

# INTEGRATED RESERVE MANAGEMENT PLAN HARMONY FLATS NATURE RESERVE

June 2011



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## AUTHORIZATION PAGE

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

### **Reserve Planning Team:**

*Branch Manager, Regional Manager, Area Manager, Reserve Manager, Biophysical Specialist, Biodiversity Coordinator, Sustainable Resource Specialist and Monitoring and Evaluation Coordinator*

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**DOCUMENTED**

<b>Integrated Reserve Management Plan</b>	
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# **INTEGRATED RESERVE MANAGEMENT PLAN**

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**City of Cape Town**

**Harmony Flats Nature Reserve**

**June 2011**

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### **List of abbreviations used**

<b>APO</b>	<b>annual plan of operations</b>
<b>BMB</b>	<b>Biodiversity Management Branch</b>
<b>C.A.P.E</b>	<b>Cape Action for People and the Environment</b>
<b>CARA</b>	<b>Conservation of Agricultural Resources Act</b>
<b>CBO</b>	<b>community-based organisation</b>
<b>CDF</b>	<b>Conservation Development Framework</b>
<b>CFR</b>	<b>Cape Floristic Region</b>
<b>EIA</b>	<b>environmental impact assessment</b>
<b>EPWP</b>	<b>Expanded Public Works Programme</b>
<b>HFWG</b>	<b>Harmony Flats Working Group</b>
<b>IDP</b>	<b>Integrated Development Plan</b>
<b>IMEP</b>	<b>Integrated Metropolitan Environmental Policy</b>
<b>IRMP</b>	<b>Integrated (Nature) Reserve Management Plan</b>
<b>LAF</b>	<b>Lourensford alluvium fynbos</b>
<b>LBSAP</b>	<b>Local Biodiversity Strategy and Action Plan</b>
<b>MEC</b>	<b>Member of Executive Council</b>
<b>METT-SA</b>	<b>Management Effectiveness Tracking Tool South Africa</b>
<b>MOU</b>	<b>memorandum of understanding</b>
<b>NEMA</b>	<b>National Environmental Management Act</b>
<b>RPC</b>	<b>Reserve Planning Committee</b>
<b>SANBI</b>	<b>South African National Biodiversity Institute</b>
<b>WESSA</b>	<b>Wildlife and Environment Society of South Africa</b>
<b>WfW</b>	<b>Working for Water</b>

## **PART 1 DESCRIPTION**

### **1. INTRODUCTION**

Harmony Flats Nature Reserve was officially opened in 1986, and proclaimed as a provincial nature reserve in 1989, mainly for the protection of the endangered geometric tortoise (*Psammobates geometricus*). Since the nature reserve's proclamation, the area has been subjected to mass urban development, which resulted in the reduction and transformation of the indigenous vegetation, particularly in the areas surrounding the reserve. This reduction is further exacerbated by the irresponsible human activities, such as frequent fires and illegal plant harvesting. Sadly, in the end, the geometric tortoise has disappeared due to theft and fire.

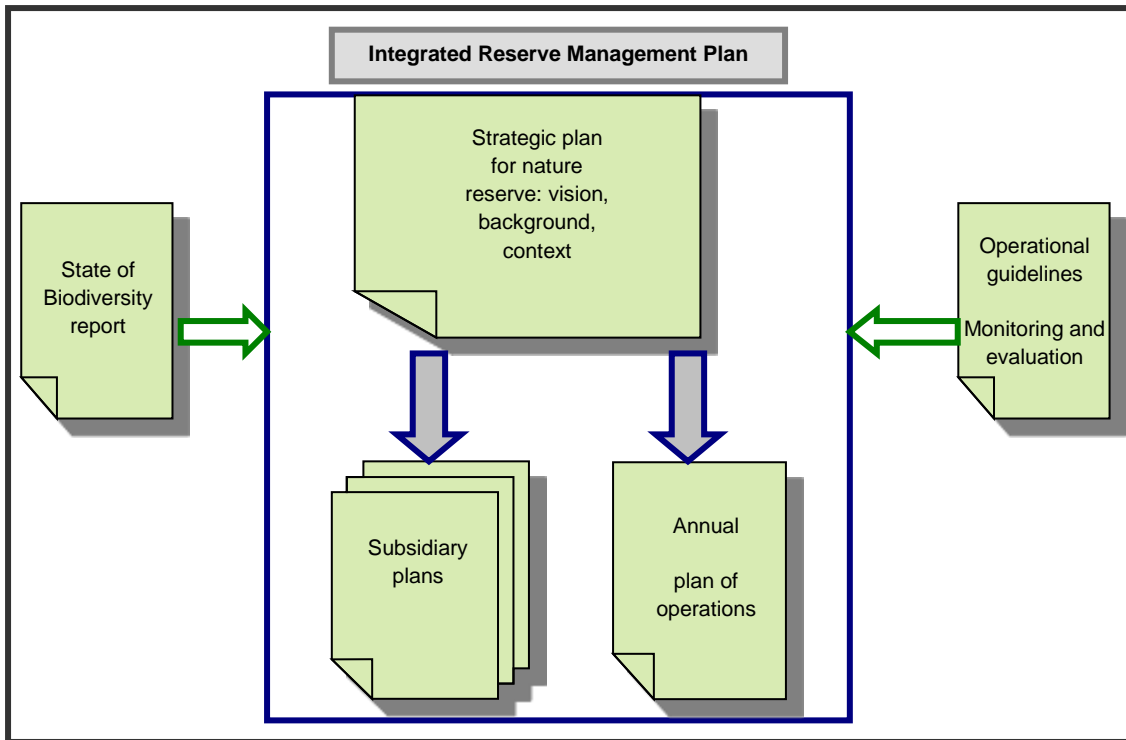
Harmony Flats Nature Reserve conserves a critically endangered vegetation type known as Lourensford alluvium fynbos (LAF). Currently, a total of less than 1% of this vegetation is being protected. More than 94% has been transformed and falls under private land ownership. The national target for the conservation of this vegetation is 30%, and only 5% is available (Rebelo *et al.* 2006). This management plan addresses all the threats that are continuously experienced in the nature reserve, and at the same time discusses the various programmes (from monitoring to environmental awareness) that have been carefully selected to address the challenges.

The strategic management planning process, which results in the development of an Integrated Reserve Management Plan (IRMP) for Harmony Flats Nature Reserve, began with the definition of the nature reserve's vision, followed by its purpose. 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 to each objective, or a group of linked outputs contributing to the desired state.

## **1.1 Aim of the Integrated Reserve Management Plan**

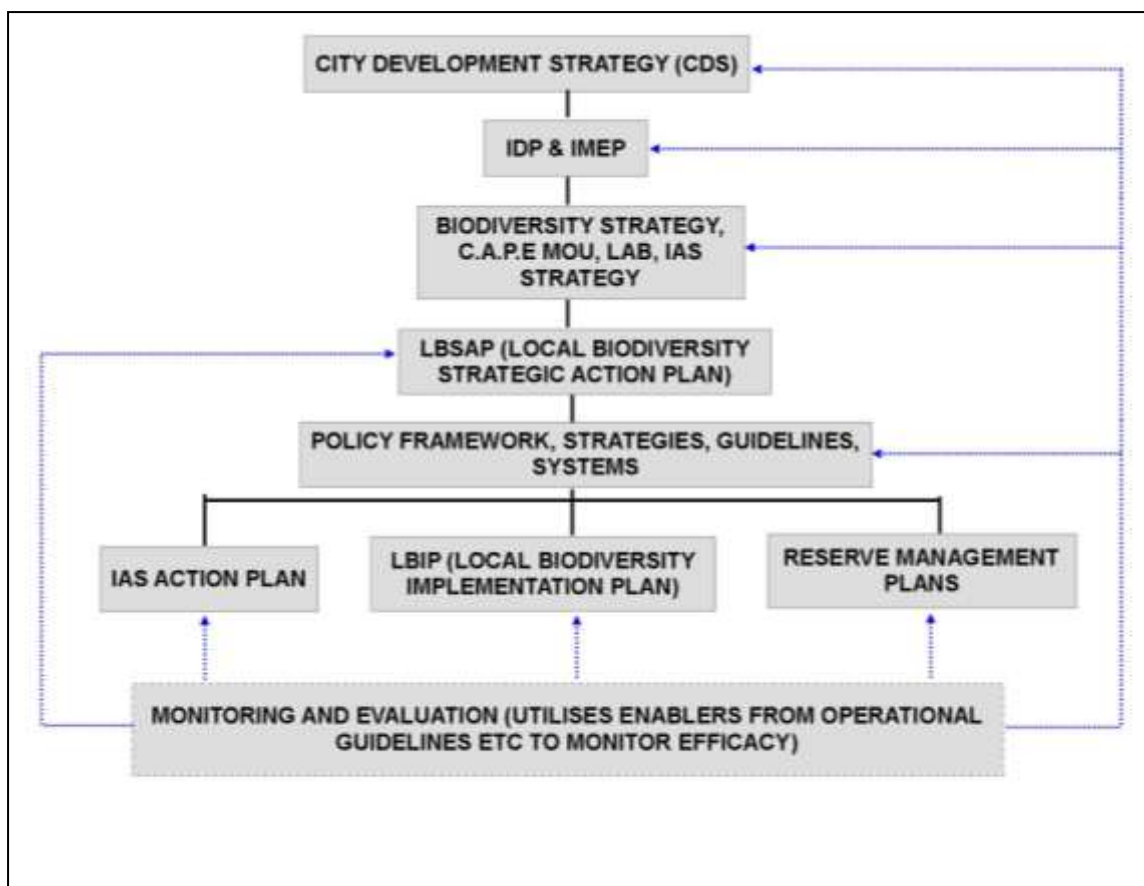
The aim of the IRMP is to ensure that Harmony Flats Nature Reserve has clearly defined objectives and activities to direct the protection and sustainable use of its natural, scenic and heritage resources over a five-year period. The IRMP thus provides the medium-term operational framework for the prioritised 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 reserve planning process for Harmony Flats Nature Reserve takes place against the backdrop of (i) the City of Cape Town's Integrated Development Plan (IDP) (Anon 2010); (ii) the City of Cape Town's Integrated Metropolitan Environmental Policy (IMEP) (Anon 2003<sup>1</sup>); (iii) the City of Cape Town's Biodiversity Strategy (Anon 2003<sup>2</sup>) and Local Biodiversity Strategy and Action Plan (LBSAP) (Anon 2009<sup>1</sup>); and (iv) the bioregion (Cape Action 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 Harmony Flats 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 (see figure 1).



**Figure 1: The elements of the IRMP**

The IRMP for Harmony Flats Nature Reserve forms part of a tiered series of policies, legislation and related planning documents at sector, institutional, agency and local level (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 interventions can be monitored and audited on an annual basis.

In context, this IRMP is a dynamic document, and the detailed subsidiary plans should be updated annually or as soon as new information comes to light that may better inform decisions on responsible land management. The IRMP should be updated every five years.

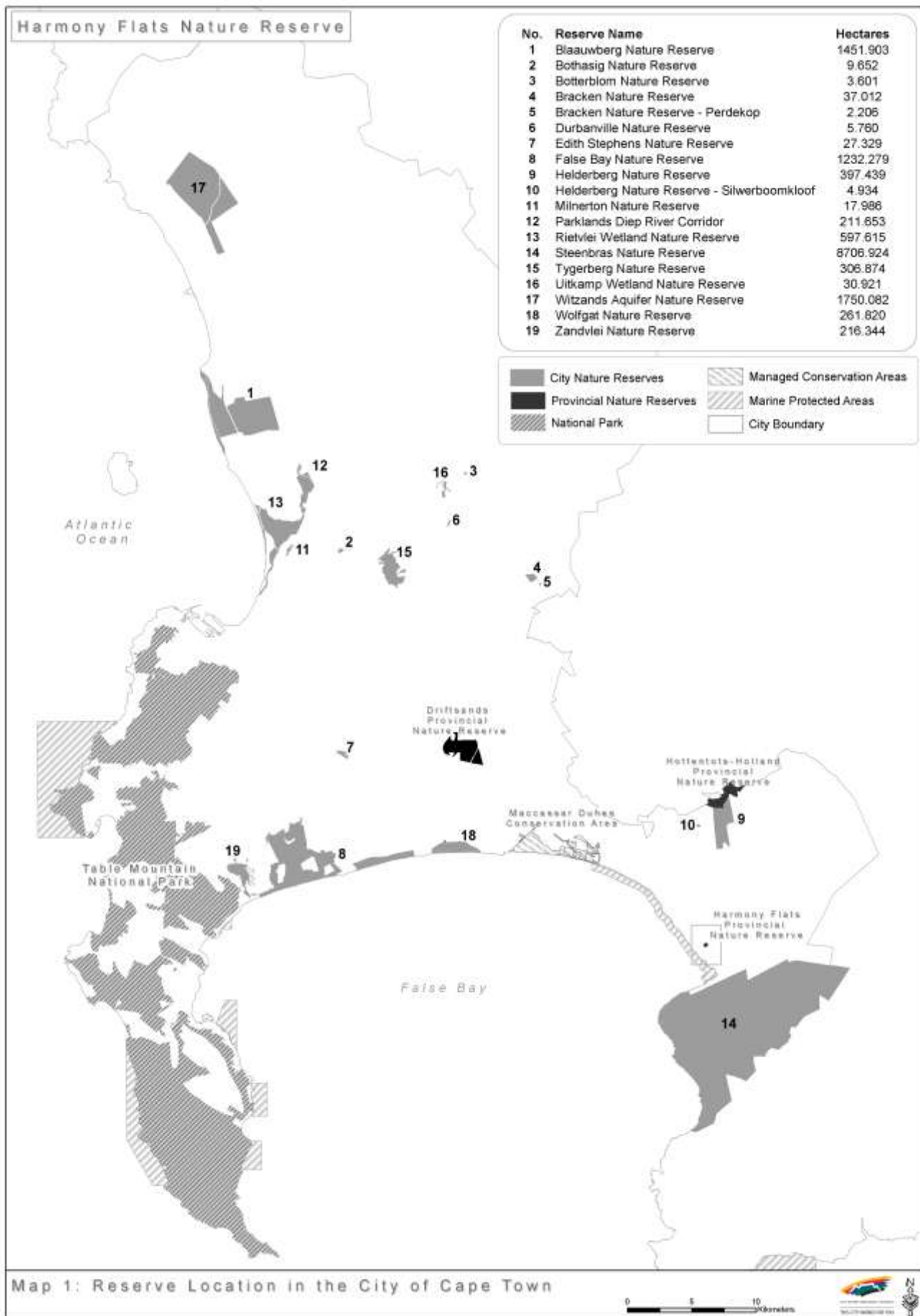
The drafting of this management plan has been guided by a small interdisciplinary Nature Reserve Planning Committee (RPC) comprising the branch manager, the regional manager, the area manager, the reserve manager, various specialists, and other interested and

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 give their input at an early stage. Wherever practically possible, the ideas and inputs from the workshops have been incorporated into the IRMP.

## **1.2 Location and extent**

Harmony Flats Nature Reserve is approximately nine ha in extent, and is situated within the Helderberg basin (grid reference 34°08'15"S: 18°51'35"E) within Cape Town. The reserve is located near the boundary of Strand and Gordon's Bay, about 2 km inland, in the centre of the low-income residential areas Cassablanca, Gustrouw and Rusthof (see map 1 and 2). On 21 June 1989, Harmony Flats Nature Reserve was officially proclaimed as a provincial nature reserve on portion of erf 5544, Strand, by the administrator of the Province of the Cape of Good Hope in terms of section 6(1) of the Nature and Environmental Conservation Ordinance (Ordinance 19 of 1974). The proclamation was published in Provincial Gazette 4593 dated 7 July 1989 (appendix 3).



Map 1: Reserve Location in the City of Cape Town



## **2. DESCRIPTION OF LANDHOLDINGS AND OWNERSHIP**

### **2.1 Property details and title deed information**

Harmony Flats Nature Reserve is a property of the City of Cape Town, and is located on erf 5544 in the Strand area. This land was part of a larger erf 5079, which the Registrar of Deeds in Cape Town expropriated from Casper Frederick Christiane on 30 September 1965, and was subsequently subdivided for the purposes of Gustrouw sports field and housing. The land was transferred to Strand Municipality in accordance with title deed T2402/1965 (appendix 8). (Also see the Surveyor-General's diagrams in appendix 4.)

### **2.2 Landscape perspective**

The reserve falls within the Cape Floristic Region (CFR). The South African CFR is the smallest and 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 the Cape Action Plan for the Environment, which identified the key threats and root causes of biodiversity losses that need to be addressed in order to conserve the floral kingdom. This resulted in a spatial plan that identifies areas in need of conservation as well as 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:

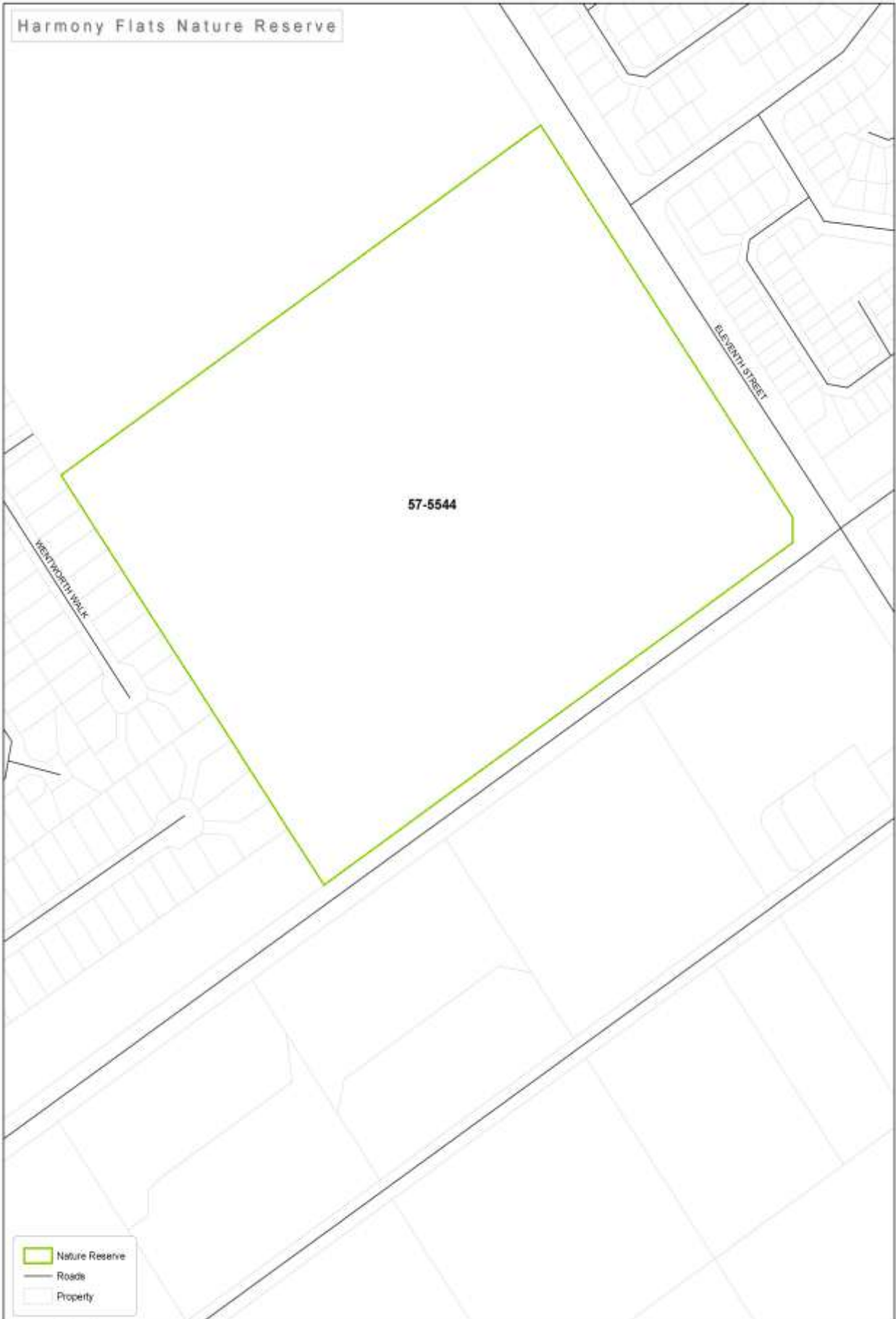
- To establish an effective nature reserve network, enhance off-reserve conservation and support bioregional planning
- To strengthen and enhance institutions, policies, laws, cooperative governance and community participation

- 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 that 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).

Harmony Flats Nature Reserve forms an important platform and integral link within the city's biodiversity network (Anon 2009<sup>2</sup>). It is this network that ensures that parcels of land worthy of conservation are included in a protective network, connected to other parcels of conservation-worthy land (see map 5).

Harmony Flats Nature Reserve



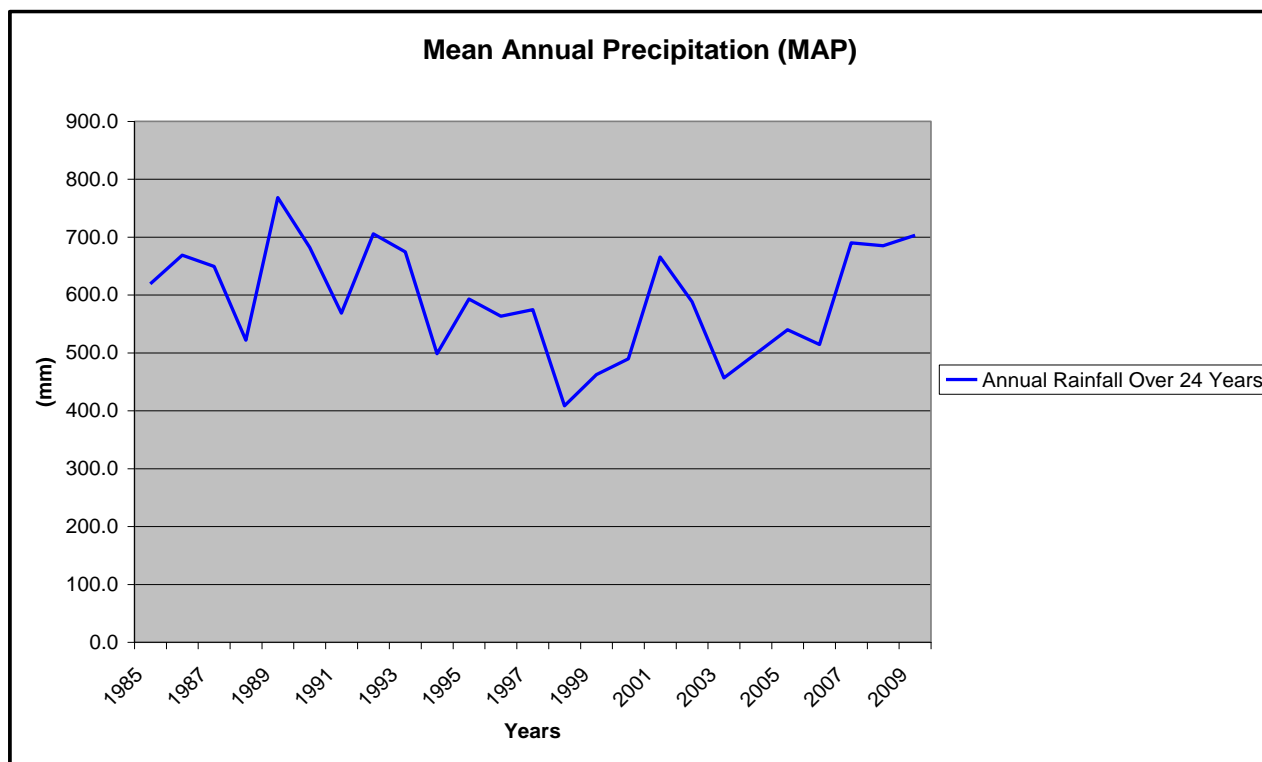
Map 3: Reserve Erven



## 2.3 Physical environment

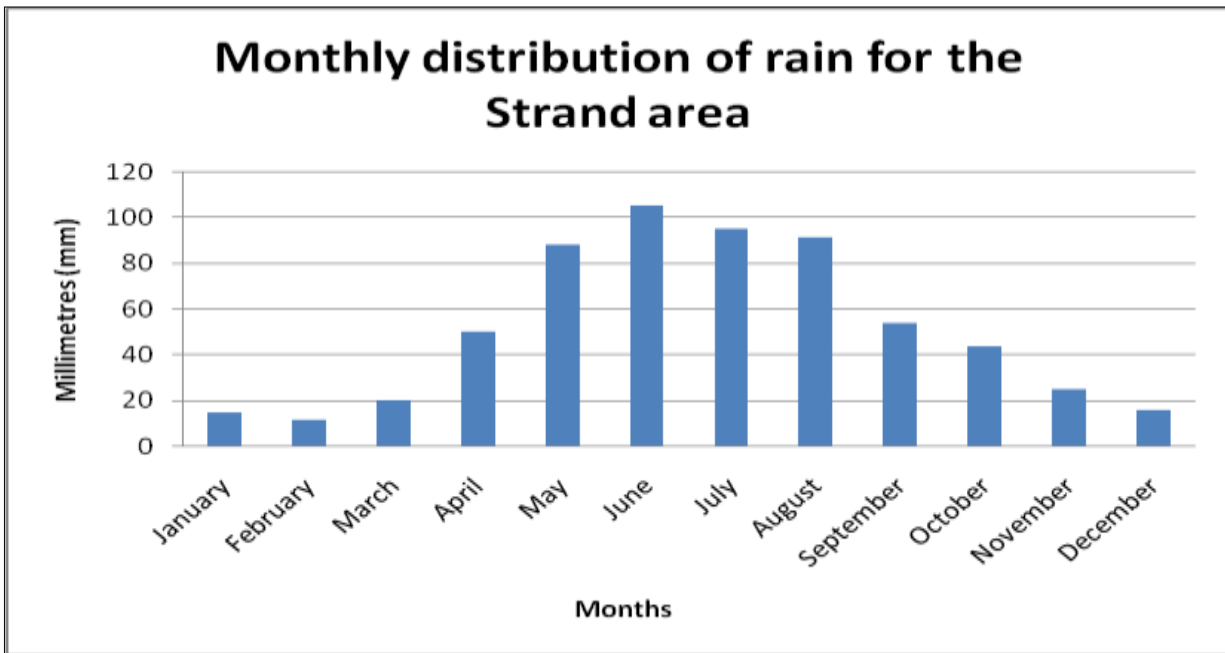
### 2.3.1 Climate

The climate in the area is Mediterranean and characterised by warm, dry summers and mild, rainy winters. The average daily maximum and minimum temperature in the reserve is 22,2 °C and 13,2 °C respectively based on a 24-year period (1985–2009), with infrequent frost incidence. The reserve experiences prevailing strong summer winds from the southeast, while the winter wind is predominantly northerly and north-westerly. In the period 2005 to 2009, 42% of the wind recorded was south-easterly, of which 20% had a speed of more than 10,7 meters per second. The winter-rainfall climate peaks from May to August, with a mean annual precipitation of 400–768 mm (mean: 598 mm). Figure 3 illustrates the rainfall fluctuations since 1985, also depicting the driest year in the period (1998).



**Figure 3: Long-term precipitation trends (data from South African Weather Services, 2010)**

These rainfall data could be useful over a period of years for comparative purposes as well as to determine long-term trends. Figure 4 illustrates the rainfall patterns over a one-year period. Once again, the data play a crucial role in the management of the reserve, as they determine the interventions that are to be undertaken and the time of the year to do so. (Also see rainfall table in appendix 1.)



**Figure 4: Mean annual precipitation (Van Tonder 2010)**

### 2.3.2 Geology, geomorphology, soils and land types

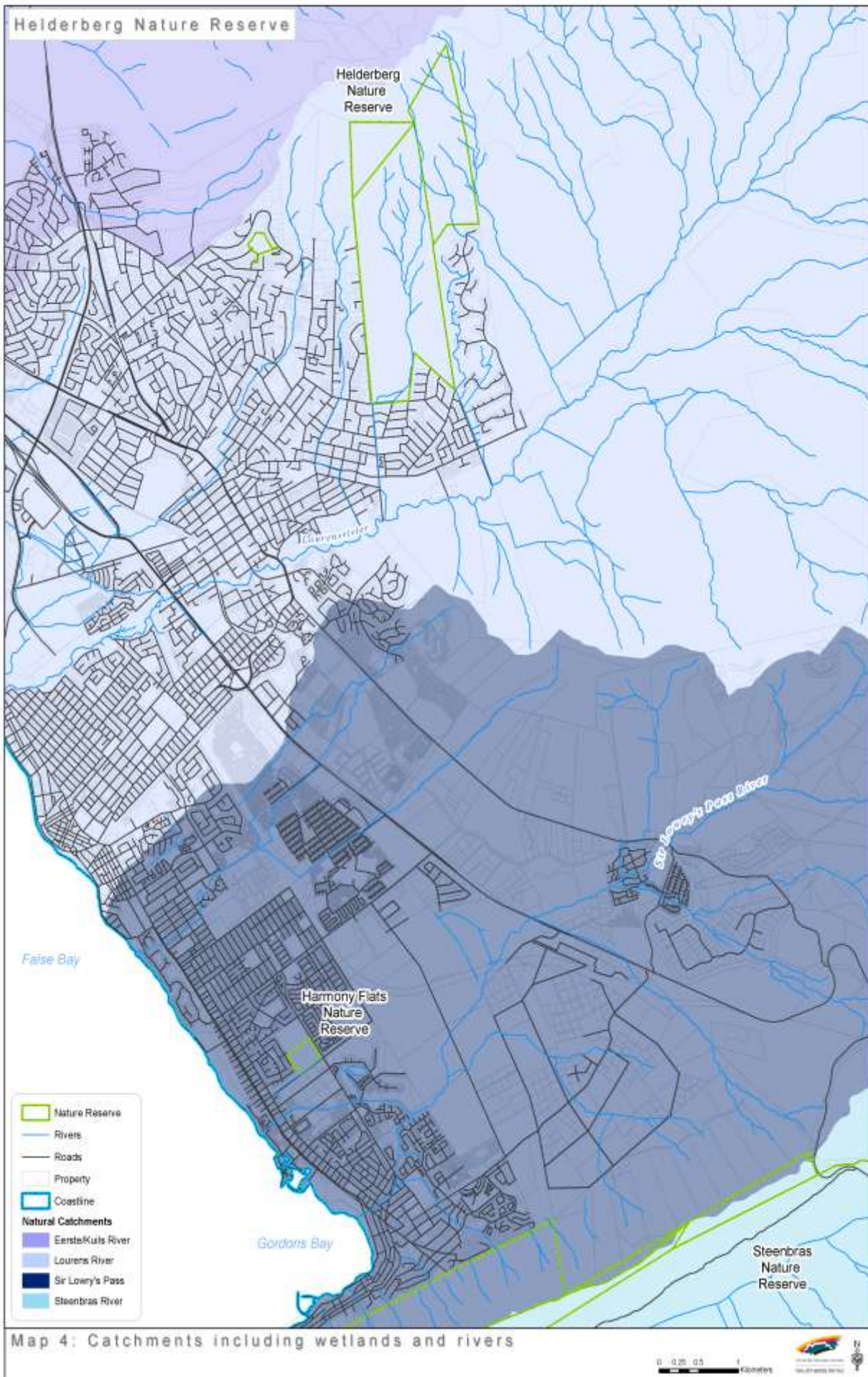
Harmony Flats Nature Reserve is characterised by plinthic, duplex, silty soils, often with small embedded cobbles and pebbles. The reserve is situated over Cape suite granite and meta-sediments of the Tygerberg formation (Malmesbury group), with shale rock at a depth of 0,3–1,3 m throughout much of the area.

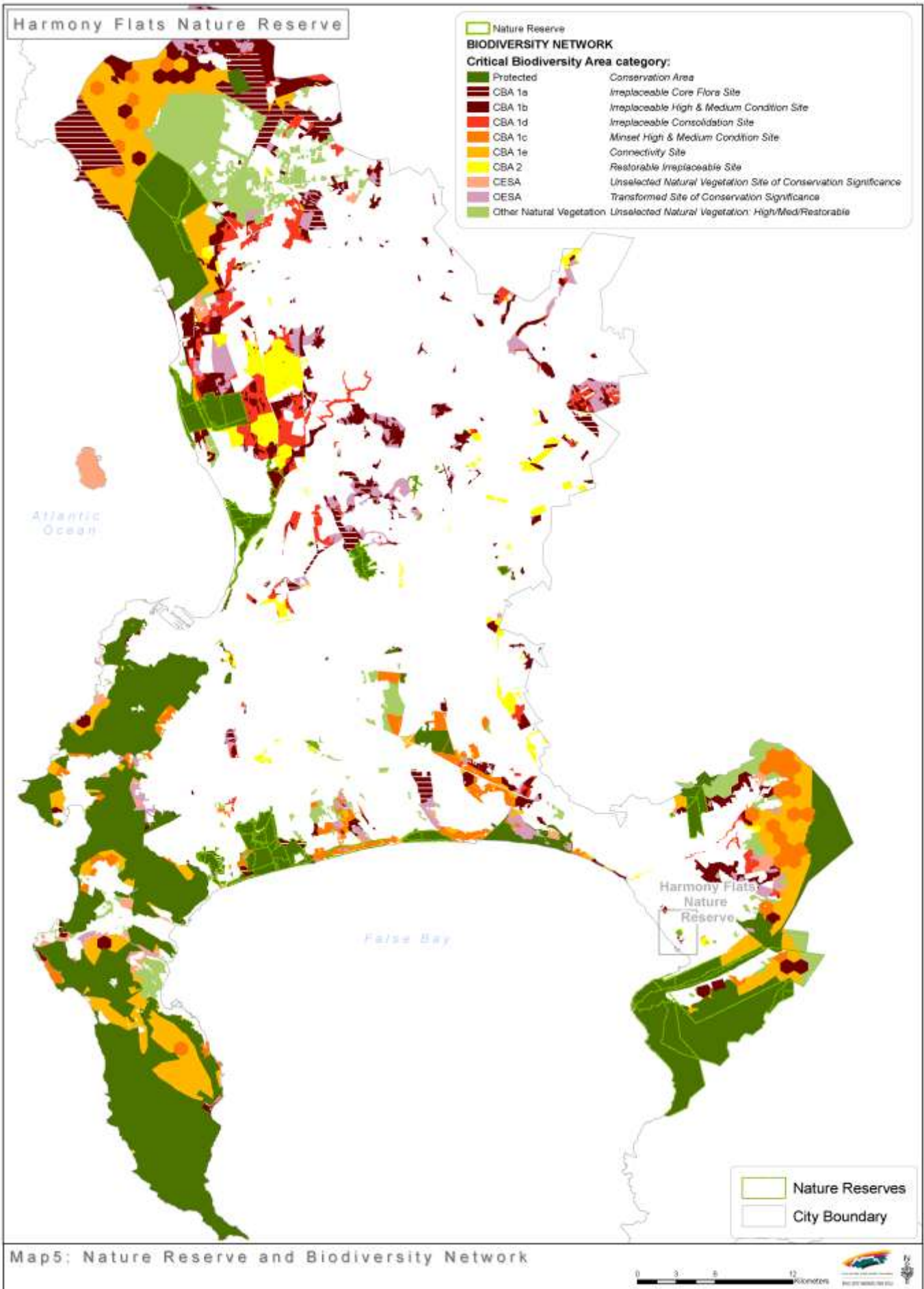
### 2.3.3 Hydrology and aquatic systems

As a result of the flat topography and underlying hardpan, water penetration is very slow, and, therefore, large parts of the area become waterlogged between May and October.

### 2.3.4 Catchments

The reserve is characterised as a seasonal wetland, and falls within the Sir Lowry’s Pass catchment area (see Map 4).





## 2.4 Biological environment

### 2.4.1 Vegetation

In the past, the vegetation scientists have referred to the vegetation in this area as either renosterveld or fynbos. This is due to the reserve's location in a lowland area, where the screes, sands and silt have been deposited in alluvial fans. The species typical of renosterveld are found on the finer sediments, and fynbos on the courser sediments – hence the name Lourensford alluvium fynbos (LAF). LAF is endemic to the Cape Town area, and is found in the low-lying plains between Firgrove and Gordon's Bay, including much of the Strand and Somerset West area, extended to Lourensford Estate (Rebelo *et al.* 2006).

These low-lying plains support low to medium dense shrubland with short graminoid understorey. Restioid and asteraceous fynbos are dominant; however, there is some evidence that proteoid fynbos might once have been dominant in the area. Some parts of the reserve have remnants that are exceptionally rich in geophytes. To date, 215 plant species have been recorded in Harmony Flats Nature Reserve, with 23 species listed as species of special conservation concern in the Red Data List (Raimondo *et al.* 2009). Such species include *Lotononis prostrata*, *Leucadendron lanigerum*, *Elegia verreauxii* and *Ixia versicolor*. The only viable population of *Ixia versicolor* occurs in this reserve. (See appendix 9 for species list.)

The conservation status of LAF is 'critically endangered', with more than 94% of it transformed by urban development, roads and farming among others. LAF is the most transformed endemic vegetation type in Cape Town, and one of the most transformed in South Africa. The national target for its conservation is 30%. Only 5% is available, with less than 1% currently conserved in Harmony Flats Nature Reserve. The remapping of the area is urgently required, since intensive development has taken place in the area since the last analysis (Rebelo *et al.* 2006). In addition, the integrity of LAF is largely threatened by frequent fires that have partially changed the vegetation structure from dense shrubland to mostly grassy communities. (See appendix 14 for the distribution of LAF in the area.)

### 2.4.2 Mammals

Harmony Flats Nature Reserve has only a limited number of small mammals, as the reserve itself could not support viable populations of any large mammals due to its limited extent of nine hectares. A small-mammal survey is conducted twice a year. So far, two rodent species have been recorded, namely *Mus minutoides* (Pygmy Mouse) and *Rhabdomys pumilio* (Striped Field Mouse). Due to the size of the reserve and available habitat, the Harmony Flats Nature Reserve management has no intention of introducing any bigger

mammals in the future, but rather wants to manage and monitor the ones that are already on site (appendix 10).

#### 2.4.3 Birds

The reserve does not have a comprehensive bird list, but, over a period of three years, more than 13 bird species have been recorded. These include species such as *Elanus caeruleus* (Black Shouldered Kite), *Vanellus coronatus* (Crowned Lapwing) and *Scopus umbretta* (Hamerkop). Of significance are the pairs of *Mirafra apiata* (Cape Clapper Lark) that still occur on site (appendix 11).

#### 2.4.4 Amphibians

To date, only one frog species has been recorded on site, namely the *Strongylopus grayi* (Clicking Stream Frog).

#### 2.4.5 Reptiles

The reptiles recorded to date include *Homopus areolatus* (Parrot Beaked Tortoise); *Chersina angulata* (Angulate Tortoise), which does not originally occur here, but was released by person(s) unknown; *Naja nivea* (Cape Cobra), and the *Agama hispida* (Southern Spiny Agama), which was last recorded within Cape Town in 1985 and was therefore thought to have been locally extinct. Additionally, Harmony Flats Nature Reserve was once home to the critically endangered Geometric Tortoise, which was later translocated to Tygerberg Zoo, as the reserve experienced frequent fires that threatened the survival of these tortoises. (See appendix 12 for a list of the reptile species recorded to date.)

#### 2.4.6 Invertebrates

Harmony Flats Nature Reserve has no data with regard to invertebrates occurring within its boundaries. However, a baseline survey is envisaged in the near future.

## 2.5 Socio-political context

### 2.5.1 History

The significance of Harmony Flats Nature Reserve was first realised in the mid-1970s, when a relic population of Geometric Tortoise was found in the Rusthof area between Strand and Gordon's Bay. It was during this time that Strand Municipality was approached by the then Provincial Department of Nature and Environmental Conservation (now CapeNature), and representation was made to have an area set aside for conservation purposes (Baard, 1989). As a result of this initiative, nine hectares were subsequently earmarked for the conservation of the threatened habitat (LAF), in which the abovementioned endangered Geometric Tortoise survived. In addition, the Jarman (1986) report revealed that out of the 55 sites that were studied, Harmony Flats Nature Reserve and the Dassenberg Hills had the highest score of threatened flora, of which about 100 ha were still intact.

Nonetheless, as a result of the rapid urban sprawl and desperate need for housing, the area adjoining the reserve was bulldozed in October 1985, and the building of residential sites commenced. During this time, the then Provincial Department of Nature and Environmental Conservation decided to collect the tortoises and keep them in a safe place until the reserve has been fenced off and proclaimed. As a result, the Department, assisted by members of the Hottentots Holland Centre of the Wildlife Society, collected and removed 292 *Homopus aereolatus* (Padlopers) and 52 Geometric Tortoises. The Geometric Tortoises were temporarily housed by Admiral Dirk Nortier at Gordon's Bay, and the padlopers by Mr Steve Mitchell, a nature conservation official employed by Somchem in Somerset West.

During this time, there were ongoing discussions between Strand Municipality and the Department to conserve the area, which resulted in an agreement on conditions under which a small nature reserve would be set up. The reserve was then leased to CapeNature for a period of nine years and 11 months (from 1 October 1986) at a nominal rate of R1 per annum (appendix 6). In the meanwhile, the then editor of African Wildlife, John Comrie-Craig, and the Wildlife Society of Southern Africa (now the Wildlife and Environment Society of South Africa, or WESSA) undertook a joint initiative with the SA Nature Foundation to raise funds for the erection of a security fence around the reserve. The Geometric Tortoise Appeal Fund was established that called upon the public to contribute. The two participating organisations (SA Nature Foundation and Wildlife Society of Southern Africa) contributed R5 000 each and, eventually, a total amount of R37 000 was raised in this manner.

The reserve was officially opened on 24 October 1986, and, at that ceremony, the then Mayor of Strand (Mr Chris Hattingh) handed over to WESSA (Hottentots Holland region) the sum of R2 000, 00. At this opening, 42 Geometric Tortoises and 100 padlopers, all marked, were released back into the reserve. WESSA undertook to fence the property. It is believed that roughly R80 000,00 was raised, and the fence and signage were erected. The reserve is officially called Harmony Flats Nature Reserve after the original farm that had occupied the land prior to its sale and subdivision for housing development.

In the years to follow, it became a major challenge for the provincial authority to manage the reserve adequately, due to financial constraints and a lack of dedicated reserve staff, irresponsible human activities, theft of the new fence and signage, irregular clearing of alien vegetation, and regular fire outbreaks that used to leave a large number of tortoises dead. These challenges caused CapeNature not to renew the lease to manage the reserve when it lapsed on 31 August 1996 (see memorandum in appendix 7). The land therefore reverted to the management of the local authority (the then Helderberg Municipality, now City of Cape Town), which included the local areas of Somerset West, Strand, Gordon's Bay, Lwandle and Nomzamo. The reserve was then placed under the management of the City Parks and Nature Conservation Unit based at Somerset West.

In 2005, the management was taken over by the Biodiversity Management Branch (BMB). By the time the local authority took over the reserve management, most of the once intact lowland vegetation adjoining it had been extensively transformed. A study undertaken by Maze and Rebelo (1999) identified a 40 ha area (Weltevreden) just northwest of Harmony Flats Nature Reserve and south of Lwandle as one of the 35 Core Flora Conservation Areas on the Cape Flats. This site is currently referred to as Morkel's Cottages (after the residential area adjacent to it) and has been earmarked for housing development. However, negotiations between the BMB and the Housing Department of the City of Cape Town to set aside some land for conservation are taking place.

In 2002, the South African National Biodiversity Institute (SANBI), through the Cape Flats Nature Project, identified Harmony Flats Nature Reserve as one of four pilot sites aimed at building a good relationship between nature and the surrounding communities within the city. The project secured R50 000,00 worth of funds from J&B Whiskey, allocated for a period of two years. The funding was mainly intended for the employment of a Nature Conservation

student, and was handed over to the Friends of the Helderberg Nature Reserve to administer.

A third-year Nature Conservation student from the Cape Technikon was employed in 2003 as a student/site manager, who carried out some intensive work involving establishing an enthusiastic local group called Harmony Flats Working Group (HFWG), with the aim of assisting in the management of the reserve. Following a request by the HFWG, Cape Flats Nature lobbied for a container, and, eventually, the City of Cape Town purchased a 12 m container that was to be used by the group.

However, as students were only employed for one year to complete in-service training, the lack of continuity became challenging. As a result, the relationship between the reserve and the HFWG suffered tremendously. During this time, Cape Flats Nature raised funds to have a dedicated and qualified site manager employed to manage the reserve. Finally, in October 2007, a full-time nature conservator was employed on contract, with the aim to apply sound management principles to the reserve, and at the same time engaging the local communities on the management and activities within the reserve. In July 2009, as part of the City realignment process, the reserve was amalgamated under the management of Steenbras Nature Reserve to enable it to access work resources that it had still lacked, such as staff and equipment. The City of Cape Town finally made the site manager position permanent in November 2009, and the title was changed to reserve manager for operational alignment reasons.

#### 2.5.2 Socio-economic context

Harmony Flats Nature Reserve is surrounded by communities of different economic status. The communities in close proximity to the reserve are Cassablanca, Sercor Park, Southfork and Gustrouw, which are low-income areas. On the other border lies Gordon's Bay, which ranges from middle to high-income communities. The Cassablanca and Sercor Park communities are represented by two community-based organisations (CBOs), HFWG and TAG Changers. The HFWG was established in 2003 with the aim to assist voluntarily in the management activities of the reserve. This group was originally made up of 15 members of mostly pensioners from the area, and their activities included the removal of invasive species, environmental education, and public meetings on possible job opportunities. The membership of the HFWG has decreased quite drastically over the years, and now stands at only five members. Some of the members of the group have either passed away found permanent work elsewhere, or have retired. The TAG Changers is a youth organisation

whose purpose it is to interact and entertain younger people in the Strand area. The partnership between the reserve and TAG Changers provides an opportunity to involve younger people in environmental awareness programmes. On the outskirts of the area (near the N2), lies Lwandle, a township dominated by low-income black communities. There is no formal partnership between the reserve and these communities, except for a few schools that are approached during environmental education interventions.

The management of Harmony Flats Nature Reserve also aims to explore the possible tourism opportunities for the reserve that could also bring economic benefits to the local communities by training local guides. In the past, the reserve created some temporary employment for more than 30 local residents through poverty relief projects. These included a Working for Wetlands project and a fence erection project. Additionally, the reserve has received some funding from the National Department of Tourism and the City of Cape Town to construct a tourism facility, which will have a potting shed developed for the nursery. The initial employment potential of the project was 26 people. However, to date, only 11 people have been employed.

## **2.6 Protected-area expansion**

CapeNature, in conjunction with the BMB, is busy negotiating with the private landowners to have a portion of their land set aside for conservation purposes, and incorporated into the reserve through a stewardship programme. All of these properties contain LAF, and are situated in the Gordon's Bay area. Once this process has been finalised, the size of the corridor will expand from 9 ha to 19, 58ha in total. The site areas include erven 6331, 6330, 6329, 6334, 6341, 6342, 6343 and 32634 (appendix 15) and were surveyed according to their level of importance in 2004 (Helme, 2004).

## **3. PURPOSE, VISION/MISSION, SIGNIFICANCE/VALUE**

### **3.1 Purpose of the protected area**

The primary purpose of Harmony Flats Nature Reserve is to conserve the ecological processes associated with LAF.

### **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.

#### Harmony Flats Nature Reserve vision

To protect the long-term ecological integrity of LAF, and, at the same time, build environmental harmony among the various cultures that are found outside the borders of Harmony Flats Nature Reserve.

### 3.2.2 Mission

### Biodiversity Management Branch

- 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 with regard to biodiversity
- To ensure the 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

### Harmony Flats Nature Reserve mission

- To manage the nature reserve ecosystem proactively, as expected by the Biodiversity Management Branch
- To ensure effective monitoring and evaluation of all ecological processes
- To integrate the neighbouring communities through environmental awareness programmes

### **3.3 Significance of property (biodiversity, heritage and social)**

Harmony Flats Nature Reserve is home to LAF, which is Critically Endangered. The reserve has recorded more than 215 plant species, of which more than 20 are listed as species of conservation concern. One of the plant species is *Ixia versicolor*, of which the reserve is known to contain the last viable population.

The reserve has recorded a number of avifauna and reptile species, including the *Agama hispida* (Southern Spiny Agama), which was considered to have been extinct within the Cape Town boundaries.

Harmony Flats Nature Reserve has a very good partnership with some community groups in the Cassablanca area.

## PART 2

### MANAGEMENT POLICY FRAMEWORK

#### 4. ADMINISTRATIVE AND LEGAL FRAMEWORK FOR THE MANAGEMENT AUTHORITY

##### 4.1 Legal framework

**Table 1: Legal Framework**

The following is a list of legislation applicable to the management of the City of Cape Town's BMB, with particular reference to Harmony Flats Nature Reserve. Repealed legislation has been included as 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
<b>ENVIRONMENTAL LEGISLATION</b>			
<b>National legislation</b>			
<b>National Environmental Management Act (NEMA), Act 107 of 1998</b>	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.	<ul style="list-style-type: none"> <li>Amendment Act 56 of 2002</li> <li>Amended by GN 26018, Vol 464 of 13 February 2004</li> </ul>	Provides for cooperative environmental governance
<b>National Environmental Management: Biodiversity Act, Act 10 of 2004</b>	<p>The objectives of the Act are to provide for:</p> <ul style="list-style-type: none"> <li>the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998;</li> <li>the protection of species and ecosystems that warrant national protection;</li> <li>the sustainable use of indigenous biological resources;</li> <li>the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; and</li> <li>the establishment and functions of a South African National Biodiversity Institute.</li> </ul>	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.		
<b>National Environmental Management: Protected Areas Act, Act 57 of 2003</b>	To provide for: <ul style="list-style-type: none"> <li>the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and natural landscapes and seascapes;</li> <li>the establishment of a national register of all national, provincial and local protected areas;</li> <li>the management of those areas in accordance with national norms and standards;</li> <li>intergovernmental cooperation and public consultation on matters concerning protected areas; and</li> <li>matters in connection therewith.</li> </ul>	<ul style="list-style-type: none"> <li>Amendment Act 62 of 2008</li> <li>Amendment Act 15 of 2009</li> </ul>	Regulations Notice 1029 of 2009 lists specific regulations for reserves proclaimed by the Member of the Executive Council (MEC) (draft August 2009).
<b>Conservation of Agricultural Resources Act (CARA), Act 43 of 1983</b>	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.	<ul style="list-style-type: none"> <li>Amended by GN R 2687 of 6 December 1985 and GN R 280 of 30 March 2001</li> </ul>	Alien invasive plant legislation to be included under the Biodiversity Act in future
<b>National Veld and Forest Fire Act, Act 101 of 1998</b>	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.
<b>Marine Living Resources Act, Act 18 of 1998</b>	Regulates conservation of the marine ecosystem and the long term sustainable utilisation of marine living resources		
<b>Environment Conservation Act, Act 73 of 1989</b>	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: <ul style="list-style-type: none"> <li>protected natural environments;</li> <li>littering;</li> </ul>	<ul style="list-style-type: none"> <li>Environment Conservation Amendment Act 98 of 1991</li> <li>Environment Conservation Amendment Act 79 of 1992</li> <li>Environment Conservation Second Amendment Act 115 of</li> </ul>	

	<ul style="list-style-type: none"> <li>• special nature reserves;</li> <li>• waste management;</li> <li>• limited-development areas;</li> <li>• regulations on noise, vibration and shock; and</li> <li>• EIAs.</li> </ul>	<p>1992</p> <ul style="list-style-type: none"> <li>• Environment Conservation Amendment Act 94 of 1993</li> <li>• Environment Conservation Second Amendment Act 52 of 1994</li> <li>• Proclamation R27 of 1995</li> <li>• Proclamation R43 of 1996</li> <li>• National Environment Management Act 107 of 1998</li> </ul>	
<b>National Water Act, Act 36 of 1998</b>	Relates to all use of water and the management of all water resources in South Africa	•	
<b>National Environmental Management: Air Quality Act, Act 39 of 2004</b>	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.
<b>Animal Protection Act, Act 71 of 1962</b>	To consolidate and amend the laws relating to the prevention of cruelty to animals	Animal Matters Amendment Act, Act 42 of 1993	
<b>Animal Diseases Act, Act 35 of 1985</b>	Provides for control measures relating to animal diseases		
<b>Animal Health Act, Act 7 of 2002</b>	Regulates animal health		
<b>Game Theft Act, Act 105 of 1991</b>	Regulates the ownership and protection of game		
<b>Mountain Catchment Areas Act, Act 63 of 1970</b>	Provides for catchment conservation		Administered under the Western Cape Nature Conservation Board Act, Act 15 of 1998
<b>National Heritage Resources Act 25 of 1999</b>	Provides for the protection of heritage resources		N/A
<b>World Heritage Conservation Act 49 of 1999</b>	Incorporates the World Heritage Convention into South African law		N/A
<b>Problem Animal Control Ordinance, Ordinance 26 of 1957</b>	Regulates problem animals		Administered under the Western Cape Nature Conservation Board Act, Act 15 of 1998
<b>Mineral and Petroleum Resources</b>	Provides for equitable access to, and sustainable development of,		

<b>Development Act, Act 28 of 2002</b>	mineral and petroleum resources		
<b>Atmospheric Pollution Prevention Act, Act 45 of 1965</b>		Entire Act repealed on 1 April 2010 in favour of the National Environmental Management: Air Quality Act, Act 39 of 2004	
<b>Provincial legislation</b>			
<b>Land Use Planning Ordinance, Ordinance 15 of 1985</b>	The purpose of the Ordinance is to regulate land use and to provide for incidental matters related to land use.	<ul style="list-style-type: none"> <li>Assented to on 22 November 1985</li> <li>Western Cape Land Use Planning Ordinance, 1985, Amendment Act, 2004</li> </ul>	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.
<b>Cape Nature and Environmental Conservation Ordinance, Ordinance 19 of 1974</b>	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
<b>Western Cape Nature Conservation Board Act, Act 15 of 1998</b>	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.
<b>Municipal legislation</b>			
<b>Integrated Metropolitan Environmental Policy (IMEP), 2001</b>	Envisages a set of Citywide aligned strategies dealing with all aspects of the environment.		Influenced the Biodiversity Strategy, 2003
<b>Biodiversity Strategy, 2003</b>	To be a city that leads by example in the protection and enhancement of biodiversity	<ul style="list-style-type: none"> <li>Draft amendment for 2009–2019</li> </ul>	Influenced the development of the IRMP
<b>City of Cape Town Bylaw relating to Stormwater Management, LA 31420</b>	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	<ul style="list-style-type: none"> <li>Publication date 23 September 2005</li> </ul>	Communication strategy and action plan will take effect to address the issues with the relevant departments
<b>City of Cape Town Air Pollution Control</b>	The purpose of this bylaw is to give effect to the right contained in	<ul style="list-style-type: none"> <li>Publication date 4 February</li> </ul>	

<b>Bylaw, LA 12649</b>	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 jurisdiction; to ensure that air pollution is avoided, or, where it cannot be altogether avoided, is minimised and remedied.	2003	
<b>Bylaw relating to Community Fire Safety, Province of the Western Cape, LA 11257</b>	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.	<ul style="list-style-type: none"> <li>• Publication date 28 February 2002</li> </ul>	A fire management plan to be designed
<b>City of Cape Town Draft Animal Bylaw, 2009</b>	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.	<ul style="list-style-type: none"> <li>• Draft, 2009</li> </ul>	
<b>HUMAN RESOURCES/ADMINISTRATION LEGISLATION</b>			
<b>National legislation</b>			
<b>Occupational Health and Safety Act, 1993</b>	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	
<b>Basic Conditions of Employment Act, Act 3 of 1997</b>	Provides for control measures pertaining to employment	<ul style="list-style-type: none"> <li>• Amendment Act 11 of 2002</li> </ul>	
<b>Labour Relations Amendment Act, Act 66 of 1995</b>	The Act aims to promote economic development, social justice, labour peace and democracy in the workplace.	<ul style="list-style-type: none"> <li>• Labour Relations Amendment Act, 42 of 1996</li> <li>• Afrikaans Labour Relations Amendment Act, 1998</li> <li>• Labour Relations Amendment Act, 127 of 1998</li> </ul>	

		<ul style="list-style-type: none"> <li>• Labour Relations Amendment Act, 2000</li> <li>• Amendment Act 12 of 2002</li> </ul>	
<b>Local Government Municipal Systems Act, Act 32 of 2000</b>	Establishes core principles, processes and mechanisms relating to local government		
<b>Promotion of Equality/Prevention of Unfair Discrimination Act, Act 4 of 2000</b>	Provides for the prevention of discrimination and other related matters		
<b>Criminal Procedure Act, Act 51 of 1977</b>	Makes provision for procedures and related matters in criminal proceedings	<ul style="list-style-type: none"> <li>• Criminal Procedure Amendment Act, Act 65 of 2008</li> </ul>	
<b>Firearms Control Act, Act 60 of 2000</b>	To establish a comprehensive and an effective system of firearms control and, to provide for matters connected therewith		
<b>Civil Aviation Act, Act 13 of 2009</b>			
<b>Fencing Act, Act 31 of 1963</b>	Regulates all matters relating to fencing		
<b>Hazardous Substances Act, Act 15 of 1973</b>	Controls substances that may cause injury or ill health to, or death of, human beings by reason of their toxic nature		
<b>Land Survey Act, Act 8 of 1997</b>	Regulates land surveying, beacons and other related matters		
<b>Promotion of Access to Information Act, Act 2 of 2000</b>	Promotes access to information		
<b>Promotion of Administrative Justice Act, Act 3 of 2000</b>	Provides for the promotion of administrative justice	<ul style="list-style-type: none"> <li>• Amendment Act 53 of 2002</li> </ul>	
<b>Regional Services Council Act, Act 109 of 1985</b>	Regulates and controls land, land use and other related matters		
<b>Skills Development Act, Act 97 of 1998</b>	Promotes the development of skills		
<b>State Land Disposal Act, Act 48 of 1961</b>	Regulates the disposal of state-owned land		
<b>Subdivision of Agricultural Land Act, Act 70 of 1970</b>	Regulates the subdivision of agricultural land		
<b>Tourism Act, Act 72 of 1993</b>	Provides for the promotion of tourism, and regulates the tourism industry		A tourism strategy is envisaged.
<b>Public Resorts Ordinance, Ordinance 20 of 1971</b>	Regulates nuisance and pollution control		
<b>Municipal Ordinance, Ordinance 20 of 1974</b>	Regulates pollution and waste management		
<b>South African National Road Agency Limited</b>			

<b>and National Roads Act, Act 7 of 1998</b>			
<b>Aviation Act, Act 74 of 1962</b>	Provides for the control, regulation and encouragement of aviation activities in the Republic of South Africa	<ul style="list-style-type: none"> <li>• Repealed in favour of the Civil Aviation Act, Act 13 of 2009</li> </ul>	
<b>Provincial legislation</b>			
<b>Western Cape Land Administration Act, Act 6 of 1998</b>	Regulates land and land use		
<b>Western Cape Planning and Development Act, Act 7 of 1999</b>	Regulates planning and development within the province		
<b>Municipal legislation</b>			
<b>City of Cape Town Bylaw relating to Filming, LA30441</b>	The purpose of the Bylaw is to regulate and facilitate filming in Cape Town.	<ul style="list-style-type: none"> <li>• Provincial Gazette 6277, 24 June 2005</li> </ul>	
<b>City of Cape Town Bylaw relating to Streets, Public Places and the Prevention of Noise Nuisances, 2007</b>	The purpose of the Bylaw is to regulate activities in streets and public places, and to prevent excessive noise nuisance	<ul style="list-style-type: none"> <li>• Promulgated 28 September 2007, PG 6469; LA 44559</li> </ul>	
<b>City of Cape Town Bylaw relating to signage</b>		<ul style="list-style-type: none"> <li>•</li> </ul>	

## 4.2 Administrative framework

Harmony Flats Nature Reserve is managed by the BMB, which forms part of the City of Cape Town's Environmental Resource Management Department within the Strategy and Planning Directorate. The reserve is located within the eastern region, and is managed by a reserve manager, who reports to the area manager. Harmony Flats Nature Reserve is in serious need of an additional staff member, particularly a people and conservation officer. Over the years, the reserve has seen a need to increase its environmental education and awareness programmes in response to various social pressures on the environment. As these programmes are difficult to plan and implement, this calls for an additional person's services.

### 4.2.1 Staffing complement

**Table 2: Staffing Complement**

Designation	Workdays	Hours
Reserve manager	Mondays–Fridays	40 hours a week
Student (annual contract)	Mondays–Sundays	40 hours a week



## 5. PROTECTED-AREA POLICY FRAMEWORK AND GUIDING MANAGEMENT PRINCIPLES

### 5.1 Management objectives

Table 3: Management Objectives

High-level objective	Objective	Sub-objective	Initiative	Low-level plan
<p><b>CONSERVATION OF REPRESENTATIVE, FUNCTIONAL ECOSYSTEMS</b></p> <p>To conserve a representative sample of the region's ecosystems in a linked landscape, and to maintain or restore environmental processes to enable natural spatial and temporal variation in structural, functional and compositional components of biodiversity.</p>	<p><b>Representative ecosystems</b></p> <p>To incorporate a spectrum of viable terrestrial ecosystems characteristic of Harmony Flats Nature Reserve, and to re-introduce missing elements where possible.</p>	<p><b>Consolidation and expansion of land areas</b></p> <p>Consolidation of protected areas focusing on under-representative ecosystems, functional linkages and processes</p>	<p>(1) Identification of under-represented habitats/ecosystems</p> <p>(2) Consolidate nature reserve boundaries</p> <p>(3) Incorporate untransformed fynbos</p>	Nature reserve expansion plan
		<p><b>Fire management</b></p> <p>Apply appropriate fire regime in fynbos areas (frequency, season, intensity, size)</p>	<p>(1) Implement a fire management plan in accordance with the objectives of conserving biodiversity and threatened biota</p> <p>(2) Monitor impact of fire management regime</p>	Fire management plan
		<p><b>Threatened biota</b></p> <p>Maintain viable populations of threatened species in order to meet obligations in terms of international agreements and conventions</p>	<p>(1) Maintain viable populations of rare/threatened plant and animal species (identify, locate and monitor populations of priority species)</p>	Monitoring plan
		<p><b>Monitoring plan</b></p> <p>Implement and maintain an approved monitoring plan for the nature reserve</p>	<p>(1) Implement and maintain a biological monitoring programme for the nature reserve</p>	Monitoring plan

	<p><b>Rehabilitation</b> 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</p>	<p><b>Vegetation</b> Re-establishment of physical, chemical and biological processes in degraded vegetation areas</p>	<p>(1) Rehabilitate all old, degraded sites</p>	<p>Vegetation rehabilitation plan</p>
		<p><b>Alien plants and other alien biota</b> Control and, where possible, eliminate alien biota to facilitate re-establishment of natural biodiversity patterns and processes in invaded areas</p>	<p>(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</p>	<p>Invasive alien plant management plan; alien biota management plan</p>
<p><b>MITIGATE INTERNAL AND EXTERNAL PRESSURES</b> To reduce threats and pressures and limit environmental impacts resulting from non-biodiversity management aspects and operations on surrounding land and resource uses</p>	<p><b>Reconciling biodiversity with other nature reserve objectives</b> To ensure that non-biodiversity management aspects of nature reserve operations (revenue generation, including visitor, resource use, developments, management activities, etc.) are informed and constrained by biodiversity</p>	<p><b>Internal developments</b> Minimise the impacts associated with the development of visitor and nature reserve management infrastructure, and ensure that such developments do not compromise biodiversity objectives.</p> <p><b>Internal activities</b> Minimise the impacts associated with visitor and nature reserve management activities, and ensure that such activities do not compromise biodiversity objectives.</p>	<p>(1) Nature reserve zoning (2) Develop and implement Conservation Development Framework (CDF) (3) Developments in accordance with EIA processes (NEMA) and corporate policies (4) Establish visitor carrying capacities (5) Implement green standards and environmental best practice based on corporate policy</p>	<p>CDF</p>

	<p>conservation objectives, and that the impacts of these activities on biodiversity are minimised.</p>	<p><b>Extractive resource use</b>  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.</p>	<p>(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</p>	<p>Research to take place</p>
	<p><b>Reconciling biodiversity with external threats</b>  To reduce external threats and pressures, and limit impacts of surrounding land and resource use on biodiversity conservation within the nature reserve</p>	<p><b>External developments</b>  Minimise the impacts associated with inappropriate developments outside the nature reserve</p>	<p>(1) Engage with regional land management authorities, including IDPs and Spatial Development Frameworks at local and 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 nature reserve and biodiversity network objectives  (4) Negotiate to ensure that external developments are not visually obtrusive or out of character with the park</p>	<p>Communication strategy and action plan</p>
		<p><b>External activities</b>  Negotiate to ensure that external resource and land use do not detrimentally affect ecological processes within the nature reserve</p>	<p>(1) Negotiate to mitigate or improve the management of potentially detrimental external 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</p>	<p>Education strategy and action plan</p>

		<p><b>Hydrological and water chemistry changes</b> Participate in activities for the maintenance of river flow regimes and water chemistry, within limits for the maintenance of ecosystem processes in aquatic ecosystems in the nature reserve</p>	<p>(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 in aquatic systems</p>	Education strategy and action plan
		<p><b>Illegal harvesting of resources</b> Prevent the illegal collection, removal and destruction of physical and biological resources</p>	<p>(1) Public liaison (2) Law enforcement (3) Audit every five years</p>	Safety and security plan Security operational manual
<p><b>WILDNESS/REMOTENESS</b> To maintain and restore uniqueness/tranquillity in Harmony Flats Nature Reserve so that the spiritual and experiential qualities of uniqueness are maintained, enhanced or, where necessary, restored</p>	<p><b>Range of experiences</b> Provide a range of visitor experiences</p>		<p>(1) Nature reserve zoning (2) Develop CDF and sensitivity-value analysis</p>	<p>(1) CDF (2) Nature reserve expansion plan (3) Invasive-plant management plan</p>
	<p><b>Sense of place</b> Maintain or restore an appropriate sense of place</p>		<p>(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 nature reserve</p>	
<p><b>CULTURAL HERITAGE MANAGEMENT</b> To investigate and manage all cultural assets</p>	<p><b>Conserve and manage cultural heritage assets</b></p>	N/A	<p>(1) Develop a database of all tangible and intangible cultural assets, which include an inventory, maps and relevant documentation (2) Develop site management plans for each cultural heritage site, with monitoring systems in place for management priorities and prescriptions (3) Facilitate appropriate interpretation of cultural heritage associated with the nature reserve</p>	N/A

## 5.2 SWOT analysis

**Table 4: SWOT analysis**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The nature reserve has a full-time manager, who oversees the management of the reserve.</li> <li>• The nature reserve was proclaimed, which provides legal status for the BMB fully to control the site.</li> <li>• The reserve has a good relationship with local organisations.</li> </ul>	<ul style="list-style-type: none"> <li>• The reserve lacks human resource capacity to maintain some important functions, such as baseline data collection, environmental education, and monitoring. These functions are currently performed by a student, but there is no continuity.</li> <li>• The nature reserve has no boundary fences; therefore, access is not controlled, which leads to difficulty in managing the reserve effectively.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• The reserve may be linked to neighbouring private properties to form an ecological corridor through the stewardship programme.</li> <li>• A Friends group could be established to assist the reserve in a variety of activities, particularly pertaining to environmental awareness.</li> <li>• Very effective and important monitoring systems could be developed.</li> </ul>	<ul style="list-style-type: none"> <li>• Illegal activities. The thoroughfare through the reserve has a number of negative consequences, such as too frequent fires, illegal dumping (household waste and rubble), sand removal that leads to soil erosion, restio and bulb harvesting, etc.</li> <li>• Stray dogs negatively affect nesting birds, small mammals and tortoises.</li> <li>• Invasive alien plants, mostly <i>Pennisetum clandestinum</i> (kikuyu), <i>Acacia saligna</i> (Port Jackson) and many herbaceous weeds, that occur in the reserve</li> <li>• Nature reserve isolation. The reserve is very isolated. Therefore, it may become a major threat in the future in terms of viability.</li> <li>• Indiscriminate development. The Bloubos Road development/extension could have a serious impact on the reserve, as it will break the species distribution and connections to the rest of the corridor, and simultaneously affect the hydrology in the system.</li> </ul>

## 5.3 Protected-area management policy framework and guiding principles

### 5.3.1 Community participation

Harmony Flats Nature Reserve will strive to nurture productive and mutually beneficial partnerships that will result in economic and/or biodiversity equity. This will be achieved through the creation of job opportunities in support of the Expanded Public Works Programme (EPWP) and poverty relief initiatives. Through the support of community-based social development initiatives, the reserve will strive to extend socio-economic benefits to local communities.

In the past, the reserve has run projects through Working for Wetlands, and internally funded projects that have proved to be successful in terms of temporary job creation. However, these projects are never sustainable, as they only last for a few weeks or months. Therefore, the reserve management is meeting with various organisations to try and explore possibilities of raising funds and subsequently running more sustainable projects that will benefit the reserve and the surrounding communities. The reserve staff members are also establishing a Friends group for the reserve. It is intended that this group will assist with environmental awareness and education programmes. On the other side, the HFWG and TAG Changers of Cassablanca and Sercor Park communities run and assist in eight environmental education programmes that take place over a one-year period. These organisations help mobilise the kids and youth from the community who come to assist in invasive plant clearing, among others.

### 5.3.2 Environmental education

Harmony Flats Nature Reserve hosts quite a number of environmental activities that are aimed at the different age levels of the surrounding communities. These activities are run annually and include the following

#### 5.3.2.1 Environmental education programmes

**Table 5: Environmental Education Programmes**

Activity	Date	Target group
Waste Week	March / April	Local schools
Biodiversity / Bird Week	May	Local schools
Holiday Programme	June/July	Younger children
Arbor Week	September	Local schools
Spring Walks	September/ October	Public members
SEEP Hike	October	Youth
Careers in Conservation	As per request	Schools
Weedbuster Week	October	Youth
Holiday Programme	December	Younger children

Additionally, the reserve hosts random walks and talks for different organisations and groups, such as interns, international students and visitors. All of these activities are held in conjunction with HFWG and TAG Changers. However, in the absence of an environmental education officer, this area is not optimised.

### 5.3.3 Safety and security

A safety and security audit still needs to be carried out in the reserve. Harmony Flats Nature Reserve is not entirely fenced off, except along the north-western and eastern boundaries. Therefore, access is uncontrolled. There are no buildings at this stage, except for the container that is being utilised for meetings. This container has security gates and burglar bars on windows and doors to prevent break-in attempts. The fence posts have in the past been stolen and the perpetrators were never found. Another form of theft that takes place in the reserve is illegal plant harvesting, mostly the bulbous plants such as incwadi (*Boophane disticha*) and *Thamnochortus fruticosus*. At this stage, it is difficult to know who is responsible for these wrongdoings as well as the quantities that are being stolen. However, security measures will be introduced after the office buildings have been constructed.

### 5.3.4 Culture-historical, archaeological and paleontological management

No culture-historical information is known and available to the reserve at this stage. However, some research is being conducted. The only known cultural history is that of the Lwandle area, which is in close proximity to the reserve. However, this is not relevant to the management of Harmony Flats Nature Reserve.

### 5.3.5 Tourism development and management

Tourism is one of the country's main sources of income, as it significantly contributes to gross domestic product through different segments. The eco-tourism segment alone plays a very important role in showcasing the protected natural areas in South Africa, and Cape Town is no exception. This segment does not only bring financial benefit to protected areas, but also helps to create job opportunities for local people.

In terms of scenic beauty, particularly in spring, Harmony Flats Nature Reserve demonstrates a wide variety of wild flowers that can only be seen at a specific time and only in this part of the world. As a result of the conservation status (critically endangered) of LAF, the reserve has some of the rarest plants on earth, which should therefore make it one of the top tourist destinations in the Cape Town area. Despite this important status, the reserve does not receive the market attention and recognition it deserves.

As a result, the reserve management, together with the local organisations and possibly the Friends group in the future, will try to explore some funding opportunities that will help unleash the specialised botanical tourism potential in this area. There are intentions of linking Harmony Flats Nature Reserve with the broader tourism route, developing a

partnership with the Lwandle Museum and international organisations such as African Conservation Experience, which is a United Kingdom-based organisation. Also, there are opportunities for township tourism, whereby the local talent is showcased to visitors by various cultural performances by the surrounding communities. Some of these initiatives have already started, but are not sustained due to a number of factors, including a lack of staff capacity and budget. The opportunities have been identified, and tourism packages still need to be developed.

#### 5.3.6 Infrastructure management

Harmony Flats Nature Reserve does not have any building infrastructure, except for the container that is used when needed. Other than that, the reserve has a fence along two of its borders that receive maintenance as required. The reserve is constructing its new office complex, which will comprise two offices, a reception and exhibition area, a kitchen and a lecture room. Accompanying this building, a potting shed will also be constructed for the purposes of a nursery. The construction period is envisaged to take up to six months. An infrastructural maintenance plan will be developed once the project has been completed.

#### 5.3.7 Biodiversity conservation management

##### 5.3.7.1 Community-based natural resource management

The harvesting of natural resources in Harmony Flats Nature Reserve is not permitted. However, research on the amount of illegal harvesting and the species harvested across the city is currently under way. Some investigations as to the types and extent of illegal harvesting in the reserve has been started, but, to date, there is no detailed or conclusive information to determine where these practices are sustainable and/or what potential threats are foreseen should they persist.

##### 5.3.7.2 Fire management

Fire plays an essential ecological role in the life cycle of fynbos species. Fire is crucial to the long-term conservation of species within Harmony Flats Nature Reserve, and is therefore considered an important component of reserve management. Fire management involves varying the season, frequency and intensity of fires, and reconciling ecological and practical requirements. Too frequent fires, or fires that burn out of phase with the natural burning regime, present a threat to slower-growing species, which may be entirely eliminated. If fire is excluded from the area, forest species may invade, resulting in a loss of fynbos species. Conversely, if vegetation is allowed to burn too frequently, the area becomes degraded and invaded by alien species, especially grasses. Grasses maintain a shorter fire cycle, and permanently change the vegetation structure and biodiversity value.

Although fire plays a crucial role in the management of fynbos ecosystems, it needs to be managed with extra caution in Harmony Flats Nature Reserve. Over the past 24 years since the reserve was officially opened and proclaimed, it has been inundated by frequent fires. On average, at least three fires are recorded per year in different sections of the nature reserve. This has been the case since proclamation, and is exacerbated by the fact that the reserve is not entirely fenced off and, therefore, people still use it as a thoroughfare, which makes it difficult to know whether most fires are arson or accidental.

Some plants, particularly the *Proteaceae* species, occur in one section only. The main reason for this is because some sections burn on more than one occasion in two fire seasons, which leads to grass dominance. It is therefore the responsibility of the reserve manager to develop a proper fire management plan that will encompass all the different factors, also taking into consideration the legislation that needs to be complied with, such as the Veld and Fire Act. The fire management plan will need to take into consideration that there are residential areas surrounding the reserve, and, therefore, the fire frequency of eight to ten years will need to be applied.

#### 5.3.7.3 Soil erosion and control

A draft rehabilitation plan has been developed for the reserve. This plan has attempted to address various challenges that occur within the reserve, including soil erosion, rubble, small-scale sand mining, and invasive species. The plan will address how these challenges will be dealt with and prevented, as well as the interventions to be undertaken, such as providing a formal footpath like a boardwalk.

#### 5.3.7.4 Invasive-species management

The management of invasive species is a priority within Harmony Flats Nature Reserve. The main plant species that occur in the reserve include *Acacia saligna* (Port Jackson), *Pennisetum clandestinum* (kikuyu) and more than 11 other herbaceous weed species. Animal species mainly include the domestic dogs that are recorded in packs in the reserve. Invasive-species management within Harmony Flats Nature Reserve is applied in accordance with the City of Cape Town's Invasive Species Strategy, and in coordination with various government-funded initiatives, including EPWP: Working for Water (WfW) and Working for Wetlands. The reserve has a draft invasive-species plan, which addresses all required strategies and control measures for the management of invasive species.

#### 5.3.7.5 Species introductions

Currently, the reserve does not introduce any new species. However, in the past, this happened through search and rescue operations from other sites with similar environmental features as Harmony Flats Nature Reserve. In the near future, another search and rescue will take place, the plant species will be identified and recorded, and this will also be factored into the rehabilitation plan, as they will be planted on the kikuyu patches.

Once the reserve has been fully secured and all the systems and plans have been developed and implemented, it is intended that re-introductions of the Geometric Tortoise will take place. However, this depends on the results of research projects as well as approval from the BMB Faunal Committee. All proposed re-introductions need to be approved before implementation. Recommendations and approvals are required from the Faunal and Floral Management Committees as well as from CapeNature. The implementation of any re-introduction programme will be specified in a plan of action, and documented accurately.

#### 5.3.7.6 Strategic research

No research currently takes place in the reserve, except for that by the Nature Conservation students from the Cape Peninsula University of Technology. Therefore, there is an opportunity for more strategic research on a variety of topics. BMB intends to encourage local universities to conduct relevant research on nature reserves, including Harmony Flats Nature Reserve.

### **5.4 Sensitivity analysis**

No sensitivity analysis has been conducted for Harmony Flats Nature Reserve as yet.

### **5.5 Zoning plan of Harmony Flats Nature Reserve**

#### 5.5.1 Zoning informants

This section briefly outlines the values underlying the identification of tourism use zones. It is important to remember that the landscape/biodiversity analysis is one of the vital informants of the zoning process. Although the biodiversity analysis has not been conducted in Harmony Flats Nature Reserve, it is intrinsically a relatively objective scientific process. The zoning definitions and descriptions have been work shopped with the Branch, and four categories, including the conservation zone, low-intensity leisure zone and high-intensity leisure zone, were determined. (For more information on the categories, refer to the zoning table in appendix 2.) Due to its small size of only nine ha, Harmony Flats Nature Reserve has only one zone, namely conservation area (see map 6 below):



**Map 6: Zoning map**

## **6. DEVELOPMENT PLAN**

No significant development is contemplated to take place within the boundaries of Harmony Flats Nature Reserve. However, a footpath will be developed in a less sensitive location, the main aim being to encourage visitors to walk on a demarcated area only, thereby preventing trampling of vegetation. Additionally, the new reserve offices will be constructed on an adjacent site, erf 13815, which is managed by the City of Cape Town's Department of Sport and Recreation. The official permission for this agreement is contained in appendix 5.

The building will comprise an exhibition centre, reception area, two offices, a kitchen, toilet facilities, and a classroom that will be utilised for environmental education and Green Futures lectures. (Green Futures will be responsible for a one-year learnership aimed at capacitating the local youth interested in basic horticultural skills.) A nursery with a potting shed will be developed next to the building, and will also be utilised for the skills programme. The building project is envisaged to begin in January 2011, with completion scheduled for July 2011. The reserve also aims to fence off its southern section in 2011. However, a thorough public participation process will take place during which the communities using the reserve will be interviewed about this possibility.

## 7. COSTING PLAN

**Table 6: Costing Plan**

Management action	Funding source	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016
1. Invasive alien plants management	Grant					
1.1 Rehabilitation		R211 000,00				
2. Environmental education	Operating	R5 135,85	R5 418,32	R5 716,32	R6 030,00	R6 364,41
3. Human resources	Operating	R356 400,00	R384 912,00	R415 704,96	R448 961,36	R484 878,27
4. Infrastructure development	Operating/capital expenditure (Capex)					
4.1 Fencing	Operating		R246 915,36			
4.2 Signage						
4.2.1 Interpretive signage	Capex		R200 000,00			
4.2.2 Directional signage	Operating	R3 151,00				
4.2.3 Boardwalk development	Capex			R90 000,00		
5. Maintenance	Operating					
6. General expenses	Grant/operating	R2 000,00				
7. Special projects						
<b>Total</b>		<b>R577 686,85</b>	<b>R837 645,68</b>	<b>R511 421,28</b>	<b>R454 991,36</b>	<b>R491 242,68</b>

## **PART 3**

### **MONITORING & AUDITING**

#### **8. MONITORING & AUDITING**

##### **8.1 Annual audit procedure**

Harmony Flats Nature Reserve underwent a detailed auditing process over the past three years. This includes the protected-areas review as well as the annual nature reserve visits. Every three years, the audit process includes the METT-SA (appendix 13). The focus of these audits is to assist management in achieving management objectives and improving management effectiveness in the protected area.

##### **8.1.1 METT-SA – Management Effectiveness Tracking Tool South Africa**

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 Harmony Flats Nature Reserve was undertaken in 2007, and the results are presented in appendix 13. 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 where required (and within managers' control).

### 8.2 Management plan review

This management plan should be reviewed every five years, and adjusted where necessary. To achieve this, inter alia the following questions should be addressed:

- Did this management plan make a meaningful contribution to the management of the protected area?
- Were individual management 'prescripts' realistic and achievable? Were they written unambiguously or was there room for misunderstanding?
- Were budgets for each management activity realistic? Were the allocated budgets too much or too little?
- Were enough, adequately qualified staff members 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**

A number of monitoring programmes have been identified as they have become necessary to assist with the effective management of Harmony Flats Nature Reserve. Some programmes have been well implemented and integrated with the management of the reserve. Others require formalising and further implementation. The biodiversity database also plays a crucial role in the monitoring of both floral and faunal species, as it allows one to add sightings in the nature reserve. When a sighting is added, you have to insert a date. This enables the reserve to measure the trends of a certain species over a particular period.

### 8.3.1 Monitoring requirements

**Table 7: Biodiversity Monitoring**

Action	Responsible party	Means of verification	Frequency
<p><u>Vegetation monitoring</u></p> <p>Invasive-species vegetation</p> <p>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.</p>	<p>Nature reserve staff</p> <p>Nature reserve manager, student</p>	<p>Weekly inspections</p> <p>Final inspections</p> <p>Field verification sheets</p>	<p>Weekly</p> <p>Once-off – completion of contract</p> <p>Annually – to determine management unit clearing plan</p>
<p>Fire mapping</p> <p>The accurate mapping and recording of all veld fires must be done 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 of the burn with the date of the fire is the minimum requirement.</p>	<p>Nature reserve staff</p> <p>Nature reserve manager, students and interns</p>	<p>Veld age map, fire map</p>	<p>Post-fire</p>
<p>Post-fire recruitment</p>	<p>Nature reserve staff</p> <p>Nature reserve manager, student</p>	<p>Stratified sampling plots</p>	<p>Post-fire</p> <p>Six months</p> <p>12 months</p>
<p>Abundance, density and structure</p>	<p>Nature reserve staff</p> <p>Nature reserve manager, student</p>	<p>Fixed-point photography</p> <p>Presence, abundance, density</p>	<p>Annually for three years</p>
	<p>Nature reserve staff</p> <p>Nature reserve manager, student</p> <p>Nature reserve staff, nature reserve</p>	<p>Field observation sheet</p>	<p>Annually</p> <p>Seasonally</p>
<p>Threatened species</p>	<p>Manager, student, Custodians of Rare</p>	<p>Line transect</p>	

	and Endangered Wildflowers (CREW)		Annually
<b>Action</b>	<b>Responsible party</b>	<b>Means of verification</b>	<b>Frequency</b>
<u>Faunal monitoring</u>			
Bird counts and identification	Nature reserve staff Nature reserve manager, student	Transects and field observation	Monthly
Small mammals	Nature reserve staff Nature reserve manager, student	Stratified random Sherman trap array	Annually
<u>Rehabilitation sites</u>	Nature reserve staff Nature reserve manager, student	New species recording on rehabilitation sites	Monthly

## **PART 4**

### **REFERENCES**

#### **9. REFERENCES**

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**PART 5**

**10. APPENDICES**

**A. Charts and Table**

**Appendix 1: Rainfall table**

LEGEND

= indicates that the average is unreliable due to missing daily values

Monthly Daily Rain (mm) Data for station [0005545 1] - SOMERSET WEST Measured at 08:00

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1985	24.0	16.1	88.2	62.6	29.4	94.3	156.2	76.6	47.3	10.0	3.0	11.5	619.2
1986	23.3	19.3	49.1	50.5	59.2	149.4	81.0	125.0	38.7	46.9	14.8	11.7	668.9
1987	32.2	20.1	17.2	47.2	97.0	86.3	134.9	113.3	52.6	13.0	10.3	25.1	649.2
1988	3.3	0.3	32.4	55.4	74.6	52.3	81.5	90.7	45.0	48.2	13.0	25.1	521.8
1989	10.7	7.1	105.5	67.5	99.8	82.5	125.6	133.3	53.0	45.8	32.5	4.9	768.2
1990	19.5	21.4	0.7	130.0	87.8	129.1	153.3	52.1	33.5	4.4	21.0	29.3	682.1
1991	11.6	0.0	10.0	41.4	88.4	100.1	152.1	30.0	79.9	50.4	4.7	0.0	568.6
1992	0.0	24.5	15.5	97.1	86.8	143.6	53.3	59.5	99.2	104.0	11.0	11.2	705.7
1993	0.5	36.4	5.2	176.1	91.1	90.4	150.1	67.6	4.7	2.1	27.2	23.2	674.6
1994	23.3	2.0	9.2	28.6	34.9	244.6	62.2	26.9	41.8	16.7	6.2	2.0	498.4
1995	7.3	1.4	7.5	18.8	80.0	117.3	120.6	92.6	17.9	64.6	22.0	42.9	592.9
1996	1.3	14.1	35.3	24.7	41.2	79.0	75.0	65.6	75.4	67.8	46.4	37.4	563.2
1997	13.0	1.8	3.8	42.6	71.0	119.0	50.4	53.4	13.8	99.2	94.0	12.6	574.6
1998	25.4	1.8	8.6	49.0		54.0	71.2	47.0	30.6	21.6	70.4	28.8	408.4
1999	1.6	2.6	0.4	65.2	39.6	79.8	75.4	116.4	65.2	0.4	12.2	3.6	462.4
2000	21.0	1.4	15.8	8.0	85.6	79.6	77.8	86.0	74.0	5.0	19.8	15.8	489.8
2001	8.8	6.8	1.2	38.2	136.2	44.8	197.6	93.6	63.6	55.6	7.8	11.4	665.6
2002	77.0	18.0	0.4=	50.8	74.0	83.0	107.0	92.4	20.4	27.6	25.6	12.8	588.6
2003	16.4	6.6	56.2	10.6	57.6	15.2	37.8	127.0	45.6	25.2	3.6	54.8	456.6
2004	7.4	0.8	23.0	67.8	3.8	77.8	94.2	85.2	42.6	76.4	5.4	13.8	498.2

2005	50.6	4.6	16.2	67.8	68.8	131.2	44.2	94.0	25.6	13.2	21.2	2.6	540.0
2006	0.8	15.6	6.6	31.4	105.8	44.0	97.2	82.4	31.6	23.8	53.2	22.0	514.4
2007	1.0	39.4	33.6	66.6	67.6	146.8	120.0	85.0	30.6	59.8	21.8	18.0	690.2
2008	11.4	16.6	22.4	12.6	59.0	44.8	174.2	88.2	154.4	29.8	38.6	33.2	685.2
2009	1.4	9.2	5.8	37.4	79.6	135.8	134.4	92.2	88.8	37.8	77.2	3.6	703.2
2010	0.0	21.0	15.0	34.2	136.0	108.4	50.6	26.2=					365.2

Appendix 2: Zoning Table

Table: City of Cape Town Nature Reserves and Conservation Areas: Land 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.	
Outdoor Natural Experience Activities tend to be at precinct level	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
	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 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	Facilities are managed to facilitate and promote appropriate visitor activities and educational use of the reserve.  Administration; provides appropriate management infrastructure	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-	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	High Intensity Leisure

		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.	reserve and the sites rehabilitated.	to facilitate other objectives of the reserve.		Laws.						zone.	
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	
<p>* 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.</p> <p>** Accompanied access refers to controlled access. The level and type of control is determined at reserve level.</p> <p>*** 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.</p>													

**B. Legal Agreements**

**Appendix 3: Provincial Proclamation Gazette**

2262	The Province of the Cape of Good Hope Official Gazette	4593	7 July 1989
<b>PROKLAMASIES</b>		<b>PROCLAMATIONS</b>	
DEUR DIE ADMINISTRATEUR VAN DIE PROVINSIE DIE KAAP DIE GOEIE HOOP		BY THE ADMINISTRATOR OF THE PROVINCE OF THE CAPE OF GOOD HOPE	
No. 54/1989	7 Julie 1989	No. 54/1989	7 July 1989
ORDONNANSIE OP NATUUR- EN OMGEWINGSBEWARING, 1974 (ORDONNANSIE 19 VAN 1974): STIGTING VAN 'N PROVINSIALE NATUURRESERVAAT		NATURE AND ENVIRONMENTAL CONSERVATION ORDI- NANCE, 1974 (ORDINANCE 19 OF 1974): ESTABLISHMENT OF A PROVINCIAL NATURE RESERVE	
Kragtens artikel 6(1) van die Ordonnansie op Natuur- en Omge- wingsbewing, 1974 (Ordonnansie 19 van 1974), stig ek hierby die "Harmony Flats Provinsiale Natuurreservaat" op Gedeelte van Erf 5544, Strand, die grense waarvan is soos aangedui op 'n diagram ge- liasseer in die kantoor van die Hoofdirekteur: Natuur- en Omge- wingsbewing, Utilitas Gebou, Dorpstraat 1, Kaapstad.		In terms of section 6(1) of the Nature and Environmental Conser- vation Ordinance, 1974 (Ordinance 19 of 1974), I hereby establish the "Harmony Flats Provincial Nature Reserve" on Portion of Erf 5544, Strand, the boundaries whereof are as indicated on a diagram filed in the office of the Chief Director, Nature and Environmental Conserva- tion, Utilitas Building, 1 Dorp Street, Cape Town.	
Gedateer te Kaapstad op hede die 21ste dag van Junie 1989.		Dated at Cape Town this 21st day of June 1989.	
E. LOUW, ADMINISTRATEUR		E. LOUW, ADMINISTRATOR	

## Appendix 4: Surveyor General Diagram

## Appendix 5: Memorandum –Visitor Facility



CITY OF CAPE TOWN – IBIXEKO SASEKAPA – STAD KAAPSTAD

PO Box 655  
CAPE TOWN  
8000  
Tel: +27 21 8504089  
Fax: +27 21 8504266  
Ref JC Kloppers

PO Box 655  
CAPE TOWN  
8000  
Limxheba: +27 21 8504089  
Ifeksi: +27 21 8504266  
Iref:

Postbus 655  
KAAPSTAD  
8000  
Tel: +27 21 8504089  
Faks: +27 21 8504266  
Verw:

---

### MEMORANDUM

**TO** : Roy Ernstzen  
**FROM** : J.C. Kloppers  
**DATE** : 11 March 2009  
**SUBJECT** : Permission to build a Visitors Facility

---

Permission is hereby granted to build a visitor facility on a portion of Erf 13815 Strand also known as the Gustrouw Sports Field.

---

JC KLOPPERS  
AREA MANAGER  
DISTRICT 6  
AREA 6.1

Appendix 6: Reserve lease agreement

*Uitgeleë van  
die  
Reserve*

MUNISIPALITEIT STRAND  
HUUR OOREENKOMS

VERHUURDER MUNISIPALITEIT STRAND  
(hierna genoem die "Verhuurder")

HIRER: PROVINSIALE ADMINISTRASIE VAN DIE KAAP DIE GOEBIE HOOP  
(hierna genoem die "Huurder")

ERFDOEM HIRERBY VERHUUR: Gedeelte van erf 5544, ongeveer 3 ha groot, soos aangetoon op aangehegte plan wat deel uitmaak van hierdie ooreenkoms

PERSEEL: R1,00 (Een Rand) per jaar - vooruitbetaalbaar

TERMEEN: 9 (Nege) jaar en 11 (elf) maande vanaf 1 Oktober 1986 met die opsie om die kontrak vir 'n verdere tydperk soos tussen die betrokke partye ooreengekom, te verleng.

SPEZIALE VOORWAARDES

1.  
Die huurtermyn mag opgesê word deur 6 (ses) maande voorafreë skriftelike kennisgewing.

2.  
Die betrokke perseel moet behoorlik omhein en onderhou word deur en op kosten van die Provinsiale Administrasie van die Kaap die Goebie Hoop.

3.  
In geval die stander ophou om as natuurreservaat te bestaan of in geval van die kansellering van die huurkontrak vir watter rede ookal, sal die huurder terugval na die Raad in welke geval die Raad nie verantwoordelik sal wees vir betaling van enige vergoeding vir verbeterings op die stander aangebring of enige ander uitgawes wat in verband met die natuurreservaat aangehoor is nie.

4.  
Geen aanwysings van watter aard ookal op of oor die stander mag geëkied word.

5.  
Die huurder onderneem hierby om te alle tye die reëls, regulasies en ander verordeninge van die Verhuurder na te kom, het by sodanige reëls, regulasies of verordeninge tans van krag is, of in die toekoms van krag te word.

6.  
Die huurder sal voortaan onderhewig wees aan nakoming van die voorwaarde van die Munisipale Ordonnansie no. 20 van 1974 sook enige ander wysings.

*[Handwritten signatures]*

7. Die ...../2

Die Verhuurder aanvaar skriftelik dat hy die Verhuurder nie vir enige verliese, verliese gedinge en eise, insluitende eise van aansprakelykheid, verliese of besering/beskadiging aan lewens of eiendom, aansprakelykheid tussen kliënte en prokureur, reg, wettigheid of regte van die Verhuurder mag vereis of beveel word in te betrek of wat wettig is direk of indirek uit enige geding wat enige persoon mag betrek wat die Verhuurder uit hoofde van die verhuur van die eiendom skriftelik verhuur aan die Huurder of enige laas of vereis deur die Huurder of wettigheid of enige ander persoon op die eiendom hierby verhuur afgesien daarvan of sodanige persoon op die eiendom verkeer of betrekking van die Huurder al dan nie.

8.

Die wettigheids of beroep mag op die eiendom bedryf word nie.

9.

Die eiendom hierby verhuur sal te alle tye slegs vir Natuurbehoewes deur die Huurder aangewend word en geen strukture van watter aard ookal sal op die eiendom opgerig word nie tensy die Verhuurder se toestemming vooraf skriftelik verkry word.

10.

Die Statsklerk of sy behoorlik gemagtigde verteenwoordiger of enige ander verteenwoordiger van die Verhuurder wat uit die aard van sy pligte die eiendom moet betree ter nakoming van sy pligte, sal die reg hê om ter enige tyd vir dié doel die eiendom te betree of vir die doel om vas te stel of die bepalinge van hierdie ooreenkoms nagekom word en die Huurder aanvaar geen verantwoordelikheid vir enige skade of verliese wat hierby mag voortspuit nie.

ALOMTEGELYK EN GETEKEN te *Stard* op hierdie *13de* dag van *1986* in die teenwoordigheid van die ondergetekende

getuies:  
GETUIES:  
1. *[Handwritten Signature]*  
2. *[Handwritten Signature]* STATSKLERK

ALOMTEGELYK EN GETEKEN te *KAAPSTAD* op hierdie *29de* dag van *1986* in die teenwoordigheid van die ondergetekende

GETUIES:  
1. *[Handwritten Signature]*  
2. *[Handwritten Signature]*  
NAMENS DIE KAAPSE  
PROVINSIALE ADMINISTRASIE  
*[Handwritten Signature]*  
STATSKLERK WERKE  
PROVINSIALE ADMINISTRASIE  
VAN DIE KAAP DIE GOEIE HOOP

## Appendix 7: Memorandum: Transfer of Management

CAPE NATURE CONSERVATION



### MEMORANDUM

DATE: February 21, 1997  
TO: **Zane Erasmus**  
FROM: Mark Johns  
RE: **Harmony Flats Nature Reserve, transfer of management.**

With reference to Dr Baard's attached letter dated 14 June 1996.

As previously discussed at an audit of the reserve, I am in agreement with the views and recommendations as reflected in the document to transfer management of the Harmony Flats Nature Reserve from Cape Nature Conservation to the Helderberg Sub-structure Local Council. My reasons for this opinion are stated as follows:

*Difficulties experienced in the management of the satellite reserve through Kogelberg:*

- **Fire protection:** Responding from Grabouw to a fire in the 9 ha reserve was often too late to contain it before a relatively large portion of the reserve had been ravaged. This reserve has been subject to wildfires (arson) every three to four years!
- **Patrol work:** Owing to limited staff, the Field Rangers are only able to visit the reserve once every second week. Large sections of the boundary fence were recently stolen in our absence.
- **Relevance to the community:** The reserve is situated in the middle of a residential area with very little bearing on the local community - access is presently denied due to control difficulties.
- **Limited funds** for the management of the reserve. The boundary fence requires urgent maintenance at high costs.

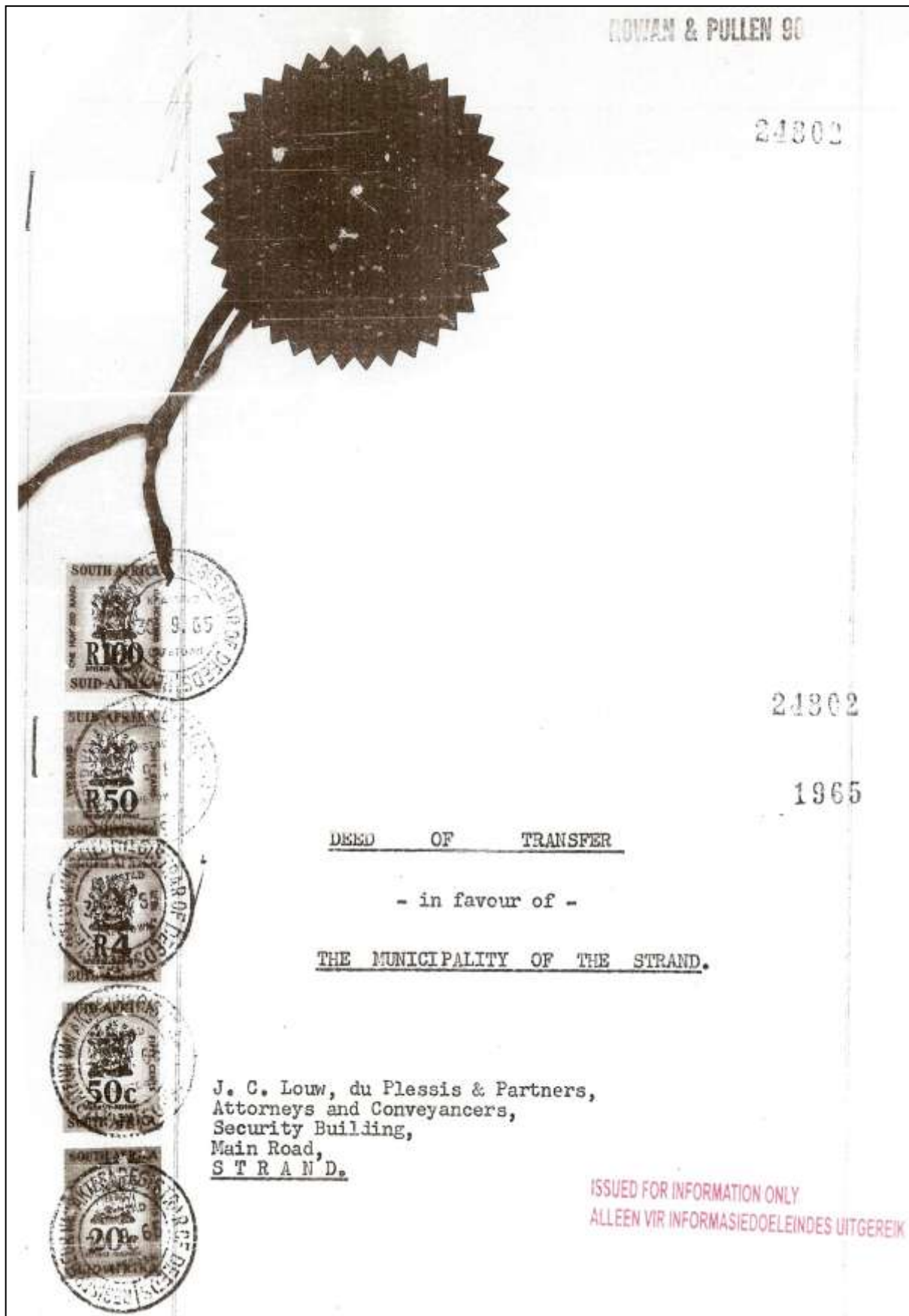
*Advantages of management transfer to the local authority:*

- **Improved management:** i.e. ease of accessibility from local authority, e.g. fire protection, public access control, day to-day management etc. The management of the reserve as a Geometric tortoise sanctuary is sadly also no longer an objective.
- **"Ownership" and public involvement:** Local authority conservation official, Gerald Wright is in favour of such a proposal and is also extensively involved within the community of the Helderberg basin, through the Helderberg NR and environs, to facilitate public participation and involvement effectively.

  
Mark Johns

Kogelberg

Appendix 8: Reserve Title Deed (Erf 5544)



VIR ENDOSSEMENTE KYK BLADSY 7 ET SEQ.  
FOR ENDORSEMENTS SEE PAGE 7

DEED OF TRANSFER

(By virtue of Section 31 of the Deeds Registries Act 1937 No. 47 of 1937 ).

Prepared by me,

Conveyancer.

BE IT HEREBY MADE KNOWN :

2 THAT WHEREAS the undermentioned land has been expropriated in terms of Section 132 of Ordinance No. 19 of 1951, and which land is at present registered in the Deeds Registry at Cape Town in the name of

CASPER FREDERICK CHRISTIANE  
( born on the 16th September, 1886 )

under and by virtue of Deed of Transfer No. 1769 dated 14th February, 1958.

ISSUED FOR INFORMATION ONLY  
ALLEEN VIR INFORMASIEDOELEINDES UITGEREIK

rights to mines of gold, silver and precious stones as mentioned in Section Four of Sir John Cradock's Proclamation dated 6th August, 1813.

NOT SUBJECT to the servitude endorsement dated 2nd November, 1951, on Deeds of Transfer No. 9743 dated 8th May, 1948 and No. 21988 dated 24th September, 1948, relating to a Water pipeline by reason of the situation of the said property.

2. CERTAIN piece of redeemed quitrent land being Erf No. 5544, portion of Erf No. 5079, The Strand, situate near Gordons Bay, in the Division of Stellenbosch, transferred to L. S. G. Scholts ( born de Villiers ), married out of community of property to W. A. Scholts, by Deed of Transfer No. 9458 dated 4th October, 1921, and lastly transferred to Casper Frederick Christianse by Deed of Transfer No. 1769 dated 14th February, 1958.

MEASURING : Twenty-one Decimal Six Four  
Nine Four ( 21.6494 )  
Morgen

as will more fully appear from the Diagram No. 207/61 hereunto annexed.

SUBJECT :

- (a) to such conditions as are referred to in Deed of Transfer No. 3710 dated 22nd April, 1940.
- (b) to the endorsement dated 17th July, 1929, on Deed of Transfer No. 9458 dated 4th October, 1921, reading as follows :-

"The within described land is subject to a servitude with regard to apportionment of water in terms of an Order of the Water Court (Water Court District No. 1) dated 21 - 25 May, 1928, as will more fully appear on reference to the copy of the said Order annexed hereto."

and

- (c) to the reservation in favour of the Crown of

all ... /

ISSUED FOR INFORMATION ONLY  
ALLEN VIR INFORMASIEDOELEINDES UITGEREIK

- 6 -

rights to mines of gold, silver and precious stones as mentioned in Section Four of Sir John Cradock's Proclamation dated 6th August, 1813.

NOT SUBJECT to the servitude endorsement dated 2nd November, 1951, on Deeds of Transfer No. 9743 dated 8th May, 1948, and No. 21988 dated 24th September, 1948, relating to a water pipeline by reason of the situation of the said property.

WHEREFORE the said

CASPER FREDERICK CHRISTIANE

is entirely dispossessed of and disentitled to the said land, and that by virtue of the said expropriation the said

MUNICIPALITY OF THE STRAND

Or its Order

now is and henceforth shall be entitled thereto conformably to local custom, the State, however, reserving its rights.

STAMP DUTY having been paid on TWENTY-FOUR THOUSAND NINE HUNDRED AND FIFTY-FIVE RAND FORTY-FIVE CENTS - ( R24,955.45 ) being the compensation paid in respect of the expropriated land.

IN WITNESS WHEREOF, I, the said Registrar have subscribed to these Presents and have caused the seal of office to be affixed thereto.

THUS DONE AND EXECUTED at the Office of the Registrar of Deeds in CAPE TOWN in the Province of the Cape of Good Hope on this the 30<sup>th</sup> day of the month of SEPTEMBER in the year of Our Lord One Thousand Nine Hundred and Sixty-five ( 1965 ).

ASSISTANT, REGISTRAR OF DEEDS.

Registered in the Register of Beek and Folio.

ISSUED FOR INFORMATION ONLY  
ALLEEN VIR INFORMATIE DOEL ENDE UITGEREK

**Appendix 8: Title Deed**

## C. Species checklist

### Appendix 9: Plant Species List

\*denotes Red Data listing

?denotes uncertainty

FAMILY	PLANT SPECIES LIST	STATUS
<u>Aizoaceae</u>	1. Aizoon sarmentosa	
<u>Alliaceae</u>	2. Tulbaghia alliacea	
<u>Amaryllidaceae</u>	3. Amaryllis belladonna	
	4. *Ammocharis (previously Cybistetes) longifolia	
	5. Crossyne guttata	
	6. Gethyllis afra	
	7. Haemanthus sanguineus	
<u>Anacardiaceae</u>	8. Rhus laevigata	
	9. Rhus rosmarinifolia	
<u>Anthericeae</u>	10. Chlorophytum undulatum	
<u>Apiaceae</u>	11. Annesorhiza sp.	
	12. Centella sp	
	13. Arctopus monacanthus	
<u>Aponogetonaceae</u>	14. Aponogeton angustifolius	<b>VU</b>
	15. Aponogeton distachyos	
<u>Asparagaceae</u>	16. Asparagus stipulacea	
<u>Asphodelaceae</u>	18. Bulbine cepacea	
	19. Bulbine filifolia ?	
	20. Bulbinella cauda-felis	
	21. Bulbinella nutans var. nutans	
	22. Trachyandra chlamydophylla	

	23. <i>Trachyandra hirsuta</i>	
	24. <i>Trachyandra hispida</i>	
<b><u>Asteraceae</u></b>	25. <i>Arctotis acaulis</i>	
	26. <i>Athanasia juncea</i>	
	27. <i>Athanasia trifurcata</i>	
	28. <i>Berkheya armata</i>	
	29. <i>Berkheya rigida</i>	
	30. <i>Corymbium africanum</i> subsp. <i>scabridum</i>	
	31. <i>Corymbium cymosum</i>	
	32. <i>Cotula coronopifolia</i>	
	33. <i>Cotula turbinata</i>	
	34. <i>Dimorphotheca pluvialis</i>	
	35. <i>Gazania ciliaris</i>	
	36. <i>Gazania rigida</i>	
	37. <i>Gnaphalium capense</i>	
	38. <i>Helichrysum asperum</i>	
	39. <i>Helichrysum litorale</i>	
	40. <i>Leysera gnaphalodes</i>	
	41. * <i>Marasmodes polycephala</i>	<b>CR</b>
	42. <i>Oedera capensis</i>	
	43. <i>Othonna digitata</i>	
	44. <i>Othonna heterophylla</i>	
	45. <i>Pteronia hirsuta</i>	
	46. <i>Relhania fruticosa</i>	
	47. <i>Stoebe cinerea</i> ?	
	48. <i>Stoebe plumosa</i>	

	49. Ursinia dentata	
	50. Ursinia discolor	
<b><u>Boraginaceae</u></b>	51. *Echiostachys incanus	<b>VU</b>
<b><u>Brassicaceae</u></b>	52. Heliophila pusilla	
<b><u>Campanulaceae</u></b>	53. *Merciera tetraloba (described 2002)	<b>EN</b>
	54. Monopsis debilis	
	55. Roella ciliata	
<b><u>Colchicaceae</u></b>	56. Onixotis (Wurmbea) punctata	
	57. Onixotis stricta (Wurmbea) = O. triquetra	
	58. *Wurmbea inusta	<b>VU</b>
	59. Wurmbea spicata	
	60. W. sp (prob marginata)	
<b><u>Crassulaceae</u></b>	61. Crassula dejecta	
<b><u>Cyperaceae</u></b>	62. Ficinia albicans	
	63. Ficinia brevifolia	
	64. Ficinia cf. bulbosa	
	65. Ficinia indica	
	66. Ficinia filiformis	
	67. Isolepis antarcticus	
	68. Tetraria sp.	
<b><u>Droseraceae</u></b>	69. Drosera cistiflora	
	70. Drosera trinervia	
<b><u>Ericaceae</u></b>	71. Erica imbricata	
	72. Erica quadrangularis	
<b><u>Eriospermaceae</u></b>	73. Eriospermum capense	
	74. Eriospermum lanceifolium	

	75. * Eriospermum spirale	VU
<b><u>Euphorbiaceae</u></b>	76. Euphorbia arceuthobioides	
	77. Euphorbia tuberosa	
<b><u>Fabaceae</u></b>	78. Aspalathus ericifolia	
	79. Aspalathus ericifolia subsp. ericifolia	
	80. Aspalathus hispida	
	81. Aspalathus parviflora	
	82. Aspalathus quinquefolia	
	83. Aspalathus spinosa	
	84. *Indigofera psoraloides	VU
	85. Lebeckia carnosa	
	86. * Lotononis prostrata	NT
	87. Otholobium virgatum	
<b><u>Gentianaceae</u></b>	88. Orphium frutescens	
	89. Sebaea aurea	
	90. Sebaea exacoides	
<b><u>Geraniaceae</u></b>	91. * Monsonia speciosa	EN
	92. Pelargonium capitata	
	93. Pelargonium myrrhifolium subsp. myrrhifolium	
	94. Pelargonium pinnatum	
	95. Pelargonium radulifolium	
	96. Pelargonium rapaceum	
	97. Pelargonium triste	
<b><u>Haemodoraceae</u></b>	98. Wachendorfia paniculata	
<b><u>Hemerocallidaceae</u></b>	99. Caesia contorta	
<b><u>Hyacinthaceae</u></b>	100. Drimia pusilla	

	101. <i>Lachenalia contaminata</i>	<b>VU</b>
	102. <i>Lachenalia orchioides</i>	
	103. <i>Lachenalia unifolia</i>	
	104. * <i>Lachenalia</i> (formerly <i>Polyxena</i> ) <i>corymbosa</i>	<b>VU</b>
	105. <i>Albuca fragrans</i>	
	106. <i>Albuca juncifolia</i>	
	107. <i>Ornithogalum thyrsoides</i>	
	108. <i>Drimia filifolia</i>	
<b><u>Hypoxidaceae</u></b>	109. <i>Empodium plicatum</i>	
	110. * <i>Pauridia minuta</i>	<b>NT</b>
	111. * <i>Spiloxene alba</i>	<b>VU</b>
	112. <i>Spiloxene aquatica</i>	
	113. <i>Spiloxene capensis</i>	
	114. <i>Spiloxene schlechteri</i>	
	115. * <i>Spiloxene serrata</i>	
<b><u>Iridaceae</u></b>	116. * <i>Babiana angustifolia</i>	<b>NT</b>
	117. <i>Geissorhiza aspera</i>	
	118. <i>Geissorhiza imbricata</i>	
	119. <i>Geissorhiza ornithogaloides</i>	
	120. * <i>Geissorhiza setacea</i>	<b>EN</b>
	121. <i>Gladiolus alatus</i>	
	122. <i>Gladiolus gracilis</i>	
	123. <i>Hesperantha radiata</i>	
	124. <i>Hesperantha</i> sp	
	125. * <i>Ixia dubia</i>	
	126. ** <i>Ixia versicolor</i> (last viable population)	<b>CR</b>

	127. *Lapeirousia corymbosa	
	128. Micranthus junceus	
	129. Micranthus tubulosus	
	130. Morea (Homeria) collina	
	131. *Moraea elsiae	<b>VU</b>
	132. Moraea fugax	
	133. Moraea gawleri	
	134. Moraea inconspicua	
	135. Moraea lugubris	
	136. Moraea papillionacea	
	137. Moraea (Galaxia) sp.	
	138. Moraea tripetala	
	139. *Moraea villosa subsp. villosa	<b>VU</b>
	140. Romulea cruciata	
	141. Romulea flava var. flava	
	142. Romulea hirsuta	
	143. Romulea obscura	
	144. Romulea rosea	
	145. Sparaxis bulbifera	
	146. Sparaxis grandiflora ?	
<b><u>Isoetaceae</u></b>	147. Isoetes capensis	
<b><u>Lamiaceae</u></b>	147. Salvia africana-caerulea	
<b><u>Lobeliaceae</u></b>	148. Cyphia bulbosa	
	149. Cyphia volubilis	
<b><u>Mesembryanthemaceae</u></b>	150. Carpanthea pomeridiana	
	151. Erepisia anceps.	

	152. *Lampranthus aduncus	<b>DD</b>
	153. *Lampranthus filicaulis	<b>VU</b>
	154. *Lampranthus reptans	<b>EN</b>
<b><u>Orchidaceae</u></b>	155. * Bartholina burmanniana	
	156. *Corycium orobanchoides	
	157. Disa (Monadenia) bracteata	
	158. *Disa tenella subsp. tenella	<b>EN</b>
	159. Holothrix villosa var. villosa	
	160. Pterygodium catholicum	
	161. Pterygodium alatum	
<b><u>Oxalidacea</u></b>	162. Oxalis depressa	
	163. Oxalis flava	
	164. Oxalis pardalis	
	165. Oxalis pes-caprae	
	166. Oxalis tenuifolia	
	167. Oxalis versicolor	
<b><u>Poaceae</u></b>	168. Cymbopogon marginata	
	169. Cynodon dactylon	
	170. Ehrharta calycina	
	171. Eragrostis curvula	
	172. Koeleria capensis	
	173. Merxmullera sp.	
	174. Pentaschistis curvifolia	
	175. Pentaschistis sp.	
	176. Themeda triandra	

	177. <i>Tribolium uniolae</i>	
<b><u>Polygalaceae</u></b>	178. <i>Muraltia empleuridioides</i> ?	
	179. <i>Muraltia stipulacea</i>	
	180. <i>Polygala garcinii</i>	
<b><u>Proteaceae</u></b>	181. * <i>Leucadendron lanigerum</i> var. <i>lanigerum</i>	<b>EN</b>
	182. * <i>Protea scolymocephala</i>	<b>VU</b>
<b><u>Restionaceae</u></b>	183. <i>Calopsis fruticosa</i>	
	184. * <i>Calopsis rigorata</i>	
	185. <i>Elegia (Chondropetalum) nudum</i>	
	186. * <i>Elegia (Chondropetalum) recta</i>	<b>NT</b>
	187. * <i>Elegia verreauxii</i>	<b>VU</b>
	188. <i>Ischyrolepis capensis</i>	
	189. <i>Ischyrolepis curviramis</i>	
	190. * <i>Ischyrolepis duthieae</i> VU	<b>VU</b>
	191. <i>Restio tetragonis</i> (5070)	
	192. <i>Staberoha distachyos</i>	
	193. <i>Thamnochortus fruticosus</i>	
	194. <i>Thamnochortus</i> sp.	
<b><u>Rosaceae</u></b>	195. <i>Cliffortia juniperina</i>	
<b><u>Rubiaceae</u></b>	196. <i>Anthospermum ericifolium</i>	
	197. <i>Anthospermum galioides</i> subsp. <i>galioides</i>	
<b><u>Rutaceae</u></b>	198. * <i>Agathosma cerefolium</i>	
	199. <i>Diosma hirsuta</i>	
<b><u>Santalaceae</u></b>	200. <i>Thesium euphrasioides</i>	
	201. <i>Thesium patulum</i>	
<b><u>Scrophulariaceae</u></b>	202. <i>DIScia</i> cf. <i>elongata</i>	

	203. <i>Dischisma capitata</i>	
	204. <i>Nemesia barbata</i>	
<b>Solanaceae</b>	205. <i>Lycium ferocissimum</i>	
<b><u>Sterculiaceae</u></b>	206. <i>Hermannia cuneifolia</i> var. <i>cuneifolia</i>	
	207. <i>Hermannia hyssopifolia</i>	
<b><u>Tecophilaeaceae</u></b>	208. <i>Cyanella hyacinthoides</i>	
<b><u>Thymeleaceae</u></b>	209. * <i>Lachnaea grandiflora</i>	<b>VU</b>
	210. <i>Gnidia laxa</i>	
	211. <i>Struthiola ciliata</i>	
<b><u>Zygophyllaceae</u></b>	213. <i>Zygophyllum sessifolium</i>	

**Appendix 10: Small mammal species list**

<b>Common name</b>	<b>Scientific name</b>
Pygmy Mouse	<i>Mus minutoides</i>
Striped Mouse	<i>Rhabdomys pumilio</i>

## Appendix 11: Birds Species List

COMMON NAME	SCIENTIFIC NAME
Blacksmith Lapwing	<i>Vanellus armatus</i>
Cape Longclaw	<i>Macronyx capensis</i>
Blackheaded Heron	<i>Ardea melanocephala</i>
Rock Dove	<i>Columba livia</i>
Pied Crow	<i>Corvus albus</i>
Rock Kestrel	<i>Falco rupicolis</i>
Black shouldered Kite	<i>Elanus caeruleus</i>
Crowned Lapwing	<i>Vanellus coronatus</i>
Hamerkop	<i>Scopus umbretta</i>
Red Capped Lark	<i>Calandrella cinerea</i>
Levaillant's Cisticola	<i>Cisticola tinniens</i>
Three Banded Plover	<i>Charadrius tricollaris</i>
House Sparrow	<i>Passer domesticus</i>

## Appendix 12: Reptiles species list

COMMON NAME	SCIENTIFIC NAME
Mole Snake	<i>Pseudaspis cana</i>
Cape Cobra	<i>Naja nivea</i>
Rhombic Skaapsteker	<i>Psammophylax rhombeatus</i>
Cape Skink	<i>Trachylepis capensis</i>
Parrot beaked Tortoises	<i>Homopus areolatus</i>

**D. Other documents as required**

**Appendix 13: 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"*

*Prepared for the  
City of CapeTown  
by  
Howard Langley & Paul Britton  
22 May 2007*

Harmony  
Flats Nature  
Reserve

**REPORTING PROGRESS AT PROTECTED AREA SITES: DATA SHEET**

Name of protected area	Harmony Flats Nature Reserve	
Location of protected area (country and if possible, map reference)	South Africa, Western Cape, Gordon's Bay, Disa Road, Dennehof Ave	
Date of establishment (distinguish between agreed and gazetted)	Agreed	Gazetted 24-Oct-85
Ownership details (i.e. owner, tenure rights etc.)	City of Cape Town	
Management Authority	City of Cape Town	
Protected area size (ha)	g	
Staff numbers	Permanent 0	Temporary 0
Budget	No dedicated budget. Contained within management area based budget.	
Designation (ICUN category), World Heritage, Ramsar etc	Local Authority Nature Reserve	
Reason for designation	Initially to conserve Geometric tortoises	
Brief detail of World Bank funded project or projects in PA	N/A	
Brief detail of WWF funded project or projects in PA	N/A	
Brief detail of other relevant projects in PA	Establishing Stewardship programme, develop new office space and develop tourism initiative	
List two of the primary protected area objectives		
Objective 1	Conserve ecological processes of the Renosterveld	
Objective 2	To provide information and education programmes relevant to the Reserve and the environment to the local community	
List the top two most important threat to the PA (and indicate reasons why they are selected)		
Threat 1	Impacts of adjoining (impoverished) urban area	
Threat 2	Invasive vegetation & illegal dumping	
List top two critical management activities		
Activity 1	Management of people in the PA	
Activity 2	Management of invasive vegetation	
Date assesement carried out:	29-May-07	
Name of assessor:	Bennie Lourens	

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 current legal status eg Public Open Space.	0		The PA is legally proclaimed . 1985	Identify areas adjacent to the PA that are of conservation value and would benefit from inclusion into the PA. Look at stewardship programme
	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	3		
1.2. Protected Area regulations	There are no legal mechanisms for controlling inappropriate land use and activities in the PA	0		No specific regulations however general municiple by-laws can be used. No trained staff to enforce regulations.	Draw up regulations specific for PA.
	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		Currently only the Reserve Manager based at Helderberg Nature Reserve is trained in law enforcement	Appoint/train more staff to uphold laws.
	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		No fences	Looking at "fencing" the PA and to continue this design through into the other private properties
	The boundary of the PA is known by the management authority but is not known by local residents/neighbouring land users	1	1		
	The boundary of the PA is known by both the management authority and local residents but is not appropriately demarcated	2			
	The boundary of the PA is known by the management authority and local residents and is appropriately demarcated	3			
1.6. 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		Information is scattered and needs to be consolidated. Local knowledge needs to be captured. Only remaining protected area conserving this particular vegetation type in SA	Consolidation of information resources is necessary. Survey and monitoring needs to be determined and incorporated into a monitoring and evaluation programme. Develop better ways in which data can be received and recorded
	Information on critical habitats, species and cultural values of the PA is not sufficient to support planning and decision making	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	2		

MANAGEMENT EFFECTIVENESS TRACKING TOOL

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	9	

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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		Large private properties border the PA. Some are of critical value	Engage in conversation with other land owners in an attempt to enlarge the PA. Stewardship programme etc
	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	Basic plan developed by Gerald Wright, but has not been approved	Adapt Management Plan to new template and get approval and public buy in
	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		To be drawn up in conjunction with 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			
Supplementary items	An approved CDF exists and is being implemented	3			
	The planning process allows adequate opportunity for key stakeholders to influence the management plan	1	1	Regular meetings with Harmony Flats Working Group (HFWG) and Cape Flats Nature (CFN) where planning issues are discussed	
	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				
<b>Subtotal Score: Planning</b>		<b>12</b>	<b>2</b>		

MANAGEMENT EFFECTIVENESS TRACKING TOOL

S: 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		Nothing is currently in place	Identify needs
	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	0	No full time staff currently in place. However staff are available from the Heidelberg Nature Reserve central depot.	Fill the Reserve Manager position
	HR capacity is inadequate for critical management activities	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		Area based however it is available and approved	Establish PA budget if possible
	The available budget is inadequate for basic management needs and presents a serious constraint to the capacity to manage	1	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			
<b>Subtotal</b>		<b>14</b>	<b>2</b>		

MANAGEMENT EFFECTIVENESS TRACKING TOOL

AC 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		An APO exists but is not approved	An approved plan is to be drawn up for the PA in conjunction with budget cycles, CDF and Management plans
	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		Critical species have been assessed by outside agents.	PA needs to be assessed in terms of critical ecosystems species. Information needs to be centralised.
	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 partially 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	0	Not applicable, no dedicated staff	A comprehensive skills audit needs to be carried out
	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			
	Staff training and skills are in line 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		Inherited a poor budget with no direct control as budget is centralized at an area level.	Percentage allocation for PA to be implemented as of new financial year. See budget comments.
	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 & infrastructure  (as required for operational management purposes, but excluding tourism/visitor facilities)	There is little or no operational equipment & infrastructure	0		Currently make use of unsuitable containers for meeting place. PA has no equipment	Identify needs and plan and budget accordingly
	There is some equipment & infrastructure but these are wholly inadequate	1	1		
	There is equipment and infrastructure, but still some major gaps that constrain management	2			
	There is adequate operational equipment and infrastructure	3			
4.6. Maintenance of equipment & infrastructure  Is equipment & infrastructure (including tourism/visitor facilities) adequately maintained?	There is no approved Maintenance Plan and no maintenance is taking place	0		Pooled resources are used. Maintained at central depot	To acquire necessary equipment and infrastructure. Investigate outsourcing
	There is no Maintenance Plan and maintenance is taking place to an unsatisfactory standard	1	1		
	There is no Maintenance Plan, but maintenance is taking place to a satisfactory standard	2			
	There is an approved Maintenance Plan that is being fully implemented to a high standard	3			

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4.7. Education and awareness programme  Is there a planned education programme?	There is no education and awareness programme	0		HFWG put together an Arbour Week programme in conjunction with CFN	Ensure annual review is implemented. Develop new programmes once new Manager has been appointed
	There is a limited and <i>ad hoc</i> education and awareness programme, but no overall planning for this	1	1		
	There is a planned education and awareness programme but there are still serious gaps	2			
	There is a planned & effective education & awareness programme fully linked to the objectives and needs of the PA	3			
4.8. Government & commercial neighbours  Is there co-operation with adjacent land users?	There is no contact between managers and neighbouring official or corporate land users	0		Can be improved	Develop formal channels to communicate better
	There is limited contact between managers and neighbouring official or corporate land users	1	1		
	There is regular contact between managers and neighbouring official or corporate land users, but only limited co-operation	2			
	There is regular contact between managers and neighbouring official or corporate land users, & substantial co-operative management	3			
4.9. Advisory committee/forum  An Advisory Committee of local representatives and specialists advises on PA management & development issues.	There is no Advisory Committee/forum	0	0		Determine whether area based AB is sufficient
	An Advisory Committee/forum is in the process of being established communities	1			
	An Advisory Committee/forum exists, but does not contribute significantly to the management/development of the PA.	2			
	A well represented Advisory Committee/forum contributes significantly to the proper management/development of the PA.	3			
4.10. Community partners  Do community partners have input to management decisions via the Advisory Committee?	Community partners have no input into decisions relating to the management of the PA	0		HFWG has regular input into matters	Identify community partners that should be represented on the Advisory Board
	Community partners have limited input into the PA's management decisions via local governance structures	1			
	Community partners contribute to some decisions relating to management via the PA's Advisory Committee	2	2		
	Community partners are fully representative on the PA's Advisory Committee and directly participate decisions making.	3			
4.11. Commercial tourism  Do commercial tour operators contribute to protected area management?	There is little or no contact between managers and tourism operators using the PA	0	0		Identify possible tourism initiatives
	There is contact between managers and tourism operators but this is largely confined to administrative or regulatory matters	1			
	There is limited co-operation between managers and tourism operators to enhance visitor experiences and maintain conservation values	2			
	There is excellent co-operation between managers and tourism operators to enhance visitor experiences, protect values and resolve conflicts	3			
4.12. Monitoring & evaluation  Additional points	There is no monitoring and evaluation in the PA	0		CREW conduct a monitoring review once per year	Develop needs analysis
	There is some <i>ad hoc</i> monitoring & evaluation, but no overall strategy and/ or no regular collection of results	1	1		
	There is an agreed and implemented monitoring & evaluation system but results are not systematically used for management	2			
	A good monitoring & evaluation system exists, is well implemented and used in adaptive management	3			
	There is open communication and trust between local stakeholders and PA managers	1			
<b>Subtotal</b>		<b>38</b>	<b>10</b>		

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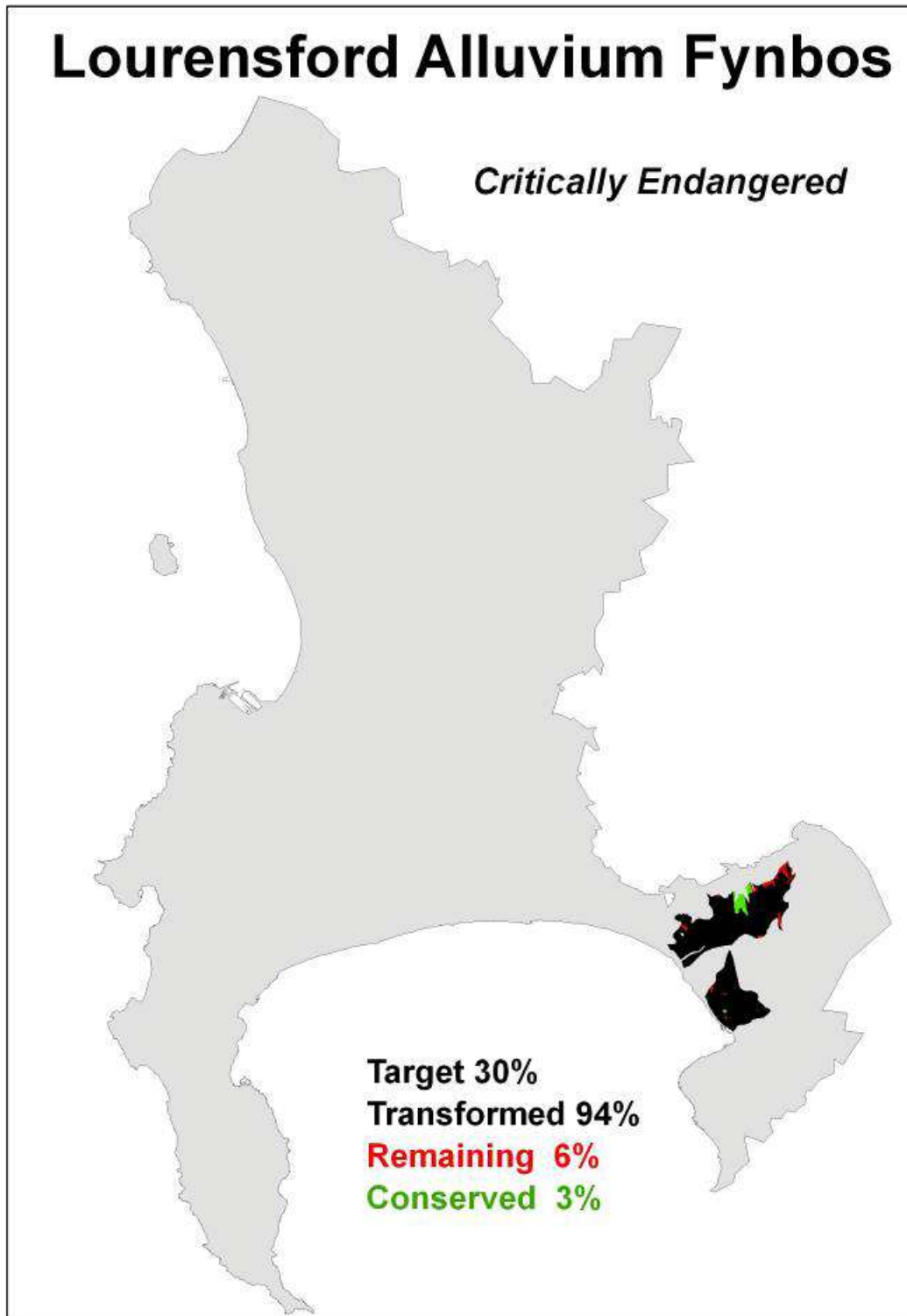
MANAGEMENT EFFECTIVENESS TRACKING TOOL

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	Maintenance programmes need to be adopted once new facility is built	Maintenance programmes need to be adopted
	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			
Additional points	There are active programmes for restoration of degraded areas within the PA and/or in associated buffer zone	1	1	Replanting of bulbous species does take place	Establish official restoration programme
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	0	No presence on the PA allows activities to go unchecked	Identify critical elements.
	Some biodiversity, ecological and cultural values are being severely degraded	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	0	No fences and very little presence in the area	Ensure an additional staff presence is employed in the area.
	Protection systems are only partially effective in controlling access or use of the PA in accordance with designated objectives	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		HPWG is paid during Arbour week to take school groups out. They have registered as an NPO	To properly quantify the economic benefit of the area and identify other opportunities
	The existence of the PA has neither damaged nor benefited the economy of the local economy	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	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		The hall (temporary shipping container) is used daily by local church groups	
	The existence of the PA has delivered some minor short term community benefits	1			
	The PA delivers some quantifiable long term community benefits that make a difference to the lives of local communities	2	2		
	The PA delivers some considerable quantifiable long term community benefits that make a difference to the lives of local communities				
<b>Subtotal Score: Outcomes</b>		<b>18</b>	<b>6</b>		

1: CONTEXT	VALUE	SCORE
1.1. Legal status	3	3
1.2. Protected Area regulations	3	2
1.3. Law enforcement	3	1
1.4. Protected area demarcation	3	1
1.5. Resource Inventory	3	2
<b>Subtotal</b>	<b>15</b>	<b>9</b>
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	1
<b>Subtotal</b>	<b>12</b>	<b>2</b>
3: INPUTS		
3.1. Research	3	1
3.2. Staff numbers	3	0
3.3. Current budget	3	1
Supplementary items	5	0
<b>Subtotal</b>	<b>14</b>	<b>2</b>
4: PROCESS		
4.1. Annual Plan of Operation	3	1
4.2. Resource management	3	1
4.3. Staff training	3	0
4.4. Budget management	3	1
4.5. Operational equipment & infrastructure	3	1
4.6. Maintenance of equipment & infrastructure	3	1
4.7. Education & awareness	3	1
4.8. Government & commercial neighbours	3	1
4.9. Advisory committee	3	0
4.10. Community partners	3	2
4.11. Commercial Tourism	3	0
4.12. Monitoring & Evaluation	3	1
Supplementary items	1	0
<b>Subtotal</b>	<b>37</b>	<b>10</b>
5: OUTPUTS/OUTCOMES		
5.1. Visitor facilities	3	0
5.2. Condition assessment	3	0
5.3. Access assessment	3	0
5.4. Economic benefit assessment	3	2
5.5. Community benefit assessment	3	2
Supplementary items	1	1
<b>Subtotal</b>	<b>16</b>	<b>5</b>
<b>TOTAL SCORE</b>	<b>94</b>	<b>28</b> <b>30%</b>

**Summary and comment on score.** This nature reserve represents a very important remnant of Renosterveld. However, urgent action is required to contain the current impacts and encroachment of alien grasses. There appears to be an overlap in responsibilities which leads to some confusion as there are no clearly documented objectives for the area. A joint management plan compiled in consultation with all relevant role players should be an absolute priority. In the interim a holding action plan should be compiled to stem the spread of invasive grasses. .  
The low score is indicative of the undeveloped nature and lack of past management.

Appendix 14: Vegetation distribution



Appendix 15: Protected Area Expansion Plan

