ANTHONY MARK AVIS

Curriculum Vitae

CONTACT DETAILS

Legal Name of Company	**Coastal and Environmental Services (Pty) Ltd**
Trading Name of Company	**CES Environmental and Social Advisory Services**
Designation	Cape Town Branch
Profession	Managing Director
Years with firm	Thirty (30) years
E-mail	t.avis@cesnet.co.za
Office number	+27 (0)21 045 0900
Nationality	South African
Professional Affiliations	**SACNASP**: South African Council for Natural Scientific Profession **EAPSA**: Environmental Assessment Practitioner Southern Africa **MRSSAF**: Member of the Royal Society of South Africa **BotSoc**: Botanical Society of South Africa **SAAB**: South African Association of Botanists **SAIE&ES:** South African Institute of Ecologists & Environmental Scientists **IAIA:** International Association of Impact Assessment
Key areas of expertise	Environmental & Social Impact Assessment Environmental & Social Management Plan preparation Terrestrial vegetation and flora specialist studies Coastal dune ecology specialist studies Integrated coastal zone management Strategic Environmental & Social Assessment

PROFILE

Dr Anthony Mark Avis

Ted Avis is a leading expert in the field of Environmental Impact Assessments, having project-managed numerous large-scale ESIAs to international standards, especially those of the International Finance Corporation (IFC). From 1997 to 2005 Ted acted was principle environmental consultant to Corridor Sands Limitada, managing all environment aspects of the US$1,2billion Corridor Sands Project, including five ESIA's, associated ESMPs, and the RAP. He has managed ESIA studies and related environmental assessments of similar scope in Kenya, Madagascar, Egypt, Malawi, Zambia and South Africa. Ted also has experience in large scale Strategic Environmental Assessments in southern Africa, and has been engaged by the IFC on a number of projects.

Between 1994 and 1996 Ted was instrumental in establishing the Environmental Science Department at Rhodes University, whilst a Senior lecturer in Botany at that time. This resulted from his experience running honours modules in EIA practice and environmental management, as well as the applied research he undertook in these disciplines. He was an Honorary Visiting Fellow in the Department of Environmental Sciences at Rhodes between 1998 and 2003. He was one of the first certified Environmental Assessment Practitioner in South Africa, gaining certification in April 2002. He has delivered papers and published in the field of EIA, Strategic Environmental Assessment and Integrated Coastal Zone Management, and has been a principal of CES since its inception in 1990, and Managing Director since 1998.

Ted holds a PhD in Botany, and was awarded a bronze medal by the South African Association of Botanists for the best PhD adjudicated in that year, entitled "Coastal Dune Ecology and Management in the Eastern Cape". Ted is a Certified Environmental Assessment Practitioner (since 2002) and a professional member of the South African Council for Natural Scientific Professionals (since 1993).

EMPLOYMENT EXPERIENCE

2017 – Present: Divisional Director and head of the Environmental Cluster at NEXTEC (part of the EOH Group). EXCO member of the Industrial Technologies Division of NEXTEC.

- 1998 – Present: Full-time Managing Director of Coastal & Environmental Services.
- 1989 – 1997: Lecturer and Senior Lecturer in Botany at Rhodes University.
- 1990 – 1997: Private environmental consultant and partner of Coastal & Environmental Services (CES, established January 1990).
- 1987 – 1988: Ecological Consultant with Loxton Venn and Associates, responsible for vegetation, soils and land surveys; veld conditions assessments and EIAs.
- 1983 – 1987: Full time post-graduate research in plant ecology, including coastal management studies and Environmental Impact Assessments (EIAs).

ACADEMIC QUALIFICATIONS

- PhD, Rhodes University, 1993
- BSc (Honours), Rhodes University, 1984
- BSc, Rhodes University, 1983

PUBLICATIONS AND TEACHING

- *Presented 29 conference papers at local and international conferences, including plenary presentations.*
- *Published 19 scientific articles in peer reviewed scientific journals.*
- *Published 6 popular articles in local journals.*
- *Published 2 chapters in scientific books.*
- *Supervised 17 post graduate students (honours (10), masters (4), PhD (3)) in plant ecology, coastal ecology and vegetation science.*

COURSES PRESENTED

Presented the following:

- *Tools of Sustainable Coastal Zone Management. Short course (2 x 1-week courses) presented on behalf of NACOMA / World Bank. (Presenter on Coastal zone management and strategic environmental assessment).*
- *Environmental training and teaching for a number of professional short courses, and at undergraduate and postgraduate level at Rhodes University, most notably as a key presenter on the EIA Short Course offered by CES since 2000*
- *Training course on the Integrated Coastal Zone Management Act. Four two day short courses presented to various Government and NGO stakeholders to introduce and explain the NEMA: Integrated Coastal Zone Management Act. Presented on behalf of DEA: Oceans & Coasts. [Study leader and lead presenter).*

CONSULTING EXPERIENCE

SELECTED LARGE ENVIRONMENTAL IMPACT ASSESSMENTS

- Principal consultant for the specialist studies for the Environmental Impact Assessments of proposed dune mining on the Eastern Shores of Lake St Lucia.
- Overall responsibility as EIA project manager for all environmental aspects of Billiton's TiGen mineral sand mining

operations in Mozambique, to produce an EIA that meets international standards.

- EIA project manager for the Corridor Sands mineral sand mining project in southern Mozambique, to produce four EIAs to World Bank standards for the project's bankable feasibility study. EIAs produced for the mine site and smelter, the 400Kv power line, the 87km rail route and a bulk cargo facility at Matola Port. All these EIAs included the preparation of Environmental Management Plans.
- EIA project manager for Tiomin Resources Inc (Toronto, Canada) for their Kwale mineral sands project in southern Kenya. Responsible for producing all six volumes of the EIA, regarded as the most comprehensive in Kenya to date.
- EIA project manager for the EIA to support the rezoning of land to special purposes for the establishment of the Coega Industrial Development Zone (IDZ).
- EIA project manager for the EIA to support the rezoning of land to special purposes for the establishment of the East London IDZ.
- Numerous small-scale Scoping Reports as part of the Environmental Impact Assessment Process and in accordance with the requirements of the Environmental Conservation Act.
- Pre-feasibility Environmental Impact Assessments, including one for BHP's mineral sand mining project in northern Mozambique, and similar projects in south-west Madagascar and Mozambique.
- Study leader for a comprehensive EIA for the World Bank funded 400Kv Mozambique Malawi Interconnector project power line, Malawi sector.
- EIA for a dedicated haul road, material handling facility and jetty near Praia de Xai Xai, Mozambique for WMC Resources, Australia.
- EIA Project Manager for the Nuclear Materials Authority of Egypt, to prepare the EIA as part of the Downer EDI Feasibility Study Team. (2007).
- EIA for a large scale resort development, including two golf courses and three hotels in the Eastern Cape, South Africa. (Ongoing).
- EIA for the Madiba Bay resort development, incorporating the development of various portions of land within a 5000 hectare site for a range of resort type facilities. (2005 – 2008).
- Study Leader for an EIA for a large heavy mineral mining project in South West Madagascar for Exxaro (2006 – 2008).
- Study Leader for an EIA for a proposed heavy mineral mine on the shores of Lake Malawi near Chipoka. (2005 – 2006).
- Study Leader for an ESIA for a proposed large scale integrated tourism resort development in the Eastern Cape (2007 – 2008).

- Environmental and Social consultants to the International Finance Corporation for the Kafue Gorge Lower Hydropower project, Zambia.
- Study Leader for an Environmental, Social and Health Impact Assessment for a proposed large sugar cane to ethanol biofuel project in Sierra Leone for Addax Bioenergy, Geneva (2009 - 2010).
- Study Leader for an ESHIA for a proposed large scale Jatropha biofuels project in Mozambique (2009 - 2010).
- Study leader for Environmental Impact Assessment for a proposed large scale copper and nickel mine in the North West Province of Zambia (2010).
- Lead consultant for an addendum Environmental Impact Assessment for the proposed expansion of a heavy mineral mining project in Nampula Province, Mozambique (2010).
- Quality control reviewer for approximately 8 EIA's for various Windfarm Projects in South Africa (2009 – 2010).
- Study leader for an ESHIA for a proposed large scale palm oil plantation in Sierra Leone (2010).
- Study leader for ESIA for a rare earths mine in Kangankula, Malawi for the Lynas Corporation.
- Study leader for ESIA for a large scale copper mine in the North West Province of Zambia for First Quantum Minerals (2011).
- Study leader for an ESIA for a proposed Cement Plant and for a proposed Limestone quarry in southern Mozambique (2012).
- Study Leader for an Environmental Impact Assessment of the Mooi-Mgeni Transfer Scheme – Phase 2, KwaZulu-Natal Province, South Africa for TCTA (2012).
- Study leader for an ESHIA for a proposed large scale palm oil plantation and estate in Liberia, compliant with international sector specific guidelines. For EP Oil (2012).
- Study leader for an ESHIA for a proposed large scale forestry plantation in Niassa Province, Mozambique for Niassa Green Resources and to be compliant with international sector specific guidelines (2010).
- Study leader for an EIA for a proposed golf course in Makana District, South Africa (2012)
- Study leader for an EIA for a proposed housing and residential estate in Makana District, South Africa (2012).
- Study Leader for an ESHIA for a heavy mineral mining project in South West Madagascar for World Titanium Resources (2013).
- Study Leader for an ESHIA for a heavy mineral mining project on the West Coast of South Africa for Zirco Resources (2013).
- Study Leader for the Tete Iron Ore project ESHIA located in Tete province, Mozambique for Baobab Resources and Capitol Resources Lda (2013 - 2016).

- Study Leader for an ESHIA for the Nicanda Hills Graphite mining project in Cabo Delgado Province, Mozambique for Triton Resources, Perth (2015 - 2016)
- Study Leader for an EIA for the proposed Riemvasmaak Hydropower Station in the Augrabies Falls National Park, undertaken for HydroSA (2015-2016).
- Study Leader for an ESHIA for the Ancuabe Hills Graphite mining project in Cabo Delgado Province, Mozambique for Triton Resources, Perth (2015 – 2016)
- Study Leader for an ESHIA for a tin mine in North Kivu province, DRC for Alphamin Resources (2015 - 2016).
- Study Leader for an EIA for a floating power plant, Port of Ngqura, Eastern Cape Province of South Africa. Prepared as part of the Independent Power Producers Programme on behalf of the Department of Energy's IPP Office and Transnet (2015-2106).
- Study Leader for an EIA to facilitate the import of Liquefied Natural Gas (LNG) at the Port of Ngqura, Eastern Cape Province of South Africa. Prepared as part of the Independent Power Producers Programme on behalf of the Department of Energy's IPP Office and Transnet (2015-2106).
- Study Leader for an ESHIA for the Balama Graphite mining project in Cabo Delgado Province, Mozambique for Battery Minerals Resources, Perth (2017 – 2018)
- Reviewer and co-author for an ESHIA for the Pilivili Mineral Mine, Nampula Province, Mozambique for Kenmare Resources (2018 - 2019)
- Reviewer, co-author and study leader for the Boulders Wind Farm EIA located at near Paternoster, Western Cape, South Africa for Vredenberg Wind Farm (Pty) Ltd. (2019).
- Reviewer for the EIA for the proposed Coastal Protection Scheme, St Francis Bay, Kouga Local Municipality, Eastern Cape Province (2019-2020).
- Study Leader for an ESHIA for a Coal to Urea project in the Highveld Industrial Park on behalf of Wison Engineering (China) and the Industrial Development Corporation (2019 – 2020).

POLICY AND STRATEGIC ASSESSMENTS

- The development of the Eastern Cape Coastal Management Plan, to be adopted as policy by the Eastern Cape Government
- Study leader for the preparation of a State of Environment Report, and Environmental Implementation Plan for the Amatole District Municipality, covering an area of approximately 25 000 km.
- Reports on ecological assessments of the damage caused to the environment by alleged illegal developments along the former Transkei coastline.

- Study leader and project manager for the preparation of a World Bank/Global Environmental Facility funded geographic Strategic Environmental Assessment of the proposed greater Addo Elephant National Park, Eastern Cape, South Africa.
- A Strategic Environmental Assessment of four land use options in the Centane district of the Wild Coast.
- SEA covering an area half the size of the Eastern Cape (former Transkei) to identify where afforestation projects could be implemented on a sustainable basis for poverty alleviation. Prepared for the Department of Water Affairs and Forestry (2006 – 2007).
- Integrated Coastal Zone Management Plan for the Buffalo City Municipality, Eastern Cape South Africa, including numerous Management Plans for estuaries, beaches etc. (2006 – 2007).
- A Sustainability Analysis of various land use alternatives to determine optimum land use for the future rehabilitation of lease areas at Richards Bay Minerals. (2006).
- State of Environmental Report and Environmental Management System for the Ukhulambe District Municipality. (2005).
- Strategic Environmental Overview for two integrated tourism anchor projects in Mozambique for the International Finance Corporation (2007).
- Study Leader of the Western Cape State of Coast report prepared for the Department of Environmental Affairs & Development Planning (2017-2018).
- Study leader for the revised Coastal Management Programme of the West Coast, on behalf of the West Coast District Municipality (2019).

ECOLOGICAL AND COASTAL

- Ecological impact assessment for a proposed Zinc and Phosphoric Acid plant in the Eastern Cape.
- Ecological specialist reports for the Coega Industrial Development Zone Strategic Environmental Assessment
- Ecological impact assessment of proposed 800km Wild Coast N2 Toll Road, Eastern Cape.
- Study leader for the ecological impact assessment of the Wild Coast Toll Road EIA, Eastern Cape and Kwazulu/Natal, South Africa (2004).
- Study Leader for Baseline Ecological Surveys of coastal lease areas in southern Mozambique for Rio Tinto exploration (2008).
- Pre-feasibility Ecological Survey of the Skeleton Coast to identify critical impacts linked to Diamond and Mineral Mining exploration (2008).
- Coordinator for ecological investigations to establish a sound baseline prior to implementing an EIA, North West Province, Zambia (2011).

- Assessment of the extent and conservation value of forested areas along the Wild Coast within the former Transkei, on behalf of the Eastern Cape Parks Board (2011)
- Study Leader for a biological and archaeological (including heritage) baseline and impact assessment study of the Lesotho Highlands Water Project – Phase II. Prepared for the Lesotho Highlands Development Authority (2013-2014)
- Study Leader for the preparation of the Nhangonzo Critical Habitat Biodiversity Assessment, Inhambane Province, Mozambique. Prepared for Sasol Petroleum Mozambique Limitada and Sasol Petroleum Temane Limitada (2015).
- Bookram Coastal Dune Specialist Study (2017).
- Coastal Dune and Ecological Impact Assessment for the proposed Mosselbankfontein Farm Housing Development near Witsand, Western Cape Province (2019).
- Strategic Environmental Overview: Development Opportunities and Constraints. Cape Agulhas Municipality: Duiker Street to Struisbaai Harbour Precinct Development Plan (2019 -2020).
- Environmental Management and Maintenance Plans for 3 sites (Gouritz; Still Bay & Witsands) in the Hessenque Local Municipality (2020)
- Environmental Risk Assessment and Revegetation Plan for the Witsands Landfill site near Scarborough, for City of Cape Town (2020).

ENVIRONMENTAL MANAGEMENT

- Project manager for a five-year rehabilitation programme of Samancor's Chemfos mine on the West Coast, which later became the West Coast Fossil Park.
- Development of an Open Space Management Plan for the Coega Industrial Development Zone (IDZ), including the demarcation of open spaces, formulation of uses within the open space, integration with MOSS principles and developing guidelines and a business plan for the management of the open space system.
- Preparation of numerous Environmental Management Programme Reports, in terms of the Minerals Act, for quarry operations in the Eastern Cape, including EMPRs for both the Eastern and Western Coega Kops.
- Study Leader for the development of two detailed and definitive Environmental Management Plans for the construction of two large bridges across rivers in the Wild Coast, as part of the Wild Coast N2 Toll Road Project, for South African National Roads Agency Limited. (2006).
- Joint Study Leader for the development of numerous Construction and Operational Phase Environmental and Social Management Plans for Tiomin's proposed Kwale mineral mine in Kenya.

- Completion of numerous (>20) Environmental & Social Management Plans as part of the EIA process and ESIA deliverables.
- Development of a range of Standard Operating Procedures (SOPs) as part of the operational phase ESMP for a large scale agricultural project.

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

ANTHONY M. AVIS (TED) Date: 17 January 2020