum triflorum		No
Cissampelos capensis		No
Conyza scabrida		No
Corycium orobanchoides		No
Corymbium africanum		No
Cotula coronopifolia		No
Crassula capensis~		No
Crassula dichotoma		No
Crossyne guttata		No
Cyanella hyacinthoides		No
Cymbopogon marginatus		No
Cynodon dactylon	couch grass; kweekgras;	No

	kweek	
Cyperus fastigiatus		No
Cyphia bulbosa~		No
Cyphia digitata~		No
Dicerothamnus rhinocerotis		No
Dimorphotheca pluvialis		No
Diosma hirsuta		No
Dorotheanthus bellidiformis		No
Drimia capensis		No
Drosera cistiflora		No
Drosera trinervia		No
Echiostachys incanus		No
Echium plantagineum		Yes
Ehrharta calycina		No
Elegia recta		No
Eleocharis limosa		No
Empodium plicatum		No
Eragrostis curvula		No
Erepsia bracteata		No
Erepsia ramosa		No
Erica paniculata		No
Eriocephalus africanus~		No
Eriospermum flavum		No
Eriospermum spirale		No
Euclea racemosa		No
Euclea tomentosa		No
Euphorbia genistoides		No
Euphorbia tuberosa		No
Festuca scabra		No
Ficinia deusta		No
Ficinia indica		No
Geissorhiza eurystigma		No
Geissorhiza radians		No
Geissorhiza setacea		No
Gladiolus alatus		No
Gladiolus gracilis		No
Gladiolus recurvus		No
Gladiolus trichonemifolius		No
Gnidia laxa		No
Gymnosporia buxifolia		No
Haemanthus sanguineus		No
Helichrysum cymosum~		No
Helichrysum patulum		No
Helichrysum teretifolium		No
Heliophila coronopifolia		No
Hermannia althaeifolia		No
Hermannia hyssopifolia		No
Hermannia prismatocarpa		No
Hesperantha falcata		No
Indigofera incana		No
Indigofera procumbens		No
Indigofera psoraloides		No

Ischyrolepis capensis		No
Ischyrolepis duthieae		No
Juncus capensis		No
Juncus effusus		No
Koeleria capensis		No
Lachenalia orthopetala		No
Lachenalia pallida		No
Lampranthus emarginatus		No
Lampranthus filicaulis		No
Lampranthus glaucus		No
Lampranthus spiniformis		No
Leucadendron salignum		No
Leysera gnaphalodes		No
Lichtensteinia lacera		No
Limonium depauperatum		No
Lobostemon glaber		No
Lotononis prostrata		No
Lycium afrum		No
Lycium ferocissimum		No
Manulea cheiranthus		No
Merxmuellera stricta		No
Micranthus tubulosus		No
Microloma sagittatum		No
Monopsis lutea		No
Monopsis simplex		No
Montinia caryophyllacea		No
Moraea bellendenii		No
Moraea fugacissima		No
Moraea galaxia		No
Moraea lugubris		No
Moraea papilionacea		No
Moraea setifolia		No
Moraea tricolor		No
Moraea tripetala		No
Moraea villosa		No
Muraltia ononidifolia		No
Muraltia trinervia		No
Nenax hirta		No
Ornithogalum flaccida	Albuca flaccida	No
Ornithogalum thyrsoides		No
Osteospermum spinosum~		No
Otholobium hirtum		No
Otholobium virgatum		No
Oxalis bifida		No
Oxalis purpurea		No
Pauridia minuta		No
Pelargonium elongatum		No
Pelargonium triste		No
Pennisetum macrourum		No
Pharnaceum lineare		No
Phylica strigulosa		No

Plantago crassifolia		No
Podalyria microphylla		No
Podalyria sericea		No
Polygala garcinii		No
Psoralea alata		No
Pteronia hirsuta		No
Pterygodium catholicum		No
Relhania fruticosa		No
Restio quadratus		No
Restio tetragonus		No
Romulea tabularis		No
Rumex lativalvis		No
Ruschia indecora		No
Salvia africana-caerulea		No
Salvia chamelaeagnea		No
Searsia angustifolia		No
Searsia glauca	Blou Taaibos	No
Searsia rosmarinifolia		No
Sebaea exacoides		No
Sebaea scabra		No
Senecio burchellii		No
Senecio pubigerus		No
Sparaxis bulbifera		No
Sparaxis grandiflora		No
Spiloxene alba		No
Spiloxene aquatica		No
Spiloxene capensis		No
Spiloxene schlechteri		No
Stenotaphrum secundatum	Buffalo Grass	No
Stoebe fusca		No
Themeda triandra		No
Thesium funale		No
Trachyandra ciliata		No
Trachyandra hirsutiflora		No
Tribolium hispidum		No
Tribolium uniolae		No
Trichogyne ambigua		No
Triglochin bulbosa		No
Tulbaghia capensis		No
Viscum capense		No
Wachendorfia paniculata		No
Wahlenbergia capensis		No
Watsonia angusta		No
Willdenowia incurvata		No
Xiphotheca lanceolata		No
Zantedeschia aethiopica		No
Zygophyllum sessilifolium		No

Appendix 5: Mammals

MAMMAL SPECIES LIST OF UITKAMP WETLAND NATURE RESERVE			
Species Name	**Common Name**	**Red Book Status**	**Alien**
Atilax paludinosus	Water Mongoose	Least Concern (LC)	No
Cynictis penicillata	Yellow Mongoose	Least Concern (LC)	No
Dasymus incomtus	Water Rat		No
Felis caracal	Caracal	Least Concern (LC)	No
Felis silvestris catus	Domestic cat		Yes
Galerella pulverulenta	Small Grey Mongoose	Least Concern (LC)	No
Gerbillurus paeba	Hairyfooted Gerbil	Least Concern (LC)	No
Herpestes ichneumon	Large Grey Mongoose	Least Concern (LC)	No
Hystrix africaeaustralis	Porcupine	Least Concern (LC)	No
Myosorex varius	Forest Shrew	Data Deficient (DDD)	No
Otocyon megalotis	Bateared Fox	Least Concern (LC)	No
Raphicerus campestris	Steenbok	Least Concern (LC)	No
Raphicerus melanotis	Cape Grysbok	Least Concern (LC)	No
Rhabdomys pumilio	Striped Mouse, Striped Field Mouse	Least Concern (LC)	No
Sylvicapra grimmia	Common Duiker	Least Concern (LC)	No

Appendix 6: Birds

BIRD SPECIES LIST FOR UITKAMP WETLAND NATURE RESERVE			
Species Name	**Common Name**	**Red Book Status**	**Alien**
Accipiter rufiventris	Rufous-chested Sparrowhawk		No
Alopochen aegyptiacus	Egyptian Goose, Kolgans		No
Amaurornis flavirostris	Black Crake		No
Anas undulata	Yellow-billed Duck		No
Anthus cinnamomeus	African Pipit		No
Apus caffer	White-rumped Swift		No
Aquila pennatus	Booted Eagle		No
Ardea cinerea	Grey Heron		No
Ardea melanocephala	Black-headed Heron		No
Bostrychia hagedash	Hadeda Ibis		No
Bradypterus baboecala	Little Rush-Warbler		No
Bubo africanus	Spotted Eagle-Owl		No
Bubulcus ibis	Cattle Egret		No
Burhinus capensis	Spotted Thick-knee, Spotted Dikkop		No
Buteo rufofuscus	Jackal Buzzard		No
Chrysococcyx caprius	Diderick Cuckoo		No
Cinnyris chalybeus	Southern Double-collared Sunbird		No
Cisticola tinniens	Levaillant's Cisticola		No
Colius colius	White-backed Mousebird		No
Columba guinea	Speckled Pigeon		No
Columba livia	Feral Pigeon, Rock Dove		Yes
Corvus albus	Pied Crow		No
Cossypha caffra	Cape Robin-Chat		No
Coturnix delegorguei	Harlequin Quail		No
Elanus caeruleus	Black-shouldered Kite		No
Estrilda astrild	Common Waxbill		No
Euplectes capensis	Yellow Bishop		No
Euplectes orix	Southern Red Bishop		No
Falco peregrinus	Peregrine Falcon	Near Threatened (NT)	No
Falco rupicolus	Rock Kestrel		No
Hirundo albigularis	White-throated Swallow		No
Lanius collaris	Common Fiscal, Fiscal Shrike		No
Macronyx capensis	Cape Longclaw		No
Milvus migrans	Black Kite, Yellow-billed Kite		No
Motacilla capensis	Cape Wagtail		No
Nectarinia famosa	Malachite Sunbird		No
Numida meleagris	Helmeted Guineafowl		Yes
Onychognathus morio	Red-winged Starling		No
Passer domesticus	House Sparrow		Yes
Passer melanurus	Cape Sparrow		No
Pavo cristatus	Common Peacock		Yes
Pelecanus onocrotalus	Great White Pelican, Wit Pelikan	Near Threatened (NT)	No
Platalea alba	African Spoonbill		No
Plectropterus gambensis	Spur-winged Goose		No
Ploceus capensis	Cape Weaver		No
Ploceus velatus	Southern Masked-Weaver		No
Prinia maculosa	Karoo Prinia		No
Pternistis capensis	Cape Spurfowl		No
Pycnonotus capensis	Cape Bulbul		No

Pycnonotus nigricans	African Red-eyed Bulbul		No
Saxicola torquatus	African Stonechat		No
Scleroptila africanus	Grey-winged Francolin		No
Scopus umbretta	Hamerkop		No
Serinus canicollis	Cape Canary		No
Sigelus silens	Fiscal Flycatcher		No
Streptopelia capicola	Cape Turtle-Dove		No
Streptopelia decipiens	African Mourning Dove		No
Streptopelia senegalensis	Lag Duifie, Laughing Dove		No
Sturnus vulgaris	Common Starling, European Starling		Yes
Telophorus zeylonus	Bokmakierie		No
Threskiornis aethiopicus	African Sacred Ibis		No
Turdus olivaceus	Olive Thrush		No
Upupa africana	African Hoopoe		No
Urocolius indicus	Red-faced Mousebird		No
Vanellus armatus	Blacksmith Lapwing, Blacksmith Plover		No
Vanellus coronatus	Crowned Lapwing		No
Vidua macroura	Pin-tailed Whydah		No
Zosterops virens	Cape White-eye		No

Appendix 7: Reptiles

REPTILE SPECIES LIST OF UITKAMP WETLAND NATURE RESERVE			
Species Name	**Common Name**	**Red Book Status**	**Alien**
Bradypodion pumilum	Cape Dwarf Chameleon		No
Chersina angulata	Angulate Tortoise		No
Crotaphopeltis hotamboeia	Herald Snake		No
Duberria lutrix	Common Slug Eater		No
Duberria lutrix lutrix	Common Slugeater		No
Homopus areolatus	Parrot-beaked Tortoise		No
Lamprophis aurora	Aurora House Snake		No
Lamprophis capensis	Brown House Snake		No
Lamprophis inornatus	Olive House Snake		No
Pachydactylus capensis	Cape Thick-toed Gecko		No
Pachydactylus geitje	Ocellated Thick-toed Gecko		No
Pelomedusa subrufa	Marsh Terrapin		No
Psammophylax rhombeatus	Rhombic Skaapsteker		No
Pseudaspis cana	Mole Snake		No
Trachylepis capensis	Cape Skink		No

Appendix 8: Amphibians

AMPHIBIAN SPECIES LIST OF UITKAMP WETLAND NATURE RESERVE			
Species Name	**Common Name**	**Red Book Status**	**Alien**
Amietia fuscigula	Cape River Frog		No
Amietophrynus rangeri	Raucous Toad		No
Breviceps gibbosus	Cape Rain Frog	Vulnerable (VU)	No
Cacosternum boettgeri	Common Caco		No
Cacosternum capense	Cape Caco		No
Hyperolius horstockii	Arum Lily Frog, Arum Lily Reed Frog		No
Strongylopus grayii	Clicking Stream Frog		No
Strongylopus grayii grayii	Clicking Stream Frog		No
Tomopterna delalandii	Cape Sand Frog		No
Vandijkophrynus angusticeps	Sand Toad		No
Xenopus laevis	Common Platanna		No

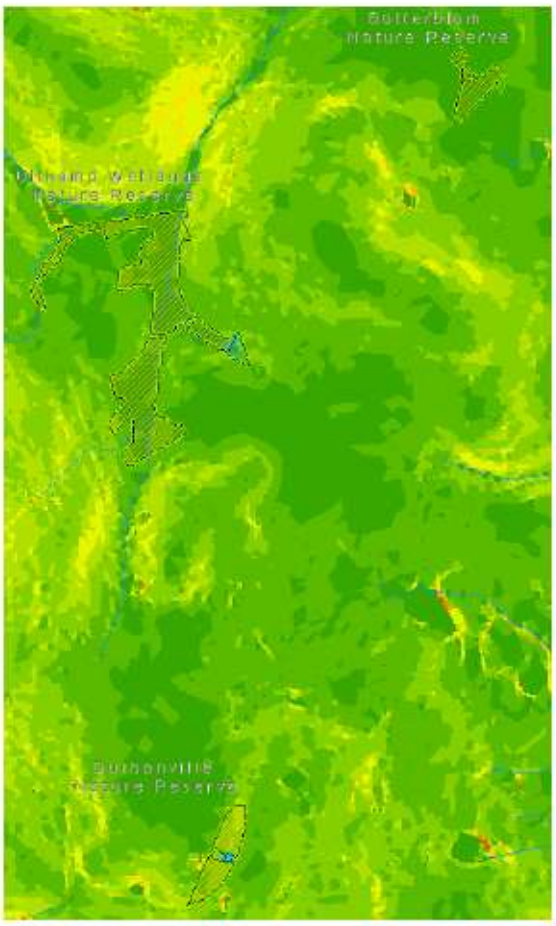
Appendix 9: Insects

INSECT SPECIES LIST OF UITKAMP WETLAND NATURE RESERVE	
Species Name	**Common Name**
Acraea horta	Garden Acraea
Anax imperator	Blue emperor
Argiope flavipalpis	Garden orb spider
Argiope trifasciata	Banded garden orb spider
Cassionympha detecta	Cape brown
Cheiracanthium lawrencei	Sac spider
Cheilomenes lunata	Lunate ladybird
Cyrtacanthacrisb aeruginosa	Green tree locust
Danaus chrysippus aegyptius	African monach
Dira clytus clytus	Cape Autumn Widow
Leptacris elegans	Elegant grass-mimmicking grasshopper
Locustana pardalina	Brown locust
Loxoscele sp.	Violen spider
Macroglossum trochilus	African humming bird moth
Mausoleopsis amabilis	White spotted fruit chafer
Oryctes boas	Rhinoceros beetle
Palystes castaneus	Rain spider
Papilio demodocus demodocus	Citrus Swallowtail
Paracinema tricolor	Vlei grasshopper
Phymateus morbillosus	Common milkweed locust
Phalces brevis	Cape stick insect
Sonchia sternalis	Four-spot leaf beetle
Sphodromantis gastrica	Common green mantid
Tarucus thespis	Fynbos blue
Xylocopa caffra	Carpenter bee
Zonocerus elegans	Elegant grass hopper

Appendix 10: Sensitivity Value Analysis

ZONATION Summary REPORT for:

Botterblom Nature Reserve,Durbanville Nature Reserve & Uitkamp Wetlands Nature Reserve



Prepared for the Biodiversity Branch and Environmental Management Systems Branch

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Contents

1. Introduction and Scope of Report

Durbanville, Botterblom and Uitkamp Wetlands Nature Reserves are three small reserves that occur in the Central management district in the suburb of Durbanville. They are small, isolated reserves, surrounded by urban development. They all contain critically endangered vegetation types and several rare and endemic plant species.

The vegetation types that occur are, Cape Sand Plain Fynbos and Swartland Shale Renosterveld (see Figure 1). These vegetation types are all critically endangered and are poorly represented (2 - 3% of target) within currently proclaimed protected areas.

These vegetation types are all listed as threatened ecosystems under National Environmental Management: Biodiversity Act (Act 10 of 2004), DEAT (in press).

The small size of the reserves did not necessitate a full sensitivity analysis. For all the reserves the entire area was considered highly sensitive for the purpose of this zonation exercise.

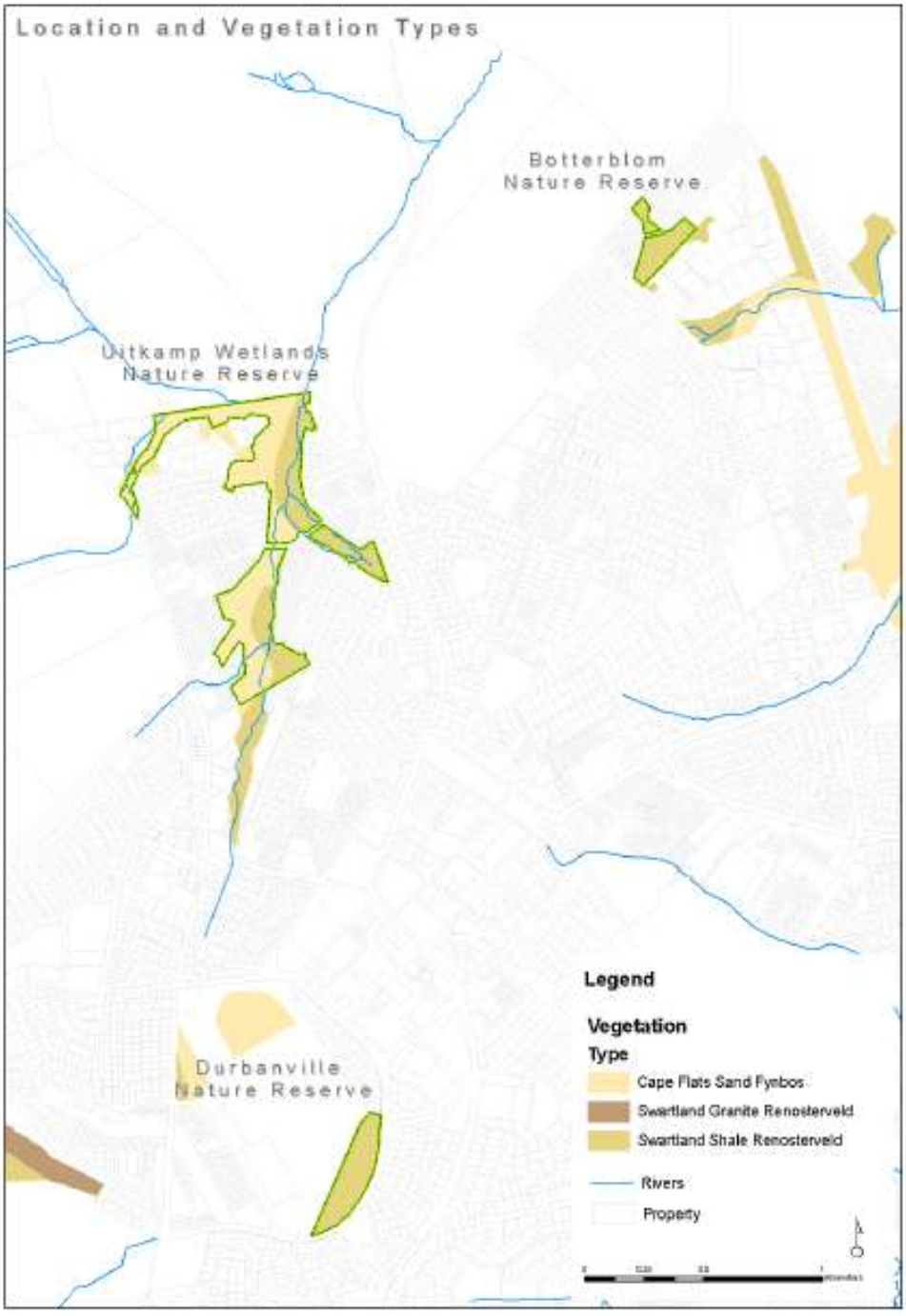

Figure 1: Location and vegetation types

1.2 Context

The development of the Sensitivity and Zonation plan is one of the steps required in compiling a Conservation Development Framework (CDF) for the reserve. CDFs are tools to reconcile the various land-use needs and to delineate visitor user zones and the positioning and nature of new infrastructure, access points, roads and facilities.

The CDF process has grown in response to the requirements of the NEMBA (2004) and is a strategy to comply with the spatial planning requirements of these acts. The CDFs will ensure that best practice and sustainable development principles are integrated into spatial planning within protected areas.

The Sensitivity-Value analysis is the landscape analysis portion of the broader Conservation Development Framework. It is a multi-criteria decision-support tool for spatial planning that is designed to integrate the best available information into a format that allows for defensible and transparent decisions to be made. The Sensitivity-Value process is based on the principle that the acceptability of a development (or placement of a structure) at a site is based on the site's value (either from biodiversity, heritage, aesthetic or a combination of values) and its sensitivity or vulnerability to a variety of types of disturbance (Holness *et al*, 2005).

- The Sensitivity-Value analysis, the CDF and the associated zonation plan should form part of an adaptive management system. They will grow and change over time as the understanding of the landscapes and ecosystems improve; and
- It does not replace the need for detailed site and precinct planning and EIA compliance at site level.

2. Background and Brief

The full Sensitivity-Value analysis was not undertaken for these reserves. The small size of the nature reserves did not require any extensive analysis, with the subsequent zonation process being fairly straight forward. Only roads, structures and disturbed areas were mapped.

All geographical information work was carried out in ESRI's ArcMap version 9.3.1 GIS (Geographical Information System) using the ArcInfo license level with Spatial Analyst and 3D Analyst extensions.

3. Sensitivity-Value Summary Analysis

(Provided as reference only as several steps were omitted from this process)

Sensitivity-Value Analysis and Zoning Process methodology

Stage 1: Data synthesis and compilation

Compilation of required data for the analysis

- Spatially define the planning domain or study area.
- Evaluate available and required datasets for the Sensitivity-Value model.
- Spatial data is collected or created for each element of the Sensitivity-Value model.

Stage 2: Layer interpretation

Layer interpretation is an important component of the Sensitivity-Value process that requires a combination of spatial data interpretation and expert knowledge.

- Using the assembled data, areas are assigned a score on a common scale for each element of the model; and
- The scores achieved for each element of the model are represented as separate input layers on a GIS.

Stage 3: Sensitivity-Value Analysis

The Sensitivity-Value analysis stage involves an iterative exploration of the input layers.

- The scores achieved for each element of the model are weighted and aggregated to obtain an overall Sensitivity-Value ranking.
- Different weightings and aggregation procedures and combinations of input layers can be explored; and
- The robustness of the Sensitivity-Value analysis is examined.

The resultant Sensitivity-Value output maps should provide an initial understanding of the spatial distribution of the important and sensitive biodiversity, landscape and heritage features.

Stage 4: Development of a draft zonation plan

The outputs of the Sensitivity-Value process are used as the foundation for the development of a draft zonation plan. The Sensitivity-Value outputs and draft zonation plan are workshopped with relevant stakeholders.

Stage 5: Refinement of the draft zonation and the identification of special management overlays

Special management areas/overlays are identified using the information derived from the Sensitivity-Value analysis. Recommendations are made regarding the management of the land-use zones and special management areas.

The draft is then presented for comment to the City and stakeholder groups to obtain broad public input into the plan prior to finalisation,

Stage 6: Final Zonation and Conservation Development Framework.

The comments and input from the public participation process are integrated into the final zonation plan. The plan is passed through Council for approval and adoption.

3.1 Input Layers

The study area for the CDF was defined as the current management boundaries of the three nature reserves.

3.1.1 Biodiversity

3.1.1a Habitat Value

The habitat unit as defined by the particular vegetation community was used as the broad proxy for biodiversity value. The vegetation communities are good surrogates for habitat value as it uses readily available information that clearly delineates the distribution of distinct subsets of biodiversity across the landscape.

For all three nature reserves the vegetation types are listed as critically endangered (see Appendices Table 2) and are considered highly sensitive (to development). See Figure 1.

Base habitat map:

The Cape Town vegetation remnant map was used to delineate habitat units according to their national vegetation type. See Figure 1.

3.1.1b: Transformation # Degradation Map:

Habitat transformation and degradation was mapped from recent aerial photography (2005, 2007 and 2008). For all three reserves the roads, paths, structures and degraded areas were mapped. These features were used as is as an informant in the zonation process. See Figures 4 - 6.

Interpretation in a local context

Critically endangered vegetation types occur in the reserves. These are the heavily transformed, lowland vegetation types which include Swartland Shale Renosterveld and Cape Flats Sand Fynbos. It should be noted that in Durbanville Nature Reserve the vegetation is more ecotonal consisting of both Fynbos and Renosterveld elements.

Showstoppers#fatal flaws and special management area informants

Development of Greenfield sites within any critically endangered vegetation types or ecosystems should be approached with extreme caution, as by definition one cannot afford further biodiversity loss in these areas within the City.

All degraded sites must be prioritised for restoration. Paths and road networks must be rationalised and reduced to the absolute minimum.

3.1.2 Topographic Sensitivity

(Included for reference only)

This layer is used to identify areas with steep slopes or with sensitive geological or geomorphologic features. Significant impacts (such as accelerated soil erosion or landslides) may occur during construction in, or with improper management.
Sensitivity to erosion was not considered in this report. The steepness and habitat values provide a good enough proxy for sensitivity to erosion.

Data Inputs (GIS methods and sources)

This layer is derived from a triangular irregular network (TIN) created in ArcView 9.3.1 using the 3D Analyst extension and ArcInfo licence level. The 2m Contour layer for the City was used to calculate the base heights for the TIN. Slope angles were calculated using the 3D Analyst extension.

Outputs - See Figure 2.

Interpretation in local context

Steeps slopes are not a major factor in the reserves. All the reserves are low lying in the landscape.

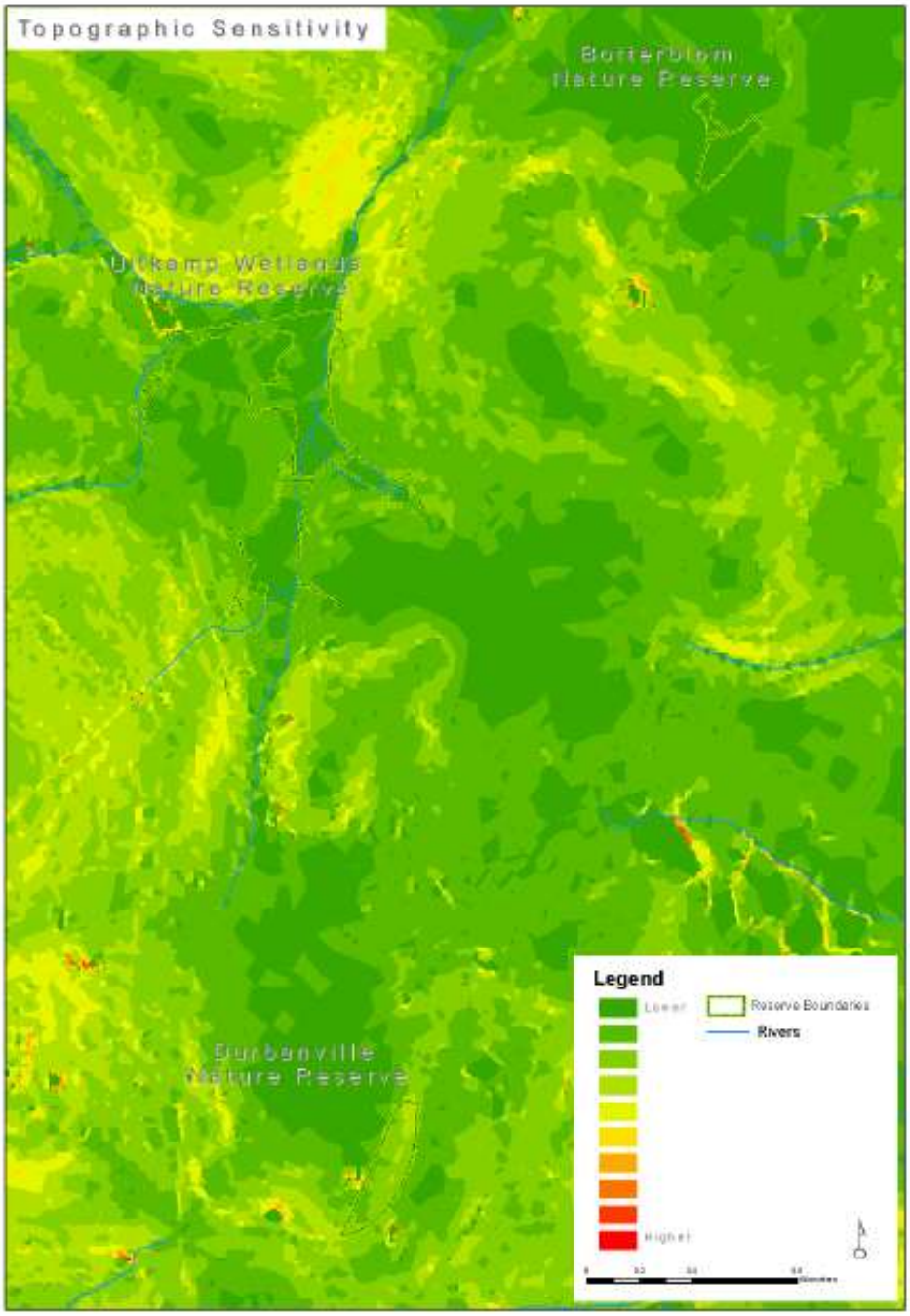

Figure 2: Topographic sensitivity map

3.1.3 Hydrological Features

The reserves are all relatively low lying in the landscape and have several small rivers and wetlands occurring within them or in close proximity.

Figure 3 shows the reserve in relation to the rivers and wetland systems. There are several storm water ponds and dams located within or near the reserves.

The hydrological sensitivity layer has two purposes: to identify areas important for maintaining hydrological processes and to identify areas where infrastructure could be damaged by flooding.

Interpretation in local context

Most of these rivers and wetlands perform an important storm water drainage function (especially in Uitkamp and Botterblom nature reserves) which is important within the urban setting. This makes the optimal functioning of these water courses and wetlands very important. The maintenance of storm water facilities (wetlands, channels and ponds) must form part of the reserve management plans where this is applicable.

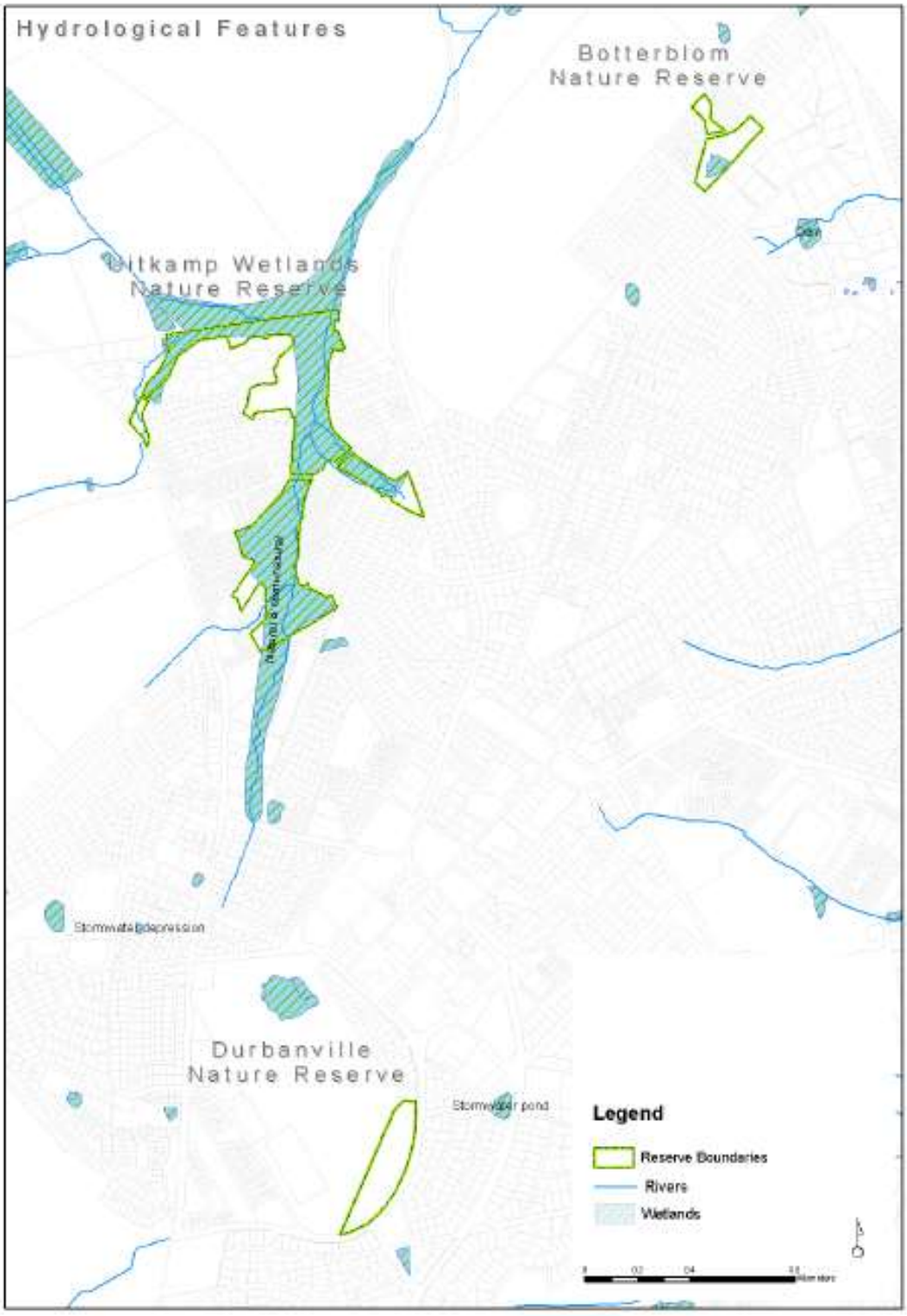

Figure 3: Hydrological features: rivers and wetlands

5. Zoning Process

5.1 Zoning Informants

This section briefly outlines the values underlying the identification of broad tourism use zones. It is important to remember that the landscape/biodiversity analysis is just one of the informants in the zonation process. Although the biodiversity analysis is intrinsically a relatively objective scientific process, other informants to the zoning process are not. Although every attempt is made to place high sensitivity-value sites into more protected zones where possible, the zoning process is in its essence a compromise between environment and development. In particular, often the identified high value sites are the key biodiversity assets that need to be made available in an appropriate manner to the ecotourism market. Direct links between the biodiversity layers and the spatial management of the reserve are made during the identification of special management areas (Where applicable). Even within broad high tourist use zones, there are likely to be areas subject to very tight conservation controls (potentially including complete exclusion of human impacts from an area).

Underlying decision making rules used in the zonation process:

- The zonation process is aimed a striking a *balance* between environmental protection and the development required to meet the broader economic and social objectives of the reserve.
- The zoning process takes into account existing development footprints and tourism access routes.
    - This is based on the underlying principle that all else being equal, an existing transformed site is preferable to a greenfields site from a biodiversity perspective.
    - Infrastructure costs are dramatically increased when developments take place away from existing infrastructure.
    - Existing tourism nodes and access routes are a reality of the economic landscape, and it is would not be possible to shut down existing tourism sites compromising the development objectives of the reserve.

- Where existing development nodes, tourist sites and access routes occur in areas with high sensitivity-value, then the broad use zoning aims to keep the development footprint as small as is realistically possible, preferably within the existing transformed site.
- Where possible, sites with high biodiversity sensitivity-value are put into stronger protection zones.
- Peripheral development is favoured and where possible should be located outside of the conservation area.

Two key points need to be emphasized:

- The designation of a broad use zone does not imply that all sites within that zone would be suitable for all the development types anticipated within that use zone. Detailed site level planning is still required, and many sites may prove to be unsuitable at a site/precinct/EIA level of planning.
- Special Management Areas/Overlays need to be formalized and the links made to the management plans.

(Adapted from Holness, 2008)

5.2 Draft Zoning Outputs

Figures 4 - 6 show the draft Zonation plans for the three reserves. The small size of these reserves makes it largely impractical to have too many small zones. Table 1 outlines the zonation category breakdown per reserve in hectares and % of total area.

Table 1: Breakdown (in HAs and % of Area) of the 3 Zonation Categories in the reserves

Zonation category	Area HA's	% of Area
	Botterblom Nature Reserve	
Conservation	3.60	100%
	Durbanville Nature Reserve	
Conservation	5.34	92.55%
Low Intensity Use	0.10	1.73%
High Intensity Use	0.33	5.72%
Total	5.77	
	Uitkamp Wetlands Nature Reserve	
Conservation	30.00	96.77%
Low Intensity Use	1.00	3.23%
Total	31	

The general consensus from the workshop was that the reserve facilities in Durbanville NR should be contained within the existing development footprint (zoned high intensity use area).

There are no development aspirations for Botterblom Nature Reserve.

In Uitkamp Wetlands NR it was felt that the highly disturbed area zoned for Low Intensity Use may be used to accommodate some kind of low impact development that would improve the accessibility of the reserve. The placement of paths and boardwalks within the conservation zone were also deemed appropriate.

Restoration and conservation should be given the highest priority in all the reserves.

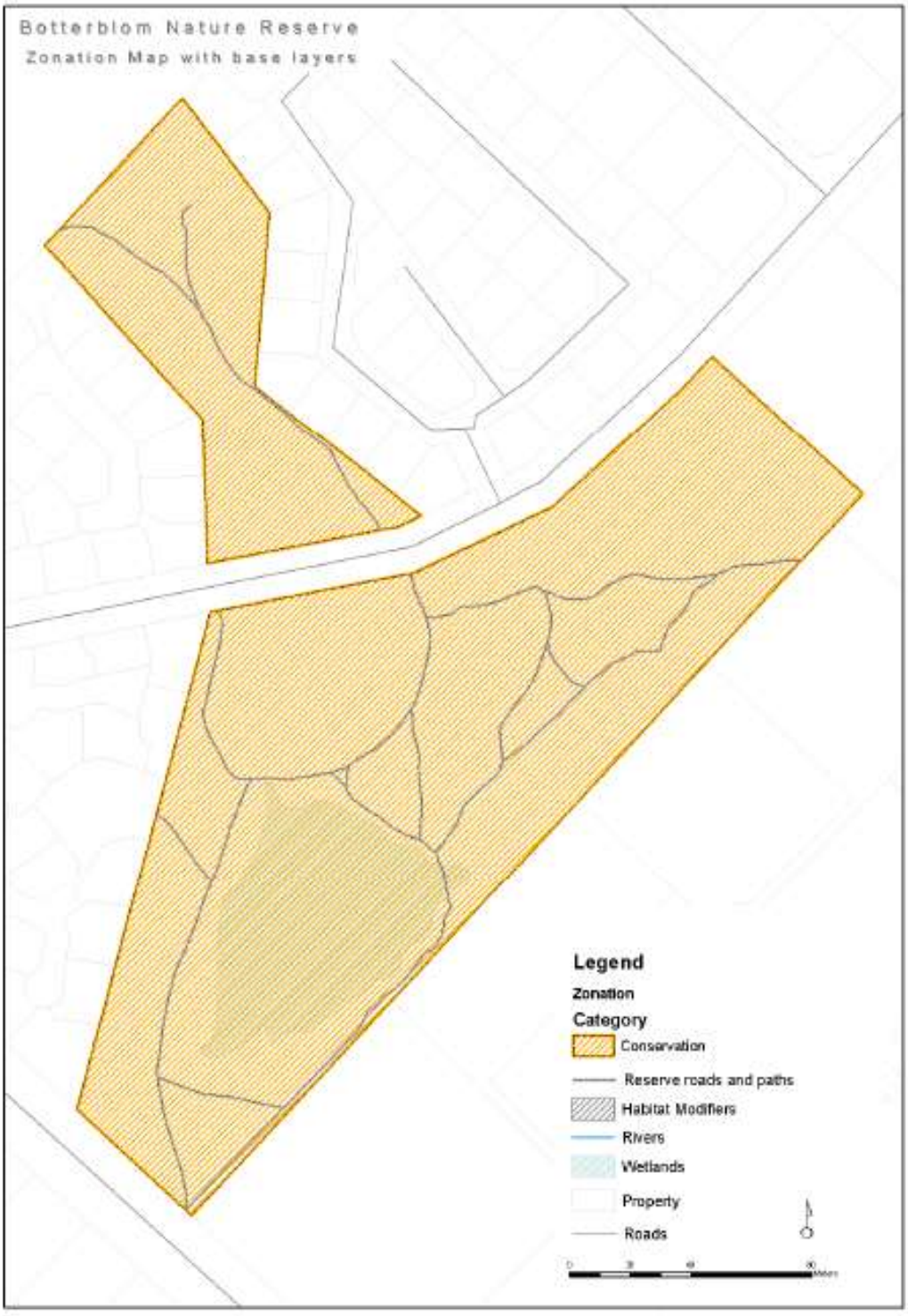

Figure 4: Draft Zonation for Botterblom Nature Reserve

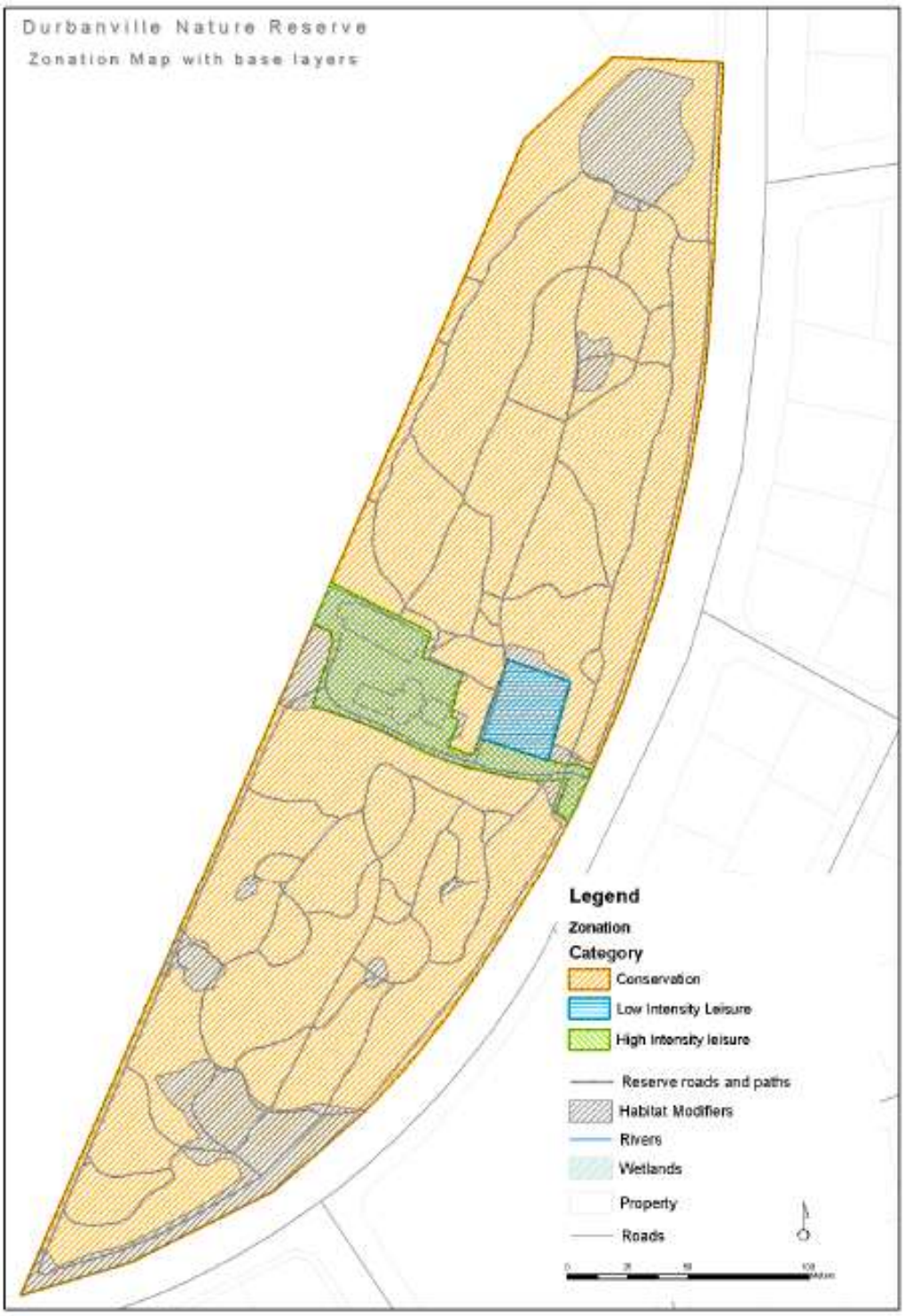

Figure 5: Draft Zonation for Durbanville Nature Reserve

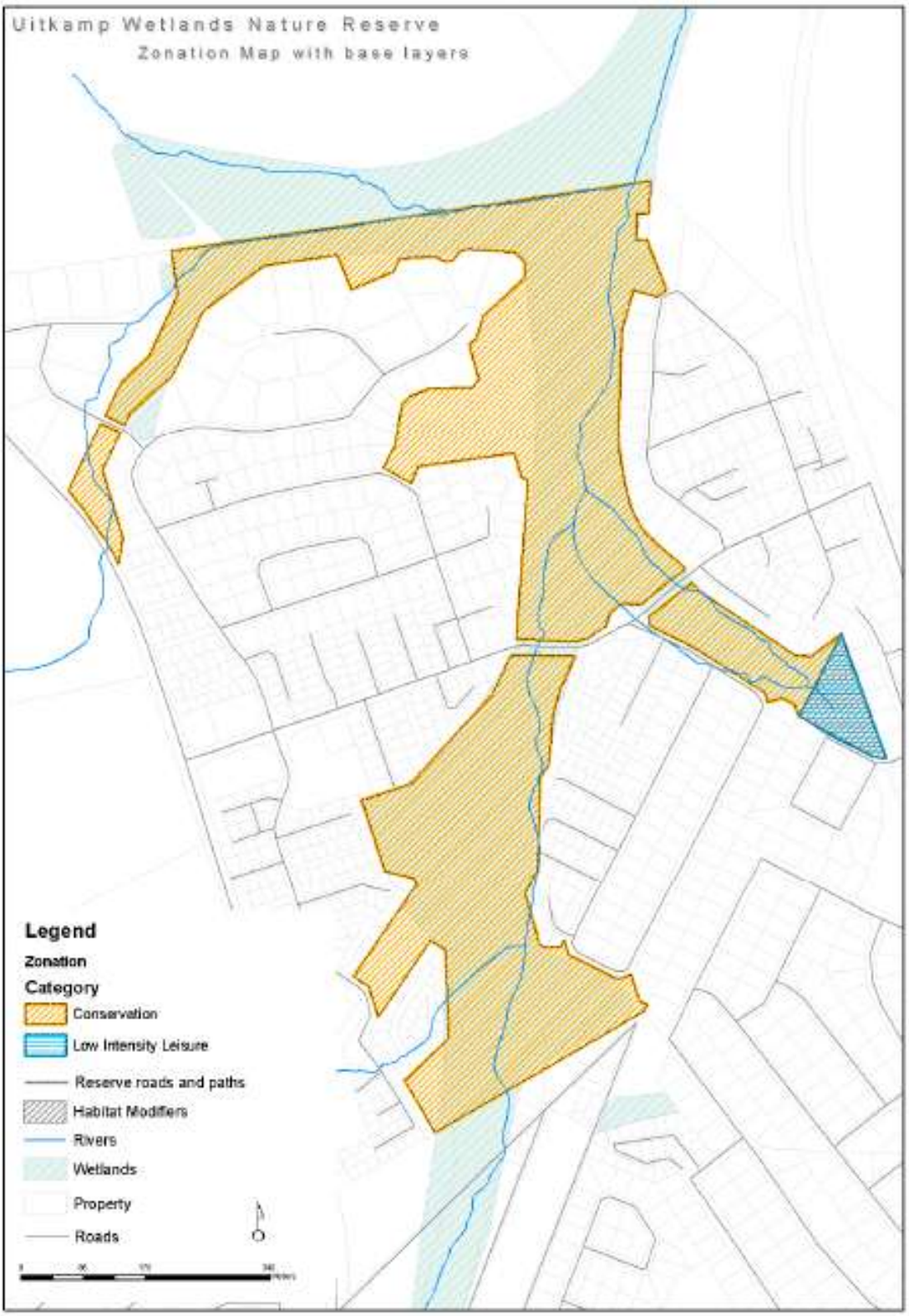

Figure 5: Draft Zonation for Uitkamp Wetlands Nature Reserve

5.3 Zoning Definitions and Descriptions

Table 3 (see Appendices) outlines the generic zones and zone descriptions. The link is still made to the Zonation used for the CapeNature Reserves (Holness, 2008) as there should be general alignment of the broader use zones for ease of comparison and integration if required in Provincial documents.

6. Conclusions and Recommendations

The 3 reserves are conserving some of the few remaining patches of CE vegetation types in the City. It is thus essential that every last square meter of degraded vegetation is restored and rehabilitated. For these reasons the following recommendations are made;

Durbanville Nature Reserve

- All infrastructure should be contained within the High Intensity Use zone as outlined in the zonation maps.
- The path network must be rationalised and all unnecessary paths closed and rehabilitated.
- All old picnic sites should be prioritised for restoration.

Botterblom Nature Reserve

- Parking should be accommodated outside of the reserve.
- The mowing of areas within the reserve should be stopped. These areas should receive the highest restoration priority.
- The maintenance and/or extension of the storm water drains/channels must be carefully managed together with catchment and storm water management.

Uitkamp Wetlands Nature Reserve

- No hard infrastructure should be constructed in the reserve
- The placement of any facility within the Low Intensity use zone should be carefully considered. Options for locating any facilities should be investigated outside of the reserve.
- The Low Intensity use area should be prioritised for rehabilitation.

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Appendices

Table 2: National vegetation types for the City of Cape Town showing historic extent, remaining extent, targets and targets achieved inside and outside Protected Areas

National Vegetation Type	Historic extent (ha)	Current extent (ha)	Selected in Bioset (ha)	Target %	Target (ha)	Extent in proclaimed Protected Areas	Target met in selected Bioset	% Target conserved	% Target met in proclaimed Protected Areas	% Selected in Bioset from current extent	% Remaining from historic extent	15% of historic extent	% that is not selected in Bioset	Conservation Status	SANBI Conservation Status
Atlantis Sand Fynbos	25234.63	15711.95	12695.95	30	7570.39	0.00	Yes	168	0	81	62	3785.19	19	VU	Not Protected
Boland Granite Fynbos	9575.31	6064.19	4807.17	30	2872.59	354.52	Yes	167	12	79	63	1436.30	21	EN	Poorly Protected
Cape Estuarine Salt Marshes	39.86	25.79	25.64	24	9.57	25.64	Yes	268	268	99	65	5.98	1	LT	Well Protected
Cape Flats Dune Strandveld: False Bay	27260.11	8467.86	7272.84	24	6542.43	1855.58	Yes	111	28	86	31	4089.02	14	EN	Poorly Protected
Cape Flats Dune Strandveld: West Coast	12700.27	10603.88	6892.82	24	3048.07	964.79	Yes	226	32	65	83	1905.04	35	LT	Poorly Protected
Cape Flats Sand Fynbos	54410.34	8466.70	8464.75	30	16323.10	464.07	No	52	3	100	16	8161.55	0	CE	Hardly Protected
Cape Lowland Freshwater Wetlands	1463.98	1095.47	1068.83	24	351.36	786.66	Yes	304	224	98	75	219.60	2	LT	Well Protected
Cape Winelands Shale Fynbos	2666.97	1706.19	1388.97	30	800.09	217.89	Yes	174	27	81	64	400.05	19	EN	Poorly Protected
Elgin Shale Fynbos	841.18	321.14	282.77	30	252.35	4.58	Yes	112	2	88	38	126.18	12	CE	Hardly Protected
Hangklip Sand Fynbos	3301.60	1910.25	1489.88	30	990.48	1363.63	Yes	150	138	78	58	495.24	22	VU	Well Protected
Kogelberg Sandstone Fynbos	9499.63	9260.73	8814.04	30	2849.89	1944.47	Yes	309	68	95	97	1424.94	VU	LT	Moderately Protected
Lourensford Alluvium Fynbos	4819.25	409.97	409.97	30	1445.77	190.30	No	28	13	100	9	722.89	0	CE	Poorly Protected
North Peninsula Granite Fynbos	1997.35	1439.12	1343.54	30	599.21	986.44	Yes	224	165	93	72	299.60	7	LT	Well Protected
Peninsula Sandstone Fynbos	21896.12	21348.95	20761.60	30	6568.83	17306.57	Yes	316	263	97	98	3284.42	3	LT	Well Protected
Peninsula Shale Fynbos	1262.79	690.37	688.96	30	378.84	686.97	Yes	182	181	100	55	189.42	0	VU	Well Protected
Peninsula Shale Renosterveld	2374.81	316.89	316.89	26	617.45	261.67	No	51	42	100	13	356.22	0	CE	Poorly Protected
South Peninsula Granite Fynbos	7148.66	2481.74	2290.70	30	2144.60	1770.19	Yes	107	83	92	35	1072.30	8	EN	Moderately Protected
Southern Afrotemperate Forest	347.52	346.79	346.79	34	118.16	276.80	Yes	294	234	100	100	52.13	0	LT	Well Protected
Swartland Alluvium Fynbos	1742.41	75.91	75.91	30	522.72	0.00	No	15	0	100	4	261.36	0	CE	Not Protected
Swartland Granite Renosterveld	8059.16	1951.89	1951.89	26	2095.38	35.64	No	93	2	100	24	1208.87	0	CE	Hardly Protected
Swartland Shale Renosterveld	46712.40	4019.33	4018.76	26	12145.22	408.13	No	33	3	100	9	7006.86	0	CE	Hardly Protected
Swartland Silcrete Renosterveld	1066.65	188.43	188.43	26	277.33	0.00	No	68	0	100	18	160.00	0	CE	Not Protected
Western Shaleband Vegetation	328.59	328.57	328.57	30	98.58	31.11	Yes	333	32	100	100	49.29	0	LT	Poorly Protected
	244749.59	97232.12	85925.67		68622.40	29935.65						36712.44			

Table 3: City of Cape Town Nature Reserves and Conservation Areas: Visitor Use Zoning - Desired State* & Experiential Qualities

Experience	Zone	Desired State*	Conservation objectives	Secondary objective	Experiential Qualities	Activities	Interaction between users	Frequency of use	Group size	Sophistication and type of facilities	Primary user movement within the zone	Roads & footpaths	Equivalent Provincial zone
Close To Nature Activities tend to be at landscape level	Primary conservation	Natural or near-natural areas (or areas that can be rehabilitated to this state) that are managed primarily for biodiversity conservation. The experience is one of relative solitude and wildness. The nature of the experience is dependant on the quality of the natural environment. The main accent of management is biodiversity conservation and "Pack it in Pack it out" principles are applied to all activities including management. There may be some signs of infrastructure mainly of a heritage nature. In the longer term, unused utility infrastructure (e.g. reservoirs) should be phased out and the site rehabilitated.	Natural areas should be kept intact in order to protect habitat required to meet biodiversity targets for various vegetation types and to provide undisturbed habitat for a range of species. Where possible degraded areas should be rehabilitated.	Managed to provide visitor experiences in a way that does not impact on the biodiversity objective. Where appropriate heritage values are managed as required	Relative sense of isolation	Controlled access** Research and monitoring. Accompanied small groups. The size and frequency of groups to be specified for each reserve.	None or very low	None -Very low	Small	No new facilities. Existing structures should be phased out where appropriate. Heritage assets are managed where appropriate	Pedestrian access in accompanied small groups Motorised for essential management only.	Absolutely essential management tracks and footpaths in accordance with the foot path and road management plan Ongoing restoration of old paths/roads to be prioritized and monitored.	Quiet
	Conservation	Natural or near-natural areas (or areas that can be rehabilitated to this state) that are managed for biodiversity conservation. This zone provides experiences of a relative sense of relaxation in an environment that is openly exposed to the sights and sounds of the city. Although it is a place of quietness and naturalness, there will be more interaction between users than in the Primary Conservation Zone. The quality of the experience is less dependant on the quality of the natural environment.	Natural areas should be kept intact in order to protect habitat required to meet biodiversity targets for various vegetation types and to provide undisturbed habitat for a range of species. Where possible degraded areas should be rehabilitated.	Managed to provide visitor experiences in a way that does not impact on the biodiversity objective.	Relaxation	Self guided hiking, non-motorised access*** bird watching, etc. In reserves where access to water bodies is allowed, this area is limited to non-motorized vessels only in accordance with the Vlei By-Laws.	Moderate	Moderate	Small	Low impact, eco-friendly facilities that facilitate ecologically sustainable activities and visitor experiences may be permitted under certain circumstances. These are strictly for achieving the social and development objectives of the reserve where appropriate and are subject to a stringent internal approval process and must be inline with an approved reserve management plan.	Pedestrian Non motorised Motorised access for management only.	Management tracks/roads and footpaths. Minimal footpath construction to prevent ecological damage. Boardwalks may be permitted where appropriate to protect sensitive areas. The footpath system should be designed so as to control access into the Primary Conservation zone. Off road wheelchair access may be provided where appropriate.	
	Low Intensity leisure	Natural, near-natural or managed landscapes which are primarily managed to promote recreational and educational objectives. The main accent is on recreational activities which are more reliant on the quality of the facilities provided than in a Conservation Zone. By their nature these zones are placed in more transformed landscapes. Interaction and socialisation are an integral part of the experience.	Although some areas will be impacted by a range of activities and limited infrastructure, most areas should be kept largely intact and ecological processes should remain functioning. Where possible degraded areas should be rehabilitated.	Recreation and education Managed to provide a largely natural outdoor area to support the recreational and education objectives of the reserve.	Socialisation	Walking, non-motorised access, bird watching. In reserves where access to water bodies is allowed, motorized vessels are only allowed under strict control (e.g. no waterskiing, low speed limits and wake-free zones) in accordance with the Vlei By-Laws.	Frequent	Moderate -high	Small-moderate	Low-Medium impact, eco-friendly facilities that facilitate ecologically sustainable activities and visitor experiences. E.g. Benches, bird hides, informative signage, lookouts. Parking for access to this and other zones.	Pedestrian Non motorised Motorised access for management only	Appropriate foot paths with directional signage Boardwalks should facilitate access and protect sensitive areas. Normal wheelchair access where appropriate Parking with no facilities for access to this and other zones	Low intensity leisure
Outdoor Natural Experience Activities tend to be at precinct level	High Intensity Use	High use landscapes, which are often largely transformed, which are managed largely to support visitor activities more dependent on facilities, education and administrative functions of reserves. High intensity visitor facilities with modern commercialised amenities with very concentrated, activities. The quality of the visitor experience is heavily dependant of the quality of the facilities which enable the visitor to experience the environment with a minimum of effort. Due to the high impacts these are concentrated at specific nodes. These nodes are generally situated at existing facilities including historic buildings and precincts. The main focus of management is to ensure a high quality visitor experience whilst ensuring that the activities have a minimal impact on the surrounding environment and that heritage resources are respected and celebrated.	The activities and infrastructure in these areas should be managed to minimize impacts on biodiversity and visitor experience in other zones. Where feasible, non-crucial infrastructure should over time be removed from the reserve and the sites rehabilitated.	Facilities are managed to facilitate and promote appropriate visitor activities and educational use of the reserve. Administration; provides appropriate management infrastructure to facilitate other objectives of the reserve.	Entertainment	Events, self guided walks, wheelchair accessible trails, parking, picnicking. In reserves where access to water bodies is allowed, this area is appropriate for high intensity uses such as power boating and waterskiing in accordance with the Vlei By-Laws.	Very frequent	Very high	Small - Large	Picnic areas, parking areas, restaurants, information centers, ablutions, environmental education facilities, nurseries etc. Provides parking from which pedestrian access is gained to other zones.	Motorised Access People movers & Pedestrian access	Access roads and associated parking. Footpaths constructed to a higher standard for the comfort of the user. Design standards to be set in the footpath and road management plan Wheelchair access encouraged in this zone.	High Intensity Leisure
Site Specific Level	Utility zone	Area used for utility functions such as bulk water provision, landfill sites within the protected /conservation areas etc.	The activities and infrastructure in these areas should be managed to minimize impacts on biodiversity and visitor experience in other zones. Where feasible, non-crucial infrastructure should over time be removed from the reserve and the sites rehabilitated.	Administration Conservation where appropriate	Utility	Determined at site	Determined at site	Determined at site	Determined at site	Determined at site	Determined at site level	Access roads and associated parking as required by the Utility Function	

* Note. The "Desired State" is the long term objective of the zone and these desired conditions may not actually exist at the time of zoning. Achieving the" Desired State" will be informed by many factors and may only be reached after many years.
** Accompanied access refers to controlled access. The level and type of control is determined at reserve level.
*** Non-motorised access refers to mountain bikes, horses, paragliding etc. These activities are reserve specific and reference must be made to the reserve management plan for a list of acceptable activities per reserve.

Appendix 11: METT-SA

REPORTING PROGRESS IN URBAN PROTECTED AREAS

A Site-level rapid assessment tool based on the World Bank & WWF's "Management Effectiveness Tracking Tool"

Uitkamp Wetland Reserve

Prepared for the

City of CapeTown

by

Howard Langley & Paul Britton

19th June 2007

REPORTING PROGRESS AT PROTECTED AREA SITES: DATA SHEET

Name of protected area	Uitkamp Wetlands		
Location of protected area (country and if possible, map reference)	South Africa, Western Cape, Durbanville		
Date of establishment (distinguish between agreed and gazetted	*Agreed*	*Gazetted* N/A	
Ownership details (i.e. owner, tenure rights etc.)	City of Cape Town		
Management Authority	City of Cape Town, Biodiversity Management Branch		
Protected area size (ha)	30 ha		
Staff numbers	*Permanent*	*Temporary* *1 (contract, ad hoc)*	
Budget	Budget not allocated per protected area / nature reserve		
Designation (ICUN category), World Heritage, RAMSAR etc	Not declared, core botanical site		
Reason for designation	Botanical importance, transition zone		
Brief detail of World Bank funded project or projects in PA			
Brief detail of WWF funded project or projects in PA			
Brief detail of other relevant projects in PA			
List two of the primary protected area objectives			
Objective 1	Biodiversity Conservation / Ecological processess conservation		
Objective 2	Environmental Education / Public Utilization		
List the top two most important threat to the PA (and indicate reasons why they are selected)			
Threat 1	Urban Edge Impact		
Threat 2	Fragmented planning		
List top two critical management activities			
Activity 1	Removal of alien vegetation.		
Activity 2	Development of the PA (management plans, facilities, infrastructure etc)		
Date assessment carried out:	19-Jun-07		
Name of assessor:	Vibeke Kragh & Erika Foot		

Howard Langley Paul Britton 22 May 2007

MANAGEMENT EFFECTIVENESS TRACKING TOOL

1: Context : Where are we now?	Criteria	Value	Score	Comments	Next steps
1.1 Legal status **Does the PA have secure permanent conservation legal status?**	The PA's permanent legal conservation status is not secured by its	0	0	Is currently zoned public open space and has no formal conservation legal status as yet.	To initiate process to proclaim the area to obtain permanent legal conservation status.
	There is a formal agreement that the PA should be afforded the highest possible legal protection, but the process has not yet begun.	1			
	The PA is in the process of being afforded the highest possible legal protection.	2			
	The PA has Local Authority Nature Reserve status, or a higher level of legal protection	3			
1.2. Protected Area regulations	There are no legal mechanisms for controlling inappropriate land use and activities in the PA	0		No access control. Other legal mechanisms include City by-laws, NEMA regulations etc.	
	Legal mechanisms for controlling inappropriate land use activities in the PA exist but are not being implemented.	1			
	Legal mechanisms for controlling inappropriate land use and activities in the PA exist but there are some problems in effectively implementing them	2	2		
	Legal mechanisms for controlling inappropriate land use and activities in the PA exist and are being effectively implemented	3			
1.3. Law enforcement PA has capacity/resources to enforce regulations & bylaws well enough?	PA has no effective capacity/resources to enforce regulations & bylaws	0		Shared staff with Durbanville Nature Reserve which is not ideal especially with law enforcement seeing as it causes a delay in response and no on site presence.	Looking into the possibility of obtaining external funding for employment of contract staff and one of the key performance areas will include law enforcement. for site.
	There are major deficiencies in capacity/resources to enforce regulations & bylaws (e.g. lack of skills, no patrol budget)	1	1		
	PA has acceptable capacity/resources to enforce regulations & bylaws but some deficiencies remain	2			
	PA has excellent capacity/resources to enforce regulations & bylaws	3			
1.4. Protected Area boundary demarcation **Is the boundary known and demarcated?**	The boundary of the PA is not known by the management authority or local residents/neighbouring land users	0		Demarcation of boundary fence can still be improved .- according to development guidelines it was stipulated that homeowners are responsible for erecting boundary fences on their property which also include specifications for type of fence to be erected. Not all areas currently has fencing due to plots still being vacant.	To erect fencing where there is no shared boundary fence
	The boundary of the PA is known by the management authority but is not known by local residents/neighbouring land users	1			
	The boundary of the PA is known by both the management authority and local residents but is not appropriately demarcated	2	2		
	The boundary of the PA is known by the management authority and local residents and is appropriately demarcated	3			
1.5. Resource Inventory Do you have enough information to manage the area?	There is little or no information available on critical habitats, species and cultural values of the PA	0		Under new management, nature conservation started management I n 2006. Baseline data collection commenced & is an ongoing project	Continue with sourcing relevant information and baseline data collection.
	Information on critical habitats, species and cultural values of the PA is not sufficient to support planning and decision making	1	1		
	Information on critical habitats, species and cultural values of the PA is sufficient for key areas of planning/decision making but the necessary survey work is not being maintained	2			
	Information concerning critical habitats, species and cultural values of the PA is sufficient to support planning and decision making and is being maintained	3			
Subtotal: Context		15	6		

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MANAGEMENT EFFECTIVENESS TRACKING TOOL

2: Planning: Where do we want to be?	Criteria	Value	Score	Comments	Next steps
2.1. Protected area design Does the protected area need enlarging, corridors etc to meet its objectives?	Inadequacies in design mean achieving the PA's major management objectives is impossible	0		The reserve is areas of an urban development that is too wet for development. The area set aside does not allow for conservation of Renosterveld remnants. Wetlands are influenced by up stream agricultural and urban impacts.	Negotiate or purchase renosterveld remants on undeveloped plots. Investigate feasibility of managemnt plan for entire river/wetalnd system.
	Inadequacies in design mean that achievement of major objectives are constrained to some extent	1	1		
	Design is not significantly constraining achievement of major objectives, but could be improved	2			
	Reserve design features are particularly aiding achievement of major objectives of the PA	3			
2.2 Management plan Is there a management plan (compliant with Protected Areas Act) and is it being implemented?	There is no standard Management Plan for the PA	0	0	No Management plan exists	Within the branch we are looking into a standardised format for a management plan which corresponds with requirements as stipulated in the Protected Areas Act
	A standard Management Plan is being prepared or has been prepared, but is not yet approved.	1			
	An approved Management Plan exists and is being implemented, but has not been updated/reviewed during the past five years.	2			
	An approved Management Plan exists, is being implemented and has been updated/reviewed during the past three years	3			
2.3. Conservation Development Framework (CDF) Is there a visitor use zoning system indicating position and nature of operation & visitor infrastructure?	There is no CDF for the PA	0	0	No CDF exist.	A CDF will be prepared for the area in the near future and will feed into the Management Plan.
	A CDF is being prepared or has been prepared but is not being implemented	1			
	An approved CDF exists but it is only being partially implemented because of funding constraints or other problems	2			
	An approved CDF exists and is being implemented	3			
Supplementary items	The planning process allows adequate opportunity for key stakeholders to influence the management plan	1			
	There is an established schedule and process for periodic review and updating of the management plan	1			
	The results of monitoring, research and evaluation are routinely incorporated into planning	1			
Subtotal Score: Planning		12	1		

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MANAGEMENT EFFECTIVENESS TRACKING TOOL

3: Inputs: What do we need?	Criteria	Value	Score	Comments	Next steps
3.1. Research Is there a programme of management-orientated research work?	Research needs have not been identified nor is any research work taking place in the PA	0		Monitoring & Evaluation programmes are not included here - refer to 4.13. Besides for the staff shortage management is new and research work will continue.	Research needs will be identified.
	Research needs have been identified, but other than for ad hoc research, no management orientated research is being done.	1	1		
	There is considerable research work but only limited "management" orientated research is being done.	2			
	There is considerable research work being undertaken, which is relevant to management needs	3			
3.2. Human Resource capacity Does the PA have sufficient HR capacity to manage the protected area?	The PA has no HR capacity	0		Shared staff with Durbanville Nature Reserve	Looking into the possibility of obtaining external funding for employment of contract staff.
	HR capacity is inadequate for critical management activities	1	1		
	HR capacity is sufficient, but there are deficiencies in necessary skills for critical management activities	2			
	HR capacity and expertise is adequate for management needs	3			
3.3. Current budget Is the current budget sufficient?	There is no dedicated budget for the PA	0		Budget allocated ring fenced for the management of the three formally proclaimed nature reserves in the district. Due to PA"s or each reserve not having its own budget management of budget difficult. Satellite sites are not catered for in the normal operating budget and thus diminishing funding available to manage	Continues funding opportunities sought and request that budgets be allocated per protected area
	The available budget is inadequate for basic management needs and presents a serious constraint to the capacity to manage	1			
	The available budget is acceptable, but could be further improved to fully achieve effective management	2			
	The available budget is sufficient and meets the full management needs of the PA	3			
Supplementary Items	The budget is secure/guaranteed for the PA on an annual cycle	1			
	The budget is secure/guaranteed on a three year cycle	2			
	The PA is not reliant on external funding	2			
Subtotal		14	2		

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MANAGEMENT EFFECTIVENESS TRACKING TOOL

4: Process : How do we go about it?	Criteria	Value	Score	Comments	Next steps
4.1. Annual Plan of Operation (APO) Is there an annual work plan/APO that is approved by the organisation?	No approved/standardised APO exists	0		APO relatively new and recently implemented. APO incorporated with Durbanville Nature Reserve	To have a separate APO for site.
	An approved APO exists but activities are not monitored against the plan's targets	1	1		
	An approved APO exists and actions are monitored against the plan's targets, but many activities are not completed	2			
	Actions are monitored against the approved APO's targets and most or all prescribed activities are completed	3			
4.2. Resource management Is the protected area adequately managed (e.g. for fire, invasive species, poaching)?	Requirements for active management of critical ecosystems, species and cultural values have not been assessed	0		See previous contraints regarding staff, budget etc. The Uitkamp Action Group / Friends group is assisting with management tasks.	Various of these requirements can be met if a person is dedicated to the site. Refer to 3.2
	Requirements for active management of critical ecosystems, species and cultural values are known but are not being addressed	1	1		
	Requirements for active management of critical ecosystems, species and cultural values are only being partialy addressed	2			
	Requirements for active management of critical ecosystems, species and cultural values are substantially or fully addressed.	3			
4.3. Staff training Is there enough training for staff?	Staff are untrained	0		Not Applicable to site as yet seeing as there is not staff component for the site. Staff shared with Durbanville Nature Reserve are trained although training can be improved.	
	Staff training and skills are low relative to the needs of the PA	1			
	Staff training and skills are adequate, but could be further improved to fully achieve the objectives of management	2	2		
	Staff training and skills are in tune with the management needs of the PA, and with anticipated future needs	3			
4.4. Budget management Is the budget managed to meet critical management needs?	Budget management is poor and significantly undermines effectiveness	0	0	Budget management poor due to no dedicated budget for site. Annual operating budget received which is ringfenced for proclaimed nature reserves in district is also used for various management requirements/ projects at	Continiuous funding applications to external funders, assistance with various projects by Uitkamp Action Group
	Budget management is poor and constrains effectiveness	1	1		
	Budget management is adequate but could be improved	2			
	Budget management is excellent and aids effectiveness	3			
4.5. Operational equipment & infrastruture (as required for operational management purposes, but excluding tourism/visitor facilities)	There is little or no operational equipment & infrastructure	0		Share equipment with Durbanville Nature Reserve.	The Uitkamp Action Group will assist with aquiring equipment for the PA, but it will not be part of the City of Cape Town assets will remain the property of the Action Group.
	There is some equipment & infrastructure but these are wholly inadequate	1			
	There is equipment and infrastructure, but still some major gaps that constrain management	2	2		
	There is adequate operational equipment and infrastructure	3			
4.6 Maintenance of equipment & infrastruture Is equipment & infrastructure (including tourism/visitor facilities) adequately maintained?	There is no approved Maintenance Plan and no maintenance is taking place	0		Various maintenance / fleet departments have maintenance plans for our reserves and equipment but on the reserve itself no maintenance plan currenty exist. Ad hoc maintenance of equipment and infrastructure.	Ad hoc maintenance will continue until a formalised maintenance plan has been drawn up.
	There is no Maintenance Plan and maintenance is taking place to an unsatisfactory standard.	1			
	There is no Maintenance Plan, but maintenance is taking place to a satisfactory standard.	2	2		
	There is an approved Maintenance Plan that is being fully implemented to a high standard.	3			

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5: Outputs/Outcomes: What were the results/achievements?	Criteria	Value	Score	Comments	Next steps
5.1. Visitor facilities Are visitor/tourism facilities good enough and sufficient to prevent damage to the PA?	There are no visitor facilities and services	0	0	There are no footpaths.	Visitor facilities will be limited to boardwalks / pathways. Planning of the boardwalks / pathways can/ will form part of the CDF for the site.
	Visitor facilities and services are inappropriate for current levels of visitation or are under construction	1			
	Visitor facilities and services are adequate for current levels of visitation but could be improved	2			
	Visitor facilities and services are excellent for current levels of visitation	3			
Supplementary Items	There are active programmes for restoration of degraded areas within the PA and/or in associated buffer zone	1			
5.2. Ecological & Cultural condition assessment Is the protected area being managed consistent to its objectives?	Important biodiversity, ecological and cultural values are being severely degraded in the PA	0		The influence of the urban area, particularly unnatural storm water runoff ,will have long term effects on the natural functioning of the area	Investigate mitigating measures.
	Some biodiversity, ecological and cultural values are being severely degraded	1	1		
	Some biodiversity, ecological and cultural values are being partially degraded but the most important values have not been significantly impacted	2			
	Biodiversity, ecological and cultural values are predominantly intact	3			
5.3. Access assessment Are the available management mechanisms working to control access or use?	Protection systems (patrols, permits etc) are ineffective in controlling access or use of the PA in accordance with designated objectives	0		No access control staff or access control systems available. Good relationship with security company. Security company assisting with patrolling the area.	The closure of certain access points.
	Protection systems are only partially effective in controlling access or use of the PA in accordance with designated objectives	1	1		
	Protection systems are moderately effective in controlling access or use of the PA in accordance with designated objectives	2			
	Protection systems are largely or wholly effective in controlling access or use of the PA in accordance with designated objectives	3			
5.4. Economic benefit assessment **Is the Protected Area providing economic benefits to local communities?**	The existence of the PA has reduced the options for economic development of the local communities	0		Currently the only economic benefit is that living adjacent to a PA increases property value.	The nursery at Durbanville Nature Reserve can later be used by the Friens of the PA to propagate plants and sell excess.
	The existence of the PA has neither damaged nor benefited the economy of the local economy	1	1		
	There is some flow of economic benefits to local communities from the existence of the PA but this is of minor significance to the regional economy	2			
	There is a significant or major flow of economic benefits to local communities from activities in and around the PA (e.g. employment of locals, locally operated commercial tours etc)	3			
5.5. Community benefit assessment (other than economic) e.g. recreation & education facilities, community hall, sport facilities etc.	The existence of the PA has not delivered any direct or indirect community benefits	0		It is accessible to the public and offers recreation opportunities such as bird watching, aesthetic value and information can be obtained off site.	Local communities need to understand and respect the value of the biodiversity that the area conserves.
	The existence of the PA has delivered some minor short term community benefits	1	1		
	The PA delivers some quantifiable long term community benefits that make a difference to the lives of local communities	2			
	The PA delivers considerable quantifiable long term community benefits that make a real difference to the lives of local communities	3			
Subtotal Score: Outcomes		18	4		

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1: CONTEXT	VALUE	SCORE	
1.1. Legal status	3	0	
1.2. Protected Area regulations	3	2	
1.3. Law enforcement	3	1	
1.4. Protected area demarcation	3	2	
1.5. Resource Inventory	3	1	
Subtotal	15	6	
2: PLANNING			
2.1. Protected area design	3	1	
2.2. Management plan	3	0	
2.3. Conservation Development Framework	3	0	
Supplementary items	3	0	
Subtotal	12	1	
3: INPUTS			
3.1. Research	3	1	
3.2. Staff numbers	3	1	
3.3. Current budget	3	0	
Supplementary items	5	0	
Subtotal	14	2	
4: PROCESS			
4.1. Annual Plan of Operation	3	1	
4.2. Resource management	3	1	
4.3. Staff training	3	2	
4.4. Budget management	3	1	
4.5. Operational equipment & infrastructure	3	2	
4.6. Maintenance of equipment & infrastructure	3	2	
4.7. Education & awareness	3	1	
4.8. Government & commercial neighbours	3	1	
4.9. Advisory committee	3	2	
4.10. Community partners	3	1	
4.11. Commercial Tourism	3	0	
4.12. Monitoring & Evaluation	3	1	
Supplementary items	1	1	
Subtotal	37	16	
5: OUTPUTS/OUTCOMES			
5.1. Visitor facilities	3	0	
5.2. Condition assessment	3	1	
5.3. Access assessment	3	1	
5.4. Economic benefit assessment	3	1	
5.5. Community benefit assessment	3	1	
Supplementary items	1	0	
Subtotal	16	4	
TOTAL SCORE	94	29	31%

Summary and comment on score.
This is a satellite station of Durbanville Nature reserve (managed without a dedicated budget or staff component) that has only been under the management of the branch since 2006. The score reflects this status. The design of the protected area hampers the conservation of biodiversity and natural processes. The main focus of the original Uitkamp area was the Renosterveld vegetation. Little of this has been retained in the protected area which is now largely semi transformed wetland. The compilation of a management plan in consultation with local communities setting practical and achievable objectives is essential to guide the management of this area.

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