

# DRAFT SCOPING REPORT FOR THE PROPOSED PROSPECTING ON KLEIN KOGEL FONTEIN FARM, WESTERN CAPE, BY XWENA KAOLIN

**Xwena kaolin (Pty) Ltd**  
Spaces, No 1 Bridgeway Road, Bridgeways Precinct,  
Century City, Cape Town, 7441  
[www.xwena.com](http://www.xwena.com)



## APPENDICES

Appendix 1: EAP and BAR team CVs

Appendix 2: Stakeholder Database

Appendix 3: POPIA Letter

Appendix 4: Screening Report



**DRAFT SCOPING REPORT FOR THE PROPOSED PROSPECTING  
ON KLEIN KOGEL FONTEIN FARM, WESTERN CAPE, BY  
XWENA KAOLIN (PTY) LTD**

**Xwena kaolin (Pty) Ltd**  
Spaces, No 1 Bridgeway Road, Bridgeways Precinct,  
Century City, Cape Town, 7441  
[www.xwena.com](http://www.xwena.com)



**Appendix 1:  
EAP and Report team CVs**

Cheruscha Swart  
Barry Clark  
Simone Louw  
Sisanda Dalasile

Anchor Environmental Consultants  
8 Steenberg House, Silverwood Close, Tokai, South Africa  
[www.anchorenvironmental.co.za](http://www.anchorenvironmental.co.za)



# CHERUSCHA SWART

**DATE OF BIRTH:** 3 November 1988

**NATIONALITY:** South African

## **ACADEMIC QUALIFICATIONS**

MSc (Cum Laude) Biodiversity and Ecology (Zoology), Stellenbosch University, 2015 – 2017

BSc (Hons) Biodiversity and Ecology, Stellenbosch University, 2013

BSc Biodiversity and Ecology, Stellenbosch University, 2010 – 2012

**COUNTRY EXPERIENCE:** South Africa

**LANGUAGE PROFICIENCY:** English (Excellent), Afrikaans (Excellent)

**POSTAL ADDRESS:** 8 Steenberg House, Silverwood Close, Tokai 7945

**PHONE:** +27-21-701 3420

**E-MAIL:** cheruscha@anchorenvironmental.co.za

**EMPLOYMENT HISTORY:** 2018 – Present — Environmental Consultant and Environmental Assessment Practitioner: Anchor Environmental Consultants  
2014 – 2017 — Assistant Research Consultant: Stellenbosch University  
2014 – 2015 — Research Intern: National Research Foundation

---

## **SUMMARY PROFILE**

Cheruscha is very passionate about the natural environment and its conservation. She attained a Master of Science degree (MSc) in Zoology (Cum Laude) and an Honours (BSc Hons) and a Bachelor of Science degree (BSc) in Biodiversity and Ecology (terrestrial and marine biodiversity and ecology, impact assessments, conservation biology, plant and animal sciences), from the University of Stellenbosch. Her interests include biodiversity and conservation planning, invasion biology, environmental legislation and management and sustainable development. She has eight years of research and consulting experience in several disciplinary fields, three of which have been spent conducting Basic and Scoping and Environmental Impact Assessments. Her training and experience have made her highly competent within a variety of disciplines, including environmental monitoring and impact assessments, terrestrial and marine ecology, invasion biology, conservation biology and marine invertebrate taxonomy and biology. Within Anchor Environmental Consultants, her primary role is that of Environmental Assessment Practitioner, leading consultant on several environmental specialist studies and collaborating consultant on several other projects. Tasks include applications for prospecting, ranching and other operational rights, environmental licenses and environmental authorisations; specialist impact assessments and baseline studies; environmental monitoring of important conservation and disturbed habitats; and monitoring environmental compliance of various operations. Projects include, amongst others, land-based and offshore prospecting operations; offshore mining operations; greenhouse agricultural projects; land- and sea-based aquaculture facilities; and monitoring the health of bays and ports along the West Coast. Cheruscha is the author of three peer reviewed scientific publications and numerous scientific reports, with several other projects and publications in preparation.

## PROJECTS UNDERTAKEN

Period	Country	Clients	Project, Tasks
2022/2023	South Africa	Xwena Kaolin	<p><b>Scoping &amp; Environmental Impact Assessment and application for prospecting rights: Prospecting of kaolin and silica in the Western Cape</b></p> <p><b>Tasks</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner;</li> <li>• Applying for prospecting rights and Environmental Authorisation;</li> <li>• Conducting a Scoping and Environmental Impact Assessment;</li> <li>• Compiling Scoping and Environmental Impact Assessment (S&amp;EIA) Report;</li> <li>• Compiling Environmental Management Programme (EMPr); and</li> <li>• Conducting several Public Participation Processes.</li> </ul>
2022/2023	South Africa	I&J Danger Point	<p><b>Abalone ranging right application &amp; Risk Assessment</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Applying for abalone ranching right;</li> <li>• Public Participation Process; and</li> <li>• Conducting Risk Assessment for application.</li> </ul>
2022 (ongoing)	South Africa	Buffeljags Abalone	<p><b>Environmental Authorisation amended application</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Applying for environmental authorisation amendment.</li> </ul>
2021 - present (2022)	South Africa	Drylands	<p><b>Basic Assessment Process for a proposed agricultural development on a farm along the west coast of South Africa</b></p> <p><b>Tasks - ongoing</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner;</li> <li>• Applying for Environmental Authorisation;</li> <li>• Conducting a Basic Assessment Process;</li> <li>• Compiling a Basic Assessment Report;</li> <li>• Compiling Environmental Management Programme (EMPr);</li> <li>• Conducting several Public Participation Processes; and</li> <li>• Conducting site visits and selected specialist assessments and compliance statements.</li> </ul>

2022/ 2023	South Africa	Drylands	<p><b>Basic Assessment Process for a proposed agricultural development on a mine in the Northern Cape of South Africa</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner;</li> <li>• Applying for Environmental Authorisation;</li> <li>• Conducting a Basic Assessment Process;</li> <li>• Compiling a Basic Assessment Report;</li> <li>• Compiling Environmental Management Programme (EMPr);</li> <li>• Conducting several Public Participation Processes; and</li> <li>• Conducting site visits and selected specialist assessments and compliance statements.</li> </ul>
2019 – present (2022)	South Africa	Saldanha Bay Water Quality Forum Trust	<p><b>The State of Saldanha Bay and Langebaan Lagoon: Annual Monitoring Campaign</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Annual monitoring of the bay and surrounding environment. This includes: <ul style="list-style-type: none"> <li>○ Field research, sample and data collection;</li> <li>○ Identification of Invertebrate species (taxonomy) collected during sampling;</li> <li>○ Statistical analyses;</li> <li>○ Writing of several chapters of the final report; and</li> <li>○ Report compilation and editing.</li> </ul> </li> </ul>
2018 – present (2022)	South Africa	De Beers Marine Namibia	<p><b>De Beers Marine Namibia Environmental Monitoring Programme in the Atlantic 1 Mining License Area: Annual Benthic Sampling Campaign</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Annual monitoring of mining activities on the environment. This includes: <ul style="list-style-type: none"> <li>○ Identification of Invertebrate species (taxonomy) collected during sampling;</li> <li>○ Identification of epifaunal species by means of benthic imagery analysis collected with SkiMonkey;</li> <li>○ Statistical analyses of data using Statistica and Primer; and</li> <li>○ Writing of several chapters of the final report.</li> </ul> </li> </ul>
2021/2022	South Africa	SANEK Liquidators	<p><b>Stonehurst mountain Estate Phase 4 Development – Environmental Site Officer (ESO)</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Monitoring work to ensure compliance with the EMP;</li> <li>• Liaising with stakeholders and contractors on environmental related matters;</li> </ul>

			<ul style="list-style-type: none"> <li>• Providing environmental awareness training to the Contractors;</li> <li>• Finding environmentally acceptable solutions to construction problems and updating the EMP accordingly; and</li> <li>• Reviewing ESO reports.</li> </ul>
2021/2022	South Africa	Trans Atlantic Diamonds	<p><b>Basic Assessment Process and application for prospecting rights in an offshore sea concession 9B in the Northern Cape (application pending)</b></p> <p><b>Tasks</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner; and</li> <li>• Applying for prospecting rights and Environmental Authorisation.</li> </ul>
2021/2022	South Africa	Trans Atlantic Diamonds	<p><b>Basic Assessment Process and application for prospecting rights in an offshore sea concession 10B in the Northern Cape (application pending)</b></p> <p><b>Tasks</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner; and</li> <li>• Applying for prospecting rights and Environmental Authorisation.</li> </ul>
2021/2022	South Africa	Trans Atlantic Diamonds	<p><b>Basic Assessment Process and application for prospecting rights in an offshore sea concession 7C in the Northern Cape (application pending)</b></p> <p><b>Tasks</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner; and</li> <li>• Applying for prospecting rights and Environmental Authorisation.</li> </ul>
2021/2022	South Africa	Trans Atlantic Diamonds	<p><b>Application for prospecting rights in the sea concession area 12B, Western Cape (application pending)</b></p> <p><b>Tasks</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner;</li> <li>• Applying for prospecting rights and Environmental Authorisation;</li> <li>• Conducting a Basic Assessment Process; and</li> <li>• Compiling a Basic Assessment Report.</li> </ul>
2021/2022	South Africa	Trans Atlantic Diamonds	<p><b>Basic Assessment Process and application for prospecting rights in the offshore sea concession area 14C, Western Cape</b></p> <p><b>Tasks</b></p>

			<ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner;</li> <li>• Applying for prospecting rights and Environmental Authorisation;</li> <li>• Conducting a Basic Assessment Process;</li> <li>• Compiling a Basic Assessment Report;</li> <li>• Compiling Environmental Management Programme (EMPr); and</li> <li>• Conducting several Public Participation Processes.</li> </ul>
2021/2022	South Africa	Trans Atlantic Diamonds	<p><b>Basic Assessment Process and application for prospecting rights in the offshore sea concession area 11C, Western Cape</b></p> <p><b>Tasks</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner;</li> <li>• Applying for prospecting rights and Environmental Authorisation;</li> <li>• Conducting a Basic Assessment Process;</li> <li>• Compiling a Basic Assessment Report;</li> <li>• Compiling Environmental Management Programme (EMPr); and</li> <li>• Conducting several Public Participation Processes.</li> </ul>
2021	South Africa	Trans Atlantic Diamonds	<p><b>Basic Assessment Process and application for prospecting rights in the inshore sea concession area 14A, Western Cape</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Fulfilling the primary duties of the Environmental Assessment Practitioner;</li> <li>• Applying for prospecting rights and Environmental Authorisation;</li> <li>• Conducting a Basic Assessment Process;</li> <li>• Compiling a Basic Assessment Report;</li> <li>• Compiling Environmental Management Programme (EMPr); and</li> <li>• Conducting several Public Participation Processes.</li> </ul>
2021/2022	South Africa	SRK Consulting	<p><b>Marine Impact Assessment for the increase in manganese handling capacity at the Multi-Purpose Terminal, Port of Saldanha, Saldanha Bay, South Africa</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Literature review and research;</li> <li>• Baseline survey of the environment;</li> <li>• Marine Specialist Impact Assessment; and</li> <li>• Final Marine Specialist Impact Assessment Report.</li> </ul>

2021	South Africa	Nomalungelo Faku	<p><b>Feasibility study for a pearl farm in the greater Nelson Mandela metropolitan area</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Literature review and research: <ul style="list-style-type: none"> <li>○ Biological and environmental requirements of candidate oyster species for pearl culturing in Algoa Bay, South Africa;</li> <li>○ Environmental suitability of the receiving environment;</li> <li>○ Legislative requirements of the pearl farming industry,</li> </ul> </li> <li>• International and local market assessment and financial assessment of pearls and pearl culturing;</li> <li>• Development of a basic economic model; and</li> <li>• Compilation of report to support decision making and business plan development.</li> </ul>
2021	South Africa	Cliff Path Action Group	<p><b>Marine Environmental Impact Assessment for the Proposed Pedestrian Path to Connect the two Parts of the Hermanus Cliff Path via Poole’s Bay</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Literature review and research;</li> <li>• Baseline survey of the environment;</li> <li>• Marine Specialist Impact Assessment; and</li> <li>• Final Marine Specialist Impact Assessment Report.</li> </ul>
2018 – 2021	South Africa	Mhlathuze Water	<p><b>Mhlathuze Water Environmental Monitoring Programme for the Richards Bay Offshore Outfalls Region</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Monitoring of the state of the bay. This included: <ul style="list-style-type: none"> <li>○ Identification of Invertebrate species (taxonomy) collected during sampling;</li> <li>○ Statistical analyses; and</li> <li>○ Conducting sea urchin toxicity testing.</li> </ul> </li> </ul>
2020	South Africa	Planet Capital and Cape Nordic Corporation	<p><b>Proposed Land-based Aquaculture Facility near Elands Bay – Bat Specialist Impact Survey and Assessment</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Literature review and research;</li> <li>• Bat Specialist survey, acoustic monitoring and Impact Assessment;</li> <li>• Data analysis; and</li> <li>• Final Bat Specialist Impact Assessment Report.</li> </ul>
2020	South Africa	CSIR Coastal Systems	<p><b>CSIR Coastal Systems Research Group</b></p> <p><b>Tasks:</b></p>



		Research Group	<ul style="list-style-type: none"> <li>• Identification of benthic invertebrate macrofauna.</li> </ul>
2020	South Africa	Department of Environmental Affairs and Development Planning	<p><b>Berg Estuary Valuation Study: Value of The Berg Estuary and Importance of Management Interventions</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Coordinating informal meetings; and</li> <li>• Engaging and consulting with members of the local community.</li> </ul>
2019/2020	South Africa	Planet Capital and Cape Nordic Corporation	<p><b>Basic Assessment Process for the Proposed Land-based Aquaculture Facility near Elands Bay on the West Coast of South Africa</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Assisting with the Basic Assessment Process under the supervision of the EAP;</li> <li>• Conducting site visits;</li> <li>• Assisting with compilation of the Basic Assessment Report and Environmental Management Programme; and</li> <li>• Managing stakeholder database, engagement and public participation process.</li> </ul>
2019	South Africa	Department of Agriculture, Forestry & Fisheries	<p><b>Basic Assessment Process for the Proposed Sea-Based Aquaculture Development Zone in Algoa Bay, Eastern Cape</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Assisting with the Basic Assessment process under the supervision of the EAP;</li> <li>• Assisting with compilation of the Basic Assessment Report and Environmental Management Programme; and</li> <li>• Managing stakeholder database, engagement and public participation process.</li> </ul>
2019	South Africa	Doring Bay Abalone	<p><b>Draft Environmental &amp; Risk Assessment for an Application for a Right to Engage in an Abalone Ranching Pilot Project</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Managing stakeholder database, engagement and public participation process.</li> </ul>
2019	South Africa	Mozal Alumium Smelter	<p><b>Estuarine Specialist Report for the Mozal Matola River Pipeline, Mozambique: Estuarine Impact Assessment</b></p> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Identification of Invertebrate species (taxonomy) collected during sampling;</li> <li>• Statistical analyses; and</li> </ul>

			<ul style="list-style-type: none"> <li>• Report writing.</li> </ul>
--	--	--	---

### MSc THESIS

**SWART C** (2017) An assessment of invasive predatory marine crabs and the threat they pose along the South African coastline. MSc Thesis, Stellenbosch University, 154 pp.

### PUBLICATION RECORD — ARTICLES

**SWART C** AND ROBINSON TB (2019) Horizon scanning for alien predatory crabs: insights from South Africa. African Journal of Marine Science 41(2): 125 – 135, DOI: 10.2989/1814232X.2019.1588782

**SWART C**, VISSER V AND ROBINSON TB (2018) Patterns and traits associated with invasions by predatory marine crabs. NeoBiota 39: 79 – 102. <https://doi.org/10.3897/neobiota.39.22002>

ROBINSON TB AND **SWART C** (2015) Distribution and impact of the alien anemone *Sagartia ornata* in the West Coast National Park. *Koedoe* 57 (1): DOI: 10.4102/koedoe.v57i1.1246

SEDICK S, CLARK D, GIHWALA K, **SWART C** (2022) The description of a new species of Nereis (Annelida, Nereididae) from the shallow waters of southern Namibia. In prep.

### PUBLICATION RECORD — TECHNICAL REPORTS

**SWART C**, HUTCHINGS K, DALASILE S AND CLARK BM. 2022. Draft Scoping Report: Environmental Impact Assessment for Prospecting Rights with Bulk Sampling for kaolin and silica by Xwena Kaolin (Pty) Ltd, Western Cape. Report no. 2020/1 prepared by Anchor Environmental (Pty) Ltd for Xwena Kaolin (Pty) Ltd. In prep

**SWART C**, DALASILE S, SEDICK S AND CLARK BM .2022. Basic Assessment Report for proposed prospecting in Sea Concession Area 12B by Trans Atlantic Diamonds (Pty) Ltd. Report no. 1962 prepared by Anchor Environmental Consultants (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. In prep.

**SWART C**, DALASILE S, SEDICK S AND CLARK BM. 2022. Basic Assessment Process for the proposed prospecting in Sea Concession Area 12B by Trans Atlantic Diamonds (Pty) Ltd. Part B: Environmental Management Programme. Report no. 1962/B prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. In prep.

**SWART C**, HUTCHINGS K, SEDICK S, DALASILE S, WRIGHT A AND CLARK BM. 2022. Draft Basic Assessment Report for the proposed prospecting in Sea Concession Area 14C by Trans Atlantic Diamonds (Pty) Ltd. Part B: Environmental Management Programme. Report no. 2006/1. Part B. Prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. 63 pp.

**SWART C**, HUTCHINGS K, SEDICK S, DALASILE S, WRIGHT A AND CLARK BM. 2022. Draft Basic Assessment Report for the proposed prospecting in Sea Concession Area 14C by Trans Atlantic Diamonds (Pty) Ltd. Report no. 2006/1 Part A. Prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. 228 pp.

- HUTCHINGS K, **SWART C**, SEDICK S AND CLARK BM. 2022. Final Basic Assessment Report for the proposed prospecting in Sea Concession Area 11C by Trans Atlantic Diamonds (Pty) Ltd. Report no. 1987 prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd.
- HUTCHINGS K, **SWART C**, SEDICK S AND CLARK BM .2022. Final Basic Assessment Report for the proposed prospecting in Sea Concession Area 11C by Trans Atlantic Diamonds (Pty) Ltd. Part B: Environmental Management Programme. Report no. 1987/B prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. 60 pp.
- HUTCHINGS K, **SWART C**, SEDICK S AND CLARK BM .2021. Final Basic Assessment Report for proposed prospecting in Sea Concession Area 14A by Trans Atlantic Diamonds (Pty) Ltd. Report no. 1987 prepared by Anchor Environmental Consultants (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. 146 pp.
- SWART C**, SEDICK S, HUTCHINGS K AND CLARK BM. 2021. Basic Assessment Process for the proposed prospecting in Sea Concession Area 14A by Trans Atlantic Diamonds (Pty) Ltd. Part B: Environmental Management Programme. Report no. 1987/B prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. 77 pp.
- CLARK BM, HUTCHINGS K, BICCARD A, TURPIE J, DAWSON J, GIHWALA K, **SWART C**, SEDICK S, WRIGHT A, SCHMIDT K, WEISS J, MAKHOSONKE A, MOSTERT B, BROWN E, LAIRD M, CONRAD J, PARKER A, HOLLOWAY M AND BLECHER I. 2021. The State of Saldanha Bay and Langebaan Lagoon 2021, Technical Report. Report No. AEC 1936/1 prepared by Anchor Environmental Consultants (Pty) Ltd for the Saldanha Bay Water Quality Forum Trust, October 2021.
- SWART C**, CLARK BM & S SEDICK. 2022. Marine Environmental Impact Assessment for the Proposed Pedestrian Path to Connect the Two Parts of the Hermanus Cliff Path Via Poole's Bay, South Africa. Report prepared by Anchor Environmental Consultants (Pty) Ltd for Ecosense Environmental Consultants (Pty) Ltd. 55 pp.
- SWART C**, GIHWALA K, HUTCHINGS K AND BM CLARK. 2022. Marine Baseline Survey for the Increase in Manganese Handling Capacity at the Multi-Purpose Terminal, Port of Saldanha, Saldanha Bay, South Africa. Report prepared by Anchor Environmental Consultants (Pty) Ltd for SRK Consulting. 45pp.
- SWART C**, GIHWALA K, HUTCHINGS K AND BM CLARK. 2022. Marine Impact Assessment for the Increase in Manganese Handling Capacity at the Multi-Purpose Terminal, Port of Saldanha, Saldanha Bay, South Africa. Report prepared by Anchor Environmental Consultants (Pty) Ltd for SRK Consulting. 71pp.
- SWART C**, HUTCHINGS K AND S LOUW. 2021. Feasibility Study for Pearl Culturing in Algoa Bay South Africa. Report prepared by Anchor Environmental Consultants (Pty) Ltd 64pp.
- BICCARD, A., K. GIHWALA, B.M. CLARK, S. SEDICK, **C. SWART**, E.A. BROWN, B.P. MOSTERT, J. DAWSON, S MTSOKOBA, A. MAKHOSONKE AND K. SCHMIDT. 2021. De Beers Marine Namibia Benthic Environmental Monitoring Programme: Atlantic 1 Mining Licence Area 2019 Sampling Campaign. Report prepared for De Beers Marine Namibia by Anchor Environmental Consultants (Pty) Ltd. Report no. AEC 1840/2.
- CLARK BM, HUTCHINGS K, BICCARD A, BROWN E, DAWSON J, LAIRD M, GIHWALA K, **SWART C**, MAKHOSONKE A, SEDICK S, TURPIE J. AND MOSTERT B. 2020. The State of Saldanha Bay and Langebaan Lagoon 2020, Technical Report. Report No. AEC 1876/1 prepared by Anchor

Environmental Consultants (Pty) Ltd for the Saldanha Bay Water Quality Forum Trust, October 2020.

**SWART C**, DAWSON J, MALULEKE T, WEISS J AND B CLARK. 2020. Bat Specialist Report and Impact Assessment for a Proposed Land-Based Aquaculture Facility and Small Wind Energy Facility Near Elands Bay, Western Cape. May 2020.

BICCARD A, GIHWALA K, CLARK BM, SEDICK S, BROWN EA, MOSTERT BP, **SWART C**, MTSOKOBA S, TSHINGANA B, MAKHOSONKE A AND DAWSON J. 2020. De Beers Marine Namibia Environmental Monitoring Programme: Atlantic 1 Mining Licence Area 2018 Benthic Sampling Campaign. Report prepared for De Beers Marine Namibia by Anchor Environmental Consultants (Pty) Ltd. Report no. AEC 1807

BICCARD A, GIHWALA K, CLARK BM, BROWN EA, MOSTERT BP, MAKHOSONKE A, **SWART C**, SEDICK S, TSHINGANA B AND DAWSON J. 2019. De Beers Marine Namibia Environmental Monitoring Programme: Atlantic 1 Mining Licence Area 2017 Benthic Sampling Campaign. Report prepared for De Beers Marine Namibia by Anchor Environmental Consultants (Pty) Ltd. Report no. 1775/1

**SWART C**, MASSIE V AND HUTCHINGS K. 2019. Proposed Abalone Ranching Pilot Project in Doringbaai, Western Cape. Supporting Document for the Ranching Right Application: Stakeholder Consultation Report. September 2019

WRIGHT AG, SCHMIDT K, MOSTERT BP, CLARK BM AND **SWART C**. 2018. Estuarine Specialist Report for the Mozal Matola River Pipeline, Mozambique: Estuarine Impact Assessment. Specialist Report no. 1824/2 prepared by Anchor Environmental Consultants (Pty) Ltd for JG Afrika. 33pp

CLARK BM, MASSIE V, HUTCHINGS K, BICCARD A, BROWN E, LAIRD M, GIHWALA K, **SWART C**, MAKHOSONKE A, SEDICK S, TURPIE J AND VERMAAK N. 2019. The State of Saldanha Bay and Langebaan Lagoon 2019, Technical Report. Report prepared by Anchor Environmental Consultants (Pty) Ltd for the Saldanha Bay Water Quality Forum Trust, September 2019. Report No. AEC 1841/1

CLARK B, WRIGHT AG, HUTCHINGS K, MASSIE V, MOSTERT B, DAWSON J, CATHCART N, TSHINGANA B, LAIRD M, BROWN E, **SWART C**, BICCARD A. 2019. Mhlathuze Water Environmental Monitoring Programme for the Richards Bay Offshore Outfalls Region 2018/2019 Survey, Technical Report. Report prepared by Anchor Research and Monitoring (Pty) Ltd for Mhlathuze Water, March 2019. Report No. 1800/1. 214pp (+38pp appendices)

GIHWALA K, BICCARD A, CLARK BM, BROWN EA, MAKHOSONKE A, **SWART C** AND TSHINGANA B. 2019. Mining-related impacts to soft bottom benthic habitats and associated macrofauna assemblages in mining license area SASA 2C and subsequent recovery. Report prepared for De Beers Group of Companies by Anchor Environmental Consultants (Pty) Ltd. Report no. 1800/1

## CONFERENCES

**2014** Poster Presentation: "Distribution and impact of the alien anemone *Sagartia ornata* in the West Coast National Park". South African Marine Science Symposium, Stellenbosch University, Stellenbosch, 15 – 18 July 2014

**2015** Poster Presentation: National Research Foundation Research Day, Feb 2014; Second Prize

**2017** Oral Presentation: "Horizon scanning for intertidal predatory crab invaders: South Africa as a case study". South African Marine Science Symposium, Nelson Mandela University, Port Elizabeth, 4 – 7 July 2017

## WORKSHOPS

- 2014** Basic Project Management course, HUDISA Business School
  - 2020** Environmental Impact Assessment Law Event Workshop, Live Online Training, Cape Town. In association with Janice Tooley Attorney and Accredited with SACNASP and ECSA
  - 2021** ISO 14001:2015 Environmental Management System training course
  - 2022** Western Indian Ocean Regional Benthic Imagery Workshop
-

## CURRICULUM VITAE

### **BARRY MALCOLM CLARK**

**BORN:** 25 August 1968; Livingstone, Zambia

**AGE:** 52 YEARS

**NATIONALITY:** South African, British

**ACADEMIC QUALIFICATIONS:**

Ph.D. Marine Biology, 1997, University of Cape Town

BSc (Hons) Marine Biology, 1991, University of Cape Town

BSc Zoology and Ocean & Atmosphere Science, 1990, University of Cape Town

**OTHER QUALIFICATIONS:** Scientific diver, Diving supervisor, Small boat skipper

**LANGUAGE PROFICIENCY:** English (Excellent), Afrikaans (Good)

**COUNTRY EXPERIENCE:** South Africa, Namibia, Lesotho, Mozambique, Tanzania, Kenya, Mauritius, Seychelles, Angola, Ghana, Cote d'Ivoire, Nigeria, Liberia, Sierra Leone, Somaliland, Republic of Congo, Egypt, United Arab Emirates, Azerbaijan

**POSTAL ADDRESS:** 8 Steenberg House, Silverwood Close, Tokai 7945

**PHONE:** +27-21-7013420

**MOBILE:** ++27-82 3730521

**E-MAIL:** barry@anchorencvironmental.co.za

**FAX:** +27 (0)-21-7015280

**EMPLOYMENT HISTORY:** 1991-1993 – Scientific Officer, University of Cape Town

2000-2002 – Marine Coordinator, Cape Peninsula National Park

1996-Present - Director, Anchor Environmental Consultants CC

2002-Present – Research Associate, University of Cape Town

---

### **SUMMARY PROFILE**

Dr Barry Clark has thirty years' experience in marine biological research and consulting on coastal zone and marine issues. He has worked as a scientific researcher, lecturer and consultant and has experience in tropical, subtropical and temperate ecosystems. He is presently Director of an Environmental Consultancy firm (Anchor Environmental Consultants) and Research Associate at the University of Cape Town. As a consultant has been concerned primarily with conservation planning, monitoring and assessment of human impacts on estuarine, rocky shore, sandy beach, mangrove, and coral reef ecosystems as well as coastal and littoral zone processes, aquaculture and fisheries. Dr Clark is the author of 27 scientific publications in class A scientific journals as well as numerous scientific reports and popular articles in the free press. Geographically, his main area of expertise is southern Africa (South Africa, Lesotho, Namibia, Mozambique, Tanzania, Seychelles, Mauritius and Angola), but he also has working experience from elsewhere in Africa (Republic of Congo, Sierra Leone, Liberia, Cote d'Ivoire, Ghana, Nigeria), the Middle East (UAE) and Europe (Azerbaijan, Greenland).

---

## MEMBERSHIP OF PROFESSIONAL BODIES/ORGANISATIONS

- Professional Natural Scientist, registered with the South African Council for Natural Scientific Professions (2004-)
- Professional member of the South African Institute of Ecologists and Environmental Scientists (2000-)
- South African representative to the SURVAS Network (Synthesis and Upscaling of Sea-level Rise Vulnerability Assessment Studies) (2000-)
- Member of the International Association of Impact Assessors (IAIA) (2000-)
- Member of the Subsistence Fisheries Task Group (1999-2000)
- Member of the Subsistence Fisheries Advisory Group (2000-2002)
- Member of the South African Network for Coastal and Oceanic Research (SANCOR) Economics Task Team

## STUDENT SUPERVISION

Name	Institution	Degree	Thesis title	Year
Vici Napier	UCT	MSc	Value and management of the subsistence fishery at Knysna Estuary, South Africa	2004-2005
Khara Shine	UCT	MSc	Biogeographic Patterns and Diversity in Demersal Fish off the south and west coasts of South Africa: Implications for Conservation	2006-2007
Bomikazi Tshingana	UKZN	MSc	Relating flora, fauna and environmental parameters of Durban Bay Sandbanks	2017-2018
Josef Shikeva	UNAM	MSc	The use of underwater video footage as a tool in the assessment of mining related impacts on the hard-bottom benthic environment in southern Namibia	2018-2019
Nomcebo Dhlalani	US	MSc	ICP-MS analysis of trace metals in Pacific Oysters ( <i>Crassostrea gigas</i> ) within the Port of Saldanha, South Africa	2019-2020

## SELECTED PROJECT EXPERIENCE

Period	Country	Client	Project, Tasks
2021	South Africa	V& A Waterfront	Economic impact analysis of the proposed Granger Bay Marina
2021	Greenland	DeBeers Marine (Pty) Ltd	Environmental Mitigation Assessment for geophysical surveys off West Greenland
2021	South Africa	Cliff Path Action Group/Ecosense	Environmental impact assessment for a proposed pedestrian path connecting the two parts of the Hermanus Cliff Path
2021	South Africa	IDM Consultants	Environmental impact assessment for the proposed Msimbazi River Estate in KwaZulu-Natal
2020-2021	Sierra Leone	Iluka/Sierra Rutile/Digby Wells	Environmental, Safety and Health Impact Assessment (ESHIA) for mining of the Sembehun group of deposits in the Southern Province of Sierra Leone

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
<b>2020-2021</b>	<b>South Africa</b>	<b>EDTEA KZN</b>	Development of an Estuary Management Plan for the Uthongathi Estuary, KzwaZulu-Natal
<b>2020</b>	<b>South Africa</b>	<b>Department of Forestry, Fisheries and the Environment</b>	Environmental assessment and monitoring for a sea-based Aquaculture Development Zone (ADZ) in Saldanha Bay
<b>2020</b>	<b>South Africa</b>	<b>DeBeers Marine (Pty) Ltd</b>	Near- and far-field effluent dispersion modelling study and impact assessment for a proposed SWRO plant in the Port of Cape Town
<b>2020</b>	<b>South Africa</b>	<b>V&amp;A Waterfront</b>	Dispersion modelling study and environmental impact assessment and for the East Pier District cooling plant in the Port of Cape Town
<b>2020</b>	<b>South Africa</b>	<b>Transnet National Ports Authority, Chand Environmental</b>	Environmental Impact Assessment for a proposed Seawater Reverse Osmosis Plant in the Port of Cape Town
<b>2020</b>	<b>South Africa</b>	<b>IFC World Bank/ Royal Haskoning DHV</b>	Technical, environmental and social due diligence for the Umdloti and Umkhomazi wastewater treatment works (WWTW)
<b>2020</b>	<b>Kenya</b>	<b>Ministry of Water, Sanitation and Irrigation of Kenya / Aurecon</b>	Kenya Water Security And Climate Resilience Project - Development and piloting of a resource directed measures (RDM) Framework for Kenya
<b>2020</b>	<b>South Africa</b>	<b>DeBeers Marine (Pty) Ltd</b>	Specialist environmental assessment of the Namaqua Fossil Forest Marine Protected Area and proposed Ecologically or Biologically Significant Marine Area (EBSA)
<b>2020</b>	<b>South Africa</b>	<b>ATKV/Cape EA Prac</b>	Comparative ecological impact assessment for the ATKV Hartenbos dune stabilisation study
<b>2020</b>	<b>South Africa</b>	<b>Diamond Coastal Aquaculture</b>	Design and implementation of an environmental monitoring programme for an abalone ranching operation at Kleinzee, Northern Cape.
<b>2020</b>	<b>South Africa</b>	<b>TNPA/Chand Environmental</b>	Environmental Impact Assessment for a Reverse Osmosis Desalination Plant in the Port of Cape Town
<b>2020</b>	<b>South Africa</b>	<b>Department Forestry Fisheries &amp; Environment</b>	Implementation of an environmental monitoring programme for the Saldanha Bay Aquaculture Development Zone
<b>2020</b>	<b>South Africa</b>	<b>V&amp;A Waterfront</b>	Environmental impact assessment and dispersion modelling study for the East Pier District cooling plant outfall at the V&A Waterfront, Port of Cape Town
<b>2019-2020</b>	<b>South Africa</b>	<b>City of Cape Town</b>	Design and implementation of an environmental monitoring programme for domestic effluent outfalls offshore of Hout Bay, Camps Bay and Green Point in Cape Town



<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2019	South Africa	Vopak/SRK Consulting	Environmental Impact Assessment for Vopak- Reatile Terminal Richards Bay, a bulk liquid storage and handling facility
2019	South Africa	Rheinmetall Denel Munition	Design and implementation of an environmental monitoring programme for the Rheinmetall Denel Munitions facility in Helderberg
2019	Somaliland	WSP/DP World	Marine specialist study for an Environmental and Social Impact assessment (ESIA) for the upgrade of Berbera Port, Somaliland
2018-2019	Mozambique	Golder/ Sasol	Environmental impact assessment for 2D and 3D seismic surveys and exploratory drilling in Block 16 & 19, offshore in Inhambane Province, Mozambique
2018-2021	South Africa	Mhlathuze Water	Toxicity testing, water, sediment and flora and fauna monitoring for Mhlathuze Water Effluent Pipelines, in Richards Bay, South Africa
2018	South Africa	City of Mhlathuze	Environmental Impact Assessment for construction of a new bridge over the Mzingazi Canal at the Richards Bay Waterfront
2018	Republic of Congo	Kola Potash	Marine ecology impact assessment, baseline studies and toxicity testing for the Kola Potash project, Republic of Congo
2018	South Africa	Sun International/ GCX Analytics	Marine ecology impact assessment for discharge of brine effluent from a Reverse Osmosis desalination plant in Granger Bay
2018	Mozambique	JG Afrika/ Mozal	Estuarine impact assessment for discharge of brine effluent from a Reverse Osmosis desalination plant into Maputo Bay
2018	South Africa	Kleinzee Mariculture	Environmental Impact Assessment for construction and operation of abalone holding tanks and associated infrastructure at Kleinzee.
2018	South Africa	ArcelorMittal Saldanha	Marine ecology impact assessments for the discharge of brine effluent from a Reverse Osmosis desalination plant
2018	South Africa	Diamond Coast Abalone	Environmental Impact Assessment for an Aquaculture Farm in Kleinzee, Northern Cape
2018	South Africa	G7 Renewable Energies (Pty) Ltd	Marine ecology impact assessment for discharge of brine effluent from a Reverse Osmosis desalination plant in Gordon's Bay, South Africa
2018	South Africa	Mainport Africa	Assessment of biofouling community collected from MV Cherry Blossom
2017-2018	Sierra Leone	Iluka/Sierra Rutile (Ltd)	Marine and estuarine specialists studies for an Environmental, Social and Health Impact Assessment (ESHIA) for proposed expansions to Sierra Rutile Limited's mining operations in Sierra Leone
2017	South Africa	Advisian, City of Cape Town	Marine ecology impact assessments for nine desalination plants for the Cape Town Emergency Water Resilience Project

Period	Country	Client	Project, Tasks
2017	South Africa	Hospitality Property Fund	Marine ecology impact assessment and Coastal Waters Discharge Permit application for a desalination plant at the Westin Hotel, Cape Town.
2017	South Africa	GIBB, Transnet National Ports Authority	Strategic Environmental Assessment for Port of Cape Town - Oceanographic and ecological significance and sensitivity of the Port of Cape Town and surrounding areas
2017	South Africa	Shell Downstream South Africa (Pty) Ltd	Specialist marine ecology report for coastal water discharge permit application for Shell Downstream South Africa (Pty) Ltd Bulk Chemicals Storage Facility, Port Elizabeth
2017	South Africa	Viking Fishing (Pty) Ltd	Socio-economic assessment of a 60% reduction in Viking fishing group's allocation in the inshore demersal trawl fishery
2016-2019	South Africa	Department of Water & Sanitation	Classification of and determine the Resource Quality Objectives for significant water resources within (1) the Berg Water Management Area and (2) the Breede Gouritz Water Management Area (2 separate appointments). Project leader on the estuaries component of both projects.
2016-2017	South Africa	SIROCCON Consulting Engineers & Project Managers	Specialist marine impact studies for a proposed Atlantic Salmon farm at Dwarskersbos
2016-2017	South Africa	CEN Environnemental Mangement Unit, Nelson Mandela Metro	Dispersion modelling for the Driftsands Waste Water Treatment Works, Port Elizabeth, South Africa
2016-2017	South Africa	Tongaat Hullet	Marine ecology impact assessment for a proposed beach enhancement initiative at Tinley Manor
2016-2017	South Africa	Nemai Consulting, Transnet National Ports Authority	Marine Impact Assessment for the proposed offshore sand winning for developments within the Port Of Durban, KwaZulu Natal
2016-2017	South Africa	Department of Environmental Affairs	Revision and update of the South African Water Quality Guidelines for Coastal and Marine Waters – 2017. Natural Environment, Mariculture and Industrial Use
2016-2017	South Africa	Royal Society for Protection of Birds	Assessment of the effects of exposure to brodifacoum pellet bait on Tristan Rock Lobster <i>Jasus paulensis</i>
2016-2017	South Africa	Elandsfontein Exploration and Mining (Pty) Ltd	Assessment of the impacts of the Elandsfontein Phosphate Mine on Langebaan Lagoon
2016-2017	South Africa	Department of Agriculture, Forestry, Fisheries	Assessment of catch and effort in the West Coast Rock Lobster recreational fishery
2016-2017	Namibia	Namdeb Diamond Company	Benthic macrofauna and sediment quality monitoring programme for the Mid-water license region, Namibia

Period	Country	Client	Project, Tasks
2016	South Africa	DeBeers Group of Companies	Assessment of mining-related impacts on macrofaunal benthic communities in the Northern Inshore Area of Mining Licence Area MPT 25-2011 and subsequent recovery
2016	South Africa	Advisian, Oiltanking Mogs Saldanha (RF) (Pty) Ltd	Marine ecological specialist study for the proposed HDPE pipeline and sea water intake and discharge for Oiltanking Mogs Saldanha (Rf) (Pty) Ltd
2016	Republic of Congo	Southern Waters, International Finance Corporation	Aquatic Biodiversity Assessment for the Sounda Hydropower Project
2016	South Africa	Southern Cross Salmon	Marine specialist environmental impact report for a proposed salmon and trout sea cage farm Jutten Island Saldanha -
2016	South Africa	Port Owen Marina Authority	Assessment of currents and invertebrate and fish fauna in the Berg Estuary channel and recommendations for disposal of dredge water
2016	Lesotho	Lesotho Highlands Development Authority	Specialist study of freshwater fish populations present in rivers and streams adjacent to the proposed Polihali Dam in the Lesotho Highlands
2016	South Africa	Transnet National Ports Authority	Baseline ecological assessment of marine and estuarine fauna and flora at Pier 1 and Salisbury Island, Port of Durban and an assessment of the potential impacts associated with the upgrade and expansion of the terminal.
2016	South Africa	Transnet National Ports Authority	Assessment of ecosystem goods and services associated with Durban Bay any assessment of potential impacts associated with the development of the Container Terminal at Pier 1 and Salisbury Island
2016	South Africa	ACC Agriculture	Risk assessment for introduction of <i>Camelina savitina</i> as a commercial crop into South Africa
2015	Liberia	Conservation International	Identification and profiling of priority mangrove sites in Liberia through remote sensing and field surveys and identification and delineation of two coastal and marine protected areas
2015	South Africa	AquaTech	Risk assessment for in-water hull cleaning operations in the Port of Durban, South Africa
2015	Tanzania	Aurecon, Schlumberger	Environmental impact assessment for a supply base for Schlumberger in Mtwara port, Tanzania
2015	South Africa	Cape Nature	Environmental flows assessment for the Klein River estuary, South Africa
2015	South Africa	Mossel Bay Municipality	Preparation an estuary management plan for the Hartenbos Estuary
2015	South Africa	Department of Environmental Affairs	Development of an assessment framework for management of effluent discharged from land-based sources to the marine environment in South Africa

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2015	Seychelles	Raffles Hotel, Aurecon	Assessment of impacts of diesel spill on mangrove forest community on Praslin Island, Seychelles
2014-2016	South Africa	Transnet National Ports Authority	Baseline monitoring programme for all sandbank areas in the Port of Durban.
2014-2015	South Africa	Transnet National Ports Authority	Design and implementation of a water and sediment quality monitoring programme in the Port of Durban
2014-2015	South Africa	Oceana/SRK	Application for a coastal water discharge permit for the Lucky Star Fish Processing Plant, St Helena Bay
2014-2015	South Africa	Coega Development Corporation	Assessment of impacts of waste water discharge from Coega Industrial Development Zone, Algoa Bay
2014-2017	Namibia	DeBeers Marine Namibia	Benthic macrofauna and sediment quality monitoring programme for the Atlantic 1 Mining Licence Area, Namibia
2014-2015	South Africa	Cape Nature	Environmental flow assessment for the Heuningnes estuary, South Africa
2014-2015	South Africa	South African Pelagic Fishing Industry Association	Assessment of the socio-economic impacts of a reduction in the sardine minimum Total Allowable Catch (TAC)
2014-2015	South Africa	Nelson Mandela Bay Metro, GIBB	Assessment of impacts of waste water discharge from a new WWTW at Cape Recife, Algoa Bay
2014	Seychelles	USAID	Implementation of the "reef gardening" approach for restoration of coral reefs on Praslin Island, Seychelles, lost as a result of El Nino and global warming induced bleaching events.
2014	South Africa	Molapong Aquaculture	Risk Assessment for culture of King and Coho salmon in South Africa
2014	South Africa	NWJ Environmental	Impact assessment for a proposed sand mining operation on the Umzumbe Estuary, KwaZulu-Natal
2014	Mozambique	Marine Stewardship Council	Scoping study to assess potential impacts of upgrading the cruise liner facilities at Portuguese Island, Mozambique
2014	South Africa	Bayside Aluminium, WSP	Environmental impact assessment for the decommissioning of the Bayside Aluminium Smelter, Richards Bay
2014	South Africa	Tronnox Namaqua Sands, SRK	Assessment of impacts of a seawater intake for the Tronnox Namaqua Sands mineral processing facility, Northern Cape
2014	South Africa	AquaConcepts	Risk assessment for import of ornamental marine fish species into South Africa
2014	South Africa	Dormac, WSP	Assessment of impact associated with the development of a floating dry dock in the Port of Durban, South Africa
2014	South Africa	Transnet National Ports Authority	Assessment of potential impacts of the proposed Durban Dig Out Port of the annual sardine migration up the East coast of South Africa

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2014	South Africa	WWF-SA	Design and development of a Fisheries Improvement Project for Small Scale Fisheries in the Kogelberg
2014	South Africa	Tronnox Namaqua Sands, Matzikamma Municipality, SRK	Environmental impact assessment for an aquaculture facility at Doringbaai, Northern Cape
2014	Tanzania	Aurecon	Development of a Spatial Development Framework for the coastal environment in the Mtwara/Mikandani Municipal area, Tanzania
2014	South Africa	WSP/ Engen	Assessment of the impacts of an oil spill on mangrove forest communities in the Port of Richards Bay, South Africa
2014	South Africa	Frontier Rare Earths, Coastal Environmental Services	Assessment of impacts of a seawater intake for the Frontier Rare Earths mineral processing facility, Northern Cape
2014	South Africa	Cape Nature	Rezoning and realignment of borders for Betty's Bay, Goukamma and Robberg marine protected areas in South Africa
2013-2014	South Africa	Paardevelei Properties	Assessment of the likely impacts of associated with a new stormwater management system at Paardevelei
2013-2014	South Africa	iSimangaliso Wetland Park Authority	Assessment of the hydrological, hydrodynamic and ecological functioning of the Lake St Lucia Estuarine System and formulation of recommendations for rehabilitation and improved management of the system.
2013-2014	Lesotho	Lesotho Highlands Development Authority	Assessment of the impacts of land use changes and other pressures related to the construction and operation of the Katse and Mohale Dams on its catchment area and attendant fish populations
2013	South Africa	Cape Nature, Department of Environmental Affairs	Assessment of impacts of an oil spill on sandy beach and rocky intertidal communities in the Goukamma MPA
2013	South Africa	Transnet National Ports Authority	Marine specialist study as part of an EIA for upgrading the General Maintenance Quay (GMQ) in the Port of Saldanha Bay
2013	Namibia	LL Namibia Phosphates	Review and update of a Scoping Report and Environmental Management Plan for prospecting for phosphorus deposits in Mining Licence Area 159 off the coast of Namibia

Period	Country	Client	Project, Tasks
2012-2013	South Africa	Department of Agriculture, Forestry & Fisheries	Biodiversity Risk and Benefit Assessments (BRBAs) for the seven most important alien species used in the aquaculture industry in South Africa including Pacific oyster <i>Crassostrea gigas</i> , Mediterranean mussel <i>Mytilus galloprovincialis</i> , sharptooth catfish <i>Clarius gariepinus</i> , rainbow trout <i>Onchorhynchus mykiss</i> , brown trout <i>Salmo trutta</i> , Nile Tilapia <i>Oreochromis niloticus</i> and Marron <i>Cherax tenuimanus</i> .
2012-2013	South Africa	Abagold (Pty) Lt	Environmental Impact Assessment for the construction and operation of a wave energy converter (WEC), pump assistance pond and effluent pipe turbine for the Abagold abalone farm.
2012-2013	South Africa	East London Industrial Development Zone	Feasibility study for the establishment of an Aquaculture and Biotechnology Business Incubator for the East London Industrial Development Zone.
2012	Mozambique	Consultec Lda	Water quality assessment and toxicity testing for a proposed coal transfer facility in Beira, Mozambique
2012	Mauritius	Mauritius Oceanography Institute	Alien species, and water and sediment quality assessment of Port Louis, Mauritius.
2012	Namibia	Ministry of Environment and Tourism	Study to identify a set of Core National Environmental Indicators Network (NCEIS), Integrated State of Environment Baseline Report (ISoER) for Namibia's Protected Area Network (PAN), and Coastal and Marine Ecosystems.
2012	South Africa	uMkhanyakude District Municipality/ Nemai Consulting	District-Wide Environmental Management Framework for the uMkhanyakude District Municipality
2012	South Africa	Transnet National Ports Authority	Assessment of potential impacts of iron ore oxide (Fe <sub>2</sub> O <sub>3</sub> ) on the marine flora and fauna of Saldanha Bay.
2012	South Africa	Department of Water Affairs/ Nemai Consulting	Environmental Impact Assessment for the Ncwabeni OCS Dam on the Mzimkhulu estuary
2012	South Africa	East London Industrial Development Zone	Seawater Quality Monitoring Program for aquaculture developments in the East London Industrial Development Zone
2012	South Africa	Transnet National Ports Authority/ Nemai Consulting	Environmental Impact Assessment for the deepening, lengthening and widening of Pier 2 in the container terminal of the Port of Durban.
2011	South Africa	City of Cape Town	Development of water quality indices and related reporting tools for Inland and coastal waters of the City of Cape Town

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2011	South Africa	Overstrand District Municipality/ SSI	Environmental impact assessment for a Waste Water Treatment Works in the Overstrand District Municipality
2010-2013	South Africa	Department of Agriculture, Forestry & Fisheries (DAFF)	Environmental impact assessment for four Marine Aquaculture Development Zones (MADZs) in the Eastern Cape, South Africa.
2010	South Africa	Department of Agriculture, Forestry & Fisheries (DAFF)	Strategic Environmental Assessment (SEA) to identify potential sea-based finfish aquaculture development zones (ADZ) off the South African coastline.
2010	South Africa	Doug Jeffery Environmental Consultants	Environmental impact assessment for an illegal tide pool constructed at Danger Point, Gansbaai.
2010	South Africa	Department of Environmental Affairs & Development Planning, Western Cape Government	Evaluation of boat launching sites in the Western Cape.
2010	South Africa	Department of Environmental Affairs & Development Planning, Western Cape Government	Assessment of the effects of heavy metal accumulation from land based sources on the Diep River Estuary.
2010	South Africa, Namibia	UNDP-GEF Orange-Senqu Strategic Action Programme	Assessment of the impact of changes in the flow regime of the Orange-Senqu River and its impacts on the degradation of the estuary and the broader Benguela Current System.
2010	Tanzania	BRL/ SWECO/ SADC	Baseline description and health assessment for the Rovuma Basin, Tanzania.
2010	South Africa	Water Research Commission, Department of Water Affairs	Update of methods for estimation of freshwater flow requirements for estuaries in South Africa.
2010	South Africa	Chand Environmental	Assessment of the status and sensitivity of the coastal marine environment off Partridge Point on the Cape Peninsula, and likely impacts that would arise from development of the site.
2010	South Africa	Element Consulting Engineers (Pty) Ltd	Environmental impact assessment for a proposed residential and resort development at Trekoskraal on the marine environment.
2009-2011	South Africa	Various companies	Environmental impact assessments for a suite of desalination plants at Sedgfield, Plettenberg Bay, Witsands, Saldanha Bay, and Port Nolloth. (Five separate appointments.)

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2009-2011	South Africa	<b>Cape Action Plan for People &amp; the Environment (C.A.P.E.)/Cape Nature/Marine &amp; Coastal Management (MCM)</b>	Development of management plans for the Olifants, Berg, Uilkraals, and Great Brak Estuaries, South Africa. (Four separate appointments).
2009-2011	South Africa	<b>WWF-SA, Lotto Programme</b>	Recreational fisheries monitoring programme coordinating a team of 20 fisheries monitors at 6 sites on the South and East coasts of South Africa.
2009-2010	Azerbaijan	<b>United National Development Programme, Azerbaijan Country Office</b>	International consultant appointed to prepare Project Identification Form (PIF) and Project Preparation Grant (PPG) for a GEF medium-size project on the expansion of the marine and coastal protected area network in Azerbaijan.
2009-2010	South Africa	<b>Department of Water Affairs &amp; Forestry</b>	Assessment of the nature, distribution and value of aquatic ecosystem services of the Olifants, Inkomati And Usutu To Mhlatuze Water Management in South Africa.
2009-2010	South Africa	<b>WWF-SA/Cape Action for People and the Environment (C.A.P.E.)</b>	Project leader responsible for the preparation of marine and coastal spatial plans and socio-economic assessments for the Kogelberg Biosphere Reserve and Garden Route Initiative.
2009-2010	South Africa	<b>Department of Water Affairs</b>	Environmental Flow Assessment for the Berg Estuary which including preparing scenario assessments of the likely environmental and socio-economic consequences variable fresh water allocation for the estuary.
2009	South Africa	<b>West Coast District Municipality, Jeffares &amp; Green (Pty) Ltd</b>	Environmental assessment of the Jakkalsvlei estuary, and of ecological impacts of illegal excavation and infilling activities
2009	Global	<b>UNDP</b>	Researcher on an assessment of the impact of climate change on the Global Fisheries sector and opportunities and incentives required for adaptation
2009	South Africa	<b>City of Cape Town</b>	Design of a Coastal Monitoring Programme for the City of Cape Town (City of Cape Town).
2009	South Africa	<b>Sturrock Shipping (Pty) Ltd</b>	Marine ecological expert responsible for assessment of marine fouling on vessel, Rita Knutsen.
2009	South Africa	<b>Doug Jeffery Environmental Consultants</b>	Assessment of the status and sensitivity of the coastal marine environment off Oudekraal on the Cape Peninsula



<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
<b>2008-2011</b>	<b>South Africa</b>	<b>Century City Property Owners Association</b>	Assessment of the effectiveness of a fish eradication programme conducted in the Century City wetlands and canals using the ichthyocide rotenone.
<b>2008-2009</b>	<b>Tanzania, Kenya</b>	<b>Programme for the Sustainable Management of the Coastal Zone of the Countries of the Indian Ocean</b>	Design and implementation of training courses and workshops on Information for Fisheries Co-Management in Dar es Salaam, Tanzania and Mombassa, Kenya.
<b>2008</b>	<b>South Africa</b>	<b>Water Research Commission, Fresh Water Consulting Group</b>	Marine specialist on a project to develop a classification system for wetlands in South Africa.
<b>2008</b>	<b>South Africa</b>	<b>Water Research Commission (WRC)</b>	Design and development of an integrated ecological-economic model to be used to assess freshwater flow requirements for the East-Kleinemonde estuary, a temporally open-closed estuary on the East coast of South Africa.
<b>2008</b>	<b>South Africa</b>	<b>DCD-Dorbyl (Pty) Ltd</b>	Environmental audit of Globe Engineering Works (Pty) Ltd, DCD-Dorbyl (Pty) Ltd and Natulis Marine (Pty) Ltd (Nautilus), three engineering companies based in the Port of Cape Town, South Africa
<b>2008</b>	<b>Angola</b>	<b>Tullow Oil Plc</b>	Environmental Impact Assessment, Environmental Overview and identification of Environmental Best Management Practise (BMP) required for seismic surveying and exploratory drilling for offshore oil and gas resources in Blocks 1, Angola.
<b>2008</b>	<b>South Africa</b>	<b>Department of Environmental Affairs &amp; Development Planning/SRK Consulting</b>	Marine and coastal specialist contributing to the preparation of the State of the Environment Report (SoER) for the Western Cape Province, South Africa.
<b>2008</b>	<b>South Africa</b>	<b>CSIR/Transnet National Ports Authority (Transnet-NPA)</b>	Independent consultant appointed to review an Environmental Impact Assessment and Environmental Management Plan for dredging and dredge spoil disposal for the Ben Schoeman Dock, Port Of Cape Town.
<b>2008</b>	<b>South Africa</b>	<b>Transnet National Ports Authority (Transnet-NPA)/SRK/PD Naidoo &amp; Associates</b>	Independent consultant appointed to review Marine Specialist study components of an Environmental Impact Assessment for extension of the iron ore export terminal and associated ore handling facilities in Saldanha Bay, South Africa
<b>2007-2011</b>	<b>South Africa</b>	<b>Resource Ballast Technology (Pty) Ltd</b>	Independent assessor of efficacy of a newly developed ballast water treatment system and evaluation (risk assessment) of the residual toxicity of ballast water treated with the system.

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2007-2011	South Africa	<b>Department of Environmental Affairs &amp; Tourism: Marine and Coastal Management (DEAT: MCM)</b>	Shore based fisheries monitoring programme designed to assess levels of fishing mortality, stock abundance indices and to evaluate the effectiveness of management measures for the commercial and recreational linefishery, tuna pole and hake handline fishing in South African waters.
2007-2011	South Africa	<b>Department of Environmental Affairs &amp; Tourism: Marine and Coastal Management (DEAT: MCM)</b>	Offshore, boat-based fisheries monitoring programme designed to supply and deploy aboard fishing vessels, competent, suitably trained and equipped scientific observers for the inshore trawl, hake longline and west coast rock lobster fisheries.
2007-2010	Ghana	<b>Tullow Oil Plc</b>	Environmental Impact Assessment, Environmental Overview and identification of Environmental Best Management Practise (BMP) required for seismic surveying and exploratory drilling for offshore oil and gas resources in the Tano shallow water and Deep water blocks in Ghana. (Three separate EIA studies).
2007	South Africa	<b>Shelley Point Breakwater (Pty) Ltd/Doug Jeffery Environmental Consultants</b>	Environmental Impact Assessment for the Shelly Point Small Craft Harbour.
2007	South Africa	<b>University of Cape Town</b>	Project supervisor on a study on fish populations in three False Bay estuaries (Zandvlei, Eerste and Lourens).
2006-2011	Tanzania	<b>International Conservation Union (IUCN)/Pangani Water Basin Office, Tanzania</b>	International mentor of the Estuary Team for a project entitled "Flows for People and the Environment: Supporting Sustainable Land Management in the Pangani Basin (Tanzania)".
2006-2007	South Africa	<b>Cape Action Plan for People &amp; the Environment (C.A.P.E.) and World Wildlife Foundation (WWF)</b>	Project leader responsible for development of a fine scale conservation plan for the Agulhas Marine Bioregion.

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
<b>2006-2007</b>	<b>South Africa</b>	<b>Department of Science and Technology (DST) and the South African Environmental Observation Network (SAEON)</b>	Consultant appointed to lead the process of developing a data management facility for the South African National Antarctica Programme (SANAP) in consultation with the SANAP research and management community.
<b>2006</b>	<b>South Africa</b>	<b>Seaton Thompson and Associates and Tintswalo Atlantic (Pty) Ltd</b>	Environmental Impact Assessment for a proposed guest lodge development at Koeelbaai, under Chapman's Peak Drive, in the Table Mountain National Park (TMNP)
<b>2006</b>	<b>Mozambique</b>	<b>Ministry of Co-ordination of the Environment/ World Bank/European Union</b>	Team leader (Expert level I) appointed to prepare a Country Environmental Profile for Mozambique.
<b>2005-2008</b>	<b>South Africa</b>	<b>Port Nolloth Sea Farms (Pty) Ltd/ Department of Environmental Affairs and Tourism (DEAT)</b>	Assessment of ecological impacts and biological and economic viability of abalone ranching in South African west coast.
<b>2005-2007</b>	<b>Angola</b>	<b>BCLME Programme/ United Nation Development Programme (UNDP)/ UNOPS/Global Environment Facility (GEF)</b>	Assessment of the status of biodiversity along the Angola coastline.
<b>2005-2007</b>	<b>South Africa</b>	<b>Cape Action Plan for People &amp; the Environment (C.A.P.E.), Cape Nature, and Department of Environmental Affairs &amp; Tourism: Marine and Coastal Management (DEAT: MCM)</b>	Biodiversity and economic assessment and development of an integrated conservation plan for CAPE estuaries.

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2005-2007	Angola, Namibia, South Africa	BCLME Programme/ United Nation Development Programme (UNDP)/ UNOPS/Global Environment Facility (GEF)	Assessment of human capacity, training and infrastructure available within the three countries bordering the BCLME – Angola, Namibia and South Africa.
2007, 2005	South Africa	Transnet-National Ports Authority (Transnet NPA)	Ballast water, flora and fauna survey in the Ports of Durban and Port Elizabeth.
2005	South Africa	Department of Environmental Affairs and Tourism (DEAT)	National State of the Environment Report (SoER) for South Africa.
2005	South Africa	Department of Environmental Affairs and Tourism (DEAT)	Assessment of the marine and coastal tourism potential for the Arniston fishing harbour.
2005	Angola, Namibia, South Africa	Benguela Current Large Marine Ecosystem (BCLME) Programme (UNDP/World Bank)	Development of and operationalisation of an affordable, sustainable and user-friendly State of Ecosystem Information System (SEIS) for the BCLME region (Angola, Namibia, South Africa).
2005	South Africa	National Empowerment Fund (NEF)	Due diligence (feasibility) study to assess the feasibility of a proposed eel aquaculture and processing operation in the Eastern cape, South Africa.
2005	South Africa	Department of Environmental Affairs & Tourism	Supervisor on a project to assess the socio-economic value and ecological impacts of the subsistence fishery for sand and mud prawns, and fish in the Knysna estuary, South Africa
2004-2017	South Africa	Saldanha Bay Water Quality Forum Trust (SBWQMFT)	Preparation of a series of “State of the Bay” Monitoring Programme and Reports for Saldanha Bay and Langebaan Lagoon in 2004, and annually between 2008 and 2017.
2004-2008	South Africa	WWF-SA/South African National Parks	Development and implementation of a coastal monitoring programme for the Table Mountain National Park Marine Protected Area.
2004-2005	South Africa	Department of Environmental Affairs and Tourism (DEAT)	Formulation of recommendations on an appropriate permit fees and permitting systems for recreational SCUBA divers and SCUBA diving tour operators in Aliwal Shoal, Pondoland, Bird Island, Tsitsikamma and Table Mountain National Park Marine Protected Areas (MPAs).
2004	South Africa	I & J	Environmental Impact Assessment for an abalone farm at Danger Point, Western Cape.

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2004	DRC, Angola, Namibia, South Africa, Mozamb., Tanz., Mauritius, Seychelles	EU-SADC MCS Fisheries Programme	Production of instructional material and the holding of a seminar on the effects of pollutants, illegal fishing methods and the requirements of relevant conventions signed by the SADC states.
2004	South Africa	City of Cape Town	Environmental Impact Assessment for a coastal walkway between St James and Kalk Bay, in False Bay, South Africa.
2004	South Africa	City of Cape Town	Environmental Impact Assessment to assess impacts of an education centre and tidal pool, at Bordjiesrif in False Bay, South Africa.
2004	Mozambique	Southern African Development Community/ Government of Mozambique	Production of a policy document and strategy for fisheries Monitoring Control Surveillance in Mozambique.
2004	South Africa	Botanical Society of South Africa	Preparation of guidelines to assist environmental assessment practitioners in selecting biodiversity specialists for involvement in Environmental Impact
2004	Southern Africa	IPCC/ START Programme	Desktop assessment of the likely impacts of climate change on estuaries in southern Arica.
2004	South Africa	EKZN Wildlife Service/ Department of Environmental Affairs and Tourism (DEAT)	Review and assessment of the management of subsistence fisheries in KwaZulu-Natal, South Africa.
2003-2005	South Africa	Department of Water Affairs & Forestry (DWAF)	Project manager, estuarine coordinator and fisheries specialist on the Berg River Baseline Monitoring Programme.
2003-2004	South Africa/ Namibia/ Angola	BCLME Programme/ UNDP/ UNOPS/ GEF	Capacity and Needs Assessment for the Benguela Current Large Marine Ecosystem (BCLME) Project involving three countries – Angola, Namibia and South Africa.
2003-2004	South Africa	Makana Marine and Projects	Environmental Impact Assessment for the development of a new ship repair facility in the Port of Cape Town.
2003-2004	South Africa	World Wildlife Fund, South Africa (WWF-SA)	Production of a business plan for the proposed Kogelberg Marine Park.
2003-2004	South Africa	Department of Environmental Affairs and Tourism (DEAT)	Strategic Environmental Assessment to guide the implementation of regulations promulgated under the National Environmental Management Act 1998: Control of Vehicles in the Coastal Zone.

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2003	South Africa	Global Ballast Programme/ IMO/UNDP/ GEF	Development of a Ballast Water Management Plan for the Port of Saldanha, South Africa.
2003	South Africa, Namibia and Angola	Global International Waters Assessment (GIWA) Programme/ GEF	Global International Water Assessment (GIWA) for the Benguela region (South Africa, Namibia and Angola).
2002-2003	South Africa	Cape Action for People and the Environment / World Bank/ UNDP	Lead consultant on the Marine and Coastal Component of the Cape Action for People and the Environment (C.A.P.E.) programme responsible for the developing components of the Project Concept Document (PCD) and Project Implementation Plan (PIP).
2002-2003	Namibia	Namdeb Diamond Company	Environmental Impact Assessment for the Wet Overburden Mining System in Mining Area 1, Oranjemund, Namibia.
2002-2003	South Africa	Department of Environmental Affairs & Tourism	Assessment of the quantity of abalone caught by recreational fishers during the 2002/2003 fishing season.
2002-2003	South Africa	Water Research Commission, Department of Water Affairs & Forestry	Assessment of the relative contribution and importance of individual estuaries to overall estuarine biodiversity in South Africa.
2002-2003	South Africa	National Ports Authority/ Global Ballast Programme	Baseline survey of subtidal reef biota and reef fish off Jaheel & St Croix Islands, Algoa Bay.
2002	Africa	GEF/UNDP UNESCO/IOC/ACOPS	Regional Technical Coordinator for the Working Group on Sustainable Use of Living Resources as part of Phase 2 of the GEF MSP Sub-Saharan Africa Project (GF/6010-0016): Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa.
2002	South Africa	Department of Environmental Affairs & Tourism	Acoustic tracking study of the West Coast rock lobster ( <i>Jasus lalandii</i> ) in the Hermanus Whale Sanctuary, on the south-west coast of South Africa.
2002	Namibia	Namdeb Diamond Company	Environmental assessment of sandy beaches in Mining Area 1, Oranjemund, Namibia and an environmental baseline study in a previously unexploited area on the coast.
2002	South Africa	National Research Foundation	Launch the Marine and Coastal Node of the South African Environmental Observatory Network (SAEON) programme.
2002	South Africa	Department of Environmental Affairs & Tourism	Assessment of sardine migration habitats off the East coast of South Africa.

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2002	South Africa	Department of Environmental Affairs & Tourism	Fisheries monitoring programme for an experimental hoop-net fishery for west coast rock lobster off Cape Hangklip, South Africa.
2002	South Africa	University of Rhode Island/ History of Marine Animal Populations	Desktop assessment of the likely impacts of climate change on the ecosystem functioning and fisheries of the Benguela ecosystem, South Africa.
2002	Seychelles		Assessment of the status of fisheries, fish stocks, and approaches to fisheries management in the Seychelles
2001-2002, 2009-2010	South Africa	Department of Environmental Affairs & Tourism	Assessment of the quantity of west coast rock lobster caught by recreational fishers during the 2001/2002 and 2009/2010 fishing seasons.
2001-2003	South Africa	Department of Environmental Affairs & Tourism/ Rhodes University	Economic Sectoral Study of the South African Fishing Industry.
2001-2002	South Africa	AECI/SYNEXUS	Assessment of risks to marine life and human health resulting from disposal of contaminated groundwater from the Umbogintwini waste disposal site.
2001	South Africa	GEF/UNDP/IMO Globallast Programme	Ballast water fauna and flora survey in the Port of Saldanha.
2001	South Africa	Nitrogen Products	Marine specialist on an EIA to assess impacts of effluent disposal on the marine environment from a fertilizer factory.
2001	South Africa	Maribus Industries	Application for a seawater lease and mariculture permit for a Gracilaria farm in St Helena Bay, South Africa
2001	United Arab Emirates	Dubai Municipality/ Martin Mid-East	Assessment of impacts of effluent discharges and shipbuilding activities on Dubai Creek, UAE.
2000-2002	South Africa	South African National Parks	Marine Coordinator Cape Peninsula National Park, responsible for the design and development of a marine component for the newly established Cape Peninsula National Park.
2000-2002	South Africa	Freshwater Consulting Group	Assessment and monitoring changes in the fish community of the Koekdou River following construction of a new dam on the system
2000-2001	Africa	GEF/UNDP UNESCO/IOC/ACOPS	National coordinator for South Africa on Phase 1 of the GEF MSP Sub-Saharan Africa Project (GF/6010-0016): Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa.
2000-2001	South Africa	SRK Consulting and PD Naidoo and Associates	Environmental Impact Assessment of potential impacts of the extension of the iron ore handling facility in Saldanha Bay on the marine environment and mariculture activities.

<b>Period</b>	<b>Country</b>	<b>Client</b>	<b>Project, Tasks</b>
2000	South Africa	City of Cape Town/ Southern Water Ecological Research and Consulting	Environmental Impact Assessment for the upgrade of a rubble weir and other mouth management options for the Zandvlei estuary.
2000	South Africa	On Track Developments/ Chand Environmental	Environmental Impact Assessment for the redevelopment of the Sea Point Pavilion site, Cape Town
2000	South Africa	City of Cape Town/ Southern Water Ecological Research and Consulting	Freshwater fish specialist on the Zeekoeivlei and Rondevlei restoration project.
2000	Africa	SURVAS	National representative on the SURVAS Network tasked with assessing Vulnerability & Adaptation to Impacts of Accelerated Sea-Level Rise in Africa.
1999-2000	South Africa	United States Department of Energy/ Department of Environmental Affairs and Tourism, South Africa	Assessment of the effects of climate change on marine biodiversity in South Africa.
1999-2000	South Africa	Foundation for Research Development	Assessment of impacts of exploitation of wonderworm <i>Marphysa sanguinea</i> on bouldershore habitats on the Cape Peninsula, South Africa.
1999-2000	South Africa	Department of Environmental Affairs & Tourism, South Africa	National Co-ordinator of the Subsistence Fisheries Programme designed to identify subsistence fishing communities in South Africa, to assess socio-economic profiles and resource harvesting techniques and to provide recommendations for the implementation of appropriate management systems for these fishers.
1999	South Africa	Ridge Management/ Eric van den Honert Environmental Consulting	Environmental Impact Assessment for for the Soetwater Mariculture Project (an abalone and seaweed aquaculture initiative) on the marine environment.
1999	South Africa	City of Cape Town/ Southern Water Ecological Research and Consulting	Environmental Impact Assessment for the construction of a foot bridge over the Zandvlei estuary.
1999	South Africa	City of Cape Town/ Southern Water Ecological Research and Consulting	Environmental Impact Assessment for flood mitigation measures (artificial wetland) on the Silvermine estuary.



Period	Country	Client	Project, Tasks
1999	South Africa	City of Cape Town/ Freshwater Consulting Group	Fish specialist appointed to assess the ecological importance of Zoarvlei (a freshwater wetland) for marine, estuarine and freshwater fish species.
1999	South Africa	City of Cape Town/ Southern Water Ecological Research and Consulting	Environmental Impact Assessment for upgrading the Zandvleit Wate Water Treatment Works on the Eerste estuary.
1999	South Africa	Jakobsbaai Abalone Farm	Assessment of the application of anolytes to control red-tide dinoflagellates <i>Scripsiella trochoidea</i> in the mariculture industry.
1999	South Africa	Southern Water Ecological Research and Consulting	Guidelines for stocking Capricorn Lake (a shallow dendritic lake in the Capricorn Science and Business Park Lake) with fish
1998-1999	Mozambique	ARCO International Oil and Gas Company/ Austral	Environmental Impact Assessment for onshore and offshore seismic exploration and exploratory drilling for oil and gas in Sofala Bay (Beira) area in Mozambique.
1998-1999	South Africa/ Namibia/ Angola	GEF/UNDP/ Benguela Current Large Marine Ecosystem Programme (BCLME)	Production of an "Integrated Overview of Diamond Mining in the Benguela Current Region" as part of the synthesis and assessment of information on the Benguela Current Large Marine Ecosystem (BCLME) project.
1998	Namibia	Government of Namibia/ Desert Research Foundation of Namibia	Environmental Impact Assessment for a new Fishing Port at Möwe Bay, Skeleton Coast, Namibia.
1998	Namibia	Namdeb Diamond Company	Environmental Impact Assessment for the Elizabeth Bay Mine, Lüderitz, Namibia.
1998	South Africa	Marine Diamond Mines Association/ Sue Lane & Robin Carter & Associates	Generic Environmental Baseline Report on the status of the marine environment, fisheries and coastal utilisation in the South African west coast marine diamond 'a' concession areas, surf zone and admiralty strip.
1998	South Africa	Blaauberg Municipality/ World Wide Fund for Nature (WWF-SA)	Assessment of the intensity and impact of bait collecting activities on the ecology of the Diep River estuary, South Africa.
1998	South Africa	De Beers Namaqualand/ Gibb Africa	Environmental Impact Assessment for the construction of a bridge across the Buffels estuary near Kleinzee.

Period	Country	Client	Project, Tasks
1997-2012	Namibia	Namdeb Diamond Company	Baseline and Environmental Impact Assessment for beach diamond mining in the Bogenfels Mining Licence Area in the Sperrgebiet, Namibia. Sequential appointment for studies undertaken in 1997, 1998, and annually from 2004-2011.
1997-1998, 2000-2001, 2009-2011	South Africa	Department of Environmental Affairs & Tourism/ Department of Agriculture, Forestry & Fisheries	Implementation of an offshore, boat-based fisheries monitoring programme designed to supply and deploy aboard fishing vessels, competent, suitably trained and equipped scientific observers for the offshore trawl, inshore trawl, hake longline and west coast rock lobster fisheries.
1997-1998	South Africa	Foundation for Research Development/ University of Cape Town	Assessment of the enhanced utilisation and management of demersal fish resources off the east, south and west coasts of South Africa.
1997	United Arab Emirates	Adnoc-Borealis Petrochemicals/Martin Mid-East	Environmental Impact Assessment and Baseline Survey for a new petro-chemicals plant in Dubai, UAE.
1996	South Africa	Rein's Nature Reserve	Assessment of the status of exploited marine species in a small marine reserve near Mossel Bay, South Africa.
1994-1996	South Africa	Sea Fisheries Research Institute/ Worldwide Fund for Nature (SA)	Assessment of the impact of commercial beach-seine netting on the fish and invertebrates in False Bay, South Africa.
1990	South Africa	Seafarm Products	Assessment of the impact of fish predation on the cultured mussel, <i>Mytilus galloprovincialis</i> , in the Seafarm Dam, South Africa.

## PUBLICATION RECORD

### Thesis

Clark, B.M. 1997. Dynamics and utilization of surf zone habitats by fish in the south-western Cape, South Africa. PhD Thesis, University of Cape Town, 216 pp.

### Scientific papers

SHELTON, J.M., CLARK, B.M., SEPHAKA, T. & TURPIE, J.K. 2016. Population crash in Lesotho's endemic Maloti minnow *Pseudobarbus quathlambae* following invasion by translocated smallmouth yellowfish *Lebeobarbus aeneus*. *Aquatic Conservation: Marine and Freshwater Ecosystems*. DOI: 10.1002/aqc.2633.

- Clark, B.M.** 2009. Introduction – The Berg River Baseline Monitoring Programme. *Transactions of the Royal Society of South Africa* 64(2): 95,
- Clark, B.M.** & S. Taljaard. 2009. Historic changes in inorganic nutrient loading and its effects on water quality biota of the Berg estuary, South Africa. *Transactions of the Royal Society of South Africa* 64(1) In press
- Clark, B.M.**, Hutchings, K. & Lamberth, S.J. 2009. Long-term variations in composition and abundance of fish in the Berg estuary, South Africa. *Transactions of the Royal Society of South Africa* 64(2): 238–258.
- Clark, B.M.**, Impson, D. & J. Rall. 2009. Present status and historical changes in the fish fauna of the Berg River, South Africa. *Transactions of the Royal Society of South Africa* 64(2): 142–163
- Clark, B.M.** 2005. Climate change: A looming challenge for fisheries management in southern Africa. *Marine Policy* 30 (1): 84-95.
- Clark, B.M.**, Hauck, M., Harris, J., Salo, K. and E. Russell. 2002. Identification of subsistence fishers, fishing areas, resource use and activities. *South Africa Journal of Marine Science* 24: 425-438.
- Clark, B.M.** 1996. Variation in surf zone fish community structure across a wave exposure gradient. *Est. cstl. Shelf Sci.* 44: 659-674.
- Clark, B.M.** 1996. Marine diamond mining activities off Namibia: do they really pose a threat to island biota? *S.A. Comm. Mar.* 5(3): 16.
- Clark, B.M.** & B.A. Bennett 1993. Are juvenile fish an issue in the trek net controversy? *Fish, fishers and fisheries, Proc. 2nd Mar. Recreational Angling Symp., Durban, October 1992*. Beckley, L.E. & R.P. van der Elst (eds.) *Spec. Publ. oceanogr. Res. Inst. S. Afr.* 2: 157-159.
- Clark, B.M.**, B.A. Bennett & S.J. Lamberth 1994. A comparison of the ichthyofauna of two estuaries and their adjacent surf-zones, with an assessment of the effects of beach-seining on the nursery function of estuaries for fish. *S. Afr. J. mar. Sci.* 14: 121-131.
- Clark, B.M.**, B.A. Bennett & S.J. Lamberth 1994. Assessment of the impact of commercial beach-seine netting on juvenile teleosts in the surf-zone of False bay, South Africa. *South Africa Journal of Marine Science* 14: 255-262.
- Clark, B.M.**, B.A. Bennett & S.J. Lamberth 1996. Factors affecting spatial variability in seine net catches of fish in the surf-zone of False Bay, South Africa. *Mar. Ecol. Prog. Ser.* 131: 17-34.
- Clark, B.M.**, B.A. Bennett & S.J. Lamberth 1996. Temporal variations in surf-zone fish assemblages from False Bay, South Africa. *Mar. Ecol. Prog. Ser.* 131: 35-47.
- Branch, G.M. and **Clark, B.M.** 2006. Fish stocks and their management: The changing face of fisheries in South Africa. *Marine Policy* 30 (1): 3-17.
- Hutchings, K., **Clark, B.M.**, Atkinson, L.J. & C. G. Attwood. 2008. Evidence of recovery of the linefishery in the Berg River Estuary, Western Cape, South Africa, subsequent to closure of commercial gillnetting. *African Journal of Marine Science* 2008, 30 (3): 507–517.
- Napier V.R., J.K. Turpie & **B.M. Clark**. 2009. Value and management of the subsistence fishery at Knysna estuary, South Africa. *African Journal of Marine Science* In press

- Branch, G.M., May, J., Roberts, B., Russell, E., **Clark, B.M.** 2002. Case studies on the socio-economic characteristics and lifestyles of subsistence and informal fishers in South Africa. *South Africa Journal of Marine Science* 24: 439-462.
- Cockroft, A.C., Sauer, W., Branch G.M., **Clark, B.M.**, Dye, A. H. and E. Russell. 2002 - Assessment of resource availability and sustainability for subsistence fishers in South Africa with a review of resource management procedures. *South Africa Journal of Marine Science* 489-502.
- Griffiths, C. L., L. van Sittert, P. B. Best, A. C. Brown, **B.M. Clark**, P. A. Cook, R. J. M. Crawford, J. H. M. David, B. R. Davies, M. H. Griffiths, K. Hutchings, A. Jerardino, N. Kruger, S. Lamberth, R. Leslie, R. Melville-Smith, R. Tarr & C. D. van der Lingen, 2004. Impacts of human activities on marine animal life in the Benguela – An historical overview. *Oceanogr. Mar. Biol. Ann. Rev.* 42, 303-392.
- Harris, J.M., Branch, G.M., **Clark, B.M.**, Coetzee, C., Dye, A.H., Hauck, M., Johnson, A., Kati-Kati, L., SiqWano-Ndulo, N., and M. Sowman. 2002. Recommendations for the management of subsistence fishers in South Africa. *South Africa Journal of Marine Science* 24: 503-523.
- Harris, J.M., Sowman, M., Branch, G.M., **Clark, B.M.**, Cockroft, A.C., Coetzee, C., Dye, A.H., Hauck, M., Johnston, A., Kati-Kati, L., Maseko, Z., Salo, K., Sauer, W.H.H., Siqwana-Ndulo, N. and J. Beaumont. 2002. The process of developing a management system for subsistence fisheries in South Africa: recognizing and formalizing a marginalized fishing sector in South Africa. *South Africa Journal of Marine Science* 24: 405-424.
- Hauck, M., Sowman, M., Russel, E., **Clark, B.M.**, Harris, J.M., Venter, A., Beaumont, J. and Z. Maseko. 2002. Perceptions of subsistence and informal fishers in South Africa. *South Africa Journal of Marine Science* 24: 464-474
- Lamberth, S.J., B.A. Bennett & **B.M. Clark** 1994. The catch composition of commercial beach-seine fishermen in False Bay, South Africa. *S. Afr. J. mar. Sci.* 14: 69-78.
- Lamberth, S.J., B.A. Bennett & **B.M. Clark** 1995. The vulnerability of fish to capture by commercial beach-seine nets in False Bay, South Africa. *S. Afr. J. mar. Sci.* 15: 25-31.
- Lamberth, S.J., B.A. Bennett & **B.M. Clark** 1995. Seasonality of beach-seine catches in False Bay, South Africa, and implications for management. *S. Afr. J. mar. Sci.* 15: 157-167.
- Lamberth, S.J., B.A. Bennett & **B.M. Clark** 1995. The impact of beach-seine netting on the benthic fauna and flora of False Bay, South Africa. *S. Afr. J. mar. Sci.* 15: 157-167.
- Lamberth, S.J., Bennett, B.A. & **B.M. Clark**. 1995. It's nothing new. *S.A. Comm. Mar.* 2(4): 29.
- Lamberth, S.J. & **B.M. Clark**. 1995. Attempts to resolve the conflict between recreational anglers and beach-seine fishermen in False Bay, South Africa. In: *Proc. 1st Pan African Fisheries Congress, Nairobi, Kenya, July-August 1995. Fish Manage. Ecol.*
- Lamberth SJ, Branch GM & **BM Clark** 2010. Estuarine refugia and fish responses to a large anoxic, hydrogen sulphide, "black tide" event in the adjacent marine environment. *Est. cstl. Shelf Sci.* 86: 203-215

- Lamberth, S.J., W.H.H. Sauer, B.Q. Mann, S.L. Brouwer, **B.M. Clark** & C. Erasmus. 1997. The current status of the South African beach-seine and gill-net fisheries. *S. Afr. J. mar. Sci.* 18: 195-202
- Napier, V.R., Turpie, J.K. & **B.M. Clark**. 2009. Value and management of the subsistence fishery at Knysna Estuary, South Africa. *African Journal of Marine Science* 31(3): 297–310.
- Parker, D., Kerwath, S.E., Næsje, T.F., Arendse, C.J., Keulder-Stenevik, F.J., Hutchings, K. , **Clark, B.M.**, Winker, H, Cowley, P.D. and CG Attwood. 2017. When plenty is not enough: an assessment of the white stumpnose (*Rhabdosargus globiceps*) fishery of Saldanha Bay, South Africa. *African Journal of Marine Science* 2017, 39(2): 153–166.
- Solanofernández, S., Attwood, C.G., Chalmers, R. **Clark, B.M.**, Cowley, P.D., Fairweather, T., Fennessy, S.T., Götz, A., Harrison, T.D., Kerwath, S.E., Lamberth, S.J., Mann, B.Q., Smale M.J. & L. Swart. 2012. Assessment of the effectiveness of South Africa's marine protected areas at representing ichthyofaunal communities. *Environmental Conservation* 39 (03): 259-270

### **Books/Book Chapters**

- Turpie, J., **Clark, B.M.**, Knox, D., Martin, P., Pemberton, C. & C Savy. 2004. Contributions to Information Requirements for the Implementation of Resource Directed Measures for Estuaries. Volume 1. Improving the biodiversity importance rating of South African estuaries. JB Adams (Ed.). Report to the Water Research Commission by the Consortium for Estuarine Research and Management. WRC Report No. 1247/1/04.
- De Villiers CC, Brownlie S, **Clark B.M.**, Day EG, Driver A, Euston-Brown DIW, Helme NA, Holmes PM, Job N, Rebelo AB (2005) Fynbos Forum Ecosystem Guidelines for Environmental Assessment in the Western Cape. Fynbos Forum and Botanical Society of South Africa, Kirstenbosch. ISBN 0-620-35258-2
- Harris, J.M., Branch, G.M., **Clark, B.M.** & S.C. Sibiya. 2007. Redressing Access Inequities and Implementing Formal Management Systems for Marine and Estuarine Subsistence Fisheries in South Africa. In: T.R. McClanahan and J.C. Castilla (eds.) *Fisheries Management: Progress towards Sustainability*. Blackwell Press, pp. 112-138.
- Niang, I., Nyong, A., **Clark, B.M.**, Desanker, P., Din, N., Githeko, A., Jalludin, M., Osman, B. (2007) Vulnerability, Impacts and Adaptation to Climate Change. In: Otter, L., Olago, D.O. and Niang, I. (eds) *Global Change Processes and Impacts in Africa: A Synthesis*. START/East African Educational Publishers, Nairobi, pp. 226-249.

## CURRICULUM VITAE

### SIMONE DE VILLIERS LOUW

#### ACADEMIC QUALIFICATIONS:

PhD Candidate Physical Geography 2022, Life and Environmental Science, University of Exeter  
MTECH Oceanography 2020, Department of Biodiversity and Conservation, Cape Peninsula University of Technology, 2020  
B-TECH Oceanography 2018, Department of Biodiversity and Conservation Cape Peninsula University of Technology, 2018  
Diploma in Marine Science 2017, Department of Biodiversity and Conservation Cape Peninsula University of Technology, 2017

#### OTHER QUALIFICATIONS:

Medically in date scientific/commercial class IV diver, SSI open water diver, PYA level 2 powerboat licence, and Marine Mammal Observer (JNCC accredited).

**COUNTRY EXPERIENCE:** South Africa,

**LANGUAGE PROFICIENCY:** English (Excellent), Afrikaans (Excellent)

**POSTAL ADDRESS:** 8 Steenberg House, Silverwood Close, Tokai 7945

**PHONE:** +27-21-7013420

**E-MAIL:** simone@anchorenvironmental.co.za

**EMPLOYMENT HISTORY:** 2022: Junior Consultant (Anchor Environmental Consultants)  
2019-2021: Lab technician/Researcher (Anchor Environmental Consultants)  
2018: Marine Biology tutor, Cape Peninsula University of Technology, Marine Jun  
2017: Nov 2017: Internship at the Advanced Adaptronics Manufacturing Technology Department of CPUT (AMTL CPUT)

Simone Louw has a background in oceanography, marine ecology and biology. Her Mtech project focussed on biogeochemical factors influencing sea-algae in the Southern Ocean, Marginal Ice Zone. She has had training and experience in scientific and field-based laboratories which have made her highly competent in taxonomy and biogeochemical seawater analysis. Her other interests include air-sea fluxes of marine aerosols, resilience of complex systems, and terrestrial biodiversity. Within Anchor, she is as a junior consultant, responsible for ecotoxicology studies and invertebrate macrofauna identification. She also takes part in water quality field surveys for the State of Saldanha Bay and Langebaan Lagoon, and is a qualified Marine Mammal Observer and commercial diver. Simone also has extensive sea going experience and has participated in several research surveys off the coast of South Africa and in the Southern Ocean on the R/V Dr. Fridtjof Nansen and the R/V SA Agulhas II, respectively.

Period	Country	Clients	Project, Tasks
2021-2022	South Africa	Stonehurst Mountain Estate	<b>Environmental compliance monitoring</b> Environmental Site Officer (ESO) duties and report writing
2021	South Africa	Trans Atlantic Diamonds	<b>Socio-economic assessments</b> Report writing, research study, and stakeholder engagement
2021	South Africa	Trans Atlantic Diamonds	<b>The State of Saldanha Bay and Langebaan Lagoon</b> Report writing, stakeholder engagement, and research study

2021	South Africa	Capital Propfund Pty Ltd	<b>Assessment of impacts to marine biota resulting from an environmental incidents</b> Ecotoxicity testing Data Analysis
2021	South Africa	Biogen Africa	Freshwater ecotoxicity testing Data Analysis
2019 – 2022	South Africa	Mhlathuze Water	<b>Marine environmental impact assessment effluent pipelines in Richard's Bay</b> Whole effluent toxicity tests, laboratory work, analysis of data, reporting and management recommendations.
2019 – 2022 (ongoing)	South Africa	Saldanha Bay Water Quality Trust	<b>The State of Saldanha Bay and Langebaan Lagoon</b> Field work: sample collection (fish and macrofauna) Commercial diver, and enumeration of macrofauna samples
2019-2021 (ongoing)	South Africa	City of Cape Town	<b>Biomonitoring programme</b> Analysis and writing of technical progress report.
2021	South Africa	-	<b>Feasibility Study for Pearl Culturing in Algoa Bay South Africa</b> Report writing and research
2021 (ongoing)	South Africa	PROXA South Africa Pty (Ltd)	<b>Effluent monitoring</b> Water quality test
19/01 – 25/01/2018	South Africa	R/V Dr. Fridtjof Nansen	Collection of water samples whilst underway and CTD casts, subsequent filtering and chlorophyll-a analysis. Phytoplankton identification using inverted light microscope (off board).
01/07 – 12/07/2019	South Africa	R/V SA Agulhas II	<b>SEAmester student.</b> Zooplankton taxonomy, DNA extraction, light microscopy and standard spectrophotometric nutrient analysis.
18/07 – 12/08/2019	South Africa	R/V SA Agulhas II	Collection of water samples form underway and CTD, subsequent filtering, and processing for dissolved oxygen and chlorophyll-a. Phytoplankton identification using inverted light microscope (off board).
11/10 – 21/11/2019	South Africa	R/V SA Agulhas II	Coordinating a team, preparing sampling equipment and documentations, scheduling of meetings, concurrently serving as liaison between international participants. On-board duties included processing of sea ice samples, subsequent filtering, and salinity, dissolved oxygen and chlorophyll-a analysis. Phytoplankton identification using inverted light microscope (off board).

## MTech THESIS

Factors influencing sea-ice algae abundance, community composition, and distribution in the marginal ice zone of the Southern Ocean during winter.

## PUBLICATION RECORD — TECHNICAL REPORTS

**Louw S, Sedick S, Swart C and B Clark.** 2022. Environmental compliance monitoring report for phase 4 of the Stonehurst Mountain Estate development. Monthly Report no. 1999/1-3 prepared by Anchor Environmental Consultants (Pty) Ltd for Stonehurst Mountain Estate. 55 pp.

**Louw S**, Sedick S and BM Clark. 2021. Socio-economic assessment for exploration and prospecting activities in South African Sea Area 14A. Report no. 1987/3 prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. 25pp.

**Louw S**, Sedick S, and BM Clark. 2021. Socio-economic assessment for exploration and prospecting activities in South African Sea Area 11C. Report no. 1987/5 prepared by Anchor Environmental (Pty) Ltd for Trans Atlantic Diamonds (Pty) Ltd. 25pp.

Dawson J, **Louw S**, and BM Clark. 2021. Ecotoxicity progress report: Assessment of impacts to marine biota resulting from an environmental incident at the Cornubia Ridge Logistics Park. Specialist Report no. 1988/1 prepared by Anchor Environmental Consultants (Pty) Ltd for Capital Propfund Pty Ltd (also known as Fortress). 14 pp.

Swart C, Hutchings K, and **Louw S**. 2021. Feasibility Study for Pearl Culturing in Algoa Bay South Africa. Report prepared by Anchor Environmental Consultants (Pty) Ltd 64pp.

Sedick S, **Louw S**, Hutchings K and Clark BM. 2021. City of Cape Town, Effluent Pipelines Biomonitoring Field and Data report no. 1865/4 prepared by Anchor Research & Monitoring (Pty), July 2021. 24pp.

Mostert B, **Louw S**, Gihwala K, Hutchings K and Clark BM. 2020. City of Cape Town, Effluent Pipelines Biomonitoring, Field and Data Report no. 1865/3 prepared by Anchor Research & Monitoring (Pty) Ltd, June 2020. 24pp.

Clark B, Hutchings K, Wright AG, Mostert B, Dawson J, **Louw S** and Biccard A. 2021. Mhlathuze Water Environmental Monitoring Programme for the Richards Bay Offshore Outfalls Region 2020/2021 Survey, Technical Report. Report No. 1800/14 prepared by Anchor Research and Monitoring (Pty) Ltd for Mhlathuze Water, January 2021. 256pp.

**Louw S**, Wright A.G., Hutchings K and Clark B.M. 2021. Marine Environment Impact Assessment for Mhlathuze Water Effluent Pipelines, Richards Bay - Progress Report. Specialist Report no. 1856/09-19 prepared by Anchor Research & Monitoring (Pty) Ltd for Mhlathuze Water, April 2021. 14 pp.

## **CONFERENCES AND WORKSHOPS**

Speaker at the SCALE Symposium, UCT Oceanography Department, South Africa - 2019  
Speaker at the ASCA Symposium, Marine Research Aquarium, South Africa - 2018



### **3. Name of company & position held**

- Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)
- Seabird Rehabilitation trainee (In-service training)

**Date of employment:** 01 March 2014- August 2014

**Reason for leaving:** contract expired

#### **Duties**

- Provide assistance in controlling and eliminating waste in the oceans;
- Assist in developing actions to reduce waste in the oceans
- Conduct joint site inspection to investigate coastal water pollution related matters;
- Record findings during the site visits and take photo's;
- Compile site inspection reports and make recommendations
- Liaise with local community including local schools and colleges to raise awareness of environmental issues;
- Assisted with clean-up activities;
- Rescuing and washing of birds that affected by oil spills
- Administrative function
- Participate in Coastal Clean-up campaigns and other coastal awareness raising events like the International Coastal Cleanup, Marine week and World Oceans Day.

### **EDUCATIONAL QUALIFICATIONS**

School name: Zisukhanyo Senior Secondary School  
Highest grade: Grade 12  
Year: 2010

### **TERTIARY QUALIFICATIONS**

1. Name of institution: Cape Peninsula University of Technology  
Course: National Diploma in Environmental Management  
Year completed: 2014

2. Name of institution: Cape Peninsula University of Technology  
Course: Btech in Environmental Management  
Year: 2019

### **OTHER CERTIFICATES**

SAMTRAC (Occupational health and safety) obtained from NOSA College

### **SKILLS & KNOWLEDGE**

- Water Use License application, Good administrative and organizational skills; prioritizes; conflict management; problem solving; planning and organizational skills; multi-tasking; time management; practical implementation skills; identify continuous improvement opportunities.
- Excellent communication skills; Excellent presentation skills; Strong problem solving and analysis skills; Strong teamwork and interpersonal skills; Environmental law and regulations; Develop and drive initiatives; Ability to interact in a professional manner with all levels of stakeholders

**Full Name: Ms. Sisanda Vinolia Dalasile**  
**ID No: 920728 0818 081**  
**Address: 8365 New Flats, Samora Machell, phillipi, 7785**  
**Cell: 0812332051/ 0732782266**  
**Email: [sisanda.dalasile@gmail.com](mailto:sisanda.dalasile@gmail.com)**

---

## PROFILE

I am a responsible, dedicated person who always gives 100% to any assignment I undertake. I am an analytical thinker and generally work through difficult tasks efficiently and methodically. I thrive under pressure and adhere to deadlines religiously as well as maintaining a high standard when reporting to my superiors. I have strong leadership skills and therefore possess the ability to function as a team member as well as an individual. I also have the ability to learn from others and share knowledge. Being open minded and decisive I believe I would be an asset.

## EMPLOYMENT EXPERIENCE

### **1. Name of the company & position held**

-National Department of Public Works  
-Process Controller

**Date of employment:** April 2015 - 17 December 2019

**Reason for leaving:** contract expired

#### **Duties**

- Monthly report writing; take weekly dosage rate and calculations
- Maintaining the water at the sewage treatment plant;
- Ensure that the water has been properly disinfected;
- Sampling and testing of PH, phosphates, ammonia, turbidity and electrical conductivity.

### **2. Name of company & position held**

-Anchor Environmental Consultants (Pty) Ltd  
-Junior Consultant (trainee)

**Date of employment:** 01 march 2017- September 2017

**Reasons for leaving:** contract expired

#### **Duties**

##### **Water use license application for BP fuel station**

- Site visit, In situ water quality analysis using a HACH water quality meter;
- Collect water quality samples for laboratory analysis;
- Description of the affected water course;
- Identification of potential environmental impacts

##### **Basic assessment procedure for diamond coastal aquaculture development (application for environmental authorisation).**

- Assisted in conducting compliance of inspection investigating where non-compliance is triggered.
- Identify applicable listed activities( Environmental Impact Assessment regulations,2017)
- Characterize land use of the impact site and surroundings;
- Describe the socio-economic background of the Nama Khoi Municipality;
- Assist in completing the Environmental Authorisation application.

##### **State of the Saldanha Bay and De Beers Marine Namibia(long term monitoring study)**

- Sorting, cataloguing and filling of benthic invertebrate specimens(compiling of reference collection)
- Processing and analysis of sediments

## **REFERENCES**

1

Vera Liebau (Consultant)  
Anchor Environmental Consultants (Pty) Ltd  
**Tel:** 021 701 3420  
Cell: 082 724 5329  
Email: *vera@anchorenvironmental.co.za*

2

Bethwell Xiviti (Mentor)  
National Department of Public Works  
**Tel:** 021 402 2148  
Cell: 079 989 0055  
Email: *bethwell.xiviti@dpw.gov.za*

3.

Loiuse Myburgh( former supervisor)  
Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)  
**Tel:** 021 557 6155

**DRAFT SCOPING REPORT FOR THE PROPOSED PROSPECTING  
ON KLEIN KOGEL FONTEIN FARM, WESTERN CAPE, BY  
XWENA KAOLIN (PTY) LTD**

**Xwena kaolin (Pty) Ltd**  
Spaces, No 1 Bridgeway Road, Bridgeways Precinct,  
Century City, Cape Town, 7441  
[www.xwena.com](http://www.xwena.com)



**Appendix 2:  
Stakeholder Database**

Anchor Environmental Consultants  
8 Steenberg House, Silverwood Close, Tokai, South Africa  
[www.anchorenvironmental.co.za](http://www.anchorenvironmental.co.za)



CATEGORY	AFFILIATION	POSITION
<b>KAMIESBERG MUNICIPALITY</b>		
Government	Kamiesberg municipality	Municipal Manager
Government	Kamiesberg municipality	councillor
Government	Kamiesberg municipality	mayor
Government	Kamiesberg municipality	speaker
Government	Kamiesberg Local Municipality	
Government	SANParks (Namakwa National Park Municipality	
Government	Garies High School Principle Municipality	
Government	Zirco Resources Engineering Project Manager	
Government	Kamiesberg Local Municipality	
Government	Street Matzikama Local Municipality, West Coast District	
Government	Centre Manager	
<b>LOCAL MUNICIPALITIES</b>		
Government	Matzikama Municipality & Olifants River Estuary Advisory Forum	Tourism
Government	Matzikama Municipality	Tourism Development
Government	Matzikama Municipality	Head Office
Government	Matzikama Local Municipality	PA
Government	Matzikama Municipality Regional IDP manager, Natural resource management & research	
<b>NEARBY MUNICIPALITIES</b>		
Government	Namakwa District Municipality NC	
<b>DISTRICT MUNICIPALITIES</b>		
Government	West Coast District Municipality	Municipal Manager
Government	West Coast District Municipality	PA
Government	West Coast District Municipality	WCDM Records
Government	West Coast District Municipality	Town and Regional Planner
Government	West Coast District Municipality	National DEA- Legal
Government	West Coast District Municipality	Manager: Air Quality
Government	West Coast District Municipality	Senior Air Quality Officer
Government	West Coast District Municipality	Director: Administration & Community Services
<b>Development Planning</b>		
Government	EIA Region 1 (Development Management)	Specialised Environmental Officer, EIA Region 1 (Development Management)
Government	Development Facilitation	Development Facilitation
Government	Spatial Planning	

Government	Development Planning Intelligence Management and Research	
Government	EIA projects	EIA projects
Government	Development Planning	Office Administrator
Government	Development Planning	Chief Director: Development Planning
Government	EIA projects	Admin
Government	EIA projects	PA
<b>DMRE</b>		
Government	Department of Mineral Resources	Director-General
Government	Department of Mineral Resources	
Government	Department of Mineral Resources	Administrative Secretary
<b>DFFE</b>		
<b>Biodiversity &amp; Conservation</b>		
Government	Biodiversity and Conservation	Deputy Director-General
Government	Biodiversity and Conservation	EIA commentor
Government	Biodiversity and Conservation	EIA commentor
Government	Biodiversity and Conservation	Intern: Biodiversity Maistreaming EIA
Government	Biodiversity and Conservation	Biodiversity work stream
Government	Biodiversity and Conservation	
Government	Biodiversity and Conservation	
Government	Biodiversity and Conservation	
Government	Biodiversity and Conservation	
<b>LOCAL TOWNS INFO CENTRES</b>		
Government	Visit North West Coast_Matzikama Municipality	Manager
Government	Tourist info office	Manager
Tourism	Namaqua West Coast	Manager
Tourism	Weskus kreef staproete	Manager
Tourism	Coast Care	Manager
Tourism	Remote locations - Farms and Nature reserves along WC	Manager
Newspaper	Ons Kontrei	Editor
<b>LEPELFONTEIN WARD COMMITTEE MEMBERS</b>		
Community	chairman	
Community		
Community		
<b>KOTZESRUS</b>		
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding - Garies	Lanbouvereniging - Garies
Community	Farmer Kotzesrus and surrounding - Bitterfontein - Ward 8	Bitterfontein se voorsitter van die lanbouvereniging en dien op munisipale raad

Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding	
Community	Farmer Kotzesrus and surrounding (Ward 8)	
Community	Farmer Kotzesrus and surrounding (Ward 8)	
Community	Concerned Party	
<b>Department of Environmental Affairs</b>		
National	Northern Cape Department of Environment and Nature	
National	Northern Cape Department of Environment and Nature	
National	Northern Cape Department of Environment and Nature	
National	Northern Cape Department of Environment and Nature	scientific Manager
National	Northern Cape Department of Environment and Nature	Conservation- Botanist -
<b>SANBI</b>		
Government	SANBI	
<b>SANParks</b>		
Government	SANParks	West Coast National Park
Government	SANParks	Marine co-ordinator
<b>CAPE NATURE</b>		
Government	CapeNature	Land Use Scientist LANDSCAPE WEST City of Cape Town, Bergrivier, Cederberg, Matzikama, Saldanha Bay, and Swartland
Government	CapeNature	CAPE Estuaries Programme
<b>BirdLife</b>		
Conservation	Birdlife South Africa	Birds and Renewable Energy Manager
Conservation	Birdlife South Africa	

<b>CONSERVATION</b>		
Conservation	Marine Awareness Project	
Conservation	Coast care coordinator, E bay area	
Conservation	Cape West Coast Biosphere Reserve	
Conservation	Bergriver Estuary Advisory Forum	
Conservation	Sustainable Futures ZA	
Conservation	Protect the West Coast	
<b>BITTERFONTEIN/RIETPOORT</b>		
Library	Bitterfontein library	
e-Centre	Rietpoort e-Centre	
School	Bitterfontein Primary School-	
<b>OTHER</b>		
Hardeveld tourism		
RIETFONTEIN FARM, 8160		
Head of Department: Economic Development and Tourism		
Cape Nature -Vredendal		
Planning West Coast District Municipality		
Namakwa Sands		
Regional Manager Western Cape Department of Public Works, Constituency Head- Ward 8 West Coast District Municipality		
Department of Agriculture		
Cape Nature		
Boscia Environmental Solutions	Environmental Consultant	
mandla West Coast Civil and Building Contractors		
Namaqua West Coast Tourism	Local Tourism Agency	
Olifants Estuary Advisory Committee		
BirdLife SA		
Namaqua Bird Club		
LORWUA		
West Coast District Municipality	Municipal Manager	
Department of Rural Development and Land Reform	District Manager: West Coast	
Government (Local Municipality)	Municipal Councillor	
Namaqua West Coast Tourism	Local Tourism Agency	
Olifants River Estuary Advisory Forum	Government (Local Catchment Management Advisory Forum)	
West Coast District Municipality	Government (District Municipality)	
Matzikama Local Municipality		
Farm Katmakoep 279	Altus Baard Familie Trust (Altus)	
<b>WESSA</b>		



Conservation	Wildlife and Environment Society of South Africa (WESSA)	Chairman: WESSA WC Regional Committee
Conservation	Wildlife and Environment Society of South Africa (WESSA)	WESSA Environmental Governance Panel
Conservation	Wildlife and Environment Society of South Africa (WESSA) Algoa Bay	Chairperson
<b>Integrated Environmental Authorisations</b>		
Government	National Infrastructure Projects	
<b>Provincial DEA &amp; DP</b>		
Government	Environmental Law Enforcement	
<b>Environmental Governance, Policy Coordination &amp; Enforcement</b>		
Government	Planning and Policy Coordination	
Government	Environmental Governance	
<b>Environmental Sustainability</b>		
Government	Climate Change	
Government	Sustainability Management	
Government	Biodiversity and Coastal Management	
Government	Coastal Management	
Government	Coastal Management	
Government	DFFE: Directorate Sustainable Aquaculture Management	Environmental Officer
Government	Directorate: Sustainable Aquaculture Management	
Government	Directorate: Sustainable Aquaculture Management	
<b>Environmental Quality</b>		
Government	Air Quality Management	
Government	Pollution and Chemicals Management	Pollution Monitoring and Information Management
Government	Waste Management	
<b>DWS</b>		
Government	Sub Directorate: Proto CMA	
Government	Department of Water and Sanitation	Assistant Director (Involved with Berg-Olifants Water Management Area)
Government	Department of Water and Sanitation-Olifants Doorn WMA	
Government	Department of Human Settlements Water and Sanitation	
Government	Department of Human Settlements Water and Sanitation	Reserve, Compliance, Enforcement
Government	Department of Water and Sanitation	Secretary/ Acting Provincial Head
<b>SAHRA</b>		
Government	South African Heritage Resources Agency	

<b>DPW</b>		
Government	Department of Public Works	Chief Town Planner - Cape Town Regional Office
Government	Department of Public Works	Deputy Director
Government	Road Use Management Department of Transport and Public Works	
Government	Road Planning Transport and Public Works, Western Cape Government	
<b>DALRRD</b>		
Government	Rural development	Deputy Director: Administration: Restitution: Western Cape
<b>DOT</b>		
Government	Marine Transport and Manufacturing work stream (MTM)	
Government	Transport	
Government	Western Cape Government: Transport and Public Works	
<b>TRANSPORT</b>		
Government	Transport- SANRAL	Regional Management - Southern Region
Government	Transnet	
Government	SANRAL	Environmental Coordinator: Western Region
<b>TOURISM</b>		
Government	Destination Planning & Investment Coordination	Chief Director
Government	Department of Tourism	Director: Tourism
Government	Department of Tourism	Tourism Safety
<b>AVIATION</b>		
Aviation	Civil Aviation Authority South African	Obstacle Specialist
<b>LANDOWNERS</b>		
Community	Concerned Party	
Community	Community and Land Owner	Roivlei Trust
Community	Community and Land Owner	Rossouw Trust

**DRAFT SCOPING REPORT FOR THE PROPOSED PROSPECTING  
ON KLEIN KOGEL FONTEIN FARM, WESTERN CAPE, BY  
XWENA KAOLIN (PTY) LTD**

**Xwena kaolin (Pty) Ltd**  
Spaces, No 1 Bridgeway Road, Bridgeways Precinct,  
Century City, Cape Town, 7441  
[www.xwena.com](http://www.xwena.com)



**Appendix 3:  
POPIA Letter**

Anchor Environmental Consultants  
8 Steenberg House, Silverwood Close, Tokai, South Africa  
[www.anchorenvironmental.co.za](http://www.anchorenvironmental.co.za)



## **BYWERKING VAN BELEID – WET OP DIE BESKERMING VAN PERSOONLIKE INLIGTING (POPI-WET)**

Die Wet op die Beskerming van Persoonlike Inligting (ook bekend as die POPI-Wet of POPIA) se oogmerk is om persoonlike inligting te beskerm wat 'n lewende persoon of organisasie identifiseer. Dit is van toepassing op inligting soos, naam; ras; geslag; kontakbesonderhede; identiteitsnommer; finansiële status; mediese-; werks- en kriminele geskiedenis en opvoedingdata. Alle natuurlike- en regspersone moet met ingang van 1 Julie 2021 aan die POPI-Wet voldoen.

Anchor Environmental Consultants (Pty) Ltd en sy filiaal, Anchor Research and Monitoring (Pty) Ltd, hierna verwys as 'Anchor', bied ekologiese en sosio-ekonomiese beoordelings-, navorsings- en moniteringskundigheid om omgewingsbestuur en -beleid in te lig. Ons wens u in te lig van ons voorneme om die beskerming van alle persoonlike inligting wat ons kliënte en belanghebbendes aan ons voorsien, te prioritiseer. Daarom sal Anchor slegs persoonlike inligting insamel, gebruik en hou indien dit vir 'n wettige doel is en sal aan al die aspekte van die POPIA voldoen indien dit gedoen word. Persoonlike inligting sal grootliks tot name en kontakbesonderhede beperk word en sal slegs gebruik word vir die doeleindes van die spesifieke projek waarvoor dit aanvanklik ingesamel is.

Anchor versamel en gebruik persoonlike inligting om:

- Te kommunikeer en wisselwerking te hê met kliënte/geïnteresseerde- en geaffekteerde partye met betrekking tot spesifieke projekte (soos bv. impakbeoordelings- en bestuursplanne). Kommunikasie mag plaasvind deur middel van e-pos, telefoon, pos/koerier of aanlyn (d.m.v. die Maatskappy se webtuiste of sosiale mediaplatforms).
- Inligting of dienste te verskaf, deur kliënte of belanghebbendes versoek.
- Te voldoen aan wetgewing, regulasies and omgewingsprotokolle, byvoorbeeld, die Wet op Nasionale Omgewingsbestuur en die Wet op Nasionale Omgewingsbestuur: Geïntegreerde Kusbestuur.
- Kliënte en belanghebbendes in te lig van veranderinge by Anchor of met Anchor-verwante projekte.

Oor die algemeen samel Anchor persoonlike inligting direk van kliënte in by wyse van kontraktuele- en diensvlakooreenkomste, Memorandums van Verstandhouding en/of via e-pos en getekende registers, met die toestemming van die datasubjek vir die doeleindes van belanghebbende- en openbare deelnemingsdoeleindes. Anchor mag ook persoonlike inligting van ander bronne insamel, indien die POPIA toelaat dat dit gedoen kan word. Dit sluit bv. in lyste van belanghebbendes voorsien deur toegewese Omgewingsassesseringspraktisyns (EAPs) verantwoordelik vir die inligting van belanghebbendes tydens die voltooiing van spesialisstudies. Sodra daar nie meer 'n wettige rede is om persoonlike inligting te hou nie, sal die inligting of vernietig of gede-identifiseer word ('n proses

toegelaat ingevolge die POPIA waarvolgens inligting geredigeer/geskrap word sodat dit nie aan 'n individu of maatskappy verbind kan word nie).

Anchor streef daarna om die agt uiteengesette voorwaardes vir die wettige verwerking van persoonlike inligting wat in die wet omskryf is, na te volg. Addisioneel het ons interne beheerstelsels, tegniese maatreëls en bedryfs-beste-praktyke in plek gestel om persoonlike inligting te beskerm teen toegang deur ongemagtigde persone, onwettige openbaarmaking of oortredings en sal voldoen aan vereistes wat deur die Reguleerder uiteengesit is.

Anchor sal alle redelike stappe neem om te verseker dat die persoonlike inligting akkuraat en bygewerk is, waar nodig. Om die doeltreffendheid van die proses te fasiliteer, versoek Anchor dat u hulle stiptelik van enige veranderinge van u persoonlike inligting in kennis stel.

U privaatheid is baie belangrik vir ons. Ons databasisse sal veilig gestoor word ooreenkomstig besigheids-beste-praktyk en toegang streng beheer word. Ons sal nie u inligting met derde partye deel nie, tensy ons u toestemming het (of tensy ingevolge wet van ons vereis word om dit te doen).

Indien u enige vrae het omtrent die inligting in die brief vervat, moet u asseblief nie huiwer om met Anchor se Inligtingsbeampte, Jessica Dawson, by telefoonnommer (021) 701 3420 of per e-pos by [jess@anchorenvironmental.co.za](mailto:jess@anchorenvironmental.co.za), in verbinding te tree nie.

Die uwe,

Dr Jessica Dawson  
POPIA Inligtingsbeampte

## **POLICY UPDATE – PROTECTION OF PERSONAL INFORMATION ACT (POPIA)**

The Protection of Personal Information Act (also known as the POPI Act or POPIA) aims to protect personal information that identifies a living person or organization. This applies to information such as, a name; race; gender; contact information; identity number; financial status; medical, employment and criminal history and education data. All natural and juristic persons must be POPIA compliant as of 1 July 2021.

Anchor Environmental Consultants (Pty) Ltd and its subsidiary, Anchor Research and Monitoring (Pty) Ltd, hereinafter referred to as “Anchor” offer ecological and socio-economic assessment, research and monitoring expertise to inform environmental management and policy. We wish to inform you of our intention to prioritise the protection of all personal information provided to us by our clients and stakeholders. Therefore, Anchor will only collect, utilize, and retain personal information if there is a lawful purpose for do so, and will comply with all aspects of the POPIA in doing so. Personal Information will largely be limited to names and contact details, and will only be utilised for the purposes of the specific project for which it is initially collected.

Anchor collects and uses personal information to:

- Communicate and interact with clients and stakeholders/ interested and affected parties of specific projects (such as impact assessments and management plans). Communication may be undertaken by means of email, phone, post/courier or online (through the company website and social media platforms).
- Provide information or services requested of us by clients or stakeholders.
- Comply with legislation, regulations and environmental protocols, for example, the National Environmental Management: Integrated Coastal Management Act (ICMA), the National Environmental Management Act (NEMA), Environmental Impact Assessment (EIA) Regulations or the National Estuarine Management Protocol.
- Inform clients and stakeholders about changes at Anchor or in Anchor related projects.

Anchor generally collects personal information directly from clients in the form of contractual/ service level agreements, Memoranda of Understanding, and/or via email and signed registers, with the consent of the data subject, for purposes of stakeholder and public participation purposes. Anchor may also collect your personal information from other sources, if POPIA allows for this to be done. This includes, for example, stakeholder lists provided by designated Environmental Assessment Practitioners (EAPs) responsible for stakeholder information during the completion of specialist studies. Once there is no longer a lawful reason for keeping the personal information, the information will either be destroyed or “de-identified” (a process allowed in POPIA and by which information is redacted/deleted so that it cannot be linked to an individual or company).

Anchor endeavours to follow the eight conditions set out for the lawful processing of personal information described in the Act. Additionally, we have put in place internal control systems, technical measures and industry best practices to safeguard personal information against access

by unauthorised persons, unlawful disclosure, or breaches, and will comply with requirements set out by the Regulator.

Anchor will take all reasonable steps to ensure that the personal information is accurate and up to date where necessary. To facilitate the efficacy of this process, Anchor would like to request that you notify us promptly of any changes to your personal information.

Your privacy is very important to us. Our databases will be securely stored according to business best practice and access strictly controlled. Unless we have your consent, we will not share your information with third parties (or unless we are required to do so by law).

If you have any questions regarding the information contained in this letter, please do not hesitate to contact the Anchor Information Officer, Jessica Dawson, on (021) 701 3420 or by email at [jess@anchorenvironmental.co.za](mailto:jess@anchorenvironmental.co.za).

Sincerely,

Dr Jessica Dawson

POPIA Information Officer

**DRAFT SCOPING REPORT FOR THE PROPOSED PROSPECTING  
ON KLEIN KOGEL FONTEIN FARM, WESTERN CAPE, BY  
XWENA KAOLIN (PTY) LTD**

**Xwena kaolin (Pty) Ltd**  
Spaces, No 1 Bridgeway Road, Bridgeways Precinct,  
Century City, Cape Town, 7441  
[www.xwena.com](http://www.xwena.com)



**Appendix 4:  
Screening Report**

Anchor Environmental Consultants  
8 Steenberg House, Silverwood Close, Tokai, South Africa  
[www.anchorenvironmental.co.za](http://www.anchorenvironmental.co.za)





**SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS  
REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE  
ENVIRONMENTAL SENSITIVITY**

**EIA Reference number:**

**Project name:** Screening Report

**Project title:** Xwena Prospecting with bulk sampling

**Date screening report generated:** 26/04/2022 10:52:14

**Applicant:** Xwena

**Compiler:** Anchor

**Compiler signature:**

.....

**Application Category:** Mining|Prospecting rights

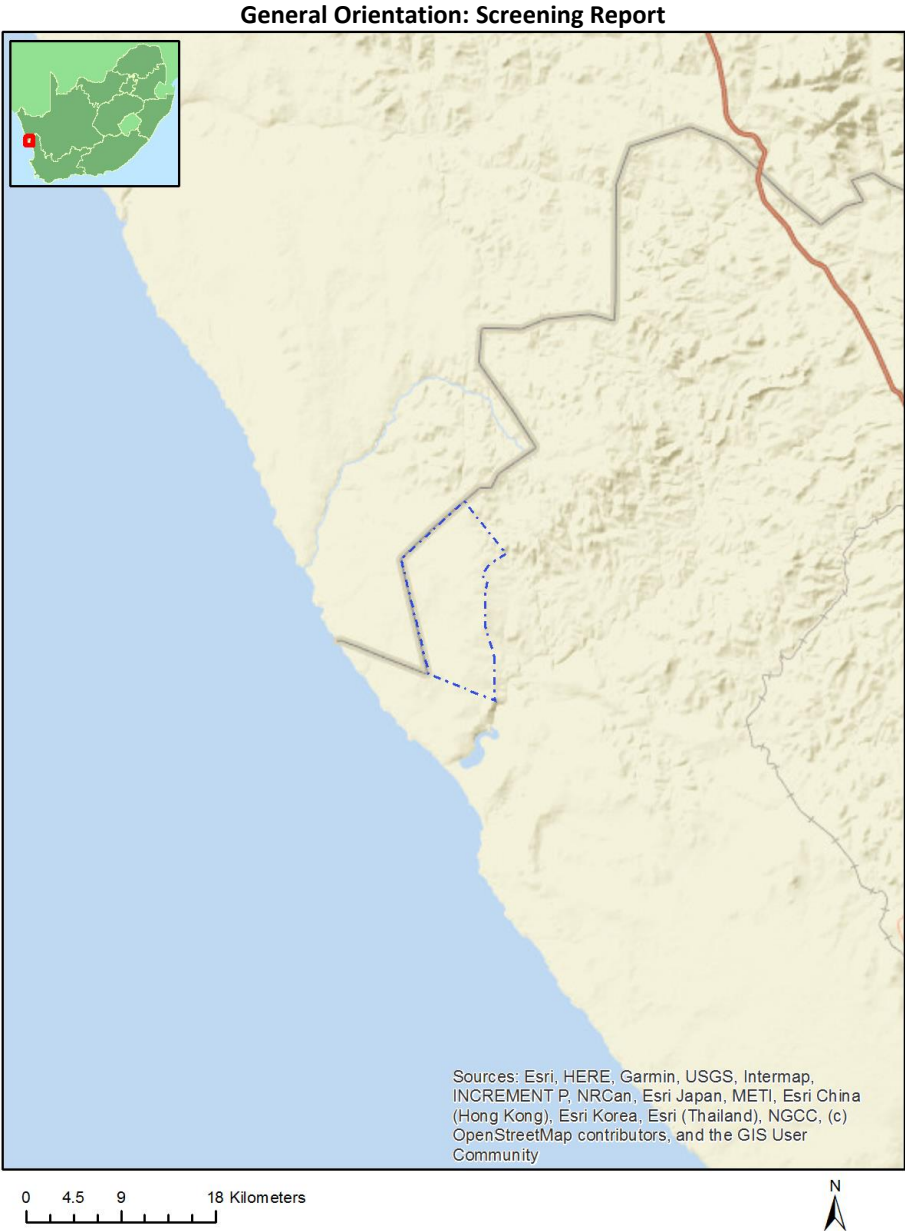
OFFICIAL

# Table of Contents

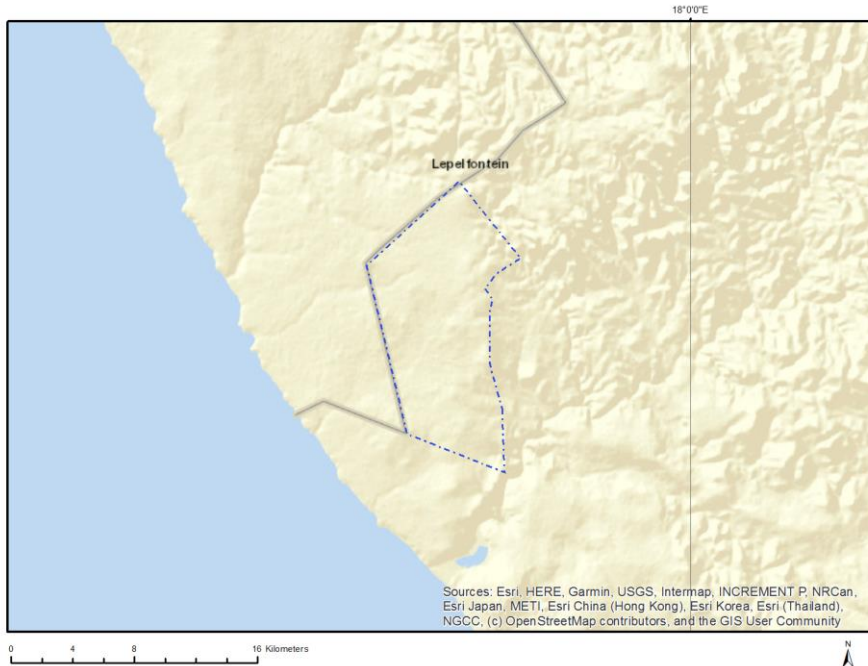
- Proposed Project Location ..... 3
  - Orientation map 1: General location ..... 3
- Map of proposed site and relevant area(s) ..... 4
  - Cadastral details of the proposed site ..... 4
  - Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area ..... 5
  - Environmental Management Frameworks relevant to the application ..... 5
- Environmental screening results and assessment outcomes ..... 5
  - Relevant development incentives, restrictions, exclusions or prohibitions ..... 5
- Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones ..... 6
  - Proposed Development Area Environmental Sensitivity ..... 6
  - Specialist assessments identified ..... 7
- Results of the environmental sensitivity of the proposed area ..... 9
  - MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY ..... 9
  - MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY ..... 10
  - MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY ..... 11
  - MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY ..... 12
  - MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY ..... 13
  - MAP OF RELATIVE DEFENCE THEME SENSITIVITY ..... 14
  - MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY ..... 15
  - MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY ..... 16
  - MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY ..... 17

# Proposed Project Location

## Orientation map 1: General location



## Map of proposed site and relevant area(s)



## Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1		145	0	31°7'30.34S	17°54'20.23E	Farm
2		148	0	31°6'58.39S	17°51'37.56E	Farm
3		502	0	31°11'33.94S	17°55'40.25E	Farm
4		145	0	31°8'21.71S	17°53'58.84E	Farm Portion
5		148	3	31°5'19.24S	17°53'0.34E	Farm Portion
6		148	1	31°9'23.88S	17°51'47.7E	Farm Portion
7		148	5	31°7'3.68S	17°52'50.43E	Farm Portion
8		502	0	31°11'33.94S	17°55'40.25E	Farm Portion
9		145	1	31°6'39.58S	17°54'42.83E	Farm Portion
10		148	2	31°3'39.74S	17°52'40.36E	Farm Portion
11		148	7	31°4'51.63S	17°51'12.77E	Farm Portion
12		148	8	31°6'43.27S	17°50'16.85E	Farm Portion
13		148	9	31°4'50.19S	17°52'11.63E	Farm Portion
14		145	2	31°11'28.24S	17°55'3.09E	Farm Portion

Development footprint<sup>1</sup> vertices:  
No development footprint(s) specified.

<sup>1</sup> “development footprint”, means the area within the site on which the development will take place and includes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

## Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No nearby wind or solar developments found.

## Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

## Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

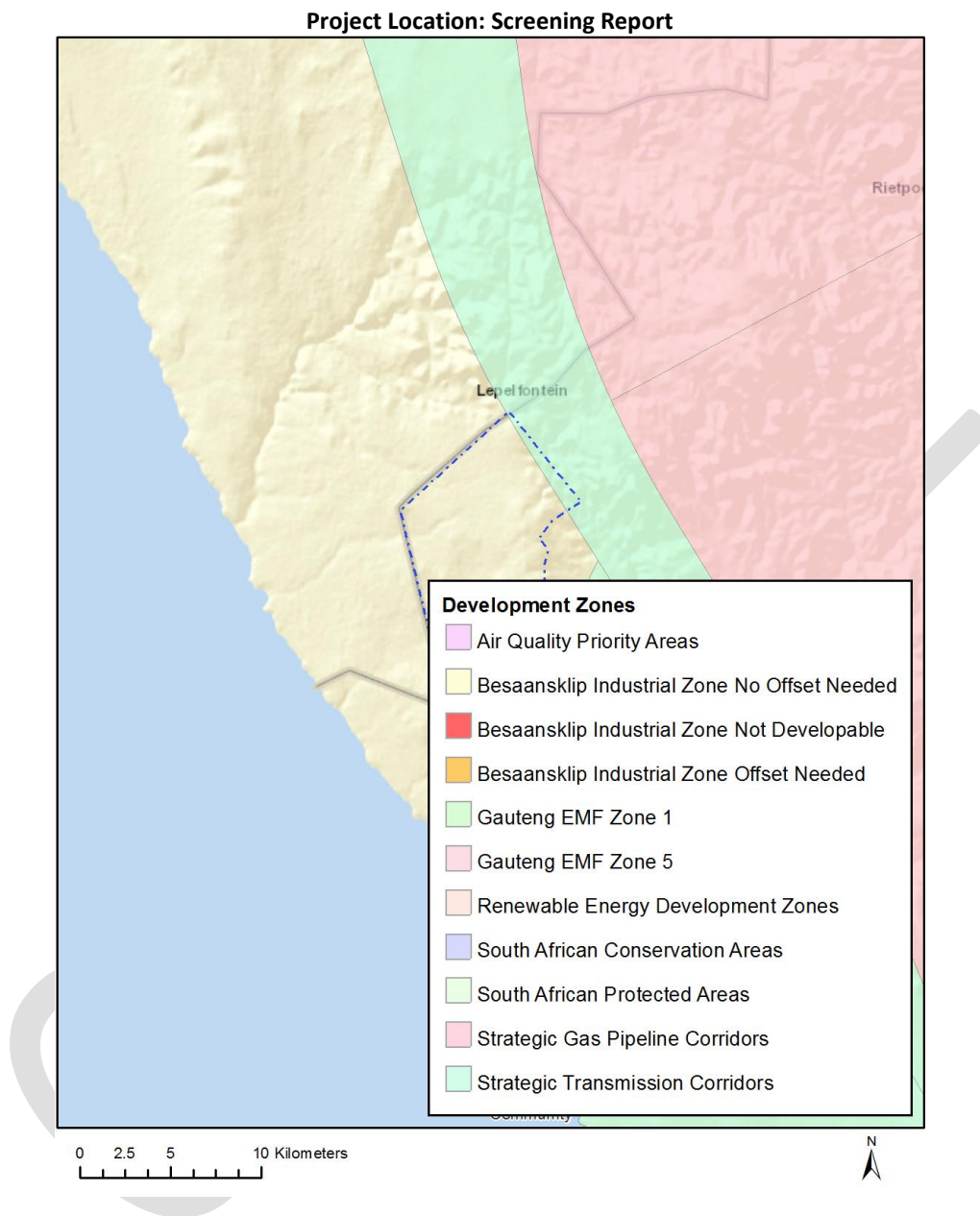
**Mining | Prospecting rights.**

### Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor- Western corridor	<a href="https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf">https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf</a>
Strategic Transmission Corridor- Expanded Western Corridor	<a href="https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf">https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf</a>

Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones



**Proposed Development Area Environmental Sensitivity**

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme		X		

Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme				X
Defence Theme				X
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

### Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

<b>N o</b>	<b>Specialist assessment</b>	<b>Assessment Protocol</b>
1	Agricultural Impact Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf</a>
2	Archaeological and Cultural Heritage Impact Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf</a>
3	Palaeontology Impact Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf</a>
4	Terrestrial Biodiversity Impact Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf</a>
5	Aquatic Biodiversity Impact Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf</a>
6	Noise Impact Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf</a>

	ment	
7	Radioactivity Impact Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf</a>
8	Plant Species Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf</a>
9	Animal Species Assessment	<a href="https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf">https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf</a>

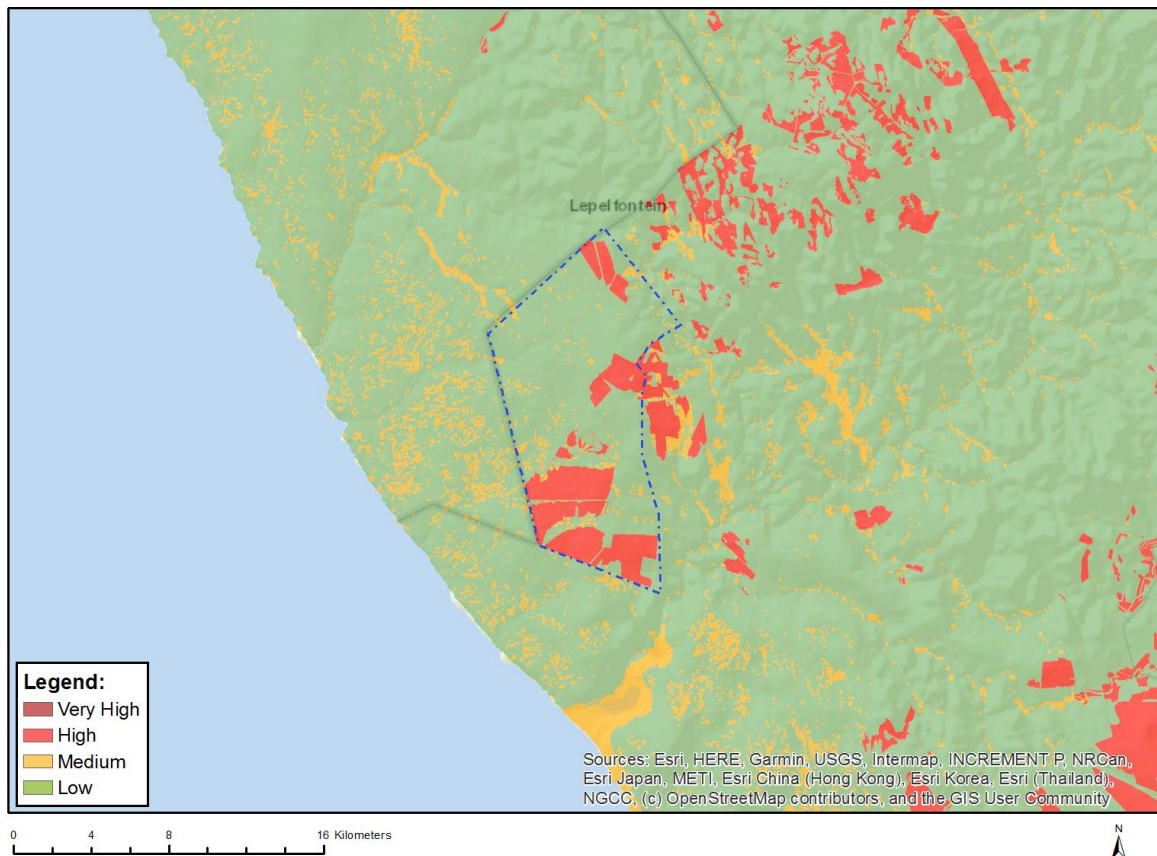
OFFICIAL



## Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

### MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY



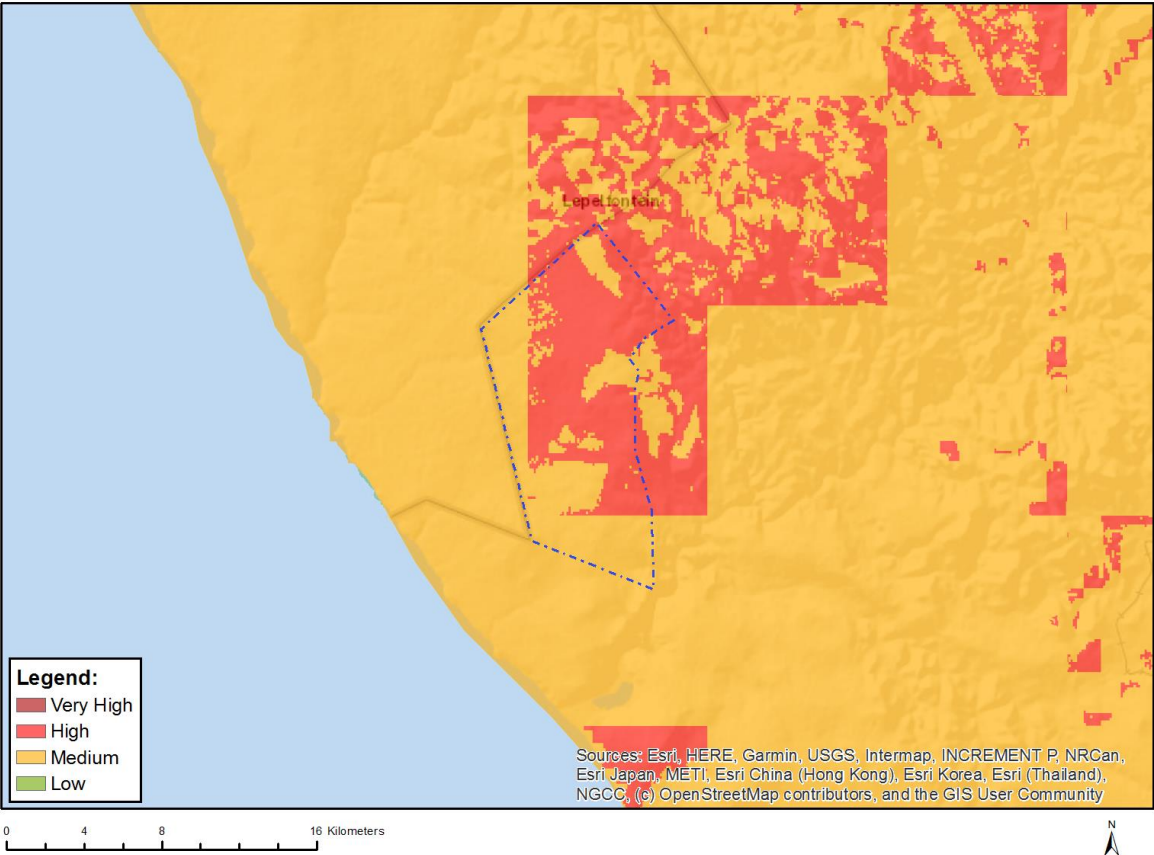
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

#### Sensitivity Features:

Sensitivity	Feature(s)
High	Strip Field Cultivation;Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
High	Strip Field Cultivation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
High	Old Fields;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
High	Old Fields;Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low

Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
--------	--

**MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY**



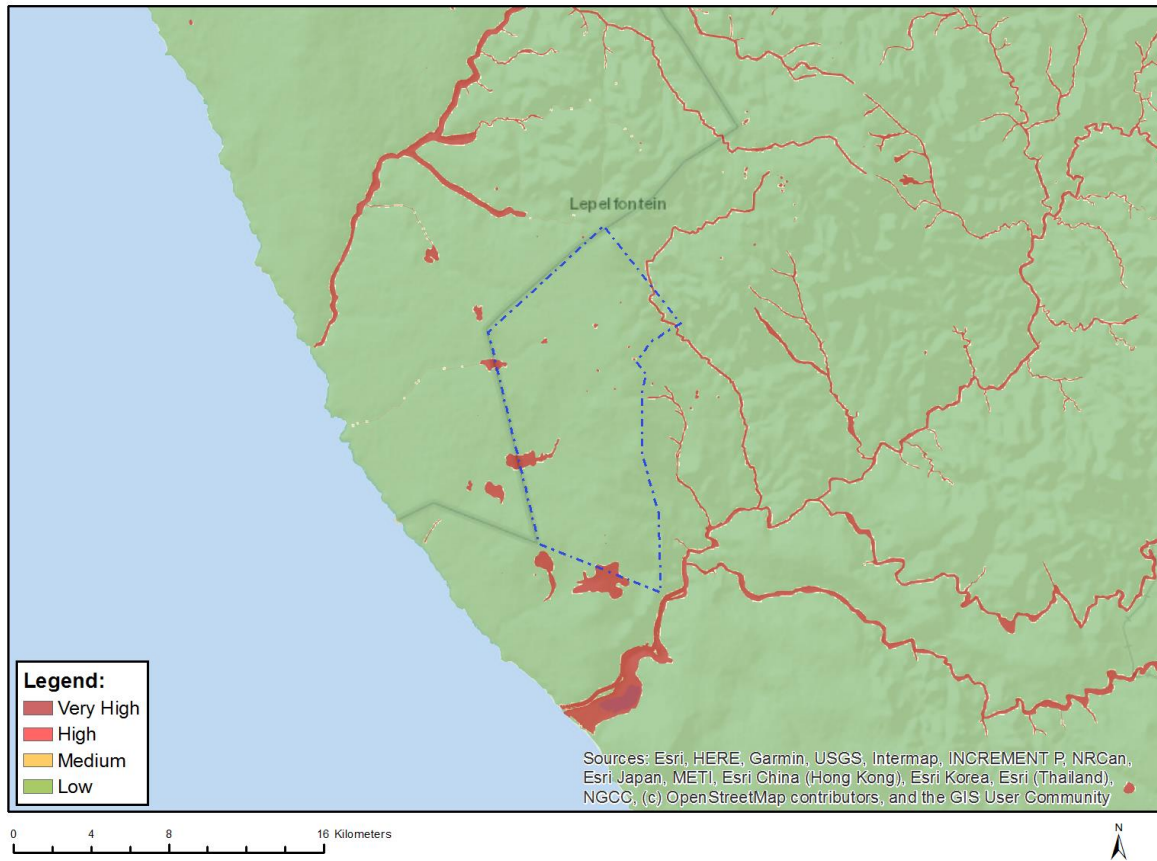
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at [eiadatarequests@sanbi.org.za](mailto:eiadatarequests@sanbi.org.za) listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

**Sensitivity Features:**

Sensitivity	Feature(s)
High	Aves-Circus maurus
Medium	Invertebrate-Brinckiella mauerbergerorum
Medium	Aves-Circus maurus
Medium	Aves-Sagittarius serpentarius
Medium	Aves-Aquila verreauxii
Medium	Sensitive species 13

## MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

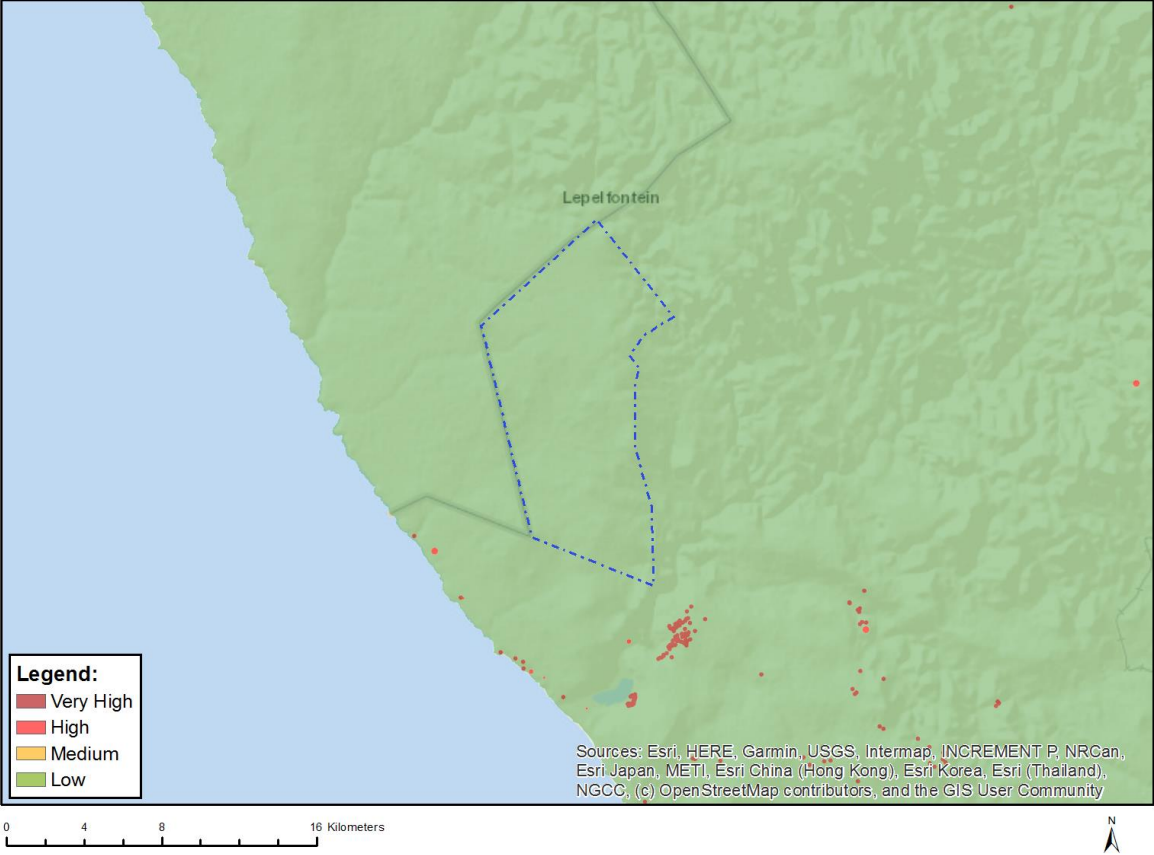


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

### Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	Aquatic CBAs
Very High	Rivers
Very High	Wetlands and Estuaries

# MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

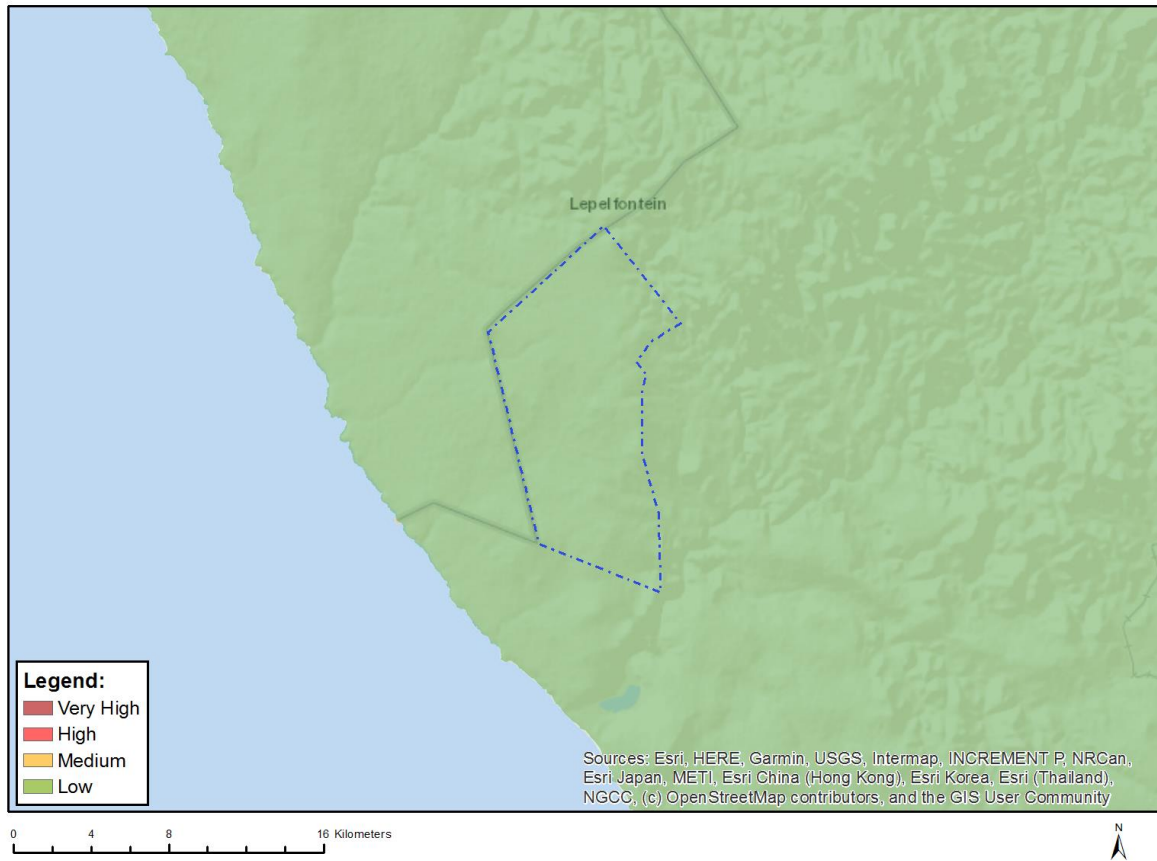


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

**Sensitivity Features:**

Sensitivity	Feature(s)
Low	Low sensitivity

## MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

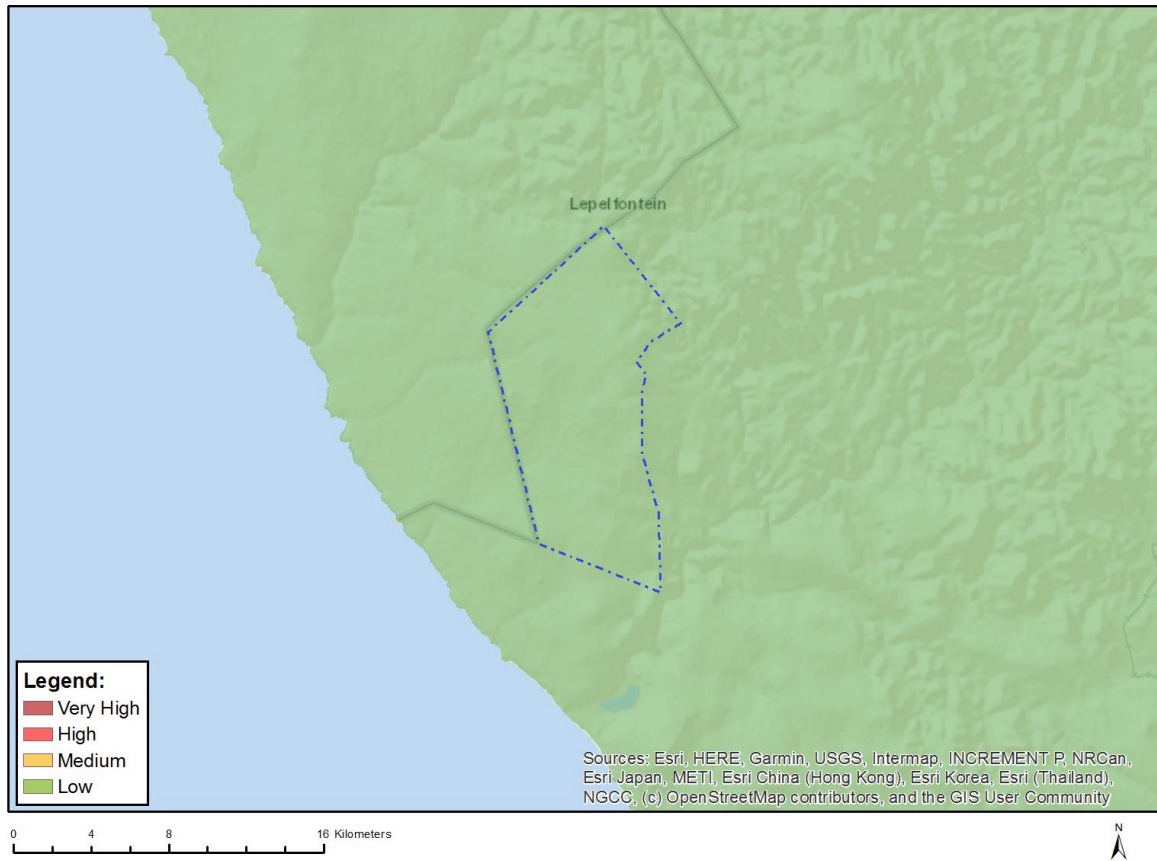


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

### Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

## MAP OF RELATIVE DEFENCE THEME SENSITIVITY

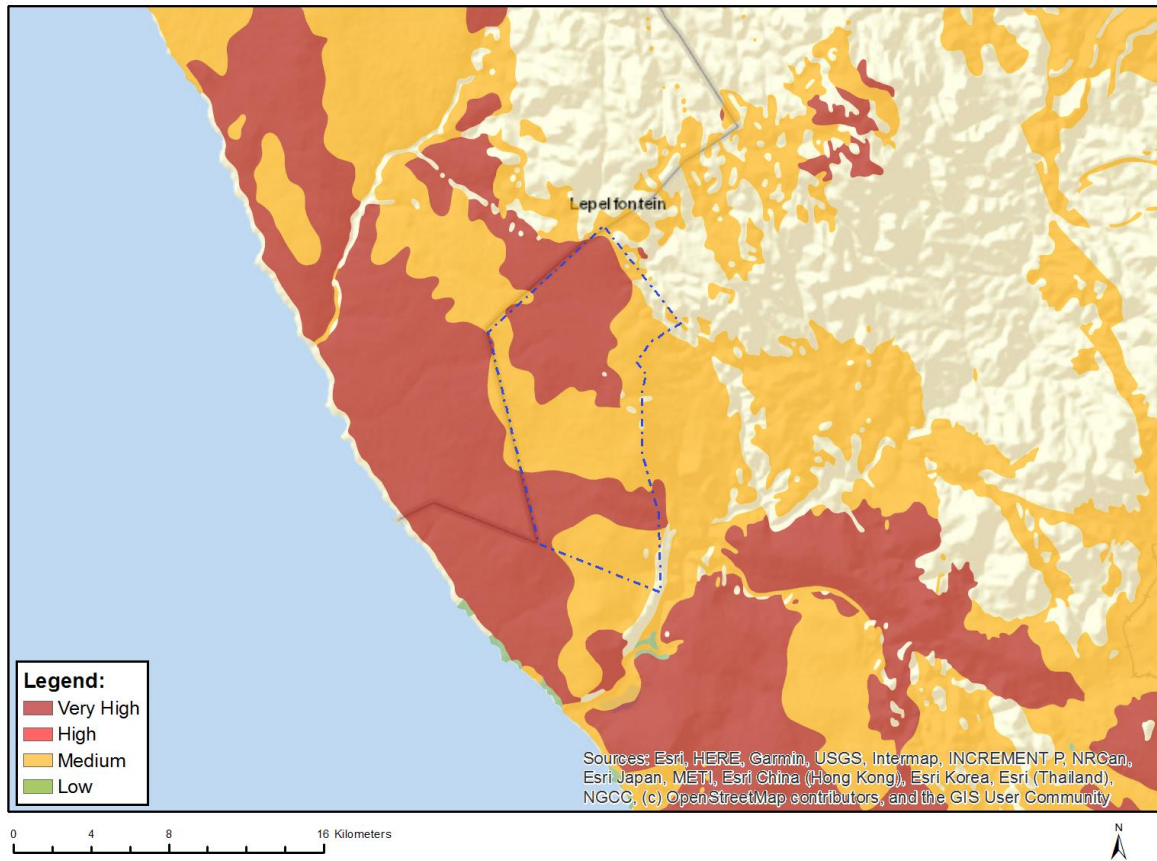


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

### Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

## MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

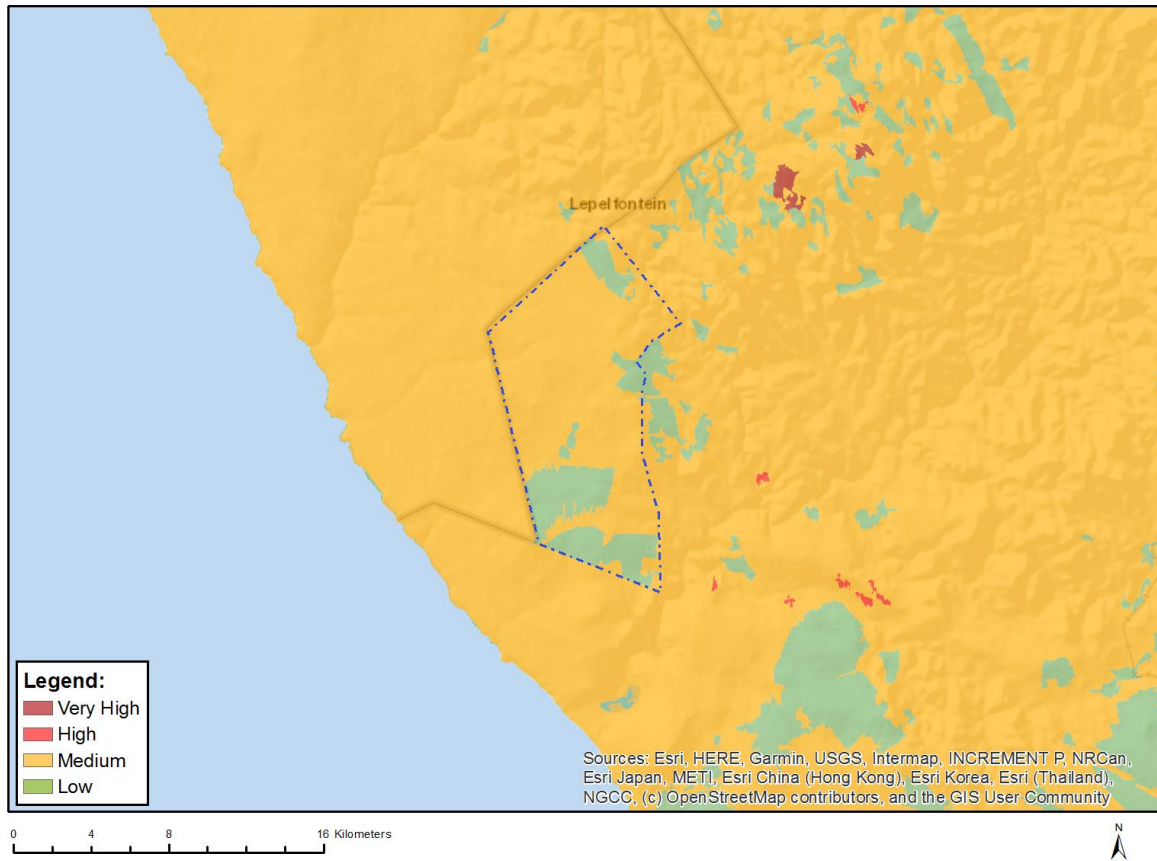


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

### Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity
Very High	Features with a Very High paleontological sensitivity

## MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at [eiadatarequests@sanbi.org.za](mailto:eiadatarequests@sanbi.org.za) listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

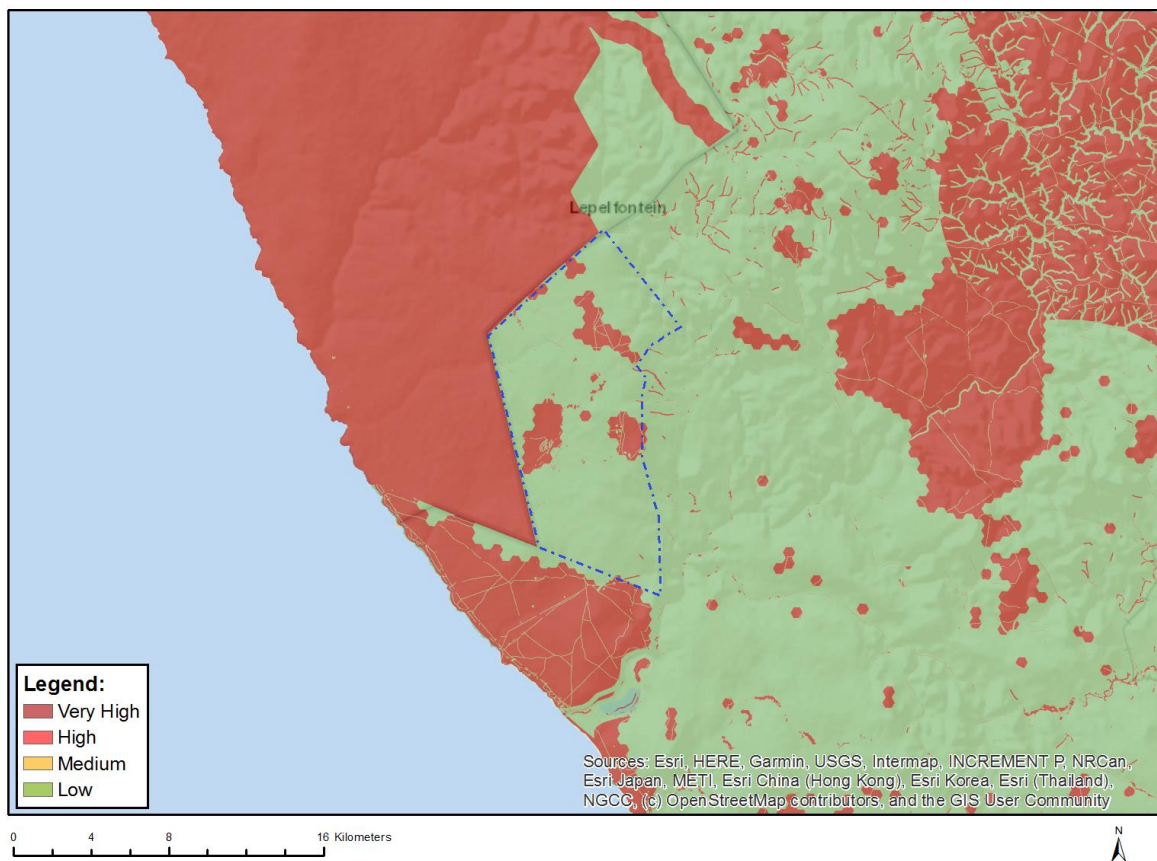
### Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Jacobsenia hallii
Medium	Lampranthus procumbens
Medium	Sensitive species 57
Medium	Aspalathus cuspidata
Medium	Otholobium incanum
Medium	Manulea cinerea
Medium	Sensitive species 739
Medium	Sensitive species 99
Medium	Ferraria ornata
Medium	Sensitive species 446
Medium	Tetragonia pillansii
Medium	Sensitive species 920



Medium	Sensitive species 90
Medium	Sensitive species 378
Medium	Sensitive species 693
Medium	Leucoptera nodosa
Medium	Leucoptera oppositifolia
Medium	Oncosiphon schlechteri
Medium	Agathosma elata
Medium	Argyrobium velutinum
Medium	Aspalathus obtusata
Medium	Leucospermum praemorsum
Medium	Leucospermum rodolentum
Medium	Adenogramma teretifolia
Medium	Sensitive species 442
Medium	Muraltia obovata
Medium	Caesia sabulosa

## MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

### Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	Critical biodiveristy area 1

Very High	Critical biodiversity area 2
Very High	Ecological support area 2
Very High	Protected Areas Expansion Strategy

OFFICIAL