

Curriculum Vitae and abbreviated Company Profile

Dimela Eco Consulting



Drafted by

Antoinette Eyssell

Pr Sci Nat (4,00019/11) Ecological Science

Dimela Eco Consulting

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1. EMPLOYMENT RECORD

I am currently self-employed and am the sole proprietor of Dimela Eco Consulting. I have been working in the field of environmental impact assessment since 2007 (7 years) (Table 1).

Table 1: Employment record: Environmental Assessments

Time frame	Title	Company
Nov 2011 - current	Sole proprietor, vegetation specialist	Dimela Eco Consulting
Sep 2007 – Nov 2011	Terrestrial Ecologist, specialising in vegetation	Strategic Environmental Focus (SEF)

Prior to working in the environmental impact assessment field, my main work experience was gained at the Pretoria National Botanical Gardens where I have developed much of my knowledge on indigenous plants.

Table 2: Employment record: Other

Time frame	Title	Company
Aug 2003 – Sep 2007	Snr Environmental Education Officer	Environmental Education Centre, Pretoria National Botanical Garden, South African National Biodiversity Institute (SANBI)
Jun – Jul 2003	Horticultural Trainer	17 Shaft Training Centre, Johannesburg
May 1997 – Mar 2002	Horticulturist	Pretoria National Botanical Garden (then NBI, now SANBI)

2. QUALIFICATIONS

- M.Sc Environmental Science, University of Pretoria (2010)
Dissertation: *Land cover change and its effect on future land uses*
- B. Sc (Hons) Horticulture, University of Pretoria (1999-2000)
Dissertation: *Horticultural uses of the indigenous *Barleria* species*
- B. Sc (Agriculture) Horticulture, University of Pretoria (1993-1996)

Proof of MSc – Appendix A

3. PROFESSIONAL MEMBERSHIP: SACNASP

Registered as a Professional Natural Scientist with the South African Council for Natural Scientific Professionals (SACNASP)

SACNASP Reg no 400019/11

Proof of certificate – Appendix B

4- SPECIALIST WORK EXPERIENCE

Dimela Eco Consulting is an independent consultancy which offers a range of services pertaining to the integration of vegetation, vegetation ecology, protected plants and other ecological concerns into the development and land use process. In support of sustainable development, green infrastructure and socially responsible progress, Dimela Eco Consulting provides clients with quality, unbiased and reliable reports to help minimise the impact on the receiving natural environment and to inform effective decision making by providing the following services:

- Vegetation assessments;
- Vegetation overviews or scans;
- Strategic ecological assessments, including wetland input;
- Wetland assessments in conjunction with Limosella Consulting;
- Mitigation measures to reduce impacts on the natural environment;
- Ecological management and biodiversity action plans (including alien vegetation management);
- Specialist input: ecological conditional requirements for Green Star rating;
- Ground-truthing of vegetation related data; and
- Review of ecological reports.

In addition, Antoinette Eyssell has 4 years' experience in Environmental Education and Greening Projects at the South African National Biodiversity Institute (SANBI) (2003-2007). In this time, she mentored four students over two year period as part of an intership programme.

She currently writes the ecology feature for the bimonthly Supernova Kids Magazine and welcome opportunities to stay involved in environmental education and related community programmes.

Since January 2012, Antoinette assists with the administration, project management, report review and vegetation assessments for Limosella Consulting. Limosella Consulting is an independent consultant that specialises in wetland assessments, but also include a wide range expertise such as fauna, flora and aquatic assessments.

The table below list some of Dimela's projects, since 2012.

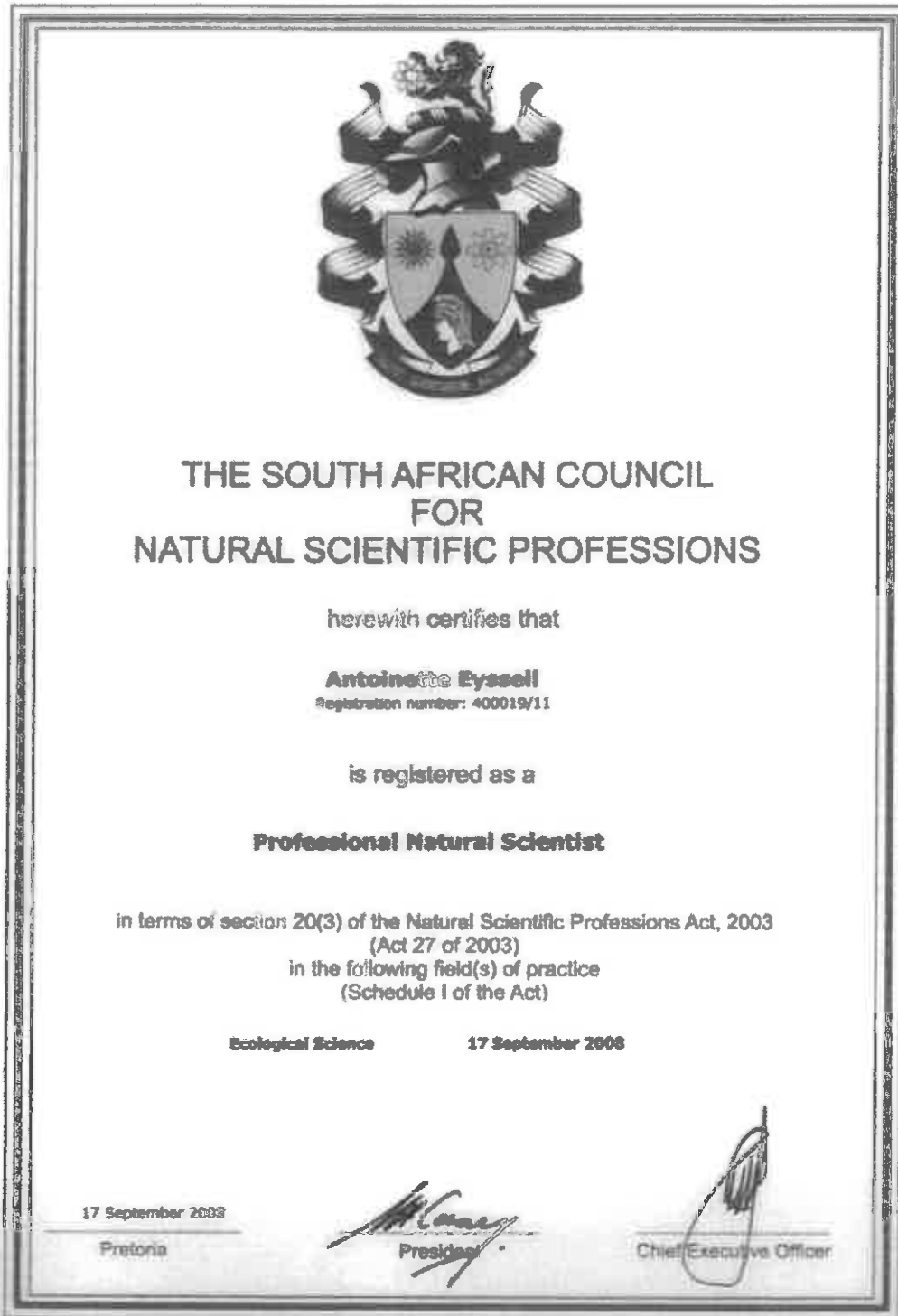
PROJECT NAME	INDUSTRY / CLIENT	DATE	ADDITIONAL INFORMATION
Vegetation Assessment for Solar Panels	Schmidsdrift, Northern Cape	January 2012	Delineation of vegetation communities, determine vegetation sensitivities and survey for plants of conservation concern. Report on potential impacts and mitigation measures to limit impacts.
Protected tree identification	Kranspoort road upgrade	March 2012	Identify and record localities, species and numbers of protected trees along an area earmarked for road upgrade.
Ground-truth final ESKOM	Dhuva-Minerva route	March-April 2012	Walk proposed route alignment and identify sensitive vegetation issues and pylon positions that might

PROJECT NAME	INDUSTRY / CLIENT	DATE	ADDITIONAL INFORMATION
route alignment	deviation		need to be moved.
Vegetation base line study and input into Biodiversity Action Plan	Kumba Iron Ore (Anglo)	April-May 2012	Undertake a gap analysis and review of existing information and update by assessing the vegetation during the summer months and suggesting monitoring plots, information to be collected and areas where sensitive vegetation should be avoided and managed.
Vegetation assessment	Rietfontein Open Cast	April 2012	Delineation of vegetation communities, determine vegetation sensitivities and survey for plants of conservation concern. Report on potential impacts and mitigation measures to limit impacts.
Vegetation assessment	Eskom: Perseus to Gamma	October 2012	Survey the proposed route options and compare the floral assemblages that are expected to occur within the area to the actual vegetation found to be present along the route options. Map the localities of plants of conservation concern that was identified during the field survey or suitable habitat where these plants could potentially occur. Assess impacts and determine route alignment that is likely to have the least impact on sensitive vegetation
Vegetation assessment and EMP input	Vierfontein Colliery	January 2013	Assess the current impacts of the open cast mine on the vegetation and provide input into the EMP to conserve and limit impact on conservation worthy vegetation that persist on the site
Diepsloot Eskom line and substation, Johannesburg (Gauteng)	Enviroolution	March 2013	Survey the preferred and alternative route alignments and compare the floral assemblages that are expected to occur within the area to the actual vegetation found to be present along the routes. Map the vegetation / habitat types according to structurally distinct vegetation units as well as transformed areas, as well as the localities of threatened plant species. Recommend mitigation measures to aid the conservation of vegetation during construction and operation and indicate the route that will have the least impact on the vegetation.
Komati Power Station – Coal stockyard <i>Vegetation</i>	ESKOM	May 2013	<ul style="list-style-type: none"> Assess the potential plant species and vegetation communities that could be impacted by the proposed increase in capacity of the coal stockyard; and

PROJECT NAME	INDUSTRY / CLIENT	DATE	ADDITIONAL INFORMATION
<i>opinion</i>			<ul style="list-style-type: none"> • Recommend mitigation measures to avoid or limit the potential negative impacts that the proposed activity could have on the surrounding vegetation.
Droogenfontein - open cast mine Vegetation assessment	CEMS	October 2013	Assess the vegetation on land proposed for an open cast mine and indicate sensitive vegetation groupings and plants of conservation concern.
Tshepong Mine, assessment and Biodiversity Action Plan (BAP)	Harmony	November 2013 – Feb 2014	<ul style="list-style-type: none"> • Undertake baseline assessments for fauna, flora and wetlands; • Compile a Biodiversity Action Plan (BAP) based on the baseline assessments • Compile an alien invasive plant management plan for the site
Masa Ngwedi 750kV and 400kV lines (Limpopo and North West Provinces) Section D & E <i>Vegetation Input for EMP</i>	Mandara Consulting	November 2013	Walk down with specific reference to plants of conservation concern that could occur along the proposed powerline route. A report detailing the pylons in proximity to intact and likely sensitive vegetation as well as measures to aid conservation / rehabilitation of this vegetation along the powerline routes as input into the EMP; and localities of plants of conservation concern will be mapped and used to apply for permits for the removal/destruction/pruning of these species where they might be impacted on by the powerline.
Marakele Bush Camp	NuLeaf	December 2013	<ul style="list-style-type: none"> • Site visit and meeting with the park manager with regards to the area proposed for the development • An opinion with regards to the suitability and ecological sensitivity of the proposed area as well as the likelihood for protected plant species occurring within the development footprint.
Meteor substation, as well as the 88kV line between the Pulsar, Meteor and Sonland substations, Sebokeng area,	Nsovo Environmental Consulting	February 2014	<ul style="list-style-type: none"> • Survey the preferred and alternative route alignments and substation locality; • Compare the floral assemblages that are expected to occur within the area to the actual vegetation found to be present along the routes; • Map the vegetation / habitat types according to structurally distinct vegetation units as well as transformed areas; • Map the localities of plants of conservation concern

PROJECT NAME	INDUSTRY / CLIENT	DATE	ADDITIONAL INFORMATION
Gauteng			<p>that was identified during the field survey or suitable habitat where these plants could potentially occur;</p> <ul style="list-style-type: none"> • Assess the possible impacts that the proposed powerline and substation could have on the vegetation; • Recommend mitigation measures to aid the conservation of vegetation during construction and operation; and • Indicate the route that will have the least impact on the vegetation
Temporary Asphalt sites	Environamic	March 2014	<ul style="list-style-type: none"> • Reference to the state of the vegetation e.g. was the vegetation in a primary, secondary or degraded state; • An indication of whether the vegetation is of conservation value; • Confirm the presence or absence of plants of conservation concern (threatened and protected plant species) on the site; • Map any potential sensitivities that may occur on the site; and • Assess the possible impacts that the proposed development could have on the vegetation or proximate ecological features.
Blesboklaagte & Leeupoort Township development	Shangoni	April 2014	<ul style="list-style-type: none"> • Undertake a field survey and assessment of the biophysical environment and current status of natural features on the proposed site and compare the findings to the expected natural state as listed in the national vegetation map; • Field survey with specific reference to plants of conservation concern ("red data" and provincially protected species) that could occur within the study site or immediate surroundings; • Sensitivity mapping, including possible or confirmed localities of plants of conservation concern; and • Report on the potential impacts that the proposed township could have on vegetation and recommend mitigation measures to limit or negate the potential negative impacts where possible.

APPENDIX B: SACNASP

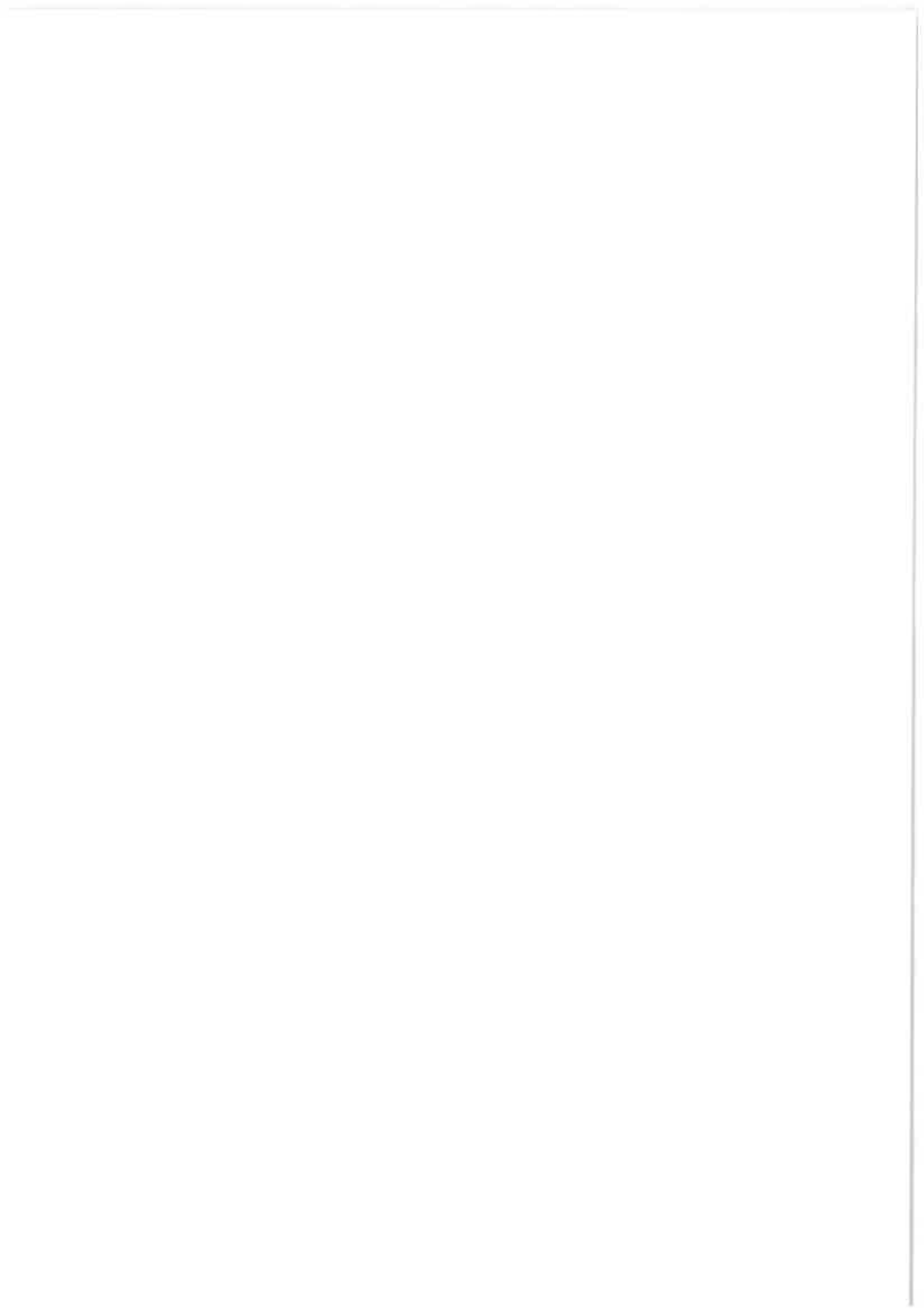


17 September 2008

Pretoria

[Signature]
President

[Signature]
Chief Executive Officer



Appendix B: Abbreviated Curriculum Vitae of participating specialists

Name: ANTOINETTE BOOTSMA nee van Wyk

ID Number 7604250013088

Name of Firm: Limosella Consulting

Position: Director - Principal Specialist

SACNASP Status: Professional Natural Scientist # 400222-09 Botany and Ecology

EDUCATIONAL QUALIFICATIONS

- B. Sc (Botany & Zoology), University of South Africa (1997 - 2001)
 - B. Sc (Hons) Botany, University of Pretoria (2003-2005). Project Title: A phytosociological Assessment of the Wetland Pans of Lake Chrissie
 - Short course in wetland delineation, legislation and rehabilitation, University of Pretoria (2007)
 - Short course in wetland soils, Terrasoil Science (2009)
 - MSc Ecology, University of South Africa (2010 - ongoing). Project Title: Natural mechanisms of erosion prevention and stabilization in a Marakele peatland; implications for conservation management
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PUBLICATIONS

- P.L. Grundling, A Lindstrom., M.L. Pretorius, A. Bootsma, N. Job, L. Delport, S. Elshahawi, A.P Grootjans, A. Grundling, S. Mitchell. 2015. Investigation of Peatland Characteristics and Processes as well as Understanding of their Contribution to the South African Wetland Ecological Infrastructure Water Research Commission KSA 2: K5/2346
- A.P. Grootjans, A.J.M Jansen , A. Snijdewind, P.C. de Hullu, H. Joosten, A. Bootsma and P.L. Grundling. (In Press). In search of spring mires in Namibia: the Waterberg area revisited
- Haagner, A.S.H., van Wyk, A.A. & Wassenaar, T.D. 2006. *The biodiversity of herpetofauna of the Richards Bay Minerals leases*. CERU Technical Report 32. University of Pretoria.
- van Wyk, A.A., Wassenaar, T.D. 2006. *The biodiversity of epiphytic plants of the Richards Bay Minerals leases*. CERU Technical Report 33. University of Pretoria.
- Wassenaar, T.D., van Wyk, A.A., Haagner, A.S.H, & van Aarde, R.J.H. 2006. *Report on an Ecological Baseline Survey of Zulti South Lease for Richards Bay Minerals*. CERU Technical Report 29. University of Pretoria

KEY EXPERIENCE

The following projects provide an example of the application of wetland ecology on strategic as well as fine scale as well as its implementation into policies and guidelines. (This is not a complete list of projects completed, rather an extract to illustrate diversity);

- Wetland specialist input into the Open Space Management Framework for Linbro Park and Greater Bassonia, City of Johannesburg, 2015
- More than 250 fine scale wetland and ecological assessments in Gauteng, Mpumalanga, KwaZulu Natal, Limpopo and the Western Cape. 2007, ongoing.
- Scoping level assessment to inform a proposed railway line between Swaziland and Richards Bay. April 2013.
- Environmental Control Officer. Management of onsite audit of compliance during the construction of a pedestrian bridge in Zola Park, Soweto, Phase 1 Phase 2 and Phase 3. Commenced in 2010 - 2014.
- Fine scale wetland delineation and functional assessments in Lesotho and Kenya. 2008 and 2009;
- Analysis of wetland/riparian conditions potentially affected by 14 powerline rebuilds in Midrand, Gauteng, as well submission of a General Rehabilitation and Monitoring Plan. May 2013.
- Wetland specialist input into the Environmental Management Plan for the upgrade of the Firgrove Substation, Western Cape. April 2013
- An audit of the wetlands in the City of Johannesburg. Specialist studies as well as project management and integration of independent datasets into a final report. Commenced in August 2007
- Input into the wetland component of the Green Star SA rating system. April 2009;
- A strategic assessment of wetlands in Gauteng to inform the GDACE Regional Environmental Management Framework. June 2008.
- As assessment of wetlands in southern Mozambique. This involved a detailed analysis of the vegetation composition and sensitivity associated with wetlands and swamp forest in order to inform the development layout of a proposed resort. May 2008.
- An assessment of three wetlands in the Highlands of Lesotho. This involved a detailed assessment of the value of the study sites in terms of functionality and rehabilitation opportunities. Integration of the specialist reports socio economic, aquatic, terrestrial and wetland ecology studies into a final synthesis. May 2007.
- Ecological studies on a strategic scale to inform an Environmental Management Framework for the Emakazeni Municipality and an Integrated Environmental Management Program for the Emalahleni Municipality. May and June 2007

Name: RUDI BEZUIDENHOUDT

ID Number 880831 5038 081

Name of Firm: Limosella Consulting

Position: Wetland Specialist



SACNASP Status: Certified Natural Scientist SACNASP Reg. No. 500024/13

EDUCATIONAL QUALIFICATIONS

- BSc Hons (Environmental Science), University of South Africa (ongoing)
- B. Sc (Botany & Zoology), University of South Africa (2008 - 2012)
- Short course in Wetland Rehabilitation Principles, University of the Free State (2012)
- Short course in Tools for Wetland Assessment, Rhodes University (2011)
- Short course in Understanding Environmental Impact Assessment, WESSA (2011)
- Short course in SASS 5, Groundtruth (2012)
- Wetland Seminar, ARC-ISCW & IMCG (2011)
- Introduction to Wetlands Seminar, Gauteng Wetland Forum (2010)
- Biomimicry and Constructed Wetlands Workshop, Golder Associates & Water Research Commission (2011)

KEY EXPERIENCE

▶ Assistant Wetland Specialist

This entails all aspects of scientific investigation associated with a consultancy that focuses on wetland specialist investigations. This includes the following:

- Approximately 70 specialist investigations into wetland and riparian conditions on strategic, as well as fine scale levels in Gauteng, Limpopo, North-West Province Mpumalanga KwaZulu Natal, Western Cape, Eastern Cape & Northern Cape
- Ensuring the scientific integrity of wetland reports including peer review and publications.

▶ Assistant – Wetland and Rehabilitation

This entailed the management of wetland vegetation and rehabilitation related projects in terms of developing proposals, project management, technical investigation and quality control through the following:

▶ Wetland Ecology

Experience in the delineation and functional assessment of wetlands and riparian areas in order to advise proposed development layouts, project management, report writing and quality control.

▶ Environmental Controlling Officer:

Routine inspection of construction sites to ensure compliance with the City's environmental ordinances, the Environmental Management Program and other laws and by-laws associated with development at or near wetland or riparian areas.



-
- Soweto Zola Park 2011-2014

MEMBERSHIPS IN SOCIETIES

- Botanical Society of South African
- SAWS (South African Wetland Society) Founding member
- SACNASP (Certified Natural Scientist)

EMPLOYMENT EXPERIENCE

Wetland Specialist – Limosella Consulting (September 2010 - Ongoing)

Technical Assistant – Afrigis (2008 – 2010)



ABRIDGED CURRICULUM VITAE: GEORGE JOHANNES BREDEKAMP

Born: 10 February 1946 in Johannesburg, South Africa.

Citizenship: South African

Marital status: Married, 1 son, 2 daughters

Present work address

Department of Botany, University of Pretoria, Pretoria, 0002, South Africa

Tel:(27)(12)420-3121 Fax: (27)(12)362 5099

E-Mail: gbredenk@postino.up.ac.za

or

EcoAgent CC

PO Box 25533, Monument Park, 0105, South Africa

Tel and Fax: (27)(12) 346 3180

Cell 082 5767046

E-Mail: george@ecoagent.co.za

Qualifications:

1963 Matriculation Certificate, Kemptonpark High School

1967 B.Sc. University of Pretoria, Botany and Zoology as majors,

1968 B.Sc. Hons. (cum laude) University of Pretoria, Botany.

1969 T.H.E.D. (cum laude) Pretoria Teachers Training College.

1975 M.Sc. University of Pretoria, Plant Ecology .

1982 D.Sc. (Ph.D.) University of Pretoria, Plant Ecology.

Theses: (M.Sc. and D.Sc.) on plant community ecology and wildlife management in nature reserves in South African grassland and savanna.

Professional titles:

- **MSAIE** South African Institute of Ecologists and Environmental Scientists
 - 1989-1990 Council member
- **MGSSA** Grassland Society of Southern Africa
 - 1986 Elected as Sub-editor for the Journal
 - 1986-1989 Serve on the Editorial Board of the Journal
 - - 1990 Organising Committee: International Conference: Meeting Rangeland challenges in Southern Africa
 - 1993 Elected as professional member
- **PrSciNat. 400086/83** South African Council for Natural Scientific Professions **Registration Number**
 - 1993-1997 **Chairman** of the Professional Advisory Committee: Botanical Sciences
 - 1993-1997: **Council Member**
 - 1992-1994: **Publicity Committee**
 - 1994-1997: **Professional Registration Committee**

Professional career:

- Teacher in Biology 1970-1973 in Transvaal Schools
- Lecturer and senior lecturer in Botany 1974-1983 at University of the North
- Associate professor in Plant Ecology 1984-1988 at Potchefstroom University for CHE
- Professor in Plant Ecology 1988-2008 at University of Pretoria.
- 2009 – current Professor Extra-ordinary in the Dept of Plant Science, University of Pretoria
- • Founder and owner of the Professional Ecological Consultancy firms Ecotrust Environmental Services CC and Eco-Agent CC, 1988-present.

Academic career:

• Students:

- Completed post graduate students: M.Sc. 53; Ph.D. 14.
- Presently enrolled post-graduate students: M.Sc. 4; Ph.D. 2.

• Author of:

- 175 scientific papers in refereed journals
- >150 papers at national and international congresses
- >250 scientific (unpublished) reports on environment and natural resources
- 17 popular scientific papers.
- 39 contributions in books

• Editorial Committee of

- South African Journal of Botany,
- Journal Grassland Society of Southern Africa,
- Bulletin of the South African Institute of Ecologists.
- Journal of Applied Vegetation Science.(Sweden)
- Phytocoenologia (Germany)
-

- FRD evaluation category: C2 (=leader in South Africa in the field of Vegetation Science/Plant Ecology)

Membershp:

- International Association of Vegetation Science.
- British Ecological Society
- International Society for Ecology (Intecol)
- Association for the Taxonomic study of the Flora of Tropical Africa (AETFAT).
- South African Association of Botanists (SAAB)
 - 1988-1993 Elected to the **Council** of SAAB.
 - 1989-1990 Elected as **Chairman** of the Northern Transvaal Branch
 - 1990 Elected to the Executive Council as **Vice-President**
 - 1990- Sub-editor Editorial Board of the Journal
 - 1991-1992 Elected as **President** (2-year period)
 - 1993 **Vice-President** and Outgoing President
- Wildlife Management Society of Southern Africa
- Suid-Afrikaanse Akademie vir Wetenskap en Kuns

(=South African Academy for Science and Art).

- Wildlife Society of Southern Africa
 - 1975 - 1988: Member
 - 1975 - 1983: Committee member, Pietersburg Centre
 - 1981 - 1982: **Chairman**, Pietersburg Centre
- Dendrological Society of Southern Africa
 - 1984 - present: Member
 - 1984 - 1988: Committee member, Western Transvaal Branch
 - 1986 - 1988: **Chairman**, Western Transvaal Branch
 - 1987 - 1989: Member, Central Committee (National level)
 - 1990 - 2000: Examination Committee
- Succulent Society of South Africa
 - 1987 - 2000
- Botanical Society of South Africa
 - 2000 – present: Member
 - 2001- 2008: Chairman, Pretoria Branch
 - 2002 – 2006: Chairman, Northern Region Conservation Committee
 - 2002- 2007: Member of Council

Special committees:

- Member of 10 special committees re ecology, botany, rangeland science in South Africa.
- Member of the International Code for Syntaxonomical Nomenclature 1993-present.

Merit awards and research grants:

- 1968 Post graduate merit bursary, CSIR, Pretoria.
- 1977-1979 Research Grant, Committee re Research Development, Dept. of Co-operation and Development, Pretoria.
- 1984-1989 Research Grant, Foundation for Research Development, CSIR, Pretoria.
- 1986-1987 Research Grant, Dept. of Agriculture and Water Supply, Potchefstroom.
- 1990-1997 Research Grant, Dept. of Environmental Affairs & Tourism, Pretoria.
- 1991-present Research Grant, National Research Foundation , Pretoria.
- 1991-1993 Research Grant, Water Research Commission.
- 1999-2003 Research Grant, Water Research Commission.
- 2006 South African Association of Botanists Silver Medal for outstanding contributions to South African Botany

Abroad:

- 1986 Travel Grant, Potchefstroom University for Christian Higher Education, Potchefstroom
Visits to Israel, Italy, Germany, United Kingdom, Portugal.
- 1987 Travel Grant, Potchefstroom University for Christian Higher Education, Potchefstroom.
Visits to Germany, Switzerland, Austria, The Netherlands, United Kingdom.
- 1990 Travel Grant, FRD.
Visit to Japan, Taiwan, Hong-Kong.
- 1991 Travel Grant, FRD.
Visits to Italy, Germany. Switzerland, Austria, France, The Netherlands, United Kingdom.

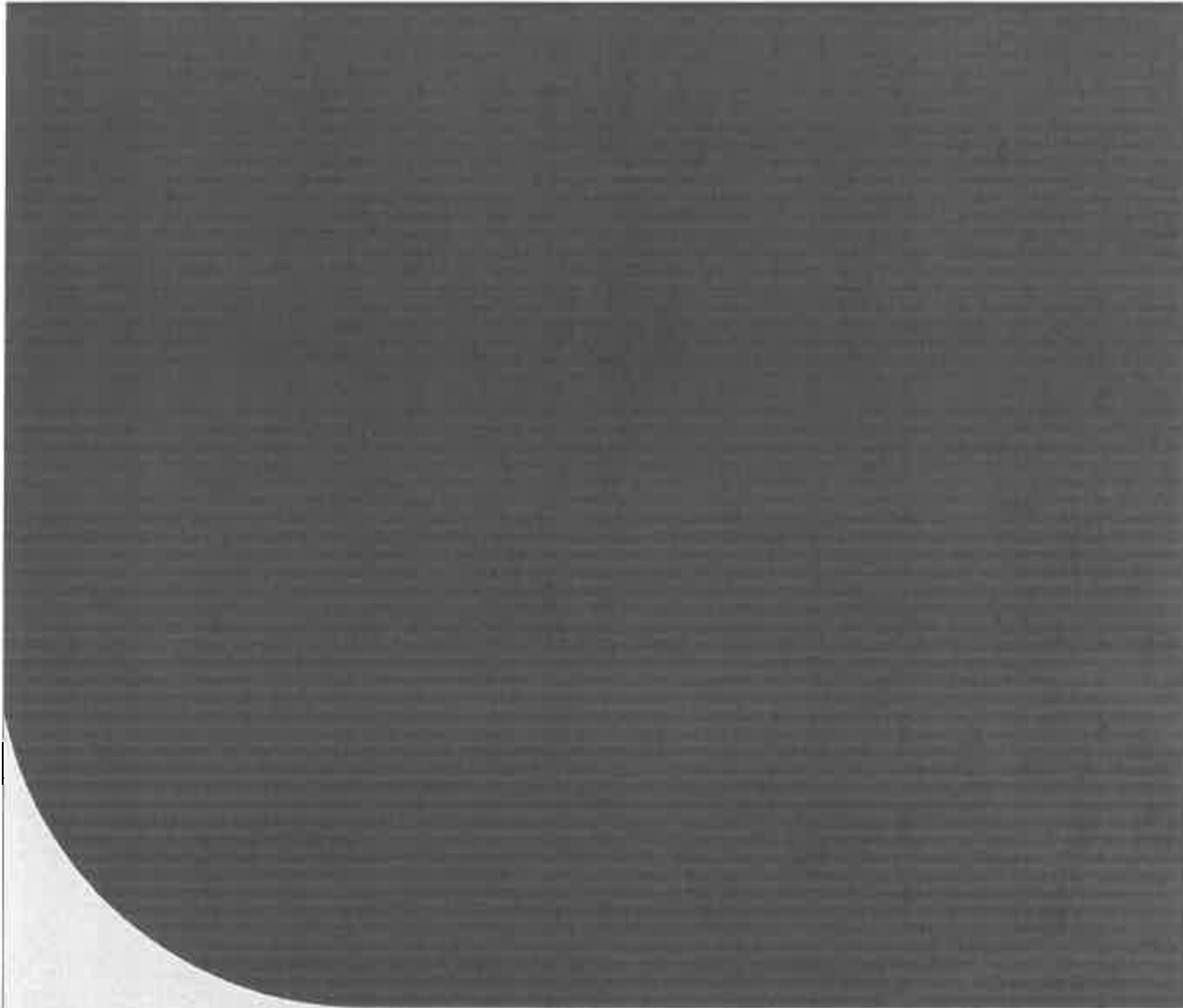
- 1993 Travel Grant, University of Pretoria.
Visits to the USA, Costa Rica, Czech Republic, Austria.
- 1994 Travel Grant FRD.
Visits to Switzerland, The Netherlands, Germany, Czech Republic.
- 1995 Travel Grant FRD, University of Pretoria
Visits to the USA
- 1996 Travel Grant, University of Pretoria
Visit to the UK.
- 1997 Travel Grant University of Pretoria, Visit Czech Republic, Bulgaria
- 1998 Travel Grant, University of Pretoria, Visit Czech Republic, Italy, Sweden
- 1999 Travel Grant, University of Pretoria, Visit Hungary, Spain, USA
- 2000 Travel Grant, University of Pretoria, Visit Poland, Italy, Greece.
- 2001 Travel Grant, NRF, Visit Brazil
- 2006 German Grant Invited lecture in Rinteln, Germany

Consultant

Founder and owner of Ecotrust Environmental Services CC and Eco-Agent CC

Since 1988 >250 reports as consultant on environmental matters, including:

- Game Farm and Nature Reserve planning,
- Environmental Impact Assessments,
- Environmental Management Programme Reports,
- Vegetation Surveys,
- Wildlife Management,
- Veld Condition and Grazing Capacity Assessments,
- Red data analysis (plants and animals).

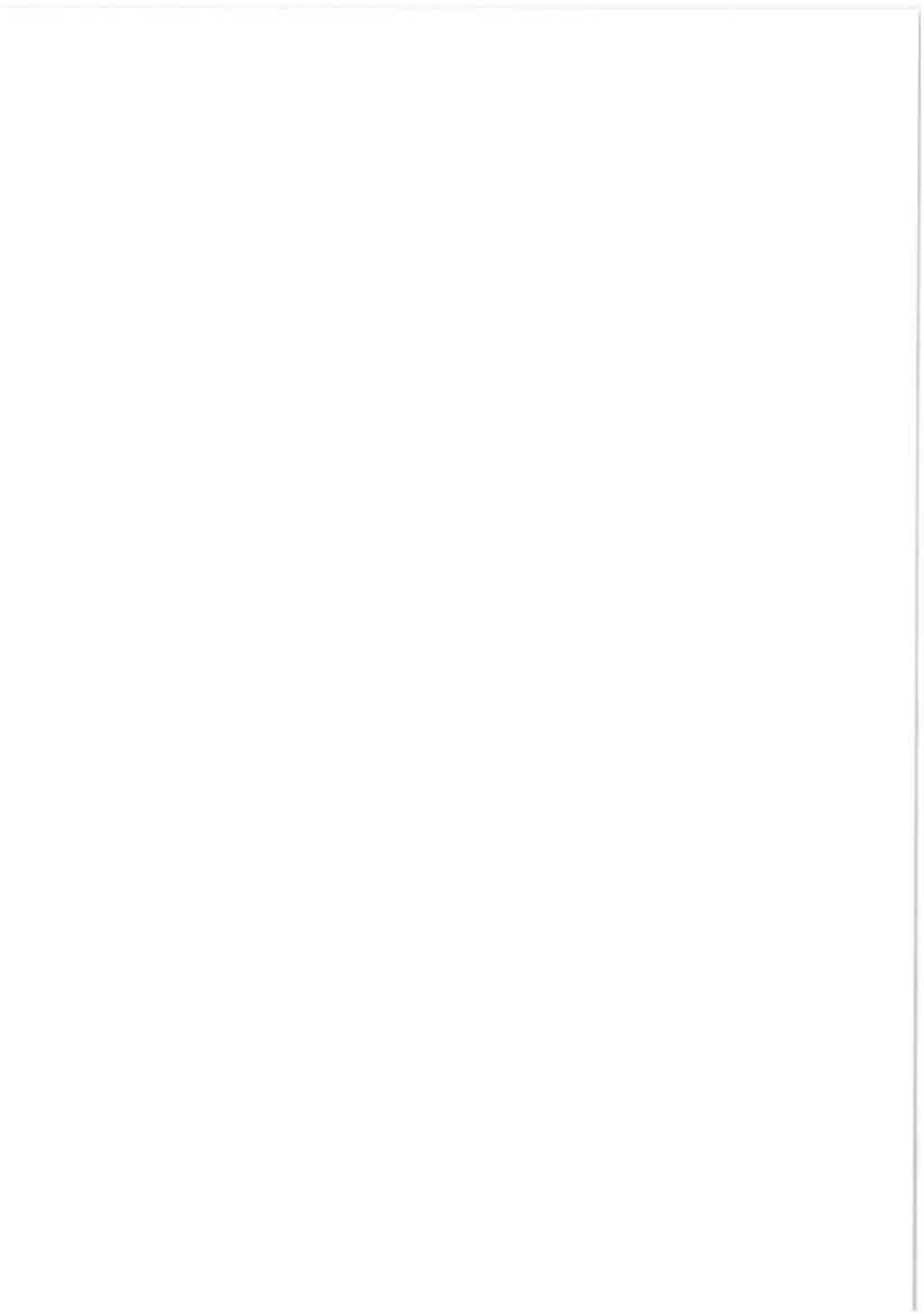


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ABRIDGED CURRICULUM VITAE

ANDREW E. MCKECHNIE

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ACADEMIC QUALIFICATIONS

Ph.D. (Zoology), University of Natal, April 2002
M.Sc. *cum laude* (Zoology), University of Natal, April 1999
B.Sc. (Honours) *cum laude* (Zoology), University of Natal, April 1997
B.Sc. (Majors: Zoology and Botany), University of Natal, April 1996

PROFESSIONAL QUALIFICATIONS

Professional Natural Scientist (*Pr. Sci. Nat.*; Registration number: 400205/05), South African Council for Natural Scientific Professions

TECHNICAL REPORTS [31 in total, only 10 most recent shown]

- McKechnie, A.E.** 2013. *Specialist avifaunal assessment: proposed Frankfort Power Station*. Prepared for Rural Maintenance.
- McKechnie, A.E.** 2013. *Specialist avifaunal assessment: proposed MOGS oil storage facility, Saldanha Bay*. Prepared for Enviro-Insight.
- McKechnie, A.E.** 2012. *Specialist winter avifaunal assessment: proposed Prieska Photovoltaic Plant*. Prepared for Enviro-Insight.
- McKechnie, A.E., Verburgt, L., Chimimba, C.T., Orban, B. and Niemand, L.J.** 2011. *Initial environmental assessment report: proposed Chisanga Falls Hydroelectric Generation Facility*. Prepared for Rural Maintenance.
- McKechnie, A.E., Verburgt, L., Chimimba, C.T., Orban, B. and Niemand, L.J.** 2011. *Initial environmental assessment report: proposed expansion to the Kayelekera Coal Mine, northern Malawi*. Prepared for Rural Maintenance.
- McKechnie, A.E., Verburgt, L., Chimimba, C.T., Orban, B. and Niemand, L.J.** 2010. *Malawi Mini Grids Ecological Assessment Report*. Prepared for Rural Maintenance and Millennium Challenge Corporation.
- McKechnie, A.E.** 2010. *Specialist survey report: assessment of impacts on birds, with particular reference to threatened and near threatened species: proposed subdivision of portion 39, Olifantsvlei 327 IQ, Gauteng*. Prepared for Prism EMS.
- McKechnie, A.E.** 2009. *Specialist survey report: assessment of impacts on birds, with particular reference African Grass-owls, White-bellied Korhaans, African Finfoots and Half-collared Kingfishers: proposed residential development on portion 63, Rietvallei 180 IQ, Roodepoort, Gauteng*. Prepared for Prism EMS.
- McKechnie, A.E.** 2009. *Specialist survey report: Assessment of impacts on birds: proposed wind farm development on Burgershoop 107 and Elandspoort 99 HS, Mpumalanga*. Prepared for K2M Environmental.
- Schwaibold, U., Alexander, G.J., **McKechnie, A.E.**, et al. 2009. *Monitoring recommendations for fauna: AngloGold Ashanti Vaal Reef and West Wits*. Prepared for AngloGold.

PEER-REVIEWED SCIENTIFIC PUBLICATIONS [71 in total, only three most recent shown]

Pietersen, D.W., Symes, C.T., Woodborne, S.W., **McKechnie, A.E.** and Jansen, R. (in press)
Diet and prey selectivity of the specialist myrmecophage, Temminck's ground pangolin (*Smutsia temminckii*). *Journal of Zoology*

- Smit, B. and **McKechnie, A.E.** 2015. Water and energy fluxes during summer in an arid-zone passerine bird. *Ibis* 157(4): 774-786.
- Whitfield, M.C., Smit, B., **McKechnie, A.E.** and Wolf, B.O. 2015. Avian thermoregulation in the heat: scaling of heat tolerance and evaporative cooling capacity in three southern African arid-zone passerines. *Journal of Experimental Biology* 218: 1705-1714.

ARTICLES IN SEMI-POPULAR MAGAZINES [73 in total, only three most recent shown]

- McKechnie, A.E.** 2016. Mercury rising - South Africa's national parks are getting warmer. *African* in press.
- McKechnie, A.E.** 2016. Enormous, enigmatic, extinct – the elephant birds of Madagascar. *African Birdlife* press.
- Noakes, M.J. and **McKechnie, A.E.** 2015 Hot or not? Physiological variation in white-browed sparrowweavers. *African Birdlife* September/October 2015: 12-13.

CONFERENCE PRESENTATIONS [110 in total, only plenary lectures shown]

- McKechnie, A.E.,** Smit, B., Hockey, P.A.R. and Wolf, B.O. Taking the heat: climate change and desert *At: Frontiers in South African Ornithology*, 15-16 March 2012, Port Elizabeth, South Africa.
- McKechnie, A.E.,** Smit, B., Cory Toussaint, D., Boyles, J.G. and Wolf, B.O. Hot birds and bats: approaches to predicting climate change impacts in small endotherms. *At: Joint ZSSA and PARSA Conference*, 10-13 July 2011, Stellenbosch, South Africa.

SCIENTIFIC AWARDS AND RECOGNITION [only last five years shown]

- | | |
|-----------|--|
| 2013 | Finalist: 2012/2013 NSTF/BHP Billiton Awards |
| 2013 | Exceptional Academic Achiever, University of Pretoria |
| 2011 | Founding Member, South Africa Young Academy of Science |
| 2008-2012 | Exceptional Young Researcher Award, University of Pretoria |

STUDENT SUPERVISION

- Current supervision: 4 PhD, 1 BSc(Hons); Current co-supervision: 3 PhD
Past supervision: 1 PhD, 10 MSc, 9 BSc (Hons); Past co-supervision: 1 PhD, 2 MSc, 3 BSc (Hons)

EDITORSHIP

- Associate Editor: *Climate Change Responses*
Associate Editor: *Emu – Austral Ornithology*
Editorial Board: *Journal of Comparative Physiology B*

INVITED SEMINARS AND LECTURES [23 in total, only 3 most recent shown]

- Mitrani Department for Desert Ecology, Ben-Gurion University of the Negev, Israel, August 2015.
School of Biological Sciences, University of Queensland, July 2015
Hawkesbury Institute for the Environment, University of Western Sydney, July 2015.

OTHER CONTRIBUTIONS

- Scientific Advisor, *African Birdlife* magazine
Expert reviewer - South African National Standard SANS 10386 Annex C
Member, Research Ethics and Scientific Committee, National Zoological Gardens
Member, Steering Committee, Endangered Wildlife Trust Threatened Grassland Species Program
Council Member, Zoological Society of Southern Africa [2009-2013]

SOCIETY MEMBERSHIP

American Ornithologists' Union

Australia and New Zealand Society for Comparative Physiology and Biochemistry

Cooper Ornithological Society

International Ornithologists' Union

Society for Integrative and Comparative Biology

Zoological Society of Southern Africa

ABRIDGED CURRIVULUM VITAE VAN WYK:

JACOBUS CASPARUS PETRUS (JACO)

Identity number 680804 5041 08 4

Gender Male

Date of birth 4 August 1968

Nationality South African

Home languages Afrikaans, fluent in English

Postal address P.O. Box 25085, Monument Park, Pretoria, 0105.

Tel no +27 12 347 6502, Cell +27 82 410 8871

E-mail jcpvanwyk@absamail.co.za

Present position Co-Department Head, Environmental Education & Life Sciences, Hoërskool Waterkloof

Consultant Specialist Environmental Assessments, EIAs, writing, photo-recording

Qualifications B.Sc. (U.F.S.) B.Sc. (Hon.) (U.F.S.), H.E.D (U.F.S.), M.Sc. (U.F.S.)

Honours Foundation of Research Development bursary holder

Professional Natural Scientist (Zoology) – S.A Council for Natural Scientific Professions, Registration # 400062/09

Notable Research Contribution In-depth field study of the giant bullfrog

Formal Courses Attended Outcomes Based Education, University of the South Africa (2002)

Introductory Evolution, University of the Witwatersrand (2008)

OBE, GET & FET training, 2002-2008, Education Department

Employment history

2000 – Present Co-Department Head for Environmental Education & Life Sciences, Hoërskool Waterkloof, Pretoria.

1995 - 1999 Teaching Biology (Grades 8 – 12) and Physics / Chemistry (Grades 8 – 9) at the Wilgerivier High School, Free State. Duties included teaching, mid-level management and administration.

July 1994 – Dec 1994 Teaching Botany practical tutorials to 1st year students at the Botany & Zoology Department of the Qwa-Qwa campus of the University of Free State, plant collecting, amphibian research

1993 - 1994 Mammal Research Institute (University of Pretoria) research associate on the Prince Edward Islands: topics field biology and population dynamics of invasive alien rodents, three indigenous seals, invertebrate assemblages, censusing king penguin chicks and lesser sheathbills, and marine pollution

1991 - 1993 Laboratory demonstrator for Zoological and Entomological practical tutorials, and caring for live research material, University of the Free State

1986 - 1990 Wildlife management and eco-guiding, Mt. Everest Game Farm, Harrismith

Professional Achievement **Research:** Author and co-author of 52 scientific publications in peer-reviewed and popular subject journals, and >60 contractual EIA research reports. Extensive field work and laboratory experience in Africa

Public Recognition: Public speaking *inter alia* radio talks, TV appearances

Hobbies: Popular writing, travel, marathon running, climbing (viz Kilimanjaro), photography, biological observations, public speaking.

Curriculum Vitae

BIOGRAPHIC DETAILS

First Names: Michelle Leigh
Last Name: Thompson
Gender: Female
Date of Birth: 19 May 1989
ID Number: 8905190183089
Marital Status: Single
Contact Address: 191 Murray Street, Brooklyn, Pretoria 0181
Cellphone and e-mail: (+27)71 869 9042 mltompson@zoology.up.ac.za
Languages: English, Afrikaans
Drivers Licence: South African Code B, light motor vehicle licence

TERTIARY EDUCATION

2014 - Current **PhD (Zoology).** Department of Zoology and Entomology, University of Pretoria, South Africa. Title: Climate change and arid-zone birds: validation of a behavioural index for assessing species' relative vulnerabilities to rising temperatures. Advisors: Prof Andrew McKechnie, Dr Susan Cunningham.

2012 **MSc (Zoology), cum laude.** Department of Zoology and Entomology, University of Pretoria, South Africa. Title: Influence of solar radiation on heat production capacity and daily heterothermy in energy constrained Eastern rock elephant shrews (*Elephantulus myurus*). Advisors: Prof Andrew McKechnie, Dr Nomakwezi Mzilikazi.

2011 **BSc Honours (Zoology).** Department of Zoology and Entomology, University of Pretoria, South Africa. Title: Relative learning capabilities of benthic sharks. Advisors: Prof Marthan Bester, Ryan Johnson, Adam Johnstone.

2010 **BSc (Zoology).** Department of Zoology and Entomology, University of Pretoria, South Africa.

TEACHING EXPERIENCE

2012 – Current **Teaching assistant.** Department of Zoology and Entomology, University of Pretoria, South Africa.
Courses: Evolutionary Physiology, Ecophysiology, Physiology

2012 – Current **Mentorship Program.** Department of Zoology and Entomology, University of Pretoria, South Africa. Mentoring one final-year undergraduate student per year, teaching lab procedures and maintenance as well as animal maintenance.

2012 – 2014 **Private Tutor.** Highschool level (Grade 10 – 12) Biology, Physical Science.

AWARDS & SCIENTIFIC/SCHOLARLY RECOGNITION

2014 – 2016 DST-NRF Centre of Excellence Bursary (R120 000 p.a.)
2014 Received MSc *cum laude*
2012 – 2014 NRF MSc Free-standing Bursary (R40 000 p.a.)
2010 Subject Merit Bursary

SOCIETIES

2016	Student representative for Department of Zoology and Entomology for the Post-graduate Association for the Natural and Agricultural Sciences (PSANA)
2016	Association of Field Ornithologists
2011, 2015	Golden Key International Honour Society
2011	Zoological Society of South Africa

PEER-REVIEWED SCIENTIFIC PUBLICATIONS

Thompson ML, Mzilikazi N, Bennett N, McKechnie AE. 2015. Solar radiation during rewarming from torpor in elephant shrews: supplementation or substitution of endogenous heat production? *PLoS one* 10, p. e0120442 <http://dx.doi.org/10.1371/journal.pone.0120442>

CONFERENCES

Thompson ML, Cunningham SJ, McKechnie AE. It's cool to be dominant: Social status and thermoregulation in birds. *Learn about Birds*. 10-11 March 2016. Kruger National Park. South Africa.

Thompson ML, Mzilikazi N, Bennett N, McKechnie AE. The Effects of solar radiation on heterothermy and metabolic thermogenesis capacity in the eastern rock elephant shrew, *Elephantulus myurus*. *Zoological Society of South Africa*. 15-17 July 2015. Grahamstown. South Africa.

Thompson ML, Mzilikazi N, Bennett N, McKechnie AE. The Effects of solar radiation on heterothermy and metabolic thermogenesis capacity in the eastern rock elephant shrew, *Elephantulus myurus*. *Physiology and Pharmacology of Temperature Regulation*. 7-12 September 2014. Kruger National Park. South Africa

OTHER CONTRIBUTIONS

Reviewer for *African Zoology*

- Taylor, M. R., F. Peacock, and R. M. Wanless. 2015. The 2015 Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland. BirdLife South Africa, Johannesburg, South Africa.
- Taylor, P.J. 1998. The Smaller Mammals of KwaZulu-Natal. University of Natal Press: Pietermaritzburg.
- Taylor, P.J. 2000. Bats of Southern Africa. University of Natal Press: Pietermaritzburg.
- Thiollay, J.-M. 1999. Responses of an avian community to rain forest degradation. *Biodiversity and Conservation* 8:513-534.
- Van Niekerk, J. 2015. Environmental Guidelines and Laws for Beef Cattle Feedlots in South Africa. (With a quick guide to common transgressions and relevant legislation in Appendix A). South African Feedlot Association (SAFA).
- Van Schalkwyk, M. 2007. National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004); Publication of Lists of Critically Endangered, Endangered, Vulnerable and Protected Species.
- Van Wyk, J.C.P., Kok, D.J. & Du Preez, L.H. 1992. Growth and behaviour of tadpoles and juveniles of the African Bullfrog, *Pyxicephalus adspersus* Tschudi 1838. *J Herp. Assoc. Afr.* 40:56.
- Weermans, J., and R. J. van Aarde. 2003. Roads as ecological edges for rehabilitating coastal dune assemblages in northern KwaZulu-Natal, South Africa. *Restoration Ecology* 11:43-49.

12. CURRICULUM VITAE

RÉSUMÉ

IGNATIUS LOURENS RAUTENBACH Ph.D., Prof. Nat. Sci.
Independent Environmental Consultant – MAMMALOGY.

Identity Number 421201 5012 00 5
Gender Male
Date of Birth 1 December 1942; born Germiston, RSA
Nationality South African
Home Languages Bilingual (English & Afrikaans)
Postal Address 45 Helgaard Street, Kilner Park, Pretoria, RSA 0186.
 Tel no +27 12 3334112, Cell +27 082 3351288.
 E-mail naasrauten@mweb.co.za

Former Position Director: Planning, Northern Flagship Institute
Present Position Consultant – Specialist, Environmental Impact Assessments (Applied research);
 Photographing microstock for four agencies

Qualifications **B.Sc.** (UP) 1966; **T.H.E.D** (Pta TTC) 1967, **M.Sc.** (UP) 1971, **Ph.D.** (Un. Natal) 1971

Professional Honours
 1. Professional Natural Scientist (Zoology) – S.A Council for Natural Scientific Professions, Registration # 400300/05
 2. Fellow of the Photographic Society of South Africa
 3. Master photographer at club level
 4. Honorary life member of the S.A. Wildlife Management Association.

Notable Research Contribution In-depth survey of the Mammals of the Transvaal. 1982. 211pp. *Ecoplan Monograph* 1.
Notable Literary Contribution Rautenbach, Naas & Annalene Rautenbach. 2008. *Photography for Focused Beginners*. 302pp with 250 images. Green Door Studio, Pretoria.
Formal Courses Attended Computer Literacy, Project Management, Contract Design, Senior Management

Employment history

May 2001 - Present Self-employed, collaborator with Eco-Agent CC Ecological Consultants as well as Galago Environmental [environmental impact assessments], technical writing, and photography

April 1999 - August 2001 Director: Planning, Northern Flagship Institution

Jan 1991 - April 1999 Executive Director, Transvaal Museum

July 1967 - Dec 1990 Curator (in charge) of the Division of Mammalogy, Transvaal Museum. Promoted to Principal Scientist rank as of June 1985

March - June 1967 Research student at the Mammal Research Institute of the Zoology Department, University of Pretoria

July 1966, Nov 1966 - Febr 1967 Member of the Smithsonian Institution's field teams collectively partaking in the 'African Mammal Project'

1966: Part-time research assistant to Prof. J. Meester, University of Pretoria

1962 - 1965 Temporary assistant during University holidays in the Nematology laboratories, Agricultural Technical Services

1991 - 2002 Founder member and non-executive director of the Board of Trustees of

1993 - 2001 Founder member and Trustee of the privatised Museums Pension Fund

1997 - 2001 Non-executive director of the Tswaing Section 21 Company

Professional Achievements

Managed a research institute of 125 members of staff. Solicited numerous grants totalling \geq R1 000 000. Initiated and overseen building programmes of R30 million at the Transvaal Museum. Conceptualised and managed 12 display programmes.

Research: Author and co-author of 85 scientific publications re mammalogy in peer reviewed subject journals, 18 popular articles, 10 books, and >400 contractual EIA research reports. Extensive field work and laboratory experience in Africa, Europe, USA, Alaska, Brazil and Mexico. B-rated by FRD as scientist of international status 1983 – 1995.

Students: Additional to museum manager duties, co-supervised 5 B.Sc. (Hons.), 2 M.Sc. and 2 Ph.D. students.

Public Recognition:

Public speaking *inter alia* Enrichment Lecturer on board the 6* SS *Silver Wind*, radio talks, TV appearances.

Hobbies

Technical writing, photography, field logistics, biological observations, wood working, cooking, designs.

Personal Evaluation

I am goal-orientated, expecting fellow workers and associates to share this trait. I am an extrovert, sensitive to amicable interpersonal relations. I have a wide interest span ranging from zoological consulting, photography, cooking, sport, news, gardening and out of necessity, DIY. To compensate for my less than perfect memory, I lead a structured and organised life to deal with the detail of a variety of interests. Often to the chagrin to people close to me, I have an inclination to "Think Out of the Box".

CURRICULUM VITAE

Name: Mader Johan van den Berg
Qualification: Qualified Landscape Architect
Date of Birth: 17 September 1980
ID No: 800917 5002 081
Nationality: South African
Marital Status: Married
Languages: Afrikaans (mother tongue), English

CONTACT DETAILS

PO Box: 14956
Zuurfontein
1912
South Africa

Tel nr: +2776 169 1435
E-mail: i-scape@vodamail.co.za

EDUCATIONAL QUALIFICATIONS

- ML(Prof) (Landscape Architecture), University of Pretoria, Pretoria (2004)
- B.SC Hons (Landscape Architecture), University of Pretoria, Pretoria (2003)
- B.Sc, (Landscape Architecture), University of Pretoria, Pretoria (2002)

PREVIOUS EMPLOYMENT EXPERIENCE

- Employed by I-Dot Design Studio CC from 2010 providing Landscape and Architectural services;
- Self Employed from January 2007 – March 2010;
- Employed as a Qualified Landscape Architect at Strategic Environmental Focus (Pty) Ltd (Feb 2005 – Dec 2006). Specialist responsibilities entailed:
 - Visual Impact Assessment
 - Landscape Design
 - Landscape Rehabilitation & Environmental Planning
 - Invader Vegetation Eradication Programming;
- Research assistant on the subject of human's visual perception with regards to mine Tailings Disposal Facilities – University of Pretoria (2004).

KEY COMPETENCIES

- Visual Impact Assessment (VIA)
- Rehabilitation planning for disturbed surfaces
- Environmental Planning
- Landscape Design
- Computer Aided Design (CAD)
- VIA related GIS data interpretation
- Graphic Design

SPECIALIST WORKING EXPERIENCE

VISUAL IMPACT ASSESSMENT (2012-2015)

- Eskom Holdings Ltd, Visual Impact Assessment report for the Plaatjies Substation and rebuild of a power line in Roodepoort, Gauteng. – Envirolution Consulting (2015);
- Eskom Holdings Ltd, Visual Impact Assessment report for the Kgabalatsane – Wesglass Substations and associated loop-in and loop-out power lines in the Winterveld area, City of Tswane. – Envirolution Consulting (2015);
- Malelane Safari Resort Investments (Pty) Ltd, Re-assessment of the Visual Impact Assessment for the proposed Malelane Safari Lodge in the Kruger National Park, Mpumalanga. – NuLeaf Planning and Environmental (Pty) Ltd (2015);
- Eskom Holdings Ltd, Visual Impact Assessment report for the Rhombus - Lethabong Substation and 88kV line, Rustenburg Municipality, NorthWest Province. – Envirolution Consulting (2014);
- City of Cape Town, Visual Impact Assessment report for the Closure of the Waterkloof Landfill Site in Somerset West, Western Cape Province. – Mott MacDonald PDNA (2014);
- Eskom Holdings Ltd, Visual Impact Assessment report for the proposed Dipompong, Tswaing Substations and 132kV distribution line, Northern Tshwane, Gauteng. – Envirolution Consulting (2014);
- Thaba Ya Batswana Eco-Tourism, Visual Impact Assessment report for the proposed Stone River's Arch Mixed-Use Development in the southern part of the City of Johannesburg – Gauteng Province. – GladAfrica Environmental Management (Pty) (2013);
- Eskom Holdings Ltd, Visual Impact Assessment report for the proposed Dieplsoot East 132kV servitude and Bluehills Substation, City of Johannesburg Municipality, Gauteng. – Envirolution Consulting (2013);
- Shell South Arica Marketing (Pty) Ltd, Visual Impact Assessment report for the proposed Ngwaabe Shell Service Station, Ga Masha Village, Limpopo. – Environmental Resources Magagement (2012);
- Cradle of Malelane (Pty) Ltd, Visual Impact Assessment report for the proposed Malelane Safari Resort in the Kruger National Park (2012);
- Eskom Holdings Ltd, Visual Impact Assessment report for the proposed proposed establishment of the Anderson 400kV Substation, Broederstroom, North West Province. – Nema Consulting CC (2012);
- Eskom Holdings Ltd, Visual Impact Assessment report for the proposed establishment of the Ntshona Substation and 132kV power line, West Rand District Municipality, Gauteng. – Envirolution Consulting (2012);
- Eskom Holdings Ltd, Visual Impact Assessment report for the proposed Droërivier – Aberdeen 400kV Servitude, Beaufort West, Western Cape Province. – Envirolution Consulting (2012);

- ABC Solar (Pty) Ltd, Visual Impact Assessment report for the proposed 75MWp photovoltaic power plant and ancillary infrastructure on a portion of the remaining extent of erf 1, Prieska, Northern Cape. Lead consultant – Kala-hari Survey Solutions and Products (2012);
- Eskom Holdings Ltd, Visual Impact Assessment report for the proposed Kookfontein – Jaguar 88kV distribution line from Meyerton to Orangefarm, Gauteng. Lead consultant – Lead consultant Envirovolution Consulting (2012);
- Eskom Holdings Ltd, Visual Impact Assessment report for the realignment of approximately 20 km of the proposed Marathon 400kV transmission line between Witrivier and Nelspruit, Mpumalanga. Lead consultant – BKS Pty (Ltd) (2012);

LANDSCAPE REHABILITATION

Mine Closure Cost Quantification:

- Platinum Australia – Kalplats, for the quantification of closure costs as part of a Bankable Feasibility Study based on the Department of Minerals and Energy closure quantum determination best practice guidelines and in association with Arbol Consulting. Located near Stella, North West Province (2008);
- Xtrata Alloys – Thorncliffe and Helena Chrome mines, for the quantification of closure costs of both active mines based on the Department of Minerals and Energy closure quantum determination best practice guidelines and in association with Arbol Consulting. Located between Roosenekal and Steelpoort, Limpopo Province (2007);

Alien Vegetation Management Program:

- Vini's International Trading (Pty) Ltd, for the proposed establishment of the township Paulshof ext. 78, on holding 6 Airdlin Agricultural Holdings (A.H.), Sunninghill, Johannesburg (2006);
- Zuara Investments, For the establishment of the township Barbeque Downs ext. 29 Bothasfontein 408-JR, Midrand (2006);

Resource Management and Planning:

- Department of Water Affairs and Forestry (DWAF), Inyaka Dam Resource Management Plan, Bushbuck Ridge, Mpumalanga (2006):
 - Source baseline data and information;
 - Compile sections of the Encumbrance Report;
 - Attend Technical Task Team meetings; and
 - Compile sections of the Draft Resource Management Plan;

Environmental Management Planning:

- City of uMhlathuze, Relocation of Biodiversity Assets and Rehabilitation, KwaZulu Natal, Richards Bay, (2006):
 - Compile section of the Environmental Management Plan (EMP);
 - Compile Tender Specifications;

Landscape Rehabilitation:

- Ceramic Industries Ltd; Re-vegetation and implementation of a 1 ha disturbed area at the Pegasus Export Facility, Vereeniging, Gauteng (2008);
- Ceramic Industries Ltd, Landscape rehabilitation (design and supervision) of the existing Steelpark clay quarry, Vereeniging, Gauteng (2005-2006);

Landscape Rehabilitation:

- Highveld Crushers, Landscape rehabilitation program for the proposed expansion of the stone aggregate quarry, Standerton, Mpumalanga (2006);

LANDSCAPE DESIGN

Landscape Site Development Plan:

- Gateway Capital Limited, Landscape Site Development Plan and Installation Management of Brinant Head Office Complex – 366 Rubenstein Road Moreletta Park (2009);
- Gateway Capital Limited, Landscape Site Development Plan and Installation Management of office complex – 324 Rubenstein Road Moreletta Park (2009);
- Gateway Capital Limited, Landscape Site Development Plan for Delta Park Office Complex – 366 Rubenstein Road Moreletta Park (2009);
- Emerald Auto, Landscape Site Development Plan for the upgrade of Emerald Auto Cnr of HF Verwoerd Street and Swemmer Street, Gezina (2008).

Landscape Master Plan Development:

- Helgardt Muller, Landscape Master Plan Development, Sketch plan development and implementation management for Wonderfontein 350 security complex, Sasolburg, Free State (2013-2015);
- Ceramic Industries Ltd, Landscape design and Implementation for Pegasus Canteen and Laboratory, Vereeniging, Gauteng (2010);
- The Church of Jesus Christ of Latter-Day Saints, Landscape Design and project management of new church facility in C.R. Swart Drive, Randpark Ridge (2010-2011);
- Ceramic Industries Ltd, Landscape design and Implementation for Ceramic Exports, Vereeniging, Gauteng (2008);
- Burrie Smit Developers, Cashan X7 Residential Development on the Remainder of Portion 43 of the farm Waterval 306JQ in Rustenburg, North West Province (2006);

Landscape Development Guidelines:

- Mr. Howard Walker, The Proposed Establishment of a Resort on Portion 38 of the farm Lunsklip 105JT (2006);

PUBLICATIONS

- Van Deventer, H and Van den Berg, M. 2006. *Using GIS visibility analysis in visual impact assessments*. Position IT July/Aug 2006. pp. 33-35.
- Sustainable Tailings Impoundment Landform Design: Rational Decision Making for the Sustainable Configuration of Tailings Impoundments (Paper and presentation at Camber of Mines Conference, 2005)

CURRICULUM VITAE
Johan Abraham van Schalkwyk

PERSONAL PARTICULARS

Date of birth: 14 April 1952
Identity number: 520414 5099 08 4
Marital status: Married; one daughter
Nationality: South African

CURRENT POSITION

Head of Research: National Cultural History Museum.

CURRENT ADDRESS

Work:
P O Box 28088, Sunnyside, 0132
Tel: (012) 324 6082; Fax: (012) 328 5173; E-mail: johnny@nfi.org.za

Home:
62 Coetzer Ave, Monument Park, Pretoria, 0181
Tel: (012) 347 7270

ACADEMIC QUALIFICATIONS

BA. - 1976
BA. (Hons.) Archaeology - 1978 - (with distinction)
Post Graduate Diploma in Museum Science - 1979
BA. (Hons.) Anthropology - 1981 - (with distinction)
MA. Anthropology - 1985
D. Lit et Phil (Anthropology) - 1996

NON ACADEMIC QUALIFICATIONS

Gencor Management Course - 1986
Gencor Management Course - Advance Course - 1987
12th HSRC-School in Research Methodology - July 1990
Dept. of Education and Training Management Course - June 1992
Social Assessment Professional Development Course - 1994
Integrated Environmental Management Course, UCT - 1994

EMPLOYMENT RECORD

1978 - present: National Cultural History Museum, Pretoria
1976 - 1977: Archaeology Department, University of Pretoria

PROFESSIONAL EXPERIENCE

- 1992 - present: Chief researcher: Head of Department of Research. Manage an average of seven researchers in this department and supervise them in their various research projects. Also do various projects relating to Anthropology and Archaeology in Limpopo Province, Mpumalanga, North West Province and Gauteng. Am also in charge of the Museum's section for Heritage Impact Assessment projects. Have done work in this regard in Limpopo Province, Gauteng, Mpumalanga, North West Province, Botswana, Lesotho and Swaziland. Curated various exhibitions at different museums.
- 1978 - 1991: Curator of the Anthropological Department of the Museum. Carried out extensive fieldwork in both anthropology and archaeology and HIA projects all over Mpumalanga, Limpopo Province and Gauteng. Curated various exhibitions at different museums.
- 1976 - 1977: Assistant researcher responsible for excavations at various sites in Limpopo Province and Mpumalanga.

PROFESSIONAL MEMBERSHIP

- Member, Association for Anthropologists in Southern Africa
Member, South African Association of Archaeologists
Member, Southern African Museums Association
Member, International Association for Impact Assessment, South African Chapter
Member, African Studies Association, Smithsonian Institute, Washington
Member, African Studies Association of Australasia and the Pacific, Perth

ADVISORY POSITIONS

1. Honorary curator, National Monuments Council: 1984-1989.
2. Member of the "Steering committee for the promotion of the arts in the Greater Pretoria": 1992-1994.
3. Member, Board of Directors of the Bakgatla ba Kgafela Heritage Centre: 1997-2000
4. Member, CRM section of the South African Association of Archaeologists: 1997-1998.
5. Member of the Archaeological Standards Generating Body: 2002-

COMMUNITY DEVELOPMENT

1. Assisting the Bakgatla -ba-Kgafela people, located at Saulspoort, North West Province, to establish a Community Heritage Centre
2. Informal training of students from formerly disadvantaged communities in aspects of heritage management, museology, etc. The main thrust of this action is to give them some vocational training to prepare them for future job opportunities.
3. Assisting the Hananwa and Bakoni бага Matlala Tribal Authorities with conservation of sites of cultural significance through programmes of sustainable tourism development.
4. Assisting the Mlambo Tribal Authority with development of programme for cultural tourism.
5. Assisting the Ndebele of Manala with documentation and development of sites of cultural significance for tourism.

LECTURING

Present on regular basis lectures at professional associations - a complete list can be supplied on request.

Act as guest lecture for

- museology at the University of Pretoria;

PUBLICATIONS

Published more than fifty papers on topics relating to anthropology, archaeology, history and impact assessment in various scientific journals - a complete list can be supplied on request.

TEMPORARY EXHIBITS

Curated a total of 14 temporary exhibits on diverse topics. A complete list can be supplied on request.

AWARDS AND GRANTS

1. Hanisch Book Prize for the best final year Archaeology student, University of Pretoria - 1976.
2. Special merit award, National Cultural History Museum - 1986.
3. Special merit award, National Cultural History Museum - 1991.
4. Grant by the Department of Arts, Culture, Science and Technology, to visit the various African countries to study museums, sites and cultural programmes - 1993.
5. Grant by the National Parks Service, USA, to visit the United States of America to study museums, sites, cultural programmes and impact assessment programmes - 1998.
6. Research grant by the Department of Arts, Culture, Science and Technology - 1999.
7. Grant by the Cultural Affairs office of the United States Embassy to attend a conference in Charleston, West Virginia - 2000.
8. Grant by the National Research Foundation to develop guidelines for community based tourism projects - 2001.

CONTRACT WORK

1. Did research (anthropological, archaeological and historical) and collecting of museum material for various museums and institutions, including:
Cultural History Museum, Cape Town; Anthropology Museum, Hamburg (Germany); Royal Academy of Art, London; Johannesburg Art Gallery.
2. Did more than 180 impact assessments (archaeological, anthropological and social) for various departments and companies. Projects include roads, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments. Clients include the following:
Pretoria City Council; AMCOAL; Anglo-Alpha; Africon; CSIR; Conradie, Müller & Associates, Architects; Dept. of Environmental Affairs & Tourism; Akasia City Council; Walmsley Environmental Consultants; HSRC; Rustenburg Platinum Mines; Digby Wells & Associates; Seneque, Maughan-Brown, SWK; Consultburo; Bruinette, Kruger & Stoffberg, Consulting Engineers; Danie Joubert & Associates; Corporate Image; Western Platinum; Environmental Impact Management Services (EIMS); Strategic Environmental Focus; Oryx Environmental; Loxton, Venn & Associates; Ekokonsult Inc.; Afrosearch Index; Gouws Uys & White; Booz-Allen & Hamilton (SA) Ltd; Midrand Metropolitan Council; GLMC, Naledi Development.
3. Am also involved with the development of sites of cultural significance as tourist attractions. These include sites around Pretoria, in North West Province, Limpopo Province and Lesotho.

NON-PROFESSIONAL EXPERIENCE

Is currently also responsible for editorial work with regard to:

- Editor of the journal **Research by the National Cultural History Museum.**
- Editorial board member for **Southern African Field Archaeology**

Personal Details

Surname : Du Toit
Names : Hein
Date of Birth : 12 February 1972
Nationality : RSA
Profession : Development Economist & Real Estate Analyst

Key Qualifications



Hein du Toit. Hein du Toit is the Managing Director and founding member of DEMACON Market Studies. Hein is a specialist development economist and expert real estate analyst. He obtained a degree in Town and Regional Planning (*Cum Laude*) at the University of Pretoria in 1994 and a Masters Degree (MSc) in real estate market studies in 2002 (*Cum Laude*). He has also completed

specialist courses in, *inter alia*, Cluster Development for Cluster Practitioners (1999) and Shopping Centre Management – the Certificate in Shopping Centre Management (CSCM) in 2005 (*Cum Laude*). Hein is in process of reading his PhD in real estate market studies and impact modelling techniques. His research has been published in, *inter alia*, the *South African Journal of Economic and Management Sciences*. Hein was also invited to read a paper on his research at the International Real Estate Conference in Brisbane in January 2003. He has also been invited as presenter to the South African Council of Shopping Centres' Research Conference. He has successfully completed a number of certificate courses. Hein has 21 years field related experience. He is a member of the SA Property Owners Association, SA Council of Shopping Centres and SA Planning Institution and South African Research and Innovation Management Association. He has been extensively involved in real estate and economic market studies both locally and beyond SA borders, including Swaziland, Lesotho, Angola, Botswana, Burundi, Central African Republic, Mozambique, Namibia, People's Republic of China, Kenya, Tanzania, Uganda and Zambia. His fields of expertise include, *inter alia*, real estate market studies, urban and rural economics, as well as economic and fiscal impact assessments. His client base includes, *inter alia*, SA's leading commercial banks, listed funds, private funds, investors and developers, advocates' chambers, attorneys, economic development agencies, all tiers of government (national, provincial, metropolitan/local) as well as parastatals, etc. Hein is part-time lecturer and is periodically invited to serve as external examiner.

Hein prides himself in providing sound, objective, expert advice and in developing, maintaining and growing professional client relations. As such, he is an asset to any client, whether in an individual capacity or as part of a multidisciplinary project team.

Expertise

- ✓ Real estate mixed use market studies (human settlements, office sector, logistics, industrial, warehousing & distribution, tourism, healthcare, educational, etc.)
- ✓ Retail studies
- ✓ Specialist Economic Assessments & Strategies
- ✓ Economic and Fiscal Impact Assessments
- ✓ Socio-economic studies and surveys
- ✓ Economic sector studies
- ✓ Cluster Analyses
- ✓ Demand & supply modelling
- ✓ Urban renewal programmes
- ✓ Investment strategies
- ✓ Business planning and consulting

Academic Qualifications

Institution (Date from – Date to)	Degree(s) or Diploma(s) or Certificate(s) obtained:
University of Pretoria (<i>Cum Laude</i>), 1991 – 1994	BTRP
University of Pretoria (<i>Cum Laude</i>), 1999 – 2002	MSc (Real Estate)
University of Pretoria in association with SAPOA, 2005 (<i>Cum Laude</i>)	Certificate in Shopping Centre Management (CSCM)
University of Pretoria (2006, in process – <i>with interruptions</i>)	PhD (Real Estate)

MSC Dissertation: *Appraisal of the Fischer-DiPasquale-Wheaton (FDW) Real Estate Model and Development of an Integrated Property and Asset Market Model (IPAMM)*. Hein was invited to read a paper on his dissertation at the **International Real Estate Conference in Brisbane** in January 2003. This paper was published in the **South African Journal of Economic and Management Sciences**.

PhD Thesis: *Advanced Real Estate Market Potential & Impact Modelling Techniques (in process)*

In addition to the above, Hein completed an **Industrial Cluster Practitioners Course** in 1999. In subsequent years, he was primarily responsible for industrial and related real estate research at a firm of macro economists, where he was a partner – before starting up **DEMACON**.

Hein is a member of the **South African Property Owners' Association (SAPOA)**, the **South African Council of Shopping Centres (SACSC)**, **South African Planning Institution (SAPI)** and the **South African Research and Innovation Management Association (SARIMA)**.

Condensed list of Project Experience

SPECIALIST ECONOMIC STUDIES / STRATEGIES / PLANS

- ✓ JPC Land Strategy Market Analysis
- ✓ Ekurhuleni Capital Investment Framework (CIF) & modelling
- ✓ Mpumalanga Spatial Development Framework Economic and Market Study
- ✓ North West Spatial Development Framework Economic and Market Study
- ✓ Ndwedwe Regional Framework Market Study
- ✓ R21 / Albertina Sisulu Corridor LSDF Economic and Market Study
- ✓ University of Pretoria Spatial Development Framework Economic and Market Study
- ✓ Westgate Station Spatial Development Framework Economic and Market Study
- ✓ Urban Development Zone (UDZ) Tax Incentive Scheme appraisal
- ✓ Timbali Floriculture and Nutraceutical Technology Incubator Business Plan & Market Analysis (European Union Funds)
- ✓ Commercial Helicopter Manufacturing Market Analysis and Business Plan
- ✓ City of Johannesburg Sustainable Human Settlements and Urbanisation Plan
- ✓ City of Johannesburg Corridor Plans
- ✓ City of Johannesburg Sector Cluster Analyses
- ✓ Mbombela Investment Strategy, including Cluster Analyses & Strategies
- ✓ Economic respective assessments for 13 Neighbourhood Development Partnership Grant Programmes (NDPG), National Treasury including City of Tshwane, Polokwane, Mokopane, Mhluzi, Bushbuckridge, Zeerust (Ikageng), Matlosana, Nsikasi, Galeshewe, Tzaneen.
- ✓ Pickitup Site Relocation Study
- ✓ Sol Plaatjie LED Review
- ✓ Zeerust Socio-Economic Sector Analysis and Development Plan – Neighbourhood Development Programme
- ✓ Nelspruit CBD Renewal Plan (2000 & 2005)
- ✓ George CBD Renewal Plan
- ✓ Mbombela Economic Development Agency Establishment Business Plan
- ✓ Braamfontein Economic Redevelopment Plan
- ✓ Bekkersdal Urban Renewal Programme
- ✓ Winterveld Urban Renewal Programme
- ✓ Evaton Urban Renewal Programme
- ✓ Motherwell Urban Renewal Programme

RESIDENTIAL & HOUSING PROJECTS

- ✓ Ellaton Social Housing Market Study (SHRA)
- ✓ Flamwood Social Housing Market Study
- ✓ Sunnyside Social Housing Market Study
- ✓ Chantelle Social Housing Market Study
- ✓ Devland Social Housing Market Study
- ✓ Turffontein Social Housing Market Study (JOSHCO)
- ✓ Lombardy East Social Housing Market Study (JOSHCO)
- ✓ Arcadia Timberlands Social Housing Market Study
- ✓ Tshwane CBD Rental Housing Market Study

- ✓ Eye of Africa Golf Estate
- ✓ Serengeti Golf Estate
- ✓ Shayamoya Coastal & Forest Estate
- ✓ Chief Albert Luthuli Integrated Human Settlement Market Study
- ✓ Cosmo City Integrated Human Settlement Market Study
- ✓ Lufhereng Integrated Human Settlement Market Study
- ✓ Woodmead (KZN) Mixed Typology Housing Project
- ✓ Hyde Park Market Study
- ✓ Rocky Park Mixed Typology Housing Development

INDUSTRIAL AND IDZ/SEZ STUDIES

- ✓ JIA (now ORTIA) Industrial Development Zone Study and Industrial Cluster Analysis (H. du Toit)
- ✓ R21 / Albertina Sisulu Development Industrial Corridor Economic Development Plan & Impact Assessment
- ✓ Mafikeng Freight Transport Strategy, Passenger Rail & Rail Freight Plan & Feasibility Study for the Development of a Freight Hub at Mafikeng Airport
- ✓ Dube TradePort Economic & Market Study
- ✓ SIP2 Strategic Corridor Plan Economic & Market Study
- ✓ Richards' Bay IDZ Study – land demand and Sectoral forecasts
- ✓ Richards' Bay IDZ/SEZ Marketing Strategy
- ✓ Limpopo Eco-Industrial Analysis and Gas Exploration Cluster Analyses
- ✓ Iscor Flat Steel Products Industrial Market Analysis
- ✓ Saldanha IDZ Market Study – Cluster Analysis & Investment Strategy
- ✓ East London IDZ Business Plans – various
- ✓ National Manganese Metals Industrial Market Study and Strategy
- ✓ Kings Estate Industrial Market Analysis
- ✓ Mbombela Economic Development Strategy and Industrial Cluster Analyses
- ✓ Limpopo (Northern Province) Industrial Strategy
- ✓ Eastern Gauteng Regional Economic and Industrial Development Strategy
- ✓ JIA (now ORTIA) IDZ Industrial Study and Strategy
- ✓ Ekurhuleni Aerotropolis Market Study and Strategy – incl. Rhodesfield Aero City Economic Assessment & Plan

TRANSPORT, INFRASTRUCTURE AND RELATED PROJECTS

- ✓ Moloto Rail Demand Study and Economic Impact Assessment
- ✓ N3 De Beers Pass By-Pass Economic Impact Assessment
- ✓ Ermelo Ring Road Economic Impact Assessment
- ✓ Johannesburg BRT Economic Assessment & Plan (JDA)
- ✓ Westgate Station Economic Assessment & Plan (JDA)
- ✓ Masa-Selemo Power Project Economic Impact Assessment (Eskom)
- ✓ Epsilon Power Station Economic Impact Assessment (Eskom)
- ✓ Nkomati Power lines Economic Impact Assessment (Eskom)
- ✓ Gautrain – various Station alignment and realignment economic & real estate impact assessments (Bombela / Iliso Consulting)

- ✓ Rainbow Junction Market Study & Economic & Fiscal Impact Assessments – input to bulk infrastructure contribution apportionments (RJ Development Company / City of Tshwane)
- ✓ Rhodesfield Station Precinct Plan – input to the Aerotropolis Concept (Ekurhuleni Metro)

NEIGHBOURHOOD DEVELOPMENT PARTNERSHIP GRANT – ECONOMIC ASSESSMENTS

- ✓ Tsosoloso Tsosoloso NDPG Economic Assessment & Plan
- ✓ Ba-Phalaborwa Township Renewal Strategy Economic Assessment
- ✓ Polokwane NDPG Economic Assessment & Plan
- ✓ Mokopane / Mahwelereng NDPG Economic Assessment & Plan
- ✓ Matlosana NDPG Economic Assessment & Plan
- ✓ Bushbuckridge NDPG Economic Assessment & Plan
- ✓ Nsikasi NDPG Economic Assessment & Plan
- ✓ Ikageleng NDPG Economic Assessment & Plan
- ✓ Kanyamazane NDPG Economic Assessment & Plan
- ✓ Swalala NDPG Economic Assessment & Plan
- ✓ eMhluzi NDPG Economic Assessment & Plan
- ✓ Sol Plaatjie – selected economic surveys and inputs
- ✓ Tzaneen NDPG Economic Assessment & Plan
- ✓ Tlokwe NDPG Economic Assessment & Plan

ECONOMIC IMPACT ASSESSMENTS

- ✓ Epsilon Substation Economic Impact Assessment (ESKOM / PBA International)
- ✓ Nkomati Power Lines Impact Assessment
- ✓ Gautrain Economic Impact Assessment (6 separate, consecutive investigations)
- ✓ Zonki'Zizwe Mixed Use Precinct Economic Impact Assessment (Old Mutual)
- ✓ Mbombela (Nelspruit) Stadium Economic Impact Assessment
- ✓ GOPE Diamond Mine Socio-Economic Impact Assessment (Botswana)
- ✓ Innovation Hub Phase 2 Economic Impact Assessment
- ✓ Iscor Flat Steel Economic Impact Assessment
- ✓ Msobo Coal Mine Economic Impact Assessment
- ✓ Alexander Mine Economic Impact Assessment
- ✓ Wallmannsthal Mine Economic Impact Assessment

MIXED USE PRECINCTS

- ✓ Ningbo Super Regional Mall Market Study (People's Republic of China)
- ✓ Newtown Mixed Use Market Study
- ✓ Menlyn Maine Mixed Use Precinct Market Analysis
- ✓ Lynnwood Bridge Mixed Use Precinct Market Analysis
- ✓ Riverside Mixed Use Precinct Market Analysis
- ✓ Riverfields Mixed Use Precinct Market Analysis
- ✓ Blue Mountain Mixed Use Market Analysis
- ✓ Zonki'Zizwe Mixed Use Precinct Impact Assessment
- ✓ Rainbow Junction Mixed Use Precinct

- ✓ The Villa Mixed Use Precinct
- ✓ Zwartkoppies Mixed Use Precinct
- ✓ Zambezi Mixed Use Precinct
- ✓ Heritage Hill Mixed Use Market Study
- ✓ Sandown Extension 49 Mixed Use Precinct (Sandton Gautrain Station)

NEW / PROPOSED SHOPPING CENTRES

- ✓ Mall of the North Mixed Use Market Study
- ✓ Kolonnade Retail Park Market Study (Phase 1)
- ✓ Bay West Mall
- ✓ Forest Hill Mall
- ✓ The Grove Mall
- ✓ Atteridgeville Mall
- ✓ Kyalami Village Mall
- ✓ Tsakane Mall
- ✓ Klerksdorp Village Mall
- ✓ Illanga Mall
- ✓ Middelburg Mall
- ✓ Secunda Mall
- ✓ Burgersfort Mall
- ✓ Bridge City
- ✓ Tzaneen Mall
- ✓ Market studies for all new outlets, including the likes of Makro/Massmart, Shoprite/Checkers, Pick 'n Pay franchise stores, Fresh Stop, Alert Steel outlets Phonak, Netcare, etc.

CENTRE REFURBISHMENTS / EXPANSIONS / REPOSITIONING

- ✓ Menlyn Park Market Study
- ✓ Brooklyn Mall
- ✓ Southgate Mall
- ✓ Cresta Mall
- ✓ Eastgate Mall
- ✓ The Grove – Phase 2 expansion
- ✓ Illanga Mall – Phase 2 expansion
- ✓ Tzaneen Mall – Phase 2 expansion
- ✓ Woodlands Mall Market Study
- ✓ Irene Mall Market Study
- ✓ Highveld Mall Market Study
- ✓ Kolonnade Retail Park Market Study (Phase 2)
- ✓ Kolonnade Expansion Market Study
- ✓ Mall @ Reds
- ✓ Jabulani Mall Market Study
- ✓ Limpopo Provincial Retail Market Analysis (2004 & 2008)
- ✓ Swaziland Retail Market Analysis
- ✓ Riverside Mall
- ✓ Nelson Mandela Square
- ✓ Kriel Mega Mall

BUSINESS PLANS:

- ✓ King's Estate Industrial Park Market Analysis & Business Plan
- ✓ Sebokeng Mixed Use Development Market Study & Business Plan
- ✓ Musina Manufacturing Business Plan (Venetia Mine)
- ✓ Timbali Floriculture and Nutraceutical Technology Incubator Business Plan & Market Analysis (H. du Toit & James Vos)
- ✓ Commercial Helicopter Manufacturing Market Analysis & Business Plan
- ✓ Brick Yard Business Plan and Feasibility Study
- ✓ Bekkersdal Business Plan & Urban Renewal Market Study
- ✓ Miscellaneous business plans for Neighbourhood Development Partnership Grant (NDPG) projects for National Treasury

SELECTED CLIENTS

- ✓ SHRA
- ✓ JOSHCO
- ✓ Ekurhuleni Metro
- ✓ National Treasury
- ✓ SARS
- ✓ Public Works
- ✓ National Department of Human Settlements
- ✓ The Presidency
- ✓ Gauteng Department of Human Settlements
- ✓ Tshwane Metro
- ✓ City of Johannesburg
- ✓ Johannesburg Development Agency
- ✓ Old Mutual
- ✓ Atterbury
- ✓ Anglo American
- ✓ Resilient
- ✓ Liberty
- ✓ Growth Point
- ✓ HiProp
- ✓ Massmart & Makro Group
- ✓ Shoprite/Checkers
- ✓ ABSA DevCo
- ✓ Investec
- ✓ Nedbank
- ✓ Moolman Group
- ✓ Trade & Investment Limpopo (TIL)
- ✓ LimDev
- ✓ National Housing Finance Corporation (NHFC)
- ✓ International Housing Solutions (IHS)
- ✓ Sasol Pension Fund
- ✓ Standard Bank
- ✓ SANRAL
- ✓ PRASA
- ✓ Caltex, etc.

