



COMPANY PROFILE



10 YEARS OF
SUSTAINABLE
GROWTH
2015

Environmental Consultants
Environmental Auditors
Aquatic & Wetland Specialists
Ecological Specialists
Air Quality Specialists
License Application Facilitators
Mining Consultants
Environmental Legislation Consultants

Company Overview

Prism Environmental Management Services (Pty) Ltd is a multi-disciplinary Environmental Management consulting firm. With a vision encompassing a holistic understanding of integrated environmental management in partnership with sustainability, the company prides itself on excellent service and value-added solutions to a range of clients. Established in 2005, the company has grown from strength to strength, expanding to two offices with a team of professionals with a diverse range of specialities.

With exceptional field-expertise, command and execution of the relevant legislative requirements and report quality, the company is recognised by clients, fellow consultants, and various Local and Provincial Authorities as a prominent service provider in our field of consulting.

Our Vision, Mission and Commitment

OUR VISION

Sustainability through Environmental Management Excellence.

OUR MISSION

Prism Environmental Management Services is a specialist environmental services provider, assuring excellence in environmental resource assessment and management. We stand in partnership with our clients, our employees, the community and the environment. Our ambition is to conserve resources, preserve natural habitats and prevent significant environmental impacts, by means of sustainable utilisation of our precious natural resources.

OUR COMMITMENT

The management and staff of Prism Environmental Management Services are committed to:

- Continued improvement of our customer relationships, ensuring customer satisfaction and superior service levels
- Providing professional and purposeful services at all times
- Following appropriate procedures to ensure the correct management and ongoing building of a sustainable environment
- Ongoing development of our staff to meet the challenges of our market
- Utilising experienced, well trained and technically competent staff
- To be dynamic in all dealings with our customers, colleagues and the environment
- Providing multi-faceted services to our clients through our variety of specialist disciplines; and
 - Embracing honesty, trust, teamwork, diversity and relationships that are beneficial to all involved.

Experience

The team at Prism EMS has extensive experience in Integrated Environmental Management (IEM) having completed numerous Basic Assessment Reports, Environmental Scoping Reports, Environmental Impact Assessments (EIA's) and Environmental Management Plans (EMP's) in terms of the National Environmental Management Act, 1998 and the National Environmental Management: Waste Act, 2008 as well as a wide range of specialist studies for a range of authorisation applications. Prism EMS is also involved in assisting various town planners and prominent developers with EIA applications, EMP's, Open Space Management Plans, Riverine- and Wetland Assessments and Delineations, Riverine and Wetland Management Plans, Ecological Studies, Air Quality Impact Assessments and other specialist studies. The consultancy also facilitates Water Use License Applications (WULAs).



With global emphasis placed on aquatic resources and the conservation thereof, it is important to know that Prism EMS are specialists in the field of assessment, delineation, management and conservation of aquatic resources. Our highly qualified team has extensive knowledge of aquatic fauna and flora and have completed numerous wetland- and riverine assessments and delineations. Members of our team are acknowledged as leaders in the field of wetland assessment and delineation by peers and authorities alike. Both Prism EMS as a company, and De Wet Botha personally, are registered members of the SA Wetland Society.

Auditing and on-site monitoring also form part of the range of services the consultancy offers – be it environmental control officers (ECOs) during the construction phase of developments, environmental monitors (EMs) for the project engineering team on sites, or environmental officers (EOs) for contractors. The common goal aimed at, and achieved within these roles, is the overseeing, implementation and compliance with the Environmental Authorisation (EA) and EMP.

Consultants in our team have in-depth experience in the environmental component of the mining industry, regulated by the Mineral and Petroleum Resources Development Act, 2002 and with strong emphasis on the National Water Act, 1998, and National Environmental Management Act, 1998. Services offered to the mining industry include, but are not limited to, Closure Plans, Rehabilitation Fund Calculation, Basic Assessments, Environmental Impact Assessments, Environmental Management Plans, Environmental Management Implementation, Performance Assessments, Water Use License Applications, Bio-diversity Assessments and various Specialist Assessments as part of EMP amendments and new mining activities.

Prism EMS has also expanded its services to encompass the Air Quality field. The consultancy and its associates are able to conduct Air Quality Impact Studies, Air Emissions modelling and also facilitate Air Emissions Licensing (AEL).

To summarise, Prism EMS is an accomplished consultancy, confident that we can successfully fulfil client requirements, from project planning to completion. The multi-faceted character of the company is evident from the range of disciplines abridged below.



Scope of Services

ENVIRONMENTAL IMPACT MANAGEMENT

- Environmental Impact Assessments (EIAs)
- Basic Assessment processes & Reports (BARs)
- Environmental Management Plans (EMPs)
- Site-specific EMPs
- Water Use License Applications (WULAs)
- Waste License Applications
- Air Emissions Licenses

ENVIRONMENTAL PLANNING

- Environmental Management Systems (conforming to ISO 14001)
- Environmental Site Selections and Planning at Pre-Feasibility Phase
- Environmental Procedures and Environmental Specifications

ENVIRONMENTAL AUDITING & MONITORING

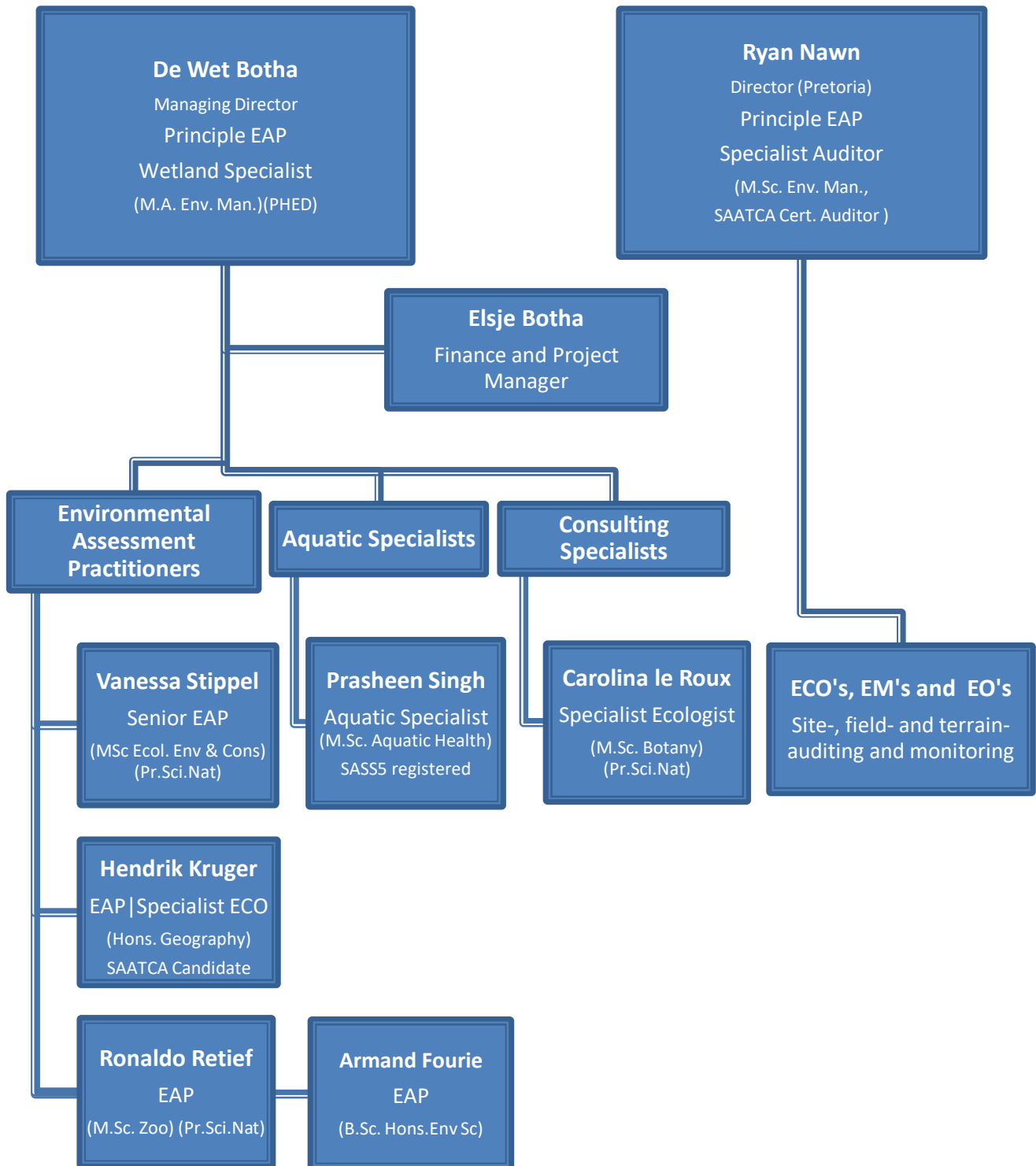
- ISO 14001 Environmental Management Systems
- Environmental Authorisations (and previous RoDs)
- Environmental Management Plans and Programmes for construction projects and mining
- Water Use Licenses
- Waste Licenses
- Green Building developments (conforming to MANUAL-6 & MANUAL-7 of the GBCSA requirements for Green Building)
- All levels of Environmental Monitoring & Control for construction projects representing Clients as:
 - Environmental Officer
 - Environmental Monitor
 - Independent Environmental Control Officer (ECO)

Specialist Solutions

The list of specialist services we offer and facilitate includes, *inter alia*, the following:

- Ecological Habitat Assessments
- Aquatic Health Assessments (including SASS5)
- Wetland and Riparian Habitat assessments and delineation
- Rehabilitation plans and mitigatory strategy
- Aquatic and Ecological Monitoring Plans
- Bio-monitoring
- Biodiversity action plans
- Grassland rehabilitation
- Ridge Studies
- Air Quality Impact Assessments
- Geographic Information System (GIS) mapping
- Sensitivity mapping
- Legislation and process guidance
- Policy Development
- Open Space Management Plan (OSMP)
- Public Participation Processes
- EIA Review
- Specialist Auditing
- In terms of Mining Activities we facilitate:
 - Prospecting Right Applications
 - Prospecting Environmental Management Plans
 - Mining Right Applications
 - Closure Applications
 - Closure Cost Calculations
 - Annual Performance Audits (against relevant permits and licenses)

Company Organogram



Contact Us

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Little Falls	Pretoria

Visit our website www.prismems.co.za

or find us on Social Media:



PRISM
ENVIRONMENTAL MANAGEMENT SERVICES

Curriculum Vitae: Mrs V Stippel

Name : **STIPPEL, VANESSA JEAN**
Date of Birth : 30 August 1984
Profession/Specialisation : Senior Environmental Consultant
Nationality : South African
Years' experience : 6

Key Experience

Vanessa Stippel has six (6) years' working experience as a senior environmental consultant and is registered with the South African Council for Natural Scientific Professions as a Professional Natural Scientist (Pr.Sci.Nat. Reg No. 116221) in the field of Environmental Science. Key experience includes managing large Environmental Impact Assessments (EIAs) for Strategic Infrastructure Projects including the Berth 203 to 205 Expansion EIA and the NATREF Clean Fuels II EIA as well as Resource Management Plans (RMPs) for prioritised State Dams. She is well versed in environmental legislation and has been involved in the compilation of legal registers for organisations such as the Johannesburg City Parks and Zoo. Additional experience comprises of environmental auditing for projects such as Mooi Mgeni Transfer Scheme Phase 2 and the Orange River Water Resource Development Project –Phase 2c as well as the Technical Audit of the Sasol Chemical Industries and Sasol Mining Waste Storage Facilities in Sasolburg.

Key Qualifications

MASTER OF SCIENCE IN ANIMAL, PLANT AND ENVIRONMENTAL SCIENCE (2013)

University of the Witwatersrand

BACHELOR OF SCIENCE (HONOURS) IN ECOLOGY, ENVIRONMENT AND CONSERVATION (2006)

University of the Witwatersrand

BACHELOR OF SCIENCE (2005)

University of the Witwatersrand

Employment Record

September 2016 – Current	Prism Environmental Senior Environmental Consultant
August 2011 – August 2016	Nemai Consulting Senior Environmental Consultant

Project Experience

Environmental Authorisation Process (BA, EIA, WL, WULA):

- Steyn City Properties: EIA and WULA for Riverside View Extension 72 to 75: 2017
- Steyn City Properties: Amendment of Steyn City WULA: 2017
- South Africa Happy Island Water World (Pty) Ltd: EIA and WULA for the Proposed Development of a Water Park in Rietfontein, Mogale City. 2016 – 2017.
- Gauteng Department of Human Settlements: Scoping and EIA and WULA for the proposed Syferfontein Mixed Use Housing Development, 2014 – 2016.
- Proplan: Scoping and EIA for the proposed Rustenburg Waste Treatment Facility, 2013 – 2016.
- Ekurhuleni Metropolitan Municipality: Scoping and EIA for the proposed Esselen Park Housing Development, 2015- 2016.

- Ekurhuleni Metropolitan Municipality: Basic Assessment for the proposed Esther Park Housing Development, 2015 – 2016.
- Ekurhuleni Metropolitan Municipality: Basic Assessment for the proposed Pomona Estates Housing Development, 2015 – 2016.
- RBIDZ SOC: Scoping and EIA an WULA for the proposed Richards Bay Industrial Development Zone Phase 1F. 2014- 2016.
- Mangaung Metropolitan Municipality: Scoping and EIA for the proposed Relocation of Bloemfontein Zoo, 2015 – 2016.
- Transnet Capital Projects: Scoping and EIA for Deepening, Lengthening and Widening of Berth 203 to 205, Pier 2, Container Terminal, Port of Durban, 2012 – 2015.
- Wesizwe Platinum Resources: Basic Assessment and WULA for the proposed Ledig Water Supply Pipeline, 2014 – 2015.
- City of Tshwane Metropolitan Municipality: Scoping and EIA for the proposed new Hennops Wastewater Treatment Works (WWTWs), 2012.
- City of Tshwane Metropolitan Municipality: Scoping and EIA for the Upgrade of the Sunderland Wastewater Treatment Works, 2012.
- Transnet Freight Rail: Basic Assessment and Waste License Application for the proposed remediation of 600km of asbestos contaminated land on Transnet Properties – Group A (Port Elizabeth to De Aar), 2011 - 2012.
- Mpumalanga Department of Sports and Recreation: Scoping and EIA for the proposed High Altitude Training Facility in Mpumalanga, 2011 - 2012.
- Sasol Chemical Industry: Waste License Applications for Sasol Chemical Industries sites in Sasolburg, 2012 - 2013.
- Sasol Chemical Industry: Scoping and EIA for the Proposed NATREF Clean Fuels II, 2012 – 2013.

Section 24G Applications:

- Ekurhuleni Metropolitan Municipality: Weltevreden Material Recycling Facility, 2013.

Mining/Prospecting Applications, EMPLans and Amendments:

- Transnet National Port Authority: Mining Right and EIA for Offshore Sandwinning for developments within the Port of Durban, 2016.

Audits (Legal, RoD Compliance / Internal):

- Letamo Game Farm: Environmental Compliance Audit for Letamo Game Farm. 2016.
- TCTA: Environmental Audit of the Orange River Water Resource Development Project –Phase 2c, 2013 – 2016.
- Johannesburg City Parks and Zoo: Compilation of the Legal Register and Legal Compliance Audit for Johannesburg City Parks and Zoo, 2015.
- University of Mpumalanga: Environmental Legal Compliance Audit for the University of Mpumalanga. 2015.
- Sasol: Technical Audit of the Sasol Chemical Industries and Sasol Mining Waste Storage Facilities; Sasolburg, 2014.
- TCTA: Environmental Audit of the Mooi Mgeni Transfer Scheme – Phase 2, 2012.
- MSW: Environmental Control Officer – Joe Slovo Low Level Bridge, Modimolle, 2012.

Other:

- Dr Kenneth Kaunda District: Dr Kenneth Kaunda District Environmental Management Framework, 2014 – 2015.
- uMzinyathi District: uMzinyathi District Environmental Management Framework, 2015.
- Transnet Capital Projects: Berth 203 to 205 Expansion Integrated Waste Management Approach, 2015.
- Department of Water and Sanitation: Climate Change Specialist Study for Foxwood Dam EIA, 2015.

- Transnet Capital Projects: Climate Change Adaptation Monitoring and Evaluation Plan for Berth 203 to 205 Expansion, 2015.
- Department of Water and Sanitation: Boskop Dam Resource Management Plan and Business Plan, 2013.
- Department of Water and Sanitation: Midmar Dam Resource Management Plan and Business Plan, 2013.
- Department of Water and Sanitation: Craigieburn Dam Resource Management Plan and Business Plan, 2013.
- Department of Water and Sanitation: Theewaterskloof Dam Resource Management Plan and Business Plan, 2013.
- Department of Water and Sanitation: Vanderkloof Dam Resource Management Plan and Business Plan, 2013.
- Department of Water and Sanitation: Vygeboom Dam Resource Management Plan and Business Plan, 2014.
- Department of Water and Sanitation: Pongolapoort Dam Resource Management Plan and Business Plan, 2014.
- Department of Water and Sanitation: Inanda Dam Resource Management Plan and Business Plan, 2015.
- Department of Water and Sanitation: Hazelmere Dam Resource Management Plan and Business Plan, 2015.
- Department of Water and Sanitation: Grootdraai Dam Resource Management Plan and Business Plan, 2014.
- Department of Water and Sanitation: Gariep Dam Resource Management Plan and Business Plan, 2014.
- Department of Water and Sanitation: Voelvlei Dam Resource Management Plan and Business Plan, 2014.
- Department of Water and Sanitation: Wriggleswade Dam Resource Management Plan and Business Plan, 2014.
- Department of Water and Sanitation: Vaal Dam Resource Management Plan and Business Plan, 2014.
- Department of Water and Sanitation: Mthatha Dam Resource Management Plan and Business Plan, 2015.
- Department of Water and Sanitation: Allemenskraal Dam Resource Management Plan and Business Plan, 2015.
- Department of Water and Sanitation: Greater Brandvlei Dam Resource Management Plan and Business Plan, 2015.
- Department of Environmental Affairs: Mapungubwe Culture Landscape Environmental Management Framework, 2014.
- Nkomati Anthracite Mine: Social Impact Assessment for the Nkomati Anthracite Mine, Mpumalanga, 2011.

Professional Affiliations

- Professional Member of Southern African Institute of Ecologists and Environmental Scientists: 2015 - 2016.
- SACNASP– Pr. Sci. Nat.(116221): 2016

herewith certifies that

Vanessa Jean Stippel

Registration number: 116221

is registered as a

Professional Natural Scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)

in the following field(s) of practice (Schedule 1 of the Act)

Environmental Science

Effective **21 September 2016**

Expires **31 March 2017**



President

Executive Director

Curriculum vitae: Mr D Botha

Name : **BOTHA, DE WET**
Date of Birth : 20 June 1977
Profession/Specialisation : Principle Environmental Scientist & Biodiversity Specialist
Nationality : South African
Years' experience : 14

Key Experience

Mr Botha has extensive experience in conducting a broad range of applications related to authorisation from the various authorities managing Environmental Legislation in South Africa. Mr Botha has completed numerous EIA's and Basic Assessment Report applications. He has conducted EIA reviews and has acted in a specialist advisory role to other consultants/applicants. Management plans compiled include Environmental Management Plans, Open Space EMPs, Wetland EMP's and Waste Management Plans.

The practitioner has extensive and specialised experience in wetland and aquatic assessment and delineation, as well as applications for Water Use Licenses.

Additional to this, Mr Botha also has experience in Visual Assessments, Specialist Faunal and Floral Surveys, Grassland Rehabilitation and Baseline Agricultural Potential Studies. Mr Botha is an experienced Environmental Control Officer and –Auditor. GIS data and spatial modelling is included in Mr Botha's range of capabilities, along with GIS sensitivity mapping and Project Management.

As a specialist interest, Mr Botha has been involved with research and studying the habitat area of the Juliana's Golden Mole, a Red List threatened species, in association with the Pretoria of University.

Education & Key qualifications

MAGISTER ARTIUM (M.A. Environmental Management)

University of Johannesburg (2005-2006)

- Thesis: *Establishing Guidelines for Environmental Management Plans for Golf Course Developments in Gauteng Province.*
- Syndicate research: *Baseline Environmental Assessment investigating the flow of Mercury through the system at the University of Johannesburg in Mercury containing Lighting as a by-product.*
- The biosphere & environmental studies.
- Environmental analysis, management skills & perspectives.

DIPLOMA: REMOTE SENSING AND IMAGE PROCESSING

Rand Afrikaans University (2001)

DIPLOMA: GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Rand Afrikaans University (2001)

BACHELOR OF ARTS (HONOURS) (BA. (Hons) Geography and Environmental Management)

Rand Afrikaans University (2001)

Modules completed:

- Geomorphology
- Energy Technology
- Remote Sensing and Satellite Imagery
- Geographic Information Systems
- Philosophy and Methodology of Geography

POST GRADUATE HIGHER EDUCATIONAL DIPLOMA (PHED).

Rand Afrikaans University (1999-2000)

BACHELOR OF ARTS (BA. Geography and Environmental Management)

Rand Afrikaans University (1996-2000)

Supplementary Qualifications

- Financial Provision Regulations and Mine Closure Requirements (2016) IMBEWU Sustainability Legal Specialists.
- SASS5 Aquatic Biomonitoring Training Course (DWA, Ground Truth) (2014)
- Tools for Wetland Assessments (Rhodes University) (2011) (Cum Laude) - Certified
- Short Course in Soil Classification and Wetland Delineation (Terra Soil Science) (2008)
- Wetland and Riparian Delineation Course (DWAF Accredited) (2008)
- Practical Field Training – Golden Mole Field Surveys (Pretoria of University; Dr. S. Maree) (2007)
- Lead auditors course (Environmental) ISO 14000 (University of Johannesburg) (2006)
- Geographical Information Systems (GIS) (Run by Geographical Information Management Systems (GIMS) - Introduction to Arcview GIS (2000)
- Geographical Information Systems (GIS) (Run by Geographical Information Management Systems (GIMS) – Introduction and Advance ArcInfo (2000)
- Geographical Information Systems (GIS) Introduction to MapInfo (2000)
- Geographical Information Systems (GIS) Advance and Specialist Map-Info (2000)

Employment record

August 2005 – Present	Prism EMS, Managing Director, Principle EAP, Wetland Specialist
August 2007 – Present	Greenline Environmental, Director, Principle EAP & Wetland Specialist
April 2004 – July 2005	Holgate and Associates, Environmental Scientist
January 2003 – February 2004	North Westminster Community College (UK), HOD Humanities Dept.
January 2002 – December 2002	Kelmscott Secondary School, (UK), HOD Geography
January 2001 – December 2001	Hoërskool Vryburger, Germiston, Teacher (Geography)
August 1999 – December 2000	The Knowledge Factory (Primedia), GIS Specialist/Product Owner

Experience record (Key Projects)

Relevant Project Experience (more detail available on request)

Golden Mole Surveys/Assessments:

- Rand Water Pipeline in the Bronberg Conservancy;
- Willows Quarry
- Shere Development
- Farm Hermansburg 495 KT – Transvaal Group Mines
- Die Wilgers Ext 79
- Bronberg Biodiversity Management Plan (Juliana’s Golden Mole)

Air Quality Projects:

- BP Wiggill – Smelter, 2016;
- Northam Platinum, North West, 2015;
- Maroeloesfontein Andalusite Mine, North West, 2015;
- Eco-Planet Bamboo Core Carbon, Grahamstown, Eastern Cape, 2014;

Aquatic Assessments:

- Sunninghill Ext 168, 2016;
- Happy Island Water Park, 2016;
- Eskom, Rustenburg, North West Province, 2015;
- Steyn City, Johannesburg, Gauteng, 2015;
- Nederburg, Paarl, Western Cape, 2014;
- The Reeds, Johannesburg, Gauteng, 2014;
- Elias Motsoaledi, Soweto, Gauteng, 2014;
- K6 – Provincial Road, Pretoria, Gauteng, 2013;

Wetland Assessments:

- Greengate Ext 68, 2016;
- Happy Island Water Park, 2016;
- Wilgeheuwel Ext 60, 2016;
- Rose interchange, Gautrans, 2015;
- Eskom, Rustenburg, North West Province, 2015;
- Mogalakwena Platinum Mine, Limpopo Province, 2015;
- Steyn City, Johannesburg, Gauteng, 2014;
- Nederburg, Paarl, Western Cape, 2014;
- Elias Motsoaledi, Soweto, Gauteng, 2014;

Recent Water Use License Applications completed, include:

- Witpoortjie Ext. 52 & 57 Township Development – to facilitate the installation of essential services to the township.
- Winterveld – Installation of bulk sewer lines
- Vista Park Ext.3 - mixed-use township development and related bulk services
- Steyn City - mixed-use township development and related bulk services
- Joburg Water - Installation of bulk sewer lines
- Rooiwaal – Tswane - Installation of bulk sewer lines
- Soshanguve South Ext. 6 – Bridge crossing
- Elias Motsoaledi – Bridge crossing

[Professional affiliations](#)

- Founder Member of Environmental Assessment Practitioners Association of South Africa (EAPASA)
- Member of the International Association for Impact Assessors (IAIAsa)
- Member of the Gauteng Wetland Forum
- Member of South African Wetland Society

Curriculum vitae: Mr Ronaldo Retief

Name : **Nico-Ronaldo Retief**
Date of Birth : 07 February 1982
Profession/Specialisation : Senior Environmental Assessment Practitioner
Nationality : South African
Years' experience : 10

Key experience

Mr Ronaldo Retief has 10 years' working experience in the environmental consulting industry. His key interest falls within the water and mining industry, especially Acid Mine Drainage. He completed his masters in Zoology in February 2007 and is also registered as a Professional Natural Scientist. He has considerable experience in the writing EIA reports and he managed a variety of small- to large-scale EIA projects.

Mr Ronaldo Retief has vast experience as an Environmental Assessment Practitioner with the responsibilities including Water Quality Management, GIS mapping, Surface Water Management, environmental management, mining applications, water use applications and mentorship.

Mr Ronaldo Retief also has valuable practical experience which includes bulk service infrastructure, water pipelines, sewage pipelines, road projects and upgrades; residential developments; renewable energy, mining applications and water use license applications. He has undertaken wetland assessments, is certified as a gas tester for fuel filling stations and Level 1 and 2 permit to work issuer for Engen Petroleum. He is also proficient in mapping and GIS applications and software.

Education & Key qualifications

<u>DEGREE</u>	<u>INSTITUTION</u>	<u>YEAR</u>
B.Sc.	Rand Afrikaans University	2001-2003
B.Sc. Honours	Rand Afrikaans University	2004
M.Sc.	University of Johannesburg	2005-2007

Career enhancing courses

Basic Wetlands	GDARD.	14, 15 April 2008
Lexis Nexis	Sandton	12 October 2009
Risk Management of Aquifers	FETWater by Dept. Water Affairs	08 March 2010.
NEMA Legislation 2010	Strategic Environmental Focus	13 August 2010.
Section 21 c and i	Dept. Water Affairs	08, 09 September 2010.
Microsoft Project Professional	ProjectLink	20 & 21 June 2011.
Engen Permit to Work	Prowalco	6-8 June 2014.

Other:

Date : Course Name, Institution
2014 : Health and Safety (Level 1 & 2 First Aid)
2014 : Firefighting
2004 : Advanced 4 x 4 driving course

Employment record

May 2015 – To date	PRISM Environmental Management Services, Position
September 2014 – April 2015	DMT-Kai Batla
June 2014 – August 2014	Kantey and Templer
September 2013 – May 2014	GladAfrica Environmental Management
August 2012 – April 2013	African Innovative Solutions and Projects
May 2011 – July 2012	Lidwala Consulting Engineers
March 2010 – April 2011	Strategic Environmental Focus
May 2009 – February 2010	Savannah Environmental
April 2007 – April 2009	Nemai Consulting

Experience record*

Key Selected projects (more projects can be made available on request)

Zuikerbosch Central Sludge Pipeline (Gauteng Province) 2007. Environmental Consultant. Basic Assessment for the installation of three water pipelines to feed the Sludge units 1 to 3 at the Zuikerbosch Pump Station (Rand Water)

Upgrade of Charles Street in Magnolia Dell between Atterbury Road and Queen Wilhelmina Road (Gauteng Province) 2008. Environmental Consultant. Basic Assessment for the upgrade of the single carriage way into a dual carriage way. (City of Tshwane).

Tshwane Strengthening Project, Pretoria (Gauteng Province) 2008. Environmental Scientist. Preparation of the Scoping and EIA reports, Public Participation, Specialist Liaison, Specialist workshop and finalization of the EIA with plan of study for EIA and Environmental Management Programme. (Eskom).

Section 21 c and i training for Department of Water and Sanitation across South Africa. 2009. Environmental Consultant. Creation of training material, posters, training documents and assisting and presenting the material in Pretoria, Cape Town, Durban and Port Elizabeth. (Department of Water and Sanitation).

Limpopo Academic hospital (Limpopo Province) 2010. Environmental Manager. Scoping and EIA process for the development of a new academic hospital in Polokwane adjacent to Edupark. (Limpopo Department of Health).

Prospecting Applications (Northern Cape) 2011. Environmental Scientist. Application for prospecting within the Kuruman, Kathu and Hotazel areas in the Northern Cape (Sound Mining Solutions).

Majuba Power Station Wetland Delineation (KwaZulu-Natal) 2012. Senior Environmental Scientist. Delineation of the wetland adjacent to the ash dump where Eskom intended to move the ash dump into the 30 year line. (Eskom).

Sishen Borehole Monitoring for DMR in Kathu (Northern Cape) 2012. Senior Environmental Scientist. Monitoring of the drill holes for prospecting around Sishen mine on farms for future mining. An internal and external report had to be prepared for the client and for the Department of Mineral Resources. (Kumba Iron Ore).

Upgrade and rehabilitation of sewage treatment works (Northwest Province) 2013. Senior Environmental Assessment Practitioner. Upgrade and rehabilitation of sewage treatment works in Tosca, Bray and Pomfret close to the Botswana border. (Dr Ruth Segomotsi Mompoti District Municipality).

Expansion of the coal power station and prospecting in Hwange (Hwange – Zimbabwe) 2014. Senior Environmental Assessment Practitioner. Undertaking a consultation process with the mines within the

Hwange district i.e. a due diligence for coal to supply the Hwange Power Station in Hwange. (Zimbabwe Power Company).

Rose Interchange (Gauteng Province), 2016. Senior Environmental Assessment Practitioner. Rehabilitation and upgrade of the William Nicol Road and adding the bridge across a drainage in Fourways. Water Use License Application and Environmental Application. Both were issued for Gauteng Department of Roads and Transport.

Relevant Project Experience (Completed per Industry)

Environmental Impact Assessments

1. Electricity

- Eskom – Dunnottar 88kV substation and power lines – 2011;
- Eskom – Koeberg Integration Project – 2009;
- Eskom – Tshwane Strengthening Project. Report – 2009;
- Mulilo – Wind Monitoring Masts – 2009;
- Mulilo – Siting exercise for a solar energy facility – 2009;
- Exxaro – Wind Monitoring Mast near Brand-se-Baai – 2009;
- Biotherm – Wind monitoring masts on farms within the Overberg – 2009;
- Eskom – Majuba Power Station Ash Dump Expansion project 2012;
- Eskom – Tabor-Nzhelele 400kV power line between Polokwane and Musina – 2012; and
- Zimbabwe Power Company – expansion of the power station – 2014.

2. Mining

- Lonmin – Karee 4 Mine EMPR amendment – 2010;
- Frankfort Mineral Resources – Priority East Prospecting Right Application – 2010;
- BHP Billiton – Klipspruit Mining Colliery – 2010;
- Sound Mining Solutions – Proposed Prospecting in the Northern Cape near Kuruman – 2011;
- Exarro Resources – Inyanda Coal Mine – 2012;
- Sebilong – Sebilong Chrome Retreatment Works – 2013; and
- Kumba Iron Ore – Sishen mine borehole monitoring for the DMR – 2012.
- Northam Platinum Limited Production Works Expansion Zondereinde division for Northam Platinum – 2015.
- Section 24G Rectification Application for the BP Wiggill Engineering Foundry in Boksburg North – 2016.
- Maroeloesfontein AEL monitoring and audit report in Thabazimbi, Limpopo Province 2016.

3. Residential/ Commercial Infrastructure

- Highlands Estate – Mixed-Use Development – 2010;
- Limpopo Department of Health – Limpopo Academic Hospital in Polokwane – 2010;
- Mogale City Local Municipality – Munsieville Extension 6 Township Development – 2011;
- Olivier Construction – Kuruman Development – 2012;
- Thaba Ya Batswana – Stone River's Arch Mixed-Use Development Klipriver Drive – 2014; and
- World Bank – ASIDI Schools Development in Mthatha (Development of EMPs and ECO monitoring) – 2014.
- Village Green Township Development – 2016
- Roodekrans Ext 26 Township Development – 2015
- Nederburg Mixed-use Development – 2016
- Greengate Ext 70 – 2016
- Greengate Ext 69 – 2016
- Greengate Ext 68 Curro School – 2016

- Olievenpoort Ext 47 Development - 2017
- Portion 96 Lindley Township Development – 2017

4. Infrastructure

- Heartland Properties – Marlboro Road Extension (M60) – 2010;
- Sanral – Road Upgrades – Hendrina along the N11 to Ermelo (Work Package 2); Amersfoort to Majuba Power Station (Work Package 3) & Bethal to D622 (Work Package 4) – 2012;
- Sanral – Notwane River Bridge upgrade between South Africa & Botswana – 2009;
- City of Tshwane Metropolitan Municipality – Upgrade of Charles Street – 2008;
- Gautrans – Upgrade of the R103 between van Dyk & Diana Roads – 2009;
- Gautrans – Upgrade of Moore Street – 2009;
- Passenger Rail Agency of Southern Africa – Doornfontein Railway Station – 2008;
- Sanral – N11 Section 10 Road Rehabilitation and Upgrade between Middelburg and Loskop Dam – 2012;
- City of Tshwane Metropolitan Municipality – Rehabilitation of the Apies River between Wonderboom junction and Rosslyn Road – 2014; and
- Onderstepoort Biological Products – DEC- Development of a vaccination plant at the existing Onderstepoort Veterinary plant – 2015.
- Gautrans – Rose Interchange – 2016
- Boukorp (Pty) Ltd – Greengate Electrical Powerline – 2016

5. Bulk Services Infrastructure

- Mogale City Local Municipality – Munsieville Bulk Sewer Pipeline – 2011;
- Johannesburg Property Company – Pimville Golf Course – 2007;
- Johannesburg City Parks and Zoo – Upgrade of Regional Parks within Soweto – 2008-09;
- Rand Water – Zuikerbosch Central Sludge Pipeline – 2007;
- Ekurhuleni Metropolitan Municipality – Kempton Park Eastern Outfall Sewer – 2008;
- Ekurhuleni Metropolitan Municipality – Signal Hill Reservoir – 2008;
- City of Johannesburg Metropolitan Municipality – Bruma Lake Desiltation – 2009;
- Moses Kotane Local Municipality – Ledig Water Supply Project – 2008;
- Sun International – Sun City Recreational Dam – 2008; and
- Dr Ruth Segomotsi Mompati District Municipality – Pomfret and Bray Wastewater Treatment Works, Waste licenses, environmental licences and Water Use Licenses – 2013.

6. Research Projects

- National Department of Health – Water Quality Monitoring Training and Training Manual Development for Domestic Use – 2012;
- Strategic Environmental Focus – Environmental Opinion for the Mine Waste Solutions Reclamation Project – 2012;
- Heartland Properties – Modderfontein Conservation Park – 2012;
- Department of Water and Sanitation – Wise use of Wetlands. Compilation of a Wise Use of Wetlands and Best Practise Guideline for the Department of Water Affairs (DWA) – 2008;
- Department of Water and Sanitation – Agricultural Research Project for Wineries. Preparation of posters, pamphlets and a T-Shirt for the research project. The topics for the project consisted of wineries, eutrophication, agricultural strategies and a communication framework in agriculture – 2008;
- Department of Water and Sanitation – Resource Directed Measures. Preparation of user-friendly material for Resource Directed Measures including the Spatial and Time Series Information Modelling Software (SPATSIM), Groundwater Resources Directed Measures (GRDM) and Teacha (Tool for Ecological Aquatic Chemical Habitat Assessment) software packages. A layman’s pocket guide and a poster were also prepared. This material was work-shopped throughout South Africa – 2007-08; and

- Department of Water and Sanitation – Resource Directed Management of Water Quality: Attended a workshop at the CSIR International Conference Centre where the training material, posters etc. were discussed. Amending the posters and pamphlets with Corel Draw Graphics suite – 2008.

7. Specialist input

- Umgeni Water – Mhlabatshane Dam: Preparing a specialist study report as well as conducting a site visit on the feasibility of the site for the construction of the Mhlabatshane Dam. The report consisted of the feasibility and general characteristics of the area while also discussing the water quality of the site – 2008;
- City of Tshwane – Capital Park Feasibility study. Compiled a feasibility report for the proposed housing development in Capital Park. This was accomplished with the aid of PlanetGIS map overlays – 2008;
- Eskom – Majuba Power Station Ash Dump Expansion Project – Wetland Delineation and Functional Assessment 2012;
- Lekwa-Teemane Municipality – Mamusa Bulk Pipeline Project between Bloemhof and Schweizer-Reneke – Wetland Delineation and Functional Assessment and Water Use License – 2012; and
- Kumba Iron Ore – Sishen mine development of a Biodiversity Action plan, Ecological Baseline study and Monitoring protocol for the expansion of the mine towards the west from the current site 2012.
- Maroeloesfontein Mine, development of a Monitoring Programme based on the Approved Air Emissions License issued by LEDET, 2016
- Honeydew Grove Ext 15 development, Ecological Scan report to identify the sensitivity and importance of the proposed site's development, ongoing.

8. Waste / landfill site

- Kgatelopele Municipality – Danielskuil Domestic Waste Site EIA – 2011.

9. Petroleum site EIAs, Gas monitoring & Groundwater Monitoring

- Engen Petroleum – 72 groundwater monitoring boreholes around Gauteng, Free State, North West and Mpumalanga – 2014;
- Engen Petroleum – Removal of storage tanks at the Bellavista Service Station – 2014;
- Engen Petroleum – Upgrade / removal of the fuel storage tanks at the Rustenburg Depot – 2014;
- Engen Petroleum – Proposed installation of 1 x 5 000m³ aboveground fuel storage tank and associated handling infrastructure at Engen Rustenburg Depot – 2014;
- Volkswagen SA – Borehole assessment report for Volkswagen SA, Port Elizabeth plant, Eastern Cape for Volkswagen SA, Port Elizabeth plant, Eastern Cape – 2014;
- Volkswagen SA – Borehole assessment report for Volkswagen SA, Uitenhage plant, Eastern Cape for Volkswagen SA, Uitenhage plant, Eastern Cape – 2014; and
- Engen Petroleum – Tank removal, groundwater monitoring, gas testing, level 1 and 2 assessment and Permit to Work for 72 Engen Filling Stations around Gauteng, Mpumalanga, Free State and Northwest 2014.

10. Water Use License Applications

- Heartland Properties – Westlake View WULA. Compilation of this Integrated Water Use License Application for the proposed project – 2009;
- Heartland Properties – Marlboro Road Extension (M60). Compilation of this Integrated Water Use License Application for the proposed project – 2009;
- Heartland Properties – Highlands Estate Ext 5, 6 & 7: Compilation of the Integrated Water Use License Application for this project – 2009;

- Mooinooi Chrome Processing Plant – Compilation of this Integrated Water Use License Application – 2011;
- Sanral – N14 WULA. Compilation of this Integrated Water Use License Application – 2009;
- Minco Mineral Holdings - Compilation of the Integrated Water Use License Application – 2009;
- Sebilong – Sebilong Chrome Retreatment Plant – 2012;
- Dr Ruth Municipality – Bray and Pomfret Waste Water Treatment Works – 2013;
- Franskraal Bowling Club – Water Use License – 2013; and
- Transvaal Gold Mining – Tailings Water Use License – 2013.
- Tamboekiesfontein – Compilation of an Integrated Water Use License Application – 2015
- Vista Park Extension 10 – Compilation of an Integrated Water Use License Application – 2015
- SAFDEV SSDC (Pty) Ltd – K6 Road Upgrade – Compilation of an Integrated Water Use License Application – 2015
- Summerset Ext. 25 – Compilation of an Integrated Water Use License Application – 2015
- Rose Interchange – Compilation of an Integrated Water Use License Application – 2016
- Randpark Ridge Extensions – Compilation of an Integrated Water Use License Application – 2015
- Greengate Electrical line – Compilation of General Authorisation – 2016
- Willowbrook Integrated Water Use License Application – 2016
- Wilgeheuwel Ext 60 Water Use License Application – 2016
- Nederburg Mixed-Use Development Water Use License Application – 2016
- The Village X10 Residential Development – Water Use License Application - 2016

11. Water Resource Monitoring and Biomonitoring

- Johannesburg Water – Biomonitoring on numerous urban rivers (including the Jukskei River, Harrington Spruit and Klip River) to obtain baseline data to detect disturbance and non-compliance of various construction activities on aquatic ecosystems. This includes the Northern Wastewater Treatment Works, Goudkoppies Wastewater Treatment Works, Bushkoppie Wastewater Treatment Works and Olifantsvlei Wastewater Treatment Works – 2008;
- Johannesburg Water – Zandspruit Sewage Spill: Investigation for the Northern Wastewater Treatment Works on foot from its effluent discharge point to the City of Johannesburg sampling point (J5). This was done to identify possible causes of higher dissolved oxygen levels at J5 compared to the control site DWJ27 in the Jukskei River – 2008;
- Johannesburg Water – Zandspruit Pump Station Sewage Spill. Biomonitoring in the Klein Jukskei River above the pump station and below the pump station. Physical water quality variables were also taken while onsite – 2008;
- City of Johannesburg – Upper Klipspruit Catchment Framework: Determine any sources of pollution and to identify impacts or anthropogenic stresses on the upper Klipspruit system. This was done for improving both river systems for the 2010 Soccer World Cup. A comprehensive report was compiled called the “Sustainable Urban River Management Plan for the Upper Klipspruit Catchment”. Co-author for the report and also compiled the water quality data – 2008;
- City of Johannesburg – Bruma Lake Rehabilitation: Undertaking the biomonitoring of the Jukskei River at the inlet to the Bruma Lake at UJ5 (DWA water sampling point) and below Bruma Lake at the DWA sampling site UJ6. The results were included as a specialist study for an environmental Impact assessment for the Rehabilitation of Bruma Lake – 2009.

Specialist Skills

- Biomonitoring;
- EIA guidance;

- Environmental Compliance Monitoring (ECO)
- Drafting and Preparing Environmental Management Plans (EMPs);
- Undertaking Public Participation;
- Preparing Strategic guideline documents and training material
- Compiling EIA reports;
- EIA guidance and recommendations;
- Mentoring junior staff;
- Project Procurement
- Project Invoicing and Billing; and
- Water Quality Management
- Wetland Delineations
- GIS mapping and map production
- Environmental Impact Assessments
- Water Use License Applications
- Mining applications and Guidance
- Water Quality Management
- Petroleum (Filling Stations) Groundwater Monitoring
- Filling Stations Gas Monitoring

Professional affiliations

- Professional Environmental and Zoological Scientist: South African Council for Natural Scientific Professions, Registration No: 400134/10
- Member of the Zoological Society of Southern Africa
- Member of the International Association for Impact Assessment South Africa
- Member of the Water Institute for Southern Africa (MWISA)

Languages

	Reading	Writing	Speaking
English	Good	Good	Good
Afrikaans	Excellent	Excellent	Excellent

Papers & Presentations

- **Scientific Publications**

Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. 2006. The use of cestode parasites from the largemouth yellowfish, *Labeobarbus kimberleyensis* (Gilchrist and Thompson, 1913) in the Vaal Dam, South Africa as indicators of heavy metal bioaccumulation. *Physics and Chemistry of the Earth* 31, 840-847.

Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. 2007. Ecological aspects of the occurrence of Asian tapeworm, *Bothriocephalus acheilognathi* Yamaguti, 1934 infection in the Largemouth yellowfish, *Labeobarbus kimberleyensis* Gilchrist and Thompson, 1913 in the Vaal Dam, South Africa. *Physics and Chemistry of the Earth* 32(15-18), 1384-1390.

Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. 2009. Seasonal study on *Bothriocephalus* as indicator of metal pollution in yellowfish, South Africa. *Water SA* 35 (3) 315-322.

- **Abstracts Publications**

Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H., 2007. Aspekte van die ekologie van *Bothriocephalus acheilognathi* besmetting in die Vaaldam. Suid-Afrikaanse Tydskrif vir Natuurwetenskap en Tegnologie 26(1), 72.

The abstract was presented at the Akademie vir Wetenskap en Kuns. Afdeling Biologiese Wetenskappe Kongres. Universiteit van die Oranje-Vrystaat. 8 September 2006.

Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. 2007. Ecological aspects of *Bothriocephalus acheilognathi* in the Vaal Dam. Journal of the South African Veterinary Association 78(2), 111-112.

The abstract was presented at the 35th Annual Congress of the Parasitological Society of Southern Africa (PARSA), 24–26 September 2006, Ministry of Mines and Energy, Windhoek, Namibia.

- **Conferences and Symposia abstracts**

Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. Cestode parasites of the Largemouth yellowfish, *Labeobarbus kimberleyensis*, as bioaccumulation indicators of heavy metal pollution in the Vaal River catchment area, South Africa. Post-graduate symposium of the Department of Zoology at the University of Johannesburg. 3 June 2005.

Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. Cestodes of the Largemouth Yellowfish, *Labeobarbus kimberleyensis*, as Indicators of Heavy Metal Bioaccumulation. 6th WARFSA/WATERNET/GWP-SA Symposium. University of Swaziland. 1-3 November 2005.

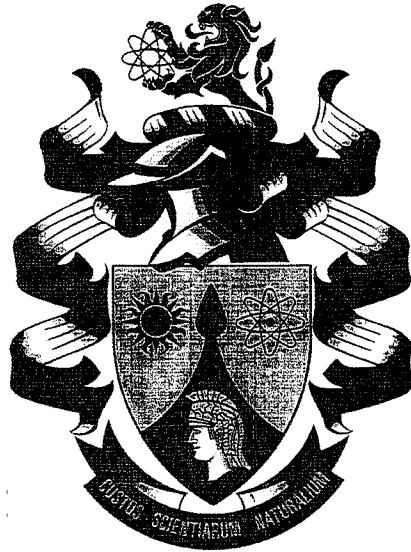
Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. Ecological aspects of *Bothriocephalus acheilognathi* in the Vaal Dam. Post-graduate symposium of the Department of Zoology at the University of Johannesburg. 31 October 2006.

Avenant-Oldewage, A., Retief, N.-R., du Preez, H.H., Cestodes as sentinel organisms for heavy metal pollution. 7th International Symposium on Fish Parasites (ISFP VII) in Viterbo (Italy) on 24-28 September 2007.

Avenant-Oldewage, A., Retief, N.-R., du Preez, H.H. A Seasonal study on Asian Tapeworm as Indicators of metal pollution in yellowfish in South Africa. 8th WARFSA/WATERNET/GWP-SA Symposium. Cresta View Hotel, Lasaka, Zambia. 30 October 2007 - 3 November 2007.

4. Article review

Journal of Biological Sciences. JJBS 29\11. Comparative Study on the Accumulation of the Cadmium and Lead in the Cestoda *Postgangesia inarmata* de Chambrier: Al-Kallak and Mariaux, 2003, and their fish host *Silurus glanis*, in Nenevhe Governorate-Iraq.



THE SOUTH AFRICAN COUNCIL
FOR
NATURAL SCIENTIFIC PROFESSIONS

herewith certifies that

Nico-Ronaldo Retief

Registration number: 400134/10

is registered as a

Professional Natural Scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003

(Act 27 of 2003)

in the following field(s) of practice

(Schedule I of the Act)

Environmental Science
Zoological Science

04 August 2010
04 August 2010

4 August 2010

Pretoria


President


Chief Executive Officer