



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD



# Biodiversity Management Progress Report

July 2020 – June 2021



Rietvlei, Table Bay Nature Reserve

**SPATIAL PLANNING AND ENVIRONMENT  
ENVIRONMENTAL MANAGEMENT DEPARTMENT  
BIODIVERSITY MANAGEMENT BRANCH**

**Julia Wood**  
Manager

T: +27 21 444 1761 E: [Julia.Wood@capetown.gov.za](mailto:Julia.Wood@capetown.gov.za)

---

**Making progress possible. Together.**

# Table of Contents

**Page**

1. Acronyms .....	5
2. Executive Summary .....	7
2.1 Conserving biodiversity: our natural capital.....	7
2.2 The Impact of COVID-19 .....	10
2.3 Highlights .....	12
2.4 Challenges .....	16
3. Strategy, Policy and Legislation, and Plans .....	28
3.1 Internal Audit .....	28
3.2 Biodiversity Network.....	28
3.3 Protected Area Management Plans .....	29
3.4 Invasive Species Control Plans .....	29
3.5 District Spatial Development Frameworks .....	30
3.6 Western Cape Provincial Protected Area Expansion Strategy.....	30
3.7 Business Framework for the Witzands Aquifer Nature Reserve .....	30
3.8 Heritage Management Framework for Biodiversity Management .....	30
4. Green Jobs .....	31
4.1 Job Creation .....	31
4.2 Social Development.....	33
5. Conservation Services .....	34
5.1 Protected Area Expansion .....	34
5.2 Flora .....	40
5.3 Fauna .....	43
5.4 Water quality.....	48
5.5 Ecological Research.....	58
5.6 Restoration.....	60
5.7 Soil Erosion.....	65
6. Invasive Species.....	67
6.1 Terrestrial Invasive Plant Management .....	67
6.2 Aquatic Invasive Plant Management .....	68
6.3 Biocontrol .....	70

6.4 Invasive Animal Management .....	70
6.5 Early Detection and Rapid Response .....	72
6.6 Compliance .....	74
7. Fire .....	76
7.1 Preparation for the Fire Season .....	76
7.2 Wildfire.....	77
7.3 Ecological Burns .....	77
7.4 Brush Pile Burning.....	79
8. Nature Conservation .....	81
8.1 Overall Reserve Management.....	81
8.2 Management Effectiveness of the Nature Reserve.....	81
8.3 Biodiversity Monitoring .....	82
9. Urban Baboon Programme .....	85
9.1 Ranging area of urbanised troops .....	85
9.2 Dispersing Males.....	87
9.3 Population of Urbanised Troops .....	87
9.4 Percentage Time Spent Out of Town.....	91
9.5 Community Awareness and Liaison .....	95
9.6 Ranger Training .....	96
9.7 Liaison with other City Line Functions.....	96
9.8 Gordon's Bay Troop.....	96
10. People and Conservation.....	98
10.1 Environmental Education, Awareness and Events.....	98
10.2 Communication .....	100
10.3 Protected Area Advisory Committees .....	106
10.4 Councillor Engagement .....	107
10.5 External Stakeholder Engagement .....	107
10.6 Customer Service.....	107
10.7 Tourism and other economic opportunities .....	108
10.8 Volunteers, Friends Group and Sponsored Programmes.....	109
10.9 Skills Development .....	109
11. Staff and Visitor Safety; and Security .....	112

11.1 General Security .....	112
11.2 Visitor and Staff Safety Tender .....	112
11.3 Illegal Land Invasion .....	114
12. Staff Matters.....	117
12.1 Realignment .....	117
12.2 Retirements and Appointments.....	118
12.3 Staff Training.....	119
12.4 Staff Industrial Relations .....	120
12.5 Staff Health and Safety.....	121
13. Administration .....	128
13.1 Budget .....	128
13.2 Fleet and Assets .....	129
13.4 Contract Management .....	133
13.5 Reporting.....	134
14. Conclusion .....	135

# 1. Acronyms

ACRABE	Alien Clearing, Restoration and Alien Biomass Economies
APO	Annual Plan of Operation
BioNet	Biodiversity Network, the systematic biodiversity plan for Cape Town
BMB	Biodiversity Management Branch
CAPE	Cape Action for People and the Environment
CapeNature	Western Cape provincial conservation authority
CARBS	Councillor Appointed Representatives for Baboon Suburbs
CBA	Critical Biodiversity Area
CCT	City of Cape Town, also referred to as City
CIP	Metro Southeast (SE) Strandveld Conservation Implementation Plan
COVID-19	Corona Virus Disease pandemic named by the World Health Organisation in 2019
CPFFPA	Cape Peninsula Fire Protection Association
CPUT	Cape Peninsula University of Technology
CREW	Custodians of Rare and Endangered Wildflowers
CSIR	Council for Scientific and Industrial Research
CSU	Conservation Services Unit, Biodiversity Management Branch
CTEET	Cape Town Environmental Education Trust
DCCPD	Dassenberg Coastal Catchment Partnership
DEA&DP	Department of Environmental Affairs and Development Planning (Western Cape)
DFFE	Department of Forestry, Fisheries and Environment (name changed from DEFF on 1 April 2020, previously DEA; national)
DSDF	District Spatial Development Framework
EDRR	Early Detection and Rapid Response
EE	Environmental Education
EIA	Environmental Impact Assessment
EMD	Environmental Management Department
EPWP	Expanded Public Works Programme
FTE	Full Time Equivalents (jobs)
HIRA	Hazard Identification and Risk Assessment
HWS	Human Wildlife Solutions
IAAWG	Invasive Alien Animals Working Group
IOD	Injury on Duty
IDP	Integrated Development Plan
ISU	Invasive Species Unit, Biodiversity Management Branch
IUCN	International Union for Conservation of Nature
LBSAP	Local Biodiversity Strategy and Action Plan
MayCo	Mayoral Committee
METT	Management Effectiveness Tracking Tool, METT-SA03 used in this report
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSDF	Municipal Spatial Development Framework
NCC	NCC Environmental Services
NEMBA	National Environmental Management Biodiversity Act, Act 10 of 2004
NEMPAA	National Environmental Management Protected Areas Act, Act 57 of 2003
NRM	National Resources Management, a programme that includes Working for Water
OHS	Occupational Health and Safety
P&C	People and Conservation
PAAC	Protected Area Advisory Committee
PBMs	Paintball Markers
PPE	Personal Protective Equipment
PPM	Project Portfolio Management
PSHB	Polyphagous Shot Hole Borer
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks, the national protected area authority
SCM	Supply Chain Management
SDG	Sustainable Development Goal
SPCA	Society for the Prevention of Cruelty to Animals; both National (NSPCA) and local Cape of Good Hope (CGHSPCA)
SPE	Spatial Planning and Environment Directorate

SSCC	Species of Special Conservation Concern
TMF	Table Mountain Fund
TMNP	Table Mountain National Park, managed by SANParks
TNC	The Nature Conservancy
UBP	Urban Baboon Programme
WESSA	Wildlife and Environment Society of South Africa
WoF	Working on Fire
WWF-SA	World Wide Fund for Nature

## 2. Executive Summary



Figure 1: Seasonal wetland at Rondevlei, False Bay Nature Reserve.

### 2.1 Conserving biodiversity: our natural capital

The key legislation that guides the management and protection of biodiversity in Cape Town is the National Environmental Management Act 107 of 1998 (NEMA) and its subsidiaries the Biodiversity Act 10 of 2004 (NEMBA) and Protected Areas Act 57 of 2003 (NEMPAA). The management of wetlands is chiefly administered through the National Water Act 36 of 1998. This legislation provides the City of Cape Town (CCT or City) with its mandate both in terms of being a landowner and more generally in terms of biodiversity protection and invasive species control. Therefore, the City abides by this legislative framework and has developed strategies, policies, and plans to ensure the protection, conservation, and wise use of priority biodiversity and wetland sites (Figure 1).

The **Integrated Development Plan (IDP)** and **Municipal Spatial Development Framework (MSDF)** recognise Cape Town's critical environmental assets, its globally important biodiversity, and the significance of its 308 km coastline. The IDP also focuses on sustainable development and creating a resilient City, as envisaged in Goal 11 of the Sustainable Development Goals (SDGs). The City's **Environmental Strategy** and **Local Biodiversity Strategy and Action Plan (LBSAP)** recognise the significance of, and commit the City to conserving, Cape Town's unique and globally important biodiversity (including freshwater systems) for both present and future generations.

The Environmental Management Department's (EMD's) Biodiversity Management Branch (BMB) is responsible for the planning and implementation of the LBSAP, which incorporates conservation planning, protected area expansion, conservation services, urban wildlife conflict programmes, people and conservation (nature conservation tourism, recreation and education), nature reserve management, job creation, skills development, invasive species control, restoration and management of the City's biodiversity.

**During 2020/21, the BMB continued to implement its objectives aligned with the IDP, and specifically the Strategic Focal Area 1 – Opportunity City:**

*Text from IDP 2017 to 2022 in italics*

#### **“1.3.b.3 EPWP Localised Project**

*The City will continue to localise community works and Expanded Public Works Programmes (EPWP) in order to ensure that sub-councils are involved in the drafting of labour-intensive community programmes*

*benefiting local residents during implementation. A focus will be on the continued improvement of the Jobseeker Database system to address weaknesses in the current system and to operate optimally.”*

From 1 July 2020 to 30 June 2021, **122 788 person days of temporary employment** (533.86 FTEs – Full Time Equivalents) and **3 973 job opportunities** were created on the nature reserves and Biodiversity Network (BioNet). An **additional 870 job opportunities** were created on behalf of other line departments. The focus of the programme is on local communities and the individuals were employed from the relevant Sub-councils' Jobseekers Database. Supporting and running parallel to the job creation programme are training and formal skills development programmes. The Kader Asmal skills development programme (3 year) was funded by the Expanded Public Works Programme (EPWP) Department. This programme aimed to provide opportunities for young professionals to acquire the necessary skills, experience and exposure in the environmental management sector, specifically management of invasive species. In total, 53 individuals were employed over the three-year period and 31 participants successfully exited the programme whereby they have been employed permanently or received longer-term employment from the City or stakeholders. This programme included on-the-job training for learners, students and interns. It is important to be able to assist with career development and the BMB makes every effort to provide opportunities for EPWP and skills development incumbents. From July 2020 to June 2021, 15 of 22 vacancies in the BMB were filled with individuals from the EPWP and skills development programmes, or previous EPWP/skills development participants.

#### **“1.4.b.4 Biodiversity management project**

*The City's biodiversity and ecosystem services will be restored and managed to ensure their long-term sustainability and efficacy. This will be achieved through on and off reserve management, guided by the City's Bioregional Plan and focused on optimising socio-economic benefits and opportunities where ecologically sustainable.*

*Managing biodiversity and ecosystems strengthens their resilience to climate change and improves the resilience of the city as a whole to the impacts of climate change. The following will form part of this project:*

- *Securing the protection of the BioNet (target of 65%)”*

The City has set a target to ensure the conservation of 65% of the 2009 BioNet, the fine-scale biodiversity plan for Cape Town, by 2022. The BioNet includes all priority natural and semi-natural terrestrial sites, wetlands and rivers, and indicates which parcels of land are classified as Critical Biodiversity Areas (CBAs) and need to be conserved to meet National Conservation Targets. The BioNet and Management Guidelines were consolidated into the **Bioregional Plan**, which was approved as policy by the City Council in July 2015. To date, 65.41% (55 595 ha) of the 2009 BioNet is conserved or in various stages of proclamation, resulting in the 2022 target already being met.

- *“Continued implementation of the Bioregional Plan monitored through the Management Effectiveness Monitoring Programme.”*

The City is one of the leading conservation agencies in the implementation of the Management Effectiveness Tracking Tool (METT) as required by the Department of Fisheries, Forestry and Environment (DFFE). As the METT only needs to be completed every two years for nature reserves that have achieved the score described as sound management or best practice, no METT was undertaken in 2020/2021.

- *“Conservation Programme which includes all education, events and visitor programmes.”*

The City's **nature reserves**<sup>1</sup> received 340 265 visitors, most of whom were recorded through the manned access points and events. As the majority of reserves are open access, the visitor figure is an underestimate. Through paid gates and events an income of **R5.87 M** (170% over planned revenue of R3.4 M) was collected. While the Helderberg Nature Reserve gate was the most visited entry gate on the City's reserves during this reporting period, with 186 248 visitors entering this point, the bulk of the income was collected from Witzands Aquifer Nature Reserve through its activity permits and events.

One hundred and forty (**140 individuals**), totalling **514 person days** with an approximate value of **R730 000**, volunteered in 2020/2021. A further **119 individuals (2 512 person days)** with an approximate value of **R3 M** worked on the reserves via sponsored programmes. The reserves and the outreach education programmes as well as awareness programmes saw **5 498 individuals** resulting in **5 643 person days of education**. This was a huge decrease from the average of 35 000 person days of education due to the COVID-19 pandemic.

The Protected Area Advisory Committees (PAACs) came to the end of their three-year cycle at the end of June 2021. Advertising for a new round of participation was undertaken in May and June 2021. The new PAACs will be initiated in July/August 2021.

#### **"1.4.b.5 Invasive species management project**

*The City's invasive species management programme focuses on:*

- *Identifying and managing invasive species introduction pathways in collaboration with national and provincial stakeholders and minimising the movement of invasive species within the metro*
- *Detecting and controlling new and emerging invasive species before establishing viable populations and spreading into new areas."*

The City and CapeNature hosted three meetings (29 July 2020, 25 November 2020, and 20 April 2021) of the CAPE's (Cape Action for People and the Environment) Invasive Alien Animals Working Group (IAAWG). The last meeting of the financial year was hosted on Zoom and was highly successful with 26 individuals from 10 organisations. This group, consisting of managers and researchers, aims to identify ways forward in terms of invasive animal species. The City was also part of the provincial meeting ACRABE (Alien Clearing, Restoration and Alien Biomass Economies); which was transformed into the Steering Committee for the Ecological Infrastructure Investment Framework for the Western Cape (a project run by Provincial government with the specialist support of the CSIR (Council for Scientific and Industrial Research)). Lastly, the BMB runs a Spotter Network focusing on locating identified emerging invasive plants.

- *"Controlling existing invasive species to improve ecosystem health and services and to protect biodiversity*
- *Control target invasive species according to a species management plan*
- *Maximising green job opportunities through labour intensive control methods and associated jobs such as clearing litter in river channels*
- *Monitoring efficacy of control methods and reporting progress.*

*The National Environmental Management: Biodiversity Act (NEMBA) Act 10 of 2004 Alien & Invasive Species Regulations (2014) requires all organs of state at all spheres of government to control invasive species, monitor and report progress and to incorporate invasive species management, control and eradication plans into IDPs."*

---

<sup>1</sup> Nature Reserves refer to sites proclaimed as nature reserves under the Protected Areas Act, while protected areas is a broader term to include all types of protected areas such as (but not limited to) nature reserves, national parks, biodiversity agreement sites and mountain catchment areas.

In the last year, Harmony Flats and Edith Stephens Nature Reserves' invasive management plans were completed and submitted to DFFE. Verification site visits were done with the DFFE Compliance section and approval letters for DFFE are the next step. The City is one of the few municipalities countrywide that submitted control plans. Invasive alien clearing targets were finalised and submitted to Council. The City works closely with various line departments, and specifically Bulk Water under the New Water Programme, which highlights the importance of well-managed catchments, free of alien plant species, on water security in Cape Town.

## 2.2 The Impact of COVID-19



After being closed to the public for over four months due to COVID-19 Lockdown regulations, the nature reserves reopened to the public on 17 July 2020 (Figure 2, 3 and 4). Since then, the reserves have remained open, however the picnic/braai areas and halls were closed on and off during the second and third COVID-19 waves. During the second wave (late December to early February), the water bodies were also closed to users.

**Figure 2: Queues of cars at Helderberg Nature Reserve when reserves reopened after being closed during the Lockdown for over four months.**



**Figure 3: The first visitors at Table Bay Nature Reserve.**



**Figure 4: Notice at Witzands Aquifer Nature Reserve entrance.**

While the general perception seems to be that the global Lockdowns have been good for biodiversity, this is probably not accurate. Globally, it is more likely that COVID-19 has been a disaster for biodiversity due to a collapse in biodiversity tourism and a lack of the community benefits this provides. This has certainly resulted in opportunistic unsustainable activities taking place at many sites internationally. The most significant ecological benefit of COVID-19 has probably been a short-term global reduction in carbon emissions. However, the overall significance of this still needs to be shown. For the City, a noteworthy positive that has come out of the Lockdown situation is a realisation of how huge the public demand is for access our natural open spaces. This is a great testament to the importance of our nature reserves.



Lockdowns have had massive negative socio-economic impacts which contributed to a significant increase in the pressure of land invasions at many sites, most notably Rivergate in Table Bay Nature Reserve and Slangetjebos section of False Bay Nature Reserve (Figure 5).

**Figure 5: Land invasion in Slangetjebos section of False Bay Nature Reserve.**

To summarise, after more than a year of Lockdown the impacts for biodiversity in Cape Town appear to be:

- 1) No huge benefits to biodiversity but faunal species movement and feeding patterns could have changed temporarily (e.g. animals took advantage of areas not disturbed by people and dogs).
- 2) Disaster in relation to SANParks and tourism income from international tourists to the Table Mountain National Park (luckily the revenue increased at the City nature reserves, which largely focus on local tourism).
- 3) Disaster in relation to land invasion (economy struggling).
- 4) Increase of invasive species growth and areas reverting to initial clearing stage due to delayed clearing operations.
- 6) Residents observed biodiversity in gardens and close to home, increasing the appreciation of biodiversity on their doorstep.
- 7) Lockdown has illustrated the huge interest in the City's reserves; illustrating the benefit our areas bring to the citizens of Cape Town (recreation, tourism, and economy).

## 2.3 Highlights

The notable initiatives during the period July 2020 to June 2021 included:

### 1) Development facilitation:

The 50 ha critical biodiversity contained on Erf 2003 Melkbos (Figure 6) was purchased and transferred to the City. This is part of a proactive conservation land bank to be used to facilitate City Human Settlement developments.

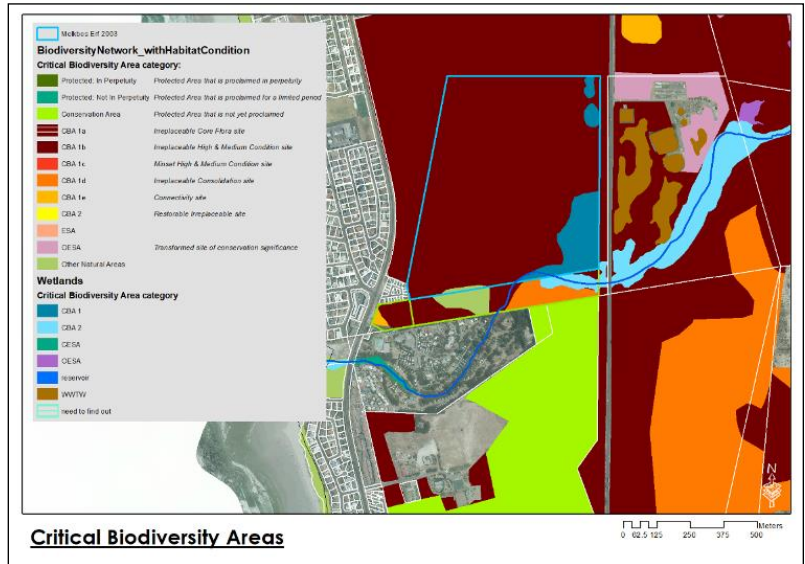


Figure 6: Erf 2003 containing Critical Biodiversity Areas was purchased as a conservation land bank

### 2) Awards

The BMB was recognised in three awards ceremonies and competitions:

#### Mayoral Awards – 20 November 2020

BMB received the Mayoral Award for “Best Facility” for the Zandvlei Lookout in the Zandvlei Nature Reserve (Figure 7).



Staff of the Zandvlei Estuary nature reserve, seated from left: Amber Ing, Simone Africa, Nicole Africa, Berenice Naidoo, Kim Gordon, Edward Moses and Mark Isaacs. Standing: Anda Rweqana, Michael Jephtha, Richard Spetto, Cliff Benjamin, Kyran Wright, J P Kleinhans, Isgaak Crombie and Darren Feldman

The Best Facility award went to the Zandvlei Estuary nature reserve team (Spatial Planning and Environment). The team had taken the initiative to convert an old, underutilised building into a true asset that attracts many locals to the reserve. They also planted a large indigenous garden to showcase local

plant species and encourage residents to make water-wise gardening choices. With no funds available for the project, staff did all the planning and labour themselves. The subsequent increase in visitors to the site has even created opportunities for food and coffee vendors to set up stalls and eke out a living.

Figure 7: Contact article featuring the Zandvlei Nature Reserve team.

### **EPWP Awards – 25 June 2021**

The Urban Management: EPWP office hosted EPWP awards on 25 June 2021 to recognise the line departments that are implementing EPWP Skills Development projects, and to recognise the individual EPWP project managers for their commitments. The BMB's Invasive Species Programme Manager and the Head: Green Jobs accepted the accolades on behalf of BMB. The Kader Asmal Skills Development Programme was nominated for five awards, and won four of the five awards (Figure 8):

- Administrative team of the year for the Implementation of the Kader Asmal Skills Development Programme
- Administrative team of the year for the implementation of the Kader Asmal Integrated Catchment Management Programme
- Best Public Employment and Skills Development Programme
- Best Achiever: Exit Strategy for Skills Programme

The programme was also first runners up on the Best EPWP Environment and Culture Sector award.



**Figure 8: BMB staff including Biodiversity Branch Manager, Julia Wood (centre), with Kader Asmal Awards.**

The Head of Green Jobs, Mashudu Phalannwa, was nominated and won an accolade for the Recognition of Excellence award (Figure 9).

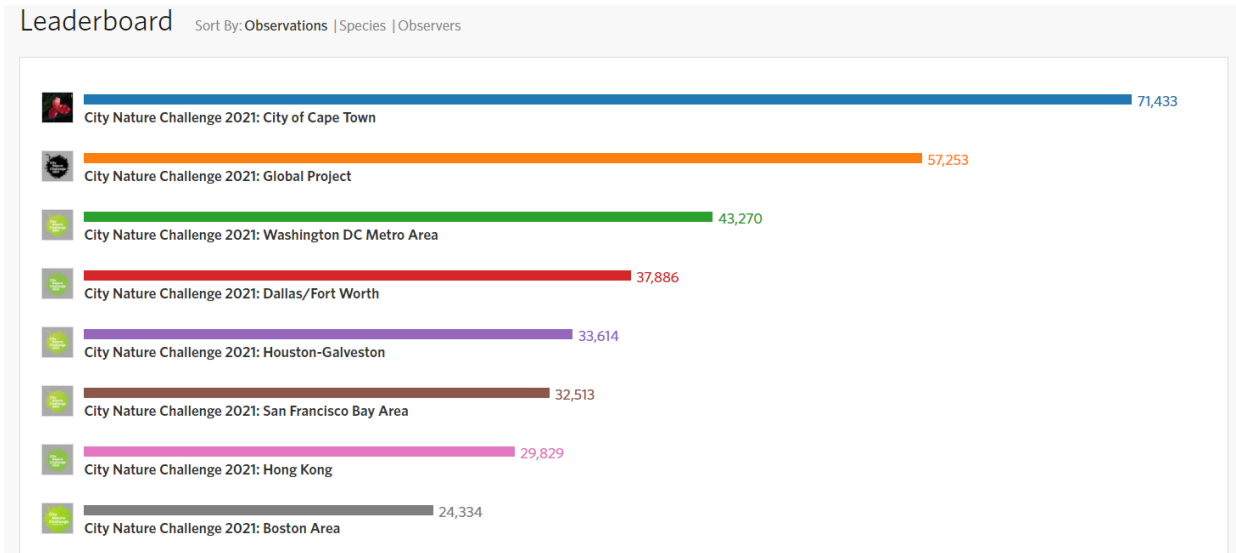
This is an amazing achievement and testimony to the work that BMB does, and critically results in job creation and skills development.



**Figure 9: Mashudu Phalannwa with his award of excellence in his role of EPWP Coordinator.**

### **iNaturalist City Nature Challenge 2021**

In the 2021 international iNaturalist City Nature Challenge which took place from 30 April to the 3 May 2021, the City achieved the most observations and the most species worldwide (Figure 10). Cape Town first participated in the challenge in 2019 and was first in two categories (observations and species). In 2020, due to COVID-19 the challenge did not follow the standard format, but Cape Town still achieved the most observations and was second in the most species. This was quite a feat as we were confined to our private properties and gardens (it was during Level 5 hard Lockdown). In 2021 (in comparison to 2019), the number of sightings increased by 33%, the number of species by 4%, and the number of observers by 26%.



**Figure 10: Leaderboard for the 2021 iNaturalist City Nature Challenge.**

Cape Town also participated in the iNaturalist Great Southern Bioblitz Challenge (25 to 28 September 2020) and came out tops for all categories out of all the areas in the southern hemisphere taking part.

### **3) Provincial heritage status for Blaauwberg Nature Reserve**

Provincial Heritage Site status was proclaimed over the **Blaauwberg Nature Reserve** in Provincial Notice P.N. 001/2021 of the Province of the Western Cape: Provincial Gazette on 28 May 2021 (Figure 11). The proclamation, titled *Heritage Western Cape: Declaration of Heritage Resources as Provincial Heritage Site, “Blaauwberg Nature Reserve”, Situated off Melkbosstrand Road and the R27, Blaauwberg, Cape Town*, was promulgated in terms of Section 27(6) of the National Heritage Resources Act, No. 25 of 1999, and by virtue of a resolution of the Council of Heritage Western Cape dated 28 September 2020.



**Figure 11: Blaauwberg Nature Reserve looking towards Table Mountain.**

The significance of the proclamation relates to:

- a. The Battle of Blaauwberg was a turning point in the history of the Cape Colony and South Africa in general. The Blaauwberg Nature Reserve, over and above being a significance natural heritage site, contains the battleground and field hospital associated with the Battle of Blaauwberg that took place in 1806. The National Monuments Council declared the battle site a conservation area in 1996 under the National Monuments Act. The site includes the landscape where the events around the Battle of Blaauwberg took place including the iconic Blaauwberg Hill, the battlefield and the site of the field hospital.
- b. The reserve contains Middle Stone Age and Late Stone Age occurrences, which contribute to the understanding of the occupation of the South-Western Cape by the indigenous groups over time.
- c. The Muslim community of Cape Town, many of whom were slaves, was granted their own burial ground (Tana Baru) in recognition of their contribution in the defence of the Cape against the British during the Battle of Blaauwberg.

#### 4) The Helderberg Nature Reserve multipurpose centre

The construction of this centre (Figures 12 and 13) has continued throughout the 2020/2021 financial year and is close to completion. The new centre is designed in a manner to demonstrate alternative construction methods and sustainable design thinking, which could function as an extended environmental education tool over and above the activities that will take place in and around the facility. The design for the facility considers a number of components (such as siting, passive design, waste, functionality, ecology, thermal impact, ground, waste and storm water impact, acoustics, and light pollution), along with reducing carbon emissions. Some of the main features of the building include rammed earth walls which are constructed from local soils and recycled building materials, old truck tyres that otherwise would have ended up in the City's landfill sites, and over 6 000 eco-bricks, many of which have been filled by schools, youth and environmental groups, and other community projects across the city.

The beautiful setting of the Helderberg Nature Reserve on the slopes of the Helderberg Mountain, overlooking False Bay, makes it an ideal location to teach communities in and around Somerset West about the Western Cape's plant and animal kingdom and our impact on them. As such, staff at the reserve identified the need for an environmental education centre to accommodate groups of schoolchildren and other visitors.



Figures 12 and 13: The eco-brick wall (left) in the nearly completed multipurpose centre at Helderberg Nature Reserve.

## 5) New species for the City and other fauna and flora highlights

Seven species of plants were recorded from within the City boundaries for the first time ever. Several other significant botanical discoveries were made; see section 5.3 for more information. Two frog species and one bird species were recorded for the first time in the City boundaries. Many other significant fauna records were also made during the reporting period. See section 5.4 for more details.

## 6) Other milestones achieved in the 2020/2021 financial year include:

- Despite the challenges posed by the COVID-19 pandemic, staff managed to keep nature reserves functional and serving the recreational needs of the City.
- Three Kader Asmal skills development projects approved for commencement on 1 July 2021: the ISU skills development, WIL skills development, and People and Conservation (P&C) skills development.
- Successful ecological burns at one City Nature Reserve and three stewardship sites, namely the Milnerton Race Course section of Table Bay Nature Reserve, Kenilworth Race Course, Nirvana, and Zonnestraal.
- Completing a draft business plan for the dune section of Witzands Aquifer Nature Reserve.
- Compiling a draft overall high level heritage plan for the nature reserves.
- Keeping baboons out of the urban areas for just over 95% of the time.

## 2.4 Challenges

---

### 1) Water Quality Issues in Rivers and Vleis

Most rivers in the City, especially Diep River and Milnerton Lagoon, have been plagued by water quality issues for several years. However, in the latter part of the year, the water quality in the vleis took a dramatic turn for the worse. Due to high levels of *Escherichia coli* (*E. coli*), Zandvlei (in Zandvlei Nature Reserve; Figure 14) was closed on 25 May 2021 and Rietvlei (in Table Bay Nature Reserve) was closed on 24 June 2021 to any water activity. Zeekoevlei (in False Bay Nature Reserve) also experienced high *E. coli* levels, but a closure notice was not placed because the vlei was not being used due to the drawdown. BMB is working closely with the engineers to identify and repair damaged infrastructure. Remedial plans are being drawn up. Refer to section 5.5 for more detail.



Figure 14: Zandvlei, one of three recreation vleis in Cape Town.

### 2) Land Invasion

As has been highlighted, land invasion remains a key challenge affecting the reserves, resources and staff capacity. The current illegal land invasions in the nature reserves include Slangetjebos section of False Bay Nature Reserve (Figure 5) and Rivergate section of Table Bay Nature Reserve. Upper Steenbras Catchment near Grabouw remains a concern and threat to Cape Town's water security, and in particular the water quality in the Steenbras Dam. Eviction notices are in process. Finding alternative land remains a critical issue which needs to be resolved urgently if the notices are to reach court. Both Rivergate and Slangetjebos need to be urgently resolved. Slangetjebos is also a Ramsar site and within the buffer of the Coastal Park landfill site. This is in conflict with the operating permit conditions of the landfill site.

### **3) Urban Baboon Programme**

The Urban Baboon Programme (UBP) has gone through a very challenging year of numerous litigious restraints and social media attacks. Although the Urban Baboon Programme has been successful in terms of increasing population numbers and decreasing individual baboon suffering, agreements between the nature conservation authorities (SANParks and CapeNature) are urgently needed. CapeNature has agreed to lead a process to review governance structures and the programme guidelines and protocols.

### **4) Tender and Procurement, and Fleet Issues**

Delays in procurement caused a number of projects not to progress. Meetings have been set up with Supply Chain Management (SCM) to unlock the issues. Processes to ensure more tender oversight are in progress. Similarly, delays in servicing and maintaining fleet resulted in operational challenges.

### **5) Realignment and Staff Morale**

There is still a lack of permanent staff in key positions such as administrators, P&C officers, field rangers, mechanical operators, and in the ISU. A re-alignment process to address some critical gaps is underway, which will assist in addressing staff shortages. The realignment approval process is unfortunately very slow, and is causing many structural issues and staff morale issues in the Branch.

Table 1 shows additional highlights and challenges.

**Table 1: Regions, reserves, offices and units of the BMB, each illustrating at least one major highlight and one major challenge from 2020/2021.**

Name of reserve / Unit	Highlight(s)	Challenge(s)	Management response to challenge
<b>SOUTH REGION</b>			
<b>Regional</b>	<p>Despite the challenges posed by the COVID-19 pandemic, staff managed to keep nature reserves functional and serving the recreational needs of the City. As COVID-19 Lockdown restrictions were lifted, more staff were able to come back to work.</p> <p>The provision of vehicles for the nature reserves has largely been achieved on paper.</p> <p>New intake of EPWP staff started at the reserves. This significantly assisted operations on the reserves.</p>	<p>Sewage spills were again one of the biggest threats to nature reserves, with Zandvlei and Rietvlei both being closed on occasions.</p> <p>The security situation on the South reserves remains of concern. All reserves reported break-ins, vandalism and/or theft of infrastructure during the year.</p> <p>There have been significant land invasions within the City, with a large section of the False Bay coastline at Monwabisi invaded. This land was earmarked for future conservation. A further 750 structures are in the Slangetjebos Section of False Bay Nature Reserve. The situation remains tense, with further land invasion attempts likely to happen closer to the 2021 municipal elections.</p> <p>Vehicles are on loan to Fleet for COVID-19 operations. Maintenance and servicing delays are still a major concern.</p> <p>The ability to adapt to the changes in COVID-19 restrictions has proven to be a challenge.</p> <p>Breakdowns in the provision of orders by SCM hindered the completion of a number of projects.</p>	<p>Extensive engagement with Water and Sanitation and investigating management actions on the ground to prevent sewage spills into water bodies. Extensive engagement has been undertaken with user groups and PAACs of False Bay and Zandvlei Nature Reserves.</p> <p>Patrolling and monitoring of reserves was stepped up during COVID Lockdown periods in order to secure the nature reserves.</p> <p>Extensive engagement was undertaken with City Law Enforcement and Human Settlements. A High Court interdict has been written for Slangetjebos but relies on alternative land being identified before it can be submitted.</p> <p>Liaising with Fleet.</p> <p>Everything possible was done to assist staff during this difficult time.</p> <p>Monthly high-level meetings were held with SCM to overcome procurement challenges.</p>
<b>Zandvlei Nature Reserve</b>	<p>A ward allocation budget was received for specific items for water quality monitoring and visitor infrastructure.</p> <p>The Zandvlei Lookout building won a City award for "Best Facility" at the end of 2020.</p> <p>A number of repairs and upgrades were completed at the Zandvlei Lookout building.</p>	<p>Ongoing water quality issues plague the vlei despite the good winter rains.</p> <p>A dog, while being walked on Park Island, killed a grysbok, resulting in the temporary closure of Park Island</p>	<p>There has been extensive engagement with City line functions responsible for Stormwater and sewerage reticulation to minimise spills into Zandvlei and to inform users. Particular attention to the management of the Zandvlei estuary mouth (regular opening and closing) was undertaken to assist in flushing the vlei to mitigate the sewage inflow.</p> <p>Park island was closed to dog walking on 9 November 2020 for two months to allow fauna time to recover. The</p>

	A tender for the construction of a new weed harvester machine was successfully completed and work on a new machine commenced.	to dog walkers.	island was reopened on 1 January 2021 with a strict "leash" rule and exclusion area. This has been working and the monitoring of the grysbok and porcupine on Park Island shows healthy populations.
<b>False Bay Nature Reserve</b>	<p>Four new vehicles replaced aging vehicles. A new crane truck (CCT 34972) was also received.</p> <p>A project to remove litter in the incoming canals to Zeekoevlei was initiated by the Friends of Zeekoevlei &amp; Rondevlei. It has shown successful results.</p> <p>A temporary administrator post was filled at the reserve, which will help with operations.</p>	<p>Managing and ensuring that all staff abide by COVID-19 protocols in the workplace in terms of personal protective equipment (PPE) being used correctly.</p> <p>It is with sadness that the reserve notes that Mark Petersen, who worked at the Rondevlei gate, passed away from COVID-19 on 19 February 2021.</p> <p>The need for a full time truck operator was felt during the annual drawdown when reed clearing was conducted.</p>	<p>Regular Health and Safety (H&amp;S) checks and toolbox talks.</p> <p>Staff conducted a memorial service in order to commemorate the life of Mark Petersen at False Bay Nature Reserve.</p> <p>Position placed on the Branch priority list.</p>
<b>Edith Stephens Nature Reserve</b>	<p>Work was completed on the alterations and upgrade of the old Primary Science Building for staff facilities.</p> <p>The river management project, under the waste pickers EPWP, began on 10 May 2021. This included the site clearing of the first 50 m of riverbank, planting the tyre barrier and planting indigenous vegetation.</p>	<p>Challenges with SCM performance hampered some projects and the timeous provision of staff PPE.</p> <p>The constant threat of land invasion on the reserve.</p> <p>Difficulties associated with the inconsistency amongst administration staff.</p>	<p>Monthly meetings with SCM.</p> <p>Increased patrols prevented potential land invasions from occurring in the reserve.</p> <p>Management is looking into this issue.</p>
<b>Symphony Way Conservation Area</b>	<p>The old dumpsite was cleaned up and rehabilitation started. Fencing was completed.</p> <p>Areas previously impacted by illegal dumping and the burning of copper cable were rehabilitated.</p>	<p>Fencing was vandalised. Staff safety was threatened.</p> <p>Adjacent land invasion is placing pressure on the reserve.</p>	<p>Ranger tender is assisting to address this.</p> <p>Increased patrols deterred crime and potential land invasions from occurring in the reserve.</p>
<b>Kenilworth Racecourse Conservation Area</b>	<p>A new site manager, Lindile Masinyana, was appointed.</p> <p>A successful public chameleon walk was conducted.</p> <p>Five community groups and one school group were hosted.</p> <p>A grant from the Table Mountain Fund (TMF) enabled work to be completed in preparation for the ecological burn of the main block. This burn was successfully conducted on 9 March 2021 with assistance from various City reserves. This block was last burnt in 2005.</p>	<p>The effects of the absence of staff during Lockdown became evident. For example, alien vegetation was not cleared in a number of places as planned.</p> <p>Groups that visited Kenilworth struggled with the lack of environmental education facilities.</p>	<p>This is a challenge across the Branch which will have to be addressed going forward.</p> <p>Attempts are being made to source a building that can be used for environmental education at the site.</p>
<b>Vesuvius Way</b>	Fencing Betafence along Rocklands community edging	The theft of wire mesh fence on both the Oaklands and	Fencing between the Rocklands suburb and Hillside

<b>Conservation Area</b>	<p>roads of Buzzard, Dove, Eagle and Vink streets was completed. Fencing along the Oaklands section of the reserve was completed by reserve staff.</p> <p>Vesuvius Way received the award for the Most Improved Conservation Area at the Branch awards at the end of 2020.</p> <p>The Senior Field Ranger position is to be filled in the new financial year.</p> <p>Rehabilitation of the southern (Dennegeur and Capri) end with the bulldozing of the top layer of rubble and sloping.</p>	<p>Vesuvius/Dennegeur fence line. Illegal occupancy (vagrants) in the reserve, mainly along the Hillside Dune, Rocklands. Continuous dumping along Hillside Dune. Several cases of illegal off-roading.</p> <p>The Cape Flats Aquifer recharge water pipeline was installed, transecting Vesuvius Way.</p>	<p>Dune has improved security in this area. Further fencing was completed, which improved security. Increased patrolling during Lockdown periods prevented illegal land occupations on the reserve.</p> <p>Extensive engagement and oversight was conducted with the environmental consultancy company responsible for the installation of the Cape Flats Aquifer recharge pipeline.</p>
<b>Wolfgat Nature Reserve</b>	<p>Signage walls were completed and signage installed for Swartklip Parking area and at gate 2.</p> <p>Successful negotiations took place on anti-land invasion between the Reserve Supervisor and community leaders from neighbouring New Monwabisi and Nkanini. It was agreed that no structures (shacks) will be put up by invaders either in MDCA near the sewage works or at WNR along Swartklip Road, and that both reserves should keep good relations with community leaders and the residents.</p> <p>An alien clearing programme using local labour was successfully completed. The Composberg fire belt was completed.</p>	<p>Pressure due to land invasions and degradation of the nature reserve as a result of the edge effect of a large community with no services.</p> <p>Dumping and damage to the new palisade fence was recorded along Swartklip Road. Walls with signage mounted on them at Swartklip parking area were vandalised.</p>	<p>Community engagement and regular patrolling of the reserve during Lockdown prevented land invasion.</p> <p>Ongoing surveillance with assistance of ranger tender.</p>
<b>Macassar Dunes Conservation Area</b>	<p>National Public Works obtained a court interdict for removal of shacks should further invasion occur.</p> <p>The student from 2020 passed her experiential year with good marks.</p> <p>Monwabisi dune rehabilitation project was completed in June 2021 with EPWP and permanent staff. Brushpile rows and new extended rows were installed, adding to existing windrows, with planting between the windrows.</p>	<p>Attempted land invasion on MCR04 along Baden Powell Drive, behind the Zandvliet Sewage Works. Shacks and plot markers were removed, but the threat remains. Continuing land invasion to the west of Baden Powell Drive led to the illegal removal of natural vegetation and spot fires in the conservation area.</p> <p>Illegal sand mining and dumping occurred in several places along Baden Powell Drive.</p>	<p>Community engagement and regular patrolling of the reserve during Lockdown prevented land invasion in the conservation area.</p> <p>Ongoing surveillance with assistance of ranger tender. Removal of dumped material ongoing.</p>
<b>Helderberg Nature Reserve and</b>	<p>Despite the COVID-19 conditions, work continued on the new environmental centre, with earth works completed.</p>	<p>At the end of hard Lockdown Helderberg experienced high numbers of day visitors, particularly in the picnic</p>	<p>The reserve partnered with the Friends of Helderberg to establish a visitor programme to welcome new visitors.</p>

<p><b>Silwerboomkloof Nature Reserve</b></p>	<p>Good numbers of visitors came to the reserve after the hard Lockdown.</p> <p>A new Reserve Supervisor started.</p>	<p>area. Many were first time visitors, which brought some visitor-management challenges. Field staff had to man the reserve entrance gates during high visitor demand.</p>	<p>This introduced the reserve regulations to visitors in a soft approach. A staff roster allowed for after hours and weekend oversight to deal with the high numbers of visitors.</p>
<p><b>Harmony Flats Nature Reserve and Morkel's Cottage Conservation Area</b></p>	<p>HFNR and MCCA greatly benefited from the newly appointed EPWP team. They enabled the reserve team to be operationally more productive.</p> <p>Fencing projects at HFNR and MCCA were completed.</p> <p>The appointment of the night shift visitor hub Rangers, improved the security situation at MCCA. There were attempts, but no further losses to theft, since Quemic's appointment at the conservation area.</p> <p>Rehabilitation of the desire lines, previously used as a shortcut through MCCA. The Morgendal Road boundary fence diverted people movement away from this area. Bulbs were provided by Muller Environment.</p>	<p>Dumping and litter issues increased when staff were not on site during Lockdown. Gang related activities remain a concern, because of the close proximity of gangs to both reserves.</p> <p>Breakdowns in the provision of orders by SCM hindered the completion of a number of projects.</p> <p>The lack of a P&amp;C Officer and more permanent appointed field staff remain challenges.</p> <p>Lack of full fencing provides opportunities for unwanted activities in both reserves.</p>	<p>Patrols and the presence of a ranger on site has helped to prevent some illegal activities on the reserve.</p> <p>Regular meetings with SCM has assisted enormously</p> <p>On Branch's priority list of additional posts.</p> <p>Investigate and motivate for funding to complete the fencing. Fencing at Morkel's Cottage now completed.</p>
<p><b>Steenbras Nature Reserve</b></p>	<p>A fire at the Steenbras Gorge was stopped by quick response of staff and City Fire.</p> <p>Fencing at the Steenbras River Gorge was completed.</p> <p>The EPWP team continues to do well, working alongside an invasive alien clearing programme, which has cleared 640 ha. A further 28 NBAL's were cleared by the ISU contractors. There are still teams in the field and work continues.</p> <p>The addition of the EPWP team also allowed for repairs and maintenance to the Steenbras River Gorge trail.</p> <p>A GPS tracking collar was fitted on an adult male baboon (GBM09). This enables proactive monitoring of the troop to prevent them from entering the red no-go zone of Gordon's Bay.</p>	<p>Development of the Table Mountain Group Aquifer (TMGA) wellfield continues. There are significant environmental impacts as the repair and recovery of this area will take years. Fortnightly meetings were attended to discuss environmental issues in an attempt to reduce further impacts in the area. There were a number of non-compliance issues with contractors.</p> <p>Challenges from SCM hindered the implementation of several projects. The Virtual Fence, which helps to control baboons, was not working in the period where there were no operating collars on baboons. There have been delays in implementing the various CAPEX projects. Very little feedback was received from the Supply Chain practitioners. These issues were escalated to Senior Management in an attempt to expedite them.</p> <p>Despite alien clearing well underway, the growth rate of invasive species as a result of previous fires and plantation clearing is concerning. More dedicated budget to address this challenge is needed.</p>	<p>Extensive engagement took place with the Environmental Control Officer linked to the installation of the wellfields.</p> <p>Regular meetings with SCM initiated and this has assisted enormously.</p> <p>Recent funding allocation from Bulk Water and the MOA with The Nature Conservancy will assist.</p>

NORTH REGION			
<b>Regional</b>	<p>Nature reserves were reopened to the public for exercise on 15 July 2020. Many residents embraced the sunny weather and outdoors at the various City nature reserves. Visitors were reported to be truly relieved to have access to the beauty of their local natural environment once again.</p> <p>The proposed proclamation of the Blaauwberg Nature Reserve as a Provincial Heritage Site was approved by the Heritage Western Cape Council in terms of section 27 of the National Heritage Resources Act, 1999. See point 3.1 for more information.</p> <p>'City's women rangers blooming in the field'. During Women's Month, the BMB put a spotlight on two female rangers, Khuselwa Mabuyane and Cindy Adams, who work at Witzands Aquifer Nature Reserve.</p> <p>Council approved the Nature Reserves By-law on 29 October 2020.</p> <p>EPWP staff made a massive difference to the operations on the reserves.</p>	<p>Land invasion and dumping remain a major challenge at the Rivergate section of Table Bay Nature Reserve. Attempts of land invasion also occurred opposite Klein Dassenberg section of Witzands Aquifer Nature Reserve.</p> <p>Table Bay Nature Reserve's recreational waterbody Rietvlei, was closed on 24 June 2021, following persistent high levels of <i>E. coli</i> exceeding the national threshold levels for intermediate contact recreational use.</p> <p>There is no Environmental Education (EE) Officer at Tygerberg Nature Reserve, so the reserve relies on interns and volunteers to fulfil this function. Between 750 and 1 500 learners attend EE programmes at the reserve and the numbers can grow with a permanent officer on site. The reserve is also surrounded by several communities who would benefit from EE programmes. The post is critical and in order for the reserve to provide such services, adequate resources need to be in place.</p> <p>Significant delays were experienced with SCM in the procurement of goods, services and construction.</p>	<p>Extensive engagement was undertaken with City Law Enforcement and Human Settlements. A High Court interdict is being initiated.</p> <p>Extensive engagement with Water and Sanitation.</p> <p>This is a Branch priority – the EE position was abolished in the recent vacancy cuts.</p> <p>Monthly meetings initiative with SCM, assisted by the SPE project management office.</p>
<b>Table Bay Nature Reserve</b>	<p>The visitor access control point now accepts card payments for daily entry fees.</p> <p>A rubber duck air pump was funded by Paarden Eiland City Improvement District (PECID). The rubber duck was used to remove Duckweed in the Zoarvlei water body.</p> <p>MRC's prescribed ecological burning permit was approved and the burn was successfully executed.</p> <p>The Cape Grysbok capture and transport permits were received and the first capture operation took place on 1 June 2021.</p>	<p>Various illegal activities continued to take place at Zoarvlei, section of Table Bay Nature Reserve. Livestock grazing in the reserve continued to be a challenge.</p> <p>Dog walkers continue to walk onto the dry seasonal pans and fencing is required to manage this ongoing challenge.</p> <p>Feeding of wild animals is prohibited in reserves, yet visitors to the northern section of Milnerton Racecourse were observed feeding white bread to Egyptian Geese.</p>	<p>Surveillance by the rangers assisted. EMD is investigating the illegal grazing.</p> <p>Fencing discussed and prioritised.</p> <p>Visitor information and education is critical and ongoing.</p>
<b>Blaauwberg Nature Reserve</b>	<p>New braais are being built by Nature Reserve staff at the Eerste Steen Resort.</p> <p>Provincial Heritage Site status was proclaimed over the</p>	<p>The military access road to the Blaauwberg Hill was damaged by water erosion from heavy rainfall.</p> <p>The occupants at the old Blaauwberg's Valley farm</p>	<p>The Montispectus accommodation unit was closed until the road was repaired.</p> <p>Ongoing discussion with Legal Services.</p>

	Blaauwberg Nature Reserve in Provincial Notice P.N. 001/2021 of the Province of the Western Cape: Provincial Gazette on 28 May 2021.	homestead have refused to cooperate with the City's Housing Department to register themselves for potential alternative accommodation.	
<b>Witzands Aquifer Nature Reserve</b>	<p>Touchwood Conservation Area was added to the Witzands Aquifer Nature Reserve: Dassenberg Hills Section. This property joins two other portions of conservation land and forms part of the expansion initiative for the Witzands Aquifer Nature Reserve.</p> <p>The Nirvana Fynbos Conservation Area prescribed ecological burn was executed in March 2021, with great success. The conservation area has high quality Atlantis Sand Fynbos with a significant history of invasion by <i>Acacia saligna</i> and <i>Leptospermum laevigatum</i>. Successful alien clearing has happened over the past eight years and the conservation area is now in maintenance phase.</p>	<p>Conservation compliance and law enforcement challenges such as illegal hunting of fauna, illegal harvesting of flora and illegal off road vehicles in the nature reserves and surrounding BioNet remains an ongoing challenge.</p> <p>Stakeholder interface and communication challenges dealing with the nature of enquiries and complaints; and the general apathy towards the measures implemented by the South African Government to address, prevent and combat the spread of COVID-19 during a time of a global pandemic.</p>	<p>Ongoing assistance from rangers and liaison with City Law Enforcement.</p> <p>Assistance from senior management as required. Due to changes in the Lockdown regulations, most challenges were resolved during the year.</p>
<b>Tygerberg Nature Reserve, Bothasig Fynbos Nature Reserve and Van Schoorsdriff Conservation Area</b>	<p>Eight EPWP staff and three permanent staff attended accredited Chainsaw and Brush Cutter Operator Training; and were issued certificates of competency.</p> <p>Tygerberg remains a popular spot with nature lovers and hikers, with 5 282 visitors recorded. Positive feedback and high praise via social media was received from visitors.</p> <p>Welgemoed Gatehouse upgrade: the appointed architects commenced building surveys, new gatehouse drawing and building plans. The project is expected to take three years to complete and will adhere to the City's Cash Management Policy.</p> <p>BMB secured 55 ha of Portion CA77 east of the N7. This site conserves Critically Endangered Cape Flats Sand Fynbos and Swartland Granite Renosterveld. It will be managed as part of the Van Schoorsdriff cluster.</p>	<p>Firebreak contractor appointment was delayed by three months due to the SCM process. As a result, complaints were received from residents adjacent to the reserve border. Reserve staff were deployed to cut hotspots in order to manage the fire risk. The appointed contractor commenced in mid-December 2020.</p> <p>The reserve staff recorded an increased number of visitors non-compliant with the Nature Reserve rules and regulations. Transgressions included alcohol consumption, cigarette smoking and (most commonly) visitors leaving after closing time.</p> <p>The recent addition on the northwest section of the Van Schoorsdriff Conservation Area is prone and exposed to illegal dumping activities after hours when visibility is poor and movement is minimal.</p> <p>Dog walking is a permitted recreational activity in Bothasig Fynbos Nature Reserve. However, non-compliance where dogs are not under control, not on a lead, and both dog walkers and dogs do not remain on</p>	<p>Initiated monthly meetings with SCM.</p> <p>Increased patrol is best mitigation, however it has proved to be challenging due to budget constraints.</p> <p>Security visits and regular checks have been increased to the area. It led to reduced incidents of dumping on site. Illegal activities have not stopped, because the site is not fenced. Fencing has started and temporary signage was put up to discourage illegal activities.</p> <p>Visitors are encouraged to be sensitive to other reserve users. When found to be non-compliant, a dog owner can be issued a fine in accordance with the Nature Reserve By-law.</p>

		designated footpaths is a problem.	
<b>Durbanville Nature Reserve, Uitkamp Wetland Nature Reserve and Botterblom Nature Reserve</b>	<p>After the successful ecological burn at Durbanville Nature Reserve, many plants started flowering, including the <i>Aristea lugens</i> population. It has not flowered since the previous ecological burn in 2008. A population of <i>Lachenalia liliflora</i> was also established.</p> <p>In September 2020, staff could return to work full time and normal operations could continue. Durbanville Nature Reserve opened for weekends on 5 September with 131 visitors recorded in September.</p> <p>Field Ranger Henry Christiaan was featured on the City Facebook page and in an article in the Tygerburger.</p> <p>M. Duma loaded the most sightings onto the Biodiversity Database for May 2021, recording 57 sightings.</p>	<p>Various illegal activities occurred at Uitkamp Wetland and Botterblom Nature Reserves.</p> <p>A private landowner adjacent to Uitkamp Wetland Nature Reserve let her cattle graze in the nature reserve.</p> <p>Even though measures were in place to minimise the spread of COVID-19 at the UWNR pedestrian gates, a few Nerina residents complained and wanted the gates to be locked for the duration of the COVID-19 pandemic. The COVID-19 protocols in place were constantly tampered with and staff had to do repairs daily.</p> <p>The delayed response by the Water and Sanitation department to attend to a sewage spill in Uitkamp Wetland Nature Reserve.</p>	<p>Ongoing surveillance and investigation.</p> <p>This is an ongoing challenge with the landowner. BMB is investigating alternative approaches.</p> <p>Ongoing surveillance, along with the changes in the Lockdown regulations, has improve the situation.</p> <p>Ongoing engagement with Water and Sanitation.</p>
<b>Bracken Nature Reserve, Haasendal Conservation Area and Joostenbergskloof Conservation Area</b>	<p>BNR opened for visitors on 17 July 2020, and recorded just under 6 000 visitors during this financial year.</p> <p>Joostenbergskloof Conservation Area was awarded Reserve of the Year 2020. This achievement has been motivational for the staff.</p> <p>The Friends of Bracken and the Neighbourhood Watch participated in the second community hack held at the Crammix corridor.</p>	<p>Theft and vandalism of property such as the JCA gate that was stolen. Dumping occurred in Perdekop and Haasendal and the removal of the material was time consuming with only a few staff members.</p> <p>The Bracken office is structurally damaged from earth tremors and the large development down slope. The crack widened significantly raising safety concerns. Therefore, the office had to be closed.</p> <p>All vehicles were required to undergo service. Long fleet turnaround times affected operational delivery.</p> <p>The delay in the repairs of the Krui Road reservoir that caused a leak into the Bracken Nature Reserve.</p> <p>Dogs from the neighbouring informal community enter Haasendal Conservation Area. Domestic cats hunt in Bracken.</p>	<p>Ongoing surveillance and liaison with City's Law Enforcement.</p> <p>Construction for the new offices, including renovating this building, is on track and will ultimately resolve the issue. Interim arrangements are being investigated.</p> <p>Ongoing liaison with Fleet.</p> <p>Engagement with Water and Sanitation ongoing.</p> <p>Ongoing surveillance for impacts.</p>
<b>People and Conservation</b>	EE Programmes on the reserves slowly resumed. Rethinking ways to run EE in a 'new' way could result in	Not having the P&C vehicle as it was seconded to the CCT fleet during early Lockdown when essential workers	Ongoing discussion with Fleet as to where these vehicles are and if they can be returned.

	<p>new innovative approaches. Programmes were done with the BBNR and TBNR EPWP teams. Beach clean-up events with the FoBCA were started.</p> <p>A permanent qualified EE officer, based at WANR, started on 1 November 2020.</p> <p>The EE intern positions at BBNR were extended until January 2022.</p> <p>Marketing the City Nature Challenge put us in contact with the Rotary clubs and Rotary Interact school clubs. These groups are very active and we look forward to building a strong relationship and getting them more involved in the nature reserves.</p>	needed vehicles.	
<b>Maitland (Head Office)</b>	<p>The plastic and glass recycling project is ongoing.</p> <p>The OHS and the new Facility Management team had a site meeting to inspect the roof damages at the workshop. We await the report from Mr Paul Neal.</p> <p>The uniform stocktake was completed and staff have been able to order stock. BMB took delivery of fire PPE.</p>	<p>The cross beams above parking bays 8-12 were damaged during the August 2019 storms and this was reported to Facility Management. Their response to building maintenance has been very poor. New structural damages to the parking area above parking bays 2-6 have also been reported.</p> <p>The current cleaning services tender ended on 30 June 2021. We await feedback from Facility Management on the new cleaning services.</p>	<p>Parking bays repair is followed up regularly with Facilities Management.</p> <p>Facilities Management have employed EPWP staff for the cleaning of the facility.</p>
<b>Invasive Species Unit</b>	<p>Permanent appointment of two Professional Officers, two Assistant Conservation Officers and a Quality Controller for the ISU.</p> <p>Various successful stakeholder engagements resulted in additional budget allocation. This is essential for invasive species pathway management and to ensure that the City is compliant with the NEMBA Regulations.</p>	<p>Inadequate toilet facilities, limited internet, electricity capacity, limited work space and work stations available at Westlake.</p> <p>High turnover of staff in ISU due to contract positions. This has a huge negative impact on projects and operations.</p> <p>The MOA with DFFE remains challenging especially since no funding was received this year.</p>	<p>Alternative facility to accommodate ISU staff and skills development staff is being investigated.</p> <p>Ongoing post prioritisation. Motivating for permanent positions.</p> <p>Sustainable funding sourced to ensure the City is compliant with the NEMBA Regulations.</p>
<b>CONSERVATION SERVICES UNIT</b>			
<b>Protected Area Expansion</b>	Purchase and transfer of Melkbos Erf 2003.	Joostenbergskloof sales agreement challenges resulted in the planned acquisition falling through.	Continue negotiating with Garden Cities.

	<p>Signing of the 17 ha Diemersdal Wine Estate Biodiversity Agreement.</p> <p>New negotiations underway for Schoongezicht partnering with WWF-SA.</p> <p>Protea Grove Conservation Area signed a perpetuity Biodiversity Agreement. Acquisition of RCL Langdam.</p>	<p>Continual delays in the proclamation of Table Bay and Zandvlei Nature Reserves.</p>	<p>Keep following up with CapeNature.</p>
<b>Restoration Facility</b>	<p>Critical propagation work continued, despite staff shortages.</p>	<p>The resignation of the Restoration Facility Manager.</p>	<p>Process to fill the post was prioritised. Cliff Dorse and Tamaryn Khan assisted in filling the gap in the interim.</p>
<b>Monitoring and Evaluation</b>	<p>More staff took part in the 2021 City Nature Challenge, with nearly all the nature reserves having more sightings recorded than previously. Cape Town came first with the number of observations recorded globally over the period of the Challenge (30 April to 03 May 2021). Cape Town also took part in the first Great Southern Bioblitz Challenge (25 to 28 September 2020) and came out tops for all categories out of all the areas in the southern hemisphere taking part.</p> <p>Business Framework for Witzands Aquifer Nature Reserve draft complete.</p>	<p>Delays in procurement prevented the procurement of all specialist equipment planned except replacement of some camera traps.</p> <p>COVID-19 restrictions delaying the planning process for the Protected Area Management Plans.</p>	<p>All requirements and specifications for all needs had been submitted in July to allow for 10 months to procure items required. Ongoing delays will be reported upwards via relevant lines. Monthly meetings with SCM.</p> <p>Assessing plans to fast track various processes.</p>
<b>Veterinary Services</b>	<p>Twenty-one eland were translocated off Blaauwberg Nature Reserve. There were 27 Eland, and after the successful mass capture event six remained on site.</p>	<p>Blaauwberg is difficult topographically for game capture. The eland have adapted and reproducing very well on this site, growing from the eight introduced in 2017 to 27 in 2021. Many options were considered and attempted. Mass capture with a helicopter remains the most efficient manner of removing surplus eland from Blaauwberg Nature Reserve.</p>	<p>A mass capture will be performed every 2-3 years at Blaauwberg Nature Reserve. The hartebeest may also need to be relocated from time to time.</p>
<b>Water Quality and Project Management</b>	<p>Collaboration with Water &amp; Sanitation and EMD to resolve, repair and maintain the Water &amp; Sanitation infrastructure that affects nature reserves.</p>	<p>Overall challenge at Table Bay Nature Reserve has been the ingress of sewage into the Diep River due to sewage spills from manholes.</p> <p>All three recreational waterbodies, under BMB management, were closed due to water quality issues in 2021. BMB staff are developing remediation plans to improve the health of all the affected systems.</p>	<p>Compliance Notices from EMD to Water &amp; Sanitation. Collaborative investigations by EMD and Water Pollution Control. Remediation plans by EMD.</p>
<b>Urban Baboon Programme</b>	<p>The baboon troops were kept out of the urban area on average for 95.1% of the time.</p>	<p>Shifts in baboon troop ranging areas resulted in new baboon-impacted suburbs (i.e. CT2 Troop moving north</p>	<p>This required additional staff and resources. However, because of the undefined urban edge and large</p>

	<p>The placement of a GPS tracking collar on a baboon in the CT2 Troop has enabled the field teams to better anticipate the troop's approach to the urban edge, resulting in decreased time spent in the suburbs surrounding their range.</p> <p>NCC participated in far-reaching community engagement through various platforms. Highlights included collaboration with a local educational NGO Guardians of the Deep to plan and host two outdoor baboon educational events with 60 children from Masiphumelele, Ocean View, Kommetjie and Tokai; hosting several well-attended educational evenings with baboon-impacted communities; and wide circulation and sharing of online educational resources to reach members of the public in the midst of COVID-19 restrictions.</p>	<p>of Constantia Nek), requiring additional staff and resources.</p> <p>Considerable illegal behaviour by members of the public with regard to baboons was noted. This included direct feeding of baboons, shooting with pellet guns, hunting with dogs, and setting snares.</p> <p>Temporary withdrawal of support for the use of paintball markers (PBMs) by the National SPCA placed the Urban Baboon Programme (UBP) in a difficult position, which resulted in a 41-day removal of paintball markers from the field. This created a myriad of issues for residents, baboons, and the UBP as a whole.</p>	<p>properties, the current methods are less effective.</p> <p>Close collaboration with relevant authorities to ensure swift reporting with the aim of prosecution. Illegal behaviour to the detriment of baboons unfortunately is continuing.</p> <p>Due to these challenges, as well as the litigation and social media challenges, the future of the UBP is being reassessed, especially in relation to governance, roles and responsibilities.</p>
--	---	---	---

## 3. Strategy, Policy and Legislation, and Plans

---

### 3.1 Internal Audit

---

An Internal Audit on Biodiversity (Report No. ENV-002-2021) was conducted from September 2020 to February 2021, as per the Amended Audit Plan approved by MayCo on 25 August 2020.

The objectives of the audit were to assess whether adequate and effective measures are in place to ensure:

- a) the Bioregional Policy, Local Biodiversity Strategy and Action Plan (LBSAP) and Biodiversity Network (BioNet) are aligned with relevant legislation and up to date;
- b) that threats are timeously identified and managed accordingly;
- c) that transversal role players are timeously identified and relationships/partnerships established to assist with the management of the threats;
- d) enrichment of Cape Town's citizens' knowledge and awareness of the local biodiversity through awareness and communication plans; and
- e) action plans exist to manage biodiversity threats successfully, which include performance measures that are monitored and reported on.

There were several positive outcomes from the audit. The LBSAP is up to date as it was updated and approved in July 2019. Protected Areas (Nature Reserves) are compliant in terms of having the Protected Area Management Plans in place. Biodiversity Stewardship agreements are in place with private landowners to conserve Biodiversity. Quarterly meetings are held where lessons learnt in respect of biodiversity management are shared amongst the various areas within the BMB. Implementing these positive actions will help ensure that the BMB's strategy and plans are more structured going forward. The recommendations for improvements by Internal Audit were welcomed and accepted by management. These recommended actions are underway in order to mitigate the risks and improve the control environment.

### 3.2 Biodiversity Network

---

BMB is working with a service provider to rerun the fine scale systematic biodiversity plan for Cape Town, known as the Biodiversity Network or BioNet. The BioNet is a key informant in spatial planning processes and decision making for Cape Town; and directs Protected Area expansion planning locally and provincially. With implementation, the BioNet will further underpin the sustainability of Cape Town and improve its resilience to the effects of climate change. An up-to-date BioNet will be incorporated into the Municipal Spatial Development Framework (MSDF 2022), Integrated Development Plan (IDP 2022-2027), and other relevant planning documents. To this end, the BioNet needs to be rerun to ensure that it adopts recent changes and reflects on-the-ground information.

The remaining extent of vegetation in the city has changed since the BioNet was last rerun in 2016. Losses to formal developments and widespread land invasions must be reflected on the remnant vegetation layer to inform the BioNet rerun. Similarly, recent additions to the network of Protected and Conserved sites need recognition. Therefore, the remnant vegetation map was interrogated, several sites were ground truthed, and GIS mapping was refined.

In addition to changes on the ground, national changes since the last rerun must be adopted in the BioNet. The revised national vegetation map has two additional vegetation types recognised for the City. Cape Seashore Vegetation was separated from Cape Flats Dune Strandveld, and Peninsula Shale Fynbos was separated from Cape Winelands Shale Fynbos. Now twenty national vegetation types occur in Cape Town, half of which are Critically Endangered. Peninsula Shale Fynbos only occurs in Cape Town, so there are now seven vegetation types endemic to Cape Town. Assessments of ecosystem threat status were also comprehensively revised through the National Biodiversity Assessment (NBA 2018). These are being used to rerun Cape Town’s BioNet, because the NBA 2018 represents the best available science.

One of the initiatives during the working from home Lockdown period was to start planning around expanding the Protected Area expansion initiatives beyond the City boundaries. This is needed to ensure adequate buffering and connectivity of Protected Areas, cost-effective offset options, and the capturing of threatened ecosystems and species. All CBAs within 10 km from the City boundary were identified (Figure 15).

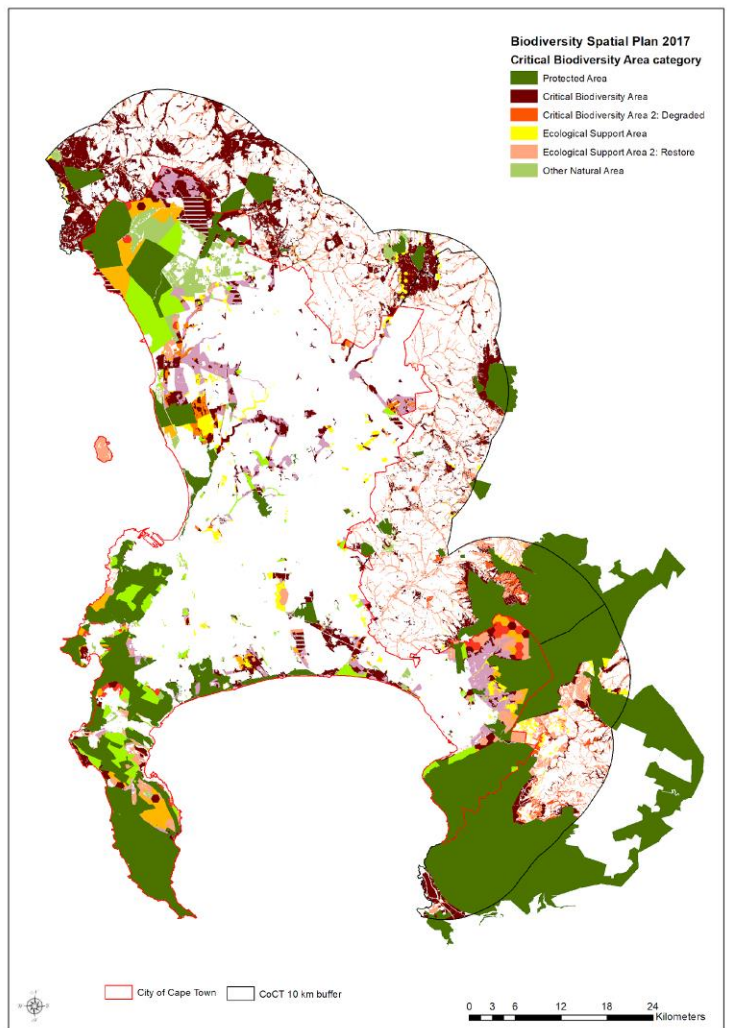


Figure 15: BioNet with 10 km buffer for conservation planning purposes.

### 3.3 Protected Area Management Plans

BMB is currently reorganising the Integrated Reserve Management Plans (IRMP's) into Protected Area Management Plans (new PAMPs). This process continues, although delayed due to COVID-19 Lockdown regulations. Work continued on the following PAMPs: Tygerberg, Bothasig Fynbos, Steenbras, Edith Stephens, Table Bay, Witzands Aquifer, Zandvlei and False Bay Nature Reserves.

### 3.4 Invasive Species Control Plans

The NEMBA Alien and Invasive Species Regulations (2014) requires all organs of state at all spheres of government to control invasive species, monitor and report progress, and incorporate invasive species management, control and eradication plans into IDPs. The City has submitted control plans for all its 16 proclaimed nature reserves and submitted two for additional areas managed but not proclaimed. The DFFE visited 11 nature reserves to confirm invasive species compliance on the reserves. The ISU has received written confirmation from DFFE that the City is compliant with respect to Invasive Species Control Plans for six

sites. The site visits had to be postponed for the rest of the nature reserves due to COVID-19. The City was one of the few municipalities countrywide that submitted control plans.

### 3.5 District Spatial Development Frameworks

---

Much time was spent over the past year reviewing the eight draft District Spatial Development Frameworks (DSDFs). These represent the integrated Spatial Development Framework and Environmental Management Framework (EMF) suite of documents that comprise the baseline and analysis report, spatial policy and guidelines technical report, and implementation plan for each district. This work relates to the long-term (ten year) vision for each district, as well as the guidelines and projects to help the City be in a position to achieve that vision. As such, ongoing engagement with the District Planning and Mechanisms Branch and other City line functions has been crucial to ensure that the BioNet is fully and accurately adopted as a key informant in the City's spatial planning products. Mainstreaming the BioNet into the DSDFs is essential for improved land-use decision making to avoid further inappropriate loss of biodiversity. Most importantly, protected areas and conservation areas must not inadvertently be targeted for New Development Areas.

### 3.6 Western Cape Provincial Protected Area Expansion Strategy

---

BMB provided a segment for incorporation into the 2020 – 2025 Western Cape Provincial Protected Area Expansion Strategy. It is very important to ensure that the City's protected area expansion priorities are also reflected on the Provincial strategy.

### 3.7 Business Framework for the Witzands Aquifer Nature Reserve

---

The Business Development Framework for the **Witzands Aquifer Nature Reserve** has been completed and will be presented to Spatial Planning and Environment Portfolio Committee on 5 August 2021. Instead of using this as a business plan, it was thought best to present it as a business framework to allow and promote for local business activities and opportunities in the area. This plan also ensured that some planning has been done towards the Conservation Development Framework/Plan (CDF) for the Reserve.

### 3.8 Heritage Management Framework for Biodiversity Management

---

Additional data was added to the Inventory and screened through the records available on the Environment and Heritage Resources Information Centre (EHRIC) SharePoint site. The Heritage Inventory for the Branch has been sent to the Heritage team for review (checking for any gaps in data and to determine crossover with the Heritage geodatabase). A guidelines document was drafted by Harriet Cliff regarding correct handling of archaeological finds in field on conservation sites. Training for the Branch will be arranged once this has been finalised.

## 4. Green Jobs

### 4.1 Job Creation

In total, 127 417.50 person days of temporary employment (533.86 full-time job equivalents; 3 955 job opportunities) was created under the Kader Asmal Catchment Management Programme (Table 2 and Figure 16). Table 2 below shows a detailed breakdown of the job opportunities created for this financial year. The job creation target for the ISU was 3 000 job opportunities and 250 FTE's. This target of 3 000 job opportunities was exceeded and overall BMB spent a budget of just over R54 M which includes Kader Asmal, NRM projects, ward Allocation and all line departments.

**Table 2: Job Opportunities created. Although some were for other line departments, all job opportunities were recorded for EMD.**

Project	Budget (excl. VAT)	Expenditure (excl. VAT)	Person Days	Job Opportunities	FTE
Kader Asmal Integrated Catchment Management Programme: GPX.0000987-F1	R 20 000 000.00	R 19 993 731.16	106684	3578.00	488.16
Kader Asmal Integrated Catchment Management Programme Roll-Over Funding: GPX.0000987-F1	R 5 018 395.13	R 5 018 395.13			
Kader Asmal Integrated Catchment Management Programme Additional Funding: GPX.0000987-F1	R 6 929 542.70	R 6 929 542.70			
Kader Asmal Integrated Catchment Management Programme: S20.00104	R 5 162 014.00	R 5 170 894.55			
Kader Asmal Skills Development Programme Roll-Over Funding: GPX0000.984-F1	R 704 956.90	R 704 956.90			
Kader Asmal Skills Development Programme: GPX0000.984-F1	R 3 500 000.00	R 3 493 120.40			
EPWP Capital Funding: CPX.0018808-F1	R 24 000.00	R 24 000.00	0	0.00	0.00
EPWP Capital Funding: CPX.0014235-F1	R 81 492.21	R 81 492.21	0	0.00	0.00
Ward 61 & 69 Allocation (Alien Vegetation Removal): WPX.0011691	R 600 000.00	R 599 997.40	1122	23.00	4.88
Ward 30 Allocation (Canal Cleaning / Green jobs): WPX.0011693	R 100 000.00	R 99 814.00	189	20.00	0.82
Urban Management: SPX.0001434	R 1 000 000.00	R 999 993.37	9115	128.00	40.00
Solid Waste: S21.00125	R 500 000.00	R 499 999.97	2177	46.00	0.00
Recreation and Parks: N21.44444-RD.CO.KR.WC	R 125 771.03	R 125 771.03	3418	34.00	0.00
Transport Department: P19070116	R 750 000.00	R 513 757.60	2329	36.00	0.00
Enterprise and Investment: N21.00109	R 861 166.47	R 645 535.66	2384	47.00	0.00
<b>TOTAL</b>	<b>R 45 357 338.44</b>	<b>R 44 901 002.08</b>	<b>127417.50</b>	<b>3955.00</b>	<b>533.86</b>

The ISU also facilitated job creation of approximately 900 job opportunities for other line functions (Table 3). This close partnership with other line departments ensures job creation while best management practice in clearing alien invasive species from City land is undertaken. A further 78 job opportunities were created as part of the NRM programme (Table 4), bringing the total number of job opportunities created to 4 957 (668.25 FTEs).

**Table 3: Job Opportunities created on behalf of other line departments.**

Line Departments	Planned Budget	Actual Expenditure	Person Days	Job Opportunities*	FTE	Comments
<b>Water and Sanitation: N21.86019-CS</b>	R 6 807 153.53	6807153.53	14882.00	561.00	65.00	Job opportunities created on behalf of Water and Sanitation Directorate
<b>Human Settlement: P19040007</b>	R 435 075.21	435075.21	935.00	54.00	4.00	Job opportunities created on behalf of Human Settlements Directorate
<b>Human Settlement Additional Funding: GPX.0000922-F1</b>	R 976 354.00	976353.00	6949.00	255.00	30.00	Job opportunities created on behalf of Human Settlements Directorate
<b>TOTAL</b>	<b>R 8 218 582.74</b>	<b>R 8 218 581.74</b>	<b>22766.00</b>	<b>870.00</b>	<b>99.00</b>	

**Table 4: Job Opportunities created as a result of the NRM programme.**

Project	Planned Budget	Actual Expenditure	Person Days	Job Opportunities	FTE
<b>NRM Peninsula Wetlands Project (G15.00018-F2)</b>	R659 738.17	R659 738.17	2 410.5	78	10
<b>NRM Working for Water Terrestrial Project (G15.00087-F1)</b>	R288 835.93	R288 835.93	1 103	0	5
<b>TOTAL</b>	<b>R948 574.10</b>	<b>R948 574.10</b>	<b>3 513.50</b>	<b>78.00</b>	<b>15.00</b>



**Figure 16: Diep River Catchment EPWP team with the ISU staff.**

## 4.2 Social Development

---

World AIDS Day is celebrated to highlight the success of worldwide efforts to combat HIV/AIDS, show support for people living with HIV, and commemorating those who have died from an AIDS-related illness. The ISU commemorated World AIDS Day and used this day to acquire information and new developments on HIV and AIDS from experts in the City's health department. Staff members were encouraged to do voluntary HIV testing on this day.



ISU collaborated with Cape Town Association for the Physically Disabled to celebrate and commemorate International Day of Persons with Disability at Nantes Park. For 2020, the theme was "a day for all" with the focus on young children living with disability. In line with this theme, the ISU contributed by teaching these children together with their parents/guardians about Biocontrol, how plants are propagated and reintroduced back into nature, and why this is important (Figure 17).

**Figure 17: Commemoration of International Day of Persons with Disabilities, at Nantes Park in Athlone.**

## 5. Conservation Services

### 5.1 Protected Area Expansion

#### 1) Reserve Proclamation

- No reserves were gazetted during the reporting period. The remaining two (Zandvlei and Table Bay Nature Reserve) will hopefully be gazetted soon.
- The conservation estate of all proclaimed and secured areas (e.g. land purchased and not yet proclaimed) now stands at **55 595 ha (65.41%** of the BioNet) as of June 2021 (see Table 5). The target is 65% of the 2009 BioNet conserved by 30 June 2022.

Table 5: Conserved land in Cape Town.

Management Authority	Area	BioNet*
City of Cape Town	17 584.68 ha	20.69%
SANParks (TMNP)	25 100.00 ha	29.53%
CapeNature	7 822.10 ha	9.21%
Stewardship (CapeNature and CCT sites)	2 261.97 ha	2.66%
Eskom	2 825.87 ha	3.32%
<b>TOTAL</b>	<b>55 594.62 ha</b>	<b>65.41%</b>

\*Percentage of the 2009 BioNet, as of June 2021

#### 2) Reservation of City Land (conserving City-owned land)

Reservations for sixteen properties were initiated and the relevant reservation application submitted. Two of these reservations were completed with the remaining ones in process. One of these was a portion of Cape Farm Ariesfontein (CA77), which was reserved for the BMB. There are still a further seven reservations in process that were submitted previously.

#### 3) Recreation and Parks Biodiversity Agreement Sites

Hout Bay River, Onse Jan and St John's Conservation Areas were assessed and presented to the Protected Area Expansion review committee. All qualified as Biodiversity Agreement (BA) sites. During this reporting period a further two sites, Morgenster Dune and Skilpadsvlei Conservation Areas, were also presented and both qualify for BAs. All new agreements are currently with Recreation and Parks Department to finalise for signature. The 16 existing City BA sites were all audited by CapeNature as part of the annual review process.

#### 4) Conservation Stewardship (conserving private and communal land)

Since the inception of the stewardship project in 2010, 24 properties (excluding properties on the Peninsula that have agreements with SANParks) have signed Biodiversity Stewardship agreements. Twelve of these properties have signed perpetuity agreements totalling 2 262 ha. The following notable events occurred regarding the stewardship programme:

- At **Heron's Roost Conservation Area** on Three Fountains, the quality of the remnant is very low because of heavy grazing by sheep. Invasive species have not had any follow-up clearing done. Lots of work is needed to fix up the fence and do follow-up treatment in the conservation area. Restoration material is also required, likely from Atlantis Cemetery site, for active restoration.
- A botanical scan of **Three Fountains Estate Portion 81** was conducted as part of a staggered subdivision application by C.K. Rumbol. The bulk of the property is in a very poor condition apart

from a small sliver of wetland, less than 300 m<sup>2</sup> in size, containing a few individuals of *Babiana blanda* (Critically Endangered).

- TMF Technical Incentive Funding was obtained from CapeNature to fence the **Manning Family Conservation Area**. Co-funding was successfully requested from the Department of Agriculture: LandCare project, who bought the materials and the TMF funding covered the labour to install the fence. Seventeen *Leucadendron thymifolium* (Critically Endangered) and 25 *Ruschia macowanii* were planted at Manning Family Conservation Area.
- Funding to the value of R20 000 was approved for restoration work to be done at the **Joubert Family Conservation Area** from the 2021 budget of the TMF Stewardship Technical Incentives Fund. Seventy-five *Searsia crenata* and 200 *Osteospermum moniliferum* were planted at Joubert Family Conservation Area.
- **Diemersdal Wine Estate** signed a 10-year Biodiversity Agreement conserving 17 ha of Swartland Shale Renosterveld. The conservation area will also conserve the new populations of *Oxalis strigosa* (Endangered) along with *Geissorhiza rosea* (Near-threatened) discovered during the site assessment.
- A camera trapping survey was conducted at **Boskloof Conservation Area** to monitor the duiker population. The camera traps were in field for almost seven months. Andrea Schnetler is assisting with analysing the data (Figures 18-23). Twelve *Ruschia schollii* (Endangered) were planted at Boskloof Conservation Area.
- Initial clearing and follow up clearing of Mexican water lily (*Nymphaea mexicana*) was conducted at Yellowwood dam in Somerset West (Figures 24-26).



Figures 18-23: Camera traps at Boskloof CA Top left: Common Duiker (*Sylvicapra grimmia*), Small Grey Mongoose (*Galerella pulverulenta*), and Redknobbed Coot (*Fulica cristata*). Bottom left: Common Duiker (*Sylvicapra grimmia*), Water Mongoose (*Atilax paludinosus*), and Small-spotted Genet (*Genetta genetta*).



Figures 24-26: Clearing of Mexican Water Lily at Yellowwood Dam in Somerset West.

- Ongoing negotiation took place towards updating the Stewardship Agreement level for **Intaka Island** from Biodiversity Partnership Agreement to Protected Area Management Agreement.
- Removal of rubble out of wetlands at **Kenilworth Racecourse Conservation Area** was made possible from the TMF Stewardship technical assistance fund (Figures 27 - 32).



Figures 27-32: Rubble removal from Kenilworth Racecourse Conservation Area.

- **Protea Grove Conservation Area** signed a perpetuity Biodiversity Agreement.
- New negotiations are underway for **Schoongezicht**, partnering with WWF-SA.
- One of the TMF Small Grants projects was expanded from fencing off a 2 ha Vernal Pool on Nieuwepost Farm to establishing a 6.4 ha **Nieuwepost Conservation Area** containing the Cape Vernal Pool and 4 ha of Critically Endangered Swartland Granite Renosterveld wetlands. Funding was as follows: total project value R67 000 (R30 000 by TMF, R30 000 by Dept. Agriculture: LandCare and the difference by the landowner).
- CSU staff attended the CapeNature Protected Area Expansion peer-learning workshop (Figure 33).



Figure 33: Demonstration during the CapeNature Protected Area Expansion peer-learning workshop.

### 5) The Dassenberg Coastal Catchment Partnership

The Dassenberg Coastal Catchment Partnership (DCCP) is an ongoing initiative of the City, CapeNature, WWF, TMF, SANParks, the Wilderness Foundation, the Cape West Coast Biosphere, DEA&DP and SANBI. The DCCP continues with the partnership and has initiated the implementation of the grant received from the GEF5 for the coordination of the partnership and initiation of key projects:

- The **DCCP/TMF Small Grants programme** commenced again with Ricardo Adonis (CapeNature), appointed to run the programme. Some of the shortlisted projects from the call for proposals from June 2019 were revisited and contracts issued to projects that are still feasible, given the shorter time frame and COVID-19 restrictions. A new call for proposals was rolled out in August 2020 and 13 new projects have been reviewed. There are currently 23 active projects where the CCT is overseeing the implementation of six projects to the value of approximately R200 000 (Table 6).

**Table 6: DCCP / TMF small grants programmes, where implementation is being overseen by the CCT.**

Project Name	Funding Required	Progress
<u>Breathless Nomad:</u> To bring 100 paying tourists from Atlantis, Mamre and Pella communities to the Witzands Aquifer Dunes for recreational and educational purposes.	R30 000	This project is useful to draw more children and young adults from the local Atlantis and Mamre communities for Environmental Education. The project is roughly <b>75% complete</b> .
<u>Kanonkop Cannon restoration and heritage information project:</u> To restore the historic cannon from Kanonkop to firing condition; and produce two replica cannons for display at Witzands Aquifer Nature Reserve and signage on the heritage significance of the signal gun system.	R30 000	Two replica cannons were cast at Pepino cement, two carriages were manufactured by Gerry de Vries. The signboard is being manufactured. The interpretation site is 95% complete, and an official opening ceremony is planned. The project was <b>completed by the end of March 2021</b> and the final project report has been submitted to CapeNature.
<u>Fencing the Oxalis natans vernal pool:</u> Fencing of the Cape Vernal Pool from grazing animals. The pool has numerous threatened species, notably <i>Oxalis natans</i> (Critically Endangered).	R67 000	After a meeting with the new landowner, the wetlands 'camp' was expanded from an original 2.3 ha to 6.4 ha. This meant that an additional 400 m of fencing was required. <b>Dept. Agriculture: LandCare was again hugely supportive and provided the additional R36 000</b> to complete the larger fencing project. The project was <b>completed at the end of March 2021</b> and the final report submitted.
<u>Two Oceans Aquarium Education Foundation:</u> 'Oceans in Motion' and 'Smart Living' outreach to 870 children from all communities in the DCCP.	R30 000	Four outreach activations took place. Their outreach educator, Thabo, reached <b>930 children</b> from Atlantis, Mamre and Pella, which is 107% of the project deliverables – an amazing achievement. The final invoice was submitted to CapeNature at the end of March 2021, <b>the final report is being drafted</b> .

- The next round of invasive species clearing, funded by the Department of Agriculture: **LandCare** programme on Stewardship sites in the DCCP is currently being planned. A budget of R1.1 M was approved for the 2021/2022 financial year. Work is planned over 17 properties, aiming to employ 38 people in the next financial year from July 2021 to March 2022.
- The BMB helped draft a S28 response to DFEE after the illegal clearing of high quality Atlantis Sand Fynbos along Pella Road in the Mamre Core Flora Site.

## 6) Development facilitation through land banking and other offsets

Biodiversity offsetting is a relatively novel practice in South Africa that has not always been implemented in a defensible and consistent manner. The approach now adopted in the Atlantis Conservation Land Bank and the Metro Southeast Strandveld Conservation Implementation Plan (CIP) is helping to address the shortcomings of biodiversity offset practice in Cape Town, and to shape the draft National Biodiversity Offset Guideline.

### **Atlantis conservation land bank**

The Atlantis industrial incentive scheme includes a land-banking component. Key biodiversity properties outside the urban edge (and within the DCCP) are proactively purchased and conserved to mitigate the loss of biodiversity remnants within the urban edge and industrial area of Atlantis, thereby facilitating new investment opportunities in the area. This scheme is supported by Province's DEA&DP and CapeNature. This pragmatic approach facilitates development while ensuring that priority land is added to the conservation estate, thereby securing biodiversity resources and the vital ecosystem services they deliver. No additional properties were acquired in the last reporting period for this project. However, five external botanical assessments were reviewed, two botanical scans were conducted and three letters of support to use the conservation land bank were drafted. Staff assisted with the planning, and facilitated the implementation of alien clearing, as well as the Search and Rescue operation in the Atlantis Industrial Area as part of the Atlantis Special Economic Zone Incentives Scheme.

### **Metro Southeast Strandveld Conservation Implementation Plan**

The CIP is a collaborative City-led project including conservation partners CapeNature, DEA&DP and SANBI. The concept is to facilitate development on various Strandveld remnants, while protecting and providing management resources to others.

No additional operational budget was acquired to proactively implement the CIP. Therefore, the required budget to manage biodiversity offset sites remains conditional to approvals for each biodiversity offset receptor site selected. The developer (e.g. Human Settlements) is liable to implement an offset plan that is a condition of the environmental authorisation.

The BMB has been working closely with Offset Specialists to identify and prioritise candidate biodiversity offset receptor sites to facilitate key housing developments on the Cape Flats. This has included refining site selection criteria, desktop screening and prioritisation, site visits (e.g. Figures 34 and 35), and discussions with Specialists and Human Settlements colleagues. The preferred biodiversity offset receptor sites include strategic additions to existing nature reserves and/or ecological corridors to secure connectivity between nature reserves.



**Figures 34 and 35: CSU staff and Offset Specialist assessing candidate biodiversity offset receptor sites in Strandfontein (Photos: Douglas Macfarlane, January 2021).**

The following notable actions relating to the CIP occurred during the reporting period:

- An offer was made to the New Apostolic Church for the acquisition of Erf 1191 Macassar. However, this offer was rejected.
- The Morgenster Dune conservation area was assigned Biodiversity Agreement status.
- A meeting with Public Works regarding Macassar Dune Conservation Area was held.
- The owner of Erf 1189 Macassar was contacted to discuss possible conservation options.
- CSU met with Karel Braaf, the owner of Erf 1190 Macassar, to discuss possible conservation options.

#### **Other offset discussions**

- Ongoing negotiations as part of the mitigation for the Maroela North Mixed-use development. Two additional hectares are still required for the terrestrial biodiversity offset process by 2022. The valuation was completed and negotiations are ongoing with Mr. Mark Cloete, owner of **Langerug (CA 36/3)**.
- The **Klipheuwel Dairy Farm's** S24G process has been hanging indefinitely for two years already. This lack of progress prevents the signing of the conservation stewardship agreement for the 35 ha remnant. As a result, the landowner again started stocking cattle in the camp with the natural vegetation. This is having a marked negative impact on the site. This is a significant setback to good will and progress towards conservation that was achieved during the initial engagements.
- Valuation for **Melkbos Erf 633/RE** was completed and an offer was made by the Acquisitions section of CCT Property Management. The landowners rejected the initial offer, but were encouraged to submit a counter-offer. Negotiations are ongoing.

- A meeting with Mr. Ivan Brown helped to facilitate the potential acquisition of a 9 ha portion of the farm Meerendal Portion 44 to be added to Uitkamp Wetland Nature Reserve.

### **Properties for biodiversity offsets outside the City boundaries**

The gradual ground truthing of these CBAs began in areas highlighted for Protected Area Expansion in the Provincial Protected Area Expansion Strategy. Several properties identified as Conservation Action Priorities in the Provincial Protected Area Expansion Strategy were visited and basic ecological data captured to be presented at the next Stewardship Review for potential action towards securing these remnants into the Provincial Protected Areas Estate. These include:

- Kransduinen Farm (MA 719/RE) spanning 1 499 ha of Atlantis Sand Fynbos CBA1, was assessed as a potential wetland offset as part of the Annandale housing development or other future CCT offset requirements. A follow-up assessment was completed in spring to capture additional flowering species that were not captured during the first assessment in autumn. The valuation completed for the property by Mr. Jan Roux was also approved by the City's valuations department.
- Kalbaskraal Nature Reserve was visited to assess the quality of the natural remnants within the West Coast District Municipality and SANRAL portions. The municipal portion is almost entirely degraded and of low ecological value. The private section, however, remains of immense conservation value supporting high numbers of threatened species and high quality remnants. The SANRAL portions are mostly heavily degraded, but contain highly threatened species including the last remaining population of *Marasmodes trifida* and therefore still of conservation concern if the private section of Kalbaskraal Nature Reserve can be better secured.
- Two properties (Burgherspost and Nieuwepost farms) were assessed in the Swartland Municipality. They are in the DCCP and border on Riverlands Nature Reserve and Mamre Nature Garden. These two properties contain over 1 000 ha of wetlands and over 500 ha of Granite Renosterveld. With over 80 species of conservation concern, they are of high conservation value. They are also key properties in the DCCP to secure the greater catchment area that feeds into Riverlands Nature Reserve. Burgherspost is a Biodiversity Partnership Agreement; with negotiations underway to upgrade the wetlands to a Biodiversity Agreement. Nieuwepost has no conservation status, but negotiations commenced for a Biodiversity Partnership Agreement for the Cape Vernal Pools and the wetlands east of the railway line spanning 677 ha.

## **7) Public land**

### **Parcels of state land scattered across the City**

- Meetings were held with the Department of Public Works to discuss possible options in an attempt to resolve the state land challenges. This included discussion on the future of the Macassar Dunes.
- Staff accompanied Public Works and the DEA&DP Coastal Management Branch on a site visit to Monwabisi to discuss ownership and management going forward.
- The request letters to Public Works were resubmitted for the nine erven of priority state land for conservation in the City. Inquiries were made with the Regional Land Claims Commission (RLCC) to determine whether there are any land claims against these properties. Three erven are under investigation for land claims (Restitution Purposes): Remainder of Drift Sands No 544, Cape; Portion 2 of Drift Sands No 544, Cape; and Remainder of Brakkefontein No 32, Cape. They may not be available for disposal, unless the RLCC advise otherwise.
- A drone assessment was conducted of informal structures across MA 982 and MA 981 in the DCCP, to determine the most appropriate subdivision lines in order to transfer unhindered portions of these key properties to CapeNature.

### **Steenbras Catchment Forestry Exit Land**

- These properties are critical to the securing of the Steenbras upper catchment and water security for Cape Town. The Steenbras properties in question are included in the processes mentioned above.

## 8) Core Flora Sites

The Core Flora Sites are a set of 37 sites identified in the late 1990s as being of critical conservation importance. These sites form an important component of the BioNet, and remain a priority for conservation. They act as a good barometer of how our conservation efforts have and are proceeding. The following actions occurred around the unprotected Core Flora Sites during the reporting period:

- Julia Wood completed her draft MISTRA paper entitled: *Measuring the Success of Conservation Planning using The Cape Flats Core Flora Conservation Programme as a case study*.
- Funding was received from WWF-SA to conclude the sales agreement with Garden Cities for Joostenbergskloof Core Flora Site in 2021. Unfortunately, the sale was not concluded.
- Ongoing negotiations for Schoongezicht Core Flora Site, in partnership with WWF-SA.
- Ongoing negotiations for Conservation Stewardship status of Hercules Pilaar Natural Heritage Site.
- Ongoing negotiations for Conservation Stewardship status for Telkom Radio Farm.

## 5.2 Flora

---

### 1) Biodiversity Floral finds

#### Species recorded in the City for the first time:

- *Pelargonium pilosellifolium* in the Dassenberg section of the DCCP (Figure 36A).
- *Pelargonium psammophilum* in the Dassenberg section of the DCCP (Figure 36B).
- *Pelargonium viciifolium* (Endangered) at Joostenbergskloof (Figure 36C).
- *Pelargonium tenellum* in the silcrete soils at Joostenbergskloof (Figure 36D).
- *Ixia erubescens* (Endangered) at Joostenbergskloof (Figures 37 and 38).
- *Codonrhiza elandsmontana* (cf Endangered) at Joostenbergskloof (Figure 39).
- *Erica petrophila* at Steenbras Nature Reserve, at about 560 m above sea level (Figure 40 and 41).

#### Other notable botanical records:

- *Geissorhiza setacea* (Endangered) at Joostenbergskloof (Figure 45).
- *Gladiolus orchidiflorus* (Least concern) at Ariesfontein (Figure 47).
- *Babiana blanda* (Critically Endangered) at Three Fountains Estate (Figure 48).
- *Oxalis levis* (Critically Endangered) at Nieuwepost, DCCP.
- *Geissorhiza purpureolata* (Near threatened) at Joostenbergskloof (Figure 46).
- *Moraea versicolor* (Vulnerable) at Joostenbergskloof.
- *Moraea villosa* (Vulnerable) at Joostenbergskloof (Figure 49).
- *Cliffortia acockii* (Critically Endangered) at La Fontaine (Poncelet).
- *Aristea lugens* (Endangered) at Joostenbergskloof.
- *Geissorhiza radians* (Endangered) at La Fontaine (Poncelet) Conservation Area (Figure 43).
- *Pelargonium leptum* (Vulnerable) at Goedgenoeg, Polkadraai.
- *Senecio cadiscus* (Critically Endangered) in a farm dam north of Durbanville (Figure 42).
- *Aspalathus lebeckioides* (Vulnerable) at Joostenbergskloof.
- *Moraea cooperii* (Vulnerable) and *Aspalathus araneosa* (Vulnerable) were discovered during a BioBlitz at Wemmershoek dam.
- *Leucospermum grandiflorum* (Endangered), *Leucadendron verticillatum* (Critically Endangered) and *Metalasia octoflora* (Endangered) at the Cape Winelands Airport.
- *Indigofera psoraloides* (Endangered) at Nieuwepost Conservation Area.
- *Chrysocoma esterhuizeniae* (Critically Endangered) at Schoongezicht. This is only the second site where this species is known to occur in the City.
- Several of the *Protea odorata* (Critically Endangered) seedlings at Joostenbergskloof survived the summer and are persisting (Figure 44).
- *Centella caespitose* (Vulnerable) at Steenbras Nature Reserve.



Figures 36A – D: Four geophytic *Pelargoniums* A) *Pelargonium pilosellifolium*, B) *Pelargonium psammophilum*, C) *Pelargonium vicifolium* and D) *Pelargonium tenellum*.



Figures 37 and 38: *Ixia erubescens*.



Figure 39: *Codonorhiza elandsmontana*.



Figures 40 and 41: *Erica petrophila*.



Figure 42: *Senecio cadiscus* (CR); north of Durbanville.



Figure 43: *Geissorhiza radians* (EN).



Figure 44: *Protea odorata* seedling.



Figure 45: *Geissorhiza setacea* (EN); Joostenbergskloof.



Figure 46: *Geissorhiza purpureolata* (NT); Joostenbergskloof.



Figure 47: *Gladiolus orchidifloris* (LC) Baas Ariesfontein.

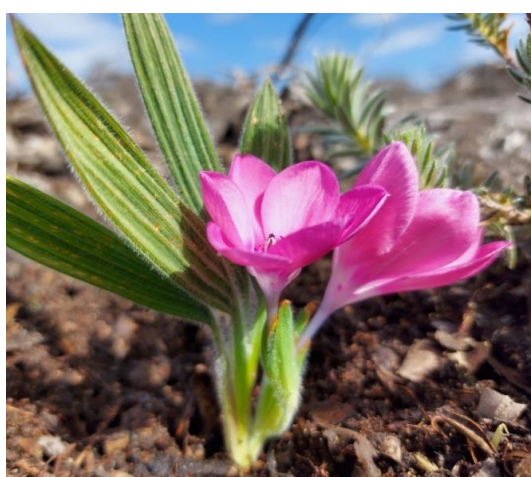


Figure 48: *Babiana blanda* (CR); Three Fountains Estate.



Figure 49: *Moraea villosa* (VU) Joostenbergskloof.

## 5.3 Fauna

### 1) Notable records for the year

- The mystery Mountain Toadlet found last year at Steenbras Nature Reserve was confirmed to be Landroskop Mountain Toad (*Capensibufo magistratus*.) This is the first record of this species in the City and the first record away from the only known site at Landroskop. A survey at Steenbras Nature Reserve revealed no toads or eggs at last year's breeding sites. (Figure 50).
- Confirmation of the first record for the City of Southern Caco (*Cacosternum australis*) calling at the Bulk Water offices at Steenbras Nature Reserve.
- An emaciated Leopard Seal (*Hydrurga leptonyx*), native to Antarctica, came ashore at Koeberg Nuclear Plant (Figure 51).
- A Lesser Sand Plover (*Charadrius mongolus*), found by Garret Skead at the Strandfontein Birding Area section of False Bay Nature Reserve on 23 December, is the first record for the City (Figure 52).
- Several dragonfly surveys were conducted at Steenbras Nature Reserve. Eleven species were recorded, including two threatened species: Yellow Presba (*Syncordulia gracilis*) Vulnerable (Figure 53) and Mahogany Presba (*Syncordulia venator*) Vulnerable (Figure 54).
- Klipheuwel Caco (*Cacosternum aggestum*) was recorded at Nieuwepost Conservation Area. This constitutes an extension in the species' known range and is the most westerly known population.



**Figure 50: Julia Wood during a Landroskop Mountain Toad (*Capensibufo magistratus*) survey at Steenbras Nature Reserve.**



**Figure 51: Injured, emaciated sub-adult Leopard Seal at Koeberg.**



**Figure 52: Lesser Sand Plover (*Charadrius mongolus*).**



Figure 53: The Vulnerable Yellow Presba (*Syncordulia gracilis*).



Figure 54: The Vulnerable Mahogany Presba (*Syncordulia venator*).

## 2) Fauna management

### Game Management

The City's reserves contain various game species that need to be registered. Table 7 shows the game register for the last financial year.

Table 7: Game register for 2020/2021.

Species	Translocations	Births	Deaths	Total in CCT	Animals on Loan	Animals on CCT Reserves
Bontebok ( <i>Damaliscus pygargus pygargus</i> )	0	1	0	0	10	0
Grey Rhebok ( <i>Pelea capreolus</i> )	0	0	0	*3	0	0
Hippopotamus ( <i>Hippopotamus amphibious</i> )	0	1	1	6	0	6
Eland ( <i>Taurotragus oryx</i> )	21	3	0	6	0	6
Red Hartebeest ( <i>Alcelaphus buselaphus</i> )	0	3	0	10	0	10

\* No recent record at the Helderberg Nature Reserve, this is an estimate for the number on CCT reserves.

### Bontebok



The City's Bontebok herd, on loan at Kinko Conservation Area, grew by three lambs to a total of 10 Bontebok (Figure 55). There was a loss of one animal suspected to be the old ewe from Tygerberg Nature Reserve. New genetic input is however required into the herd. A site visit and an arrangement for a genetic swap will be required to improve the genetic integrity of the herd.

Figure 55: Bontebok at Kinko Conservation Area.

### Grey Rhebok

According to the IUCN, Grey Rhebok are considered 'near threatened' and the population numbers are estimated to be less than 2000 in protected areas. It would be ideal to create a satellite population on a reserve (e.g. Blaauwberg Nature Reserve) that occurs within the historical distribution range. There has been engagement with CapeNature on possible solutions to introduce animals, as the ecotypical

restraints are very restrictive to where animals may be obtained from. The aim in this coming year will be to propose options to CapeNature to see if animals can be introduced.

### Hippopotami

An old hippo cow died at Rondevlei and a post mortem was performed. No exact cause could be established, but it is assumed that she died of natural age related causes (Figure 57). The Hippopotami (Figure 56) need to be continuously monitored for dispersing individuals. The pro-active capture method is being fine-tuned to ensure quick capture and transfer of animals. A possible site has been secured for the next hippo that disperses. The site needs to be inspected prior to translocation to ensure suitability and which sex hippo it could accommodate.



**Figures 56 and 57: Mother and calf hippo at Rondevlei (left) and (right) post mortem performed on the hippo cow.**

### Eland

The population numbers of Eland at Blaauwberg Nature Reserve were drastically reduced from 27 to six with the successful mass capture event (Figure 58). Continuous management of the population will be required every three years.



**Figure 58: Mass capture of Eland at Blaauwberg Nature Reserve on 26 April 2021.**

## Other faunal species

### Grysbok

A few City Nature Reserves are isolated and require management of the resident Grysbok (Figure 59) populations, as no natural movement can occur. Milnerton Racecourse section of Table Bay Nature Reserve, with its Critically Endangered Cape Flats Sand Fynbos, requires intense management. Continuous removal is required to maintain the population at low levels to prevent damage to the veld. Three Grysbok were removed from Milnerton Racecourse as part of an ongoing population management strategy.



Figure 59: Grysbok at Steenbras Nature Reserve.

### Caracal

The option of translocating Caracal that enter the Boulder's Beach penguin colony is being explored as a viable alternative for these animals limited in their dispersal by urbanisation. A research project has been proposed to evaluate and monitor the translocation of earmarked Caracal to specific City nature reserves. This research project will form part of the permit application to CapeNature.

## **Veterinary Field Services**

Thirty fauna related field services call outs were tended to in the last year. This covered a wide range of species, including Hippopotami, Grysbok, Mallard Ducks, Caracal, Baboons and Eland. The field services included collaring animals, translocation, management interventions and emergency assistance.

## **Micro Frog Project**

The Critically Endangered Micro Frog (*Microbatrachella capensis*) is currently restricted to only one site in the City, namely the privately-owned Kenilworth Racecourse Conservation Area. This population might be genetically distinct from the Kleinmond-Betty's Bay population. Therefore, it is critical to look at the long-term conservation of this highly threatened amphibian. BMB continued the project in collaboration with CapeNature to assess other potential habitats for the Micro Frog within its historic Cape Town distribution range.

The project entails a very precautionary approach to comprehensively assess viability of additional habitat, the restoration of suitable sites and ultimately the potential reintroduction of the species to those appropriate sites. Should there not be any suitable sites where the risk of introduction of the threatened species would be minimal to the animals, the restoration of additional wetlands within Kenilworth Racecourse as additional breeding sites will remain the focus. This will effectively enhance the habitat and hopefully the population size as a minimum.

The most suitable sites for further assessment, as identified by the advisory committee, included Rondebosch East Common (public open space – Biodiversity Agreement site under the custodianship of the City Recreation and Parks Department) and Rondevlei section of False Bay Nature Reserve. The initial water quality monitoring of the identified sites focussed attention on Rondebosch East Common as the most appropriate receptor site.

During this reporting period, water quality testing focused on all Kenilworth Racecourse wetlands (Figure 60) and not just a subset as before. The purpose was to compare the different systems within the conservation area, and evaluate habitat preference of the Micro Frog based on water quality parameters. Drone photography was employed to measure surface water extent for breeding sites. Rondebosch East Common was surveyed for other frog species such as Platannas (*Xenopus* sp.). Some

350 *Elegia nuda restios* were planted by CSU staff at the Rondebosch East Common (Figure 61), in furtherance of rehabilitation work around waterbodies.



Figure 60: Assessment of water quality parameters in Kenilworth Racecourse Conservation Area for the Micro Frog Project.



Figure 61: Planting *Elegia nuda restios* at Rondebosch East Common on 31 July 2020.

### **Western Leopard Toad (WLT)**

BMB continues to coordinate and contribute to conservation initiatives involving this charismatic flagship species for urban conservation, as part of the Western Leopard Toad Conservation Committee (WLT-CC) and on City nature reserves. BMB issued permits to WLT-CC members during curfew hours to facilitate the monitoring done by volunteers during the annual breeding migration. The WLT mapping was updated and circulated to the WLT-CC for comment. BMB collaborated with EWT to provide mapping to inform the EIA National Screening Tool specific to threatened species.

There was extensive engagement with various line functions on WLT associated aspects to guide best practice relevant to development impacts. Specific developments of concern included road constructions in Kommetjie and the draining of a pond by a resident in Zwaanswyk. BMB provided input on various development proposal in an attempt to guide assessments and ultimately development to a more toad sensitive design and construction. BMB has also provided support to an investigation around suspicious lesions found on adult WLT in three areas. The investigation involved the State Vet, but was unfortunately inconclusive. Further work on this will be done in collaboration with the University of Potchefstroom, North-West University and SANBI during the 2022 breeding cycle.

## 5.4 Water quality

The challenges facing urban watercourses remain a significant and on-going problem globally. The impacts of pollution and eutrophication create imbalances in these systems that lead to severe management challenges with no easy or quick solutions. Public concern around the poor water quality in certain systems is growing. Besides the general eutrophication associated with urban stormwater, City reserves have been increasingly subject to sewage spills and BMB are still dealing with the cumulative impact of these events. Besides the daily monitoring and management interventions required, BMB takes an active role in strategic water quality discussions.

Pollution Abatement Strategic Action Plans were initiated for priority catchment areas. These plans aim to identify the sources of pollution that can be prevented through targeted interventions. This process is ongoing and will require long-term commitment from the City, as the solutions to some of these problems are complex and difficult to resolve. Unfortunately, the end of this financial year saw an unprecedented level of sewage ingress into waterways across the City. As a result, all three recreational waterbodies (Zandvlei, Zeekoevlei and Rietvlei) were closed for intermediate recreational use (see Figure 62). This situation is still ongoing. Short and long-term remedial action to these distressing pollution events are critical for the future of the natural watercourses within the City. The closure of the recreational waterbodies resulted in significant public outcry. This outcry is evidence of the need for these natural open spaces and the value they add to the City.



**Figure 62: Environmental Health signage erected at Zandvlei warning users of polluted water and restricted access, against the backdrop of an empty natural recreational space (Photo: M. Gamielidien).**

### **Service Level Agreement with Scientific Services for water quality testing**

The updated list of 27 sampling sites within the City reserve network in terms of the new Service Level Agreement (SLA) between Scientific Services and BMB was implemented on a quarterly basis. Reserve staff undertake this sampling, in addition to ad hoc sampling that is required on reserves as a result of pollution incidents or changes in the aquatic systems. Sampling results are reviewed in collaboration with Scientific Services, Catchment Management, and Environmental Health to ensure a coordinated effort and accurate interpretation.

### **Estuarine Monitoring Plans**

Thanks to the efforts from Coastal Management, the Estuarine Monitoring Plans for Zandvlei and Milnerton Lagoon were finalised. The ecological data collected in terms of these monitoring plans will complement the water quality analysis and provide more information on the ecosystem health of these systems. Collaboration between Coastal Management and BMB continues in the implementation phase. Actions

taken in furtherance of the respective monitoring plans included fish surveys, placement of polychaete monitoring plates, and procurement of specialist studies evaluating profile and sediment build-up (Figure 62). Unfortunately, certain monitoring activities had to be postponed due to the poor water quality and exposure risk to staff. The collation of the available information will be correlated to water quality data, and presented in a report detailing the current ecological status of each estuary. The Milnerton Estuary mouth is being monitored on a weekly basis as part of the guidelines of the Marine Ecology Monitoring Plan for Milnerton Lagoon. Photographs are captured at the same time each day and conditions are documented, e.g. the current tide, water flow rate and colour. This monitoring forms part of a large monitoring project currently underway that will assess the health of the lagoon.

<b>July</b>	– Mouth monitoring – Incident logging
<b>August</b>	– Mouth monitoring – Incident logging – <b>CWAC count</b>
<b>September</b>	– Mouth monitoring – Incident logging – <b>Aquatroll servicing &amp; monitoring</b> – <b>Quarterly Reporting to Sharepoint site</b>
<b>October</b>	– Mouth monitoring – Incident logging
<b>November</b>	– Mouth monitoring – Incident logging – <b>Polychaete monitoring</b>
<b>December</b>	– Mouth monitoring – Incident logging – <b>Aquatroll servicing &amp; monitoring</b> – <b>Quarterly Reporting to SharePoint site</b> – <b>Annual Estuary Monitoring Report</b>
<b>January</b>	– Mouth monitoring – Incident logging
<b>February</b>	– Mouth monitoring – Incident logging – <b>CWAC count</b> – <b>Fish Survey</b> – <b>Prawn Monitoring</b> – <b>Benthic Macrofauna samples</b>
<b>March</b>	– Mouth monitoring – Incident logging – <b>Aquatroll servicing &amp; reporting</b> – <b>Macrophyte Mapping</b> – <b>Quarterly reporting to Sharepoint site</b>
<b>April</b>	– Mouth monitoring – Incident logging
<b>May</b>	– Mouth monitoring – Incident logging
<b>June</b>	– Mouth monitoring – Incident logging – <b>Aquatroll servicing &amp; reporting</b> – <b>Quarterly reporting to Sharepoint site</b>

**Table 8: Estuary Monitoring Action Items Calendar.**

### **Fish Surveys**

Fish surveys were undertaken at Milnerton Lagoon, Rietvlei and Zandvlei (Figures 63 and 64, and Tables 9 - 11) during April 2021 as part of the Estuary Monitoring Plans. This was the first training opportunity for the BMB Estuary Team (comprising staff from the respective reserves and those who expressed interest) for specialist involvement in estuarine management and monitoring going forward. A highlight of the Fish Surveys was a

new species for Milnerton Lagoon, a River Swimming Crab (*Varuna litterata*) (Figure 66). Unfortunately, the presence of this species is not a positive indicator of good water quality, as this species can survive under compromised conditions. Nevertheless, it is the first record for the Atlantic coast. Further highlights included *Galaxia* sp. (Figure 65) still present in Rietvlei and Cape Sole at Zandvlei (Figure 67).



Figures 63 and 64: Fish Surveys at Zandvlei (left) and Milnerton Lagoon (right).



Figures 65 - 67: Highlights of the Fish Surveys: *Galaxia* sp. at Rietvlei; a new species for the reserve River Swimming Crab (*Varuna litterata*) at Milnerton Lagoon; and Cape Sole (*Heteromycteris capensis*) at Zandvlei.

Tables 9-11: Species Account for the Fish Surveys undertaken at various reserves

Table Bay Nature Reserve: Milnerton Lagoon Fish Survey Species Account 13 April 2021	
Common Name	Scientific Name
*River Swimming Crab	<i>Varuna litterata</i>
Banded Tilapia	<i>Tilapia sparmanii</i>
Crown Crab	<i>Hymenosoma orbiculare</i>
Sand Shrimp	<i>Palaemon peringueyi</i>
Flat-head Mullet	<i>Mugil cephalus</i>
Knysna Sand Goby	<i>Psammogobius knysnaensis</i>
Southern Mullet	<i>Liza richardsonii</i>
White Stumpnose	<i>Rhabdosargus globiceps</i>

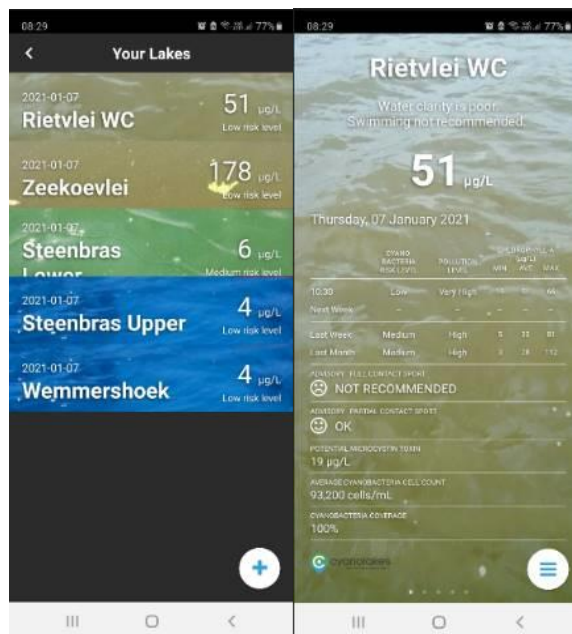
\*new confirmed species for the lagoon

Table Bay Nature Reserve: Rietvlei Fish Survey Species Account 14 April 2021	
Common Name	Scientific Name
Banded Tilapia	<i>Tilapia sparmanii</i>
Common Platanna	<i>Xenopus laevis</i>
Galaxia	<i>Galaxia zebratus</i> complex
Mosquito Fish	<i>Gambusia affinis</i>
Freshwater Crab	<i>Potamonautes</i> sp.
Southern Mullet	<i>Liza richardsonii</i>

Zandvlei Nature Reserve: Zandvlei Estuary Fish Survey Species Account 21 April 2021	
Common Name	Scientific Name
Cape Silverside	<i>Atherina breviceps</i>
Cape Sole	<i>Heteromycteris capensis</i>
Cape Stumpnose	<i>Rhabdosargus holubi</i>
Common Sand Hermit	<i>Diogenes brevirostris</i>
Crown Crab	<i>Hymenosoma orbiculare</i>
Elf	<i>Pomatomus saltatrix</i>
Estuarine Round Herring	<i>Gilchristella aestuaria</i>
Knysna Sand Goby	<i>Psammogobius knysnaensis</i>
Leervis	<i>Lichia amia</i>
Longsnout Pipefish	<i>Syngnathus temminckii</i>
Mosquito Fish	<i>Gambusia affinis</i>
Southern Mullet	<i>Liza richardsonii</i>
Striped Mullet	<i>Liza tricuspidens</i>
Super Klipfish	<i>Clinus superciliosus</i>
White Steenbras	<i>Lithognathus lithognathus</i>
White Stumpnose	<i>Rhabdosargus globiceps</i>

**CyanoLakes Monitoring Tool**

CCT was enrolled in the CyanoLakes pilot project, a satellite-based water quality monitoring system for waterbodies (Figures 68). CyanoLakes uses satellite imagery to assess the occurrences of algal blooms, particularly blue-green algae (aka cyanobacteria) blooms, in waterbodies. This real-time aerial assessment illustrates the potential risk to human health, and has potential value as an early-warning management informant. The aim of the pilot project was to assess the accuracy and relevance of the monitoring tool in suitable waterbodies across South Africa through validation of the satellite imagery interpretation with actual water quality sampling results. Five of the CCT’s natural waterbodies were assessed in this pilot phase. The associated smartphone application provides easy access to real time interpretation of the satellite imagery (Figure 69) in addition to the comprehensive website ([www.cyanolakes.com](http://www.cyanolakes.com)). The value of this monitoring tool is evident from the preliminary results. The hope is that smaller waterbodies will be included as the tool is refined. The warning system for recreational use is self-explanatory, but the tool has also shown value in assessing the ecological state of our reserve waterbodies.



Figures 68 and 69: The CyanoLakes application showing the City pilot sites and the information presented in real time.

## Water Quality Monitoring

A total of 31 incidents and 28 ad hoc sampling requests were recorded during this reporting period across the CCT Nature Reserves (Table 12).

**Table 12: The reported water quality incidents across City nature reserves. Total number of reported incidents during this reporting period: 31 incidents and 28 requests for ad hoc sampling**

Area	Sewage spills	Ad hoc sampling	Warnings	Restrictions
<b>Zandvlei Nature Reserve</b>	19	15	3	2 Full closures (30 Dec 2020 – 2 Feb 2021, and 25 May 2021, still closed on 30 June 2021)
<b>Table Bay Nature Reserve</b>	7	8	0	1 Full closure (Rietvlei; 24 June 2021, still closed on 30 June 2021)
<b>False Bay Nature Reserve</b>	4	5	1	1 Partial closure (Zeekoevlei; 26 Aug – 12 Oct 2020) 1 Full closure (Zeekoevlei; 7 June 2021, still closed on 30 June 2021)
<b>Milnerton Lagoon</b>	1	0	N/A	N/A

## Closure of all three recreational waterbodies

**Table 13: The date and location of the closures of the three recreational waterbodies.**

Recreational Waterbody:	Date of Closure:
<b>Zandvlei Nature Reserve</b>	25 May 2021
<b>False Bay Nature Reserve: Zeekoevlei Section</b>	7 June 2021*
<b>Table Bay Nature Reserve: Rietvlei Section</b>	24 June 2021

\*There was no official closed notice as the vlei was closed anyway due to the drawdown being in place.

During this financial year, all three recreational waterbodies were closed due to *E. coli* readings exceeding the threshold levels for intermediate contact recreational use (Table 13). All three systems were subject to unprecedented pollution events. All three recreational waterbodies remain closed at the financial year-end. The investigations into the causal factors and ultimate resolution of the situation is ongoing. The safety of all waterbody users is priority, and the waterbodies will only be re-opened once water samples show that they are safe for recreational use. There is a significant concern around the ecological impact of these unprecedented pollution events that have put additional strain on already overburdened systems. If remedial actions, such as dredging to remove the sludge build-up and associated nutrient load, does not take place, none of these systems will recover and could potentially slip into a permanent algal dominated state during this coming summer. An algal dominated state will effectively prevent any recreational use long term.

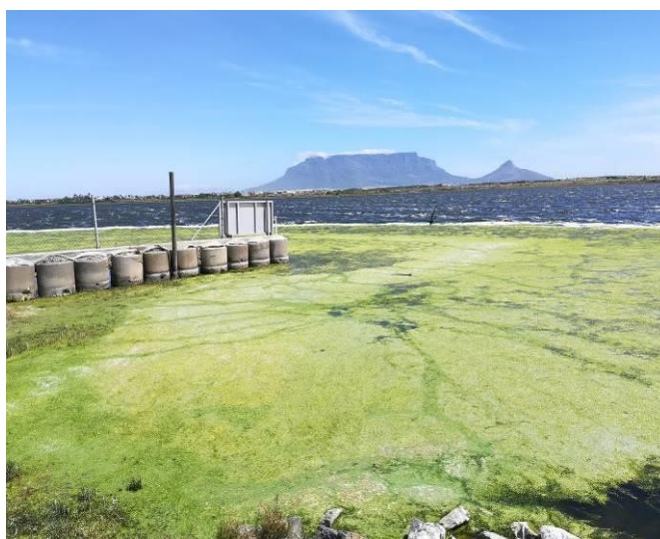
## Sewage spills and algal blooms

### Table Bay Nature Reserve

Monitoring of the toxic blue-green algae (aka cyanobacteria) in the Rietvlei recreational waterbody continued throughout this annual reporting period (Figure 70). While cyanobacteria are present in most waterbodies, an increase in nutrient load (from sources such as sewage spills) combined with favourable environmental conditions can lead to a system that favours the excessive growth of blue-green algae. On 26 February 2021, a severe and long-lasting wastewater spill entered Table Bay Nature Reserve via the Theo Marais canal. The spill was a combination of sewage and an oily sludge. It is unclear where and how the oily

sludge made its way into the stormwater canal, however it is most likely illegal discharge into the system by a factory or workshop in Montague Gardens. Various line departments provided limited assistance in dealing with this pollution event due to procurement constraints.

The bloom event required intensive monitoring of the situation through visual observation and regular water quality testing, in order to determine the best management response to protect public safety. Various internal discussions are continuing to determine the most practical way forward in dealing with this situation. These events can continue for extended periods as the aggravating factors (i.e. increased nutrient load and environmental conditions) can be difficult to control or contain, especially in an urban setting such as Rietvlei. This pollution event and associated nutrient additions to Rietvlei is of significant concern. The ecological impacts of this pollution ingress are being monitored, but further algal blooms and fish fatalities can potentially be expected.



**Figure 70: Blue-green algae in the Table Bay Nature Reserve: Rietvlei section.**

There is an ongoing concern around sewage spills into Table Bay Nature Reserve that negatively affect the water quality. The sources of pollution include the following:

- The Bayside canal continues to transfer highly polluted flows into the recreational waterbody at Rietvlei.
- The manhole overflows in the reticulation line between the Table View East and West Pump Stations regularly results in raw sewage overflows into the nature reserve.
- Theo Marais canal is an on-going concern as a conduit for highly polluted effluent into the Diep River and ultimately Milnerton Lagoon.
- The R27/Erica Road stormwater outfall is a major concern, as sewage and unacceptable wastewater comes from the Joe Slovo informal settlement via the stormwater infrastructure and into the lagoon system.

The remedial response to these events unfortunately remain very limited. Solutions to preventing this pollution remains of critical importance. While addressing the source is the first priority, interception and containment of spills and other pollution events are equally important. It is again emphasized that these systems will require significant investment to effectively provide some remedial action to the cumulative impact of these pollution events. Without which, these systems will suffer complete ecological collapse in the foreseeable future. The degradation is already evident.

Zandvlei Nature Reserve:

The continued and numerous sewage spill incidents into the Zandvlei waterbody have been a long-standing concern, with particular apprehension around the cumulative impacts on the water quality and ecological health of the system. In the past, the majority of recorded sewage spill incidents in Zandvlei were associated with the Sand River Canal. To remedy this, a wooden weir structure was implemented in the last reporting period to contain spill events in the canal, which would subsequently be removed by a Honeysucker truck. During this reporting period, incidents associated with the Sand River Canal have been contained within the wooden weir structure to varying degrees. This intervention, however, unfortunately relies on manual management and implementation. The long awaited upgrade to Lowlift Pumpstation was concluded, which reduced recorded spills associated with this pump station. Close collaboration with the Sanitation department during sewer lining and cleaning activities within the Royal Road Bridge area entailed on-going monitoring of results and site observations. Sanitation detected and fixed three illegal sewer-to-stormwater connections in this area. This proactive effort resulted in a significant improvement in water quality thereafter. In addition to the Sand River canal, areas of recorded inflowing pollution into Zandvlei also include the following:

- Point source locations in Marina da Gama at varying locations and ad hoc time frames;
- Keyser River has been subject to blockages and there has been problems with the Keyser River pump station on Military Road;
- Clifton Road pump station in Muizenberg;
- Rutter Road area, Lakeside was subject to blockages that led to manhole overflows ultimately reaching Zandvlei;
- Westlake River remains compromised due to pollution from upstream sources such as Pollsmoor Prison and Westlake.

As with all other systems, addressing the sources of pollution is of critical importance while applying remedial actions to contain events to prevent pollutants from entering the natural watercourses, and to resuscitate the system to allow for ecological repair and resilience.

An unusual algal bloom was investigated in the northern sections of Zandvlei (Figures 71 and 72). This occurred on 2 February 2021, was confirmed as non-toxic, and on-going monitoring took place. Algal blooms indicate imbalances in the system and can lead to oxygen depletion. Close monitoring of these situations is essential to remain vigilant of any signs of worsening conditions.



**Figures 71 and 72: Unusual algal bloom in the northern sections of Zandvlei.**

False Bay Nature Reserve

There were two localised sewage spills into the Big Lotus River, which washed into Zeekoevlei in August 2020 (Figures 73 and 74). Shortly after these events and the improvement in water quality, a contractor drilled into a rising main on Fisherman's Walk in October 2020. This resulted in a spillage, which was diverted into the park area near Little Lotus River to stop the spill from entering the stormwater drains. Following this, there

were a number of less significant sewage spills, starting in May 2021, leading up to the massive sewage overflow from a manhole in close proximity to the access road of False Bay Nature Reserve. The failure of screw pumps at the Cape Flats WWTW ultimately led to a continued flow of an enormous volume of raw sewage directly into Zeekoevlei over a number of days. The initial response from Sanitation was unfortunately limited, but reserve staff went above and beyond the call of duty in attempts to deal with this disastrous situation and protect the nature reserve. A pre-directive was issued on Water & Sanitation on 31 May 2021, which elevated the situation for resolution. There was significant damage to the terrestrial parts of the nature reserve surrounding the point of discharge, in addition to the aquatic impacts. Remedial actions focused on the repairs to reticulation infrastructure and roads. Limited to no ecological remedial action has taken place to date.



Figures 73 and 74: Drone image showing the sewage dissipating into Zeekoevlei on 27 August 2020 and (right) the sewage is no longer visible in Zeekoevlei on 3 September 2020.

Steenbras Nature Reserve

The occurrence of blue-green algae in the upper Steenbras Dam during the previous reporting period resulted in Water Services requesting that regular water samples be taken. These samples are now taken regularly from a boat for analysis. Monitoring of the situation is ongoing.

**Notable events on Nature Reserves**

Witzands Aquifer Nature Reserve

An exciting find at Witzands Aquifer Nature Reserve was the confirmation of *Hydrodictyon pateniforme* in Pond 7 (Figures 75 and 76). This is a valuable new record for the CCT, as *H. pateniforme* is the only other indigenous Water Net algae in South Africa, besides Cape Water Net (*H. africanum*). The species identification was confirmed through engagement with algal specialists globally and subsequently, photographs were provided for publications on algal species.



Figures 75 and 76: Confirmation of the indigenous water net algae (*Hydrodictyon pateniforme*) for the CCT.

Steenbras Nature Reserve

An assessment of the wetlands at Steenbras Nature Reserve was conducted during the first quarter of this reporting period. A highlight of this assessment was the confirmation of the first record of Southern Caco (*Cacosternum australis*) for the CCT and the Steenbras Nature Reserve from the pond close to the office blocks. Additionally, a fyke net survey was done at the end of December 2020 to determine fish fauna diversity within this system (Figure 77). No alien fish species were recorded in the tributary of the Steenbras River. A healthy population of Cape Galaxia (*Galaxia zebratus* complex) (Figure 78) was recorded, and tadpoles of the Western Cape endemic Cape Ghost Frog (*Heleophryne purcelli*) (Figure 79). Creeping Water Bugs (*Naucoridae*) were also recorded (Figure 80).



**Figure 77: Fyke net retrieval on 29 December 2020 in the Steenbras River Tributary, Steenbras Nature Reserve.**

A report was compiled confirming Cape Galaxia (*Galaxia zebratus* complex) as the only fish species captured during the sampling effort. No alien fish species were captured.



**Figures 78-80: Fyke Net sampling results included Cape Galaxia (*Galaxia zebratus* complex), Cape Ghost Frog (*Heleophryne purcelli*) tadpoles and Creeping Water Bugs (*Naucoridae*).**

**Maintenance of rivers and wetlands**

Maintenance activities within reserves and on inflowing watercourses continue to be undertaken in line with the approved River Maintenance Management Plans for each Catchment and river reach. Some of the most noteworthy activities include the following:

Table Bay Nature Reserve: Zoarvlei and Rietvlei Sections

Duckweed clearing was conducted at Zoarvlei south section during the first half of this reporting period, with the objective of removing the excessive Duckweed growth, which formed a thick mat over the surface of the Zoarvlei canal. The mat was removed as it was blocking light from reaching organisms living in the water and decreasing the amount of available oxygen in the water for aquatic organisms (Figures 81 and 82). The Duckweed bloom resulted from sewage spills and from the influx of the poor water quality from the stormwater inlets flowing into Zoarvlei. After clearing, the Duckweed was disposed of at the Killarney landfill site, to prevent the decomposition of the Duckweed on site, which would cause absorbed nutrients to seep

back into the system. A note of appreciation was sent to the Paarden Eiland City Improvement District (PECID) environmental team for their assistance with the removal of the Duckweed.

Bulrush (*Typha capensis*) also presented as an issue at Zoarvlei. Presently, the challenges pertaining to water management include the accumulation of deposits, litter immersed underground and floating on the water surface, sewage spills and eutrophication, which all enhance the growth of *T. capensis*. The management of wetlands and waterbodies encompasses improving water quality, improving the habitat for aquatic life, and removing water flow obstructions. During the last quarter of this reporting period, the Water Catchment Department assisted with the excavation of sediments, *T. capensis*, and underground-buried litter.



**Figures 81 and 82: The removal of Duckweed at Zoarvlei.**

The onset of the first substantial rainfall of the season resulted in flooding along the Bayside canal. The lower reach of the Bayside canal is densely populated by Bulrush, which acts as a natural filter for the Rietvlei section. However, as the Bayside Canal transports highly polluted and eutrophic water into Rietvlei, Bulrush normally amasses exponentially, which slows down the flow of water. When there is considerable rainfall, water cannot flow through the reeds quickly enough and flooding occurs upstream. Therefore, the Catchment Stormwater and River Management Branch cleared a section of Bulrush in the Bayside Canal on 24 May 2021.

#### Zandvlei Nature Reserve: Estuary mouth management

The estuary mouth was closed on 3 December 2020. The mouth was opened periodically on spring tides during summer and autumn to provide fresh input of seawater and allow fish the opportunity to migrate in and out of the estuary.

#### False Bay Nature Reserve: Zeekoevlei

The annual drawdown started on 27 April 2021 (Figure 83). Before the weir could be opened, it was cleared of reeds and other vegetation obstructing water flow. The reserve staff started with reeds and litter collections immediately after the drawdown. All collected material was disposed of at the Coastal Park Landfill Site. The Zeekoevlei weir was still open at the end of June 2021, to allow the vlei to be flushed of the poor water quality from the significant pollution events.



**Figure 83: The opening of the Zeekoevlei weir on 27 April 2021.**

Weir maintenance was also done on the Rondevlei weir during the first quarter of this financial year. Bulrush and Water Hyacinth (*Eichhornia crassipes*) were removed from directly in front of the weir to make space for the team to work. The leaking holes were plugged with strips of black bags.

## 5.5 Ecological Research

---

### 1) Research applications

A review of the process and update of documentation was completed in June 2021. Eight permit renewals and six new permits were issued this year. BMB is ensuring permit holders send reports, final reports and datasets as required. In this past year, BMB received 11 progress reports and two final theses. Landowner permission permits were also issued to the 15 Conservation Work Integrated Learning (WIL) students doing research projects in the Branch this year.

### 2) Research Needs

The research needs list was kept up to date and five of the research projects issued permits align with the research needs list of the Branch. This includes the proposal received from UCT to study the African Black Oystercatchers in the City in response to dog walking; and the Blaauwberg Nature Reserve Fynbos Restoration Project (see section below).

### 3) Major joint research project: **Blaauwberg Sand Fynbos Restoration Project**

The BMB has had a long-term and ongoing partnership with Stellenbosch University through the Department of Conservation Ecology & Entomology and the Centre for Invasion Biology. The research generated through this partnership has, over time, fed into various aspects of City implementation, with a particular focus on managing and restoring areas supporting critical biodiversity within the City's jurisdiction. The Blaauwberg Sand Fynbos Restoration Project has been a model in this regard, being collaborative and interdependent; each partner plays a particular role to enable the next level of research and best-practice management. The current phase of this cutting edge, large-scale ecological restoration project continues the City and Stellenbosch University collaboration, funded by the Hans Hoheisen Charitable Trust (2019-2021). The operational component is administered through the Wilderness Foundation. In the past financial year, 24 ha of *Acacia saligna* was cleared from highly degraded Cape Flats Sand Fynbos. Seeds of 58 fynbos species were collected, sorted, pre-treated and sown in autumn across seven blocks of the alien-cleared landscape. Four postgraduate research projects are well underway, administered through Stellenbosch University Centre for Invasion Biology and the Cape Peninsula University of Technology:

- PhD study examining restoration techniques that avoid the immediate use of fire (which results in expensive acacia follow-up), and how to scale up active restoration.
- MSc study exploring applied nucleation as a tool to scale up active restoration.
- MTech study investigating pollination networks to determine whether pollinators return after invasive alien clearing.
- Fourth-year study in 2020 investigated the effects of ecological restoration on the abundance and species richness of the rodent community.

Proposed future collaboration includes investigations that have the potential to improve cost-effective ecological restoration outcomes at vegetation community and landscape scales, and to improve the conservation status of threatened plant species by optimising propagation techniques. Numerous seed collections for Blaauwberg Sand Fynbos restoration took place; on average two collections per week. Members of the Blaauwberg team assisted with supervision of an EPWP team of eight people.

A site meeting was held in May 2021 with Ms Dudu Ngwenya, PhD student from Stellenbosch University, together with her academic supervisors (Professor Karen Esler, Professor Patricia Holmes and Professor Sjirk Geerts), Blaauwberg Nature Reserve staff and Jacques Van der Merwe (Biodiversity Network Coordinator). The site visit assessed the restoration trial in Ms Ngwenya's research plots. Several plots indicated good fynbos seeding success with a reasonable representation of species diversity, however, some plots were less successful. These results are valuable to prioritise fynbos restoration strategies for future efforts. Twenty-two new seeding plots were raked clean of all leaf litter on 26 May 2021, in order to receive fynbos seeds collected in the previous season (Figures 84 and 85). The plots were raked to allow the fynbos seeds to germinate without too much competition from the alien seeds that remain in the soil after the clearing of alien invasive plants.



**Figures 84 and 85: One of the raked seeding circles (left) and scattering seed in a raked seeding circle (right).**

#### **4) Scientific published papers**

- Dorothy Breed co-authored "Are Cape Peninsula baboons raiding their way to obesity and type II diabetes? – a comparative study" published in Comparative Biochemistry and Physiology Part A: Molecular and Integrative Physiology.
- The CAPE IAAWG published "Coordinating invasive alien species management in a biodiversity hotspot: The CAPE Invasive Alien Animals Working Group". Numerous officials from BMB were co-authors on this paper.
- Bongani Mnisi was first author on "Nectar gardens on school grounds reconnect plants, birds and people" published in Biological Conservation.

## 5.6 Restoration

The running of the Westlake Restoration Facility has been extremely difficult during COVID-19 Lockdowns and not having sufficient staff. CSU Interns Andrea Schnetler and Kabelo Williams were hugely helpful in assisting with critical propagation work during this time (Figures 86 and 87).



Figures 86 and 87: Valuable extra pairs of hands, thanks to interns Andrea Schnetler and Kabelo Williams, who assisted in the Restoration Facility under various levels of Lockdown, before the EPWP staff were able to return.

### 1) Summary of Restoration Facility activities

- 439 plants for landscaping were donated to various public-benefit sites/events.
- 70 plants for educational gardens were donated to educational institutions.
- 71 778 plants (80 species) for ecological restoration were planted at various sites.
- 35.982 kg seed from 58 species were stored, cleaned, treated and broadcast for ecological restoration at Blaauwberg Nature Reserve.
- 8 416 plants were searched and rescued from various sites (Table 14).

Table 14: Plant material reintroduced by the Restoration Facility to City reserves and other protected areas.

Method:	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	TOTAL
Plants donated for landscaping	367	1	31	40	<b>439</b>
Plants donated for education	70	0	0	0	<b>70</b>
Plants and bulbs planted out for restoration	1 124	59 111	0	12 667	<b>71 778</b>
Seed re-introduced for restoration (no. spp.)	0	0	0	58	<b>58</b>
Plants search and rescued	472	2 444	0	5 500	<b>8 416</b>
Seed collected (no. spp.)	25	37	27	0	<b>60</b>
Cuttings produced	60	437	328	1 840	<b>2 665</b>
Seed trays sown	7	0	0	4	<b>11</b>
Plants bagged-up	23 358	55 581	25 014	2 558	<b>106 511</b>

## 2) Ecological Restoration Implementation

### Notable Restoration initiatives

#### Leucadendron linifolium at Penhill Conservation Area

An assessment at Penhill Conservation Area on 15 July observed that 14 of the 33 male rooted cuttings of *Leucadendron linifolium* (Vulnerable) planted the previous year had survived the summer and were thriving (Figure 88). BMB was able to plant another 17 rooted cuttings, 15 of which were female.



**Figure 88: Cliff Dorse next to one of the surviving males planted in 2019.**

Following a tip from Rupert Koopman, CSU staff discovered another two adult *Leucadendron linifolium* (Vulnerable) plants on Vergenoegd Farm, Faure – increasing the total number of known, naturally occurring, adult plants in Cape Town to just five. It was also reassuring to observe many (~50) *Leucadendron linifolium* seedlings growing near to the two newly discovered plants (Figures 89 and 90).



**Figures 89 and 90: Two newly found adult *Leucadendron linifolium* plants (female, left and male, right) on Vergenoegd Farm, Faure.**

On 28 May 2021, 110 additional *Leucadendron linifolium* (Vulnerable) were planted and alien clearing was conducted near the remaining plants at Penhill Conservation Area.

### Other Achievements

- Additional seedlings of *Protea odorata* (Critically Endangered) were planted at Joostenbergskloof Conservation Area, along with *Leucadendron lanigerum* (Vulnerable), *Leucadendron verticillatum* (Critically Endangered) and *Leucadendron stellare* (Endangered).
- Nineteen *Leucadendron levisanus* (Critically endangered) were planted in the southwestern quadrant of the N1/N7 interchange.

### Notable botanical search and rescue events

Atlantis Industria: Special Economic Zone is located within an ecologically sensitive area with Endangered vegetation remnants persisting in many of the industrial erven. These vegetation types are under-conserved and contain very many threatened plant species. The City, as the current landowner of the majority of the vacant industrial sites and a future shareholder in the Atlantis SEZ, has a responsibility to ensure proper management thereof, both now and into the future. With the assistance and guidance of the BMB, these species are relocated to the conservation land bank area in the nearby Witzands Aquifer Nature Reserve. In some cases, going via the City-managed restoration facility to best ensure that the plants establish well in their new location (Figure 91). This rescued flora (and fauna) helps enhance the biodiversity and conservation value of the Atlantis conservation land bank. Witzands Aquifer Nature Reserve is immediately north of Atlantis Industria, thereby ensuring the genetic integrity is maintained when search and rescue plants are translocated into the reserve, and the potential loss of important species is thus minimised.



**Figure 91: Search and rescue material from the Atlantis SEZ, maintained in the Restoration facility for planting in autumn 2022.**

During June 2020, funding was obtained from the City's Investment Facilitation Unit to conduct invasive species clearing, and search and rescue, on five industrial plots earmarked for sale and future industrial development. These five plots span just over 10 ha and are a mix of Strandveld and Sand Fynbos remnants. Two of the five erven contained relatively intact remnants that yielded a significant cache of plants for restoration at Witzands Aquifer Nature Reserve. Species included *Serruria decipiens* (Vulnerable), *Leucospermum hypophyllocarpodendron* (Vulnerable), *Ruschia tecta* (Endangered) and a large number of *Willdenowia incurvata* (a critical element in creating structure during restoration work on Sand Fynbos that has lacked fire for a long time). Other important species include *Protea repens*, *Erica plumosa*, *Lampranthus explanatus* (Near Threatened), *Ruschia indecora* (Endangered) and a large number of geophytes or bulbs that can be transplanted directly into the previously disturbed areas on the Nature Reserve. In the process, 11 new staff were temporarily employed while learning an important new skill; generating a total of 334 person days (Figure 92).



**Figure 92: Two EPWP staff conducting the search and rescue plant material from a vacant site in the Atlantis SEZ.**

An additional search and rescue effort was conducted at Sir Lowry's Pass Village in September 2020. Target species rescued included another seven plants (in addition to the original four plants found by Cliff Dorse) of a geophytic *Pelargonium* currently being described and only known from one population near Worcester (Figure 93 and 94). In addition, 12 *Ruschia schollii* (Endangered) plants were rescued.



**Figures 93 and 94: The new geophytic *Pelargonium* species found by Cliff Dorse from a site in Sir Lowry's Village, only known from one population near Worcester and currently being described.**

A search and rescue effort was carried out at Schaapkraal, generating valuable plant material (over 2 400 plants comprised of 12 species, in addition to seed collected). This material was planted at Zeekoevlei in the restoration area.

At Little Foot Farm in Gordon's Bay, many bulbs were rescued, including almost 1 000 *Lachenalia mediana* (Vulnerable). These bulbs were replanted at Helderberg Nature Reserve.

### **3) Ecological Restoration planning in City protected areas**

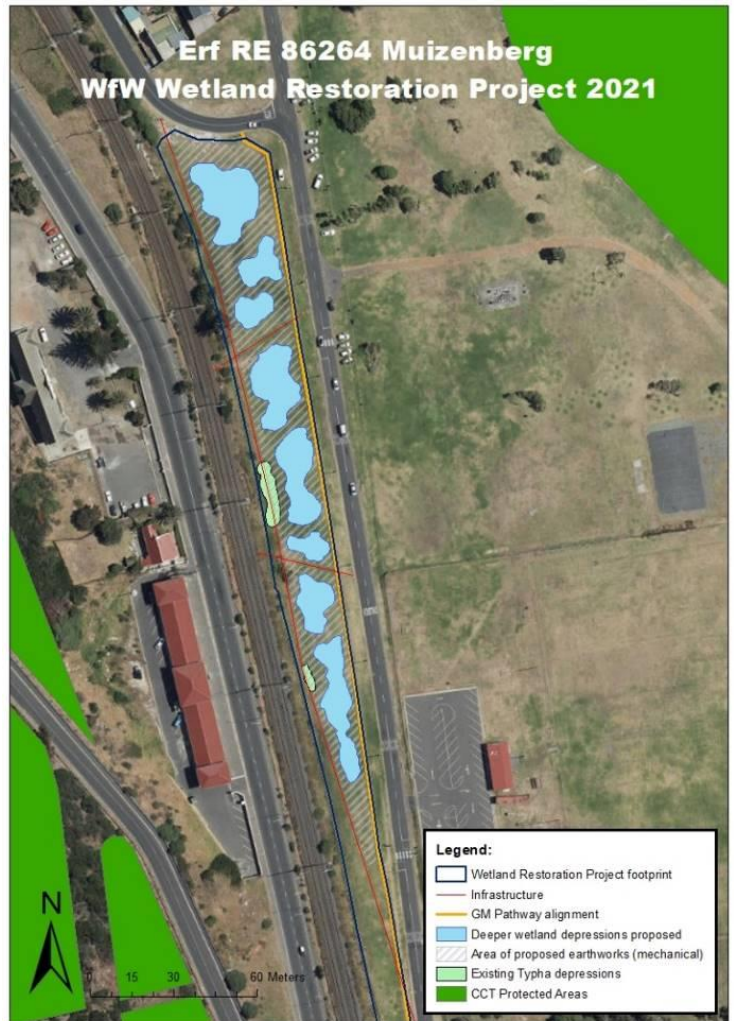
Seven subsidiary restoration plans that build on the habitat condition assessments were drafted for City protected areas in fynbos and strandveld. The final restoration plan for Vesuvius Way Conservation Area was submitted to DEA&DP to meet a condition of the Environmental Authorisation for the Beacon Valley Housing Project; for which Vesuvius Way Conservation Area is the biodiversity offset. This illustrates the

City's commitment to implementing ecological restoration of offset receptor sites that expand our protected area network.

These restoration plans guide active restoration (sowing and planting to restore vegetation structure, function and composition) within each protected area, based on the greatest needs and available resources. Our long-term goal is to improve the habitat condition of as much of our conservation estate as we can through passive and active restoration. This is important, because restored ecosystems will improve the conservation of biodiversity, delivery of ecosystem services, social value, adaptation to climate change, and potential contribution to climate change mitigation.

**4) Zandvlei Promenade Road project**

The wetland along Promenade Road was historically part of the floodplain area of the Zandvlei estuary. During the 1940s, it was filled in with a large amount of building rubble and general waste. In order to restore this wetland, the building rubble, waste and established invasive grasses were removed. Earthworks took place from 1 – 23 June 2021 (Figures 95 – 101). This removal enabled a more natural site profile and the planting of low-growing locally indigenous plant species, including Cape Thatching Reed (*Elegia tectorum*), Swamp Grass (*Carex clavata*), Knobby Club Rush (*Ficinia nodosa*) and Sea-rose (*Orphium frutescens*). This seasonal wetland system will form part of the larger ecological corridor concept once established, as it will connect Table Mountain National Park with the Zandvlei Nature Reserve waterbody.



**Figure 95: Planning design for the wetland rehabilitation intervention in relation to existing service infrastructure**



Figure 96: Aerial photograph of the Zandvlei Promenade Road wetland restoration site (courtesy Bruce Sutherland).



Figures 97-101: Before and after photographs of the Zandvlei Promenade Road wetland restoration efforts.

## 5.7 Soil Erosion

---

Tygerberg Nature Reserve staff, assisted by the ISU, installed silt traps in an area where a landslide occurred resulting from a burst water pipe (Figures 102 – 106). Water and Sanitation provided budget for the materials. Poles were installed along the side of the footpath, secured with wooden pegs, and soil was used for levelling again where it was washed away. Sand bags were used and placed on the high side of the path to secure the wall, and prevent sand from washing onto the path again. Two popular hiking trails had to be closed as it was unsafe for visitors. Ultimately, 280 person days were needed to complete the project.



**Figures 102-104: Impact of landslide erosion November 2019 (left). Silt curtains were installed in October 2020 (middle), aiding veld recovery, as seen in December 2020 (right).**



**Figure 105 and 106: Landslide damage in January 2020 (left) and the veld recovery in December 2020.**

## 6. Invasive Species

### 6.1 Terrestrial Invasive Plant Management

Invasive plant control projects for all four areas were implemented. However, planned targets were not achieved due to a number of challenges, which included non-compliance of contractors and delays in funding from NRM Programmes. The processes put in place by the City to address non-compliance of contractors are paper-laden and take an extremely long time to address the matter of concern.

A total of 12 073.38 ha of terrestrial invasive plants was removed during this financial year. Invasive alien plant density was mapped for reserves, for example see Figure 107 below for Steenbras Nature Reserve.

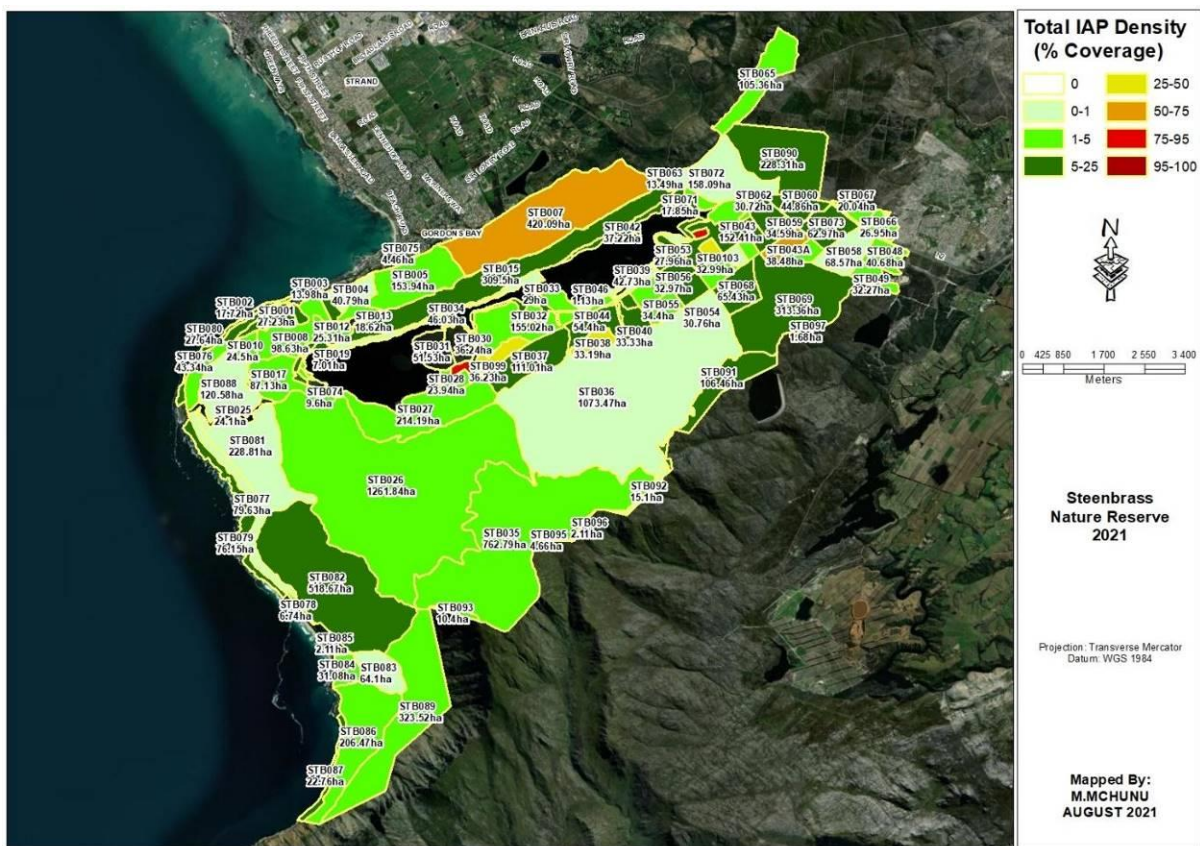


Figure 107: IAP Treatment Stages for the Steenbras Nature Reserve.

The ISU facilitates the control of invasive species across the City, in collaboration with various line departments, to clear woody and aquatic invasive plants. Workload assessments were conducted for both protected and non-protected areas around the City. Data were analysed from the workload assessments to guide costing for the projects and to provide a baseline for the invasive densities across the City (Figures 108 and 109).



Figures 108 and 109: Blaauwberg Nature Reserve before invasive plant clearing and after invasive plant control operation.

In addition to hectares cleared in protected areas and conservation areas, a total of 4 085.02 ha of terrestrial invasive plant species was cleared on behalf of other line departments. Table 15 indicates the density classes per line department that were assessed during this financial year.

Table 15: Departmental areas assessed during 2020/21 financial year.

Line Department	Initial (ha)	Follow up (ha)	Maintenance (ha)
Bulk Water	1120.57	1617.11	0.00
Facilities Management	198.90	27	0.00
Human Settlement	24.42	546.00	0.00
Investment Facilitation Unit, Enterprise & Investment Department	209.00	60.00	
Recreation & Parks	11.17	128.06	7.00
Roads & Transport	55.74		1.80
Waste Management		0.05	
Water & Sanitation	1.37	4.01	4.03
Water & Sanitation: Pump Stations	2.00	8.75	2.00
Water & Sanitation: Solid Waste	3.70	52.28	0.06
<b>TOTAL</b>	<b>1626.87</b>	<b>2443.26</b>	<b>14.89</b>

## 6.2 Aquatic Invasive Plant Management

The COVID-19 regulations severely impacted the implementation of invasive aquatic projects. Conditions of rivers and waterbodies had quickly reverted to initial infestation stage without the presence of ISU teams working in field. The limited capacity of the contractor teams for River Warden Teams in the North and Central area contributed to the delays with the implementation of invasive aquatic projects. The ISU focused on clearing Water Hyacinth from the Diep River, Kuils River (Figures 110 and 111) and Salt River Catchments.



Figures 110 and 111: Kuils River before and after invasive aquatic species control.

A total of 420.34 ha was cleared in various catchments across the City. Table 16 outlines the number of hectares cleared per waterbody.

Table 16: Rivers cleared of invasive aquatic weed.

Rivers Cleared	Follow up (ha)
Black River	102.47
Salt River	30.55
Vygekraal River	4.38
Liesbeek River	11.72
Blomvlei Canal	1.42
Diep River	101.67
Sir Lowry's Pass Canal	4.03
Geelslot Canal	3.9
Westlake River	3.48
Keyser River	14.20
Prinseskasteel Stream	16.85
Baviaans River (Hout Bay)	3.97
Little Lotus River	10.72
Lourens River	3.37
Lotus River	13.46
Princessvlei	0.00
Rondevlei	0.00
Disa River	4.99
Bokmakierie Canal	2.76
Kuils River	86.40
<b>TOTAL</b>	<b>420.34</b>

\* There was no initial clearing carried out during this reporting period

## 6.3 Biocontrol

A total of 54 150 biological control agents were released during this financial year, with the majority of releases in the Sandriver Catchment (Table 17).

**Table 17: The biological control agents released during this reporting period.**

Biocontrol Release Sites	Type	Catchment	Agent	Number released
Rondevlei Section of False Bay Nature Reserve	Vlei	Sandriver	<i>Megamelus</i> sp	34 500
Simon's Town	Terrestrial	South Peninsula	Cochineal bug	N/A
Diep River	River	Sandriver	<i>Megamelus</i> sp	800
Keyser's River	River	Sandriver	<i>Lysanthia</i> sp	650
Constantia	Pond	Sandriver	<i>Lysanthia</i> sp	2 200
Rondevlei Section of False Bay Nature Reserve	Nature Reserve (canal)	Sandriver	<i>Lysanthia</i> sp	14 000
Princessvlei	Vlei	Sandriver	<i>Lysanthia</i> sp	2 000
<b>TOTAL</b>				<b>54 150</b>

## 6.4 Invasive Animal Management

### 1) House Crows

The House Crows are still quite bait shy and the ISU had limited success with baiting. Only one trap was in the field, with three House Crows trapped. A total of 448 House Crows were counted in April and 316 in June, with the Mitchells Plain roost not in use. This does not indicate a big decline in the population but rather, it is suspected, that another roost site has been established. Possible roost sites could be in Epping, and surveys are prioritised for this area to determine if there is a new roosting site.

Since the House Crows have become bait shy, alternative methods were explored. One such method is egg oiling, which would impact the House Crow breeding season by ceasing the development of the oiled egg. The Cape of Good Hope SPCA objected to the implementation of egg oiling due to this method possibly breaching Acts related to the humane treatment of animals. The main objection being that the embryo in the egg is able to feel pain in the second half of its development, and it would be difficult to determine how far along it is in its development to avoid this.

A meeting was held on 9 March 2021 with Suzi Kasielke, from California, who has a background in managing bird populations and specializes in egg management. In this meeting, egg replacement was discussed and suggested as an alternative method. A protocol was drawn up to implement the egg replacement method, where we would be replacing House Crow eggs with Japanese quail eggs (or another similar looking egg) and euthanizing the House Crow eggs off site.

A major challenge was experienced with the purchase of Corvicide. The Corvicide order will be prioritized in the new financial year.

Table 18 shows the number of invasive House Crows controlled using various control methods and Figure 112 shows staff baiting at Nyanga.

**Table 18: Number of House Crows controlled per control method.**

	Spotted (during baiting)	Roost count	Baited	Collected (carcasses)	Removed (trapped)	Removed (chicks)	Oiled (eggs)	Removed (nests)
<b>TOTAL</b>	3 764	2 813	131	8	3	0	19	0



**Figure 112: House Crow baiting on 8 June 2021 in Nyanga.**

## 2) Mallard Ducks

The Welgevonden Estate dam was identified as one of the dams with the highest number of Mallard Ducks present during surveys conducted across the City. After several surveys, the population numbers were confirmed to be 130 individuals. A capture operation was organised in collaboration with the SPCA. Councillors and other senior City officials were informed timeously about the operation to obtain buy-in. Welgevonden Estate residents were informed through the estate communication platforms to ensure transparency and awareness.

Despite the timely communication with the residents, the City officials, service provider and SPCA officials were verbally abused and obstructed from carrying out the operation swiftly and efficiently. Some of the residents vigorously chased some of the ducks away before the alpha-chloralose could take effect. Nonetheless, during the operation approximately 100 Mallard Ducks were baited with Alpha-chloralose, however, only 38 Mallard Ducks were captured and removed successfully.

A follow-up operation was planned for Welgevonden Estate but by the time we had the Councillors, Recreation & Parks and BMB staff on board, the mallard population on the estate had dropped to three individuals. The estate had been served with a directive to increase the support from residents and discourage residents from feeding the Mallard Ducks. Due to the stopping of feeding, the population moved elsewhere. It appears that Uitzicht dam is one of the dams they settled on, and this needs to be investigated in the 2021/2022 financial year. Monitoring continued and the sites and dates with the highest number of Mallard Ducks surveyed are shown in Table 19.

**Table 19: Waterbodies surveyed for Invasive Mallard Ducks.**

Location	Numbers Counted
Sonstraal Dam	8
Vygeboom Dam	74
Intaka Island	24
Uitzicht Dam	20
Uitzicht Greenbelt	38
Door De Kraal	14
Marina Da Gama	2
Rosendal Dam	8
Vierlanden Dam	14
Welgevonden Estate	39

### 3) Wasps

A total of 1 514 invasive wasp nests were removed across the City. One thousand properties were visited and 1 490 European Paper Wasp and 24 German Wasp nests were removed.

### 4) Guttural Toads

Guttural Toad control operations were conducted on 150 properties in the Constantia area during this reporting period. A total of 502 toads were removed (Table 20). A high percentage of males were removed for this season.

**Table 20: Guttural Toad control operations data.**

Period	Number of Males Captured	Number of Females Captured	Number of Juveniles Captured	Number of Eggs Removed	Total Number of Toads Captured	Total Number of Properties Visited
July 2020 - June 2021	225	160	117	0	502	150

## 6.5 Early Detection and Rapid Response

### 1) Polyphagous Shot Hole Borer (PSHB)

One of the key focus areas of the Early Detection and Rapid Response (EDRR) Programme was the Polyphagous Shot Hole Borer (PSHB) infestation detected in the Somerset West area in April 2019. The programme continues to prioritise the removal of highly infested reproductive host species, mostly Boxelder trees. A total of 268 possible PSHB sightings was reported. During the verification process, 889 trees were positively identified as being infected with PSHB. A total of 611 PSHB infested trees were removed during this financial year. Figure 113 indicates the trend of the control operations of PSHB.

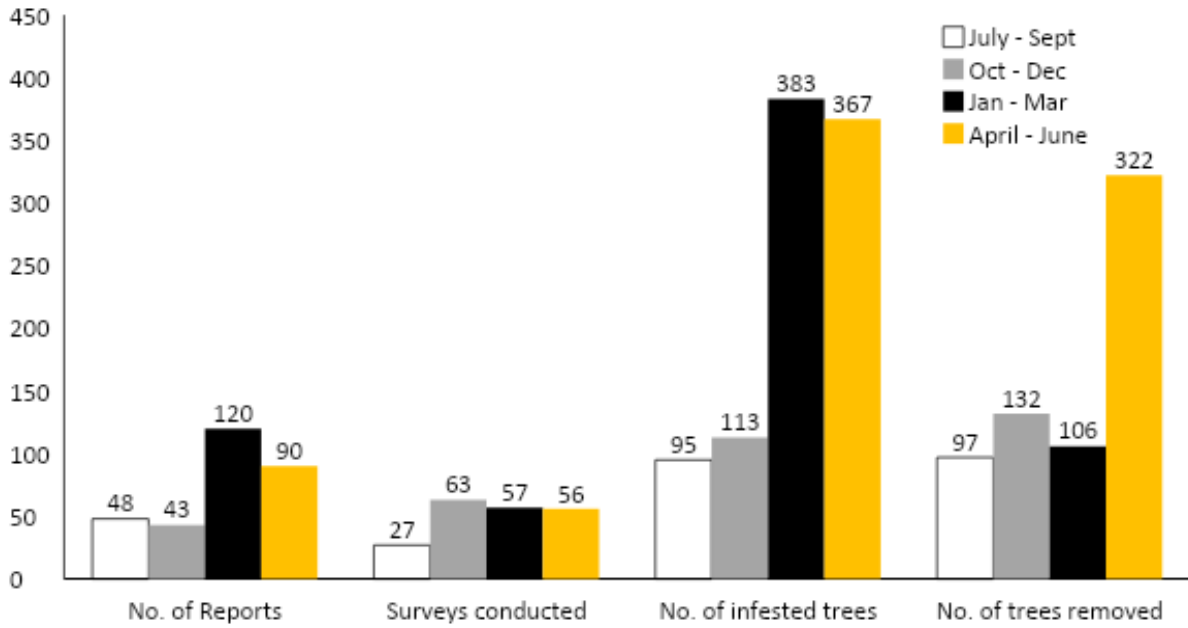


Figure 113: Polyphagous Shot Hole Borer control operations for the 2020/21 financial year.

In addition to the control operation, the team focused on determining the extent of the invasion of PSHB by conducting various surveys in Somerset West (Figure 114). As part of the early detection approach, surveys in public open spaces were prioritized to determine where the reproductive trees occur. These are now monitoring areas that will be monitored long-term for possible spread of PSHB outside of the Somerset West area.



Figure 114: Areas surveyed outside Somerset West where reproductive hosts were noted and checked.

## 2) EDRR Reporting Tool

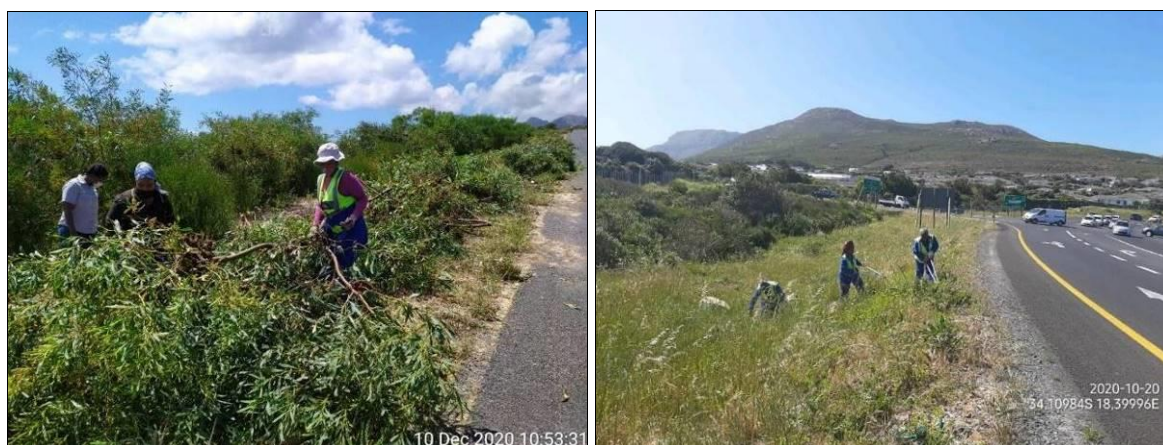
Although the reporting tool was offline during the upgrade, the EDRR target plant species programme continued to receive reports via the EDRR email address. Sightings included Bluebell Creeper in Kirstenbosch Botanical Garden. Table 21 provides a summary of sightings received and controlled for the 2020/21 financial year.

**Table 21: Summary of reports received and sites controlled.**

	Reports	Sightings verified	Sightings controlled	Follow-up sightings
<b>TOTAL</b>	373	355	308	664

## 3) Pathway Management

Nine road verges (172.61 ha) were cleared of all NEMBA listed alien invasive plants (Figures 115 and 116). Management of pathways plays a critical role in minimising movement of alien invasive species from one area to the next.



**Figures 115 and 116: Before and after the management of invasive species pathways on Ou Kaapse Weg.**

## 6.6 Compliance

This financial year the focus was on planning and executing a joint invasive compliance operation with the DFFE. The purpose of the operation was to engage with all landowners whose properties are highly infested; and pose fire, security, and health and safety risks. Ninety-one properties in the City were reported in this financial year, of which 26 are owned by City of Cape Town, 10 by Department of Public Works, two by the Western Cape Province and 53 privately owned. Eighty properties were visited during the joint operation, which took place on 13 -16 May 2021 (Table 22 and Figure 117).

**Table 22: Properties reported, visited and action taken per area for invasive compliance.**

Area	Reports	Reports attended to	Access denied or owner absent	Pre-directives or directive issued	Warning letter issued	Property owner comply or agreed to comply
<b>North</b>	7	6	4	2		
<b>South</b>	73	64	12	30	7	15
<b>East</b>	9	8	1	7		
<b>Central</b>	2	2		1	1	
<b>TOTAL</b>	<b>91</b>	<b>80</b>	<b>17</b>	<b>40</b>	<b>8</b>	<b>15</b>



**Figure 117: DFFE and ISU doing an invasive compliance site inspection in Simons Town.**

Nursery inspections in the Somerset West and Helderberg area were completed with the assistance of the EDRR team, who also needed to verify trees that could possibly be infected with the PSHB beetle. Four nurseries were inspected: two Cape Gardens, one Stodels and one Remhoogte Garden Centre.

Harmony Flats and Edith Stephens invasive management plans were completed and submitted to DFFE. Verification site visits were conducted, however, the approval letters had not yet been issued (Figure 118).



**Figure 118: DFFE compliance team verifying Harmony Flats Nature Reserve Invasive Species Management Plan.**

## 7. Fire

### 7.1 Preparation for the Fire Season

The National Veld and Forest Fire Act 101 of 1998, Chapter 4, places a duty on landowners to prepare and maintain firebreaks. The procedure in this regard, and the role of adjoining owners and the fire protection association are described. Every owner on whose land a veld fire may start or burn, or from whose land it may spread, must prepare and maintain a firebreak on his or her side of the boundary between his or her land and any adjoining land. The annual preparation and maintenance of City nature reserves took place in September and October 2020. Some nature reserves start their fire season preparation as early as August. Staff brush-cut firebreaks along reserve boundaries where necessary.

The physical nature of fire management operations – be it wildfires or ecological burns – requires a certain level of physical fitness of the field staff involved in this work environment. As an integral role player within the City's wildland fire fighting structure, BMB developed specific fitness standards, Work Capacity Tests and Medical Screening Protocols. Positions within the BMB were classified according to the role staff usually play within a fire scenario. Thus, the risk staff carry is related to the position they will normally fill in an incident using the Incident Command System, and is directly related to a fitness level.

BMB makes use of the Fire Fighting Ground Team Standards, which looks at fitness levels of teams based on the US Forestry Departments' categorization of fitness. Three levels of Work Capacity Test are used, based on the level of fitness required. A robust Flow Diagram was compiled to assist Managers in following the decision making tree to arrive at an outcome in terms of which staff need to undertake a Work Capacity Test and when it needs to be undertaken. There are three levels: arduous, moderate and light.

**Arduous or Pack Test** – this test is for front-line firefighting staff. Participants need to complete a 4.8 km course carrying a 20 kg backpack in 45 minutes. The test is correlated to measures of performance in field tasks such as working with hand tools or carrying loads over rough terrain, and with measures of aerobic and muscular fitness. The test's length ensures that successful participants will have the capacity to perform prolonged arduous work under adverse conditions, with a reserve to meet emergencies.

**Moderate or Field Test** – this test is for support staff who operate around a firefighting scene. Participants need to complete a 3.2 km course with a backpack weighing 11 kg in a time of 34 minutes.

**Light or Walk Test** – this test mainly involves office type work with occasional field activity. Staff occupying Incident Command positions that offer support to the Operations staff fall into this category. Participants need to complete a 1.6 km course without a weighted backpack in 16 minutes.

BMB carried out two days of testing in September and October 2020. Course administrators, marshals and equipment were all prepared for the tests. The following results were achieved:

- Passed Arduous Test: 105 staff (permanent and contract)
- Passed Moderate Test: 13 staff
- Passed Light Test: 31 staff

Several Work Capacity Tests were conducted as part of the initial recruitment process for potential new staff. These tests are conducted along the same lines as those for current staff.

## 7.2 Wildfire

Last financial year, 82 wildfires occurred on City reserves, with most being in False Bay Nature Reserve (30) and Witzands Aquifer Nature Reserve (50). Despite the high number of wildfires, the extent of the area burnt was minimal, with most of the fires less than 1 ha. This was attributed to the prompt response by Quemic Rangers and City Fire Services. People in one form of arson or another started the majority of these fires; the burning of copper wire is a common ignition source. One large wildfire (218 ha) occurred at Steenbras Nature Reserve on 28 January 2021. It was a relatively quiet summer season.

Examples of these small fires are illustrated in Figures 119 and 120, where Table Bay Nature Reserve: Diep River section experienced two wildfires between end of November and December 2020. There were two more fires in this section of TBNR during February 2021. The staff responded to the fire with assistance from City of Cape Town Fire and Rescue, Quemic Rangers, and Paarden Eiland City Improvement District patrol officers. There were also several other wildfires in the Zoarvlei section during this reporting period. The fires were started by the illegal burning of scrap and wires in order to get to the metal to sell at the scrap yard.



Figures 119 and 120: Wildfire control in Diep River section of Table Bay Nature Reserve.

## 7.3 Ecological Burns

Ten ecological burns were planned for the 2020-21 summer fire season. Of these, only four ecological burns were conducted. Nirvana Conservation Area (4.6 ha) (Figure 121), Milnerton Racecourse Section of Table Bay Nature Reserve (10.4 ha), Kenilworth Racecourse Conservation Area (20.5 ha) (Figures 122 and 123), and Zonnestral Conservation Area (1.5 ha) (Figure 124) planned ecological burns were successfully conducted to rejuvenate senescent fynbos.

After two years of planning, the Nirvana Ecological Burn took place on 25 March 2021. There was a great turnout with 83 volunteers (45 BMB staff, 18 Fire and Rescue, 14 CPFPA WoF, 5 Quemic and 2 observers) and 16 vehicles. Approximately 80 % of the 6.4 ha site burned out completely with the remaining very sparse and only burning partially – a huge success overall.

Providing this conservation service to privately owned stewardship sites shows how successful conservation partnerships can benefit biodiversity and society. Permits to burn for the other planned sites were applied for, but not issued by the CCT Air Quality Management Unit. These will be reapplied for in the coming fire season.



**Figures 121: Ecological burn at Nirvana Conservation Area (photo: Rosh Shepard).**



**Figure 122: Ecological burn at Kenilworth Racecourse Conservation Area (photo: John Yeld).**



Figure 123: Ecological burn at Kenilworth Racecourse Conservation Area.



Figure 124: Perfectly burnt out block at Zonnestraal Conservation Area.

## 7.4 Brush Pile Burning

---

The Branch's standard operating procedure is to limit stack burning after invasive clearing, especially in medium to high quality vegetation. This approach of leaving brush to decay in the veld has both ecological and cost-saving benefits. However, fire risk reduction or ecological considerations are critical in some areas, so each case is assessed on its merits.

A total of 659 brush piles were burnt in 24 days by 36 staff members, totalling 864 person days from the BMB. The staff were assisted by Koeberg Nature Reserve staff (Figure 125 and 126).



**Figure 125: Khuselwa Mabuyane, Reserve Supervisor**



**Figure 126: The formidable fire crew.**

## 8. Nature Conservation

### 8.1 Overall Reserve Management

The reserves below were recognised at the Branch's annual Performance Recognition and Teambuilding Day, held virtually on Thursday 12 November 2020.

#### **Reserve Awards**

Special mention to Witzands Aquifer, Wolfgat, Durbanville and Tygerberg Nature Reserves

#### **Reserve of the Year:**

##### **Joostenbergskloof Conservation Area**

This site has more species of Conservation Concern (over 70) than any other City site. Funding has been received from WWF-SA to purchase the site from Garden Cities. In the interim, we have a five-year agreement with Garden Cities, which allows us to manage it. Thobela (Eric) and team have been exceptional in taking ownership of the site. The quality and rate of alien clearing is astounding and has completely transformed the look and feel of the area. The team has also commenced with ensuring that it is appropriately fenced. This is also critical to keep out cattle from neighbouring farms as well as vehicles. In March 2020, a portion of the site was also mostly burnt. One cannot underestimate the amount of preparation that goes into an ecological burn, and yet again, this was done to best practice standards.

#### **Runner up**

##### **Helderberg Nature Reserve**

The people love it and we also simply love it not only because of its nature, but also because of the atmosphere the staff in the Nature Reserve create when you are there.

#### **Most improved**

##### **Vesuvius Way Conservation Area**

Vesuvius Way Conservation Area (VWCA) is a very young conservation area, but considering that it is still in its infancy stage, it can boast on what it has achieved thus far. The Biodiversity database will illustrate that for the past two years, 579 bird sightings have been recorded and a total of 52 confirmed species recorded thus far. One hundred and twenty plant sightings have been recorded with more than 100 species confirmed. Forty-seven faunal species sightings were recorded, including insect and amphibian. VWCA has installed fencing around its boundaries that includes mesh wire, concrete palisade and clear view fence (New section "Hillside") that covers more than 10 km. Litter pick-ups have been a big success with the removal of tons and tons of litter being removed on a monthly basis. Furthermore, alien clearing of the entire conservation area has been completed with two sections in the third follow up maintenance phase.

### 8.2 Management Effectiveness of the Nature Reserve

All the proclaimed nature reserves managed by the City are evaluated using the latest version of the South African Management Effectiveness Tracking Tool (METT-SA03). The assessment is undertaken every two years and was last conducted in 2019/2020 financial year; so no METT assessments were conducted this past financial year. Feedback and reminders were presented to the Branch in preparation for the next assessment process for all Protected Areas due to start in August/September 2021.

## 8.3 Biodiversity Monitoring

### 1. Monitoring Framework and Monitoring Plans

The standards for the updated version of the Protected Area Management Plan will elicit the monitoring requirements per nature reserve and associated sites, which will inform monitoring plans for these sites. In the meantime, some Branch level plans were drafted: a monitoring protocol for *Kedestes* butterfly species, with field-testing of methods was completed in November 2020, the Fire monitoring protocol was drafted in June 2021, and the Branch Monitoring Framework updated accordingly.

### 2. The City Nature Challenge and the Great Southern Bioblitz

The City took part in both the iNaturalist City Nature Challenge (third year) held in autumn, and the Great Southern Bioblitz held in spring. The sites with data gaps in the existing iNaturalist dataset were determined and staff were encouraged to organise to target these sites. Most of the nature reserves showed an increase the number of records collected compared to 2019 (2020 was affected by COVID-19 restrictions) (Table 23). Tygerberg Nature Reserve was the third most improved in Cape Town (TMNP first and Kirstenbosch Botanical Garden second).

Table 23: Observations collected per Branch site in the City Nature Challenge 2021 compared to 2019.

Sites	2021	2019	Change
Tygerberg Nature Reserve	1723	473	1250
Steenbras Nature Reserve	2674	2026	648
Kenilworth Racecourse Conservation Area	828	361	467
Blaauwberg Nature Reserve	877	469	408
Table Bay Nature Reserve	842	501	341
Bracken Nature Reserve	434	98	336
False Bay Nature Reserve: Strandfontein	602	276	326
Joostenbergskloof Conservation Area	495	201	294
Durbanville Nature Reserve	419	132	287
Helderberg Nature Reserve	1661	1401	260
Edith Stephens Nature Reserve	216	10	206
Witzands Aquifer Nature Reserve	400	194	206
Wolfgat Nature Reserve	169	0	169
Macassar Dunes East Conservation Area	161	0	161
Harmony Flats Nature Reserve	210	59	151
Van Schoorsdriff Conservation Area	155	28	127
Bothasig Fynbos Nature Reserve	404	289	115
False Bay Nature Reserve: Zeekoevlei	190	80	110
Botterblom Nature Reserve	131	25	106
Klein Dassenberg Conservation Area including koppies	76	31	45
Zandvlei Nature Reserve	280	236	44

<b>Symphony Way Conservation Area</b>	16	2	14
<b>Vesuvius Way Conservation Area</b>	12	0	12
<b>Haasendal Conservation Area</b>	66	70	-4
<b>Uitkamp Wetland Nature Reserve</b>	13	87	-74
<b>False Bay Nature Reserve: Rondevlei</b>	558	986	-428

### 3) Refinement or compilation of monitoring methods, protocols and procedures

A list of priority sites for continuation of the Fauna camera trap survey was compiled. The re-survey of Witzands Aquifer Nature Reserve is underway, as well as a survey on Boskloof Eco Estate (a secure estate where spare Cuddeback camera traps could be used). Site-specific reports, procedures and datasets for each nature reserve are being compiled.

### 4) Development of monitoring methods for Wellfield developments

Workshops and meetings to discuss changes to the proposed monitoring plans were held in May and June 2021. BMB indicated data that are intended to be collected based on the outcome of management planning. BMB reserved the right to request additional monitoring work to be funded or undertaken via the wellfield project (New Water Project) in the case that impacts of the wellfields development and operations are found to have significant effect or raise concerns of such, which the BMB may not have capacity to conduct.

### 5) Development of plant Species of Special Conservation Concern (SSCC) monitoring protocol

Species monitoring and data management methods are being reviewed based on engagement with the TMF-funded Climate Change Adaptation Project: Peninsula case study, and to align to SANBI names and standards. Work continues to improve the Biodiversity Database dataset and incorporate data from iNaturalist (which includes CREW data).

### 6) Investigating survey methods using drones (RPAS):

A number of trial surveys were conducted to test the use of a drone for monitoring. Surveys included game census of Eland and Red hartebeest at Blaauwberg Nature Reserve; and mapping vegetation communities and dominant species, including reedbeds and other macrophytes in estuaries.

### 7) Development of standard monitoring procedures:

Standard monitoring procedures were compiled to standardise monitoring methods for GPS mapping and reptile refugia surveys in the Branch. Updates to the standard procedure for trap array surveys were made based on some findings from tests with staff in field. A procedure document for drone use was drafted. A procedure for conducting night fauna surveys is being tested in field.

### 8) Review of data projects:

The review of existing datasets to meet data management standards is underway including screening for Protection of Personal Information (POPI) Act compliance. A data management document underway for Branch data, which will also include POPI Act requirements.

Flora species lists for the Branch were updated using the Master List data, the Biodiversity Database new data (since the 2018 Masterlist update), and additional iNaturalist data. This was used to assess the Core Flora Sites status, as well as fix data gaps for the TMF Climate Change Adaptation Project tested by SANParks on the Cape Peninsula. The results of this pilot project will guide the way forward to roll out to the City as well as inform the protocol for monitoring SSCC in the City.

## 9) Geodatabases and mapping

The Monitoring and Evaluations team's access to ArcGIS was restricted this year due to connection problems working at home and IT problems with the laptop. This delayed some of the datawork required. Work continued on updating the Fire geodatabase. The design of the geodatabases for restoration, SSCC, and habitat condition assessment will be possible when the GIS Specialist appointed in this financial year has capacity after priority projects.

## 10) The Biodiversity Database

The Biodiversity Database list still needs to be fully updated, as records from other databases such as the City Master List and the iNaturalist database. This work is facilitated by the improvement to the batch capture tool in the past financial year that allows capture of bulk lists filtered from data collected on other databases such as iNaturalist.

The base list of the Database was updated based on updates to taxonomy in the past years. Work in field by staff allowed for a number of species not recorded in the past ten years ("Previous to Site" species) to be re-recorded. This list is produced by the database that highlights species that need to be re-confirmed per site. This is important to track success in conservation of habitat facilitating persistence of indigenous species (see Table 24).

**Table 24: Statistics from the Biodiversity Database showing species recorded in CCT sites, compared to the end of June 2020.**

Group:	Total (June 2021)	Total species change
Algae	0	No data
Amphibians	32	New species added: <i>Cacostemum australis</i> . <i>Arthroleptella landrosia</i> has not been seen since 2010 (Helderberg Nature Reserve).
Arachnids	11	<i>Parabuthus granulatus</i> has not been seen since 2010 (Bracken Nature Reserve).
Birds	400	14 species were moved off the "lost to site list" back onto the main list, but five moved onto the "previous to site list".
Crustaceans	4	No change
Fungi	39	Two new species were added to the main list.
Insects	121	24 species were added (some from the "lost" list), and one dropped down to the "previous to site" list, <i>Charaxes brutus natalensis</i> .
Mammals	100	Two species were added to the main list from the "lost" list, and one is a duplicate name on the baselist that must still be corrected. One moved down into the "previous to site" list, <i>Acomys subspinosus</i> .
Molluscs	1	No change
Pisces	44	No change
Plants	2755	61 species were added to the current list, most from the "lost" list, but 353 moved to "previous to site" list (not seen since 2011).
Polychaetes		No change
Reptiles	82	One species was added to the current list, but 3 moved to the "previous to site" list, <i>Pachydactylus capensis</i> , <i>P. labialis</i> and <i>Agama hispida</i>

Some 3 526 sightings were logged for this year, on average an increase from last financial year. Twenty-one new users were added to the Biodiversity Database list this year. In house training courses were conducted with Witzands Aquifer Nature Reserve, Tygerberg Nature Reserve, Zandvlei Nature Reserve, Symphony Way Conservation Area, and Durbanville Nature Reserve.

## 9. Urban Baboon Programme

The Chacma Baboon (*Papio ursinus*) forms part of Cape Town's rich biodiversity, playing an important ecological role on the southern Peninsula. Baboons are one of the largest mammals occurring on the Peninsula and are also a considerable tourism asset (Figure 127). There are about 650 baboons on the Cape Peninsula, divided into 16 troops<sup>2</sup>; with five of them occurring in and around the Cape of Good Hope section of TMNP, and 11 troops located on the Peninsula adjacent to urban areas. The Urban Baboon Programme (UBP) is concentrated on these 11 urbanised troops and the programme has seen a 90% increase in the population from 248 individuals in 2006 to 474 in 2021. As a result, the Chacma Baboon population on the Cape Peninsula is no longer considered to be under threat of local extinction and appears to be reaching carrying capacity in terms of natural habitat and the UBP capacity.

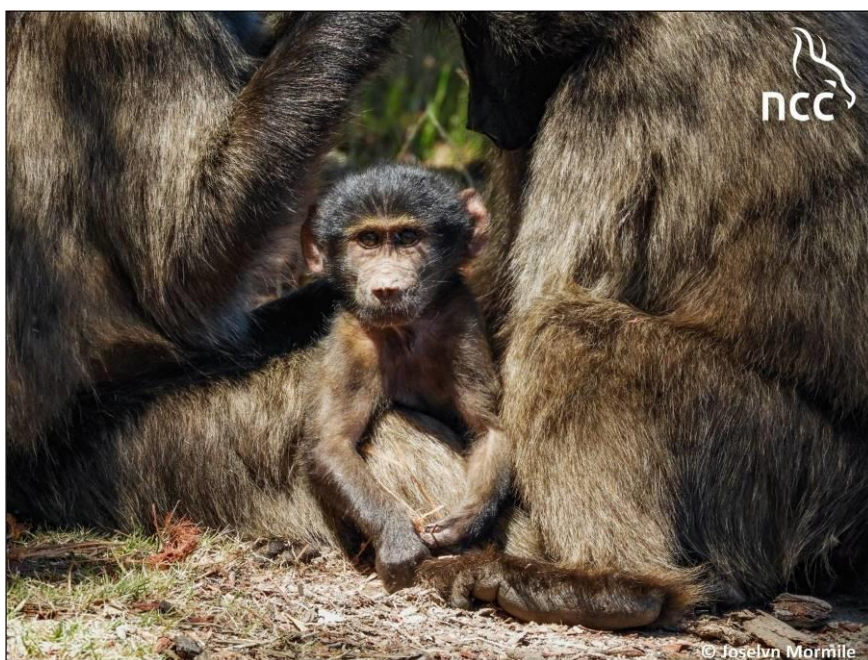
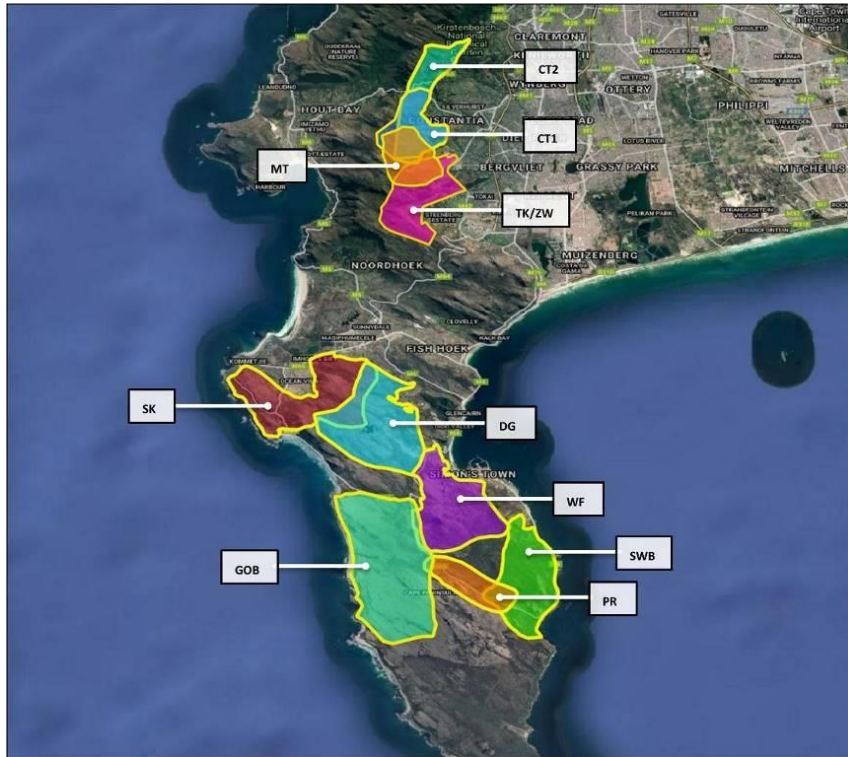


Figure 127: Infant baboon from the Tokai Troop sitting with mother while she is groomed.

### 9.1 Ranging area of urbanised troops

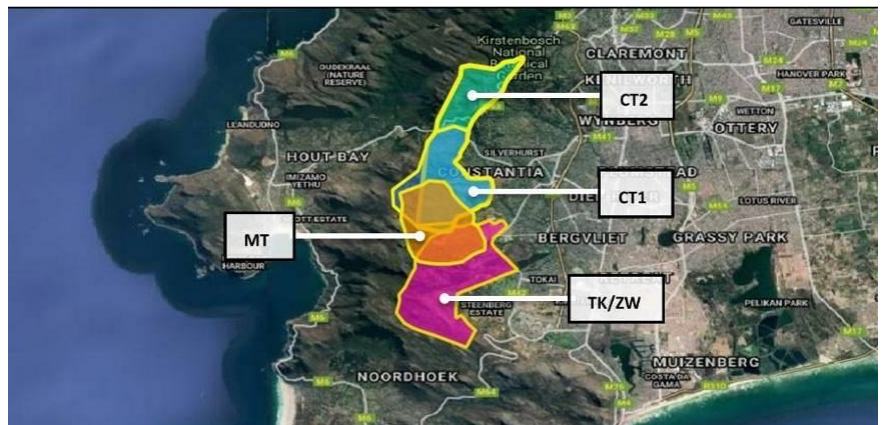
Figure 128 shows the ranges of the 11 urbanised troops, divided into the northern troops located in Constantia and Tokai, and the southern troops located in the Southern Peninsula. Additionally, the Plateau Road troop is included as a ranger is stationed on Plateau Road to manage the interface between baboons and tourists on the road. However, the Plateau Road Troop does not raid in an urban suburb and is therefore not a fully part of the UBP.

<sup>2</sup> The number of troops does vary from time to time as the troops are fluid, sometimes joining up for a while and/or dividing.



**Figure 128: The approximate natural areas of use of the 11 urbanised baboon troops since the start of the contract with NCC in October 2020. CT1 (Constantia 1 Troop), CT2 (Constantia 2 Troop), MT (Mountain Troop – MT1 and MT2), TK/ZW (Tokai & Zwaanswyk Troops), SK (Slangkop Troop), DG (Da Gama Troop), WF (Waterfall Troop), SWB (Smitswinkel Bay Troop), GOB (Groot Olifantsbos Troop), PR (Plateau Road Troop). The PR Troop does not border on urban areas.**

Baboon troops readily shift their areas of use in response to environmental factors, such as season, fire, troop dynamics and landscape development. Two significant shifts occurred. In October 2020, in response to intragroup fighting amongst adult males, a subset of individuals split off from the CT1 Troop and moved north across Constantia Nek. This new troop, named the CT2 Troop, moved as far north as Kirstenbosch National Botanical Garden (Figure 129). Baboons had not been present this far north in the Peninsula for decades. This understandably presented challenges for residents and businesses in the area, who were unprepared for the arrival of baboons. The large size of the troop's new area of use; combined with thick vegetation, difficult terrain and large fenced private properties; created challenges for the field team attempting to keep the troop out of urban areas. Fortunately, the placement of a GPS tracking collar on one baboon in this troop has enabled the field team to track the troop and better pre-empt urban incursions, resulting in an increased length of time spent out of the urban area.



**Figure 129: The approximate areas of use for the baboon troops in the northern subpopulation. The CT2 Troop, a splinter troop from the CT1 Troop, expanded their former ranging area as far north as Kirstenbosch National Botanical Garden.**

On 12 May 2021, the NSPCA and CGHSPCA took a decision to withdraw their support for paintball markers (PBMs) as a humane aversion tool, and announced this publicly. This decision received wide media coverage and is supported by some interest groups concerned for the welfare of baboons. The City had no

choice but to comply with this decision, given that the NSPCA (being the oversight authority for animal welfare) withdrew their support for the use of PBMs on baboons, after 12 years of support, declaring this method 'cruel to animals'. This decision falls within their statutory mandate. Unfortunately, the NSPCA chose, for their own reasons, not to consult the City prior to their decision, and requested the public to submit video footage or to report incidents of the use of PBMs to them. The City subsequently advised their service provider, NCC Environmental Services, on 14 May 2021 to no longer use PBMs as an aversion tool. This was in the interest of the baboon rangers, NCC Environmental Services, and the City; and to protect the City from litigation, or possible charges of animal cruelty against baboon rangers. The PBMs were re-instated on 25 June 2021 for a six-month trial period.

In the absence of PBMs, the Smitswinkel Bay Troop expanded their ranging area by several kilometres north into the suburb of Simon's Town, moving as far north as Jubilee Square. Simon's Town, a suburb already



visited by the Waterfall Troop, was suddenly experiencing visits from two troops; numbering approximately 70 baboons in total. This also meant that the Smitswinkel Bay Troop, which previously used natural areas bordering TMNP was now spending a considerable time in the predominantly urban space between Simon's Town and Murdock Valley (Figure 130). Both of these significant shifts in ranging areas impacted day-to-day operations and required additional field staff and resources.

**Figure 130: The shift in ranging area by the Smitswinkel Bay Troop in the absence of PBMs. The troop expanded their former area of use (outlined in green) by the extent of the red polygon and moved as far north as Jubilee Square in Simon's Town. The troop spent a significant length of time in the red polygon area, which is predominantly urban space.**

## 9.2 Dispersing Males

SK11, an adult male baboon, was relocated from Kommetjie and released near the Tokai and Zwaanswyk Troops in Tokai on 26 August 2020. On 12 November 2020, SK11 was relocated back to his natal area within the Slangkop Troop's range. After failing to reintegrate into his natal troop, SK11 was translocated to a rehabilitation centre in Limpopo by the CGHSPCA acting under a permit issued by CapeNature.

A second dispersing male baboon, TK57, was relocated during this reporting period after crossing the M3 twice, and being caught and returned to his natal troop's home range. After crossing the M3 for the third time and showing no interest in remaining in his natal range, TK57 was captured and released on 15 February 2021 near Lewis Gay Dam. TK57 spent time roaming in Noordhoek and interacted with both the Slangkop and Da Gama troops. After some time, TK57 started to successfully integrate with the Da Gama troop.

## 9.3 Population of Urbanised Troops

The population census was previously conducted in May and June to align with the CCT's tender year (July to June) and financial cycle. However, the annual count for this reporting period was conducted from July

2020 to September 2021, and a detailed breakdown as of the end of September 2021 was provided by NCC. The annual count is a total count during which individual baboons in each of the urbanised troops on the Cape Peninsula are recorded. The count is therefore an enumeration of the whole managed baboon population. Within each baboon troop, the troop structure is broken down into different age and sex classes.

As of September 18, 2021, the total count for the baboon population on the Cape Peninsula (excluding those living within the Cape Point section of Table Mountain National Park) is 474. This total excludes the Plateau Road (PR) troop (21 baboons), which is not classified as a managed troop as it does not enter the urban area and thus is not included in this total.

The managed baboon population has shown a general increase since June 2016 from 404 baboons to 474 baboons (Figure 131). This trend is evident in both the northern and southern subpopulations, though growth in the northern subpopulation is stronger (Figure 132). While growth in the two subpopulations was relatively constant between June 2019 and June 2020, there was an overall increase during the current reporting period.

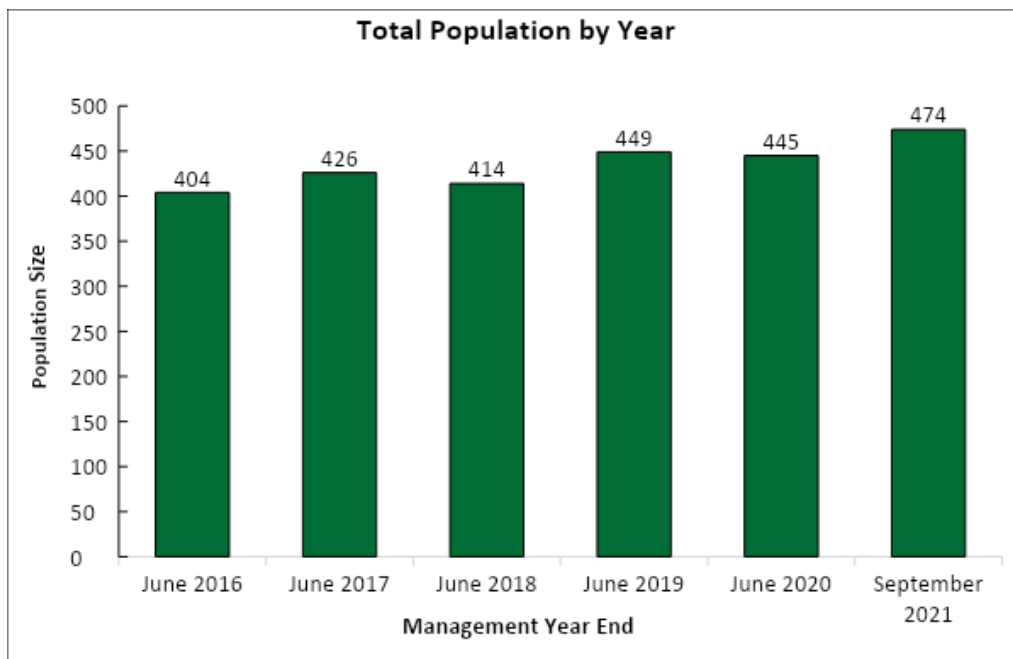


Figure 131: Total annual population counts for the managed baboon population on the Cape Peninsula.

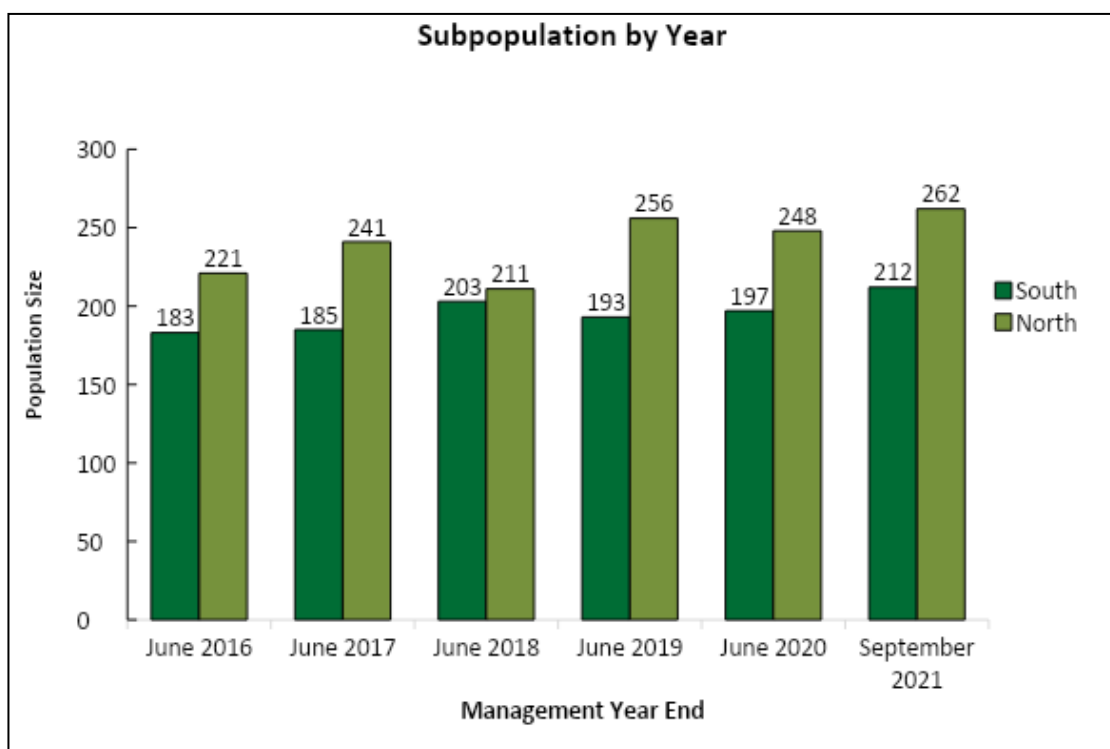


Figure 132: Total annual population counts for the managed baboon population by subpopulation.

Table 25: Age and sex class structure of the Cape Peninsula managed baboon troops in September 2021.

Troop	Adult Male	Adult Female	Sub-adult Male	Sub-adult Female	Immature	Total
Da Gama	2	16	1	2	34	55
Waterfall	2	16	0	7	27	52
Smitswinkel	2	13	4	4	19	42
GOB	2	8	0	3	16	29
Slangkop	2	12	2	3	15	34
<b>South Subtotal</b>	<b>10</b>	<b>65</b>	<b>7</b>	<b>19</b>	<b>111</b>	<b>212</b>
Zwaanswyk	1	7	1	0	11	20
Tokai	10	24	9	8	59	110
Mountain 1	1	18	1	5	26	51
Mountain 2	1	9	2	0	12	24
Constantia 1	2	10	1	2	25	40
Constantia 2*	1	6	0	2	8	17
<b>North Subtotal</b>	<b>16</b>	<b>74</b>	<b>14</b>	<b>17</b>	<b>141</b>	<b>262</b>
<b>TOTAL</b>	<b>26</b>	<b>139</b>	<b>21</b>	<b>36</b>	<b>252</b>	<b>474</b>
Plateau Road**	1	6	0	0	14	21

\*Following the suspected death of the alpha male, the Constantia 2 Troop individuals re-joined the Constantia 1 Troop in approximately September 2020. However, a new Constantia 2 Troop split formed shortly after. \*\*Plateau Road Troop is reported here, but not included in the managed baboon population total, as it is not classified as a managed troop. \*\*\*Immatures include both juveniles and infants.

The age and sex class structure of the individual troops remained relatively similar to last year's structure (Table 25). This year, however, there has been an overall increase in the number of adult males in the population (26 vs. 21), an increase in the number of sub-adult females (36 vs. 20) and an increase in immatures (252 vs. 240) (Figure 133). Sub-adult males in the population have remained the same (21 in both years) and adult females decreased slightly (139 vs. 143). See the annual count report from 2019/2020 for further details.

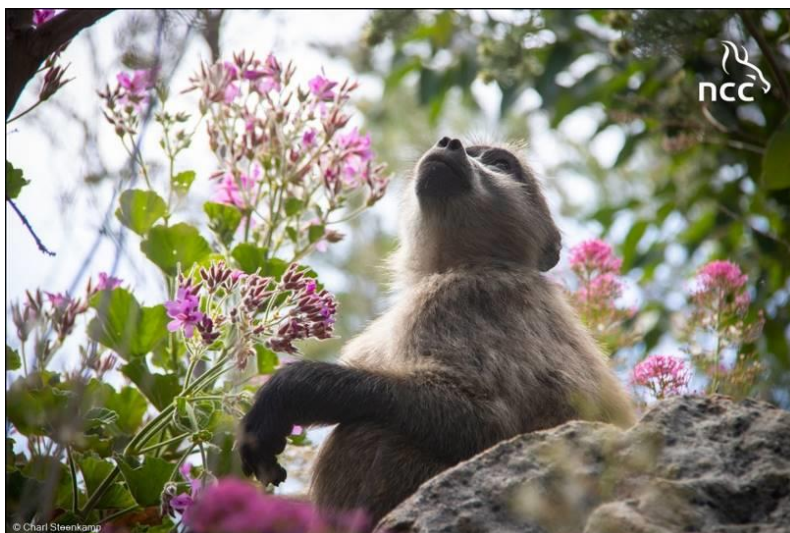


Figure 133: A juvenile baboon from the Mountain Troop

Table 26: Annual causes of known baboon mortality since June 2013.

Cause of known mortality	END JUNE TOTALS									July – August 2021*
	2013	2014	2015	2016	2017	2018	2019	2020	2021	
<b>Management</b>	17	10	8	4	11	8	4	5	1	1
<b>Human-Induced</b>	5	3	23	13	5	8	17	11	14	4
Direct	5	3	4	8	2	7	8	10	11	4
Indirect	-	-	19	5	3	1	9	1	3	0
<b>Natural</b>	19	21	22	8	27	28	18	30	18	1
<b>PLOHP</b>	-	-	-	-	-	7	-	-	-	-
<b>Unknown</b>	5	9	5	8	7	13	6	6	3	0
<b>TOTAL DEATHS</b>	<b>46</b>	<b>43</b>	<b>58</b>	<b>33</b>	<b>50</b>	<b>64</b>	<b>45</b>	<b>52</b>	<b>36</b>	<b>6</b>

\*The mortalities included in this report (July 2020 to August 2021) have been split in the table for consistent reporting.

**Management:** Baboons euthanised following the BTTG3 guidelines.

**Human-induced:** Direct – baboons killed by shooting, poisoning, dog attacks, motor vehicle collisions, etc. Indirect – electrocutions and human-related fires. This includes baboons seriously injured by these causes and subsequently euthanised.

**Natural:** Baboon-on-baboon altercations, infanticide, etc. This includes baboons seriously injured by these causes and subsequently euthanised.

**PLOHP:** Private landowner hunting permit.

**Unknown:** Occasionally a baboon carcass is found and the cause of death cannot be determined. This includes baboons euthanised for serious injuries from an unknown cause.

Known mortalities for this reporting period were lower than the average since 2013 (~36 vs. 48) (Table 26). There were fewer than average mortalities related to management (1 vs. ~8), natural deaths (18 vs. ~21) and unknown causes (3 vs. ~7). The number of human-induced deaths, however, was higher than average this year (14 vs. ~10). The difference in these mortalities can be accounted for during the period when the field teams did not have PBMs to assist in keeping the baboons out of the dangerous urban area. During the approximate five-week absence of PBMs, five baboons (that we are aware of) died of direct human-induced causes.

**Table 27: Population data for all managed troops by management year between December 2012 and September 2021.**

SOUTHERN TROOPS	Dec. 2012	June 2013	June 2014	June 2015	June 2016	June 2017	June 2018	June 2019	June 2020	Sept. 2021	No. Change	% Change
Da Gama	54	42	43	46	52	52	55	48	48	55	1	1.9%
Groot Olifantsbos	19	20	19	16	17	23	29	23	25	29	-8	-21.6%
Misty Cliffs*	18	17	16	9	11							
Slangkop	33	37	40	35	41	40	44	43	42	34	1	3.0%
Smitswinkel Bay	23	21	22	24	29	33	35	31	35	42	19	82.6%
Waterfall	28	28	29	31	33	37	40	48	47	52	24	85.7%
<b>SUBTOTAL</b>	<b>175</b>	<b>165</b>	<b>169</b>	<b>161</b>	<b>183</b>	<b>185</b>	<b>203</b>	<b>193</b>	<b>197</b>	<b>212</b>	<b>37</b>	<b>21.1%</b>
NORTHERN TROOPS	Dec. 2012	June 2013	June 2014	June 2015	June 2016	June 2017	June 2018	June 2019	June 2020	Sept. 2021	No. Change	% Change
Constantia 1	60	70	69	77	81	63	46	64	68	40	-3	-5.0%
Constantia 2**						22	10	8	7	17		
Mountain 1	33	41	47	49	47	57	60	73	63	51	42	127.3%
Mountain 2***										24		
Tokai	61	64	70	62	65	69	75	91	92	110	49	80.3%
Zwaanswyk	25	28	28	30	28	30	20	20	18	20	-5	-20.0%
<b>SUBTOTAL</b>	<b>179</b>	<b>203</b>	<b>214</b>	<b>218</b>	<b>221</b>	<b>241</b>	<b>211</b>	<b>256</b>	<b>248</b>	<b>262</b>	<b>83</b>	<b>46.4%</b>
<b>TOTAL</b>	<b>354</b>	<b>368</b>	<b>383</b>	<b>379</b>	<b>404</b>	<b>426</b>	<b>414</b>	<b>449</b>	<b>445</b>	<b>474</b>	<b>120</b>	<b>33.9%</b>

\*The Misty Cliff's Splinter Troop merged with the GOB Troop in January 2017. Four individuals from GOB later splintered again and were eventually relocated to a sanctuary in February-March 2020. \*\*The Constantia Troop split into two troops in late 2015 and were counted separately from 2017 onwards. \*\*\*The Mountain Troop split into two troops in early 2021.

Individual troop sizes shown in Table 27 illustrate the changes in troop numbers between December 2012 and September 2021. In the southern subpopulation, troop size variation ranged from a 21.6% decrease for the GOB Troop (see details in Table 27) to an 85.7% increase in the Waterfall Troop, with a 21.1% increase in the subpopulation overall. In the northern subpopulation, troop size variation ranged from a 20% decrease in the Zwaanswyk Troop to a 127.3% increase in the Mountain Troop, with a 46.4% increase in the subpopulation overall. As a whole, the Peninsula managed baboon population has increased by 33.9% over the decade. As the Peninsula baboon population is a closed population with limited undeveloped low-lying areas for foraging and no natural predators, a contraception plan is strongly recommended to slow population. This would aid in ensuring continued management success with the goal of a sustainable Cape Peninsula baboon population.

## 9.4 Percentage Time Spent Out of Town

### 1) Time spend out of town

The average time out of town for troops was 95.1% and 97.9% for individuals (Figure 134). Even though time out of town for individuals has increased over the past year (2.1% up from 95.8%), the 2020/21 management year have had a notable decline (3.3%) in the percentage time out of town (Figure 135). This decline can largely be attributed to the removal of PBMs in May 2021, and the overall increase in size of the population. The City's current tender requirement is that the average time out of town is at least 90%.

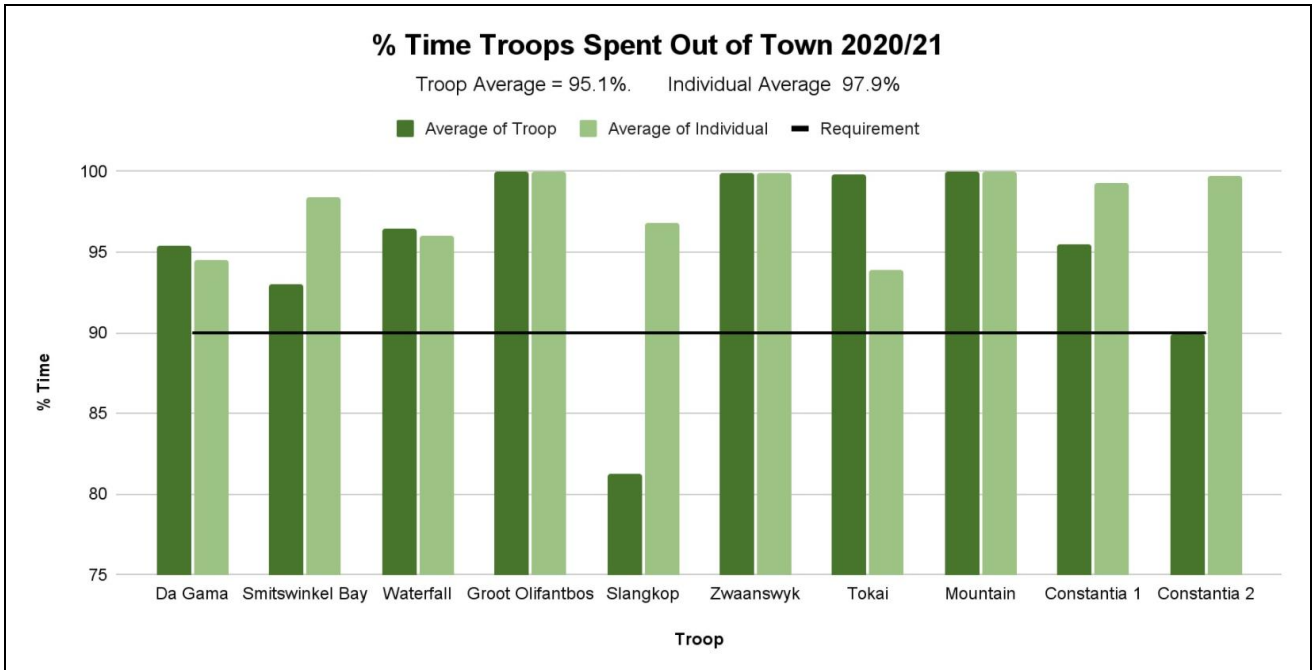


Figure 134: Managed baboon troops (dark bars) and individuals (light bars) average percentage time out of town for the 2020/21 management year (July – June). City’s 2017 tender requirement is that the average troop time out of town is at least 90% (black line).

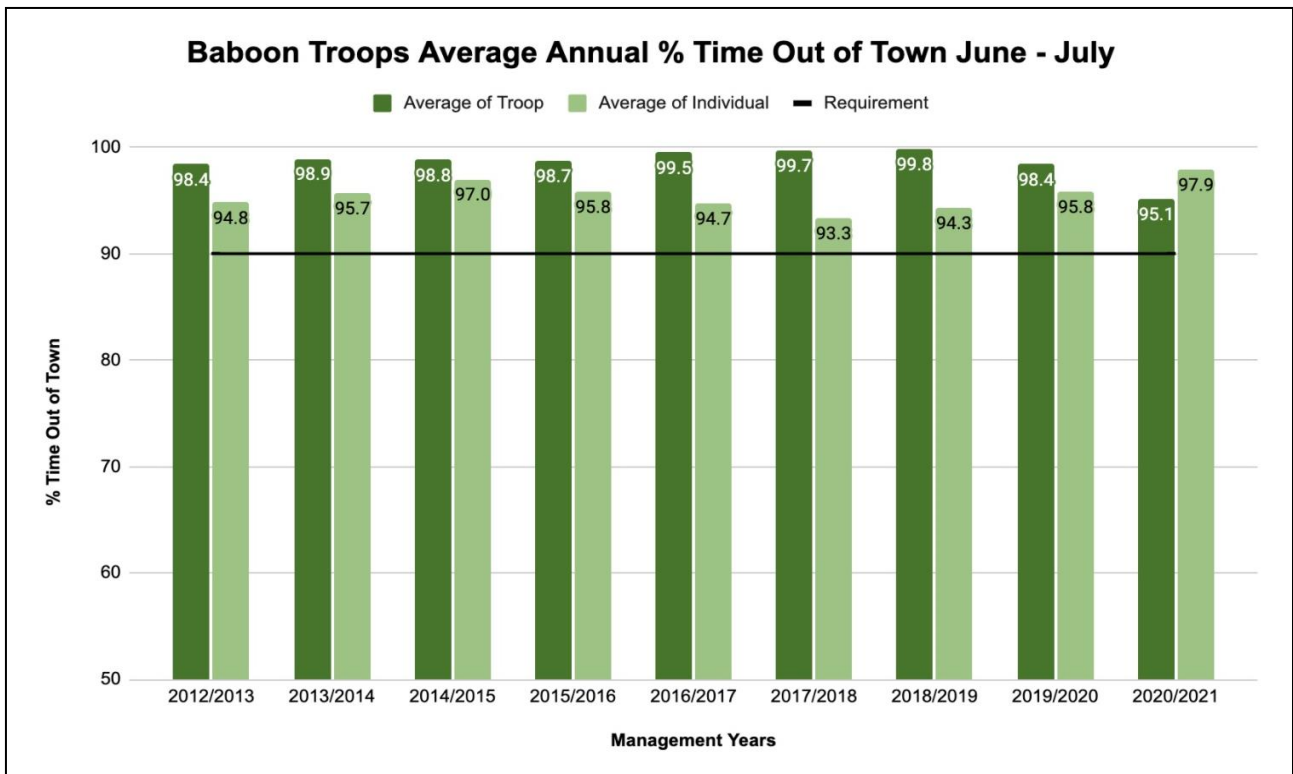


Figure 135: Managed baboon troops (dark green bars) and individuals (light green bars) average percentage time out of town per management year (June – July). The City’s tender requirement is that the average time out of town is at least 90%. 2012/2013 figures are not a full year as the service provider (HWS) only took over in August of 2012.

The removal of PBMs had significant impacts on the length of time baboon troops spent in the urban space. The eight troops where PBMs are used on a routine basis and were therefore most impacted by their withdrawal spent an average of 88.1% of time out of town without PBMs over a 30-day period, compared to their average of 94.7% of time out of town with PBMs between October 2020 and April 2021. This 5.9% increase in time spent in the urban space is substantial and equates to an approximate average of 19 hours spent in town by each troop during this month. As seen in Table 28, there was a total

of -6.5% variation between the time out of town before PBM withdrawal and the time out of time after PBM withdrawal. Due to the northern subpopulation's access to large areas of low-lying land, the field teams in this area managed to keep these troops from entering the urban space for the majority of the time, despite the absence of PBMs. Troops in the southern subpopulation, whose ranging areas border directly on urban zones, were much more challenging to keep in the natural space, particularly the Da Gama, Smitswinkel Bay and Slangkop Troops. The Slangkop Troop spent 50 hours more in the urban space compared to their monthly average with PBMs in use. The Smitswinkel Bay Troop spent 38.6 more hours in the urban space and the Da Gama Troop spent 34.5 more hours in the urban space. Increased time spent in the urban area leads to an increase in urban-related injuries and deaths to baboons, a rise in raiding activity, an increased possibility for negative interactions between residents and baboons, and increased potential for damage to property. Despite the return of PBMs, their prolonged absence has had lasting impacts on troop and individual baboon behaviour, such as established urban foraging, assertive raiding behaviour, changes to the location and size of troop ranging areas, and continued assertive behaviour by certain baboons towards field rangers.

**Table 28: The variation in the troop time out of time before and after the withdrawal of PBMs.**

Troop	Time out of town before withdrawal (1-13 May)	Time out of town after withdrawal (14-31 May)	Variation
Slangkop	81.4%	62%	-19.4
Smitswinkel Bay	88.8%	64.7%	-24.1
Da Gama	95.6%	82.8%	-12.8
Waterfall	85.8%	87%	1.2
Constantia 1	100%	92.7%	-7.3
Constantia 2	96.6%	88.5%	-8.1
Groot Olifantsbos	100%	100%	0
Plateau Road	100%	100%	0
Mountain	100%	100%	0
Tokai	100%	100%	0
Zwaanswyk	100%	100%	0
<b>TOTAL</b>	<b>95.3%</b>	<b>88.8%</b>	<b>-6.5</b>

## 2) Hotline Data

The frequency of different types of baboon raids recorded on the hotline over the past year is illustrated in Figure 136. A total of 3 579 calls were placed to the hotline during this reporting period. 3 245 of these calls were in reference to the presence of baboons in urban areas, 268 calls were general enquiries and 66 calls were regarding injured baboons. The highest number of hotline calls regarding the presence of baboons in the urban space came from Constantia (Figure 137). These calls focused around the presence of the recently formed CT2 Troop that began moving north of Constantia Nek into areas baboons have not been in for decades. Calls from Constantia were also with regards to the CT1 Troop that moves in and out of the farming areas abutting the urban space. The high level of calls from Simon's Town were regarding the presence of the Waterfall Troop, however in the months of May and June when PBMs were absent, these calls were also regarding the presence of an additional troop, the Smitswinkel Bay Troop. Calls from Murdock Valley were also with regards to the Smitswinkel Bay Troop. Murdock Valley borders a vast natural area to the south and thus experiences frequent visits from baboons. The

calls from Capri and Kommetjie were regarding the Slangkop Troop, which had moved between the two general areas on a few occasions in the last several months.

It is important to note that hotline data cannot be reliably correlated to actual rate of urban incursions, as hotline use by members of the public varies significantly based on multiple factors. We are aware that members of the public are sometimes reluctant to phone the hotline to report the presence of baboons in the urban area. We encourage the use of the hotline to report incursions into residential areas for the safety of the baboons and to aid us in assisting the public in these areas.

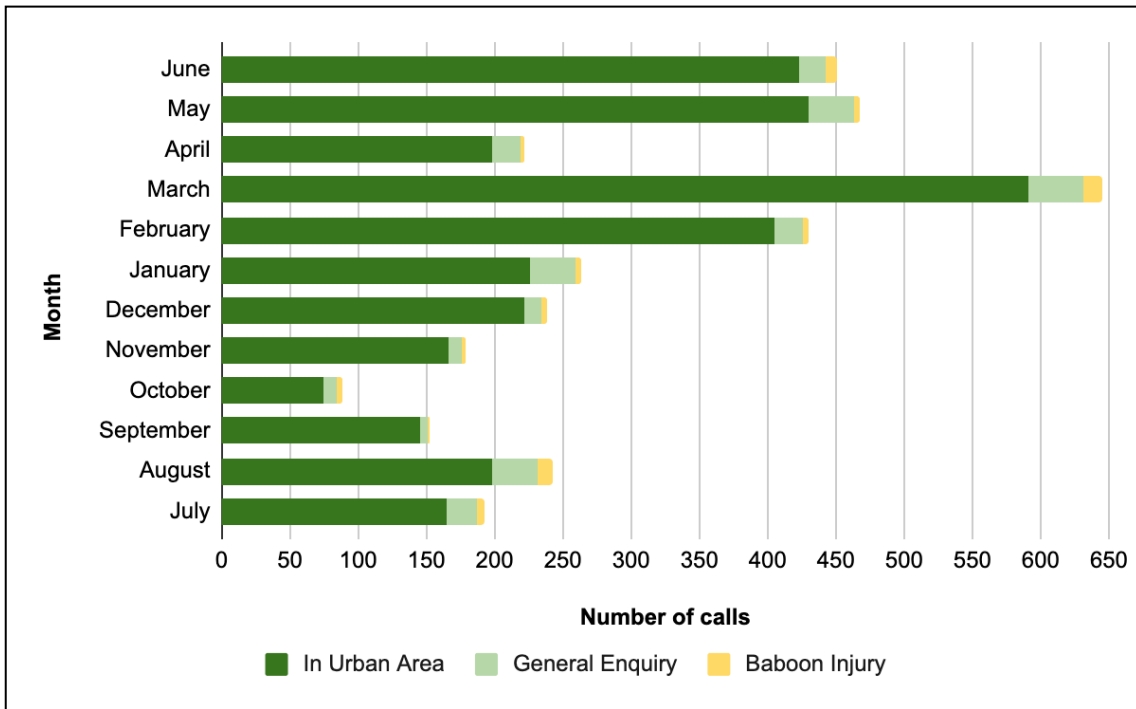


Figure 136: Hotline calls by type and month between July 2020 and June 2021.

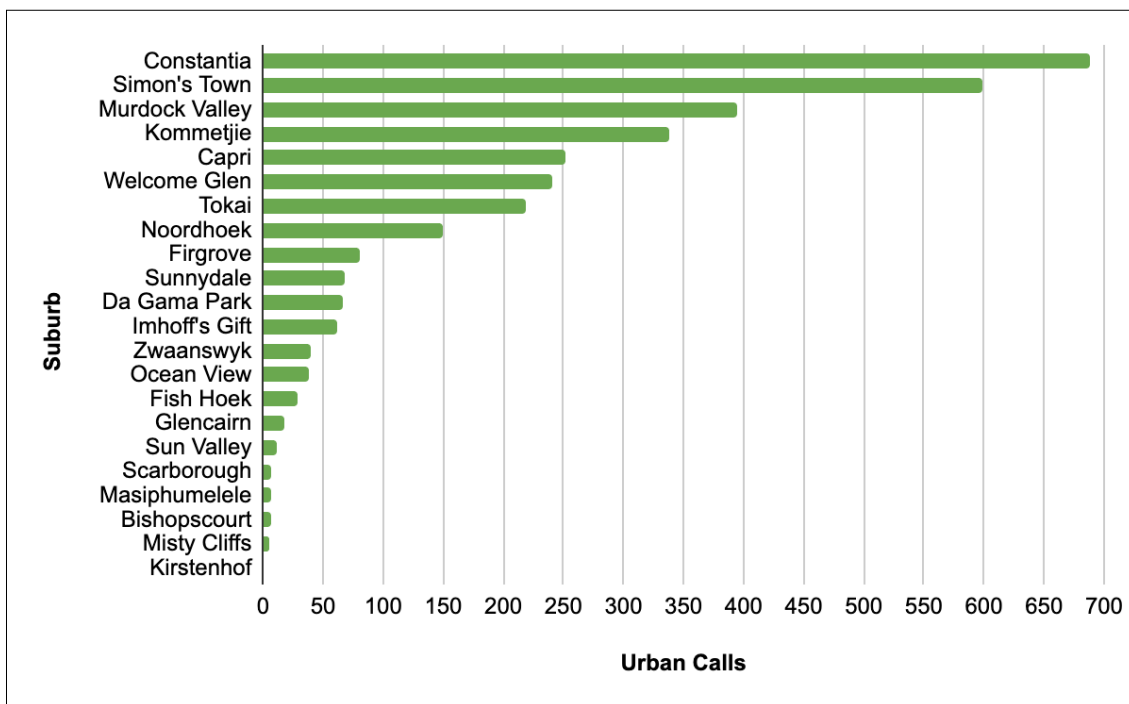


Figure 137: Total number of hotline calls regarding baboons in the urban space by suburb between July 2020 and June 2021.

## 9.5 Community Awareness and Liaison

Over the past year, the community liaison function of the CARBS (Councillor Appointed Representatives for Baboon Suburbs) group has continued to take shape. The four councillors in whose wards baboons occur (Wards 61, 62, 71 and 72), have each appointed interested and active residents per community to act as conduits of information concerning baboon activities and mitigation. Three CARBS meetings were attended by the City, the Institute for Communities and Wildlife in Africa (iCWild), CGHSPCA and the relevant service provider (HWS in August 2020 and NCC for two CARBS meetings in March 2021). During 2021, the format of the CARBS meetings changed, where the focus was on each representative discussing and asking questions relating to their relevant baboon-affected suburb.

Engagement with residents and stakeholders in baboon-impacted communities has been an important focus of the UBP, and both HWS and NCC carried out this work. The community awareness programme concentrated on areas of public concern and worked in the urban areas of the northern and southern sub-populations. This project has been a major success for the programme, continuing to help drive positive change in human behaviour around the baboon-affected areas on the Peninsula.

Community awareness is achieved through various activities, namely site visits to affected communities and engagement with residents to address various matters, community education in the form of pamphlet distribution and educational presentations online and in person (Figure 138). The two service providers collectively carried out 253 site visits and gave 13 educational sessions to the community.

NCC was successful in community collaboration projects. This involvement led to the commencement of a rollout to replace non-baboon-proof public bins with more durable baboon-proof bins. Additionally, six private and public properties that facilitated baboon movement were identified. To prevent easy movement into the urban space, electric fencing was erected and repaired, and trees were removed.



**Figure 138: NCC Project Manager Joselyn Mormile giving a community education presentation in Simon's Town in March 2021. Several similar educational evenings were held with various communities since.**

## 9.6 Ranger Training

---

The UBP rangers undertake intensive and regular training. For instance, the NCC rangers undertook various modules in baboon behaviour and biology, the use of PBMs, as well as occupational health and safety.

## 9.7 Liaison with other City Line Functions

---

Integrated management with relevant City line departments is an essential aspect of the UBP to reduce conflict with humans and keep baboon troops as wild as possible on the Cape Peninsula.

Pro-active steps relating to solid waste, electricity and traffic management have been taken by the department. Steps include:

- Reduction of street-side bin densities in Simon's Town in an effort to reduce attractants to baboons.
- Improved street-side refuse management minimizing raiding by urban baboon troops.
- Reduced risk of electrocution by overhead power-lines within some baboon troop home ranges.
- Progressed planning for the implementation of wildlife signage and speed limit reduction in Simon's Town.

## 9.8 Gordon's Bay Troop

---

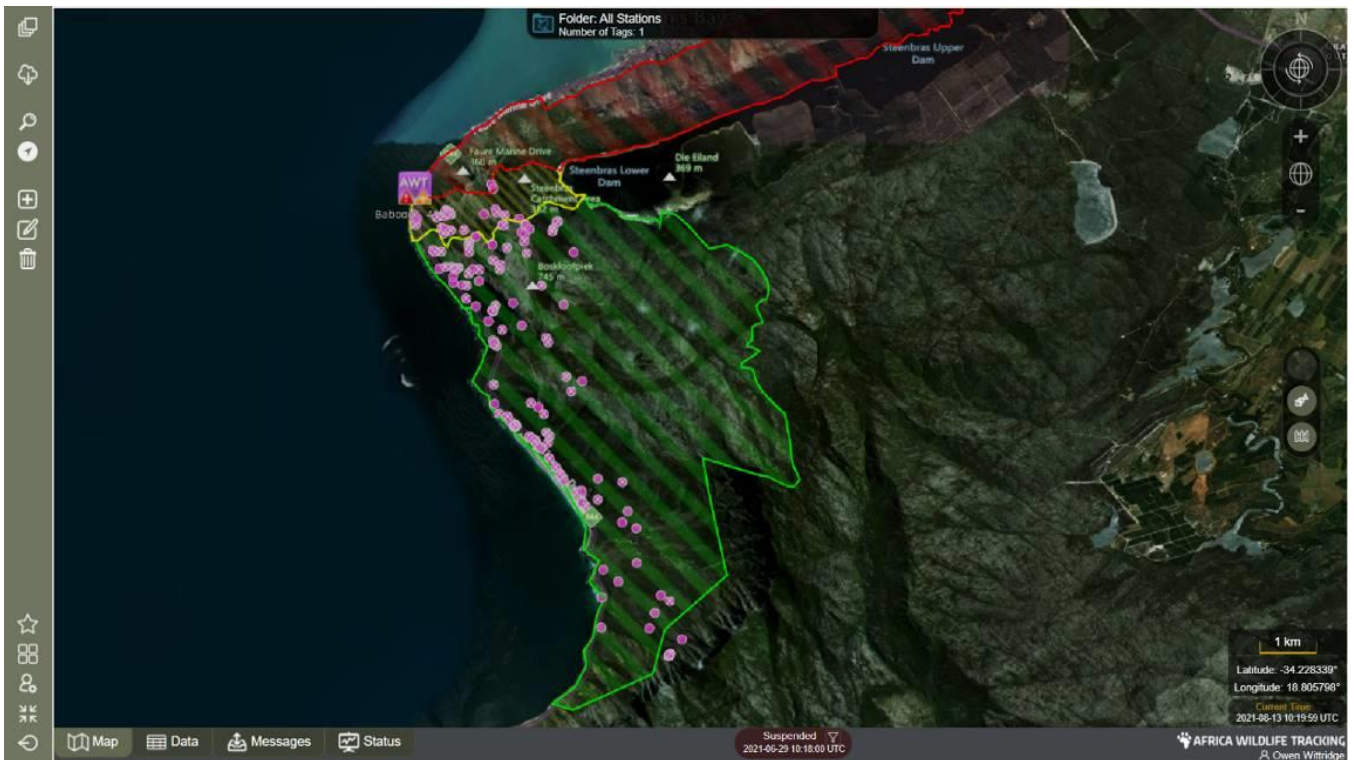
Monitoring of baboons continued as part of the Steenbras Nature Reserve Baboon Management programme for the reporting period (Figure 139). There was a short period where no collars were fitted to baboons, which meant field staff had to be more aware of troop movements and possible incursions into Gordon's Bay. With the appointment of the new service provider (NCC), a collar was fitted to the alpha male GBM09, and new collar data was received. This collar was also connected to the Virtual Fence System, with four location readings provided to management daily.

With the collar being linked to the African Wildlife Tracking system via satellite, the readings can be downloaded off a web platform, allowing management to track and even predict troop movements. The Geofence zones were also updated and when GBM09 crossed into a new zone, management automatically received an SMS notification. This Virtual Fence System, with updated Geofence points and the new collar meant that the baboons remained out of Gordon's Bay for the entire period. The Gordon's Bay troop has not entered town since January 2016.



Figure 139: Baboons from the Gordon's Bay Troop.

Figure 140 indicates the daily data points for the report period for GBM09 – note there are no data points near Gordon's Bay. One can also see the three Geofenced zones.



**Figure 140: Daily data points for the report period for GBM09 – note there are no data points near Gordon's Bay.**

With the increased human activities (tree felling and water abstraction) in the Steenbras Catchment, the baboon troop which previously predominantly moved in the plantation area, started expanding their home range into the natural veld. This is a very positive transition. Unfortunately, some individuals picked up raiding tendencies. An emphasis was placed on creating awareness with contract workers and ensuring that mitigation measures to prevent human-baboon conflict within the nature reserve were kept to an absolute minimum.

## 10. People and Conservation

### 10.1 Environmental Education, Awareness and Events



**Figure 141:** SDECD youth group from Manenberg and Heideveld on the dunes in Witzands Aquifer Nature Reserve, March 2021.

This year environmental education activities in the BMB reached 2 338 learners from 42 schools (and with an additional 181 teachers and 2 979 adults), resulting in 5 634 person days of education (Figures 141 to 149). This means that 5 498 individuals were involved in formal education events, exhibitions, informal or awareness activities on and off reserves by reserve staff and the ISU. This included the work undertaken on the reserves by the Cape Town Environmental Education Trust (CTEET), who partnered with the City to run environmental education programmes primarily at the Zeekoevlei section of False Bay Nature Reserve. The number of person days of education, schools, and people were dramatically down this year due to the COVID-19 pandemic and the closure of schools, closure of nature reserves, and the banning of all events and gatherings. Even once schools and nature reserves reopened, groups and gatherings remained banned for the most part, and formal environmental education on the reserves has not yet resumed, nor have many events and activities.



**Figure 142 and 143:** In celebration of International Coastal Clean-up, the ISU staff participated in the removal of litterbags at Gugulethu in co-operation with Earth Pristine and Gugulethu children group.

The key Environmental Calendar Days were celebrated mostly via media, because of the moratorium on in-person programmes. Very few holiday programmes were held at the nature reserves due to the Lockdown.

For the same reason, a very limited number of events were held at the City's nature reserves or virtually throughout the year, with 869 people attending. Exhibitions reached 192 people, and environmental awareness took place with 600 people.

In addition to the events, 977 people attended guided hikes during this period. This is one of the few activities that was permitted to take place in nature reserves, with limited capacity and strict guidelines.

Community training sessions were held, with 17 community members trained. Public talks were given on a number of subjects, reaching 195 people. Approximately 809 people participated in activity-based learning efforts such as beach clean-ups and alien plant hacks.



**Figure 144: Gr.8-10 learners from Ravensmead and Uitzig competing in building a water cycle puzzle in no time.**



**Figure 145: Learners and caretakers from Peace Home in Table View enjoyed an educational hike in Witzands Aquifer Nature Reserve.**



**Figure 146: D. Goodman (Social Development Early Childhood Development) and community member do their part in cleaning the river in Pella.**



**Figure 147: Morne Farmer giving a talk on wetlands in Pella.**

Education support was provided by P&C officers to students, teachers and volunteers. Twenty-six people received this support.

The City's participation in the international City Nature Challenge hosted by iNaturalist was hampered somewhat by the COVID-19 Lockdown regulations, which meant that group activities were limited and

capacity and strict compliance criteria needed to be in place. In addition, training could only be done online. Nevertheless, participants and staff were encouraged to take part. The sightings recorded can provide useful data on what wildlife species are present and make use of which habitats in Cape Town, as well as additional point data for mapping distribution of invasive species. A virtual awards ceremony event was held to celebrate Cape Town's achievements, hosted by the Botanical Society and facilitated by the BMB.



Figure 148: Stratus Community Youth Group birding in Vesuvius Way Conservation Area on 12 June 2021.



Figure 149: Cedar High School Birding Programme in Vesuvius Way Conservation Area on 20 April 2021 (Photo: S. Wilson).

## 10.2 Communication

### 1) Resource development

- Outdoor signage:
  - Wolfgat Nature Reserve signage (including Vesuvius Way and Macassar Dunes Conservation Areas) was completed and installed;
  - Morkel's Cottage Conservation Area, Steenbras Nature Reserve, Helderberg Nature Reserve, Skilpadsvlei Conservation Area and Tygerberg Nature Reserve in manufacture and installation phase;
  - Table Bay Nature Reserve, Harmony Flats Nature Reserve, Durbanville Nature Reserve, Zandvlei Nature Reserve and Zandwolf section of False Bay Nature Reserve in signage design phase.
- Many different communication resources were developed for the City Nature Challenge 2021.
- Various ad hoc resources and requests were dealt with (notices, templates, invitations, etc. including design, approval and coordination) (Table 29).

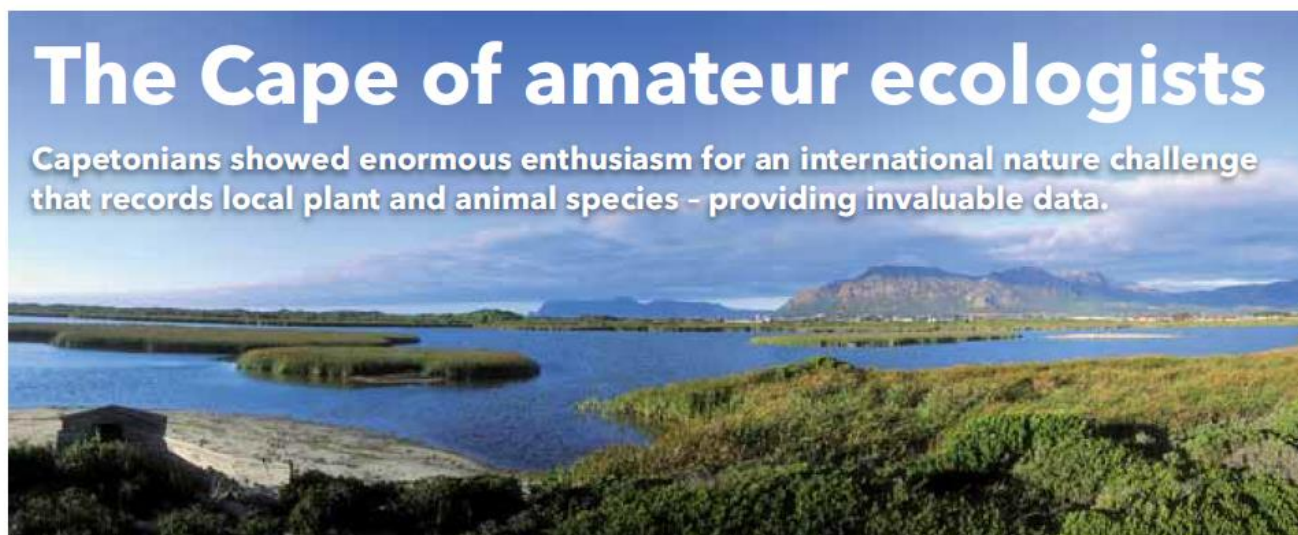
Table 29: Resource and other queries dealt with during the 2020/2021 financial year.

Project	Status
City Nature Challenge flyer	Complete
City Nature Challenge Coastal BINGO	Complete
City Nature Challenge Garden BINGO	Complete
City Nature Challenge How To Guidelines	Complete
City Nature Challenge Invasives BINGO	Complete
City Nature Challenge marketing video	Complete
City Nature Challenge posters	Complete

City Nature Challenge species checklist	Complete
City Nature Challenge Wild BINGO	Complete
Durbanville Nature Reserve signage	In design phase (with Corporate Communications)
False Bay Nature Reserve (Strandfontein section) Cape Bird Club signage	Feedback received from Corporate Communications
Garden Cities signage	Input and advice
Green Point Park Otter signage	Input and advice
Harmony Flats Nature Reserve signage (including Morkel's Cottage)	In design phase (with Corporate Communications)
Helderberg Nature Reserve signage	Manufacture and installation process initiated
Morkel's Cottage signage	Manufacture and installation process initiated
Muizenberg East Cluster	Draft in process
Nature Reserves No Structures signage	Design complete
Promulgation of Nature Reserve By-law signage pictograms	Complete
Skilpadsvlei signage	Query stage
Skilpadsvlei signage	Manufacture and installation process initiated
Steenbras Nature Reserve signage	Manufacture and installation process initiated
Table Bay Nature Reserve signage	In design phase (with Corporate Communications)
Tygerberg Nature Reserve signage	Manufacture and installation process initiated
Vehicle searching decal pictograms (Witzands Aquifer Nature Reserve)	Process initiated
Witzands Aquifer Nature Reserve signage	Design complete
Witzands Aquifer Nature Reserve tourism road signage	Manufacture and installation process initiated
Wolfgat Nature Reserve signage (including Vesuvius Way and Macassar Dunes Conservation Areas)	Complete
Zandvlei Nature Reserve signage	In design phase (with Corporate Communications)
Zandwolf section of False Bay Nature Reserve	In design phase (with Corporate Communications)

## 2) Media matters (media releases, radio interviews, articles, internal journals, etc.)

There were many media releases and media queries last year (Table 30). Some were written by BMB communication staff, whilst for others a response was simply coordinated or an already written article was edited and sent for approval. Many stories that covered Biodiversity Management were also featured in the City's internal CONTACT magazine (Figure 150 and 151).



# The Cape of amateur ecologists

Capetonians showed enormous enthusiasm for an international nature challenge that records local plant and animal species – providing invaluable data.

*Eco-sleuths get on the case: The City coordinated numerous activities in the course of the City Nature Challenge, including tours of the reserves with local experts. The reserves, such as Rondevlei (pictured), were open to those interested in recording their observations of plant and animal life over the four days. To learn more about the 21 City nature reserves, visit <https://www.capetown.gov.za> and search for "Nature reserves".*

Cape Town has been declared the winner of two categories in the 2021 City Nature Challenge. More than 150 cities competed to see who could make the most observations of nature, find the most species, and engage the most people.

The competition took place between 30 April and 3 May 2021. Capetonians were encouraged to explore the City's nature reserves and natural open spaces, and to record all of the local plant and animal species they spotted over the four days.

Participants were required to download the iNaturalist.com app and then shared their observations by uploading their findings.

## Go, Capetonians, go!

Together, Cape Town participants were able to record 71 142 observations and 4 766 species. Runners-up in the recorded observations category were Hong Kong with 29 781 observations, and Houston, USA, with 33 452. In the recorded species category, runners-up were Hong Kong with 4 179 species, and Houston, USA, with 3 707.

The number of Cape Town residents who participated this year increased to 1 315.

Started in 2016 as a competition between San Francisco and Los Angeles, the City Nature Challenge is now an international event, and a major contributor to the

iNaturalist datasets, which provide detailed data for a variety of studies.

iNaturalist, a social network run by the California Academy of Science and the National Geographic Society, has more than four million members, who have contributed 70 million observations of more than 337 000 species to date.

The data is used to generate detailed maps and forecasts of species distribution, migrations, and snapshots of how populations are changing and adapting to their environment, helping conservation assessments.

- See <https://citynaturechallenge.org/> and <https://www.inaturalist.org/>.

Figure 150: City Nature Challenge article in the City's CONTACT magazine.

Table 30: Media releases and other queries dealt with during the 2020/21 financial year.

Media releases and queries	Date
Cape Town's wandering hippo finds a home in Mossel Bay	01-Jul
Trails in for a trimming at Helderberg Nature Reserve	02-Jul
City advises on fuel reduction burn at Klein Dassenberg	03-Jul
Illegal occupations threaten new homes for beneficiaries, conservation land	13-Jul
City opens Nature Reserves to the public	15-Jul
City removing Water Hyacinth at Milnerton Lagoon	17-Jul
Capetonians embracing the outdoors at City nature reserves	21-Jul
City Nature Reserves home to more animal life than you think	30-Jul
Mammals on City Nature Reserves - social media query (Andrea Schnetler response)	03-Aug
Mammals on City Nature Reserves - 10X media query (Andrea Schnetler response)	03-Aug
Otters in Marina Da Gama - False Bay Echo media query	04-Aug

Media releases and queries	Date
Baboons - People's Post media query	06-Aug
News24 Article: Kommetjie baboon reprieved from sentence of 'death'	15-Aug
City's women rangers blooming in the field	16-Aug
Cape Town flower season is upon us	17-Aug
Cape Argus article: Honouring women who are green queens	17-Aug
Increased wire snares threaten natural ecosystem	19-Aug
Baboons - Sunday Times media query	20-Aug
Increased wire snares - Tabletalk query	21-Aug
City Women, we salute you (featuring BMB women in video)	23-Aug
Tygerberg Nature Reserve and COVID-19 prevention measures - Tygerburger media query	26-Aug
Chameleons - Tabletalk media query	31-Aug
City's baboon programme achieves 80% increase in Peninsula's baboon population	02-Sep
False Bay Echo Article: Next stage of dredging at Zandvlei Nature Reserve	03-Sep
City calls on residents to join beach clean ups this month	07-Sep
Beach clean ups - VOC Radio Interview (Elzette Krynauw)	10-Sep
Zeeköevlei waterbody closed to the public	17-Sept
Reserve visitor fined for making fire on a dune	18-Sep
Baboon PR - Tred Magill media query	25-Sep
City encourages residents to participate in Great Southern Bioblitz nature challenge	25-Sep
Cape Argus article: City calls on Cape residents not to interfere with the baboon SK11, aka Kataza	29-Sep
Zeeköevlei pollution investigation underway – vlei to remain closed until further notice	01-Oct
City appoints a new service provider for Urban Baboon Programme	01-Oct
Dead bodies at Wolfgat Nature Reserve - INL media query	05-Oct
Cape Argus opinion piece (Ald. Nieuwoudt): Adult male baboon, Kataza, not mistreated	06-Oct
Peninsula Paddle media release (CTEET)	06-Oct
Kataza being monitored after fight with other male baboon	11-Oct
Cape Times article: Concern for baboon SK11 aka Kataza grows, but he's doing better after battle	12-Oct
Cape Argus article: Show us how an injured Kataza is proof of a successful integration, say activists	12-Oct
City backs its Baboon Programme in interest of Peninsula's baboon population	19-Oct
Cape Argus article: Fight over relocation of Cape baboon Kataza heads to court	20-Oct
Virtual Birdathon at False Bay Nature Reserve the perfect school holiday adventure	20-Oct
News24 article: Kataza defended in Cape High Court - City accused of animal cruelty	21-Oct
Milnerton lagoon mouth - social media query	27-Oct
Council approves new by-law to protect nature reserves, visitors	29-Oct

<b>Media releases and queries</b>	<b>Date</b>
Helderberg multi-purpose centre - Radio Helderberg interview (Hayley Wittridge)	04-Nov
Helderberg multi-purpose centre rises from recycled building rubble and truck tyres	06-Nov
Park Island closed to dogs after killing of Cape grysbok	11-Nov
SK11, alias Kataza, returned to his natal troop in Kommetjie area	13-Nov
Kenilworth Racecourse Conservation Area – Ten years on (SAMARA newsletter article; Jerry Khalo)	18-Nov
Threats, intimidation of officials involved in Urban Baboon Programme	20-Nov
City's nature reserves continue to flourish in 2020	24-Nov
The winner is - City's Smart Living Handbook	26-Nov
Nature Reserves social distancing and restrictions - Radio 786 interview (Julia Wood)	10-Dec
City keeping track of the Shot Hole Borer Beetle in Somerset West	14-Dec
Zandvlei Nature Reserve - False Bay Echo letter query	21-Dec
Verge veggie gardens - Constantiaberg Bulletin query	22-Dec
City monitoring SK11, male baboon colloquially known as Kataza	07-Jan
SK11 - Netwerk24 media query	07-Jan
City monitoring Kataza while CapeNature reviews translocation application	12-Jan
Cape Argus article: Kataza safely captured and kept in a safe place before Limpopo relocation	19-Jan
Cape Argus article: Land invaders in Rondevlei met with rubber bullets and removed by force	19-Jan
World Environmental Education Day a reminder of Cape Town's vast biodiversity	26-Jan
City curbs invasive water hyacinth at Zeeköevlei	28-Jan
Zandvlei - INL media query	28-Jan
Love of nature maps out a path to possibilities	02-Feb
City to return baboon to his natal Tokai troop	05-Feb
Roaming male baboon safely returned to Tokai troop	08-Feb
The health of Cape Town's urban waterways is everyone's business	09-Feb
Roaming male baboon released near Lewis Gay Dam	15-Feb
False Bay Echo article: Poo-spotter flags planned for vlei	18-Feb
Ecological burns scheduled for Cape Town nature reserves	26-Feb
Ecological burns - Netwerk24 media query	26-Feb
City encourages residents to complete online Baboon Questionnaire	01-Mar
Zandvlei Estuary is becoming an environmental disaster - query via media channel	02-Mar
Princess Kasteel River - INL media query	02-Mar
Ecological burns - Radio Helderberg interview (Julia Wood)	05-Mar
Fire on the common - INL media query	29-Mar
Ecological burns in the Constantia valley - INL media query	29-Mar

<b>Media releases and queries</b>	<b>Date</b>
Ecological burn at Tokai - CCT response to Parkscape report - media query	30-Mar
Water hyacinth in Black River - CCT social media query	31-Mar
City invests R62m to secure water by clearing invasive alien plants	01-Apr
Raiding male baboon from Smitswinkel Bay euthanized	08-Apr
Successful ecological burn at Zonnestraal - CCT social media post	08-Apr
Zandvlei Nature Reserve - Cape Argus media query	12-Apr
City challenges all Capetonians to come out and explore nature	16-Apr
Petition re Zandvlei: second request - INL media query	19-Apr
City nature challenge weekend is here - time to explore the outdoors	30-Apr
City awaiting clarification from NSPCA about paintball guns	30-Apr
Cape Town's biodiversity steals the show in 2021 City Nature Challenge	11-May
Juvenile baboon killed with pellet gun	12-May
Good Things Guy article: Cape Town's Biodiversity Steals Show in 2021 City Nature Challenge	13-May
Smile 90.4 Radio news: Cape Town's Biodiversity Steals Show in 2021 City Nature Challenge	13-May
Cape Town's biodiversity steals the show in 2021 City Nature Challenge - INL media query	13-May
City withdraws paintball markers as aversion tool	14-May
City clears Kirstenhof Wetland of invasive alien species	19-May
City recognises nature enthusiasts this International Biodiversity Day	22-May
Zandvlei waterbody closed to public until further notice	25-May
Zandvlei waterbody - Cape Argus media query	27-May
Alien species - Northern News media query	02-Jun
Update on water quality results for Muizenberg beach	04-Jun
Nominations open for City nature reserve advisory committees	06-Jun
Protected Area Advisory Committees - People's Post/Tygerburger media query	09-Jun
Kader Asmal Skills Development Programme honours its first graduates	11-Jun
Feature about City's nature reserves - submitted to Connect City of Cape Town Magazine	11-Jun
Wetland restoration under way along Promenade Road in Muizenberg	16-Jun
City to reintroduce humane use of paintball markers for trial period	25-Jun
Nominations deadline for City nature reserve advisory committees extended	28-Jun

## Get out there in one of the City's nature reserves

If you've never visited one of the City's many nature reserves, this summer might be a good time to start. Most of these reserves conserve unique biodiversity that is only found in Cape Town, and so offer the opportunity to learn more about the unique life we share our city with.

Reserves offer recreational facilities that include picnics, walks and hikes and bird-watching. Others offer, fishing, boating and sailing, mountain biking and more. There are few better places to enjoy socially-distanced, healthy recreation.

The City's reserves are also a bit of a locals-only secret. While tourists are queuing up for Table Mountain and Boulders, residents can head for quieter, nearby places of great beauty.

### Affordable and accessible

Entrance to most reserves is free, and where there is a fee it is very reasonable at around R25 per vehicle, and from as little as R17 per adult and R10 per child (entrance fees



*Secret spaces: Rondevlei, part of the False Bay nature reserve, offers spectacular wetlands.*

vary by facility). Some activities, such as fishing, require a permit.

Entrance hours vary according to facility and activity, but generally they are all open every day between 09:00 and 17:00.

### There's one near you

There are 17 City nature reserves, and there will be one not too far from where you live.

**Central:** Bothasig Fynbos, Botterblom, Bracken, Durbanville, Tygerberg and Uitkamp

Wetland nature reserves.

**East:** The Harmony Flats, Helderberg, Steenbras and Wolfgat nature reserves.

**North:** Blaauwberg, Table Bay and Witzands Aquifer nature reserves.

**South:** Edith Stephens, False Bay (Rondevlei, Zeekoevlei and Strandfontein sections) and Zandvlei Estuary nature reserves.

- Find detailed access, fee and facility information for the the City's reserves at [www.capetown.gov.za/naturereserves](http://www.capetown.gov.za/naturereserves).

Figure 151: City nature reserves article in the City's CONTACT magazine.

## 10.3 Protected Area Advisory Committees

The current City Protected Area Advisory Committees (PAACs) include:

- Blaauwberg Nature Reserve
- Bracken and Durbanville Nature Reserves (combined)
- False Bay Nature Reserve
- Helderberg Nature Reserve
- Table Bay Nature Reserve
- Tygerberg Nature Reserve (including Bothasig Fynbos Nature Reserve)
- Witzands Aquifer Nature Reserve
- Wolfgat Nature Reserve
- Zandvlei Nature Reserve

Despite the COVID-19 pandemic, Protected Area Advisory Committee (PAAC) meetings continued to be held, often online.

The establishment of PAACs is provided for in the Protected Areas Act, and is primarily intended to involve neighbouring communities in decision-making regarding Protected Areas. In terms of the Constitution of the PAACs, the committees serve a period of three years, after which they must reform. All existing members would have to apply to renew their membership, and prospective new members can also apply. The appointments of new Councillors as Sub-council representatives to the PAACs took place in June 2019, following the national elections. The current PAACs were established in the second half of 2018 at the beginning of the three-year cycle, and so their term expired at the end of June 2021. Advertisements and announcements of the application process for the new PAACs took place in June, and the new PAACs should be established in the second half of 2021. New councillor appointments will need to take place after the local government elections to be held in the new financial year.

## 10.4 Councillor Engagement

---

BMB engages with ward councillors continuously throughout the year, including at the PAACs. In September 2020, the Branch's Annual Report was tabled at the Spatial Planning and Environment Portfolio Committee and at all the subcouncils. All subcouncils received a presentation apart from Subcouncil 8, where the report was only noted.

The presentations were very well received, with the subcouncils overwhelmingly congratulating the work that BMB does. Subcouncils were interested in specifics in their area, and going forward the Branch needs to be able to consolidate valuable statistics for each subcouncil. Some subcouncils were interested in the fauna and flora on the reserves, while others raised concerns to the security, land invasion and vandalism issues on the reserves.

## 10.5 External Stakeholder Engagement

---

The primary stakeholder structure linked to the reserves is the PAACs (see section 10.3). BMB works closely with various departments in both provincial and national government, as well as a range of NGOs, Friends and community groups. Important national government engagement is undertaken via the Biodiversity Planning Forum, and the DFFE's Working Group 1.

Staff, along with CapeNature, co-chaired the CAPE IAAWG. This group meets three times per year and is a forum where operational staff and government officials interact with researchers and the SPCA to assess priorities and undertake necessary research. The Working Group published a paper in *Bothalia* as a review of its work over 10 years.

A critical milestone is the 20-year review of the CAPE, called the CAPE legacy project. CAPE was instrumental in supporting the City as well as providing international funds.

Regionally, the Fynbos Forum, a forum involved in the conservation of the Cape Floristic Region, is key to showcase the BMB's work, share lessons, and learn from colleagues.

The founding of the Palmiet-Bot River/Overberg Basin incorporates the Steenbras Catchment area. This initiative is led by the Groenland Water Users Association and supported by The Nature Conservancy (TNC) and WWF-SA.

## 10.6 Customer Service

---

### 1) C3 notifications

The notifications are being dealt with in the prescribed timeframes. A total of 74 notifications were received and actioned during this financial year. The various line managers deserve recognition and gratitude for their prompt responses, which assist with finalising notifications speedily. There have been instances where notifications were incorrectly directed to the BMB. This is being addressed with the respective line departments.

## 2) Protected Areas Gateways and Public Access Points

The BMB runs five access points where cash is accepted: Witzands Dunes (Witzands Aquifer Nature Reserve), Eerstestein (Blaauwberg Nature Reserve), Rietvlei (Table Bay Nature Reserve), Tygerberg Nature Reserve, and Helderberg Nature Reserve. Rondevlei and Zeekoevlei (False Bay Nature Reserve), Bracken Nature Reserve, and Durbanville Nature Reserve have formal access points but entrance is free. Activity permits are sold for Crystal Pools Hiking Trail (Steenbras Nature Reserve), Rietvlei (Table Bay Nature Reserve), and for activities on the Witzands Dunes (Witzands Aquifer Nature Reserve). These either are sold via the City's booking system or are available at the gate, such as at Witzands Dunes. The BMB is continually improving their service and working hard to implement the City's new booking system to enhance service delivery.

## 10.7 Tourism and other economic opportunities



BMB continues to market its nature reserves wherever possible (Figure 152). Marketing is mostly through media releases; exhibitions; internal media (CONTACT and E-nform); pamphlet handouts; email contact lists from the Environmental Education groups, Friends groups and City's Transversal Environmental Education Forum; and showcasing the nature reserves at events (see section 9.3 for more information on media).

Figure 152: New direction signage at Witzands to assist with accessibility.

The City's nature reserves received 340 265 visitors (2019/2020 = 319 519) recorded mostly through its manned access points and events (the majority of reserves are open access so this figure is an under estimate). Through paid gates and events an income of **R5.867 M** was received (the planned R2.9 M increased as a result of the increase of visitors at Helderberg Nature Reserve and Witzands Dune (Table 31). The Helderberg gate was the most visited entry gate on the City's reserves, with 186 248 visitors (Figure 2, Table 32).

Table 31: Visitor numbers and revenue from 2017 to 2021.

Financial Year	Visitor Numbers	Revenue
2017	343 490	R1 900 000
2018	410 000	R1 910 000
2019	378 193	R3 500 000
2020	319 519	R3 500 000
2021	340 265	R5 867 000

Table 32: Visitor numbers for individual reserves.

Entry gate	2019	2020	2021
Helderberg	57 603	44 367	186 248
Tygerberg	31 791	17 094	34 195
Zeekoevlei	103 192	108 526	59 440
Witzands	7 138	25 159	42 029

## 10.8 Volunteers, Friends Group and Sponsored Programmes

---

### 1) Sponsored Programmes

Sponsored<sup>3</sup> programmes, mainly through CTEET, resulted in 119 individuals and 2 512 person days of work in the BMB (approximate value of R3 M).

CTEET assisted with on-the-ground management and staff members employed in the conservation projects at the following sites:

- Kenilworth Racecourse Conservation Area – 3 staff
- Muizenberg East Biodiversity Cluster – 2 staff
- African Penguin Conservation Project – 4 staff
- Milnerton Racecourse section of Table Bay Nature Reserve – 1 staff
- Haasendal Nature Reserve – 1 staff
- Species Conservation Programme – 1 staff
- Zoarvlei Wetlands section of Table Bay Nature Reserve – 1 staff.

### 2) Volunteer programmes

The dedicated volunteer email address is used for coordinating volunteer activities on the reserves. CTEET assisted with the administration by drawing up volunteer contracts and with placements. The volunteers resulted in 140 individuals and 514 person days on the reserves (valuing approximately R730 000). This included five volunteers who completed 19 botanical scans on the nature reserves, which equated to 95 person days valued at approximately R190 000.

## 10.9 Skills Development

---

The training of EPWP, interns, learnerships, and formal skills development programmes is critically important. Of the 22 vacancies in the BMB, nine were filled by EPWP/skills development candidates, and six promotions were previous EPWP/skills development candidates.

### 1) City's Urban Sustainability Graduate Intern Programme

BMB had four graduate interns for 2020: Environmental Communications based with the CSU: P&C; Environmental Education based at Tygerberg and Blaauwberg Nature Reserves; and a Veterinary Research intern based with CSU: Urban Wildlife. Due to the COVID-19 pandemic and the associated Lockdowns and regulations, the USIP extended the contracts of these interns for another year, to end in January 2022, and so they have remained with the BMB. Andrea Schnetler, veterinary intern, performed extremely well, and was awarded the best intern of 2020.

### 2) Kader Asmal Skills Development Programme/City's nature conservation WIL students

The programme has completed its first three (3) year cycle as planned. The programme was initiated in July 2018 to employ 30 beneficiaries and was scheduled to complete on 30 June 2021. The Kader Asmal Skills Development programme (2019 – 2021) was initiated to provide 30 un-employed graduates an opportunity to gain experience in the environmental field. However, 53 have been employed in the programme over a three-year period, and 31 participants have successfully exited the programme whereby they have been employed permanently or received longer-term employment from the City or

---

<sup>3</sup> Sponsored programmes include individuals that undertake work for the Branch and their salaries/stipends are paid for by external partner organisations. This does not include students and interns.

stakeholders. Twenty-two incumbents graduated from the programme during the Kader Asmal Skills Development graduation ceremony held towards the end of June 2021.

Six training interventions were planned for implementation between April to June 2021, however only five interventions were available for booking on the City's corporate and transversal tenders. These interventions included First Aid level 1, Fire Marshal and the driver's medical assessments. A total of 300 training person days were created.

The ISU hosted the Kader Asmal Skills Development graduation ceremony for the 22 graduating students in Alphen Centre Constantia (Figures 153 – 155). These students formed part of the 54 participants who successfully completed the programme. Prominent guest speakers such as Alderman Grant Twigg, Mayoral Committee member for Urban Management, and Keith Wiseman, Acting Director for EMD attended. Eight students were awarded different accolades for their contribution and successes achieved during the implementation of the programme. The highest accolade, the Kader Asmal Award of Excellence, was awarded to one of the students to recognise her exemplary performance and having consistently excelled in her position for the Kader Asmal Skills Development Programme. The winners of the Kader Asmal awards were as following:

- Banothile Khuboni –Award of Excellence
- Mushimo Masithembi – Silver Shield Award
- Deboseng Nazo – Outstanding Dependability Award
- Sisipho Yikwani – Peer to Peer Award
- Alungile Nonyongo – Outstanding ACO
- Hlumelo Marawu – Outstanding Quality Controller
- Qiraah Dien – Outstanding Admin



Figures 153–155: Alderman Grant Twigg and BMB Manager, Julia Wood, presenting the Kader Asmal awards during the ISU hosted graduation ceremony.

### 3) Work Integrated Learning

In the 2020 academic year, the following was achieved:

#### **CPUT Report**

Nine students completed their WIL year with the City in 2020. Despite the difficulties that the COVID-19 pandemic brought, the CCT students achieved a 100% pass rate. One of the students received a distinction for her research project entitled "Bird species richness and relative abundance in three different habitat types of Vesuvius Way Conservation Area". One also achieve a mark of more than 70%

for Conservation Extension which is a real achievement given the constraints placed on environmental education activities during the time of COVID-19.

### **Centurion Academy Report**

We hosted three WIL students during 2020. Two students passed and acknowledged the valuable contribution of programme with the City. One student obtained a distinction in one of her projects and she acknowledged the support from her mentor and staff in attaining this achievement. One student was unable to complete his studies due to personal circumstances.

In 2021, the WIL students were appointed under the Kader Asmal Skills Development Programme due to the Corporate HR Department temporarily suspending student funding due to the negative impact of COVID-19 on the organizational finances. The successful candidates were from three different institutions, namely, 11 from CPUT, one from Mangosuthu Buthelezi University of Technology, and three from Centurion Academy. Time and Attendance was correctly completed and this is in large part from the administration support from Head Office. The WIL programme mentors gave positive feedback during the student quarterly evaluation.

The induction training for the students took place in February 2021. BMB also compiled and recorded four online training sessions and quizzes for conservation students as part of preparation for their practical year in 2021.

## 11. Staff and Visitor Safety; and Security

### 11.1 General Security

Visitor and staff safety, and protected area integrity, is the biggest cost for the Branch, and was over R30 M for the 2020/2021 financial year. The security budget is spent on:

#### 1) Regular security/Security guards:

Static security guards, as per the Visitor and Staff Safety Tender, were stationed at some reserve entrances (Blaauwberg, Bracken, Helderberg and Steenbras Nature Reserves). These guards have a static access control function for securing a facility.

#### 2) Rangers (see section 11.2):

The Rangers as per BMB's Visitor and Staff Safety Tender undertake patrols along fences, assist with environmental crime and visitor safety, as well as first response to emergencies including all types of crime, fire and oil spills. A response team in the highest crime areas is a key intervention that has assisted with reserve management.

#### 3) Cash collection:

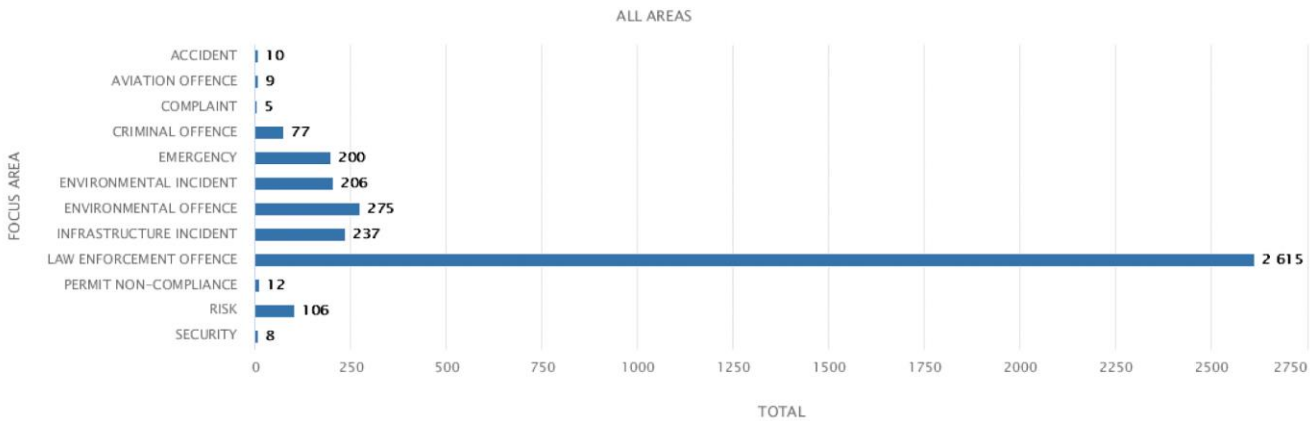
Reserves with paying entrances (Blaauwberg, Helderberg, Table Bay, Tygerberg and Witzands Aquifer Nature Reserves) use cash collection services.

As per previous years, the security situation on the City nature reserves remains a concern. All reserves experienced break-ins, vandalism or theft of infrastructure during the year. Blaauwberg Nature Reserve reported a case of burglary from the Environmental Education Centre at Eerstestein, where various material was stolen. Damages to the server were also experienced, and the City's IT conveniently resolved this issue as soon as it was reported. The case was reported to the police and no arrests or leads were reported to the reserve.

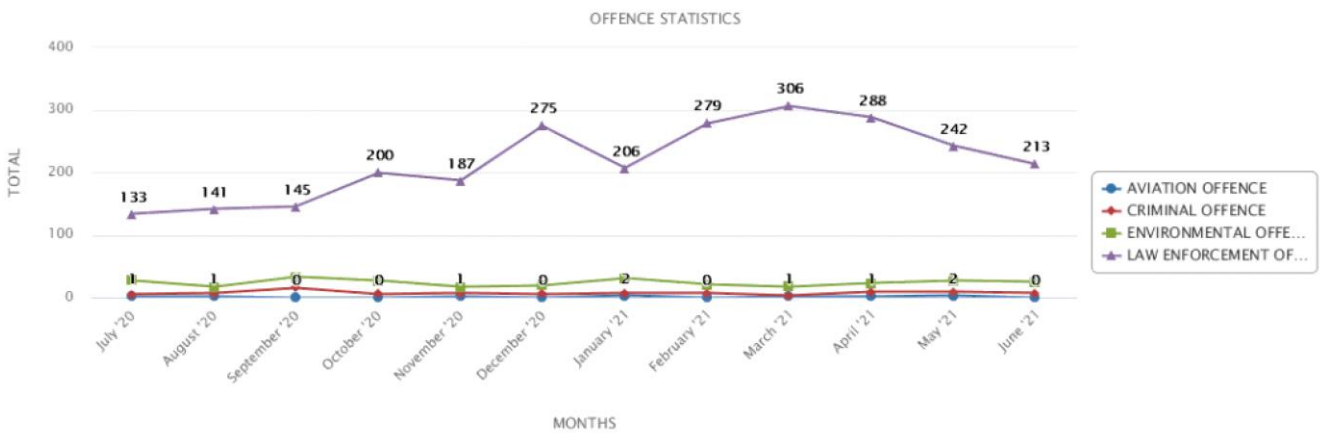
### 11.2 Visitor and Staff Safety Tender

Quemic Africa deploys rangers for the provision of visitor and staff safety management within the City nature reserves and open spaces. Quemic Africa also deploys regional integrity teams in the South and the North, where rangers are deployed on a 24/7 basis consisting of Senior Rangers and a 4x4 vehicle. The rangers are the first line of response to fires escorting staff, environmental management incidents (e.g. snake call outs), medical emergencies, water emergencies, water rescues, crime and related offences, anti-poaching, environmental emergencies, reporting and providing assistance during the execution of special law enforcement operations with South African Police Services and the City's Metro Police and Law Enforcement Units (Figure 156 and 157). The statistics and information presented in this report were significantly influenced by the COVID-19 pandemic and concomitant Lockdown regulations, and a year on year comparison is thus difficult. For instance, due to nature reserves being closed for this period, the trespassing figure escalated and in turn, so did the law enforcement offence category. The law enforcement category also included land invasion.

**NEGATIVE FOCUS AREA STATISTICS**



**COMBINED MONTHLY COMPARISON**



**Figures 156 and 157: Quemic Africa incident statistics for July 2020 – June 2021.**

Quemic Africa has a control room manned on a 24/7 basis. This is the heart of the Quemic operation and serves as the emergency contact centre for members of the public. Operations and emergency call-outs for the applicable City nature reserves are planned and executed from the Quemic control room.

In the last financial year, Quemic Africa rendered a service to the following City nature reserves and offices:

**Ranger Integrity Teams:**

- Integrity team South
- Integrity Team Witzands
- Integrity Team Symphony Way
- Integrity Team Blaauwberg (Montispectus)
- Integrity Team Table Bay (Diep River, Table Bay)
- Integrity Team Central
- Integrity Team Wolfgat (Vesuvius Way, coast, reserve)

**Rangers:**

- Wolfgat
- Symphony Way
- Southern Bridge
- False Bay
- Zandvlei
- Edith Stephens
- Harmony Flats

- Westlake
- Tygerberg
- Blaauwberg
- Durbanville seasonal
- Control room
- Witzands
- Simon's Town.

City Recreation and Parks is also making use of our tender. Quemic rangers have been deployed at the following public open spaces:

- Majik Forest
- Maynardville Park
- Wynberg Park
- Princess Vlei
- Muizenberg Beach
- Soetwater Resort
- Millers Point
- Seaside Cottages
- Muizenberg Bowling Club
- Company Gardens
- Muizenberg Park
- Fish Hoek Beach
- De Waal Park
- St James Beach.

## 11.3 Illegal Land Invasion

South African major urban areas experienced unprecedented unlawful land occupation cases due to the implementation of the national Lockdown under the Disaster Management Act as a response strategy to the COVID-19 pandemic. The proclaimed nature reserves, land identified for proclamation and other pockets of ecological significance identified in the BioNet were targeted for unlawful land occupation. This threat highlighted the widespread and growing pressure on nature reserves and other important City open spaces, undermining the considerable investment that has been made in these spaces and threatening the basic environmental, economic and social rights of all Cape Town citizens.

### 1) Hotspot Areas

The Unlawful Land Occupation mostly affected False Bay and Table Bay Nature Reserves, with the numbers of illegal shacks as of the end of June 2021 (Table 33 and Figure 158). Slangetjebos section of False Bay Nature Reserve had some 680 illegal informal structures in the nature reserve. This is despite an interdict, issued in 2018, being in effect. A High Court ruling regarding evictions has prevented any evictions whilst the National State of Emergency prevails.

**Table 33: Total structures on BMB nature reserves**

Site	Total structures previously reported	Total structures as at June 2021	Notes
Slangetjebos	520	679	
Rivergate Erf 79	177	184	
Rivergate Erf 38295		55	New site

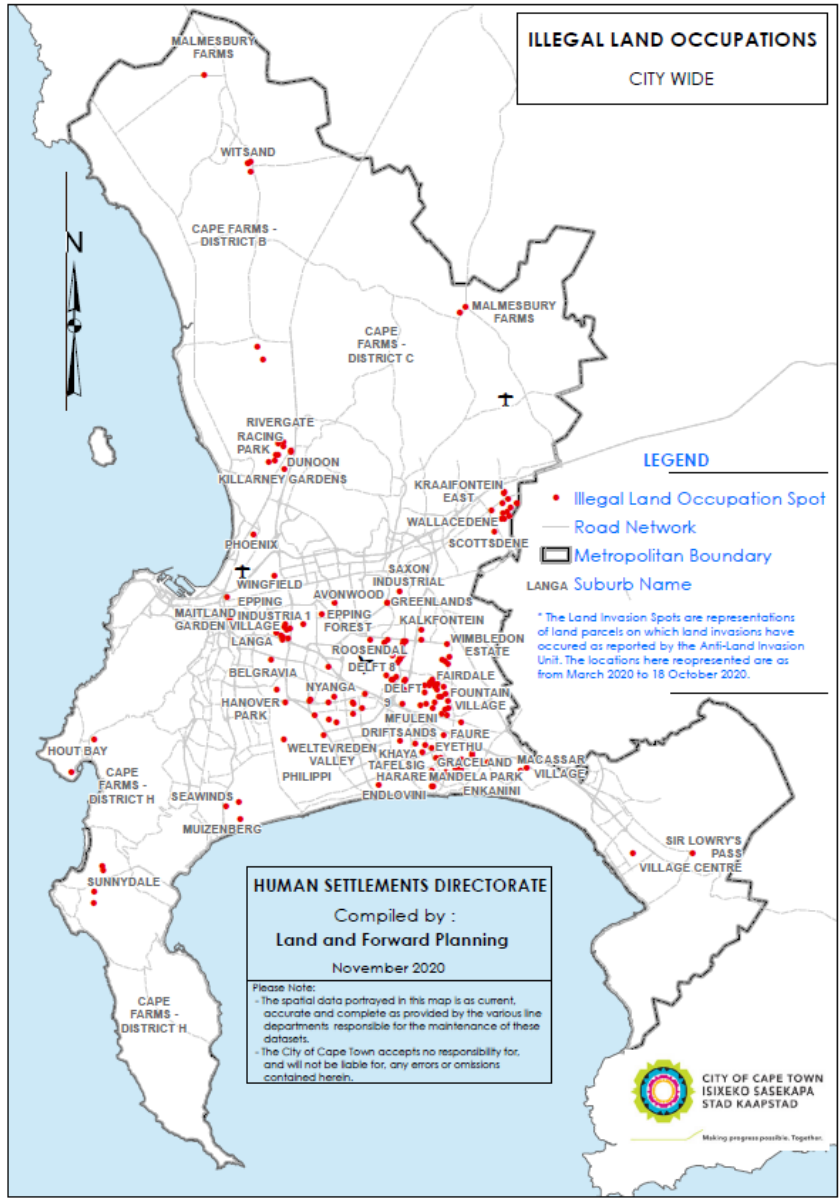


Figure 158: An overview of invasions across the City during this reporting period.

**Sites of interest to BMB:**

**North of N2:**

- Atlantis
- Rivergate (Diep River)

**South of N2:**

- Slangetjiesbos section of False Bay Nature Reserve
- Macassar Dunes (MOA public works)
- Enkanini/Monwabisi
- Grabouw (Steenbras Nature Reserve)
- Asanda

**2) Proactive Anti Land Invasion Plans**

BMB/EMD instituted pro-active and responsive reactive measures to deal with unlawful land occupation in the nature reserves. BMB has been leading the way in terms of establishing strategic partnerships, surveillance, standard operating procedures, setting out roles and responsibilities as well as the

communication and action plans. This proactive approach was achieved despite the fact that BMB was the smallest stakeholder in the City efforts to curtail the unlawful land occupation. The Joint Operation Command established to coordinate the prevention and responsive efforts commended BMB for its proactive multi-pronged approach. The key stakeholders who have worked closely with BMB were Human Settlements and Safety and Security departments.

It is worth noting that the challenges with controlling unlawful land occupation in protected areas are systemic failures in multiple levels of the state. Therefore, sustainable solutions will only come from a systems approach that promotes inter-directorate collaboration, adaptive management, communication and constant engagement of key internal and external stakeholders. This will promote a learning environment in which new knowledge will be created and shared across all key departments and stakeholders in order to find sustainable solutions to this complex problem.

As stock is taken of land lost to unlawful land occupation, BMB needs to evaluate plans going forward, recognising the role of communities, rethinking our approach for urban conservation as a whole, and using a systems thinking approach that seeks to redress our skewed past and creates a sustainable future.

## 12. Staff Matters

BMB staff are very passionate about their work and are always striving to improve and to make sure that what the Nature Reserves have to offer the public is of high quality.

### 12.1 Realignment

The BMB realignment process, which was initiated in 2012 and abandoned when the Organisation Development and Transformation Plan (ODTP) processes took over, is being re-looked at. The most important elements that need addressing are management of the people and conservation programmes, wildlife conflict programmes, baboon programme, and conservation services. The legal requirements of the nature reserves' proclamation under the Protected Areas Act adds a layer of complexity.

Realignment of the South protected areas:

1. Area West: (Luzann Isaacs)
  - Edith Stephens Nature Reserve
  - Symphony Way Conservation Area
  - Kenilworth Racecourse Conservation Area (stewardship)
  - Zandvlei Nature Reserve
  - Muizenberg East Conservation Area (stewardship)
2. False Bay Central Area: (Bongani Zungu)
  - False Bay Nature Reserve
3. False Bay East Area: (Lewine Walters)
  - Wolfgat Nature Reserve
  - Vesuvius Way Conservation Area
  - Macassar Dunes Conservation Area
4. Helderberg Area: (Hayley Wittridge)
  - Helderberg Nature Reserve
  - Silwerboomkloof Nature Reserve
  - Harmony Flats Nature Reserve
  - Morkel's Cottage Conservation Area
  - Stewardship sites in the East
5. Steenbras Area: (Owen Wittridge)
  - a. Steenbras Nature Reserve

During restructuring of the South Region, Asieff Khan took up the position of Off-Reserve Management: North, and to assist with contract management for the UBP. He had managed False Bay Nature Reserve for 15 years.

In the interim, various temporary movements took place for operational reasons. These movements were with consent of staff; and various models, such as the two-region model, were tested. Roy Ernstzen was temporarily deployed to Bulk Water to add capacity with the Invasive Plant Clearing Programme of the

catchment areas supplying the City's dams as part of the City's New Water strategy that was approved by Council in May 2018.

## 12.2 Retirements and Appointments

---

### 1) Conservation Services Unit

- It was with much sadness that Habitat Restoration Coordinator Penelope Grey resigned from the City. Her last day was 30 April 2020.
- Nigel Maart was appointed as a special workman.

### 2) Invasive Species

- Marco Meyer, Jonathan Bell and Phumudzo Ramabulana were permanently appointed as Professional Officers.
- Daniel Clarke, previously appointed through the Kader Asmal Skills Development, was permanently appointed as an Assistant Conservation Officer for the South Project; and Andrea Von Gunten as the Assistant Conservation Officer for the North Project.
- Heiner Riffel was appointed as a Quality Controller.

### 3) North

- Sipiwe Hadebe was appointed as Specialist Clerk for Witzands Aquifer Nature Reserve with effect from 1 July 2020. Sipiwe Hadebe was promoted to Administrative Officer 1 within a year and gave notice that ended on 31 July 2021.
- Robin Adams was appointed as a Tygerberg Nature Reserve Field Ranger.
- Two Reserve Supervisors were appointed: Marisa Langton for Tygerberg Nature Reserve, and Abraham Saaiman promoted from Senior Field Ranger to Reserve Supervisor for Van Schoorsdrift.
- A vacant Reserve Supervisor position was filled by Matshela Jerry Khalo in the staff structure at Blaauwberg Nature Reserve. The position is dedicated to the Hill Section.
- New Reserve Supervisor, Makaziwe Duma, was appointed at Edith Stephens Nature Reserve.
- Louis van Wyk was appointed as Reserve Supervisor at Table Bay Nature Reserve, focussing on water quality matters and the Milnerton sections of the reserve.
- Morne Farmer was appointed as an Environmental Education Officer at Witzands Aquifer Nature Reserve.
- Siyamvuyela Mhlana was appointed as a Senior Operational Driver at Witzands Aquifer Nature Reserve.
- Boitumelo Lehloaea was appointed as a Visitor Control Officer at Tygerberg Nature Reserve
- Makaziwe Duma was appointed as a Reserve Supervisor at Durbanville Nature Reserve.

### 4) South

- Of note was the retirement of Robert van Wyk, Reserve Supervisor at Wolfgat Nature Reserve. Robert had worked for the City for some 40 years and managed the False Bay Working on Fire team. His retirement will be keenly felt by the reserves.
- Mr Bongani Zungu was appointed as the new False Bay Nature Reserve manager.
- Damon Hope, Tygerberg Nature Reserve Field Ranger, was promoted to a Senior Field Ranger position at Wolfgat Nature Reserve.
- Daniel Kandan was appointed as a Senior Operational Driver at Helderberg Nature Reserve.

- Stefan Dreyer was appointed as a Field Ranger at False Bay Nature Reserve.
- Roshnique Smith was appointed as a Clerk at False Bay Nature Reserve.
- It was with sadness we noted the passing of Mark Petersen on 19 February 2021 due to COVID-19. Mark was a visitor controller at Rondevlei (False Bay Nature Reserve) for many years and dearly loved by staff and visitors alike. His friendly demeanour as one entered the nature reserve will be sorely missed (Figure 159).



Figure 159: Mark Petersen, visitor controller at Rondevlei (False Bay Nature Reserve) passed away from COVID-19 in February 2021.

### 5) Head Office

- Fabio Yslie accepted an employer transfer from Revenue.
- Sandiso Kraai was appointed as the Training and Safety coordinator.

## 12.3 Staff Training

### 1) WSP Staff Training

Training interventions were well attended, despite the challenges posed by the National Lockdown regulations. Overall, there were 53 training interventions attended by 242 staff, resulting in 528 person days (Table 34). This was the highest number in the directorate. The number of training interventions attended this financial year (53) is nearly on par with the previous reporting period (54). However, there was a decrease in attendance at each course, as well as a decrease in the number of person days during this period. The training attendance was made possible by using a blended approach between virtual and physical classroom attendance. The training was attended by all levels of staff.

Table 34: Training summary for permanent staff.

	2014 - 2015	2015 - 2016	2016 - 2017	2018 - 2019	2019 - 2020	2020 - 2021
Number of courses	72	82	75	73	54	53
Number of staff who attended	126	143	123	251	357	242
Number of person days	1760	1188	620	1 107	655	528

Thirty-five staff attended the Corporate: Occupational Health and Safety - Employee Compliance Officer training. These staff were appointed to monitor COVID-19 regulation compliance in their respective offices.

Six fitness tests were conducted for fire readiness and requirements of different vacancies. The Branch responded well to the fitness tests.

Challenges included no successful bidders for the advertised Requests for Quotation. This could be attributed to a narrow SCM database for the EMD specialized training needs. Furthermore, SCM delays

resulted in limited and cancelled training interventions. In some cases, Corporate Tenders reached their financial caps, thus preventing the BMB from using these tenders. Additionally, the SCM delays negatively impacted our ability to source training during the second semester of the financial year.

## 2) Permanent Staff – Bursaries

Two staff members received bursaries:

- Celeste Bergman – Municipal Finance Management Act (MFMA)
- Jerome September – National Diploma: Nature Conservation

## 3) In-house training

A self-teach online training for the mammals observer standards training was designed. The training material was updated for the Estuarine and Freshwater Fish Open Standards, based on the training received at the Table Bay and Zandvlei Nature Reserves fish treks. Observer standards material and tests for invasive and exotic fauna and flora species were updated and the ISU will assist in the testing. BMB conducted Observer Standards tests for mammals (11 candidates passed), reptiles (11 candidates passed), coastal and waterbirds (three candidates passed), and test sessions for Fish were held at the Two Oceans Aquarium (10 candidates passed). Observer Standards testing for the Estuarine and Freshwater Fish Open Standards was arranged for two days at the Two Oceans Aquarium laboratory. Staff were also privileged to be taken behind the scenes to see the rescued turtles. The staff truly enjoyed and appreciated the experience.

Reserve Supervisor training for five new supervisors was undertaken in January 2021.

## 12.4 Staff Industrial Relations

All Industrial Relations (IR) matters were dealt with timeously and reported on via the formal SAP process. Refer to Table 35 for the details of the various disciplinary matters that were attended to. There was a slight decrease in IR matters during this period (6) compared to the previous reporting period (9). BMB still had one matter at the SALGA, which was first heard in March 2020. The matter was finalised and the arbitration award was in favour of the City.

**Table 35: Staff Industrial Relations summary of disciplinary statistics.**

	2014 – 2015	2015 – 2016	2016 – 2017	2018 – 2019	2019 – 2020	2020 – 2021
<b>Non-Financial disciplinary</b>	7	7	2	1	4	4
<b>Informal hearing</b>	0	2	4	1	0	0
<b>Counselling</b>	0	5	7	4	3	2
<b>Appeals</b>	0	1	0	0	0	0
<b>Grievance</b>	2	3	2	3	2	0
<b>TOTAL</b>	<b>9</b>	<b>18</b>	<b>15</b>	<b>9</b>	<b>9</b>	<b>6</b>

## 12.5 Staff Health and Safety

Health and Safety (HAS) meetings continued to be held online and all reports were uploaded on SharePoint and accordingly signed online. There are three HAS committees, one for each region (North and South) and one for Westlake Conservation Centre, which includes the ISU. The Westlake HasCom only met three times, due it not being quorate after the resignation of a staff member. OHS matters were attended to and addressed by the reserve supervisor and the BMB OHS representative. This HasCom is being incorporated into the South HasCom. The chairpersons and committees have been appointed in writing. The HAS representatives have also been appointed and have completed their official training. The various committees meet quarterly. Hazard Identification and Risk Assessment (HIRA) inspections were conducted at the reserves and a high compliance with the Occupational Health and Safety Act was noted. The nature reserves continued to implement their approved HIRA plans. Although there were various cases of COVID-19 where staff were either infected or affected, the reserves continued to operate at full capacity. Most staff returned to work having fully recovered and some not having tested positive despite their partners having been positive. BMB was found to be compliant with the Occupational Health and Safety Act and the MOA signed between City and Labour representatives.

Fitness assessments were successfully conducted during this period (see section 12.3). The assistance of City Fire and Rescue Services is critical during these tests and contributes to their success. This function will be included in the new MOU with them. These fitness assessments will become a prerequisite for working on the fire line and the Branch has approved a SOP for these tests.

There were 22 Injury On Duty (IOD) incidents reported for the SPE directorate, of which 21 incidents were reported by the BMB. This is largely due to the conditions of BMB staff where the majority are in the field. All injuries, which include EPWP staff, were of a minor nature (Table 36). There were no IOD cases recorded in the first quarter of the 2020/2021 financial year. This is consistent with the National Lockdown COVID-19 period. When the staff were able to return to work, IOD cases increased. Non-compliance in terms of Reporting and Recording of IOD incidents was attributed to incorrect completion of the relevant documents. However, there were some improvements, as staff attended relevant refresher training. Line management attended web-based HIRA and Incident Investigation training in order to raise awareness and improve safety in the workspace. Toolbox talks were recommended as a method to inform and address other occupational health and safety issues in the workplace. The majority of reported IOD incidents were of a minor nature. We only had two major IOD cases, which related to a leg and ankle injury. The staff members have recovered and have returned to duty.

**Table 36: Comparison of IOD cases.**

IOD Injuries					
2014 – 2015	2015 – 2016	2016 – 2017	2018 – 2019	2019 – 2020	2020 – 2021
17	14	13	22	19	21

## 12.6 BMB Performance Recognition and Team-Building Day

The BMB has over 200 permanent staff members in 17 offices across the City. Many of these offices have little communication with each other as telephone lines are often down and emails can be intermittent. Communication is a challenge and staff, especially field staff, hardly ever get to interact with fellow colleagues from other offices. In order to facilitate interaction, the BMB has since 2007 arranged a staff

performance recognition and team-building day every year in November. This has been very successful and bolstered staff morale. The friendly competition between reserves also improves productivity. Each year various awards are handed out and this has become a motivator for staff through the year and a highlight of the day.

Last year's event was held virtually on Thursday on 12 November 2020. The event was attended by Ald. Marian Nieuwoudt (Mayco Member for SPE) and Keith Wiseman (Acting Director: EMD). The recipients of the awards are chosen by the Branch Manager in consultation with the senior managers. Awards are made on the basis of outstanding annual performance, the annual reserve visits, and a nomination process open to all BMB staff.

### **Biodiversity Find of the year**

#### **Flora find of the year:**

***Codonorhiza elandsmontana*** at Joostenbergskloof Conservation Area by **Jacques van de Merwe**

The finding of *C. elandsmontana* is notable as it is a recently described and endangered species. This marks the first record for the CCT as well as a huge range extension.

#### **Fauna find of the year:**

**Aardvark** by **Kyle October and the Klein Dassenberg Team**. The video posted by Kyle October was recorded in the Dassenberg Hills by Quemic staff. This sighting is significant, because this species must be considered as extremely threatened in CCT. Aardvark need extensive natural areas. Their presence in the DCCP is a very good sign.

### **Best Teams**

Special mention: Zandvlei EPWP, Witzands Aquifer Nature Reserve, Tygerberg Nature Reserve and CSU.

### **Invasive Species Unit**

The ISU has faced many challenges this year but has truly shown how resilient they can be. The ISU has truly embraced teamwork and with the high turnover of EPWP staff, the Unit has managed to show how versatile and resourceful staff can be. The ISU has truly demonstrated the ability to work effectively as a team by assisting with each other's projects, especially during auditor requests. The ISU managed to reach their job creation target, even though the Unit was not operational for months. The ISU received the nomination 1st runner up for the Best Project category at the City Awards Ceremony in 2019. This is the second time in a row that the Unit has received this nomination. The ISU also managed to deploy additional methods to control House Crows, namely, removal of nest, eggs and hatchlings. Twenty-six people exited the skills development programme, four contracts were not renewed and one resigned due to medical reasons. Twenty of the skill development staff found permanent positions or longer-term contracts. Through the collaboration with DEFF, the ISU hosted the International Conference for Society of Ecological Restoration's field trips and Make a Difference day. Out of the three field trips, two trips were hosted by the ISU to showcase the restoration work across the City. Over and above the invasive species control, the Unit also hosted a Make a Difference day where delegates participated in the removal of invasive species in Blaauwberg Nature Reserve and along Black River. The ISU team has really embraced the pillars of the City of Cape Town and are passionate and dedicated to positively impact the environment and contribute to previously disadvantage communities across the Metropole.

### **False Bay Nature Reserve Team**

The quality of the False Bay Nature Reserve (FBNR) team is their adaptability and versatility. Due to its location and makeup of the reserve, the operations vary day to day, from terrestrial, aquatic and marine.

The stakeholders and social needs are also at the extremes of either end of the socioeconomic spectrums. Managing and working in these conditions requires the above-mentioned qualities.

The team strives to meet as many requests for help across the Branch, ISU and even additional City departments to the best of their ability. FBNR has now become a resourceful outlet for departments like City Parks, Roads and Storm water, Coastal Management, Waste Water, Solid Waste and Housing Department to name a few.

In the last year, FBNR has successfully managed large volumes of EPWP staff from ISU, Solid Waste and Coastal Management successfully. These team numbers are sometimes as big as 300 EPWP staff all at once over short periods all managed and coordinated by the staff and management of FBNR.

In the last year, FBNR has successfully delivered on large-scale projects with small time constraints. A few projects worth mentioning are the Hippo capture, Rondevlei western fence and Rondevlei reed-clearing project.

With all that has been mentioned above, we need to mention that this all happens while we are constantly looking at ways to improve our management of FBNR with limited resources and sometimes difficult social economic challenges. None of this would be possible without our team's commitment, work ethic and willingness to adapt to the changes set before them.

### **Outstanding Staff**

Before the awards were presented, special mention was made of staff who worked in the field and were out and about all the way through Lockdown (not counting those who worked from home):

Abraham Saaiman, Robert van Wyk, Suretha Dorse, Cliff Dorse, Gavin Oliver, and Cedric Riddle,  
Dimitri Karelse  
False Bay staff – Jonathon Fischer, Mogamat Samsodien, and Shihabuddeen Khan  
ISU – Qiraah Dien, and Heiner Riffel.

#### **Robert van Wyk (Wolfgat Nature Reserve)**

The only staff member who worked on site every day during the entire Lockdown.

#### **Erika Foot (Head Office)**

We would like to nominate Erika Foot for an outstanding staff member award for running the security projects of the Branch. This year has been a challenge with the country going into Lockdown, but with the help of Erika Foot, she managed to ensure the nature reserves were protected during this period.

This project is always smooth running and she always goes the extra miles when required, after hours and even over weekends. When we experienced the high risk of land invasion across the regions, she managed to arrange for additional rangers to protect our reserves. It would it be great to acknowledge and award her for all her hard work.

#### **Sandiso Kraai (Head Office)**

Coordinating land invasion with Erika Foot and working tirelessly to ensure that we had minimal invasion on the reserves.

#### **Koos Retief (Blaauwberg Nature Reserve)**

Tackling the huge job of coordinating an ecological burn on Blaauwberg Hill and the Blaauwberg Large-Scale Restoration Project during the peak of Lockdown and it still being a huge success.

### **Zandisile Biko (Wolfgat Nature Reserve)**

The reserve supervisor for Wolfgat Nature Reserve and has been standing in for the reserve supervisor for Macassar Dunes Conservation Area, and over the year we have had some trying times with the illegal land invasions. Zandisile has stepped up and has had to engage with the new community people and their leaders and the attempts of land invasions of Wolfgat and Macassar Dunes. This is ongoing and a very difficult and delicate situation that he has had to engage with and try and resolve matters for no further attempts on illegal land invasions.

### **Hendrik Kraak (Witzands Aquifer Nature Reserve)**

Originally from Roads and Stormwater, for continuous hard work and dedication to the improvement of the reserve as well as going back to school to complete his Matric since he only has Grade 7 and for his 30 years of service this year in the City of Cape Town.

### **Njabulo Ntshingila (EPWP admin, Tygerberg Nature Reserve)**

Constantly motivated to do more, self-driven individual always willing to help and performs his duties with lightning speed and attention to detail, current Reserve management and staff testifies to this.

### **Dorothy Breed (CSU)**

Covers the veterinary needs for the entire Branch. Assisted with research and guidance for the ISU. Assisted with permits and game capture (Figure 160).



**Figure 160: Dr Dorothy Breed receiving her certificate of recognition for 'Outstanding Staff Member'.**

### **Simone Petersen**

Simone was nominated for her significant contribution to the ISU, her commitment and professionalism. Although Simone has been appointed as a Senior Clerk, she really goes over and above her tasks. Simone does not only support with the admin for the Unit, but she has also taken on various other tasks, like reviewing all documents for the NRM project prior to submission on a monthly basis (this alone is an enormous task), she has developed an SOP and schedule for the cleaning staff and the ISU stores, she GRNs all invoices for the Unit, she assists with recruitment for EPWP and Permanent staff, she developed an induction pack for all new staff, and the list goes on and on. Simone has successfully transitioned from a supporting role to a leadership role. She has taken all the EPWP clerks under her wing and instead of doing tasks for them, she has successfully transferred her skills to them. She has mastered the art of project management when she is given projects to complete and is very efficient with feedback. Through her professional manner, she has been able to form relationships with key support staff internally and with external stakeholders in order for the ISU to improve on administration and project management. Simone

has really gone over and above for the Unit, is always willing to work afterhours or on weekends with a minutes notice in order for the ISU to respond to audit queries. Simone is the go-to person in the Unit for administration issues and has demonstrated that she can work effectively in a team and on her own. Simone is valued for her reliability, attention to detail, problem management skills and her professional and friendly manner. She deserves to be recognized for this.

**Mashudu Phalanndwa**

Mashudu has taken up the role of tenders for the ISU. He has managed to successfully advertise all the tenders in the ISU. He has also successfully completed his chairpersons training for BEC. Over and above his other duties, he has also taken up the role of EPWP coordinator for Department. EPWP coordinator is a T12 level position on its own. Mash serves on various committees for the EPWP office and has managed to improve our collaboration with the EPWP office. His input from a management point of view has led to many improvements of the EPWP processes.

**Special Award: Birder of the Year**

Special mention: Jerome September

**Morne Issel**

Nominated by Lewine Walters and supported by Cliff Dorse: "Morne is extremely keen and his bird knowledge is exceptional."

**Photo competition**

The annual photo BMB competition was well contested, with a high number of staff contributing some spectacular photos. The seven categories and the respective winner of each are as follows:

- 1. **Camera Traps:** Julia Wood



2. **Fauna:** Dalton Gibbs



3. **Flora:** Khuselwa Mabuyane



4. **Infrastructure:** Tshepo Mamabolo



5. **Landscape:** Elzette Krynauw  
(cover image)

6. **Staff and Management:** Khuselwa Mabuyane



7. **Visitors:** Elzette Krynauw



## 12.7 Representing Strong Cities

---

Bongani Mnisi continued to serve on The Konrad-Adenauer-Stiftung (KAS) network "Strong Cities 2030", which was successfully launched in 2018 during a conference in the City of Essen (Germany). KAS brings together young politicians and urban development experts from international metropolitan regions to share expertise and ideas, and jointly to develop new approaches based on shared political values. The creation of a lasting global network of politicians and urban development experts is one of the envisaged long-term outcomes of this initiative. Bongani attended three online conferences covering various topics such as "Building a New Urban Resilience" where he was invited to give a presentation on "Cape Town: Balancing the Social, Environmental and Economic Needs in Challenging Times". In April 2021, Bongani was invited to give an introductory keynote address at the World Biodiversity Forum 2021, with a focus on Implementing Governance for Biodiversity. At this virtual conference, he talked about "The Management of the City of Cape Town's Biodiversity Network and Stakeholder Relationships" as a way of framing the agenda and providing real life context for that session. Bongani also attended a virtual Fynbos Forum where he was invited as a keynote speaker and his topic was "Urban Nature Conservation: People & Nature, Together?".

## 13. Administration

### 13.1 Budget

Budgets were spent timeously on priority items:

#### 1) Operating Budget

- Controllable operational (98.37%) spend – Significant challenges due to procurement.
- Received additional operational budget via adjustment budget, especially for uniforms and security (>R13 M).
- Revenue R5.9 M (170%) of planned amount, despite reserves being closed on and off due to Lockdown.
- PPM reporting 100% each month.
- Tender challenge led to various reports to BAC. Outcome and consequence management will be determined.
- A report was approved by Council and a three-year agreement has been signed allocating a total of R62 M towards clearing the Berg River and Wemmershoek catchment areas.
- BMB has a three-year allocation of R5 M to be spent on City owned land in the catchments of the Wemmershoek, Witzands Aquifer and Steenbras.

#### 2) Capital budget

- Careful coordination of the Branch's CAPEX funds resulted in a 78% spend (15% rollover; 6% unspent) of allocated funds, despite the impacts of the COVID-19 and Contractual Tender issues pertaining to professional services.
- Fencing and the land acquisition project were completed within the first quarter.
- The final sale agreement for the acquisition of Joostenbergskloof (WWF-SA grant) fell through, resulting in unspent funds.

#### 3) Additional funds obtained

##### a) Internal

###### Operational:

The **once-off** additional allocation of R13 M received for operating expenses during the January adjustment budget.

##### b) External

BMB has access to externally sourced resources which is administered through NGOs such as Table Mountain Fund, Wilderness Foundation: Africa and Conservation at Work to be used as incentives for conservation on private property. During the financial year;

- R50 000 was sourced from Table Mountain Fund for Stewardship Technical Incentives administered by Conservation at Work (a one-year project)
- R55 500 was sourced from Table Mountain Fund for Invasive Species Clearing and restoration administered by Wilderness Foundation: Africa (the final year of the three-year project valued at R159 000)
- R281 000 was sourced from the Hans Hoheisen Charitable Trust for active restoration and alien clearing administered by Wilderness Foundation: Africa (the second year of a three-year project worth R606 000)
- R110 000 was sourced from Table Mountain Fund for Small Grants projects in the DCCP administered by CapeNature (the final year of a three-year project worth R900 000)

- Total Value of external projects for the year on private conservation initiatives was valued at **R496 000**.

Third year of MOU for R50 M over 3 years with NRM; a programme which includes Working for Water, Working for Wetlands and Special Projects. Just under R1 M was received in the last financial year from NRM due to various delays, budget adjustment and COVID-19.

#### 4) Portfolio Project Management

All staff completed capital and grant projects on PPM and ensured reporting compliance.

## 13.2 Fleet and Assets

---

### 1) Fleet

- Four vehicles have been procured with the Metro SE vehicle budget.
- Delivery was taken of four trucks (two 6-Ton Tipper Trucks and two 5-Ton Tipper trucks with cranes).
- Taking delivery of the new vehicles that were ordered in the previous financial year.
- The vehicle budget was reduced as part of the Branch and Directorate savings.
- BMB await finalisation of the OBC tender as the Branch's new vehicles have not been fitted with these units.
- Thirty-six vehicle claims were processed, which is less than in the previous financial year (45). Most of the accidents were minor incidents, which highlights the need for drivers to be vigilant before they start their vehicle.
- A driver failed to report an accident that had occurred. It was only reported after the third party had submitted a claim to the City. Disciplinary action was instituted to address this shortcoming.
- One of BMB's vehicles (Nissan NP200) was hijacked. The driver was held at gunpoint in the rear of the vehicle for about 30 minutes and released unharmed at a different location. Fleet unsuccessfully tried to recover the vehicle, but were of the opinion that it was stolen by a syndicate, as the tracker and eFuel systems were removed before the vehicle could be tracked. The driver was offered EAP and Fleet will have a debriefing with the driver.

### 2) Assets

Verification of BMB assets are at 96.48%. The verification process is ongoing, despite being hampered by Lockdown. This is the highest verification rate to date for the Branch and all stakeholders are acknowledged for their diligence and cooperation.

Asset verification has again highlighted the need for maintaining a current radio database. It is recommended that each region includes a current radio database as part of their quarterly reporting and that any changes be noted in their report. This will ensure that the BMB's radio database is kept current and all radios can be accounted for.

There were 13 general claims processed, which is higher than the previous reporting period (nine). There has been an increase in the theft of the trail cameras due to the remote location of the cameras, notwithstanding the fact that both staff and security personnel check up on the cameras.

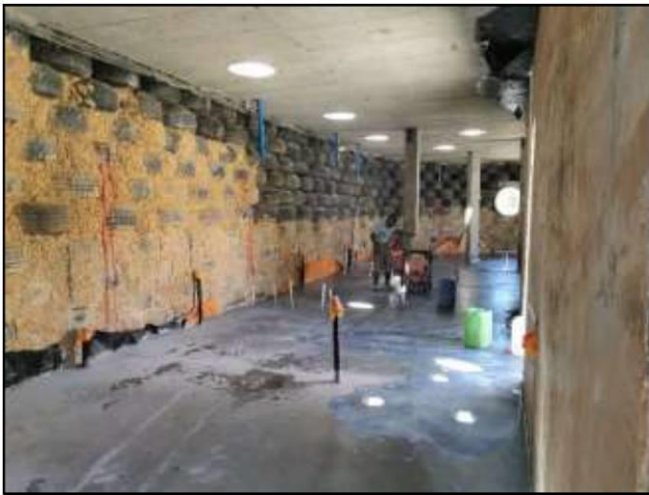
There were five public liability claims due to damages caused by baboons. Residents have indicated that a Ward Councillor had advised them that they may submit claims to the City.

## 13.3 Infrastructure

### 1) Capital Investment

BMB has limited capital funds, so planning into the future is critical. The infrastructure priorities in the Branch have remained the same from last year and the latest priorities were articulated in PPM, Capital Pipeline Projects and the Environmental Sector Plan.

The long awaited work began on the construction of the new education and interpretive centre at Helderberg Nature Reserve, with the earthworks, walls and roof having been completed as of June 2021 (Figures 161 and 162).



**Figures 161 and 162: Construction of the new Education and Visitor Centre at Helderberg Nature Reserve. This centre features numerous sustainable technologies, as can be seen with tyre construction and eco-bricks.**

### 2) Maintenance of Infrastructure

Maintenance was undertaken on most nature reserves, of which a few examples are highlighted here.

#### Tygerberg Nature Reserve

The entrance gate and fence were upgraded at Tygerberg Nature Reserve's Welgemoed entrance. Old mesh fence was replaced with a ClearVu fence and gate (Figure 163 and 164).



**Figures 163 and 164: The new entrance gate and fence at Tygerberg Nature Reserve.**

#### Kanonberg

Derelict infrastructure at Kanonberg was demolished by a city Vendor as the building was unsightly and a safety risk. The contractor took ten working days to demolish and remove rubble from the site.

### Eersesteen Resort

The old concrete picnic furniture at the Eerstestein Resort in Blaauwberg Nature Reserve was replaced with 23 new recycled plastic polywood six-seater picnic bench sets.

### Durbanville Nature Reserve

In March 2021, the stormwater canal on the pavement outside the main entrance was repaired and underground water pipes were replaced by a contractor appointed by the Roads and Stormwater Department.

### Table Bay Nature Reserve

A new deck for the new Friends of Rietvlei Bird Hide was completed (Figure 165). The Table Bay Nature Reserve staff assisted with the removal of the old bird hide.



**Figure 165: The completed deck at the Friends of Rietvlei Bird Hide.**

### Blaauwberg Hill

The old military access road to the Blaauwberg Hill was damaged by water erosion due to exceptionally heavy rainfall in 2020. Access to the facilities on the Hill, including the Montispectus accommodation unit, was affected. Manual repair and maintenance was done using a tipper truck and a front-end loader. Eroded gulleys were filled with gravel. The material was moved and shaped with manual labour on the road. The openings of the stormwater drainage pipes were also cleared manually.

### Maanskynkop

During this reporting period, the firebreak at Maanskynkop section of Wolfgat Nature Reserve underwent maintenance (Figure 166).



**Figure 166: Litter clean up and fire break maintenance in the Maanskynkop section of Wolfgat Nature Reserve.**

### Strandfontein

New fencing was erected in the Strandfontein section of False Bay Nature Reserve (Figure 167).



**Figure 167: New fencing at the Strandfontein section of False Bay Nature Reserve.**

### Morkel's Cottage Conservation Area

Much-needed new fencing was erected in the Morkel's Cottage Conservation Area (Figure 168).



**Figure 168: New fencing at Morkel's Cottage Conservation Area.**

## 13.4 Contract Management

The uniform tender 307G/2016/2017 expired on 3 November 2020. The current vendor has been reported to SCM for poor performance, as they had failed to deliver numerous orders. Ongoing discussions with SCM were undertaken to rectify this. The new uniform tender (281G/2019/20) has been advertised, awarded and commenced in early 2021.

The Urban Baboon Programme tender (90S/2019/20) was awarded to NCC Environmental Services, which commenced on 1 October 2020 and will run until 30 June 2023. The previous baboon tender (229S/2016/2017) expired on 30 June 2020, but because of an appeal, it was extended and ran until 30 September 2021. In the next financial year, the new tender for 2023-2026 will be initiated.

The Staff and Visitor Safety tender (013S/2020/2021) was awarded on 14 September 2020, subject to the Section 33 process. Once approved, this tender will run from July 2021 until June 2027. The current tender 212S/2017/2018 expired on 30 June 2021.

Other tenders are shown in Table 37.

**Table 37: Tenders in BMB**

Tender No	Description	Duration
46S/2019/20	Control of Terrestrial and Aquatic Invasive Plants and Removal and Disposal of Biomass and Litter From Sites	1 July 2020 – 30 June 2023
20S/2020/21	Implementation of labour intensive interventions to restore and rehabilitate natural ecosystems (ecological infrastructure): Green Jobs	2 August 2021 – 30 June 2023 Awarded on 19 April 2021
22S/2020/21	Management and control of animal invasive species in the City of Cape Town	4 August 2021 – 30 June 2024 Awarded on 23 March 2021
24S/2020/21	Control of Terrestrial and Aquatic Invasive Plants and Removal and Disposal of Biomass and Litter From Sites in Area North and Central	26 January 2021 – 30 June 2023

The Environmental Applicability Report was submitted and recent reports suggested that a positive feedback authorising the development of the Bracken Nature Reserve multi-purpose centre was imminent (Figures 169 and 170). The heritage application is currently underway. The professional team under 30 Contract completed stage four of the design element and is now preparing for the detailed design leading to the appointment of a construction contractor.





**Figures 169 and 170: Bracken Nature Reserve multi-purpose centre stage three design.**

BMB continued to ensure that the Tender Tracking updates and Project Portfolio Management (PPM) progress comments were captured and reported on time.

## 13.5 Reporting

---

The Nature Reserves' quarterly reports are presented at the relevant quarterly PAAC meetings. The Branch statistics are also presented, which include statistics on fires, EPWP job creation, EE, exhibitions and events, visitor numbers, service-in-kind (volunteers and sponsored programmes), skills development, invasive species area cleared, plant species collected, plant species propagated, game register, work load assessments, and security incidents.

Successful senior management meetings were held every month (apart from July 2020 and January 2021).

Four online Branch meetings were held, focused on information sharing. In early 2019, at the request of staff, the format was changed to two general meetings and two for mid to senior managers where items of management and staff issues can be discussed. This format was continued and is working well.

## 14. Conclusion

BMB has done well in the last year, especially in light of the challenges as a result of a global pandemic.

In the coming year the following projects and priorities include:

- 1) Complete the re-run of the BioNet.
- 2) Update the LBSAP and initiate the update of the Bioregional Plan.
- 3) Continue capital projects:
  - Construction of Helderberg Nature Reserve multipurpose centre;
  - Harmony Flats Nature Reserve building;
  - Bracken Nature Reserve multipurpose centre and office building.
- 4) Initiate the Living alongside Wildlife Programme.
- 5) Strategic Water Source Catchment Areas and New Water Programme – ongoing alien invasive species clearing and restoration.
- 6) Work towards securing the Upper Steenbras Catchment.
- 7) Continue with the update of management plans for existing nature reserves.
- 8) Initiate business management planning for Helderberg Nature Reserve.
- 9) Proclamation of land adjacent to existing nature reserves and additional areas. These areas are currently reserved and managed by the BMB.
- 10) Continue to liaise with Water and Sanitation in relation to the water quality issues in the three recreational vleis.
- 11) Continue to monitor illegal land invasion and continue with the eviction processes.

