MINUTES

eThekwini Biodiversity Forum
14 August 2014
9h00 – 12h00
Paradise Valley Nature Reserve

IN ATTENDANCE

Adam Texeira	AT	Jabulani Khoza	JK	Nomcebo Ntombela	NN
Adrian Armstrong	AA	Jaco Rademeyer	RD	Nosipho Ndzimbomvu	NN
Aerisha Ramkalawan	AR	Jakob Meiffert	JM	Paolo Condotti	PC
Alicia Gomez	AG	Jean Senogles	JS	Richard Boon	RB
Barry Lang	BL	Jeanne Tarrant	JT	Richard Lundie	RL
Bart Forkens	BF	Jenny Loughin	JL	Roddy Ward	RW
Basheshile Thusi	BT	Jody Fuchs	JF	Rodney Bartholomew	RB1
Benis Egoh	BE	Katy Roy	KR1	Roger Poole	RP
Bheki Mdletshe	BM	Kate Richardson	KR	Ryan Edwards	RE
Brian Abrahams	BA	Kerina Singh	KS	Sasha Pillay	SP
Bruce Zondi	BZ	Khulile Mavundla	KM	Shannan Farnsworth	SF
Chris Metherell	CM	Leslie Frescura	LF	Simangele Sithole	SS
Clive Walker	CW	Lisa Guastella-Smith	LGS	Siyabonga Mavimbela	SM
David Allan	DA	Lutendo Mugwedi	LM	Stephanie Reynolds	SR
Derrek Ruiters	DR	Lyle Ground	LG	Survarna Parbhoo	SP
Di Higginson Keith	KHK	Mbali Sosibo	MS	Taro Mwambvu	TM
Dominic Weiners	DW	Mike Kruger	MK	Thami Kunene	TK
Ed Granger	EG	Musa Mkhize	MM	Thoban Khomo	TK
EJ (Kate) Richardson	KR	Myuri Basdew	MB	Vanessa Weyer	VW
Esmeralda Ramburran	ER	Natasha Govender	NG	Warren Friedman	WF
Fanele Mhlongo	FM	Nerissa Pillay	NP	Wiseman Mhlongo	WM
Gerald Clarke	GC	Nesisa Ngidi	NN	Xolile Nkomo	XN
Glynn Alard	GA	Nomafu Dlamini	ND	Zodwa Msweli	ZM
Inga Mlonyeni	IM	Nomaswazi Kubheka	NK		

APOLOGIES

Cllr Billie Prinsloo, Cllr Geoff Pullan, Cllr Gillian Noyce, Jone Porter, Jean Lindsay, Reshnee Lalla, Tony Wint, Jessica Cockburn, Angie Wilken, Duane Constance, Janet Gates , Martin Clement, Margaret Burger, Indrani Govender, Kirstin Williams and Rob Crankshaw.

1	WELCOME & INTRODUCTION	ACTION
1.1	Natasha Govender (NG) welcomed all and facilitated introductions. She introduced Bheki Mdletshe who was recently appointed to the position of Senior Environmental Technician and will be assisting in the administration and coordination of the Biodiversity Forum.	
2	**PRESENTATIONS**	

2.1	***Surface-active millipedes and associated mites at the Pigeon Valley Nature Reserve by Dr. T. Mwabvu* - University of KwaZulu Natal**	
2.1.1	Taro Mwabvu (TM) presented the results of a millipede survey[1] at the Pigeon Valley Nature Reserve which in addition to adding to the body of knowledge on invertebrates also served the purpose of highlighting the importance of green open spaces in urban areas like Durban. He noted that permission was obtained from eThekwini Municipality for this study. TM noted that millipedes can be found in urban nature reserves and gardens but are under severe threat due to transformation of natural habitats in favour of development (habitat loss, fragmentation, and degradation) and climate change. TM highlighited the scarcity of even the most basic data on millipedes both locally and globally. The objectives of the study were to: • Identify millipedes (and their associated mites) in the Pigeon Valley Nature Reserve; • Investigate surface activity periods of millipedes; and • Record inter-taxonomic associations. Sampling was undertaken during two rainfall seasons and the abundance, diversity, and sex of millipedes were noted a day after a rainfall event. The incidence of mites on millipedes and infestation intensity was also noted. TM shared his observations which were as follows: • Six species were found including two unidentified pills; • Out of the six species, five were arboreal (tree dwellers); • Three Orders of millipedes were found namely: Spirostreptida (*Doratogonus cristulatus* and *Orthoporoides pyrhocephalus*), Spirobolida (*Centrobolus anulatus*), and Sphaerotheriida (*Sphaerotheriida giganteum*); • *O. pyrhocephalus* was found to have a short activity period; and • The sex ratio for *D. cristulatus* was strongly male-biased at 7:1 and 41:1, whereas it was 0.8:1 and 1.5:1 for *O.pyrhocephalus* and 1:1 for *C. anulatus*. Regarding millipede-mite associations, TM reported the following: • There were between one to six mites on infested males *D. cristulatus* and *O. pyrhocephalus;* • Incidence of mites on *D. cristulatus* was up to 50 %; • Incidence of mites on *O. pyrhocephalus* was up to 6%; and • Peak mite abundance occurred at the beginning of the rainfall season. TM concluded that: • Sex rations are male biased and could be attributed to the differences in activity patterns of the sexes; • Some species/individuals could have been missed during the sampling as the sampling technique did not include a search of the soil; • The life cycle of mites appeared to be synchronised with the host; and • Host specificity was found with males experiencing greater infestation. TM proposed that future studies are needed to understand activity patterns of millipedes and to determine population dynamics spatially and temporally. He also highlighted the importance of green areas in maintaining biodiversity and prevent the loss of taxonomic	

	diversity. NB: This research has been published in the peer-reviewed literature. If you would like a copy of this research paper[1], please contact TM as per the details below. **[1]Mwabvu, T. (2014) Surface-active millipedes (Diplopoda) and associated mites(Acari, Mesostigmata) in Pigeon Valley Nature Reserve in Durban, South Africa. Soil Organisms 86: 147 – 151.** **Contact details: Dr. Taro Mwabvu: University of KwaZulu Natal: mwabvut@ukzn.ac.za**	
2.1.2	KR asked if TM considered conducting a similar study focused on suburban gardens to see if these abundance, diversity and distribution patterns would occur there as well. TM stated that the study was focused in the Pigeon Valley Nature Reserve and acknowledged that millipedes commonly occur in suburban gardens.	
2.1.3	AA queried about the time of day that sampling was conducted and TM stated that the study was carried out during the day on the day after a rainfall event.	
2.1.4	LF informed the meeting that there are a number of studies indicating that birds feed on millipedes. TM confirmed that this is correct.	
2.1.5	RB asked if there are any plans to roll the study out to other municipal nature reserve as this is an important piece of work that would contribute to our understanding of biodiversity in Durban. TM stated that this work can be roled out to other areas using the channels within the eThekwini Municipality and UKZN Research Partnership.	
2.1.6	It was queried whether millipedes exhibited any territorial behaviour that was observed in the study. TM stated that he does not have sufficient knowledge of behavioural patterns of millipedes but it was a interesting research question.	
2.1.7	NG reiterated the importance of understanding patterns of biodiversity abundance, diversity and distribution to improve urban environmental planning, particularly around invertebrates as this group is the least studied locally and globally. Baseline species data allows us to better understand what we have, what we stand to lose and the rate of loss of species. NG thanked TM for sharing his research with the Forum.	
2.2	***Using plugs to rehabilitate sectors of indigenous grassland and wetlands in the construction corridor of the Western Aqueduct by Dr. J.E Granger (Specialist Environmental Consultant)***	
2.2.1	EG gave a brief background on the Western Aqueduct Project and provided an overview of the project route. He further highlighted grassland areas and wetlands that have been impacted by the Western Aqueduct Project. EG explained why such a large construction corridor (30 m wide) is required for the Western Aqueduct Project - the materials (pipes) are extremely large and have to be transported and handled with similarly large vehicles and equipment. EG substantiated on the benefits of using plugs instead of seeds when rehabilitating grasslands and wetlands: • There are no commercial sources of seed for locally occurring indigenous grassland species;	

	• Seeds of different species reach harvestable stage at different times – so, to harvest a limited variety of species may require harvesting over 4-5 months; • Seeds sown under suitable conditions in a nursery can take up to 8 weeks to form a plug that can planted in the field; • Seed of different species require different planting depths which isdifficult to achieve especially on large scale; • Shallowly-planted seeds are prone to predation by ants, birds, rodents and fungi; • Most perennial species produce seed only once a year; • Plugs can be planted in a pretermined spatial pattern which coincides with differences that occur across a site e.g. soil depth, wetness and gradient etc.; • Planted correctly and maintained for the first few weeks, plugs have a survivorship rate of >80 per cent; • Plugs of indigenous bunch grasses e.g. *Themeda* planted correctly at the beginning of the growing season can form an effective canopy in approx. 8 – 12 weeks which will reduce soil erosion and most plants will flower and set seeds before the end of the same growing season,without addition of fertiliser; • Plugs have a significant competitive advantage over weeds which have grown from seed: Provided appropriate weed control has been implemented immediately prior to planting. EG stated that sowing seeds is not waste of time – it depends on the objectives, timeframes and the knowledge of seed biology. He explained that plugs can produced from seeds, stem cuttings, root or rhizome cuttings, bulbs or corms and tillers which form the tuft of a bunch grass. He went further to explain the processes used to produce plugs using seeds, cuttings and etc and the tools used in the process. EG emphasised that there must be very close and frequent communication between the grower, planting contractor and construction contractor as delays and miscommunication can be costly and could mean scrapping of plugs that have been produced. EG showed the forum pictures of how rehabilitation has proceeded in the Western Aqueduct, indicating that the grasslands and wetlands appear to be thriving. Finally, EG informed the meeting that most of the work he is presenting on was undertaken while he was in the employ of Knight Piesold Consulting. **Contact details: Ed Granger: ed@isik.co.za**	
2.2.2	AA asked if the plugs are sterile referring to the potential for the introduction of non-indigenous soil species and EG confirmed that the plugs are sterilized before they are planted. In addition, EG indicated that the plugs are indeed sterile enough to pass through international customs.	
2.2.3	RJ enquired about the type of gel that is used on trays that plugs are cultivated on. EG stated that he cannot name the company that makes the gel and the type but advised that the information can be found easily on the internet. NG thanked EG for sharing with the Forum this important piece of work and reminded the team that at the last Biodiversity Forum, when Cameron McLean (EPCPD) presented on eThekwini's Systematic Conservation Plan, it was found that significant challenges exist in	

	meeting biodiversity targets especially for grassland ecosystems. In addition, NG noted theincreasingly high development pressures that cities are facing and said that it is for these reasons that rehabilitation and restoration have to be looked at seriously as means to mitigate against the loss of biodiversity.	
3	**Updates from various municipal departments**	
3.1	**Updates from the Durban Natural Science Museum (DNSM) – David Allan**	
3.1.1	David Allan (DA) informed the meeting that in the absence of Kirstin Williams (KW) who was at the time attending a conference on Entomology he will be providing updates from the DNSM. DA reported that KW was on sabbatical last year and he was asked to be a guest editor of the Thola Magazine. He presented the latest edition of the Thola Magazine and informed the meeting that the Museum's scientific journal - Novitates - has also been completed. He advised that hard copies are available at the DNSM and electronic copies can be emailed if requested. DA also reported that over the last four months, the Education Section of the DNSM has increased its staff complement to three educators. He informed the meeting about the Go-Wild Mobile Museum minibus that is dedicated to rural parts of eThekwini. He also congratulated Leigh Richards and Kirstin Williams on the completion of their PhDs. He further reported that Dr. Angelo Lambiris is working on updating the specimen collections for the Herpetology Department of the DNSM and that various departments within the DNSM are updating their collections as well e.g., marine molluscs. DA further reported that the DNSM will host DUCT and the International Rivers Film Evening on the 14th August 2014 at 5:30 pm to 7:30 pm at the DNSM Research Centre. The film to be shown will be focussing on the impact of large dams on the surrounding natural environment. **For more information contact: David Allan at David.Allan@durban.gov.za or Kirstin.Williams@durban.gov.za**	
3.2	**Updates from the Environmental Planning and Climate Protection Department (EPCPD)**	
3.2.1	Lyle Ground reported on the eThekwini Biodiversity Stewardship Programme (EBSP). LG informed the meeting that the EBSP is aimed at improving the management of the natural environment through public-private partnerships and it is based on the larger KZN Stewardship Programme. The Biodiversity Stewardship Task Team (BSTT) was formed to work on the framework and on piloting stewardship at three sites situated in rural Durban. LG further informed the meeting about the three pilot sites which are located at Inanda Mountain, KwaXimba and the Molweni area under the AbaThembu Traditional Authority. The BSTT successfully arranged a knowledge sharing workshop on invasive alien plants with the AbaThembu Traditional Council. At Inanda Mountain, counsultation with the Qadi Traditional Council is underway and the field assessments have been conducted with the aim of conserving the KZN Sandstone Sourveld on the top of Inanda Mountain. LG also reported that the department is looking to proclaim part of Giba Gorge as a nature reserve in terms of the National Environmental Management: Protected Areas Act (NEM:PA).	

	NG added that Biodiversity Stewardship is an extremely important project as the majority of natural areas in Durban are privately owned, exist in tribal authority areas that are outside of formal municipal schemes and contain the majority of Durban's biodiversity and ecosystem service assets. **For more information contact: Lyle Ground on Lyle.Ground@durban.gov.za**	
3.2.1.1	Survana Parbhoo informed the meeting that the CREW (Custodians of Rare and Endangered Wildflowers) will be conducting field trips and a BioBlitz in October 2014 especially in these pilot sites. Details will be sent to the Forum closer to the time.	
3.2.2	**Community Reforestation Programme:** Khulile Mavundla (KM) reported that Futureworks was appointed in January 2014 to manage the Community Reforestation Programme. She gave updates on the trees planted and hectares covered so far at the Buffelsdraai Landfill, Inanda Mountain and Paradise Valley Nature Reserve Project sites. KM shared the following stats with the Forum: **Tree Planting at Buffelsdraai Landfill Site** Ha planted = 32.3 ha Trees planted since project inception = 78 585 Tree-preneurs = 480 IAP initial clearing = 13.5 ha IAP follow up =114.8 ha No. of people employed = 44 **Tree Planting at Inanda Mountain** 2013/14 trees planted = ~38 000 Ha planted = 43 ha Trees planted since project inception = ~70 000 Tree-preneurs = 200 IAP initial clearing = 206 ha IAP follow up =330 ha No. of people employed = 75 **Tree Planting at Paradise Valley** 2013/14 trees planted = 30 000 Ha planted = 25 ha Trees planted since project inception = ~50 000 Tree-preneurs = 150 (Cato Manor based) IAP initial clearing = 206 ha IAP follow up =330 ha No. of people employed = ad hoc teams, usually 13 for clearing KM also reported that the Buffelsdraai Community Reforestation Programme has received CCBA Validation Certificate (Climate, Community and Biodiversity) accreditation. The Wildlands Conservation Trust has handled the application process on behalf of eThekwini Municipality, and it has taken several years to finalise. This is a huge win for the municipality as it means that the Reforestation work using the CEBA model (Community Ecosystems Based Adaptation) is now officially in line with international standards, in terms of ensuring optimal benefits to local communities, and biodiversity.	

	NG informed the meeting that the statistics will also be made available in the State of Biodiversity Report which she she is currently writing and which will be produced at the end of December 2014. **For more information contact Khulile Mavundla at** Khulile.Mavundla@durban.gov.za	
3.2.3	**Fire Management:** Glynn Alard (GA) reported that he is the Programme Manager for the Working on Fire Programme. He reported that the team had an excellent fire season this year and that all priority areas have been successfully burnt. Fourteen scheduled areas have been burned and seven were affected by wild fires. He informed the meeting that one of the highlights was the successful coastal burns which are usually difficult to accomplish because of soil moisture. GA said that the Working on Fire team will be undertaking burns at municipal nature reserves next and mapping the areas that have beenburnt.	
3.2.3.1	Derrek Ruiters (DR) queried if Roosfontein Nature Reserve was included in the burning that took place. RB responded by stating that the Roosfontein NR is managed by the Parks Department – Natural Resource Division and not the Working on Fire team.	
3.2.3.2	Ed Granger (EG) emphasised the need for accurate historical fire management data and mapping. In response, GA stated that this is the first year of fire mapping. The scheduled fires are mapped first and unsecheduled fires will be mapped at a later stage.	
3.2.3.3	Bart Fokkens (BF) enquired how often the team undertook burns in grasslands. In response, GA informed the meeting that the Veld Condition Assessment (VCT) tool is used to indicate basal cover etc and it used as a management, monitoring and decision support tool.	
3.2.4	**Municipal Nature Reserves Proclamations:** Derrek Reuters (DR) informed the meeting that he is working with eThekwini Municipality with the process of proclaiming the Roosfontein Nature Reserve and further reported that the Public Participation Process has been completed. The next step will the submission of the requisite documentation to the Minister by the end of the year. DR also informed the meeting that the Hawaan Forest has been through the process of proclamation but two years has lapsed and contacts and names need updating before sending same to the Minister. He further reported that the proclamation of the other municipal nature reserves is ongoing.	
3.2.5	**Chameleon Park**: Gerald Clarke (GC) reported that the rezoning of Chameleon Park to Environmental Conservation Reserve is underway. The Public Conservation process will commence in September 2014. GC appealed to the attendees to send written support for the rezoning process.	
3.2.6	**Update on the 100 Resilient Cities Programme:** NG reported on behalf Manisha Maganlal that at the end of 2013, Durban was selected as one of the first 33 cities globally to be included in the Rockefeller Foundation's 100 Resilient Cities Programme (100 RC). The Rockefeller Foundation launched the 100 RC Programme to assist cities around the world to build urban resilience in the face of a future where slow onset issues issues (e.g. inequality, unemployment and degradation of the natural environment) and acute shocks/stresses (e.g. floods and other disasters) are likely to become more prevalent. A key output of the 100RC	NG

	Programme is for each city to develop a 'Resilience Strategy'. The eThekwini Municipality's Environmental Planning and Climate Protection Department is coordinating the Municipality's involvement in this programme, and is being supported by a cross-departmental municipal team, as well as a number of external stakeholders. EPCPD has commissioned the Community Perspectives Snapshot, Expert Interviews, Exploring possible elements of Durban's Resilient Strategy and Sectoral Engagements. All these exercises were aimed at obtaining initial input in the early phases of the Programme. NG informed the meeting that she will request Manisha Maganlal to present at the next Biodiversity Forum.	
3.3	**Updates from the Natural Resources Division – Thami Kunene**	
3.3.1	Thami Kunene (TK) informed the meeting that Natural Resources Division had two meetings with conservancies with the aim of rebuilding the relationship between the institutions. TK also reported that they commissioned cooperatives to clear invasive alien plants and planted 400 indigenous trees at Coedmore Avenue in Kenneth Stainbank Nature Reserve. The list of trees planted can be obtained from Nomafu Dlamini via email at Nomafu.Dlamini@durban.gov.za NG suggested that Kenneth Mabila be contacted to send an update which will be circulated with minutes. **NB: At the time of preparing and distributing these minutes, no update was available from the Natural Resources Division.**	NG
4.	**General**	
4.1	**International Coastal Clean Up Campaign:** NG on behalf of Jone Porter noted that the International Coastal Clean Up is scheduled for the the 20th September 2014 and encouraged the attendees to participate. **Groups working along the KZN coast and rivers should contact KZN Wildlife who is co-ordinating the project: Wayne Munger mungerw@kznwildlife.com** Please refer to the last page of the minutes for the registration form. Alternately, please contact Wayne Munger as above.	
4.2	**2014 Indigenous Plant Fair and Sustainable Living Exhibition:** Survana Parbhoo (SP) reported that the 2014 Indigenous Plant Fair will be held at the Sustainable Living Exhibition at the Durban Exhibition Centre from the 22nd to 24th August 2014. There will also be activities at the Green Hub from Friday the 22nd to Sunday the 24th August 2014. Flyers were circulated by Di Higginson Keith on the day.	
4.3	**Birdlife calendars:** Leslie Frescura informed the meeting that Birdlife calendars are now available at a cost of R90.00 and the money collected will be used to fund projects run by Birdlife. **Please contact Leslie Frescura via email at galefra@mweb.co.za**	
5.	**Close of meeting**	
5.1	NG thanked all for attending and closed the meeting. The next Biodiversity Forum will take place on **27 November 2014 at Paradise Valley Nature Reserve from 9 am to 12 pm.**	

2014 BEACH CLEANUP

Saturday 20th September

Everyone is recycling! Its the green thing to do!

EZEMVELO KZN WILDLIFE

REGISTER BEFORE 8TH SEPTEMBER 2014

NAME OF GROUP:.....

CONTACT PERSON:.....

POSTAL ADDRESS: .....

..... CODE:.....

TELEPHONE: .....FAX:.....

NO. OF VOLUNTEERS: .....

AREA OF CLEANUP: .....

Please complete the form and return to your local Ezemvelo KZN Wildlife Marine Officer

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2014 BEACH CLEANUP

Saturday 20th September

EZEMVELO KZN WILDLIFE

NAME	BEACH CLEANUP AREAS OF RESPONSIBILITY	CONTACT DETAILS
Mosses Khowa	Port Edward to Southbroom	0825592838
Enock Mhlangu	Southbroom to Umzimkhulu River	0825592864
Richard Zuma	Umzimkhulu River to Mzimayi River	0825592858
Sam Ndlovu	Mzimayi River to Umkomaas River	0825592843
Lawrence Shezi	Umkomaas River to Isipingo	0825592846
James Wood	Isipingo to Addington Beach	0825592845
Basil Pather	Umgeni River (Blue Lagoon) to Westbrooke	0825592839
Lionel Van Schoor	Tongaat River to Mvoti River	0825592847
Selvan Pillay	Umvoti River to Amatikulu River	0825592841
Truemen Buthelezi	Amatikulu River to Umlalazi River	0833404872
Cyril Buthelezi	Amatkulu river to Richards Bay	0832871799
Kevin Green	Umlalazi River to Richards Bay Harbour	0825592837
France Mthembu	Richards Bay Harbour to St Lucia Light House	0825592849
Terance Shozi	St Lucia Light House to uMfolozi	0825592870
Sipho Mbuyisa	St Lucia and surrounding area	0726505104
Siboniso Duma	uMfolozi to Mission Rocks & St Lucia Estuary	0825592871
Chantel Dickson	Mission Rocks to Red Sands (St Lucia Marine South)	0825592872
Mary Pieters	Red Sands to Mabibi (St Lucia Marine North)	0827702620
Oswell Mthethwa	Sodwana Bay	0723541594
Mabongi Masinga	Kosi Bay and surrounding area	0836729893
Simon Nxumalo	Mkhuze and surrounding area	0765262722

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