

**CURRICULUM VITAE
KAREN JODAS**

*Director: Savannah Environmental (Pty) Ltd
Environmental Scientist (MSc, Pr.Sci.Nat)*

SKILLS BASE AND CORE COMPETENCIES

- Eleven (11) years experience in the environmental management and assessment field
- Nine (9) years experience in Project Management
- Project management of large environmental assessment & environmental management projects
- Experienced in the identification & assessment of potential environmental impacts & benefits
- Experienced in the development of practical & achievable mitigation measures & management plans, and evaluation of risk
- Experienced in the formulation of environmental strategy, policy & guidelines
- Working knowledge of environmental planning processes, policies, regulatory frameworks & legislation
- Experienced in the compilation and review of the reports in accordance with all relevant environmental legislation
- Wide range of experience for public and private sector projects - completed more than 50 environmental projects for a wide variety of Clients
- Experienced in undertaking public participation processes for a variety of projects
- Completed projects in all nine Provinces of South Africa, as well as Zambia and Lesotho
- *Specialisation:* Strategic environmental assessment and advice; Project Management and coordination of environmental projects; Environmental Management; Environmental Impact Assessment; Integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; Hydrology and Water Management; General Ecology
- Registered Professional Natural Scientist (Registration No 400106/99)

TERTIARY EDUCATION

B.Sc Earth Sciences, majoring in Geography and Zoology, *Rhodes University, Grahamstown, 1993*

B.Sc Honours in Geography (in Environmental Water Management), *Rhodes University, Grahamstown, 1994*. Major subjects included Water Resources Management, Streams Ecology, Fluvial Geomorphology and Geographic Information Systems.

M.Sc in Geography (Geomorphology), *Rhodes University, Grahamstown, 1996*

Water Quality Management, *Potchefstroom University, 1998*

Environmental Law Course, *Aldo Leopold Institute, 2002*

EMPLOYMENT HISTORY

Nov 2006 – present: Savannah Environmental (Pty) Ltd: Director; Environmental Scientist

Oct 1997 – Oct 2005: Bohlweki Environmental (Pty) Ltd: Associate, Environmental Scientist

SELECTED RELEVANT PROJECT EXPERIENCE

- EIA and EMP for the proposed wind energy facility and associated infrastructure at a site within the Western Cape (Eskom Generation) – project management & report compilation
- Development of a comprehensive site-specific EMP for the construction and operation of the Eskom Braamhoek Integration Project, Free State and KwaZulu-Natal Provinces (Eskom Transmission) - project management & report compilation
- EIA and EMP for the proposed Steelpoort Integration Project, Mpumalanga & Limpopo Provinces (Eskom Transmission) – report compilation
- Environmental Scoping Study for a new coal-fired power station in the Lephalale area, Limpopo Province (Eskom Generation) – report compilation
- Detailed Environmental Scoping Study & public participation for the proposed Capacity Increase Project at Arnot Power Station, Mpumalanga Province (Eskom Generation) - report compilation
- Numerous EIAs for various electricity sector projects (generation, transmission & distribution) in all nine provinces of South Africa

CURRICULUM VITAE
UMESHREE NAICKER

Profession : *Environmental Consultant*
Specialisation : *Environmental Management*
Work experience : *4 years*

SKILLS BASE AND CORE COMPETENCIES

- . The compilation of the environmental application forms and reports for the environmental processes; Basic Assessment, Scoping and EIR, Amendment Application and Appeals Procedure
- Co-ordinate and facilitate Public Participation Process (PPP):
- Liaising with client, relevant authorities and departments.
- ECO/EO Audits and the compilation and implementation of Environmental Management Programmes

TERTIARY EDUCATION

- . BSc (Environmental Science) Obtained from the University of Kwa Zulu Natal (2007)
- 2. BSc Hons (Environmental Science) obtained from the University of South Africa (2011)

EMPLOYMENT HISTORY

- 1. January 2012 to current, Company : Savannah Environmental, Position: Environmental Consultant
- 2. February 2008 – November 2011, Company : Buk'Indalo Consultancy, Position: Jnr Environmental Consultant

SELECTED RELEVANT PROJECT EXPERIENCE

- Basic Assessment Process for the construction of various Local Roads and Causeways in the Umkhanyakude District Municipality
- 2. Basic Assessment Process for the construction of two Bridges (No 3126/1 & 3127/1), and Extension to Local Road L1135 Uthukela District Municipality
- 3. Scoping Report for the Raising of the Refurbishment Dam Wall and the Installation of a pipeline for the Eston Sugar Mill, 2008.
- 4. Basic Assessment Process for the construction of two Bridges (No 3126/1 & 3127/1), and Extension to Local Road L1135 Uthukela District Municipality for 2010, Department of Transport: Estcourt Cost Centre.
- 5. Basic Assessment Process for the construction of Local Roads and Causeways in the Umkhanyakude District Municipality for 2011, Department of Transport

CURRICULUM VITAE
LOURENS MARTINUS DU PLESSIS

MetroGIS (Pty) Ltd

Visual Assessment and Geographic Information Systems Specialist

SKILLS BASE AND CORE COMPETENCIES

- More than 17 years experience in the application of Geographical Information Systems (GIS) in Environmental Planning and Management.
- Extensive practical knowledge in spatial analysis, environmental modelling and digital mapping.
- Experience in applying GIS in EIAs, State of the Environment Reports and Environmental Management Plans.

TERTIARY EDUCATION

- BA (University of Pretoria) Geography and Anthropology (Malors), 1993

EMPLOYMENT HISTORY

1999-present: MetroGIS, Director

1997-1999: GISBS, Project Manager

1990-1997: GisLAB c, Project Manager / Member

SELECTED RELAVANT PROJECT EXPERIENCE

- Visual Impact Assessments and Viewshed Analysis for various types of developments, including telecommunications structures, mining activities and tourism accommodation in National Parks and other environmentally sensitive areas. Some recent and current projects include:

- * Proposed Altantis Open Cycle Gas Turbine power station.

- * Matimba B proposed coal-fired power station.

- * Zues to Mercury transmission line (comparative viewshed analysis)

- *Mercury-Ferrum-Garone transmission line intergration

- *Mmamambula (Botswana) transmission line and power station viewshed analysis Kynoch Gypsum Tailings dam extension

- *N1 Western Bypass Shell service station

- *Coega regional hazardous waste processing facility.

- *Robinson Deep landfill extension

- Concentrating Solar Power (CSP) plant

EIAs for the utilisation of GIS based systems to determine and manage environmental impacts.

Various projects in South Africa.

CURRICULUM VITAE
JACO VAN DER WALT

Profession : Archaeologist

Specialisation : Cultural Resource Management and Iron Age Archaeology

Work experience : 10 years

SKILLS BASE AND CORE COMPETENCIES

- Archaeological Impact Assessments
- Heritage Impact Assessments
- Heritage Management Plans
- Archaeological research projects
- Cultural resource management
- Phase II cultural resource management projects: archaeological excavations
- Grave relocation
- Project Management

TERTIARY EDUCATION

- 2001, BA Archaeology (Cultural Heritage Tourism), University of Pretoria (SA)
- 2002, BA Archaeology (Hons) , University of Witwatersrand (SA)
- Present, Masters Archaeology, University of Witwatersrand (SA)

EMPLOYMENT HISTORY

- 2011 – Present: Founder and owner of Heritage Contracts and Archaeological Consulting CC. 2007 – 2010: CRM Archaeologist, Managed the Heritage Contracts Unit at the University of the Witwatersrand
- 2005 - 2007: CRM Archaeologist, Director of Matakoma Heritage Consultants
- 2004: Technical Assistant, Department of Anatomy University of Pretoria
- 2003: Archaeologist, Mapungubwe World Heritage Site Archaeological Rehabilitation Project
- 2001 - 2002: CRM Archaeologists, For R & R Cultural Resource Consultants, Polokwane
- 2000: Museum Assistant, Fort Klapperkop, Pretoria

SELECTED RELEVANT PROJECT EXPERIENCE

- Archaeological Impact Assessment for the Chronimet Underground Mine, Opencast mine, process plant, Amandelbult, Limpopo Province.
- Archaeological And Palaeontological Impact Assessment For The Updated EMP for Trans Hex Mining Operations, Richtersveld, Northern Cape
- Archaeological Impact Assessment for Sasol's project Mafuta, Lephalale, Limpopo Province.
- Archaeological and Heritage Statement for the Proposed Lg5 Opencast Mining Area, North West Province
- Field supervisor at Mapungubwe (World Heritage Site) Archaeological Rehabilitation project
- Field Director for Iron Age mitigation for chrome Mining by Herculite Ferrochrome, North West Province.
- Field Director phase 2 documentation for The Heads Trust, Heritage Assessment, and monitoring for Lydenburg Ext 38 housing development, Lydenburg, Mpumalanga, principle investigator Prof. T. Huffman
- Field Director phase 2 documentation for Sterkspruit housing development, Lydenburg, Mpumalanga.
- Field Director Middle Iron Age Mitigation For Wesizwe Platinum mining, principle investigator.
- Field Director Phase 2 documentation of Khoni Iron Age Settlement Lydenburg.
- Field Director for the Archaeological Mitigation For Booyendal Platinum Mine, Steelpoort, Limpopo Province.
- Monitoring of heritage sites affected by the ARUP Transnet Multipurpose Pipeline from Jhb to Durban
- Field Director for the Phase 2 mapping of a late Iron Age site located on the farm Kameelbult, Zeerust, North West Province.

CURRICULUM VITAE

SIMON TODD

Profession: Ecological Consultant
Specialisation: Plant & Animal Ecology
Years of Experience: 15 Years

SKILLS BASE AND CORE COMPETENCIES

- Research & description of ecological patterns & processes in Fynbos, Succulent Karoo, Nama Karoo, Thicket, Arid Grassland and Savannah Ecosystems.
- Ecological Impacts of land use on biodiversity
- Vegetation surveys & degradation assessment & mapping
- Long-term vegetation monitoring
- Faunal surveys & assessment.
- GIS & remote sensing

TERTIARY EDUCATION

- 1992- 1994 – BSc (Botany & Zoology), University of Cape Town
- 1995 – BSc Hons, Cum Laude (Zoology) University of Natal
- 1996- 1997- MSc, Cum Laude (Conservation Biology) University of Cape Town

EMPLOYMENT HISTORY

- 1997 – 1999 – Research Scientist (Contract) – South African National Biodiversity Institute
- • 2000–2004 – Specialist Scientist (Contract) – South African National Biodiversity Institute
- • 2004–2007 – Senior Scientist (Contract) – Plant Conservation Unit, Department of Botany, University of Cape Town
- • 2007 Present – Senior Scientist (Associate) – Plant Conservation Unit, Department of Botany, University of Cape Town.

SELECTED RELAVANT PROJECT EXPERIENCE

- Bitterfontein Solar Plant – Fauna & Flora Specialist Assessment. Specialist Report for Cape EAPrac. 2012.
- Beaufort West Solar Facility, Erf 7388 – Fauna & Flora Specialist Assessment. Specialist Report for Cape EAPrac. 2012.
- Plant Sweeps on Portion 2 of the Farm Demaneng 546, Kuruman District, Northern Cape Province for SA Manganese. 2011.
- Proposed Olyven Kolk Solar Power Plant, Northern Cape: Botanical and Faunal Specialist Assessment. Specialist Report for Environmental Resources Management (ERM). 2011.
- Klaver Wind Farm: Ecological and Biodiversity Assessment: Terrestrial Vertebrate Fauna & Botanical Specialist Study. Specialist Report for Environmental Resources Management. 2011.
- Witberg Wind Farm: Ecological and Biodiversity Assessment: Terrestrial Vertebrate Fauna & Botanical Specialist Study. Specialist Report for Environmental Resources Management. 2011.
- Lambert's Bay Wind Farm: Ecological and Biodiversity Assessment: Terrestrial Vertebrate Fauna & Botanical Specialist Study. Specialist Report for Environmental Resources Management. 2011.
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JONATHAN JAMES SMALLIE
WildSkies Ecological Services (2011/131435/07)
Curriculum Vitae

BACKGROUND

Date of birth: 20 October 1975
Qualifications: BSC – Agriculture (Hons) (completed 1998)
University of Natal – Pietermaritzburg
MSC – Environmental Science (completed 2011)
University of Witwaterstrand
Occupation: Specialist avifaunal consultant
Profession registration: South African Council for Natural Scientific Professions

CONTACT DETAILS

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Fax: 086 615 5654
Email: jonsmallie@gmail.com
Postal: Villa 4, Le Capanne, 88 Devereux Avenue, East London, 5247

PROFESSIONAL EXPERIENCE

Positions held to date:

- ✓ August 1999 to May 2004: Eastern Cape field officer for the South African Crane Working Group of the Endangered Wildlife Trust
- ✓ May 2004 to November 2007: National Field officer for Eskom-EWT Strategic Partnership and Airports Company SA – EWT Strategic Partnership (both programmes of Endangered Wildlife Trust)
- ✓ November 2007 to August 2011: Programme Manager – Wildlife & Energy Programme – Endangered Wildlife Trust

Relevant achievements:

- ✓ Recipient of BirdLife South Africa's Giant Eagle Owl in 2011 for outstanding contribution to bird conservation in SA
- ✓ Founded and chaired for first two years – the Birds and Wind Energy Specialist Group (BAWESG) of the Endangered Wildlife Trust & BirdLife South Africa.

Conferences attended and presented at:

- ✓ May 2011. Conference of Wind Energy and Wildlife, Trondheim, Norway.
- ✓ March 2011. Chair and facilitator at Endangered Wildlife Trust – Wildlife & Energy Programme – “2011 Wildlife & Energy Symposium”, Howick, SA
- ✓ September 2010 – Raptor Research Foundation conference, Fort Collins, Colorado. Presented on the use of camera traps to investigate Cape Vulture roosting behaviour on transmission lines
- ✓ May 2010 - Wind Power Africa 2010. Presented on wind energy and birds
- ✓ October 2008. Session chair at Pan-African Ornithological Conference, Cape Town, South Africa

- ✓ March 27 – 30 2006: International Conference on Overhead Lines, Design, Construction, Inspection & Maintenance, Fort Collins Colorado USA. Presented a paper entitled “Assessing the power line network in the Kwa-Zulu Natal Province of South Africa from a culture interaction perspective”.
- ✓ June 2005: IASTED Conference at Benalmadena, Spain – presented a paper entitled “Impact of bird streamers on quality of supply on transmission lines: a case study”
- ✓ May 2005: International Bird Strike Committee 27th meeting – Athens, Greece. Presented a paper entitled Bird Strike Data analysis at SA airports 1999 to 2004.
- ✓ 2003: Presented a talk on “Birds & Power lines” at the 2003 AGM of the Amalgamated Municipal Electrical Unions – in Stutterheim - Eastern Cape
- ✓ September 2000: 5th World Conference on Birds of Prey in Seville, Spain.

Papers & publications:

- ✓ Prinsen, H.A.M., J.J. Smallie, G.C. Boere, & N. Pires. (compilers), 2011. Guidelines on how to avoid or mitigate impacts of electricity power grids on migratory birds in the African-Eurasian Region. CMS Technical Series Number XX. Bonn, Germany.
- ✓ Prinsen, H.A.M., J.J. Smallie, G.C. Boere, & N. Pires. (compilers), 2011. Review of the conflict between migratory birds and electricity power grids in the African-Eurasian region. CMS Technical Series Number XX, Bonn, Germany.
- ✓ Jenkins, A.R., van Rooyen, C.S, Smallie, J.J, Anderson, M.D., Smit, H.A. 2011. Best practice guidelines for avian monitoring and impact mitigation at proposed wind energy development sites in southern Africa
- ✓ Jenkins, A.R., Shaw, J.M., Smallie, J.J., Gibbons, B., Visagie, R. & Ryan, P.G. 2011. Estimating the impacts of power line collisions on Ludwig’s Bustards *Neotis ludwigii*. Bird Conservation International.
- ✓ Jordan, M., & Smallie, J. 2010. A briefing document on best practice for pre-construction assessment of the impacts of onshore wind farms on birds. Endangered Wildlife Trust , Unpublished report
- ✓ Smallie, J., & Virani, M.Z. 2010. A preliminary assessment of the potential risks from electrical infrastructure to large birds in Kenya. *Scopus* 30: p32-39
- ✓ Shaw, J.M., Jenkins, A.R., Ryan, P.G., & Smallie, J.J. 2010. A preliminary survey of avian mortality on power lines in the Overberg, South Africa. *Ostrich* 2010. 81 (2) p109-113
- ✓ Jenkins, A.R., Smallie, J.J., & Diamond, M. 2010. Avian collisions with power lines: a global review of causes and mitigation with a South African perspective. *Bird Conservation International* 2010. 20: 263-278.
- ✓ Shaw, J.M., Jenkins, A.R., Ryan, P.G., & Smallie, J.J. 2010. Modelling power line collision risk for the Blue Crane *Anthropoides paradiseus* in South Africa. *Ibis* 2010 (152) p590-599.
- ✓ Jenkins, A.R., Allan, D.G., & Smallie, J.J. 2009. Does electrification of the Lesotho Highlands pose a threat to that countries unique montane raptor fauna? Dubious evidence from surveys of three existing power lines. *Gabar* 20 (2).
- ✓ Smallie, J.J., Diamond, M., & Jenkins, A.R. 2008. Lighting up the African continent – what does this mean for our birds? Pp 38-43. In Harebottle, D.M., Craig, A.J.F.K., Anderson, M.D., Rakotomanana, H., & Muchai. (eds). *Proceedings of the 12th Pan-african Ornithological Congress. 2008. Cape Town. Animal Demography Unit. ISBN (978-0-7992-2361-3)*
- ✓ Van Rooyen, C., & Smallie, J.J. 2006. The Eskom –EWT Strategic Partnership in South Africa: a brief summary. *Nature & Faunae* Vol 21: Issue 2, p25
- ✓ Smallie, J. & Froneman, A. 2005. Bird Strike data analysis at South African Airports 1999 to 2004. *Proceedings of the 27th Conference of the International Bird Strike Committee, Athens Greece.*
- ✓ Smallie, J. & Van Rooyen, C. 2005. Impact of bird streamers on quality of supply on transmission lines: a case study. *Proceedings of the Fifth IASTED International Conference on Power and Energy Systems, Benalmadena, Spain.*

- ✓ Smallie, J. & Van Rooyen, C. 2003. Risk assessment of bird interaction on the Hydra-Droërivier 1 and 2 400kV. Unpublished report to Eskom Transmission Group. Endangered Wildlife Trust. Johannesburg. South Africa
- ✓ Van Rooyen, C. Jenkins, A. De Goede, J. & Smallie J. 2003. Environmentally acceptable ways to minimise the incidence of power outages associated with large raptor nests on Eskom pylons in the Karoo: Lessons learnt to date. Project number 9RE-00005 / R1127 Technology Services International. Johannesburg. South Africa
- ✓ Smallie, J. J. & O'connor, T. G. (2000) Elephant utilization of *Colophospermum mopane*: possible benefits of hedging. African Journal of Ecology 38 (4), 352-359.

Courses & training:

- ✓ Successfully completed a 5 day course in High Voltage Regulations (modules 1 to 10) conducted by Eskom – Southern Region
- ✓ Successfully completed training on, and obtained authorization for, live line installation of Bird Flappers

Projects completed:

Specialist Bird Impact Assessment studies have been completed for the following projects:

- ✓ **Pre-construction bird monitoring for wind energy facilities:** Golden Valley WEF; Middleton WEF; Dorper WEF.
- ✓ **Electricity Generation projects:** Eskom Concentrated Solar Power Plant; West Coast Wind Energy Facility; Hopefield Wind Energy Facility; PE Wind Energy Facility; Exxaro West Coast Wind Monitoring Mast – Basic Assessment; Kouga Wind Energy Facility; Ndakana Wind Energy Facility; Coega Wind Energy Facility; Bronkhorstspuit Solar Photovoltaic Plant; Cookhouse Wind Energy Facility; Golden Valley Wind Energy Facility; Qunu Wind Energy Facility; Ngcamakwe Wind Energy Facility; Ncora Wind Energy Facility; Thomas River Wind Energy Facility; Haverfontein Wind Energy Facility; Rooipunt Solar Energy Facility
- ✓ **Overhead transmission power lines (>132 000 kilovolts):** Mercury Perseus 400kV; Eros Neptune Grassridge 400kV; Kudu Juno 400kV; Garona Aries 400kV; Perseus Hydra 765kV; Tabor Witkop 275kV; Tabor Spencer 400kV; Moropule Orapa 220kV (Botswana); Coega Electrification; Majuba Venus 765kV; Gamma Grassridge 765kV; Gourikwa Proteus 400kV; Koeberg Strengthening 400kV; Ariadne Eros 400kV; Hydra Gamma 765kV; Zizabona transmission - Botswana
- ✓ **Overhead distribution power lines (<132 000 kilovolts):** Kanoneiland 22kV; Hydra Gamma 765kV; Komani Manzana 132kV; Rockdale Middelburg 132kV; Irenedale 132 kV; Zandfontein 132kV; Venulu Makonde 132 kV; Spencer Makonde 132 kV; Dalkeith Jackal Creek 132kV; Glen Austin 88kV; Bulgerivier 132kV; Ottawa Tongaat 132kV; Disselfontein 132kV; Voorspoed Mine 132kV; Wonderfontein 132kV; Kabokweni Hlau Hlau 132kV; Hazyview Kiepersol 132kV; Mayfern Delta 132kV; VAAL Vresap 88kV; Arthursview Modderkuil 88kV; Orapa, AK6, Lethakane substations and 66kV lines (Botswana); Dagbreek Hermon 66kV; Uitkoms Majuba 88kV; Pilanesberg Spitskop 132kV; Qumbu PG Bison 132kV; Louis Trichardt Venetia 132kV; Rockdale Middelburg Ferrochrome 132kV; New Continental Cement 132kV; Hillside 88kV; Marathon Delta 132kV; Malelane Boulder 132kV; Nondela Strengthening 132kV; Spitskop Northern Plats 132kV; West Acres Mataffin 132kV; Westgate Tarlton Kromdraai 132kV; Sappi Elliot Ugie 132kV; Melkhout Thyspunt 132kV; St Francis Bay 66kV
- ✓ **Risk Assessments on existing power lines:** Hydra-Droerivier 1,2 & 3 400kV; Hydra-Poseidon 1,2 400kV; Butterworth Ncora 66kV; Nieu-Bethesda 22kV; Maclear 22kV (Joelshoek Valley Project); Wodehouse 22kV (Dordrecht district); Burgersdorp Aliwal North Jamestown 22kV; Cradock 22kV; Colesberg area 22kV; Loxton

self build 11kV; Kanoneiland 22kV; Stutterheim Municipality 22kV; Majuba-Venus 400kV; Chivelston-Mersey 400kV; Marathon-Prairie 275kV; Delphi-Neptune 400kV; Ingagane – Bloukrans 275kV; Ingagane – Danskraal 275kV; Danskraal – Bloukrans 275kV

- ✓ **Avifaunal “walk through” (EMP’s):** Beta Delphi 400kV; Mercury Perseus 765kV; Perseus 765kV Substation; Beta Turn 765kV in lines; Spencer Tabor 400kV line; Kabokweni Hlau Hlau 132kV; Mayfern Delta 132kV; Eros Mtata 400kV
- ✓ **Strategic Environmental Assessments for Master Electrification Plans:** Northern Johannesburg area; Southern KZN and Northern Eastern Cape; Northern Pretoria; Western Cape Peninsula
- ✓ **Other specialist studies:** Bird Impact Assessment for Lizzard Point Golf Estate – Vaaldam; Bird Impact Assessment for Lever Creek Estates housing development; Investigation into rotating Bird Flapper saga – Aberdeen 22kV; Investigation of in excess of 80 separate incidents of bird mortalities on power line networks from August 1999 to present; Investigation of bird mortalities at 3 substations; Special investigation into faulting on Ariadne-Eros 132kV; Special investigation into Bald Ibis faulting on Tutuka Pegasus 275kV; Special investigation into bird related faulting on 22kV Geluk Hendrina line; Special investigation into bird related faulting on Camden Chivelston 400kV line
- ✓ **Specialist risk assessments for wildlife airport hazards:** Kigali International Airport – Rwanda; Port Elizabeth Airport – specialist study as part of the EIA for the proposed Madiba Bay Leisure Park; Manzini International Airport (Swaziland); Polokwane International Airport; Mafekeng International Airport; Lanseria Airport