

REFERENCES & **APPENDICES**

APPENDIX A.

Research in progress
and published papers

APPENDIX B.

Ezemvelo KZN Wildlife – Biodiversity
Stewardship Review of Beyond Phinda
Private Game Reserve 2013

APPENDIX C.

Definitions list

APPENDIX A.
Research and published papers

RESEARCH

REGION/LODGE	TOPIC	DEGREE	INSTITUTION	DATE STARTED
&Beyond Phinda Private Game Reserve	Water consumption analysis	Pilot Survey PhD	UNISA	2015
&Beyond Phinda Private Game Reserve	Waste management analysis	Hons.	UNISA	2014
&Beyond Phinda Private Game Reserve	Procurement analysis	Pilot Survey PhD	UNISA	2015
&Beyond Klein's Camp	GIS mapping of Klein's concession	Management plan	UNISA	2014
&Beyond lodges in South Africa, Namibia and Botswana	Benchmarking water usage and processes	Masters	UNISA	2016
&Beyond Phinda Private Game Reserve Forest Lodge	Rainwater harvesting potential	Project	UNISA	2015
&Beyond Phinda Private Game Reserve	Benchmarking water usage	Hons.	UNISA	2015
&Beyond Ngala Private Game Reserve	Waste management	Hons.	UNISA	2017
&Beyond Mnemba Island	Waste management	Hons.	UNISA	2015
&Beyond Phinda Private Game Reserve	Waste management	Hons.		2015
&Beyond Phinda Private Game Reserve	Cheetah - metapopulation	N/A	EWT	Ongoing
&Beyond Phinda Private Game Reserve	Elephant - immunocontraception	Post Doc	University of KwaZulu-Natal	2015
&Beyond Phinda Private Game Reserve	Elephant - population dynamics	Post Doc	University of KwaZulu-Natal	2015
&Beyond Phinda Private Game Reserve	Elephant - vegetation	Post Doc	University of KwaZulu-Natal	2015
&Beyond Phinda Private Game Reserve	Fire	N/A	Working for Fire International	1998
&Beyond Phinda Private Game Reserve	Leopard - conservation biology	N/A	Panthera	2009
&Beyond Phinda Private Game Reserve	Lion / cheetah habitat usage	Post Doc		2014
&Beyond Phinda Private Game Reserve	Lion - metapopulation and genetics	Dtech	University of Pretoria	2013
&Beyond Phinda Private Game Reserve	Suni - abundance index relative to red duiker	Hons.	University of Pretoria	2013
&Beyond Phinda Private Game Reserve	Spotted hyena ecology	Masters	University of KwaZulu-Natal	2014
&Beyond Phinda Private Game Reserve	White rhino DNA - metapopulation	PhD	University of Pretoria	ongoing

&Beyond Phinda Private Game Reserve	Nyala - movements, sex ratios and dynamics	Hons.	University of Stellenbosch	2013
&Beyond Phinda Private Game Reserve	Off-road driving	N/A	University of Pretoria	2014
&Beyond Phinda Private Game Reserve	Sand forest - elephant exclusion fence	Post Doc	University of KwaZulu-Natal	2005
&Beyond Phinda Private Game Reserve	Sand forest - vegetation studies and fire	PhD	University of KwaZulu-Natal	2012
&Beyond Phinda Private Game Reserve	Sand forest - photosynthesis	Post Doc	University of KwaZulu-Natal	ongoing
&Beyond Phinda Private Game Reserve	Invasive alien plant clearing initiatives	Private study	Council for Scientific and Industrial Research (CSIR)	2014
&Beyond Phinda Private Game Reserve	Tsetse fly colonies	Private study	Agricultural Research Council – Onderstepoort	2014
&Beyond Mnemba Island	Monitoring of boat traffic	Pilot survey	UNISA	2014
&Beyond Mnemba Island	Coral reef assessment	Pilot survey	UNISA	2014
&Beyond Phinda Private Game Reserve	Using satellite imagery to determine the effects of informal harvesting of the sand forest	Masters	UNISA	2015
&Beyond Mnemba Island	Ecology of Ader's duiker	PhD	UNISA	2015
&Beyond Klein's Camp	Soil analysis	Project	UNISA	2017
	Fact finding and identifying potential projects	Project	UNISA	2017
&Beyond Klein's Camp	Road placement and management	Project	UNISA	2017
&Beyond Klein's Camp	Plant ecological study and management plan for Klein's Camp	Masters	UNISA	2016
&Beyond Mnemba Island / Klein's Camp	Current impact and potential community development opportunities	PhD	UNISA	2014
&Beyond Phinda Private Game Reserve	Sustainable livelihoods – the impact of Africa Foundation and the lodges at Phinda Private Game Reserve on local communities	PhD	UNISA	2017
&Beyond Phinda Private Game Reserve	Supply chain analysis	PhD	University of Johannesburg	2017
&Beyond Phinda Private Game Reserve	Perceptions of local community participation in wildlife and tourism management	PhD	UNISA	2015
&Beyond Phinda Private Game Reserve	Community conservation behaviour	PhD	UNISA	2016
&Beyond Klein's Camp, Phinda Private Game Reserve and Mnemba Island	Stakeholder relations and socio-ecological issues	PhD	University of Johannesburg	2015
&Beyond Mnemba Island	Fish utilisation survey	Hons.	UNISA	2015
&Beyond Mnemba Island	Fish utilisation survey	Masters	UNISA	2017

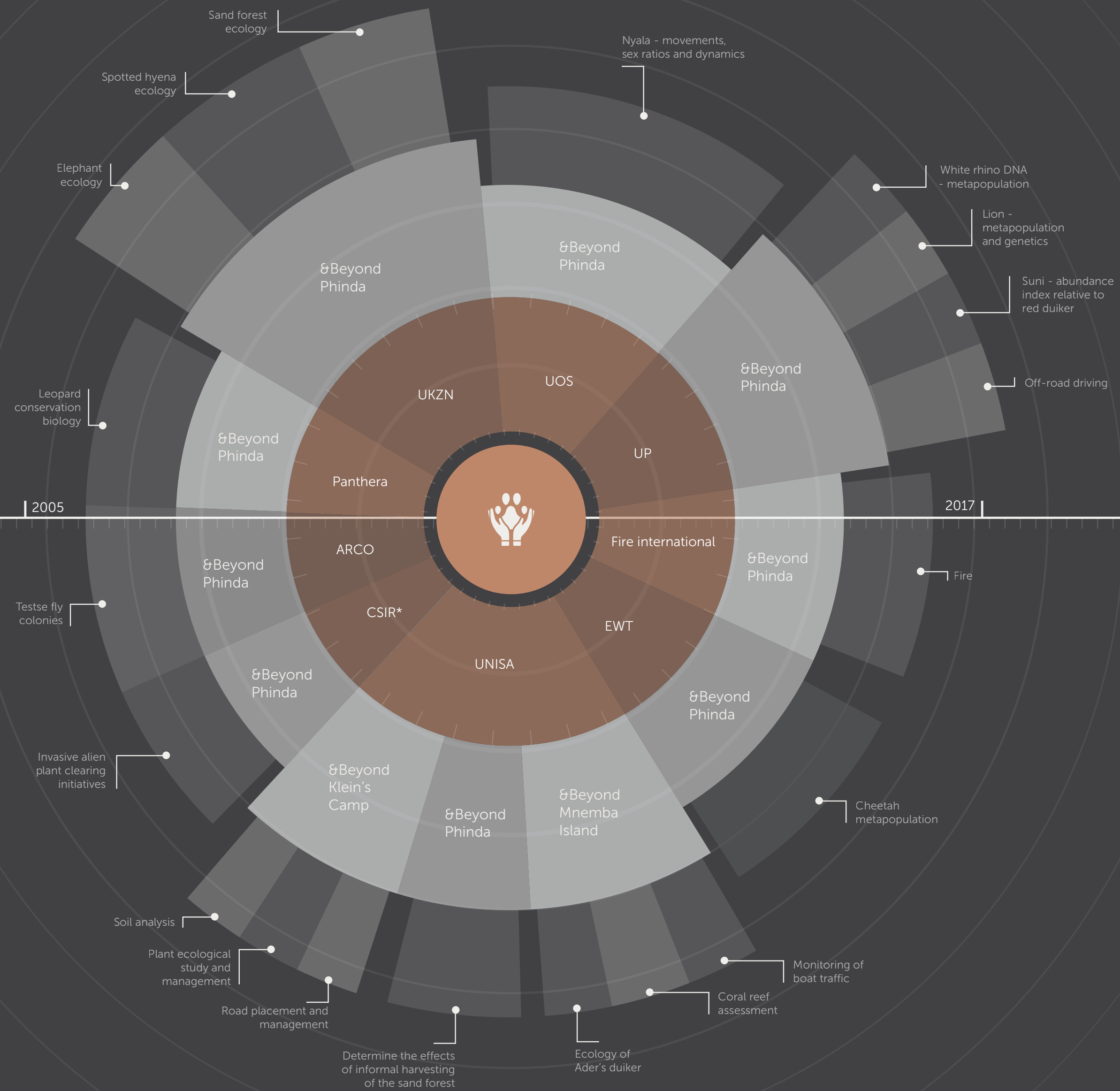
RECENT AND CURRENT
RESEARCH PROJECTS
AT &BEYOND:



University of KwaZulu-Natal - UKZN
 University of Pretoria - UP
 University of Johannesburg- UJ
 University of Stellenbosch- UOS
 Council for Scientific and Industrial Research - CSIR
 Agricultural Research Council : Onderstepoort- ARCO

Papers Published: Refer to Appendix ^{*}

RECENT AND CURRENT RESEARCH PROJECTS AT &BEYOND:



University of KwaZulu-Natal - UKZN
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Papers Published: Refer to Appendix*



Care of the Wildlife

RECENT AND CURRENT RESEARCH PROJECTS AT &BEYOND:



Care of the People

University of KwaZulu-Natal - UKZN
 University of Pretoria - UP
 University of Johannesburg- UJ
 University of Stellenbosch- UOS
 Council for Scientific and Industrial Research - CSIR
 Agricultural Research Council : Onderstepoort- ARCO

Papers Published: Refer to Appendix*

PAPERS PUBLISHED:

- Grobler, H. & Mearns, K. (2017). Rainwater harvesting at Forest Lodge in Phinda Private Game Reserve KwaZulu Natal, South Africa. In Glen, N. (ed.) The Responsible and Sustainable Tourism Handbook, Southern & East Africa 5, 86-91.
- Nel, R. Mearns, K.F. & Jordaan, M. (2017). Modelling informal Sand Forest harvesting using a Disturbance Index from Landsat, in Maputaland (South Africa) Ecological Informatics, 39, (3) 1-9.
- Burgoyne, C. & Mearns, K. (2017). Managing stakeholder relations, natural resources and tourism: A Case study from Ololosokwan, Tanzania. Tourism and Hospitality Research, 17 (1), 68-78.
- Nel, R., Mearns, K.F. & Jordaan, M. (2016). Towards understanding the effects of informal harvesting of Sand Forest in Maputaland, South Africa. Proceedings of the Centenary Conference of the Society of South African Geographers, 25-28 September 2016, Stellenbosch, South Africa, ISBN: 978-0-7972-1610-5, 147-156.
- Mearns, K. (2016). The Air Transportation Industry's response towards mitigating climate change: the case of IATA. The Responsible and Sustainable Tourism Handbook, Southern & East Africa 4, 90-99.
- Mearns, K.F. (2016) Reviewing 24 years of empowering communities by the Africa Foundation. In BEST EN Think Tank XVI: Corporate Responsibility in Tourism: Standards Practices and Policies: Conference proceedings, Berlin, Germany, 12-15 July 2016 ISBN:978-0-9944984-6-5, 152-160.
- Mearns, K. and Grobler, H. (2016). Managing Water for Tourism in the Phinda Private Nature Reserve, KwaZulu-Natal, South Africa, Athens: ATINER'S Conference Paper Series, No: WAT2016-2022., 4th Annual International Forum on Water, Athens, Greece 11 July-14 July 2016, ISSN 2241-2891, 1-23.
- Dreyer, R, Du Plessis, R.& K Mearns (2016) Waste characterisation and review of the waste management practices at Phinda Private Game Reserve (KZN) Conference Proceedings of WasteCon 2016, "The Changing Face of Waste Management" ISBN: 978-1-920017-66-8, 239-246.
- Breedt, A., Du Plessis, R. & K Mearns (2016) Waste characterisation and management at Mnemba Island Lodge (Zanzibar) Conference Proceedings of WasteCon 2016, "The Changing Face of Waste Management" ISBN: 978-1-920017-66-8, 329-338.
- Mearns, K. (2016) Climate change and tourism: some industry responses to mitigate tourism's contribution to climate change. African Journal of Hospitality, Tourism and Leisure, 5 (2), 1-11.
- Muzirambi, J.M. & K. F. Mearns (2015) Active community participation in nature conservation and tourism management: A case study analysis of the state of power relations in Southern Africa. Peer reviewed Conference Proceedings of BEST EN Think Tank XV The Environment People Nexus in Sustainable Tourism: Finding the Balance 17-21 June 2015. Townsville, Australia: James Cook University, 35-53.
- Baker, M. & K. Mearns (2015) Sustainable Tourism Indicators to Manage Scarce Water Resources. The Responsible and Sustainable Tourism Handbook, Southern & East Africa 3, 51-57

APPENDIX B.

Ezemvelo KZN Wildlife – Biodiversity Stewardship Review of &Beyond Phinda Private Game Reserve 2013

VEGETATION PRESENT	
ECOSYSTEM STATUS	VEGETATION TYPES
Critically endangered	<ul style="list-style-type: none"> Lowveld Riverine Forest (0.54%)
Endangered	<p>Alluvial Wetlands:</p> <ul style="list-style-type: none"> Subtropical Vegetation (0.42%)
Vulnerable	<ul style="list-style-type: none"> Subtropical Freshwater Wetlands (0.20%)
Least threatened	<ul style="list-style-type: none"> Subtropical Freshwater Wetlands (0.20%) Western Maputaland Clay Bushveld (12.45%) Zululand lowveld (18.19%) <p>Subtropical Freshwater Wetlands:</p> <ul style="list-style-type: none"> Tall Grassland/ Sedge/ Reed Wetlands, Short Grass/ Sedge Wetlands, and Coastal Lakes & Pans (2.31%)
	<p>Inland Saline Wetlands:</p> <ul style="list-style-type: none"> Subtropical Salt Pans (0.09%) <p>Licuati Sand Forests :</p> <ul style="list-style-type: none"> Eastern Sand Forest (1.80%) Makatini Clay thicket (1.86%) Maputaland Pallid Sandy Bushveld (8.05%) Southern lebombo Bushveld (30.09%) Tembe Sandy Bushveld (24.01%)

THREATENED SPECIES PRESENT	
ECOSYSTEM STATUS	SPECIES TYPES
Critically endangered species	Diceros bicornis minor (Black rhino)
Endangered species	Warburgia salutaris
Vulnerable species	Dioscorea sylvatica, Haworthia limifolia
Rare	Ancylobothrys petersiana, Pelargonium tongaense, Searsia kwazuluana
Near threatened species	Crassula lanceolata, Crinum acaule, Crotalaria dura, Synaptolepis kirkii Oliv, Combretum mkuzense, Elaeodendron transvaalense, Erythrophleum lasianthum
Declining	Aneilema dregeanum, Boophone disticha, Crinum bulbispermum, Eulophia speciosa, Hypoxis hemerocallidea, Acridocarpus natalitius var. Linearifolius, Acridocarpus natalitius var. natalitius, Adenia gummiifera, Balanites maughamii, Newtonia hildebrandtii
Protected Trees (National Forest Act, Act 84 of 1998)	Sclerocarya birrea subsp. Caffra, Sideroxylon inerme, Boscia albitrunca, Cleistanthus schlecteri, Pittosporum viridiflorum, Elaeodendron transvaalense, Balanites maughamii, Newtonia hildebrandtii, Warburgia salutaris
Species endemic to KZN (14)	Crotalaria dura, Cytorchis praetermissa, Kalanchoe neglecta, Clutia pulchella, Searsia kwazuluana, Tapura fischeri, Euphobia sp nov, Euphorbia granducornis sub granducornis, Ar_Urofor_13 - Uroplectes formosus maculipes, An_triphi_13 - Tritogenia phinda, Mo_trawat_13 - Trachycystis watsoni, An_pronot_13 - Proandricus notabilis, Di_gonzul_13 - Gonioscelis zulu, Ci_stanat_13 - Stagira natalensis
Near-endemic to KZN (4)	Sp Crotalaria macrocarpa, Cyphostemma natalitium, Eugenia capensis, Combretum sp. nov. ecies
Species endemic to SA (24)	Ancylobothrys petersiana, Anthospermum streyi, Ceropegia distincta, Cissus fragilis, Crassula lanceolata, Crassula perforata, Crinum delegeense, Dicoma zeyheri, Acacia natalitia, Capparis fascicularis var. Zeyheri, Chionanthus foveolatus, Diospyros scabrida, Diospyros simii, Diospyros villosa, Ehretia rigida, Erythroxyllum pictum, Euclea crispa, Euclea natalensis, Eugenia capensis, Halleria lucida, Hyphaene coriacea, Mystroxyllum aethiopicum, Olea capensis, Rhoicissus sessilifolia

APPENDIX C. *Definitions list*

ABOVE GROUND WASTE WATER SYSTEMS

A treatment process for waste water located above the ground, which treats waste water so that it can be reused safely for agriculture or other non-consumption purposes.

AFRICA FOUNDATION ROBIN JAMES AWARD

To mark the 25th year of Africa Foundation, the Foundation launched the Africa Foundation Robin James Award in January 2017. This award, in the name of Robin James, honours one of Africa Foundation's trustees, and chair of Africa Foundation (UK), who passed away in 2016.

The Africa Foundation Robin James Award aims to recognise individuals who show the same commitment to empowering people through access to education, health, economic opportunities and conservation. The award celebrates those who embody the same foresight, wisdom and sustained commitment that enabled Robin James to have an extraordinary impact on the lives of others.

BULK HOT WATER SYSTEMS

Bulk hot water describes a centralised hot water system, generally within the lodge operations, providing each room or unit with their hot water requirements.

CAPACITY BUILDING

Development and strengthening of skills in local communities by providing formal education through the Community Leaders Education Fund, Beyond Life initiatives and Star-in-Training programmes.

CONSERVATION LESSONS

Children and teachers from nearby communities are given informative conservation lessons, teaching them about the importance of wildlife and ecosystem conservation. The impact is far reaching, influencing a future generation of conservationists in communities surrounding some of our most fragile ecosystems.

COMMUNITY LEADERS EDUCATION FUND (CLEF)

Africa Foundation's Community Leaders Education Fund (CLEF) offers funding to students from communities that border our conservation areas. Launched in 1995, the aim of the bursaries is to grow leadership by offering high school graduates the opportunity to improve their career prospects through tertiary study. During their holidays, these students give back to their communities by conducting activities that involve and uplift those around them, such as driving community environmental clean-ups or helping out at medical clinics.

DIRECT CARBON FOOTPRINT

We define our direct carbon footprint as the energy sources and emissions that we have immediate and complete control over by managing our consumption of purchased electricity, fuel and other sources of energy.

ENVIRO LOOS

An Enviro Loo is a waterless toilet system that provides a safe, non-polluting, cost-effective solution to the sanitation crisis often faced in developed and developing countries. An evaporation and dehydration system, the Enviro Loo utilises sun and wind to transform human waste into a safe, neutral, pathogen-free material; without the use of water, chemicals or electricity.

HIPPO WATER ROLLERS

These are drums that hold 90 litres (25 gallons) of water and are easily rolled along the ground by means of a stainless steel holder, as opposed to the usual five litre (one gallon) containers that are traditionally carried on the heads of women and children.

When pushed, the relative weight of the roller is about 12 kilogrammes (27 pounds), which means that even children can operate them with ease. One Hippo Water Roller has the potential to alleviate water supply problems for a family of up to eight people and the drum doubles as an upright water storage unit in the home.

The initiative has not only facilitated water collection and storage, but has also allowed women to spend time on income-generating activities such as vegetable gardens, and children to spend more time attending classes at school.

HYBRID SOLAR SYSTEMS

A hybrid solar system combines the best of both worlds; the convenience of a grid connected system — with the peace of mind of a battery backup. This means that even during a power blackout, you still have electricity.

INDIRECT CARBON FOOTPRINT

We define our indirect carbon footprint as the sources of emissions from third party suppliers which benefit our business but not within our control from a consumption point of view.

LOCAL

Communities/settlements/towns that have the ability to influence the biodiversity of the areas we operate in.

MIMCA

In 2005, &Beyond worked with the Zanzibar Department of Fisheries and members of local Zanzibari fishing communities to form the Mnemba Island Marine Conservation Area (MIMCA). In addition to other measures, this protected area has officially demarcated specific areas for snorkelling, diving, and fishing.

The agreement also resulted in the introduction of a daily recreational fee for the use of these areas. The revenue generated by this levy was used to fund local community projects and benefit local fishermen.

ORPHANED AND VULNERABLE CHILDREN'S CENTRE (OVC)

An OVC centre is run by carers from the community who offer orphans and vulnerable children support and assistance after school hours. The centre provides a safe haven for children, and is where they receive a cooked meal, homework assistance and mentorship. The carers also provide a link between social workers and medical practitioners.

SHARED VALUE

“Generating economic value in a way that also produces value for society by addressing its challenges. A shared value approach reconnects company success with social progress.” - Harvard Business Review

SOCIAL SERVICE INFRASTRUCTURE

Working with Africa Foundation to improve the healthcare and education infrastructure including sanitation initiatives – Enviro Loos; nutrition initiatives – permaculture gardens; access to water via boreholes, rainwater harvesting and Hippo Water Rollers; clinics and medical staff accommodation; classrooms and Orphaned and Vulnerable Children (OVC) centres.

SOLAR PHOTOVOLTAIC ENERGY

A photovoltaic system, also PV system or solar power system, is a system designed to supply usable solar power by means of photovoltaics. Photovoltaics is a term that covers the conversion of light into electricity using semiconducting materials that exhibit the photovoltaic effect.

SOLAR THERMAL ENERGY

Solar thermal energy is a form of energy technology that harnesses solar energy to generate thermal energy or electrical energy.

STAR-IN-TRAINING PROGRAMMES

Training opportunities at &Beyond lodges, which introduce members of the local community to the various hospitality skills at the lodge such as bartending, laundry operations, housekeeping, and waitering.

STAR PROJECTS

A Star Project is a social service infrastructure project, which has been identified by an &Beyond lodge that requires funding.

TRANSLOCATION

The movement of an animal or species from one place (or country) to another.

UNISA

University of South Africa

WATER BOTTLING PLANTS

An on-site water purification and bottling system for supplying drinking water to the lodges.

WESSA

WESSA is a non-profit organisation that implements effective environmental, ecotourism, education and youth development programmes throughout South Africa.