

CURRICULUM VITAE OF JO-ANNE THOMAS

Profession:	Environmental Management and Compliance Consultant; Environmental Assessment Practitioner
Specialisation:	Environmental Management; Strategic environmental advice; Environmental compliance advice & monitoring; Environmental Impact Assessments; Policy, strategy & guideline formulation; Project Management; General Ecology
Work experience:	Twenty four (24) years in the environmental field

VOCATIONAL EXPERIENCE

Provide technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, environmental auditing and monitoring, environmental permitting, public participation, Environmental Management Plans and Programmes, environmental policy, strategy and guideline formulation, and integrated environmental management. Key focus on integration of the specialist environmental studies and findings into larger engineering-based projects, strategic assessment, and providing practical and achievable environmental management solutions and mitigation measures. Responsibilities for environmental studies include project management (including client and authority liaison and management of specialist teams); review and manipulation of data; identification and assessment of potential negative environmental impacts and benefits; review of specialist studies; and the identification of mitigation measures. Compilation of the reports for environmental studies is in accordance with all relevant environmental legislation.

Undertaking of numerous environmental management studies has resulted in a good working knowledge of environmental legislation and policy requirements. Recent projects have been undertaken for both the public- and private-sector, including compliance advice and monitoring, electricity generation and transmission projects, various types of linear developments (such as National Road, local roads and power lines), waste management projects (landfills), mining rights and permits, policy, strategy and guideline development, as well as general environmental planning, development and management.

SKILLS BASE AND CORE COMPETENCIES

- Project management for a range of projects
- Identification and assessment of potential negative environmental impacts and benefits through the review and manipulation of data and specialist studies
- Identification of practical and achievable mitigation and management measures and the development of appropriate management plans
- Compilation of environmental reports in accordance with relevant environmental legislative requirements
- External and peer review of environmental reports & compliance advice and monitoring
- Formulation of environmental policies, strategies and guidelines
- Strategic and regional assessments; pre-feasibility & site selection
- Public participation processes for a variety of projects
- Strategic environmental advice to a wide variety of clients both in the public and private sectors
- Working knowledge of environmental planning processes, policies, regulatory frameworks and legislation

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- B.Sc Earth Sciences, University of the Witwatersrand, Johannesburg (1993)
- B.Sc Honours in Botany, University of the Witwatersrand, Johannesburg (1994)
- M.Sc in Botany, University of the Witwatersrand, Johannesburg (1996)

Short Courses:

- Environmental Impact Assessment, Potchefstroom University (1998)
- Environmental Law, Morgan University (2001)
- Environmental Legislation, IMBEWU (2017)
- Mining Legislation, Cameron Cross & Associates (2013)
- Environmental and Social Risk Management (ESRM), International Finance Corporation (2018)

Professional Society Affiliations:

- Registered EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA) (2019/726)
- Registered with the South African Council for Natural Scientific Professions as a Professional Natural Scientist: Environmental Scientist (400024/00)
- Registered with the International Association for Impact Assessment South Africa (IAIASa): 5601
- Member of the South African Wind Energy Association (SAWEA)

EMPLOYMENT

Date	Company	Roles and Responsibilities
January 2006 - Current:	Savannah Environmental (Pty) Ltd	Director Project manager Independent specialist environmental consultant, Environmental Assessment Practitioner (EAP) and advisor.
1997 – 2005:	Bohlweki Environmental (Pty) Ltd	Senior Environmental Scientist at. Environmental Management and Project Management
January – July 1997:	Sutherland High School, Pretoria	Junior Science Teacher

PROJECT EXPERIENCE

Project experience includes large infrastructure projects, including electricity generation and transmission, wastewater treatment facilities, mining and prospecting activities, property development, and national roads, as well as strategy and guidelines development.

RENEWABLE POWER GENERATION PROJECTS: PHOTOVOLTAIC SOLAR ENERGY FACILITIES

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Christiana PV 2 SEF, North West	Solar Reserve South Africa	Project Manager & EAP
De Aar PV facility, Northern Cape	iNca Energy	Project Manager & EAP
Everest SEF near Hennenman, Free State	FRV Energy South Africa	Project Manager & EAP
Graafwater PV SEF, Western Cape	iNca Energy	Project Manager & EAP
Grootkop SEF near Allanridge, Free State	FRV Energy South Africa	Project Manager & EAP
Hertzogville PV 2 SEF with 2 phases, Free State	SunCorp / Solar Reserve	Project Manager & EAP

Project Name & Location	Client Name	Role
Karoshhoek CPV facility on site 2 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Kgabalatsane SEF North-East for Brits, North West	Built Environment African Energy Services	Project Manager & EAP
Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy Global	Project Manager & EAP
Lethabo Power Station PV Installation, Free State	Eskom Holdings SoC Limited	Project Manager & EAP
Majuba Power Station PV Installation, Mpumalanga	Eskom Holdings SoC Limited	Project Manager & EAP
Merapi PV SEF Phase 1 – 4 South-East of Excelsior, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Sannaspos Solar Park, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Ofir-Zx PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Oryx SEF near Virginia, Free State	FRV Energy South Africa	Project Manager & EAP
Project Blue SEF North of Kleinsee, Northern Cape	WWK Development	Project Manager & EAP
S-Kol PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Sonnenberg PV Plant near Keimoes, Northern Cape	S28 Degrees Energy	Project Manager & EAP
Tutuka Power Station PV Installation, Mpumalanga	Eskom Transmission	Project Manager & EAP
Two PV sites within the Northern Cape	MedEnergy Global	Project Manager & EAP
Two PV sites within the Western & Northern Cape	iNca Energy	Project Manager & EAP
Upington PV SEF, Northern Cape	MedEnergy Global	Project Manager & EAP
Vredendal PV facility, Western Cape	iNca Energy	Project Manager & EAP
Waterberg PV plant, Limpopo	Thupela Energy	Project Manager & EAP
Watershed Phase I & II SEF near Litchtenburg, North West	FRV Energy South Africa	Project Manager & EAP
Alldays PV & CPV SEF Phase 1, Limpopo	BioTherm Energy	Project Manager & EAP
Hyperion PV Solar Development 1, 2, 3, 4, 5 & 6, Northern Cape	Building Energy	Project Manager & EAP
Vrede & Rondavel PV, Free State	Mainstream Renewable Energy Developments	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Aberdeen PV SEF, Eastern Cape	BioTherm Energy	Project Manager & EAP
Christiana PV 1 SEF on Hartebeestpan Farm, North-West	Solar Reserve South Africa	Project Manager & EAP
Heuningspruit PV1 & PV 2 facilities near Koppies, Free State	Sun Mechanics	Project Manager & EAP
Kakamas PV Facility, Northern Cape	iNca Energy	Project Manager & EAP
Kakamas II PV Facility, Northern Cape	iNca Energy	Project Manager & EAP
Machadodorp 1 PV SEF, Mpumalanga	Solar To Benefit Africa	Project Manager & EAP
PV site within the Northern Cape	iNca Energy	Project Manager & EAP
PV sites within 4 ACSA airports within South Africa, National	Airports Company South Africa (ACSA)	Project Manager & EAP
RustMo1 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo2 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo3 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
RustMo4 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP

Project Name & Location	Client Name	Role
Sannaspos PV SEF Phase 2 near Bloemfontein, Free State	SolaireDirect Southern Africa	Project Manager & EAP
Solar Park Expansion within the Rooiwal Power Station, Gauteng	AFRKO Energy	Project Manager & EAP
Steynsrus SEF, Free State	SunCorp	Project Manager & EAP
Sirius Solar PV Project Three and Sirius Solar PV Project Four (BA in terms of REDZ regulations), Northern Cape	SOLA Future Energy	Project Manager & EAP
Northam PV, Limpopo Province	Northam Platinum	Project Manager & EAP
Kolkies PV Suite (x 6 projects) and Sadawa PV Suite (x 4 projects), Western Cape	Mainstream Renewable Energy Developments	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Allemans Fontein SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Amandel SEF near Thabazimbi, Limpopo	iNca Energy	Project Manager & EAP
Arola/Doomplaat SEF near Ventersdorp, North West	FRV & iNca Energy	Project Manager & EAP
Bloemfontein Airport PV Installation, Free State	The Power Company	Project Manager & EAP
Brakspuit SEF near Klerksorp, North West	FRV & iNca Energy	Project Manager & EAP
Carolus Poort SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Damfontein SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Everest SEF near Welkom, Free State	FRV & iNca Energy	Project Manager & EAP
Gillmer SEF near Noupoot, Northern Cape	Fusion Energy	Project Manager & EAP
Grootkop SEF near Allansridge, Free State	FRV & iNca Energy	Project Manager & EAP
Heuningspruit PV1 & PV 2 near Koppies, Free State	Cronimat	Project Manager & EAP
Kimberley Airport PV Installation, Northern Cape	The Power Company	Project Manager & EAP
Kolonnade Mall Rooftop PV Installation in Tshwane, Gauteng	Momentous Energy	Project Manager & EAP
Loskop SEF near Groblersdal, Limpopo	S&P Power Unit	Project Manager & EAP
Marble SEF near Marble Hall, Limpopo	S&P Power Unit	Project Manager & EAP
Morgenson PV1 SEF South-West of Windsorton, Northern Cape	Solar Reserve South Africa	Project Manager & EAP
OR Tambo Airport PV Installation, Gauteng	The Power Company	Project Manager & EAP
Oryx SEF near Virginia, Free State	FRV & iNca Energy	Project Manager & EAP
Rhino SEF near Vaalwater, Limpopo	S&P Power Unit	Project Manager & EAP
Rustmo2 PV Plant near Buffelspoort, North West	Momentous Energy	Project Manager & EAP
Spitskop SEF near Northam, Limpopo	FRV & iNca Energy	Project Manager & EAP
Steynsrus PV, Free State	Suncorp	Project Manager & EAP
Tabor SEF near Polokwane, Limpopo	FRV & iNca Energy	Project Manager & EAP
Upington Airport PV Installation, Northern Cape	The Power Company	Project Manager & EAP
Valeria SEF near Hartebeestpoort Dam, North West	Solar to Benefit Africa	Project Manager & EAP
Watershed SEF near Lichtenburg, North West	FRV & iNca Energy	Project Manager & EAP
Witkop SEF near Polokwane, Limpopo	FRV & iNca Energy	Project Manager & EAP
Woodmead Retail Park Rooftop PV Installation, Gauteng	Momentous Energy	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO and bi-monthly auditing for the construction of the Adams Solar PV Project Two South of Hotazel,	Enel Green Power	Project Manager

Project Name & Location	Client Name	Role
Northern Cape		
ECO for the construction of the Kathu PV Facility, Northern Cape	REISA	Project Manager
ECO and bi-monthly auditing for the construction of the Pulida PV Facility, Free State	Enel Green Power	Project Manager
ECO for the construction of the RustMo1 SEF, North West	Momentous Energy	Project Manager
ECO for the construction of the Sishen SEF, Northern Cape	Windfall 59 Properties	Project Manager
ECO for the construction of the Upington Airport PV Facility, Northern Cape	Sublary Trading	Project Manager
Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Kathu PV facility, Northern Cape	REISA	Project Manager
ECO for the construction of the Konkoonsies II PV SEF and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager
ECO for the construction of the Aggeneys PV SEF and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager

Compliance Advice and ESAP Reporting

Project Name & Location	Client Name	Role
Aggeneys Solar Farm, Northern Cape	BioTherm Energy	Environmental Advisor
Airies II PV Facility SW of Kenhardt, Northern Cape	BioTherm Energy	Environmental Advisor
Kalahari SEF Phase II in Kathu, Northern Cape	Engle	Environmental Advisor
Kathu PV Facility, Northern Cape	Building Energy	Environmental Advisor
Kenhardt PV Facility, Northern Cape	BioTherm Energy	Environmental Advisor
Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy	Environmental Advisor
Konkoonsies II SEF near Pofadder, Northern Cape	BioTherm Energy	Environmental Advisor
Konkoonsies Solar Farm, Northern Cape	BioTherm Energy	Environmental Advisor
Lephalale SEF, Limpopo	Exxaro	Environmental Advisor
Pixley ka Seme PV Park, South-East of De Aar, Northern Cape	African Clean Energy Developments (ACED)	Environmental Advisor
RustMo1 PV Plant near Buffelspoort, North West	Momentous Energy	Environmental Advisor
Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo	Building Energy	Environmental Advisor
Sirius PV Plants, Northern Cape	Aurora Power Solutions	Environmental Advisor
Upington Airport PV Power Project, Northern Cape	Sublary Trading	Environmental Advisor
Upington SEF, Northern Cape	Abengoa Solar	Environmental Advisor
Ofir-ZX PV SEF near Keimoes, Northern Cape	Network S28 Energy	Environmental Advisor
Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape	Cronimet Power Solutions	Environmental Advisor
Environmental Permitting for the Heuningspruit PV SEF, Northern Cape	Cronimet Power Solutions	Environmental Advisor

Due Diligence Reporting

Project Name & Location	Client Name	Role
5 PV SEF projects in Lephalale, Limpopo	iNca Energy	Environmental Advisor
Prieska PV Plant, Northern Cape	SunEdison Energy India	Environmental Advisor
Sirius Phase One PV Facility near Upington, Northern Cape	Aurora Power Solutions	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Biodiversity Permit & WULA for the Aggeneys SEF near Aggeneys, Northern Cape	BioTherm Energy	Project Manager & EAP
Biodiversity Permit for the Konkoonises II SEF near Pofadder, Northern Cape	BioTherm Energy	Project Manager & EAP
Biodiversity Permitting for the Lephallale SEF, Limpopo	Exxaro Resources	Project Manager & EAP
Environmental Permitting for the Kleinbegin PV SEF West of Groblershoop, Northern Cape	MedEnergy	Project Manager & EAP
Environmental Permitting for the Upington SEF, Northern Cape	Abengoa Solar	Project Manager & EAP
Environmental Permitting for the Kathu PV Facility, Northern Cape	Building Energy	Project Manager & EAP
Environmental Permitting for the Konkoonsies Solar Farm, Northern Cape	BioTherm Energy	Project Manager & EAP
Environmental Permitting for the Lephallale SEF, Limpopo	Exxaro Resources	Project Manager & EAP
Environmental Permitting for the Scuitdrift 1 SEF & Scuitdrift 2 SEF, Limpopo	Building Energy	Project Manager & EAP
Environmental Permitting for the Sirius PV Plant, Northern Cape	Aurora Power Solutions	Project Manager & EAP
Environmental Permitting for the Steynsrus PV1 & PV2 SEF's, Northern Cape	Cronimet Power Solutions	Project Manager & EAP
Environmental Permitting for the Heuningspruit PV SEF, Northern Cape	Cronimet Power Solutions	Project Manager & EAP
Permits for the Kleinbegin and UAP PV Plants, Northern Cape	MedEnergy Global	Project Manager & EAP
S53 Application for Arriesfontein Solar Park Phase 1 – 3 near Danielskuil, Northern Cape	Solar Reserve / SunCorp	Project Manager & EAP
S53 Application for Hertzogville PV1 & PV 2 SEFs, Free State	Solar Reserve / SunCorp	Project Manager & EAP
S53 Application for the Bloemfontein Airport PV Facility, Free State	Sublunary Trading	Project Manager & EAP
S53 Application for the Kimberley Airport PV Facility, Northern Cape	Sublunary Trading	Project Manager & EAP
S53 Application for the Project Blue SEF, Northern Cape	WWK Developments	Project Manager & EAP
S53 Application for the Upington Airport PV Facility, Free State	Sublunary Trading	Project Manager & EAP
WULA for the Kalahari SEF Phase II in Kathu, Northern Cape	Engie	Project Manager & EAP

RENEWABLE POWER GENERATION PROJECTS: CONCENTRATED SOLAR FACILITIES (CSP)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Ilanga CSP 2, 3, 4, 5, 7 & 9 Facilities near Upington, Northern Cape	Emvelo Holdings	Project Manager & EAP
Ilanga CSP near Upington, Northern Cape	Ilangethu Energy	Project Manager & EAP

Project Name & Location	Client Name	Role
Ilanga Tower 1 Facility near Upington, Northern Cape	Emvelo Holdings	Project Manager & EAP
Karoshhoek CPVPD 1-4 facilities on site 2 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Karoshhoek CSP facilities on sites 1.4; 4 & 5 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Karoshhoek Linear Fresnel 1 Facility on site 1.1 as part of the larger Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the !Khi CSP Facility, Northern Cape	Abengoa Solar	Project Manager
ECO for the construction of the Ilanga CSP 1 Facility near Upington, Northern Cape	Karoshhoek Solar One	Project Manager
ECO for the construction of the folar Park, Northern Cape	Kathu Solar	Project Manager
ECO for the construction of the KaXu! CSP Facility, Northern Cape	Abengoa Solar	Project Manager
Internal audit of compliance with the conditions of the IWUL issued to the Karoshhoek Solar One CSP Facility, Northern Cape	Karoshhoek Solar One	Project Manager

Screening Studies

Project Name & Location	Client Name	Role
Upington CSP (Tower) Plant near Kanoneiland, Northern Cape	iNca Energy and FRV	Project Manager & EAP

Compliance Advice and ESAP reporting

Project Name & Location	Client Name	Role
Ilanga CSP Facility near Upington, Northern Cape	Ilangethu Energy	Environmental Advisor
Ilangaletu CSP 2, Northern Cape	FG Emvelo	Environmental Advisor
Kathu CSP Facility, Northern Cape	GDF Suez	Environmental Advisor
Lephalale SEF, Limpopo	Cennergi	Environmental Advisor
Solis I CSP Facility, Northern Cape	Brightsource	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Environmental Permitting for the Ilanga CSP Facility near Upington, Northern Cape	Ilangethu Energy	Project Manager & EAP
Environmental Permitting for the Kathu CSP, Northern Cape	GDF Suez	Project Manager & EAP
WULA for the Solis I CSP Facility, Northern Cape	Brightsource	Project Manager & EAP

RENEWABLE POWER GENERATION PROJECTS: WIND ENERGY FACILITIES

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Sere WEF, Western Cape	Eskom Holdings SoC Limited	EAP
Aberdeen WEF, Eastern Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Amakhala Emoyeni WEF, Eastern Cape	Windlab Developments	Project Manager & EAP
EXXARO West Coast WEF, Western Cape	EXXARO Resources	Project Manager & EAP
Goereesoe Wind Farm near Swellendam, Western Cape	iNca Energy	Project Manager & EAP
Hartneest WEF, Western Cape	Juwi Renewable Energies	Project Manager & EAP
Hopefield WEF, Western Cape	Umoya Energy	EAP
Kleinsee WEF, Northern Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Klipheuwel/Dassiesfontein WEF within the Overberg area, Western Cape	BioTherm Energy	Project Manager & EAP
Moorreesburg WEF, Western Cape	iNca Energy	Project Manager & EAP
Oyster Bay WEF, Eastern Cape	Renewable Energy Resources Southern Africa	Project Manager & EAP
Project Blue WEF, Northern Cape	Windy World	Project Manager & EAP
Rhebokfontein WEF, Western Cape	Moyeng Energy	Project Manager & EAP
Spitskop East WEF near Riebeeck East, Eastern Cape	Renewable Energy Resources Southern Africa	Project Manager & EAP
Suurplaat WEF, Western Cape	Moyeng Energy	Project Manager & EAP
Swellendam WEF, Western Cape	IE Swellendam	Project Manager & EAP
Tsitsikamma WEF, Eastern Cape	Exxarro	Project Manager & EAP
West Coast One WEF, Western Cape	Moyeng Energy	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Amakhala Emoyeni Wind Monitoring Masts, Eastern Cape	Windlab Developments	Project Manager & EAP
Beaufort West Wind Monitoring Masts, Western Cape	Umoya Energy	Project Manager & EAP
Hopefield Community Wind Farm near Hopefield, Western Cape	Umoya Energy	Project Manager & EAP
Koekenaap Wind Monitoring Masts, Western Cape	EXXARO Resources	Project Manager & EAP
Koingnaas WEF, Northern Cape	Just Palm Tree Power	Project Manager & EAP
Laingsburg Area Wind Monitoring Masts, Western Cape	Umoya Energy	Project Manager & EAP
Overberg Area Wind Monitoring Masts, Western Cape	BioTherm Energy	Project Manager & EAP
Oyster Bay Wind Monitoring Masts, Eastern Cape	Renewable Energy Systems Southern Africa (RES)	Project Manager & EAP
Wind Garden & Fronteer WEFs, Eastern Cape	Wind Relc	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Albertinia WEF, Western Cape	BioTherm Energy	Project Manager & EAP
Koingnaas WEF, Northern Cape	Just Pal Tree Power	Project Manager & EAP
Napier Region WEF Developments, Western Cape	BioTherm Energy	Project Manager & EAP
Tsitsikamma WEF, Eastern Cape	Exxarro Resources	Project Manager & EAP

Project Name & Location	Client Name	Role
Various WEFs within an identified area in the Overberg area, Western Cape	BioTherm Energy	Project Manager & EAP
Various WEFs within an identified area on the West Coast, Western Cape	Investec Bank Limited	Project Manager & EAP
Various WEFs within an identified area on the West Coast, Western Cape	Eskom Holdings Limited	Project Manager & EAP
Various WEFs within the Western Cape	Western Cape Department of Environmental Affairs and Development Planning	Project Manager & EAP
Velddrift WEF, Western Cape	VentuSA Energy	Project Manager & EAP
Wind 1000 Project	Thabo Consulting on behalf of Eskom Holdings	Project Manager & EAP
Wittekleibosch, Snylip & Doriskraal WEFs, Eastern Cape	Exxarro Resources	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the West Coast One WEF, Western Cape	Aurora Wind Power	Project Manager
ECO for the construction of the Gouda WEF, Western Cape	Blue Falcon	Project Manager
EO for the Dassiesklip Wind Energy Facility, Western Cape	Group 5	Project Manager
Quarterly compliance monitoring of compliance with all environmental licenses for the operation activities at the Gouda Wind Energy facility near Gouda, Western Cape	Blue Falcon	Project Manager
Annual auditing of compliance with all environmental licenses for the operation activities at the West Coast One Wind Energy facility near Vredenburg, Western Cape	Aurora Wind Power	Project Manager
External environmental and social audit for the Amakhala Wind Farm, Eastern Cape	Cennergi	Project Manager
External environmental and social audit for the Tsitsikamma Wind Farm, Eastern Cape	Cennergi	Project Manager
ECO for the construction of the Excelsior Wind Farm and associated infrastructure, Northern Cape	BioTherm Energy	Project Manager
External compliance audit of the Dassiesklip Wind Energy Facility, Western Cape	BioTherm Energy	Project Manager

Compliance Advice

Project Name & Location	Client Name	Role
Amakhala Phase 1 WEF, Eastern Cape	Cennergi	Environmental Advisor
Dassiesfontein WEF within the Overberg area, Western Cape	BioTherm Energy	Environmental Advisor
Excelsior Wind Farm, Western Cape	BioTherm Energy	Environmental Advisor
Great Karoo Wind Farm, Northern Cape	African Clean Energy Developments (ACED)	Environmental Advisor
Hopefield Community WEF, Western Cape	African Clean Energy Developments (ACED)	Environmental Advisor

Rheboksfontein WEF, Western Cape	Moyeng Energy	Environmental Advisor
Tiqua WEF, Western Cape	Cennergi	Environmental Advisor
Tsitsikamma WEF, Eastern Cape	Cennergi	Environmental Advisor
West Coast One WEF, Western Cape	Moyeng Energy	Environmental Advisor

Due Diligence Reporting

Project Name & Location	Client Name	Role
Witteberg WEF, Western Cape	EDPR Renewables	Environmental Advisor
IPD Vredenburg WEF within the Saldanha Bay area, Western Cape	IL&FS Energy Development Company	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Biodiversity Permitting for the Power Line between the Tsitsikamma Community WEF & the Diep River Substation, Eastern Cape	Cennergi	Project Manager & EAP
Biodiversity Permitting for the West Coast One WEF, Western Cape	Aurora Wind Power	Project Manager & EAP
Environmental Permitting for the Excelsior WEF, Western Cape	BioTherm Energy	Project Manager & EAP
Plant Permits & WULA for the Tsitsikamma Community WEF, Eastern Cape	Cennergi	Project Manager & EAP
S24G and WULA for the Rectification for the commencement of unlawful activities on Ruimsig AH in Honeydew, Gauteng	Hossam Soror	Project Manager & EAP
S24G Application for the Rheboksfontein WEF, Western Cape	Ormonde - Theo Basson	Project Manager & EAP
S53 Application & WULA for Suurplaat and Gemini WEFs, Northern Cape	Engie	Project Manager & EAP
S53 Application for the Hopefield Community Wind Farm near Hopefield, Western Cape	Umoya Energy	Project Manager & EAP
S53 Application for the Project Blue WEF, Northern Cape	WWK Developments	Project Manager & EAP
S53 for the Oyster Bay WEF, Eastern Cape	RES	Project Manager & EAP
WULA for the Great Karoo Wind Farm, Northern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP

CONVENTIONAL POWER GENERATION PROJECTS (COAL)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Mutsho Power Station near Makhado, Limpopo	Mutsho Consortium	Project Manager & EAP
Coal-fired Power Station near Ogies, Mpumalanga	Ruukki SA	Project Manager & EAP
Thabametsi IPP Coal-fired Power Station, near Lephalale, Limpopo	Axia	Project Manager & EAP
Transalloys Coal-fired Power Station, Mpumalanga	Transalloys	Project Manager & EAP
Tshivasho IPP Coal-fired Power Station (with WML), near Lephalale, Limpopo	Cennergi	Project Manager & EAP
Umbani Coal-fired Power Station, near Kriel, Mpumalanga	ISS Global Mining	Project Manager & EAP

Project Name & Location	Client Name	Role
Waterberg IPP Coal-Fired Power Station near Lephallale, Limpopo	Exxaro Resources	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Coal Stockyard on Medupi Ash Dump Site, Limpopo	Eskom Holdings	Project Manager & EAP
Biomass Co-Firing Demonstration Facility at Arnot Power Station East of Middleburg, Mpumlanaga	Eskom Holdings	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Baseload Power Station near Lephallale, Limpopo	Cennergi	Project Manager & EAP
Coal-Fired Power Plant near Delmas, Mpumalanga	Exxaro Resources	Project Manager & EAP
Makhado Power Station, Limpopo	Mutsho Consortium, Limpopo	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the Camden Power Station, Mpumalanga	Eskom Holdings	Project Manager

Compliance Advice

Project Name & Location	Client Name	Role
Thabametsi IPP Coal-fired Power Station, near Lephallale, Limpopo	Axia	Environmental Advisor

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Permit application for the Thabametsi Bulk Water Pipeline, near Lephallale, Limpopo	Axia	Project Manager & EAP
S53 & WULA for the Waterberg IPP Coal-Fired Power Station near Lephallale, Limpopo	Exxaro Resources	Project Manager & EAP
S53 Application for the Tshivasho Coal-fired Power Station near Lephallale, Limpopo	Cennergi	Project Manager & EAP

CONVENTIONAL POWER GENERATION PROJECTS (GAS)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Ankerlig OCGT to CCGT Conversion project & 400 kV transmission power line between Ankerlig and the Omega Substation, Western Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Gourikwa OCGT to CCGT Conversion project & 400kV transmission power line between Gourikwa & Proteus Substation, Western Cape	Eskom Holdings SoC Limited	Project Manager & EAP
Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal	Eskom Holdings SoC Limited	Project Manager & EAP
Richards Bay Gas to Power Plant, KwaZulu-Natal	Richards Bay Gas Power 2	Project Manager & EAP
Decommissioning & Recommissioning of 3 Gas Turbine Units at Acacia Power Station & 1 Gas Turbine Unit at Port Rex Power Station to the existing	Eskom Holdings	Project Manager & EAP

Project Name & Location	Client Name	Role
Ankerlig Power Station in Atlantis Industria, Western Cape		
320MW gas-to-power station in Richards Bay, KwaZulu-Natal	Phinda Power Projects	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Fatal Flaw Analysis for 3 area identified for the establishment of a 500MW CCGT Power Station	Globeleq Advisors Limited	Project Manager & EAP
Richards Bay Gas to Power Combined Cycle Power Station, KwaZulu-Natal	Eskom Holdings SoC Limited	Project Manager & EAP

GRID INFRASTRUCTURE PROJECTS

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Aggeneis-Oranjemond Transmission Line & Substation Upgrade, Northern Cape	Eskom Transmission	Project Manager & EAP
Ankerlig-Omega Transmission Power Lines, Western Cape	Eskom Transmission	Project Manager & EAP
Karoshhoek Grid Integration project as part of the Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP
Koeberg-Omega Transmission Power Lines,, Western Cape	Eskom Transmission	Project Manager & EAP
Koeberg-Stikland Transmission Power Lines, Western Cape	Eskom Transmission	Project Manager & EAP
Kyalami Strengthening Project, Gauteng	Eskom Transmission	Project Manager & EAP
Mokopane Integration Project, Limpopo	Eskom Transmission	Project Manager & EAP
Saldanha Bay Strengthening Project, Western Cape	Eskom Transmission	Project Manager & EAP
Steelpoort Integration Project, Limpopo	Eskom Transmission	Project Manager & EAP
Transmission Lines from the Koeberg-2 Nuclear Power Station site, Western Cape	Eskom Transmission	Project Manager & EAP
Tshwane Strengthening Project, Phase 1, Gauteng	Eskom Transmission	Project Manager & EAP
Main Transmission Substation (MTS) associated with the Choje Wind Farm cluster, Eastern Cape	Wind Relic	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Dassenberg-Koeberg Power Line Deviation from the Koeberg to the Ankerlig Power Station, Western Cape	Eskom Holdings	Project Manager & EAP
Golden Valley II WEF Power Line & Substation near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Golden Valley WEF Power Line near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Karoshhoek Grid Integration project as part of the Karoshhoek Solar Valley Development East of Upington, Northern Cape	FG Emvelo	Project Manager & EAP

Project Name & Location	Client Name	Role
Konkoonsies II PV SEF Power Line to the Paulputs Substation near Pofadder, Northern Cape	BioTherm Energy	Project Manager & EAP
Perdekraal West WEF Powerline to the Eskom Kappa Substation, Western Cape	BioTherm Energy	Project Manager & EAP
Rheboksfontein WEF Powerline to the Aurora Substation, Western Cape	Moyeng Energy	Project Manager & EAP
Soetwater Switching Station near Sutherland, Northern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Solis Power I Power Line & Switchyard Station near Upington, Northern Cape	Brightsource	Project Manager & EAP
Stormwater Canal System for the Ilanga CSP near Upington, Northern Cape	Karoshhoek Solar One	Project Manager & EAP
Tsitsikamma Community WEF Powerline to the Diep River Substation, Eastern Cape	Eskom Holdings	Project Manager & EAP
Two 132kV Chickadee Lines to the new Zonnebloem Switching Station, Mpumalanga	Eskom Holdings	Project Manager & EAP
Electrical Grid Infrastructure for the Kolkies and Sadawa PV clusters, Western Cape	Mainstream Renewable Energy Developments	Project Manager & EAP
Sadawa Collector substation, Western Cape	Mainstream Renewable Energy Developments	Project Manager & EAP
Electrical Grid Infrastructure for the Vrede and Rondavel PV facilities, Free State	Mainstream Renewable Energy Developments	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the Ferrum-Mookodi Transmission Line, Northern Cape and North West	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Gamma-Kappa Section A Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Gamma-Kappa Section B Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Hydra IPP Integration project, Northern Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Kappa-Sterrekus Section C Transmission Line, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
EO for the construction of the Namaqualand Strengthening project in Port Nolloth, Western Cape	Trans-Africa Projects on behalf of Eskom	Project Manager
ECO for the construction of the Neptune Substation Soil Erosion Mitigation Project, Eastern Cape	Eskom	Project Manager
ECO for the construction of the Ilanga-Gordonia 132kV power line, Northern Cape	Karoshhoek Solar One	Project Manager

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Environmental Permitting and WULA for the Rockdale B Substation & Loop in Power Lines,	Eskom Holdings	Project Manager & EAP
Environmental Permitting and WULA for the Steelpoort Integration project, Limpopo	Eskom Holdings	Project Manager & EAP
Environmental Permitting for Solis CSP near Upington, Northern Cape	Brightsource	Project Manager & EAP

MINING SECTOR PROJECTS

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Elitheni Coal Mine near Indwe, Eastern Cape	Elitheni Coal	Project Manager & EAP
Groot Letaba River Development Project Borrow Pits	Iiso	Project Manager & EAP
Grootegeluk Coal Mine for coal transportation infrastructure between the mine and Medupi Power Station (EMPr amendment), Limpopo	Eskom Holdings	Project Manager & EAP
Waterberg Coal Mine (EMPr amendment), Limpopo	Sesoko Resources	Project Manager & EAP
Aluminium Plant WML & AEL, Gauteng	GfE-MIR Alloys & Minerals	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Rare Earth Separation Plant in Vredendal, Western Cape	Rareco	Project Manager & EAP
Decommissioning and Demolition of Kilns 5 & 6 at the Slurry Plant, Kwa-Zulu Natal	PPC	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO for the construction of the Duhva Mine Water Recovery Project, Mpumalanga	Eskom Holdings SoC Limited	Project Manager
External compliance audit of Palesa Coal Mine's Integrated Water Use License (IWUL), near KwaMhlanga, Mpumalanga	HCI Coal	Project Manager
External compliance audit of Palesa Coal Mine's Waste Management License (WML) and EMP, near KwaMhlanga, Mpumalanga	HCI Coal	Project Manager
External compliance audit of Mbali Coal Mine's Integrated Water Use License (IWUL), near Ogies, Mpumalanga	HCI Coal	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mining Operations (Brand se Baai), Western Cape	Tronox Namakwa Sands	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Mineral Separation Plant (MSP), Western Cape	Tronox Namakwa Sands	Project Manager
Independent External Compliance Audit of Water Use License (WUL) for the Tronox Namakwa Sands (TNS) Smelter Operations (Saldanha), Western Cape	Tronox Namakwa Sands	Project Manager
Compliance Auditing of the Waste Management Licence for the PetroSA Landfill Site at the GTL Refinery, Western Cape	PetroSA	Project Manager

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
Waste Licence Application for the Rare Earth Separation Plant in Vredendal, Western Cape	Rareco	Project Manager & EAP

WULA for the Expansion of the Landfill site at Exxaro's Namakwa Sands Mineral Separation Plant, Western Cape	Exxaro Resources	Project Manager & EAP
S24G & WML for an Aluminium Plant, Gauteng	GfE-MIR Alloys & Minerals	Project Manager & EAP

INFRASTRUCTURE DEVELOPMENT PROJECTS (BRIDGES, PIPELINES, ROADS, WATER RESOURCES, STORAGE, ETC)

Environmental Impact Assessments and Environmental Management Programmes

Project Name & Location	Client Name	Role
Bridge across the Ngotwane River, on the border of South Africa and Botswana	Eskom Holdings	Project Manager & EAP
Chemical Storage Tanks, Metallurgical Plant Upgrade & Backfill Plant upgrade at South Deep Gold Mine, near Westonia, Gauteng	Goldfields	Project Manager & EAP
Expansion of the existing Welgedacht Water Care Works, Gauteng	ERWAT	Project Manager & EAP
Golden Valley WEF Access Road near Cookhouse, Eastern Cape	BioTherm Energy	Project Manager & EAP
Great Fish River Wind Farm Access Roads and Watercourse Crossings near Cookhouse, Eastern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Ilanga CSP Facility Watercourse Crossings near Upington, Northern Cape	Karoshhoek Solar one	Project Manager & EAP
Modification of the existing Hartebeestfontein Water Care Works, Gauteng	ERWAT	Project Manager & EAP
N10 Road Realignment for the Ilanga CSP Facility, East of Upington, Northern Cape	SANRAL	Project Manager & EAP
Nxuba (Bedford) Wind Farm Watercourse Crossings near Cookhouse, Eastern Cape	African Clean Energy Developments (ACED)	Project Manager & EAP
Pollution Control Dams at the Medupi Power Station Ash Dump & Coal Stockyard, Limpopo	Eskom	Project Manager & EAP
Qoboshane borrow pits (EMPr only), Eastern Cape	Emalaheni Local Municipality	Project Manager & EAP
Tsitsikamma Community WEF Watercourse Crossings, Eastern Cape	Cennergi	Project Manager & EAP
Clayville Central Steam Plant, Gauteng	Bellmall Energy	Project Manager & EAP
Msenge Emoyeni Wind Farm Watercourse Crossings and Roads, Eastern Cape	Windlab	Project Manager & EAP

Basic Assessments

Project Name & Location	Client Name	Role
Harmony Gold WWTW at Doornkop Mine, Gauteng	Harmony Doornkop Plant	Project Manager & EAP
Ofir-ZX Watercourse Crossing for the Solar PV Facility, near Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP
Qoboshane bridge & access roads, Eastern Cape	Emalaheni Local Municipality	Project Manager & EAP
Relocation of the Assay Laboratory near Carletonville, Gauteng	Sibanye Gold	Project Manager & EAP
Richards Bay Harbour Staging Area, KwaZulu-Natal	Eskom Holdings	Project Manager & EAP
S-Kol Watercourse Crossing for the Solar PV Facility, East of Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP
Sonnenberg Watercourse Crossing for the Solar PV Facility, West Keimoes, Northern Cape	Networx S28 Energy	Project Manager & EAP

Project Name & Location	Client Name	Role
Kruisvallei Hydroelectric Power Generation Scheme, Free State	Building Energy	Project Manager & EAP
Masetjaba Water Reservoir, Pump Station and Bulk Supply Pipeline near Nigel, Gauteng	Naidu Consulting Engineers	Project Manager & EAP
Access Road for the Dwarsug Wind Farm, Northern Cape Province	South Africa Mainsteam Renewable Power	Project Manager & EAP

Screening Studies

Project Name & Location	Client Name	Role
Roodepoort Open Space Optimisation Programme (OSOP) Precinct, Gauteng	TIMAC Engineering Projects	Project Manager & EAP
Vegetable Oil Plant and Associated Pipeline, Kwa-Zulu Natal	Wilmar Oils and Fats Africa	Project Manager & EAP

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
ECO and bi-monthly auditing for the construction of the Olifants River Water Resources Development Project (ORWRDP) Phase 2A: De Hoop Dam, R555 realignment and housing infrastructure	Department of Water and Sanitation	Project Manager Auditor
ECO for the Rehabilitation of the Blaaupan & Storm Water Channel, Gauteng	Airports Company of South Africa (ACSA)	Project Manager
Due Diligence reporting for the Better Fuel Pyrolysis Facility, Gauteng	Better Fuels	Project Manager
ECO for the Construction of the Water Pipeline from Kendal Power Station to Kendal Pump Station, Mpumalanga	Transnet	Project Manager
ECO for the Replacement of Low-Level Bridge, Demolition and Removal of Artificial Pong, and Reinforcement the Banks of the Crocodile River at the Construction at Walter Sisulu National Botanical Gardens, Gauteng Province	South African National Biodiversity Institute (SANBI)	Project Manager
External Compliance Audit of the Air Emission Licence (AEL) for a depot in Bloemfontein, Free State Province and in Tzaneen, Mpumalanga Province	PetroSA	Project Manager

Environmental Permitting, S53, Water Use Licence (WUL), Waste Management Licence (WML) & Other Applications

Project Name & Location	Client Name	Role
WULA for the Izubulo Private Nature Reserve, Limpopo	Kjell Bismeyer, Jann Bader, Laurence Saad	Project Manager & EAP
WULA for the Masodini Private Game Lode, Limpopo	Masodini Private Game Lodge	Environmental Advisor
WULA for the Ezulwini Private Nature Reserve, Limpopo	Ezulwini Investments	Project Manager & EAP
WULA for the Masodini Private Game Lode, Limpopo	Masodini Private Game Lodge	Project Manager & EAP
WULA for the N10 Realignment at the Ilanga SEF, Northern Cape	Karoshhoek Solar One	Project Manager & EAP
WULA for the Kruisvallei Hydroelectric Power Generation Scheme, Free State	Building Energy	Project Manager & EAP

Project Name & Location	Client Name	Role
S24G and WULA for the illegal construction of structures within a watercourse on EFF 24 Ruimsig Agricultural Holdings, Gauteng	Sorrer Language Services	Project Manager & EAP

HOUSING AND URBAN PROJECTS

Basic Assessments

Project Name & Location	Client Name	Role
Postmasburg Housing Development, Northern Cape	Transnet	Project Manager & EAP

Compliance Advice and reporting

Project Name & Location	Client Name	Role
Kampi ya Thude at the Olifants West Game Reserve, Limpopo	Nick Elliot	Environmental Advisor
External Compliance Audit of WUL for the Johannesburg Country Club, Gauteng	Johannesburg Country Club	Project Manager

Environmental Compliance, Auditing and ECO

Project Name & Location	Client Name	Role
Due Diligence Audit for the Due Diligence Audit Report, Gauteng	Delta BEC (on behalf of Johannesburg Development Agency (JDA))	Project Manager

ENVIRONMENTAL MANAGEMENT TOOLS

Project Name & Location	Client Name	Role
Development of the 3rd Edition Environmental Implementation Plan (EIP)	Gauteng Department of Agriculture and Rural Development (GDARD)	Project Manager & EAP
Development of Provincial Guidelines on 4x4 routes, Western Cape	Western Cape Department of Environmental Affairs and Development Planning	EAP
Compilation of Construction and Operation EMP for the Braamhoek Transmission Integration Project, Kwazulu-Natal	Eskom Holdings	Project Manager & EAP
Compilation of EMP for the Wholesale Trade of Petroleum Products, Gauteng	Munaca Technologies	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for Medupi Power Station, Limpopo	Eskom Holdings	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for the Dube TradePort Site Wide Precinct	Dube TradePort Corporation	Project Manager & EAP
Operational Environmental Management Programme (OEMP) for the Kusile Power Station, Mpumalanga	Eskom Holdings	Project Manager & EAP
Review of Basic Assessment Process for the Wittekleibosch Wind Monitoring Mast, Eastern Cape	Exxaro Resources	Project Manager & EAP
Revision of the EMP for the Sirius Solar PV	Aurora Power Solutions	Project Manager & EAP

Project Name & Location	Client Name	Role
State of the Environment (SoE) for Emalahleni Local Municipality, Mpumalanga	Simo Consulting on behalf of Emalahleni Local Municipality	Project Manager & EAP
Aspects and Impacts Register for Salberg Concrete Products operations	Salberg Concrete Products	EAP
First State of Waste Report for South Africa	Golder on behalf of the Department of Environmental Affairs	Project Manager & EAP
Responsibilities Matrix and Gap Analysis for the Kruisvallei Hydroelectric Power Generation Scheme, Free State Province	Building Energy	Project Manager
Responsibilities Matrix and Gap Analysis for the Roggeveld Wind Farm, Northern & Western Cape Provinces	Building Energy	Project Manager

PROJECTS OUTSIDE OF SOUTH AFRICA

Project Name & Location	Client Name	Role
Advisory Services for the Zizabona Transmission Project, Zambia, Zimbabwe, Botswana & Namibia	PHD Capital	Advisor
EIA for the Semonkong WEF, Lesotho	MOSCET	Project Manager & EAP
EMP for the Kuvaninga Energia Gas Fired Power Project, Mozambique	ADC (Pty) Ltd	Project Manager & EAP
Environmental Screening Report for the SEF near Thabana Morena, Lesotho	Building Energy	EAP
EPBs for the Kawambwa, Mansa, Mwense and Nchelenge SEFs in Luapula Province, Zambia	Building Energy	Project Manager & EAP
ESG Due Diligence for the Hilton Garden Inn Development in Windhoek, Namibia	Vatange Capital	Project Manager
Mandahill Mall Rooftop PV SEF EPB, Lusaka, Zambia	Building Energy	Project Manager & EAP
Monthly ECO for the PV Power Plant for the Mocuba Power Station	Scatec	Project Manager

CURRICULUM VITAE OF NKHENSANI MASONDO

- Profession :** Senior Environmental Consultant
- Specialisation:** Environmental Management, Environmental Impact Assessments, Report Writing, Project Management, Stakeholder Engagement, Environmental Auditing
- Work Experience:** 6 years in the Environmental Management Consulting Field

VOCATIONAL EXPERIENCE

Nkhensani is an EAPASA Registered Environmental Assessment Practitioner with over 6 years of experience in the environmental field. She holds a BSocSci (Hons) in Environmental Management and Analysis and a BA (Own Choice) specialising in Geography and Archaeology, both from the University of Pretoria (UP). She is currently pursuing her MSc in Environmental Management at the University of South Africa (UNISA).

She has been involved in residential, commercial, institutional, industrial, and mixed-use development within South Africa. She has been involved in mine closure strategies and implementation plans on behalf of Mining partners. Her main responsibilities include compilation of environmental reports, stakeholder engagement, and project management.

SKILLS BASE AND CORE COMPETENCIES

- Environmental Planning
- Compilation of Environmental Impact Assessments, Basic Assessments, Water Use Licenses, NEMA Queries, GPEMF Applications, General Authorisations, Schedule 1 and Existing Lawful Use Applications
- Compilation and Implementation of Environmental Programmes
- Undertaking Environmental Audits for residential, commercial, and industrial developments
- Project Management of various projects
- Review of Specialists reports
- Undertaking Stakeholder Engagements for a variety of projects

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- Master of Science in Environmental Management (current), University of South Africa
- BSocSci (Hons) Environmental Analysis and Management (2014), University of Pretoria
- BA (Own Choice) Specialising in Geography and Archaeology (2013), University of Pretoria

Short Courses:

- Geographical Information Systems Training (ESRI) 2016
- ISO 14001: 2004 Lead Environmental Auditor Training: Environmental Management Systems (SGS) 2015

Professional Society Affiliations:

- Environmental Assessment Practitioners Association of South Africa – Environmental Assessment Practitioner

EMPLOYMENT		
Date	Company	Roles and Responsibilities
01 June 2022 - Current:	Savannah Environmental (Pty) Ltd	<p>Senior Environmental Consultant</p> <p><u>Tasks include:</u></p> <ul style="list-style-type: none"> Play a lead role in environmental permitting, environmental authorisation applications, and compliance and advice and assurance. Project management, execute draft, review and/or further develop and manage the delivery of environmental impact assessments (EIA) reports and EMPs in line with the requirements of NEMA and the EIA regulations. Environmental Permitting (including WULA), environmental authorisation applications and associated stakeholder engagement and public participation. Manage the delivery of specialist environmental consultants and their reporting, as may be required. Manage any third parties or sub-consultants to which functions have been outsourced. Project-related GIS mapping. New business development and the preparation of proposals.
August 2017 – May 2022	LEAP: Landscape Architects and Environmental Planners (Imbrillinx CC)	<p>Environmental Assessment Practitioner</p> <p><u>Task included:</u></p> <ul style="list-style-type: none"> Compiling Scoping Reports, Integrated Wastewater Management Plans, Water Use License Applications, General Authorisations, Schedule 1 Borehole Registrations, Basic Assessment Reports, Environmental Management Programmes, Section 24G Applications and Appeals, conducting site inspections. Compiling Water Quality Monitoring, compiling wetland rehabilitation and management reports. Stakeholder Engagement. Project Management Act as a liaison officer for the company with State Departments.
May 2015 – December 2016	LEAP: Landscape Architects and Environmental Planners (Imbrillinx CC)	<p><i>Environmental Control Officer</i></p> <p><u>Tasks Included</u></p> <ul style="list-style-type: none"> Formulated and implemented long-range plans for environmental programs.

		<ul style="list-style-type: none"> Performed inspections, groundwater sampling and soil sampling. Performed environmental site assessments and provided remediation recommendations. Inspected sites to ensure adherence to environmental regulations. Training of contractors of appropriate environmental practices. Attending site meetings with contractors. Liaison with state departments. Act as a public participation assistant as and when required.
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PROJECT EXPERIENCE

INFRASTRUCTURE DEVELOPMENT PROJECTS (PIPELINES, WATER RESOURCES AND INDUSTRIAL

Basic Assessment and Environmental Programmes

Project	Client Name	Role
Lombardy East Stream Flow Reduction Activities	Johannesburg Road Agency	Project Manager & EAP
The Whisken K54 Road development	Balwin Properties Limited on behalf of Gautrans	Public Participation Assistant

Part 1 Amendment

Project	Client Name	Role
Malibongwe Pipeline	Codevco	Project Manager & EAP

Water Use License Applications and Environmental Programmes

Project	Client Name	Role
Crowthorne Leogem Sewer Pipeline	Leogem Property Projects (Pty) Ltd on behalf of	Project Manager & EAP
Diepsloot Klevebank Sewer pipeline	Eris Property Group (Pty) Limited	Project Manager & EAP
Kyalami Heights X4 Sewer Pipeline	Church of Scientology	Project Manager & EAP
Lombardy East Stream Flow Reduction Activities	Johannesburg Road Agency	Project Manager & EAP

General Authorisation

Project	Client Name	Role
Alinta Extension 4 Stormwater Infrastructure	Balwin Properties	Project Manager & EAP
Celtisdal Stormwater Infrastructure	Cosmopolitan Projects (Tshwane) Pty Ltd	Project Manager and EAP
Erasmus Estate – Road Crossing	Erasmus Estate Trust	EAP
Olivedale Retirement Village Stormwater Infrastructure	Olivedale Retirement Village NPO	EAP
Gem Valley Mixed Use Development Stormwater Culvert	Central Developments (Pty) Ltd	Project Manager & EAP

Environmental Compliance

Project	Client Name	Role
Diepsloot Porcupine Park Avenue	Valumax Northern Farms (Pty) Ltd	ECO

HOUSING AND URBAN PROJECTS

Environmental Impact Assessments and Environmental Management Programmes (EMPr)

Project	Client Name	Role
Dersley Springs Mixed Used Development	Royal Albatross (Pty) Ltd	EAP
Green Valley Residential Development	Balwin Properties Limited	Project Manager & EAP
Irene Ridge Mixed Use Development	M&T Developments	EAP
Onderstepoort Extension 42 Mixed Use Development	Power Developments (Pty) Ltd	EAP
Reigerpark X10 Mixed Use Development	Living Africa (Pty) Ltd	EAP
Sammy Marks Mixed Use Development	Abland	EAP
Swaziland		

Basic Assessments and Environmental Management Programmes

Project	Client Name	Role
Atteridgeville X47 Light Industrial Development	JT Group (Pty) Ltd	Project Manager
Erasmus Estate Mixed Use Development	Erasmus Estate Trust	EAP
Germiston Cemetery	Living Africa (Pty) Ltd	Project Manager & EAP
Homes Haven X24	Central Developments (Pty) Ltd	EAP
Leeuwfontein Shopping Centre	McCormick Property Group	Project Manager & EAP
Lewende Woord Bronkhorstspuit Church and Rehabilitation Centre	Lewende Woord Church and Rehabilitation Centre	EAP
Spes Magte	South African Special Forces	EAP
Waterfall Polofields	Balwin Properties	EAP
Willaway Residential Development	3V Projects	EAP
Waterkloof Marina Retirement Village	Central Development Projects	EAP

Part 2 Amendments

Gem Valley Hauptfleisch	Gem Valley Hauptfleisch (Pty) Ltd	Project Manager & EAP
Greenlee Residential Develop	Balwin Properties Limited	EAP
Heidelberg X25 Mixed Use Development	Mantracare (Pty) Ltd	Project Manager & EAP
The Reid Montessorri School	Balwin Properties	EAP

Part 1 Amendments

Apex X10 Industrial Development	Moolman Group	EAP
Amberfield X47	Central Developments (Pty) Ltd	Project Manager
Clayville X50 and X71 Mixed Use Development	Valumax Midrand (Pty) Ltd	Project Manager & EAP
Klerksoord Mixed Use Development	SafDev (Pty) Ltd	Project Manager & EAP
Mooikloof Mega City	Balwin Properties Limited	EAP
Riverside View X30 – X35	Valumax Northern Farms (Pty) Ltd	Project Manager & EAP

GPEMF

Project	Client Name	Role
Krugerus X9 Residential Development	Moolman Group	Project Manager & EAP
Linbro Park Klulee Residential Development	Balwin Properties Limited	Project Manager & EAP
Theresa Park X66 & X67	Social Housing Regulatory Authority	Project Manager & EAP

NEMA Query

Project	Client Name	Role
Kwa-Mhlanga Crossing	Top Spot (Pty) Ltd	Project Manager & EAP
Waterfall Polofields Show block	Balwin Properties Limited	EAP

24G Rectification Application

Project	Client Name	Role
Dekenah Street	Alrode CC	EAP
Mopane Grootvlei	RuaCon	Project Manager

Water Use License Applications

Project Name	Client Name	Role
Botesdal X15 Light Industrial Development	Open Energy (Pty) Ltd	Project Manager & EAP
Clayville X45 Mixed Use Development	Valumax Midrand (Pty) Ltd	Project Manager & EAP
Ermelo Shopping Centre	Moolman Group	Project Manager & EAP
Gem Valley Hauptfleisch Mixed Use Development	Gem Valley Hauptfließch (Pty) Ltd	Project Manager & EAP
Lewende Woord Bronkhorstspuit Church and Rehabilitation	Lewende Woord Bronkhorstspuit	Project Manager & EAP
Matsamo Mall Shopping Centre	Moolman Group	Project Manager & EAP
Miracle Meadow Water Bottling Facility	Mr Pieter du Randt Pretorius	Project Manager & EAP
Reigerpark Extension 10 and Comet X18 Mixed Use Development	Living Africa 2 (Pty) Ltd	Project Manager & EAP
Norton Park X8 Residential Development	SSI Group	Project Manager & EAP
Onderstepoort X42 Mixed Use Development	Power Developments (Pty) Ltd	Project Manager & EAP
The Whisken	Balwin Properties Limited	Project Manager & EAP
Zwartkop 187 Mixed Use Development	Moolman Group	Project Manager & EAP
Zuurfontein Ptn 221 Residential Development	M&T Developments	Project Manager & EAP

General Authorisations

Project	Client Name	Role
Thokoza Park Recreational Park	City of Ekurhuleni	Project Manager & EAP

Schedule 1 Authorisations

Project	Client Name	Role
Builders Warehouse Midrand	Massmart (Pty) Ltd	Project Manager
Greenlee Borehole Registration	Balwin Properties Limited	Project Manager & EAP
Willway Residential Development	3V projects (Pty) Ltd	Project Manager & EAP

Environmental Auditing

Project	Client Name	Role
Amberfield Estate	Central Developments (Pty) Ltd	Environmental Control Officer
Blue Hills Equestrian Estate	Century Property Development	Environmental Control Officer
Chuma Mall	Eris Property Group	Environmental Control Officer
Diepsloot Ptn 1 Mixed Use Development	Valumax Northern Farms (Pty) Ltd	Environmental Control Officer
Kyalami Hills	Balwin Properties Limited	Environmental Control Officer
Kyalami Ridge Mall	Kyalami Retail Africa	Environmental Control Officer
South Hills Mixed Use Estate	Calgro M3	Environmental Control Officer
Waterfall Estate	Century Property Developments	Environmental Control Officer

CURRICULUM VITAE OF Matthew Ellero

Comprehensive CV

Profession : Environmental Consultant

Specialisation: Environmental reporting, water use licensing and cartography (GIS),

Work Experience: 1 year

VOCATIONAL EXPERIENCE

Matthew is an Environmental Consultant with 1 year of experience in the environmental field. He holds a MSc in Environmental Sciences from the University of the KwaZulu-Natal. He also holds a BSc Hons (cum laude) in Environmental Science and a BSc in Environmental Science.

Matthew's experience includes contributing to Environmental Authorisations (Basic Assessments and Scoping and Environmental Impact Assessments) and Water Use Authorisations. He therefore has a wide ranging experience with various legislation including the National Environmental Management Act (NEMA), National Heritage Resources Act (NHRA), National Environmental Management Waste Management Act (NEM:WA), National Environmental Management Biodiversity Act (NEM:BA), the Mineral and Petroleum Resources Development Act (MPRDA), National Environmental Management Air Quality Act (NEM:WA), and the National Water Act (NWA), having applied them for numerous small, medium and large-scale projects across various industries. Matthew also has experience in conducting specialist work and has contributed to noise impact assessments, air quality monitoring and air quality impact assessment, and biodiversity monitoring. He has contributed towards reporting for mine closure plans and costings.

SKILLS BASE AND CORE COMPETENCIES

- Environmental management and environmental permitting
- Project management
- Public participation and stakeholder engagement
- Field work skills
- Adaptability and ability to handle pressure
- Organisational skills
- MS Office Package (Word, PowerPoint and Excel)
- Google Earth
- ArcGIS and remote sensing

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- Masters of Science (MSc) in Environmental Science
- Bachelor of Science (BScHons) in Environmental Science
- Bachelor of Science in Environmental Science

EMPLOYMENT

Date	Company	Roles and Responsibilities
2022 - Current:	Savannah Environmental (Pty) Ltd	<i>Environmental Consultant</i> <u>Tasks include:</u> <ul style="list-style-type: none">• Undertake environmental screening assessments, environmental permitting and environmental authorisation applications.• Undertake water use authorisation applications on the e-WULAA system.• Efficient and quality report writing to execute and manage the delivery of environmental impact assessment (EIA) reports and Environmental Management Programmes in line with the requirements of the National Environmental Management Act and EIA Regulations.• Liaison with relevant environmental authorities.• Execution of the public participation process.• Professional client liaison.• Project management.• Manage third parties or sub-consultants to which functions have been outsourced.• Preparation of proposals and budgets

Date	Company	Roles and Responsibilities
2019 - 2020:	Golder Associates Africa (Pty) Ltd	<p><i>Junior Environmental Consultant</i></p> <p><u>Tasks included:</u></p> <ul style="list-style-type: none"> • <i>Providing assistance on local environmental and social impact assessments.</i> • <i>Contributing towards water use license applications.</i> • <i>Undertaking rehabilitation and implementation strategies</i> • <i>Conducting annual integrated water and waste management plan updates.</i> • <i>Conducting annual air quality monitoring</i> • <i>Conducting annual noise monitoring</i> • <i>Preparing project proposal documents and budgets.</i> • <i>Assisting in the compilation mine closure plans and costing.</i> • <i>Undertaking field work and the installation of air quality monitoring and noise monitoring machines.</i> • <i>Liaising with clients and regulatory authorities.</i> • <i>Providing administrative support to project managers.</i> • <i>Limited project management</i>

PROJECT EXPERIENCE

Project Name & Location	Client Name	Role
<i>Kathu substation dust fallout monitoring, Kathu</i>	<i>Eskom</i>	<i>Junior Environmental Consultant</i>
<i>Cartonville pipeline basic assessment, Cartonville</i>	<i>AngloGold Ashanti</i>	<i>Junior Environmental Consultant</i>
<i>Klipspruit discard dump expansion, Ogies</i>	<i>South32</i>	<i>Junior Environmental Consultant</i>
<i>Zibulo discard dump expansion, Ogies</i>	<i>Anglo American</i>	<i>Junior Environmental Consultant</i>
<i>Rehabilitation strategy and implementation plan, Thubatse</i>	<i>Thubatse Samancore Chrome</i>	<i>Junior Environmental Consultant</i>
<i>Rehabilitation strategy and implementation plan, Hendrina</i>	<i>Mbuyelo Coal</i>	<i>Junior Environmental Consultant</i>
<i>Noise monitoring report, Vanderbijlpark</i>	<i>Seriti</i>	<i>Junior Environmental Consultant</i>
<i>Mzimmkhulwana and Mzimkhulu biomonitoring, Port Shepstone</i>	<i>Idwala</i>	<i>Junior Environmental Consultant</i>
<i>Hartbeespoort dam biomonitoring, Hartebeestpoort</i>	<i>Water research council</i>	<i>Junior Environmental Consultant</i>
<i>Glencore mines water use license consolidation, various</i>	<i>Glencore</i>	<i>Junior Environmental Consultant.</i>

<i>Cullinan crack survey</i>	<i>Petra Diamonds</i>	Junior Environmental Consultant.
<i>Marikana and Karee desktop pre-feasibility screening study</i>	<i>Sibanye Stillwater</i>	Junior Environmental Consultant.
<i>Aberdeen Wind Energy Farm basic assessment</i>	<i>Acciona</i>	Junior Environmental Consultant.
<i>Castle wind energy farm split amendment</i>	<i>ACED</i>	Junior Environmental Consultant.
<i>Engie part 1 contact person and EA holder amendments</i>	<i>Engie</i>	Junior Environmental Consultant.



CURRICULUM VITAE OF MOLATELA LEDWABA

Comprehensive CV

Profession :	Public Participation and Social Consultant
Specialisation:	Public participation process, stakeholder engagement, Facilitation (focus group and public meeting)
Work Experience:	13 years

VOCATIONAL EXPERIENCE

Molatela Ledwaba works as a public participation and social consultant at Savannah Environmental. She has a BA in Environmental Management and is currently working on her BA(Hons) in Environmental Management. Molatela has thirteen (13) years of experience in office administration, project coordination, and public participation in a variety of industries including geohydrological and environmental services projects, but not limited to infrastructure development and mining.

She has worked for both small and large organizations, gaining experience in research, data collection, planning and execution of social surveys, data management and community facilitation. Molatela has experience working on projects in South Africa and Kenya. She has been taking part in public participation, stakeholder engagement and socioeconomic baseline. She has successfully completed several public participation processes for ESIA BA, and WULA projects.

SKILLS BASE AND CORE COMPETENCIES

- Competent in Microsoft Word, PowerPoint, excel and Outlook
- Public Participation and Stakeholder Engagement
- Geographical Information Systems (basic – ArcGis & QGis)
- Social Research
- Comments and Response Report
- Facilitation
- Desktop -Socio economic baseline
- Ability to accurately track inventory and compile reports
- Great team player and can work well independently
- Google Earth

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- BA(Hons) Environmental Management (current) University of South Africa
- BA Environmental Management (2017) University of South Africa

EMPLOYMENT

Date	Company	Roles and Responsibilities
<p>29 August 2022 - Current:</p>	<p>Savannah Environmental (Pty) Ltd</p>	<p><i>Public Participation and Stakeholder Engagement</i> <u>Tasks include:</u></p> <ul style="list-style-type: none"> • Facilitation of stakeholder meeting • The execution of all tasks relating to public participation such as identification of affected parties and relevant stakeholders, ongoing stakeholder consultation, liaison with relevant environmental authorities and stakeholders, arranging, co-ordinating and attending public consultation meetings, compilation of public participation documentation and public administration tasks • Administration task associated with the public participation process required to be undertaken in terms of the National Environmental Management Act, 1998(Act No.107 of 1998), read with the EIA Regulations (2014), as amended. Tasks include, inter alia identification of affected parties and relevant stakeholders, arranging public consultation meetings, compilation of public participation documentation and filing of public participation related records, report release, administration uploads and accurate record keeping. • Administrative support to environmental authorisation, permitting and licensing tasks and undertake site visits to support public participation or social impact assessment processes. • Project-related GIS mapping. • Implementation of appropriate procedures and mechanisms to consolidate and complete a compliance check on project-related files with a view to enhance overall management of project documentation for all closed, live

Date	Company	Roles and Responsibilities
		<p>and future projects executed by the company.</p> <p><i>Social Consultant</i> <u>Tasks include:</u></p> <ul style="list-style-type: none"> • Compilation of Social Impact Assessment • Conduct socio-economic analyses and public participation processes • Undertaking community engagement and liaison activities • Contributing socio economic baseline details to the EIA process • Liaise with landowners, government at various levels • Demographic profiling • Conducting research • Compile and review reports for submission to client and/ or legal authorities • Project, client and management
<p>10 June 2022 – 26 August 2022</p>	<p>Nemai Consulting Cc</p>	<p><u>Environmental Officer</u> <u>Tasks included:</u></p> <ul style="list-style-type: none"> • Contributing to EIA projects • Conducting site visits • Carrying out Stakeholder Engagement process • Data analysis • Public Participation process • Conducting Social survey • Community Participation Consultant
<p>01 March 2018 – 31 July 2022</p>	<p>Golder Associates Africa</p>	<p>Social Sciences Project Coordinator <u>Tasks included:</u></p> <ul style="list-style-type: none"> • Compilation of reports, i.e., public participation and Socio-economic baseline. • Helped with Social research. • Contributing to EIA projects. • Desktop study analysis and assisted with Water Use License applications. • Compiled and maintained stakeholder database. • Compilation of announcement documents for EIA projects. • Assisted with mail and email merges.

Date	Company	Roles and Responsibilities
		<ul style="list-style-type: none"> • Liaised with a wide range of stakeholders representing various sectors of society. • Coordinated the publication of mandatory advertisements and collected tear sheets. • Coordinated delivery of documents to the authorities. • Captured stakeholder comments and social survey data in appropriate MS Office programmes. • Preparation of meeting agendas, presentations, and compilation of minutes. • Carried out structural crack survey. • Arranged logistics for public participation meetings. • Performed general administrative support to Environmental Services division. • Managing courier services. • Coordinating travel arrangements and accommodation bookings
<p>26 May 2006 – 31 May 2017</p>	<p>Khulani GeoEnviro Consultants Pty Ltd</p>	<p>Office Administrator/ Database and GIS Operator Tasks included:</p> <ul style="list-style-type: none"> • Geohydrological and geological data capturing on Aquabase and Log plot. • GIS work and map productions (Qgis and ArcGIS). • Contributed to compilation of geohydrological reports. • Prepared and attended Public Participation Meetings. • Liaised with relevant government departments regarding issuing of Record of Decision. • Prepared Water Use License Applications for boreholes. • Performed general administrative support to specific projects. • Operated Switchboard by answering, screening, and forwarding calls to the person(s), taking messages and scheduling appointments. • Greeted clients and visitors with a positive and helpful attitude, determined nature

Date	Company	Roles and Responsibilities
		<p>and purpose of visit, directed, and escorted them to the relevant person.</p> <ul style="list-style-type: none"> • Collected, distributed messages and managed courier deliveries. • Made travel arrangements and accommodation bookings. • Coordinating monthly payments of office bills. • Filling and maintenance of electronic and manual record for department within the company. • Coordinated appointments, meeting and managed the MD's diary effectively. • Took minutes of meetings. • Ordered office supplies and maintained proper stock levels.

PROJECT EXPERIENCE

Project Name & Location	Client Name	Role
EIA Zondereinde PV Solar Energy	Letsatsi PV (Pty) Ltd	Public Participation Consultant
EIA Buffelspoort PV Solar Energy	Buffelspoort Solar Project (Pty) Ltd	Social Impact Assessor
EIA- Danielskuil Solar PV and Wind Farm Energy	AGV Renewable Energy Pty Ltd	Public Participation and Social Impact Assessor
Orange Farm to Johannesburg Inner City Integrated Corridor Management, City of Johannesburg	SMEC South Africa	Stakeholder Engagement Consultant
Illovo Water Pipeline Upgrade, City of Johannesburg	PHB Engineers	Social Facilitator
Application for Environmental Authorisation (EA), Water Use Licence (WUL) & Atmospheric Emission Licence (AEL), KwaZulu Natal	Lanele Group	Stakeholder Engagement Consultant
Water Use Licence at Kliprivier Plant, Gauteng	Twinsaver Group (Pty) Ltd	Public Participation Consultant
IWULA/ WUL, Greater Tubatse	Tubatse Ferrochrome (Pty) Ltd	Public Participation Consultant
Section 24 G and Air Emissions Licence Application, Richards Bay	Grindrod Terminals (Pty) Ltd	Public Participation Consultant
Proposed Road Realignment EIA/ EMP, Mpumalanga	Mafube Coal Mining (Pty) Ltd	Public Participation Consultant

Air Emissions Licence Application and WUL, Richards Bay	Hillside Aluminium (Pty) Ltd	Public Participation Consultant and Water Use Licence Application
EIA EMP IWULA/ WUL, Turfvlakte Coal Mine Mpumalanga	Exxaro Coal (Pty) Ltd	Water Use Licence Application
Environmental Impact Assessment, Lakenvalei & Impunzi Mine, Limpopo	Glencore Operation South Africa (Pty) Ltd	Water Use Licence and Socio-economic Baseline report Writer
Environmental and Social Impact Assessment, Democratic Republic of Congo	MMG Limited (Kinsevere Mine)	Public Participation Consultant
Seriti Metsimaholo Mining Right Application, Free state	Serite Coal (Pty) Ltd	Public Participation Consultant
Proposed Lokichar to Lamu Crude Oil Pipeline Project, Kenya	Government of Kenya and its commercial partners- Tullow-Oil Kenya Ltd, Africa Oil Turkana Ltd and Total/ Maersk Oil Kenya Ltd	Public Participation, Socio-Economic Baseline and Report writer
Basic Assessment process, Northern Cape	South32 Hotazel Manganese Mine (Pty) Ltd – Mamantwan Mine	Public Participation Consultant
Basic Assessment Process, Northern Cape	Goodrock Chemworks (Pty) Ltd	Public Participation Consultant
Basic Assessment and Water Use Licence process	AngloGold Ashanti (Pty) Ltd	Public Participation Consultant
Ibutho Coal Exploration Project, Kwa Zulu Natal	Ibutho Coal (Pty)Ltd	GIS Support
Mpefu Coal Exploration Project, Limpopo	Ibutho Coal (Pty) Ltd	GIS Support
Welbedacht Water Supply, Northwest Province	Phumaf Consulting Engineers (Pty) Ltd	Public Participation Consultant, Water Use Licence Application and GIS Support
Praktiseer and Dzumeri RDP Development Projects, Greater Tubatse	SMV Consulting Engineers	Public Participation Consultant
Coligny Water Supply, Northwest Province	Phumelela Africa (Pty) Ltd	Water Use Licence Application and GIS Support
Setlagole Water Supply	Phumelela Africa (Pty) Ltd	Water Use Licence Application and GIS Support
Itsoseng Water Supply	Phumelela Africa (Pty) Ltd	GIS Support and Report Writer
EIA for the proposed new development of houses, Northwest Province	Kananibo Investments CC	Public Participation Consultant

Andrew Husted

M.Sc Aquatic Health (*Pr Sci Nat*)

Cell: +27 81 319 1225

Email: andrew@thebiodiversitycompany.com

Identity Number: 7904195054081

Date of birth: 19 April 1979



Profile Summary

Working experience throughout South Africa, West and Central Africa and also Armenia.

Specialist experience in exploration, mining, engineering, hydropower, private sector and renewable energy.

Experience with project management for national and international multi-disciplinary projects.

Specialist guidance, support and facilitation for the compliance with legislative processes, for in-country requirements, and international lenders.

Specialist expertise include Instream Flow and Ecological Water Requirements, Freshwater Ecology, Terrestrial Ecology and also Ecosystem Services.

Areas of Interest

Sustainability and Conservation.

Instream Flow and Ecological Water Requirements.

Publication of scientific journals and articles.

Key Experience

- Familiar with World Bank, Equator Principles and the International Finance Corporation requirements
- Environmental, Social and Health Impact Assessments (ESHIA)
- Environmental Management Programmes (EMP)
- Ecological Water Requirement determination experience
- Wetland delineations and ecological assessments
- Rehabilitation Plans and Monitoring
- Fish population structure assessments
- The use of macroinvertebrates to determine water quality
- Aquatic Ecological Assessments
- Aquaculture

Country Experience

Botswana, Cameroon
Democratic Republic of Congo
Ghana, Ivory Coast, Lesotho
Liberia, Mali, Mozambique
Nigeria, Republic of Armenia,
Senegal, Sierra Leone, South Africa
Tanzania

Nationality

South African

Languages

English – Proficient

Afrikaans – Conversational

German - Basic

Qualifications

- MSc (University of Johannesburg) – Aquatic Health.
- BSc Honours (Rand Afrikaans University) – Aquatic Health
- BSc Natural Science
- Pr Sci Nat (400213/11)
- Certificate of Competence: Mondri Wetland Assessments
- Certificate of Competence: Wetland WET-Management
- SASS 5 (Expired) – Department of Water Affairs and Forestry for the River Health Programme
- EcoStatus application for rivers and streams

SELECTED PROJECT EXPERIENCE

Project Name: Biodiversity baseline assessment for the Kingline Gas Power Project

Personal position / role on project: Project Manager/ Mammal Lead

Location: Nigeria

Main project features: To conduct a wet season terrestrial and aquatic ecological baseline assessment for the proposed project. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: The Environmental and Social Impact Assessment (ESIA) the proposed Nondvo Dam

Personal position / role on project: Project Manager.

Location: Swaziland

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the proposed dam. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: The Lower Mara Environmental Flow Assessment

Personal position / role on project: Specialist Ichthyologist.

Location: Tanzania

Main project features: To determine and prescribe environmental flows (eflows) for the Mara River system, with specific consideration for the Mara Wetland.

Project Name: The Environmental and Social Impact Assessment (ESIA) the proposed solar photovoltaic facility and transmission in Cuamba

Personal position / role on project: Project Manager.

Location: Mozambique

Main project features: To conduct a single season terrestrial and aquatic ecological baseline and impact assessment for the proposed facility. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: A biodiversity baseline and impact assessment for the proposed Siguiri Gold Mine Project, in Kankan Province, Guinea.

Personal position / role on project: Project Manager.

Location: Siguiri, Guinea, West-Africa (2018/2019).

Main project features: To conduct a dual season ecological baseline assessment for the expected impact footprint area. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: A biodiversity baseline and impact assessment for the proposed Lesotho Bulk Water Supply Scheme, Lesotho.

Personal position / role on project: Wetland & Aquatic Ecologist, PROBFLO and Project Manager.

Location: Mohale's Hoek, Lesotho (2018).

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the pipeline route and proposed weir. The study was required to meet national and IFC requirements, including a Critical Habitat assessment. The study also contributed to prescribing Instream Flow Requirements using PROBFLO for the system.

Project Name: A biodiversity baseline and impact assessment for the proposed Pavua Hydropower Project, in Sofala Province, Central Mozambique.

Personal position / role on project: Project Manager.

Location: Sofala Province, Mozambique (2017).

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the expected impact footprint area, including Gorongosa National. The study was required to meet national and IFC requirements, including a Critical Habitat assessment. The study also contributed to prescribing Instream Flow Requirements for the system.

Project Name: An aquatic and wetland specialist baseline and impact assessment for the proposed Onshore 2D seismic Survey in Block P5-A, in Maputo and Gaza Provinces.

Personal position / role on project: Wetland / Aquatic Specialist.

Location: Maputo & Gaza Provinces, Mozambique (2016).

Main project features: To conduct a dry season (Winter) ecological baseline and impact assessment of the watercourses for the proposed Delonex Energy project.

Project Name: The ecological constraints mapping and Critical Habitat re-evaluation for the Anadarko LNG project: Specialist Consultant to conduct Ecological Studies (Fauna and Habitat) and the delineation of wetland systems.

Personal position / role on project: Wetland Specialist.

Location: Afungi, Mozambique (2015).

Main project features: To identify and map the ecological constraints is to support contractor activities. To redefine the critical habitats within the project area

Project Name: A Joint Basin Survey of the Upper Orange, Lower Orange and Vaal catchments to determine the current status of the systems: Specialist Consultants to conduct Ecological Studies (Fish, Macroinvertebrate, Diatoms, Water Quality and Habitat) and report on the current status (defining system trends).

Personal position / role on project: Specialist Ichthyologist.

Location: South Africa (including Namibia, Botswana & Lesotho) (2015).

Main project features: To determine the current status of the catchments and to discuss the temporal and spatial trends of the monitoring reaches.

Project Name: Ecological baseline assessment of local river systems for the Ntem Iron Ore Mine: Specialist Consultants to Undertake Baseline Studies (Fish, Macroinvertebrate, Water Quality and Habitat).

Personal position / role on project: Senior Ichthyologist.

Location: Cameroon (2013).

Main project features: Establishment of the ecological baseline status and functioning assessment of the local river systems.

Project Name: Instream Flow Requirement determination study for the Kibali River hydropower project: Specialist Consultants to Undertake Baseline Studies (Flow, Water Quality and Geomorphology) and Instream Flow Requirement (IFR) Assessment.

Personal position / role on project: Ichthyologist and IFR.

Location: DRC (2012).

Main project features: Establishment of the ecological flow requirements of fishes within the Kibali River.

Project Name: Cost analysis, including the current and potential earing potential of an aquaculture facility: Specialist Consultants to determine the Cost (Current & Potential Earnings) and the Construction of an identical facility (Physical Costs).

Personal position / role on project: Ichthyologist.

Location: Ghana (2012).

Main project features: Conduct a detailed costs analysis of an aquaculture facility for the compensation for the removal of the operation.

Project Name: Instream Flow Requirement determination study for the Nzoro River hydropower project: Specialist Consultants to Undertake Baseline Studies (Flow, Water Quality and Geomorphology) and Instream Flow Requirement (IFR) Assessment.

Personal position / role on project: Ichthyologist and IFR.

Location: DRC (2011).

Main project features: Establishment of the ecological flow requirements of fishes within the Nzoro River.

Project Name: Environmental study to establish the baseline biological and physical conditions of the Letsibogo Dam.

Personal position / role on project: Ichthyologist.

Location: Selebi-Phikwe, Botswana (2007 - 2009).

Main project features: Evaluation of the existing fish communities within the Letsibogo Man-made lake with specific consideration of the threats of alien invasive fishes in the lake. The study resulted in the publication of two peer-reviewed papers titled: Comparative behavioural assessment of an established and a new Tigerfish *Hydrocynus vittatus* population in two man-made lakes in the Limpopo (O'Brien et al., 2013) and First observation of Africa Tigerfish (*Hydrocynus vittatus*) preying on Barn Swallows (*Hirundo rustica*) in flight (O'Brien et al., in press).

Project Name: Environmental and Social Impact Assessment of the Kazungula Bridge, Zambezi River.

Personal position / role on project: Ichthyologist.

Location: Botswana, Zambia, Namibia and Zimbabwe (2009-2010).

Main project features: Evaluation of the current ecological integrity status of various living and non-living components of the Zambezi River ecosystem and the potential ecological and social consequences of the construction and use of the Kazungula Bridge. The study showed that although water quality and habitat modification impacts will occur as a result of the construction and use of the bridge the long term impacts associated with the operation of the bridge should not result in any major impacts to the local aquatic ecosystem.

OVERVIEW

An overview of the specialist technical expertise include the following:

- Aquatic ecological state and functional assessments of rivers and dams.
- Instream Flow Requirement or Ecological Water Requirement using PROBFLO studies for river systems.
- Ecological wetland assessment studies, including the integrity (health) and functioning of the wetland systems.
- Wetland offset strategy designs.
- Wetland rehabilitation plans.
- Monitoring plans for rivers and other wetland systems.
- Toxicity and metal analysis of water, sediment and biota.
- Bioaccumulation assessment of fish communities.
- Fish telemetry assessment that included the translocation of fish as well as the monitoring of fish in order to determine the suitability of the hosting system.
- Faunal surveys which includes mammals, birds, amphibians and reptiles.
- The design, compilation and implementation of Biodiversity and Land Management Plans and strategies.

TRAINING

Some of the more pertinent training undergone includes the following:

- Wetland and Riparian Delineation Course for Consultants (Certificate of Competence) – DWAF 2008
- The threats and impacts posed on wetlands by infrastructure and development: Mitigation and rehabilitation thereof – Gauteng Wetland Forum 2010
- Ecological State Assessment of Lentic Systems using Fish Population Dynamics – University of Johannesburg/Rivers of Life 2010
- Soil Classification and Wetland Delineation – Terra Soil Science 2010
- Wetland Rehabilitation Methods and Techniques - Gauteng Wetland Forum 2011
- Application of the Fish Response Assessment Index (FRAI) and Macroinvertebrate Response Assessment Index (MIRAI) for the River Health Programme 2011
- Tools for a Wetland Assessment (Certificate of Competence) – Rhodes University 2011

- PROBFLO for conducting Ecological Flow Assessments – 2018/19

EMPLOYMENT EXPERIENCE

The Biodiversity Company (January 2015 – Present)

Director / Ecologist.

Digby Wells Environmental (August 2008 – December 2014)

Freshwater & Terrestrial Ecologist

PREVIOUS EMPLOYMENT: Econ@UJ (University of Johannesburg)

Freshwater Ecologist

ACADEMIC QUALIFICATIONS

University of Johannesburg, Johannesburg, South Africa (2009): MAGISTER SCIENTIAE (MSc) - Aquatic Health:

Title: *Aspects of the biology of the Bushveld Smallscale Yellowfish (Labeobarbus polylepis): Feeding biology and metal bioaccumulation in five populations.*

Rand Afrikaans University (RAU), Johannesburg, South Africa (2004): BACCALAUREUS SCIENTIAE CUM HONORIBUS (Hons) – Zoology

Rand Afrikaans University (RAU), Johannesburg, South Africa (2001 - 2004): BACCALAUREUS SCIENTIAE IN NATURAL AND ENVIRONMENTAL SCIENCES. Majors: Zoology and Botany.

PUBLICATIONS

Desai M., Husted A., Fry C., Downs C.T., & O'Brien G.C. 2019. Spatial shifts and habitat partitioning of ichthyofauna within the middle–lower region of the Pungwe Basin, Mozambique. *Journal of Freshwater Ecology*, 34(1), 685–702. doi: 10.1080/02705060.2019.1673221

Tate R.B. and Husted, A. 2015. Aquatic Biomonitoring in the upper reaches of the Boesmanspruit, Carolina, Mpumalanga, South Africa. *African Journal of Aquatic Science*.

Tate R.B. and Husted A. 2013. Bioaccumulation of metals in *Tilapia zillii* (Gervai, 1848) from an impoundment on the Badeni River, Cote D'Ivoire. *African Journal of Aquatic Science*.

O'Brien G.C., Bulfin J.B., Husted A. and Smit N.J. 2012. Comparative behavioural assessment of an established and new Tigerfish (*Hydrocynus vittatus*) population in two manmade lakes in the Limpopo catchment, Southern Africa. *African Journal of Aquatic Science*.

Tomschi H., Husted A., O'Brien G.C., Cloete Y., Van Dyk C., Pieterse G.M., Wepener V., Nel A. and Reisinger U. 2009. Environmental study to establish the baseline biological and physical conditions of the Letsibogo Dam near Selebi Phikwe, Botswana. EC Multiple Framework Contract Beneficiaries.8 ACP BT 13 – Mining Sector (EDMS). Specific Contract N° 2008/166788. Beneficiary Country: Botswana. By: HPC HARRESS PICKEL CONSULT AG

Husted A. 2009. Aspects of the biology of the Bushveld Smallscale Yellowfish (*Labeobarbus polylepis*): Feeding biology and metal bioaccumulation in five populations. The University of Johannesburg (Thesis).

Martinus Erasmus

B-Tech Nature Conservation (*Cand Sci Nat*)

Cell: +27 82 448 1667

Email: martinus@thebiodiversitycompany.com

Identity Number: 9209035136082

Date of birth: 03 September 1992



Profile Summary

Working experience throughout South Africa as well as West Africa.

Specialist experience in exploration, mining, engineering, hydropower, private sector and renewable energy.

Specialist guidance, support and facilitation for the compliance with legislative processes, for in-country requirements, and international lenders.

Specialist expertise includes Botany and Terrestrial Ecology.

Areas of Interest

Mining, Oil & Gas, Renewable Energy & Bulk Services Infrastructure Development, Sustainability and Conservation

Key Experience

- Familiar with World Bank and the International Finance Corporation requirements
- Environmental, Social and Health Impact Assessments (ESHIA)
- Environmental Management Programmes (EMP)
- Rehabilitation Plans and Monitoring
- Botany, especially in the Limpopo, Mpumalanga, Gauteng and North-West provinces in South-Africa.
- Veld management and Veld condition

Country Experience

Guinea
Lesotho
Liberia
Mozambique
Nigeria
South Africa
Swaziland
Zambia
Zimbabwe

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient I

Qualifications

- B-Tech in Nature Conservation, Tshwane University of Technology, Pretoria, South Africa.
- National Diploma in Nature Conservation, Tshwane University of Technology, Pretoria, South Africa.
- Cand Sci Nat (118630)

SELECTED PROJECT EXPERIENCE

Project Name: Veld Condition Assessments (VCA), Plant Diversity Assessments (PDA) And Grazing Assessments on Selected SAFCOL Plantations

Client: SAFCOL

Personal position / role on project: Project Lead and Botanist

Location: Limpopo and Mpumalanga (2020)

Main project features: Compile a VCA, PDA and grazing assessments on selected SAFCOL plantations.

Project Name: Alien Vegetation Management Plan for The Goedgevonden Mine

Client: Glencore

Personal position / role on project: Botanist

Location: Mpumalanga (2020)

Main project features: Compile an Alien Vegetation Management Plan and monitor the progress over a wet season.

Project Name: Biodiversity baseline, impact review and offset for the proposed Lanseria waste water treatment works

Client: Zitholele

Personal position / role on project: Terrestrial Ecologist

Location: Lanseria Gauteng (2020)

Main project features: Conduct fieldwork in order to compile a Biodiversity offset plan for the proposed development.

Project Name: A terrestrial specialist baseline and impact assessment for the Beitbridge Border Crossing upgrade, in the Beitbridge Town, Zimbabwe.

Client: Kongiwe.

Personal position / role on project: Terrestrial Ecologist (Botany Lead)

Location: Zimbabwe (Beitbridge) – October 2019

Main project features: To conduct a dry season (winter) ecological baseline and impact assessment for the proposed project. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: Biodiversity baseline assessment for the Kingline Gas Power Project

Personal position / role on project: Terrestrial Ecologist (Botany Lead)

Location: Nigeria (2019)

Main project features: To conduct a wet season terrestrial and aquatic ecological baseline assessment for the proposed project. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: The Environmental and Social Impact Assessment (ESIA) the proposed Nondvo Dam

Personal position / role on project: Terrestrial Ecologist (Botany Lead)

Location: Swaziland (2019)

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the proposed dam. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: The Environmental and Social Impact Assessment (ESIA) the proposed solar photovoltaic facility and transmission in Cuamba

Personal position / role on project: Terrestrial Ecologist (Botany Lead)

Location: Mozambique

Main project features: To conduct a single season terrestrial and aquatic ecological baseline and impact assessment for the proposed dam. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: A biodiversity baseline and impact assessment for the proposed Siguiri Gold Mine Project, in Kankan Province, Guinea.

Personal position / role on project: Terrestrial Ecologist

Location: Siguiri, Guinea, West-Africa (2018/2019).

Main project features: To conduct a dual season ecological baseline assessment for the expected impact footprint area. The study was required to meet national and IFC requirements, including a Critical Habitat assessment.

Project Name: A biodiversity baseline and impact assessment for the proposed Pavua Hydropower Project, in Sofala Province, Central Mozambique.

Personal position / role on project: Assistant Botanist

Location: Sofala Province, Mozambique (2017).

Main project features: To conduct a dual season terrestrial and aquatic ecological baseline and impact assessment for the expected impact footprint area, including Gorongosa National. The study was required to meet national and IFC requirements, including a Critical Habitat assessment. The study also contributed to prescribing Instream Flow Requirements for the system.

Project Name: A biodiversity baseline and impact assessment for the proposed Umsimbithi Emakhazeni Coal Mining Project, in Mpumalanga Province, South Africa.

Personal position / role on project: Terrestrial Ecologist.

Location: Mpumalanga Province, South Africa (2017).

Main project features: To conduct a dual season terrestrial ecology baseline and impact assessment for the expected impact footprint area.

Project Name: Biodiversity Assessment associated with eThembeni Integrated Mixed-use Housing Development, KwaZulu-Natal province.

Personal position / role on project: Terrestrial Ecologist

Location: South Africa (2017).

Main project features: Conduct a detailed terrestrial ecology basic assessment for the expected impact footprint area.

Project Name: A biodiversity baseline and impact assessment for the proposed Gold Mine Project, in Grand Cape Mt Province, Liberia.

Personal position / role on project: Assistant to specialist/ field technician

Location: Grand Cape Mt Province, Liberia (2015).

Main project features: To conduct a dual season ecological baseline assessment for the expected impact footprint area. The study was required to meet national and IFC (International Finance Corporation) requirements, including a Critical Habitat assessment.

OVERVIEW

An overview of the specialist technical expertise includes the following:

- Terrestrial Ecological Assessments.
- Faunal surveys which include mammals, birds, amphibians and reptiles.
- Floral surveys
- Rehabilitation Plans and Monitoring for the terrestrial component.
- Botany, especially in the Limpopo, Mpumalanga, Gauteng and North-West provinces in South-Africa.
- Veld management
- Environmental Control Officer (ECO) experience

EMPLOYMENT EXPERIENCE

CURRENT EMPLOYMENT: The Biodiversity Company (August 2017 – Present)

The team at The Biodiversity Company have conducted stand-alone specialist studies and provided overall guidance of studies with a pragmatic approach for the management of biodiversity that takes into account all the relevant stakeholders, most importantly the environment that is potentially affected. We manage risks to the

environment to reduce impacts with practical, relevant and measurable methods.

Roles include:

- Manager of the Terrestrial Unit;
- Faunal and Floral surveys for baseline, basic or impact assessments;
- Floral surveys for vegetation verifications, veld condition assessment, management plans and alien invasive species control;
- Report writing;
- Equipment management;
- Technical assistant for fieldwork for the aquatics and wetland departments; and
- Specialist inputs to the above mention services.

EMPLOYMENT: Enviro-Insight (January 2015 – July 2017)

Enviro-Insight assigned me to the role of general and field assistant. I assisted most specialists in field but also had administrative duties:

- The processing and uploading of several organisms to the ADU (Animal Demography Unit) virtual museum, which assists in obtaining spatial data concerning those species.
- Assisted with the generation of the companies' DNA database which distributes the DNA samples to the South African National Biodiversity Institute (SANBI).
- Assisted with field work involving all the different specialist work which includes mammalogy, herpetology and botany.

ACADEMIC QUALIFICATIONS

B-Tech in Nature Conservation, Tshwane University of Technology, Pretoria, South Africa:

Title: The expansion of the distribution of *Xenopus muelleri*.

National Diploma in Nature Conservation, Tshwane University of Technology, Pretoria, South Africa

Matthew Mamera

PhD Soil Science (*Cand Nat Sci*)

Cell: +27 785 772 668

Email: matthew@thebiodiversitycompany.com

Identity Number: 8810315983183

Date of birth: 31 October 1988



Profile Summary

Working experience throughout South Africa

Specialist experience with pedology and agriculture.

Specialist expertise include hydropedology, pedology, land contamination, agricultural potential, land rehabilitation, rehabilitation management and wetlands resources.

Experience hydropedological modelling

Areas of Interest

Mining, Farming, Soil and Water quality contamination, Sanitation management, Sustainability and Conservation.

Key Experience

- Environmental Impact Assessments (EIA)
- Environmental Management Programmes (EMP)
- Wetland delineations
- Rehabilitation Plans
- Soil taxonomic classification (SA forms and WRB groups)
- Hydropedology assessments
- Agriculture potential assessments
- Land contamination assessments

Country Experience

South Africa: All Provinces

Nationality

Zimbabwean (SA Permanent Residence)

Languages

English – Proficient

Ndebele, Xhosa, Shona – Proficient

Qualifications

- PhD (University of the Free States)- Soil Science (Hydropedology, Sanitation and Water quality management)
- MSc (University of Fort Hare) – Soil Science (Hydropedology, Sanitation and Water quality management)
- BSc Honours *Cum laude* (University of Fort Hare) – Soil Science (Hydropedology, wetlands delineation and rehabilitation)
- BSc Agricultural Soil Science
- Cand Nat Sci 116356
- SSSSA- Mane01

SELECTED PROJECT EXPERIENCE

Project Name: Trilateral NRF Joint project research between South Africa, Mozambique and Zambia

Personal position / role on project: Sanitation, Water management and Hydropedology specialist

Location: Phuthaditjhaba - QwaQwa , Eastern Free State Province and Bloemfontein, South Africa

Main project features: To conduct field work for soil and water surveys sampling, soil taxonomic classification, hydropedological surveys and modeling, water and soil contamination monitoring (Bacteria and Inorganic contaminants), soil analysis, sociological surveys, technical report deliverables

Project Name: Mzimvubu Water Project - Baseline indicators for long term monitoring

Personal position / role on project: Hydropedology and water quality specialist

Location: Maclear- Ntabelanga, Eastern Cape Province, South Africa

Main project features: To conduct environmental assessment on the proposed Mzimvubu and Laleni dams potential on hydropedology behaviour and contaminant migrations. Soil classifications, water and contaminant modeling. Impact assessments were completed to identify the level of risk associated with the proposed dams in the catchment, the effectiveness of various mitigation measures using soil pedological forms as well as making recommendations to ensure the conservation of sensitive receptors.

OVERVIEW

An overview of the specialist technical expertise include the following:

- Soil classification and agricultural assessments.
- Stripping and stockpiling guidelines.
- Soil rehabilitation plans.
- Soil and stockpile monitoring plans.
- Hydropedological assessments.

TRAINING

Some of the more pertinent training undergone includes the following:

- Workshop on digital soil mapping (QGIS).

EMPLOYMENT EXPERIENCE

University of the Free States and University of Fort Hare (January 2016 - December 2021)

- **Researcher** work included; soil and water sampling, soil analysis, soil classifications, project management, Hydropedological surveys, Sanitation and water quality management and report writing.
-

CURRENT EMPLOYMENT: The Biodiversity Company (March 2022 – Present)

- **Scientific report writing** to ensure that the relevant standards and requirements have been attained, namely local country legislation, as well as WB, EP and IFC requirements.

ACADEMIC QUALIFICATIONS

University of the Free State (2021): Doctor of Philosophy (PhD) – Soil Science (Sanitation, Water quality and Hydropedology):

Title: *Assessing pollution and managing faecal sludge through biochar applications in Phuthaditjhaba, South Africa*

University of Fort Hare (2018): Masters of Science (MSc) – Soil Science – (Sanitation, Water quality and Hydropedology)

Title: *Pollution potential of on-site dry sanitation systems associated with the Mzimvubu Water Project, Eastern Cape, South Africa*

University of Fort Hare (2015): Bachelor of Science Honours (Hnrs) – Soil Science

Title: *Wetlands water Regimes, Carbon sequestration, Mapping and soil hydro-morphological feature changes as linked to the proposed large dam constructions for the Mzimvubu Water Project (MWP), South Africa.*

University of Fort Hare (2014): Bachelor of Science Agriculture in Soil Science. Majors: Soil Science

SCIENTIFIC PUBLICATIONS

- 2018 - Application of Hydropedological Information to Conceptualize Pollution Migration from Dry Sanitation Systems in the Ntabelanga Catchment Area, South Africa.
- 2020 - Community Faecal Management Strategies and Perceptions on Sludge Use in Agriculture
- 2020 - Sensitivity and calibration of the FT-IR spectroscopy on concentration of heavy metal ions in river and borehole water sources
- 2021 - Potential Use of Biochar in Pit Latrines as a Faecal Sludge Management Strategy to Reduce Water Resource Contaminations: A Review
- 2022 - Treatment of faecal sludge and sewage effluent by pinewood biochar to reduce wastewater bacteria and inorganic contaminants leaching

CONFERENCE AND WORKSHOP PRESENTATIONS

- 2018 - NLEIP Extended Abstract Barrat Hall, Rhodes University. Title- An overview of research work as University of Fort Hare, in the Ntabelanga catchment area.
 - 2019, 2020, 2022 – Combined Congress Presentations- UFS
 - 2021 - Zambia, SA and Mozambique Trilateral: Joint researchers' midterm project review symposium
-



CEDAR TOWER
SERVICES

CURRICULUM VITAE



Jenna Lavin

Tel: 083 619 0854 (c); 013 0131 (w)
E-mail address: jenna.lavin@cedartower.co.za
ID number: 8512050014089

EDUCATION:

Tertiary

- 2014 - M.Phil in Conservation of the Built Environment (University of Cape Town)
Ongoing - expected to graduate in 2015
- 2011 Continued Professional Development Course in Urban Conservation Management (University of Cape Town) Part I and Part II
- 2010 M.Sc. with Distinction in Archaeology (University of Cape Town)
Title: *Palaeoecology of the KBS member of the Koobi Fora Formation: Implications for Pleistocene Hominin Behaviour.*
- 2007 B.Sc. Honours in Archaeology (University of Cape Town)
Title: *The Lost Tribes of the Peninsula: An Investigation into the historical distribution of Chacma baboons (*Papio ursinus*) at the Cape Peninsula, South Africa.*
Koobi Fora Field School, Rutgers University (U.S.A.)/ National Museums of Kenya
- 2006 B.Sc. Archaeology (University of Cape Town)
B.Sc. Environmental and Geographic Science (University of Cape Town)

Secondary

- 1999-2003 Rustenburg High School for Girls
Firsts in English, Afrikaans, Mathematics HG, Biology HG, History HG, Entrepreneurship.



CEDAR TOWER
SERVICES

EMPLOYMENT HISTORY:

PROFESSIONAL DEVELOPMENT

Environmental and Heritage Management:

- Head of Heritage Operations for Heritage CTS Consultants and member of OpenHeritage NPC.
July 2016 to present
- Assistant Director for Policy, Research and Planning at Heritage Western Cape.
August 2014 to June 2016

Responsibilities include drafting of new heritage related policy, the grading and declaration of Provincial Heritage Sites, the development of Conservation Management Plans, facilitating the development of inventories of heritage resources through local authorities as well as managing the development of the Western Cape's Heritage Information Management System (HIMS).

Acting Deputy Director from April to December 2015.

- Heritage Officer for Palaeontology and for the Mpumalanga Province at the South African Heritage Resources Agency (SAHRA).
January 2013 to June 2014

Responsibilities include dealing with palaeontological permit applications in terms of Section 35 of the NHRA and development applications in terms of Section 38 of the NHRA. Projects included the development of a National Palaeotechnic Report identifying significant palaeontological deposits throughout SA, as well as developing professional relationships between SAHRA and the Palaeontological Society of South Africa (PSSA) and the Geological Society of South Africa (GSSA). During this time, I was part of the team that developed the digitised National Palaeontological Sensitivity Map (<http://www.sahra.org.za/about/news/nov2013/palaeosensitivitymap>), the first of its kind in the world.

- Heritage Officer for Archaeology, Palaeontology and Meteorites at Heritage Western Cape (HWC).
September 2010 to December 2012

HWC is a Public Entity that forms part of the Heritage Resource Management Component of the Provincial Governments' Department of Cultural Affairs and Sport (DCAS). Projects included the declaration of Pinnacle Point and the West Coast Fossil Park as Provincial Heritage Sites (PHS), the management of the development of the Baboon Point PHS Conservation Management Plan as well as an educational outreach program as part of the DCAS MOD Centre Project.



CEDAR TOWER
SERVICES

- Heritage Officer for the Archaeology, Palaeontology and Meteorites Unit of the South African Heritage Resources Agency (SAHRA) as part of a three month contract.
January 2010 to March 2010
- Environmental Control Officer, Amathemba Environmental Management Consulting
Part time: 2007 to 2009

Other

My private experience as a traveler in South Africa, Tanzania, Kenya, Namibia, Zambia, Malawi and Mozambique has inspired a passion for the conservation of environmental and heritage resources. I am passionate about sustainable living, with my Bachelor of Science in Environmental and Geographical Science providing a framework on which to base my values.

With a friend, I established the fundraising initiative, Chicks4Change, through which we managed to organize a number of successful events and raise R40 000 for Project Rhino to assist with anti-poaching initiatives.

In 2013 I was asked to join the panel of judges for the Ministerial awards for Heritage in the Western Cape. From 2013 to July 2014, I was a member of the Heritage Western Cape Archaeology, Palaeontology and Meteorites Committee. In July 2014, I presented at the Conference for the Palaeontological Society of South Africa on the use of GIS in the management of palaeontological resources in the face of increased development pressures. In April 2015 I participated in a conference on Landscape Archaeology hosted by the Leakey Foundation in San Fransisco, presenting on the management of archaeological landscapes in South Africa. In April 2016, I presented at the ICAHM Conference in Salalah, Oman on the management of archaeological heritage in South Africa.

In November 2013, I was awarded a bursary from the Department of Arts and Culture to complete the Masters in Philosophy in Conservation of the Built Environment through the UCT Faculty of Engineering and the Built Environment in 2014 and 2015.

I am a paid up member of the Association for Southern African Professional Archaeologists (ASAPA), the Association of Professional Heritage Practitioners (APHP), the Palaeontological Society of South Africa (PSSA) and ICOMOS South Africa, for which I am Vice-President of the Board. I am also a member of the International Committee for Archaeological Heritage Management (ICAHM).

CURRICULUM VITAE LOURENS DU PLESSIS

PERSONAL INFORMATION AND CONTACT DETAILS

Name: Lourens Martinus du Plessis
Date of birth: 1969-11-13
Marital status: Married
Nationality: South African
Profession/specialisation: Geographer/environmental GIS specialist
Company: MetroGIS (Pty) Ltd
Years with firm: 11 years
Position: Director
Experience: 20 years
Postal address: PO Box 384, La Montagne, 0184
Telephone/fax: 012 349 2884/5 (w) 082 922 9019 (cell) 012 349 2880 (fax)
E-mail: lourens@metrogis.co.za

KEY QUALIFICATIONS AND EXPERIENCE

Primary function

The application of Geographic Information Systems (GIS) in environmental planning and management, impact assessments and spatial modeling.

Experience and expertise

- Data sourcing and acquisition
- Data capture
- Data evaluation
- Data conversion and transfer
- GIS database development, implementation and maintenance
- Spatial analysis/modelling (visibility, slope, aspect, shadow, surface, raster, proximity, etc.)
- Digital terrain/elevation modeling
- Terrain evaluation
- Image processing
- Impact assessment and impact management
- Environmental management
- Decision support systems interface development
- Project management
- Map production, display, queries and reporting
- Environmental sciences expertise
- Process development
- Visual impact assessment

Technological (software) expertise

- Arc/Info and ArcGIS
- ArcView
- PlanetGIS
- Vistapro (virtual landscape rendering software)
- Various GIS support software packages and applications
- Range of Microsoft standard applications (including Microsoft Word/Excel/Access, etc.)

Awards

Award: Best South African Environmental Technical Paper
Awarded for: National Environmental Potential Atlas (ENPAT National)
Awarded by: Environmental Planning Professions Interdisciplinary Committee (EPPIC)
Date: 1995

Award: Map Gallery Most Analytical Competition - 3rd Place
Awarded for: Environmental Potential Atlas for South Africa
Awarded by: Environmental Systems Research Institute (ESRI)
Date: 1997 International ESRI User Conference

Award: Best Cartographic Map Gallery Competition - 3rd Place
Awarded for: Environmental Potential Atlas for South Africa (Publication)
Awarded by: Environmental Systems Research Institute (ESRI)
Date: 1998 International ESRI User Conference

Award: QDC Performance Award
Awarded for: ENPAT Development
Awarded by: Q Data Consulting
Date: 1998

Award: Best South African Environmental Technical Paper
Awarded for: Environmental Potential Atlas for South Africa (Publication)
Awarded by: Environmental Planning Professions Interdisciplinary Committee (EPPIC)
Date: 1998

Publications/maps featured in publications

Name: Environmental Potential Atlas for South Africa
Authors: W. van Riet, J. van Rensburg, P. Claassen, L. du Plessis and T. van Viegen
Publisher: J.L. van Schaik
Date: 1997

Name: ESRI Map Book (Volume 13)
Authors: Various
Publisher: Environmental Systems Research Institute (ESRI)
Date: 1998

Name: Pilanesberg Official Map and Park Guide
Authors: North-West Parks & Tourism Board and Jacana
Publisher: Jacana Media (Pty) Ltd
Date: 2001

Name: KwaZulu-Natal - A celebration of biodiversity
Authors: Jacana
Publisher: Jacana Media (Pty) Ltd
Date: 2001

Name: Garden Route - Still Bay to Storms River (Discover the Magic)
Authors: Jacana
Publisher: Jacana Media (Pty) Ltd
Date: 2003

Name: Lowveld and Kruger Guide

Authors: High Branching Team
Publisher: Jacana Media (Pty) Ltd
Date: 2004

Name: Heights to Homes to Oceans (H₂O) Water Wise information poster
Authors: Rand Water
Publisher: Rand Water
Date: 2004

Name: Kruger National Park Map and Photographic Guide
Authors: Andy Tinker Photography
Publisher: Andy Tinker Photography
Date: 2007

WORK EXPERIENCE/EMPLOYMENT DETAILS

GisLAB CC (Geographic Information Systems Laboratory - University of Pretoria)
Period: 4/1990 - 9/1997
Position: Member / Project Manager

GISBS (Geographic Information Systems Business Solutions - Q Data Consulting)
Period: 10/1997 - 10/1999
Position: Project Manager

MetroGIS (Pty) Ltd
Period: 11/1999 - to date
Position: Director / Project Manager

EDUCATION/QUALIFICATIONS

Degree: BA (University of Pretoria) Geography and Anthropology (Majors)
Other Subjects: Archaeology, Philosophy and Political Science
Date Received: 1993

PROJECTS SUMMARY

*(A brief description of **some** prominent and relevant projects)*

General projects

GIS mapping and database for Black Eagle habitats and flight patterns in the Karoo National Park

Environmental planning and development control schemes for the Drakensberg *Babangibone, Cathkin Peak and Garden Castle* development nodes

Goukou River (Stilbaai) Environmental Structure Plan

Conservation and open space proposals for the Umhlanga Forest

Grootvlei mine water pumping operation (Blesbokspruit sub-catchment)

GIS services for the Saldannah steel plant

ENPAT Provincial (1:250,000 scale GIS decision support systems) based on an inventory of environmental and socio-economic geographic data

- ENPAT Northern Province (Limpopo Province)
- ENPAT Mpumalanga
- ENPAT North-West

ENPAT Metropolitan (1:50,000 scale GIS decision support systems) containing environmental and socio-economic geographic data that were evaluated for conservation opportunities, development constraints and agricultural constraints

- ENPAT Gauteng
- ENPAT Cape Town
- ENPAT Durban Functional Region (DFR)
- ENPAT Bloemfontein/Botshabello
- ENPAT Port Elizabeth

ENPAT National (1:1,000,000 scale GIS decision support system) and ENPAT publication

Environmental Management Frameworks (EMF). Frameworks of spatially represented information connected to environmental management parameters designed to aid in the pro-active identification of potential conflict between development proposals and critical and/or sensitive environments

- EMF Northern Province (Limpopo Province)
- EMF Mpumalanga
- EMF North-West

Spatial Development Initiatives (SDI). The fast tracking of the EMF concept for priority SDI's

- Lubombo Corridor SDI
- Coega Industrial Development Zone (IDZ)
- Wild Coast SDI
- West Coast Investment Initiative

Sigma colliery: North-West strip operation

Development masterplan for the Tswaing Crater Museum

Conservation plan for the Rietvlei Nature Reserve

GIS services for the planning and management of the Chobe National Park (Botswana)

GIS services for an environmental overview of South Africa

Demarcation/delineation of regions in South Africa

Orange-Vaal (ORVAAL) transfer scheme - Caledon cascades scheme

ENPAT Provincial (1:250,000 scale GIS decision support systems) based on an inventory of environmental and socio-economic geographic data

- ENPAT Eastern Cape
- ENPAT Free State
- ENPAT Kwa-Zulu Natal

Environmental Management Frameworks (EMF). Frameworks of spatially represented information connected to environmental management parameters designed to aid in the pro-active

identification of potential conflict between development proposals and critical and/or sensitive environments

- EMF Eastern Cape
- EMF Free State
- EMF Kwa-Zulu Natal

Hennops River EMF (environmental inventory and management proposals in Centurion)

The Important Bird Areas (IBA) of South Africa map and database

Centurion Metropolitan Substructure Environmental Management Framework (EMF)

Alexandra renewal project EMF

Carbon Sinks and Sequestration - Eastern Cape Wild Coast. Information maps for the "*Carbon Sinks - A Rehabilitation Option for South Africa's Natural Environment*" report

Prince Edward and Marion Islands. Maps for the World Heritage Site (WHS) bid document

Theewaterskloof and Genadendal - Integrated spatial data management system

Gauteng Communication Network Strategy (GAUCONS). Environmental zones for the control of the construction of telecommunication structures

Gauteng Industries Buffer Zones. The mapping of industrial and mining activities, the creation of buffer control zones and the development of a GIS-based decision support system for the Gauteng Province

Limpopo National Park (LNP) Mozambique. Base maps for fieldwork and planning

Schmidtsdrift Environmental Management Program Report (EMPR)

Loch Vaal Environmental Management Framework (EMF)

Rustenburg - Strategic Environmental Assessment (SEA). The creation of environmental control zones, a GIS-based decision support system and information poster

Faerie Glen Nature Reserve Strategic Environmental Assessment (SEA)

Willow Quarries - Environmental Impact Assessment (EIA). Modeling of mining expansion plan and the potential impact on Golden Mole habitats

Ekurhuleni Metropolitan Municipality (EMM) Environmental Management Framework (EMF)

Limpopo - State of the Environment Report (SoER)

Windhoek (Namibia) - Environmental Structure Plan (ESP)

Gauteng Supplementation and Implementation of EIA Regulations Project (EIA SIP)

Siyanda District Municipality Environmental Management Framework (EMF)

Olifants and Letaba River Catchments Environmental Management Framework (EMF)

Regional Strategic Environmental Assessments (Regional Assessments)

Regional assessment for the Eskom Wind Energy Facility (Sere) in the Western Cape

Regional assessments for the Eskom Wind Integration Project (WIP)

- Area 1: West Coast (Saldanha to Garies)
- Area 2: Overberg Region
- Area 3: Beaufort West region
- Area 4: Eastern Cape (Tsitsikamma to Port Elizabeth)
- Area 5: Northern Cape (Hondeklipbaai to Port Nolloth)

Sandveld wind energy Regional Assessment

West Coast National Park (Saldanha area) Regional Assessment

Regional Assessment for the Theewaterskloof Municipal area

Brand-se-Baai (Exxaro) wind energy regional assessment

Overberg (BioTherm) wind energy regional assessments

- Area 1: Gordons Bay to Pearly Beach)
- Area 2: Napier RA (Agulhas NP/Swellendal region)

Suurplaat/Sutherland (Investec Wind Energy Development) Regional Assessment

Waterberg (Limpopo) Concentrating Solar Power (CSP) Regional Assessment (Exxaro)

Visual Impact Assessments (VIA), viewshed analyses and visual assessments

Some recent or current projects include:

- Coal strip mining in Zimbabwe viewshed analyses
- Viewshed analyses and sensitivity mapping for telecommunication masts in the northern provinces (Limpopo, Mpumalanga and North-West)
- Siemens 3rd license cellular communications infrastructure EIAs. Viewshed analyses and sensitivity mapping for over 4,000 telecommunication mast sites in all major metropolitan areas of South Africa.
- CSIR high mast viewshed analysis and sensitivity mapping
- Atlantis Open Cycle Gas Turbine power station VIA
- Kynoch Gypsum Tailings dam extension VIA
- N1 Western Bypass Shell service station VIA
- Coega regional hazardous waste processing facility VIA
- Robinson Deep landfill extension VIA
- Hazardous waste blending platform VIA
- Mercury-Ferrum-Garona transmission line integration VIA
- Matimba B (Medupi) coal-fired power station VIA
- Concentrating Solar Power (CSP) plant in Upington VIA
- Zeus to Mercury transmission line (comparative viewshed analyses)
- Mmamabula (Botswana) transmission line and power station viewshed analyses
- Petronet new multi-products pipeline VIA
- Wind energy facility (Sere) in the Western Cape province VIA
- Ankerlig power station conversion and transmission line VIA
- Gourikwa power station conversion and transmission line VIA
- Kyalami strengthening project VIA
- Steelpoort integration project VIA
- Medupi reservoir and telecommunication mast VIA
- Cookhouse wind monitoring masts VIA for a Basic Assessment Report
- Hopefield wind monitoring masts VIA for a Basic Assessment Report
- Amakhala wind monitoring masts VIA for a Basic Assessment Report
- Caledon, Worcester and Tulbach wind monitoring masts VIAs for Basic Assessment

Reports

- Overberg masts VIA for a Basic Assessment Report
- Britannia Bay wind monitoring mast VIA for a Basic Assessment Report
- Brand-se-Baai wind monitoring masts VIA for a Basic Assessment Report
- Deep River wind monitoring masts VIA for a Basic Assessment Report
- Happy Valley wind monitoring masts VIA for a Basic Assessment Report
- River Bank wind monitoring mast VIA for a Basic Assessment Report
- Uiekraal wind monitoring masts VIA for a Basic Assessment Report
- Beaufort West wind monitoring masts VIA for a Basic Assessment Report
- Laingsburg Wind monitoring masts VIA for a Basic Assessment Report
- Rheboksfontein, Suurplaat and West Coast wind monitoring masts VIAs for Basic Assessment Reports
- Cookhouse wind energy facility VIA
- Hopefield wind energy facility VIA
- Mokopane Integration Project VIA
- Cradle of Humankind World Heritage Site (WHS) viewshed protection zone, visual character assessment and visual zonation plan
- Proposed Indwe wind energy facility VIA
- Proposed Amakhala wind energy facility VIA
- Proposed Boontjieskraal wind energy facility VIA
- Proposed Britannia Bay wind energy facility VIA
- Proposed Brand-se-Baai wind energy facility VIA
- Proposed Upington and Pofadder solar thermal facilities VIAs
- Proposed Dorper wind energy facility VIA
- Proposed Flagging Trees wind energy facility VIA
- Proposed Rheboksfontein, Suurplaat and West Coast wind energy facilities VIAs
- Proposed Riverbank wind energy facility VIA
- Proposed Waterberg photovoltaic plant VIA
- Eskom wind intergration projects VIAs (current)
- Welgedacht water care works VIA

PROFESSIONAL AFFILIATIONS

Application for *Geographical Information Sciences (GISc) Professional Practitioner* submitted to (and currently under review by) The South African Council for Professional and Technical Surveyors (PLATO).

LANGUAGES

	Reading	Writing	Speaking
Afrikaans	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent

IRIS SIGRID WINK * iWink Consulting (Pty) Ltd * Curriculum Vitae



Profession	Civil Engineer (Traffic&Transport)
Qualification	MSc Eng (Civil & Transport), Germany PrEng 20110156
Area of Specialisation	<ul style="list-style-type: none">• Traffic & Transportation Engineering• Renewable Energies• Road Safety Auditing and Advise
Years of Experience	> 20 Years
Quote to live by	"One day at a time."

SUMMARY OF EXPERIENCE

Iris is a Professional Engineer registered with ECSA (20110156) and obtained her Master of Science degree in Civil Engineering in Germany in 2003. She has more than 20 years of experience in a wide field of traffic and transport engineering projects in Southern Africa and Germany.

Her passions are the renewable energies and road safety, and she is highly experienced in providing traffic and transport engineering advise. Iris is registered with the International Road Federation as a Global Road Safety Audit Team Leader and is a regular speaker at conferences, seminars and similar.

SELECTION OF RENEWABLE ENERGY PROJECTS

Transport Impact Assessments /Traffic Management Plans for:

- Ujekamanci Wind Energy Facility
- Tournée Solar Cluster
- Palladium & Vanadium Solar Cluster
- Cradock – Kaladokhwe WEFs
- Britstown WEFs
- Highveld Solar Cluster
- Dealsville & Bloemfontein Solar PV
- Great Karroo Wind and Solar Cluster
- Ummbila Emoyeni Solar Project
- Poortjie Wind&Solar
- Hydra B Solar Cluster
- Choje Windfarm, Eastern Cape
- Richards Bay Gas to Power Project
- Oya Black Mountain Solar Project
- De Aar Solar Project
- Euronotus Wind & Solar Cluster
- Pienaarspoort Wind Energy Project
- Karreebosch Wind Energy Project

- Dyasonsklip Solar Project
- Kuruman Windfarm
- Bloemsmond Solar Farms
- Hendrina Wind Energy Project
- Orkney Solar Project
- Bulskop Solar Project
- Hyperion Solar & Thermal Project
- Gromis & Komas Wind Energy Projects
- Kudusberg & Rondekop Wind Energy Projects
- Bayview Windfarm
- Coega West Windfarm
- Suikerbekkie Solar Project
- Poortjie Solar Project
- Northam Solar Project
- Sibanye Solar Project
- Du Plessis Dam Solar Project
- Mercury Solar Project
- Aberdeen Wind Energy Project
- Saldanha Wind and Solar Projects
- Ummbila Emoyeni Wind Energy Project
- Springhaas Solar Project

Clients:

- G7 Energies
- ABO Wind Renewable Energies
- Atlantic Renewable Energy Partners
- Mulilo
- Acciona
- Enel
- Engie
- DNV GL
- Enertrag
- Scatec Solar
- Red Rocket Energies
- Windlab
- Mainstream
- Africoast
- African Green Adventures
- Meadow Energy

Ryno Kemp

PhD Candidate in Zoology (*Pr Sci Nat*)

Cell: +27 83 273 3488

Email: ryno@thebiodiversitycompany.com

Identity Number: 9110095064083

Date of birth: 9 October 1991

Profile Summary

Working experience throughout South Africa.

Project management experience

Experience with green engineering, ecological evaluation, terrestrial biodiversity, and conservation

Specialist expertise includes Terrestrial Ecology and Avifauna.

Key Experience

- Environmental Impact Assessment (EIA)
- Environmental Management Programmes (EMP)
- Avifaunal Conservation Surveys
- Conservation Management Plans
- Rehabilitation Plans and Monitoring

Nationality

South African

Languages

English – Proficient

Afrikaans – Proficient

Areas of Interest

Sustainability and Conservation.

Ornithology

Renewable Energy

Farming

Scientific Research

Publication of scientific articles.

Country Experience

South Africa

Qualifications

- PhD Zoology Candidate (University of Pretoria) BSc Honours Zoology (University of Pretoria)
- BSc Zoology (University of Pretoria)
- Pr Sci Nat (117462/17)
- Certificate in Environmental Law and Liabilities for the Regulated Community (UNISA)

OVERVIEW

An overview of the specialist technical expertise includes the following:

- Terrestrial Ecological Assessments.
- Faunal surveys, which include mammals, birds, amphibians and reptiles.
- Conservation Plans and Monitoring for a terrestrial component.
- Avifaunal surveys.

EMPLOYMENT EXPERIENCE

The Biodiversity Company (November 2022 – Present)

Ecologist / Avifauna

VulPro (February 2020 – November 2022)

Research Manager

ZESC (September 2021 – November 2022)

Director / Avifauna

ACADEMIC QUALIFICATIONS

University of Pretoria, Pretoria, South Africa (2017 - Submitted): PhD in Zoology - Candidate

Title: Investigates the impacts of climate change on threatened arid-zone Red Lark (*Calendulauda burra*) using a mechanistic model

University of Pretoria, Pretoria, South Africa (2016): BSc Honours in Zoology

Title: Investigated the thermoregulation ability in free-ranging Ground Woodpeckers during cold winter months.

University of Pretoria, Pretoria, South Africa (2011 - 2015): BSc in Zoology

UNISA, South Africa (2020): Certificate in Environmental Law and Liabilities for the Regulated Community (Short course).

PUBLICATIONS [13]

Conradie SR, Kearney MR, Wolf BO, Cunningham SJ, Freeman MT, **Kemp R**, McKechnie AE. (**Accepted**) An evaluation of a biophysical model predicting avian thermoregulation in the heat.

Francisco CP, Murgatroyd M; Allan DG, Farwig N, **Kemp R**; Krüger S, Maude G, Mendelsohn J; Rösner S, Schabo DG, Tate G, Wolter K & Amar A. (**2023**) A spatially explicit encounter risk model for the Cape Vulture *Gyps coprotheres* to guide wind energy development. Ecological applications

Hirschauer MT, Hannweg CG, **Kemp R** & Wolter K. (2022) VulPro: An overview of Africa's Vulture Conservation Centre. Vulture News

Kane A, Monadjem A, Bildstein K, Botha A, Bracebridge C, Buechley ER, Buij R, Davies JP, Diekmann M, Downs C, Farwig N, Galligan T, Kaltenecker G, Kelly C, **Kemp R**, Kolberg H, MacKenzie M, Mendelsohn J, Mgumba M, Nathan R, Nicholas A, Ogada D, Pfeiffer MB, Phipps WL, Pretorius M, Rösner S, Schabo DG, Spiegel O, Thompson LJ, Venter JA, Virani M, Wolter K, Kendall C (2022) Size doesn't matter, it's how you use it: Using continent-wide variation in ranging behaviour of vultures to assess the feasibility of Vulture Safe Zones in Africa. Conservation Biology

Czenze ZJ, Freeman MT, **Kemp R**, van Jaarsveld B, Wolf BO & McKechnie AE. (2021) Gular flutter provides the basis for efficient evaporative cooling and pronounced heat tolerance in an eagle-owl, a thick-knee and a sandgrouse from the southern Africa arid zone. *Frontiers in Ecology and Evolution*

Curk T, Scacco M, Safi K, Wikelski M, **Kemp R** & Wolter K. (2021) Severe differences in movement associated with tagging method used in the African Cape vulture.

van Jaarsveld B, Bennett NC, **Kemp R**, Czenze ZJ & McKechnie AE. (2021). Heat tolerance in desert rodents is correlated with microclimate at inter- and intraspecific levels. *Journal of Experimental Biology*

van Jaarsveld B, Bennett NC, **Kemp R**, Czenze ZJ & McKechnie AE. (2021) How hornbills handle the heat: sex-specific thermoregulation in the Southern Yellow-billed Hornbill. *Journal of Experimental Biology*

Kemp R, Freeman MT, van Jaarsveld B, Czenze ZJ, Conradie SR & McKechnie AE. (2020) Sublethal fitness costs of chronic exposure to hot weather vary between sexes in a threatened desert lark. *EMU*

Czenze ZJ, **Kemp R**, van Jaarsveld B, Freeman MT, Smit B, Wolf BO & McKechnie AE. (2020). Regularly-drinking desert birds have a greater capacity for evaporative cooling and higher heat tolerance limits than non-drinking species. *Journal of Functional Ecology*

Lund J, Bolopo D, Thompson RL, Elliott DL, Arnot LF, **Kemp R**, Lowney AM & McKechnie AE. (2020) Winter thermoregulation in free-ranging pygmy falcons in the Kalahari Desert. *Journal of Ornithology*

Kemp R, McKechnie AE (2019) Thermal physiology of a range-restricted desert lark. *Journal of Comparative Physiology B* 189:131-141

Kemp R, Noakes MJ, McKechnie AE (2017) Thermoregulation in free-ranging ground woodpeckers *Geocolaptes olivaceus*: no evidence of torpor. *J Avian Biol* 48:1287–1294
