

CURRICULUM VITAE

BARRY MALCOLM CLARK

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, Mozambique, Tanzania, Kenya, Mauritius, Angola, Ghana, Cote d'Ivoire, Nigeria, Egypt, United Arab Emirates, Azerbaijan

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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 twenty-one 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. His main area of scientific study involved fisheries management and the biology and ecology of marine and estuarine fishes. 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 and temperate and tropical marine fauna and flora 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 (Cote d'Ivoire, Ghana, Nigeria), the Middle East (UAE) and Europe (Azerbaijan).

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

SELECTED PROJECT EXPERIENCE

Period	Country	Client	Project, Tasks
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 of 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
2015	Seychelles	Raffles Hotel, Aurecon	Assessment of impacts of diesel spill on mangrove forest community on Praslin Island, Seychelles
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
2014-2015	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	Assessment of impacts of waste water discharge from a new WWTW at Cape Recife, Algoa Bay

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		Metro, GIBB	
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. Project included establishment of rope and net nurseries for growing out coral fragments and subsequent transplantation to degraded reef sites
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
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-	South	Paardevelei	Assessment of the likely impacts of associated with a new

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20144	Africa	Properties	stormwater management system at Paardevlei
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	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
2012-2013	South Africa	Abagold (Pty) Lt	Project leader on an 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	Mauritius	Mauritius Oceanography Institute	Survey coordinator for a alien species, and water and sediment quality assessment of Port Louis, Mauritius.
2012	Namibia	Ministry of Environment and Tourism	Project leader on a 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/ Nemaï Consulting	Marine/estuarine specialist assisting with the development of a District-Wide Environmental Management Framework for the uMkhanyakude District Municipality
2012	South Africa	Transnet National Ports Authority	Marine specialist appointed to assess potential impacts of iron ore oxide (Fe ₂ O ₃) on the marine flora and fauna of Saldanha Bay.
2012	South Africa	Department of Water Affairs/ Nemaï Consulting	Estuarine specialist on an Environmental Impact Assessment for the Ncwabeni OCS Dam on the Mzimkhulu estuary
2012	South Africa	East London Industrial Development Zone	Water quality specialist appointed to develop and implement a Seawater Quality Monitoring Program for aquaculture developments in the East London Industrial Development Zone
2012	South Africa	Transnet National Ports	Estuarine marine specialist on an Environmental Impact Assessment for the deepening, lengthening and widening

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		Authority/ Nemai Consulting	of Pier 2 in the container terminal of the Port of Durban.
2011	South Africa	City of Cape Town	Co-leader on a study to develop water quality indices and related reporting tools for Inland and coastal waters of the City of Cape Town
2011	South Africa	Overstrand District Municipality/ SSI	Marine specialist on an impact assessment for a Waste Water Treatment Works in the Overstrand District Municipality
2010- 2013	South Africa	Department of Agriculture, Forestry & Fisheries (DAFF)	Co-leader, marine ecology and aquaculture specialist on an EIA for four Marine Aquaculture Development Zones (MADZs) in the Eastern Cape, South Africa. Project tasks included identifying potential culture species and their characteristics that make them particularly suited or unsuited for culture at each of the selected sites, reviewing available technology and its suitability for use at each of the selected sites, identifying key risks and impacts that could arise from the culture of selected species on the sites including impacts on existing beneficial uses, and developing an Environmental Management and Monitoring Plan for each site as a whole as well as individual concession areas within each site.
2010	South Africa	Department of Agriculture, Forestry & Fisheries (DAFF)	Project leader on a Strategic Environmental Assessment (SEA) to identify potential sea-based finfish aquaculture development zones (ADZ) off the South African coastline. The study entailed identifying and applying a suite of quantitative site selection criteria in a geographical information system (GIS) framework to identify suitable sites for seabased finfish culture in South Africa, taking account of environmental suitability, environmental sensitivity, and user conflict considerations.
2010	South Africa	Doug Jeffery Environmental Consultants	Marine specialist on an assessment of the potential impacts of 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. Project leader on an assessment of all boat launching sites in the Western Cape designed to assess their legal status, possible impacts on the environment, socio-economic importance and provide recommendations as to which ones should be formally registered and which need to be closed.
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. Project leader on a study assessing trace metal pollution in the Diep estuary in the City of Cape Town, to investigate potential sources of pollution and to prepare management recommendations for addressing principal sources of pollution.

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2010	South Africa, Namibia	UNDP-GEF Orange-Senqu Strategic Action Programme	Consultant appointed to assess 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	Assistant to the estuarine and freshwater ecologist on a baseline description and health assessment for the Rovuma Basin, Tanzania.
2010	South Africa	Water Research Commission, Department of Water Affairs	Co-leader on a project to assess and update methods for estimation of freshwater flow requirements for estuaries in South Africa.
2010	South Africa	Chand Environmental	Marine and coastal specialist appointed to assess 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	Marine specialist appointed to assess possible impacts of a proposed residential and resort development at Trekoskraal on the marine environment.
2009-2011	South Africa	Various companies	Marine specialist on a series of environmental impact assessments for desalination plants at Sedgefield, Plettenberg Bay, Witsands, Saldanha Bay, and Port Nolloth. (Five separate appointments.)
2009-2011	South Africa	Cape Action Plan for People & the Environment (C.A.P.E.)/Cape Nature/Marine & Coastal Management (MCM)	Lead consultant appointed to develop a management plans for the Olifants, Berg, Uilkraals, and Great Brak Estuaries, South Africa. (Four separate appointments). Projects entailed preparing situation assessments and strategic management plans for the Olifants, Berg and Uilkraals estuaries that included recommendations for establishment of a new marine protected area, terrestrial protected area, zonation plans for each of these elements, visitor management plans, and recommendations for institutional development.
2009-2011	South Africa	WWF-SA, Lotto Programme	Project leader on a 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	United National Development Programme, Azerbaijan Country Office	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. Key tasks on the project included collation of information on the globally significant biodiversity of Azerbaijan, on the national protected area system and the representation of coastal/marine ecosystems in the PA system, and current and planned interventions in the protected area, and to prepare a proposal on how key shortcomings in the PA system can be addressed, and to cost these interventions.
2009-2010	South Africa	Department of Water Affairs &	Fish specialist on a project to assess the nature, distribution and value of aquatic ecosystem services of

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		Forestry	the Olifants, Inkomati And Usutu To Mhlatuze Water Management in South Africa.
2009-2010	South Africa	WWF-SA/Cape Action for People and the Environment (C.A.P.E.)	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. The project involved mapping biodiversity pattern and processes in the marine and coastal environment, spatial mapping of economic value, good and services, and of threats to these ecosystems.
2009-2010	South Africa	Department of Water Affairs	Environmental Flow Assessment for the Berg Estuary. Project leader appointed to undertake an environmental flow assessment of the Great 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	West Coast District Municipality, Jeffares & Green (Pty) Ltd	Project leader on an assessment of the Jakkalsvlei estuary, the purpose of which was to describe and assess the ecological impacts of illegal excavation and infilling activities that took place during July 2008, and to draft rehabilitation plan to mitigate any impacts.
2009	Global	UNDP	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	City of Cape Town	Project leader appointed to design of a Coastal Monitoring Programme for the City of Cape Town (City of Cape Town). The incumbent was appointed to prepare an overview report on the conservation status and sensitivity of the City of Cape Town Coast, to investigate and report on the status of all existing monitoring programmes on the City's coastline, and to provide recommendations on additional monitoring activities required for the City to meet its coastal management obligations.
2009	South Africa	Sturrock Shipping (Pty) Ltd	Marine ecological expert commissioned to undertake an evaluation of samples of growth present on the vessel, Rita Knutsen, for the purposes of evaluation the approximate date and location at which damage to the vessel was sustained.
2009	South Africa	Doug Jeffery Environmental Consultants	Consultant on an assessment of the status and sensitivity of the coastal marine environment off Oudekraal on the Cape Peninsula with an assessment of potential constraints relating to impacts to the marine environment on the development of the site.
2008-2011	South Africa	Century City Property Owners Association	Project leader on a study to assess the effectiveness of a fish eradication programme conducted in the Century City wetlands and canals using the ichthyocide rotenone, and for development of recommendation for future management of the system
2008-2009	Tanzania, Kenya	Programme for the Sustainable	Consultant appointed to implement two separate training courses and workshops on Information for

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		Management of the Coastal Zone of the Countries of the Indian Ocean	Fisheries Co-Management in Dar es Salaam, Tanzania and Mombassa, Kenya. The workshops covered techniques required to develop information system for fisheries co-management, practical guidance on the application of analytical tools developed specifically for small-scale fisheries, the development of a modified fisheries information profile appropriate to the needs of decision-making in a co-management environment, the design of a sampling regime, and the preparation of budget scenarios for its implementation.
2008	South Africa	Water Research Commission, Fresh Water Consulting Group	Marine specialist on a project to develop a classification system for wetlands in South Africa.
2008	South Africa	Water Research Commission (WRC)	Researcher appointed to assist in the 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. The model was used to assess impacts of changing freshwater flows on the delivery of goods and services from the estuary.
2008	South Africa	DCD-Dorbyl (Pty) Ltd	Consultant appointed to undertake an 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
2008	Angola	Tullow Oil Plc	Consultant responsible for preparation of 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.
2008	South Africa	Department of Environmental Affairs & Development Planning/SRK Consulting	Marine and coastal specialist contributing to the preparation of the State of the Environment Report (SoER) for the Western Cape Province, South Africa. The objective of the project was to provide information on the condition of the environment to various stakeholders in the public and private sectors, to assist them in dealing with and understanding environmental problems, and to set the basis for the development of policy and strategies, facilitate the monitoring (in terms of progress and performance) of implemented policy and programmes, and raise public awareness of environmental issues.
2008	South Africa	CSIR/Transnet National Ports Authority (Transnet-NPA)	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.
2008	South	Transnet	Independent consultant appointed to review Marine

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	Africa	National Ports Authority (Transnet-NPA)/SRK/PD Naidoo & Associates	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
2007-2011	South Africa	Resource Ballast Technology (Pty) Ltd	Lead consultant appointed as 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. Project entailed verifying the efficacy of the ballast water treatment system as well as literature survey and laboratory toxicity testing to assess the residual acute and chronic toxicity of the treated ballast water to a variety of different organisms and potential risks posed by the treated ballast water to the environment and human health.
2007-2011	South Africa	Department of Environmental Affairs & Tourism: Marine and Coastal Management (DEAT: MCM)	Project leader of a 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. Project leader was responsible for coordinating the deployment of a team of ten fishery observers at strategic landing sites around the country, the collation of all data collected and preparation of data reports.
2007-2011	South Africa	Department of Environmental Affairs & Tourism: Marine and Coastal Management (DEAT: MCM)	Project leader 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 inshore trawl, hake longline and west coast rock lobster fisheries. Responsibilities of the project manager included ensuring that observers collected accurate data on the nature of fisheries operations (catch, effort, fishing area, gear used, etc.), catch composition, by-catch mortality, fish biology (length, sex, reproductive state, stomach fullness, fat index), and quantity and size range of discarded target species, and biological samples (e.g. stomachs, gonads, otoliths, and flesh samples) as required. Data were captured electronically and submitted to the client for use in stock assessment and resource management programme.
2007-2010	Ghana	Tullow Oil Plc	Consultant responsible for preparation of 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).

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2007	South Africa	Shelley Point Breakwater (Pty) Ltd/Doug Jeffery Environmental Consultants	Marine ecology specialist on an Environmental Impact Assessment for the Shelly Point Small Craft Harbour. Responsible for preparation of specialist report and specialist input into the EIA and EMP for the project.
2007	South Africa	University of Cape Town	Project supervisor on a study on fish populations in three False Bay estuaries (Zandvlei, Eerste and Lourens), designed to assess fish populations in the estuaries and to relate recent (over the last 5-10 years) changes in management of these system to the status of their fish populations, with a view to improving management of estuaries generally.
2006-2011	Tanzania	International Conservation Union (IUCN)/Pangani Water Basin Office, Tanzania	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)". The key objectives of the project included collecting and synthesising present knowledge on the Pangani River system and its users, and to develop an integrated approach to future water-allocation decisions. The estuary component of the project included conducting a health assessment of the Pangani estuary with the Tanzanian national team and the development of a flow assessment tool to guide allocation of freshwater flow in the system.
2006-2007	South Africa	Cape Action Plan for People & the Environment (C.A.P.E.) and World Wildlife Foundation (WWF)	Project leader responsible for development of a fine scale conservation plan for the Agulhas Marine Bioregion. Three principal components of the project included collating and collecting necessary biophysical, biological, and socio-economic baseline data required to undertake fine scale conservation planning exercises and to support conservation planning interventions in the Agulhas (Marine) Bioregion of South Africa; providing recommendations for the establishment of a network of marine protected areas in the Cape Floristic Region that provides for biodiversity conservation, environmental education and research, and that contributes to sustaining fishing activities; and assessing the economic value of goods and services provided by MPAs in the Agulhas Bioregion.
2006-2007	South Africa	Department of Science and Technology (DST) and the South African Environmental Observation Network (SAEON)	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. The primary objectives of the node were to archive long-term observations and project derived data, excercising quality control over this data, facilitating the implementation of observational and management standards, making designated metadata and data accessible through the internet, packaging data for use by scientists, policy

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			makers and the public, and networking with local and international role players.
2006	South Africa	Seaton Thompson and Associates and Tintswalo Atlantic (Pty) Ltd	Project leader on an assessment of the impacts on the marine environment anticipated to result from the proposed guest lodge development at Koelbaai, under Chapman's Peak Drive, in the Table Mountain National Park (TMNP)
2006	Mozambique	Ministry of Co-ordination of the Environment/ World Bank/European Union	Team leader (Expert level I) appointed to prepare a Country Environmental Profile for Mozambique. The task entailed prepare a profile for the country that covered the following aspects: policy and legal framework, pressures, current status and trends in the physical environment (air and climate, land, water and natural disaster risks), biological environment: biodiversity, ecosystems, biological resources of cultural, social or economic importance), economic causes of the environmental situation and trends, their consequences on human well-being and sustainable development.
2005-2008	South Africa	Port Nolloth Sea Farms (Pty) Ltd/ Department of Environmental Affairs and Tourism (DEAT)	Project leader on a study to assess the ecological impacts, and biological and economic viability of abalone ranching in South African west coast. Key issues considered in this study included factors affecting mortality (survival) and growth rates of seeded abalone, relationships between the seeding rate, yield (numbers and flesh weight of abalone) and potential financial returns per unit area of coastline under different conditions, and minimum viable area (length of coastline) for success of an abalone ranching operation.
2005-2007	Angola	BCLME Programme/ United Nation Development Programme (UNDP)/ UNOPS/Global Environment Facility (GEF)	Project leader on a project aimed at assessing the status of biodiversity along the Angola coastline. The project entailed completing a series of field surveys at selected localities at approximately 100 km spacing along the Angolan coastline at which inshore fish, rock intertidal and sandy beach biota were surveyed. Data were analysed with a view to identifying biogeographic patterns in Angolan coastal fauna and flora.
2005-2007	South Africa	Cape Action Plan for People & the Environment (C.A.P.E.), Cape Nature, and Department of Environmental Affairs & Tourism: Marine and Coastal	Co-leader for biodiversity and economic assessment and development of an integrated conservation plan for CAPE estuaries. The project comprised five components including filling estuary biodiversity data gaps (collection and collation of new botanical, fish and bird data for temperate South African estuaries), updating estuary biodiversity importance scores using these new data, developing of a reliable rapid method for preliminary assessment of estuary health, assessment of economic value of estuaries (development and piloting of a rapid method for estimating subsistence, recreational/tourism, nursery and existence value of all estuaries in the study

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		Management (DEAT: MCM)	area), and conducting a conservation planning exercise to identify a minimum set of estuary to be included in a national estuary protected area network.
2005-2007	Angola, Namibia, South Africa	BCLME Programme/ United Nation Development Programme (UNDP)/ UNOPS/Global Environment Facility (GEF)	Project leader on an assessment of human capacity, training and infrastructure available within the three countries bordering the BCLME – Angola, Namibia and South Africa. The focus of the study was on assessing capacity within each of the countries to fulfil their national obligations under the five priority action areas comprising the BCLME programme - Sustainable Management and Utilisation of Living Marine Resources, Assessment of Environmental Variability, Ecosystem Impacts and Improvement of Predictability, Management of Mining and Drilling Activities, Management of Pollution, and Maintenance of Ecosystem Health and Protection of Biological Diversity.
2007, 2005	South Africa	Transnet-National Ports Authority (Transnet NPA)	Project leader on ballast water, flora and fauna survey in the Ports of Durban and Port Elizabeth. Surveys were conducted in representative examples of all habitat types present in the Port of Durban and Port Elizabeth to identify all species present in the port, including all alien and potentially cryptogenic species.
2005	South Africa	Department of Environmental Affairs and Tourism (DEAT)	Marine and coastal specialist contributing to the preparation of the National State of the Environment Report (SoER) for South Africa. The objective of the project was to provide information on the condition of the environment to various stakeholders in the public and private sectors, to assist them in dealing with and understanding environmental problems, and to set the basis for the development of policy and strategies, facilitate the monitoring (in terms of progress and performance) of implemented policy and programmes, and raise public awareness of environmental issues.
2005	South Africa	Department of Environmental Affairs and Tourism (DEAT)	Project leader on an assessment of the marine and coastal tourism potential for the Arniston fishing harbour. Key tasks on the project included identifying all existing coastal and marine based ecotourism initiatives and role players in and around the Arniston area, assessing the potential socio-economic impact of coastal and marine ecotourism in relation to the rest of the economy, particularly against the fishing industry, identifying potential threats and blockages that could prevent maximization of economic benefits of this sector in the area, and identifying potential coastal and marine based eco-tourism initiatives in the area.
2005	Angola, Namibia, South Africa	Benguela Current Large Marine Ecosystem (BCLME)	Co-leader on a project to develop and make operational, an affordable, sustainable and user-friendly State of Ecosystem Information System (SEIS) for the BCLME region (Angola, Namibia, South Africa) to complement other data, assessments, information and advice required

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		Programme (UNDP/World Bank)	by the Interim Benguela Current Commission (IBCC) and other users to enable informed decision making that will ensure the integrated management, sustainable development and protection of the Benguela Current Large Marine Ecosystem. The project entailed identification of a suite of indicators in four thematic areas (State of the Environment, State of Living Marine Resources, Negative or Adverse Ecosystem Impacts, and Ecosystem Indicators), and collation of appropriate time series data for each indicator for the three BCLME countries, and presentation of this data in an accessible and user-friendly manner (website).
2005	South Africa	National Empowerment Fund (NEF)	Project leader on a due diligence (feasibility) study to assess the feasibility of a proposed eel aquaculture and processing operation in the Eastern cape, South Africa, focussing on biological, ecological, logistic and legislative considerations of the proposed project.
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
2004-2015	South Africa	Saldanha Bay Water Quality Forum Trust (SBWQMFT)	Project leader of a team appointed to develop a series of "State of the Bay" Monitoring Programme and Reports for Saldanha Bay and Langebaan Lagoon in 2004, and annually between 2008 and 2015. The project involved collation and analysis of historic data from a wide range of disciplines, identification of key indicators for the reporting system, as well as initiating new data collection and survey programmes, and the production of annual monitoring reports and five-yearly State of the Bay Reports.
2004-2008	South Africa	WWF-SA/South African National Parks	Project leader on a coastal monitoring programme for the Table Mountain National Park Marine Protected Area. The work entailed recruiting, training and deploying a team of monitors to undertake daily patrol of sanctuary and controlled use zones in the MPA with the objective of monitoring of the state of marine resources, the environment and the human use thereof. Key activities for which data were collected included commercial fisheries (boat-based line fishing, beach seine netting, commercial abalone diving and rock lobster fishing), recreational fisheries (boat and shore based line fishing, rock lobster fishing, invertebrate fisheries and bait collecting) and subsistence fisheries (for rock lobster and other invertebrates) and popular recreational activities such as walking, hiking, sunbathing, water sports (swimming, surfing, sailing, canoeing, windsurfing, waterskiing) and horse riding.
2004-2005	South Africa	Department of Environmental	Project leader on a study to develop recommendations as to appropriate permit fees and permitting systems for

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		Affairs and Tourism (DEAT)	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	Project leader on a EIA for an abalone farm at Danger Point, Western Cape. The study includes assessment of impacts on the marine environment, vegetation, heritage resources and visual impacts.
2004	DRC, Angola, Namibia, South Africa, Mozamb., Tanz., Mauritius, Seychelles	EU-SADC MCS Fisheries Programme	Lead consultant tasked with 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. The consultant was required to prepare a report on the status of illegal fishing, such as the use of explosives or poisons, and pollution of the seas in the coastal SDAC states (Democratic Republic of Congo, Angola, Namibia, South Africa, Mozambique, Tanzania, Mauritius, Seychelles)
2004	South Africa	City of Cape Town	Marine and coastal specialist on an EIA to assess impacts of a coastal walkway between St James and Kalk Bay, in False Bay, South Africa.
2004	South Africa		Marine and coastal specialist on an EIA 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	Lead consultant appointed to prepare a policy document and strategy for fisheries Monitoring Control Surveillance in Mozambique. Preparation of the policy document entailed reviewing all components of the Mozambican fishery in terms of their nature (industrial, semi-industrial and artisanal), area of operation, type of vessels and gear, nature and locations of the landing sites, and economic value of their catch); running a series of workshops to obtain consensus on the objectives and strategic aim of the MCS policy, the potential partners and their roles and responsibilities, and the economic objectives of the project and means to ensure sustainability; and the drafting of the policy. The strategy document was compiled following on site inspections and discussions with key stakeholders in Mozambique.
2004	South Africa	Botanical Society of South Africa	Coastal and estuarine specialist contributing to the preparation of guidelines to assist environmental assessment practitioners in selecting biodiversity specialists for involvement in Environmental Impact Assessments and guiding specialists in the assessment of the nature, severity and significance of environmental impacts.
2004	Southern Africa	IPCC/ START Programme	Consultant appointed to undertake a desktop study on the likely impacts of climate change on estuaries in southern Africa. Predicted changes in freshwater flow for major river systems in the country generated using the ACRU Hydrological model as well predicted changes in

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			mean sea level, atmospheric carbon dioxide, and UV irradiance were used to assess likely impacts on estuaries.
2004	South Africa	EKZN Wildlife Service/ Department of Environmental Affairs and Tourism (DEAT)	Consultant appointed to review the approach used for management of subsistence fisheries in KwaZulu-Natal, South Africa. The study include workshops and interview with managers and decision makers, compliance staff and fishers, and the production of a review report and recommendations for addressing short comings in the existing approach.
2003-2005	South Africa	Department of Water Affairs & Forestry (DWAF)	Project manager, estuarine coordinator and fisheries specialist on the Berg River Baseline Monitoring Programme. The objective of the baseline monitoring programme was to describe the natural and present state, including the natural variability, of those chemical, physical and biological characteristics of the river and its hydraulically linked systems (i.e. estuary, floodplains and groundwater) most likely to be affected by changes imposed after the construction of the Skuifraam Dam. The study spanned a period of three years and required a multidisciplinary approach involving specialists from a wide range of disciplines including hydrology, hydraulics, fluvial geomorphology, sediment transport, geohydrology, water quality, sociology, macroinvertebrates, fish, avifauna, vegetation and algae.
2003-2004	South Africa/ Namibia/ Angola	BCLME Programme/ UNDP/ UNOPS/ GEF	Project leader on a Capacity and Needs Assessment for the Benguela Current Large Marine Ecosystem (BCLME) Project involving three countries – Angola, Namibia and South Africa. The project entailed assessing organisational and institutional capacity for the implementation of the Strategic Action Plan for the programme comprising five policy action areas: Sustainable Management and Utilisation of Living Resources, Management of Mining and Drilling Activities, Assessment of Environmental Variability, Ecosystem Impacts and Improvement of Predictability, Management of Pollution and Maintenance of Ecosystem Health and Protection of Biodiversity.
2003-2004	South Africa	Makana Marine and Projects	Project leader on an Environmental Impact Assessment for the development of a new ship repair facility in the Port of Cape Town. The study included specialist assessment of impacts on marine ecology, noise, and air pollution.
2003-2004	South Africa	World Wildlife Fund, South Africa (WWF-SA)	Project leader of a team appointed to prepare a business plan for the proposed Kogelberg Marine Park. The business plan summarised available information on resource harvesting, resource availability, tourism capacity, and the value thereof in the park; presented three alternate financially sustainable scenarios for the establishment and management for the proposed park;

Period	Country	Client	Project, Tasks
			identified skills and human resources required for implementation of the various scenarios; identified problems and critical requirements for successful establishment of the Park; and provided a five-year financial plan with flexible input parameters to aid “what if” scenario analysis for the park.
2003-2004	South Africa	Department of Environmental Affairs and Tourism (DEAT)	Co-leader on a Strategic Environmental Assessment to guide the implementation of regulations promulgated under the National Environmental Management Act 1998: Control of Vehicles in the Coastal Zone. The consultant was required to carry out a Strategic Environmental Assessment to characterise the coastal zones in terms of their environmental sensitivity as well as historical, cultural and social aspects, identify defensible criteria for allowing/excluding vehicles from the coastal zone and to assist with the development of a GIS-based decision support model to guide implementation of the ORV regulations.
2003	South Africa	Globallast Programme/ IMO/UNDP/ GEF	Lead consultant for the Development of a Ballast Water Management Plan for the Port of Saldanha, South Africa. Project entailed the development of a model management plan for the Port of Saldanha to protect natural coastal resources from the threat of invasive alien species, designed to be replicated at other ports in South Africa.
2003	South Africa, Namibia and Angola	Global International Waters Assessment (GIWA) Programme/ GEF	Consultant contributing to the Global International Water Assessment (GIWA) for the Benguela region (South Africa, Namibia and Angola) during which issues of major concern (freshwater shortage, pollution, habitat and community modification, unsustainable use of resources, and global change) in the region were identified, assessed and prioritised for intervention.
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). The consultant was required to work in a team with staff of the C.A.P.E. Co-ordination Unit and key staff of executing agencies in preparing a description of the marine and coastal component for the 20 year program, in identifying critical risks and risk-mitigation measures, in developing a monitoring and evaluation framework for the programme, in evaluate institutional readiness for implementation, and in identifying significant environmental issues and affected stakeholders.
2002-2003	Namibia	Namdeb Diamond Company	Project leader on an Environmental Impact Assessment for the Wet Overburden Mining System in Mining Area 1, Oranjemund, Namibia. Responsible for the preparation of the environmental impact assessment (EIA),

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			environmental management programme report (EMPR) and coordination of specialist studies on socio-economic and ecological impacts of a new dredge mining project in the coastal zone.
2002-2003	South Africa	Department of Environmental Affairs & Tourism	Project leader of a study designed to establish the quantity of abalone caught by recreational fishers during the 2002/2003 fishing season, and to segregate catches by fishing stage and per fishing area. The study provided estimates of the total recreational abalone harvest, with 95% confidence levels, extrapolated from the interview results.
2002-2003	South Africa	Water Research Commission, Department of Water Affairs & Forestry	Co-leader on a project to improve understanding of the relative contribution and importance of individual estuaries to overall estuarine biodiversity in South Africa. The study entailed collection and analysis of invertebrate, fish and bird samples and/or data from a series of data-poor estuaries on the Cape South and East coast of South Africa.
2002-2003	South Africa	National Ports Authority/ Globallast Programme	Project leader for a baseline survey of subtidal reef biota and reef fish off Jaheel & St Croix Islands, Algoa Bay. The survey was designed to serve as a baseline against which potential changes arising from the construction of the new Port of Coega could be benchmarked.
2002	Africa	GEF/UNDP UNESCO/IOC/A COPS	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. Appointed as project leader of a team of three experts to assist in the development of a series of project proposals forming the basis of a Programme of Interventions to address problems of regional priority in sub-Saharan Africa.
2002	South Africa	Department of Environmental Affairs & Tourism	Researcher on an 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. The purpose of the study was to gain understanding and experience of acoustic tracking of rock lobsters and to examine movement behaviour patterns displayed by rock lobsters
2002	Namibia	Namdeb Diamond Company	Project leader responsible for the conducting an environmental assessment of sandy beaches in Mining Area 1, Oranjemund, Namibia and an environmental baseline study in a previously unexploited area on the coast. The study was commissioned in order to document the prevailing morphodynamic characteristics and faunal assemblages in this area prior to starting mining.
2002	South Africa	National Research	Consultant appointed to assist the National Research Foundation (NRF) to launch the Marine and Coastal Node

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		Foundation	of the South African Environmental Observatory Network (SAEON) programme, designed to assist South Africa to deal with consequences of long-term environmental change. Activities on the project included consulting with the scientific community in South Africa on potential host institution, establishing a central network office and associated research platforms (termed environmental observatories) to collect and process information on long-term environmental change and the likely effects of this change on society and the environment.
2002	South Africa	Department of Environmental Affairs & Tourism	Project leader on a study on sardine migration habitats off the East coast of South Africa. The study entailed following the movements of the sardine shoals up the coast and conducting systematic sampling of the sardine shoals as they moved along the Eastern Province and Kwa-Zulu Natal coasts.
2002	South Africa	Department of Environmental Affairs & Tourism	Project leader for a fisheries monitoring programme for an experimental hoop-net fishery for west coast rock lobster off Cape Hangklip, South Africa. A team of fisheries observers were trained and deployed on fishing vessels to monitor catch, effort, catch-per-unit-effort, size composition, and sex ratios of lobster caught during the fishing season.
2002	South Africa	University of Rhode Island/ History of Marine Animal Populations	Researcher commissioned to prepare a desktop assessment of the likely impacts of climate change on the ecosystem functioning and fisheries of the Benguela ecosystem, South Africa.
2002	Seychelles		Researcher appointed to prepare an 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	Project leader of a study designed to establish the quantity of west coast rock lobster caught by recreational fishers during the 2001/2002 and 2009/2010 fishing seasons, and to segregate catches by fishing stage and per fishing area. The study provided estimates of the total recreational rock lobster harvest, with 95% confidence levels, extrapolated from the interview results.
2001-2003	South Africa	Department of Environmental Affairs & Tourism/ Rhodes University	Fisheries specialist contracted to assist with an Economic Sectoral Study of the South African Fishing Industry. The study involved collecting the requisite data to conduct a financial evaluation of the different components of the industry in order to identify their profitability per ton of fish landed on a per species basis, group of species or per fishery basis, for the purpose of calculating realistic options regarding resource rent that the state can recover from enterprises which participate in each industry component, and for calculating minimum quantities of fish required by different size classes of

Period	Country	Client	Project, Tasks
			enterprises such they can operate viably as stable independent enterprises. The consultant was responsible for collecting requisite data on the rock lobster, linefish, seaweed and mariculture components of the industry.
2001-2002	South Africa	AECI/SYNEXUS	Specialist marine biologist contracted to undertake an assessment of risks to marine life and human health resulting from disposal of contaminated groundwater from the Umbogintwini waste disposal site. Assessment of risks to marine life was undertaken by comparing predicted concentrations of chlorinated hydrocarbon and trace metals contaminants to available information on toxic effect concentrations and to regulations and guidelines for maximum permissible and maximum recommended concentrations in the discharge environment. Risks to human health were examined through a study of harvesting and consumption patterns of marine life in the vicinity of the propose discharge point and of the potential of the various contaminants to bioaccumulate within tissues of these organisms.
2001	South Africa	GEF/UNDP/IMO Globalballast Programme	Fish specialist on a ballast water surveys in the Port of Saldanha. The objective of the study was to survey representative examples of all habitat types present in the ports with a view to developing a full list of all species including all alien and potential cryptogenic species in the port.
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	Consultant to Maribus industries assisting with an 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	Researcher commissioned to assess impacts of effluent discharges and shipbuilding activities on Dubai Creek, UAE through an analysis of composition and abundance of foraminifera in sediment samples from the creek.
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. Key deliverables on this project included the initiation of specialist scientific, institutional and legal studies and the management of a public participation and consultation process required to enable the proclamation of a marine protected area, as well as the development of a use zone map, a management plan and interpretative and educational materials for the marine park.
2000-2002	South Africa	Freshwater Consulting Group	Freshwater fish specialist appointed to assess and monitor changes in the fish community of the Koekdou River following construction of a new dam on the system
2000-	Africa	GEF/UNDP	National coordinator for South Africa on Phase 1 of the

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2001		UNESCO/IOC/A COPS	GEF MSP Sub-Saharan Africa Project (GF/6010-0016): Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa. Appointed as project leader of a team of four experts to carry out the identification, characterisation and selection priority sources and causes of environmental degradation of marine and coastal areas in South Africa, to assess environmental and socio-economic impacts, and to identify the most appropriate areas and levels for intervention.
2000-2001	South Africa	SRK Consulting and PD Naidoo and Associates	Marine specialist appointed on an EIA to assess potential impacts of the extension of the iron ore handling facility in Saldanha Bay on the marine environment and mariculture activities.
2000	South Africa	City of Cape Town/ Southern Water Ecological Research and Consulting	Estuary specialist appointed to assess the impacts of the upgrade of a rubble weir and other mouth management options for the Zandvlei estuary.
2000	South Africa	On Track Developments/ Chand Environmental	Marine specialist on an EIA to assess potential impacts associated with the proposed 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. Objectives of the study were to examine the relevance of constructing and/or modifying existing fish ladders at the exit/entry points to the vleis, the merits of deliberately stocking the vleis with fish, and to assess the impacts of periodic draw-downs on fish populations with reference to the their impact on midge populations in the vleis.
2000	Africa	SURVAS	National representative on the SURVAS Network tasked with assessing Vulnerability & Adaptation to Impacts of Accelerated Sea-Level Rise in Africa. Commissioned to prepare a paper summarising available information on measured increases in sea level in South Africa as well as potential vulnerability to and impacts of sea level rise on this country.
1999-2000	South Africa	United States Department of Energy/ Department of Environmental Affairs and Tourism, South Africa	Project leader on a study examining the effects of climate change on marine biodiversity in South Africa. The study entailed a detailed review and thorough examination of the possible effects of climate change on pelagic, estuarine, and rocky intertidal communities in the South African marine environment.
1999-2000	South Africa	Foundation for Research Development	Co-leader on a project to assess the impacts of exploitation of wonderworm <i>Marphysa sanguinea</i> on bouldershore habitats on the Cape Peninsula, South

Period	Country	Client	Project, Tasks
			Africa. The project included field surveys, literature review, statistical analysis of data and report production.
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. Duties of the National Co-ordinator included co-ordination and supervision of a team of 14 fieldworkers collecting ground level information, and collating, analysing and summarising this data into report format.
1999	South Africa	Ridge Management/ Eric van den Honert Environmental Consulting	Marine specialist appointed to assess potential impacts of 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	Estuary specialist appointed to assess the impacts of the construction of a foot bridge over the Zandvlei estuary.
1999	South Africa	City of Cape Town/ Southern Water Ecological Research and Consulting	Estuary specialist appointed to assess the impacts of flood mitigation measures (artificial wetland) on the Silvermine estuary.
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	Estuary specialist appointed to assess the impacts of upgrading the Zandvleit Wate Water Treatment Works on the Eerste estuary.
1999	South Africa	Jakobsbaai Abalone Farm	Researcher on a project to assess 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	Fish specialist appoint to provide guidelines for stocking Capricorn Lake (a shallow dendritic lake in the Capricorn Science and Business Park Lake) with fish Guidelines were required in terms of appropriate species for stocking, stocking densities; and possible sources of fish.
1998-	Mozam-	ARCO	Project Marine Biologist responsible for specialist input

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1999	bique	International Oil and Gas Company/ Austral	into an Environmental Impact Assessment for onshore and offshore seismic exploration and exploratory drilling for oil and gas in Sofala Bay (Beira) area in Mozambique. The study involved an analysis of impacts on the marine environment and fisheries associated with 2-d and 3-d seismic surveys and well drilling exercises. An Environmental Baseline Report was prepared from field and literature survey work and into input was provided into an Environmental Management Plan for the seismic survey and drilling exercises.
1998-1999	South Africa/ Namibia/ Angola	GEF/UNDP/ Benguela Current Large Marine Ecosystem Programme (BCLME)	Project leader responsible for the preparation 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. The BCLME project was a regional initiative between Angola, Namibia and South Africa and involved synthesising information on mining techniques, operational practices, impacts on fisheries and ecosystems, mitigation measures, environmental management plans and the social and economic importance of the industry.
1998	Namibia	Government of Namibia/ Desert Research Foundation of Namibia	Marine specialists on an EIA for a new Fishing Port at Möwe Bay, Skeleton Coast, Namibia. Consultants appointed to assess likely impacts and to identify appropriate mitigation measures for a fishing harbour in Namibia.
1998	Namibia	Namdeb Diamond Company	Project leader responsible for the preparation of an Environmental Impact Assessment for the Elizabeth Bay Mine, Lüderitz, Namibia. The study was commissioned to examine the ecological effects of fine tailing disposal and marine diamond pumping operations on surf zone fish assemblages in the Lüderitz area. Recommendations were put forward to mitigate and/or minimise impacts on the affected environments.
1998	South Africa	Marine Diamond Mines Association/ Sue Lane & Robin Carter & Associates	Environmental Scientist responsible for input into a 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. The project involved a synthesis of available information on the affected area and the identification of risk sources associated with mining activities.
1998	South Africa	Blaauberg Municipality/ World Wide Fund for Nature (WWF-SA)	Project leader on a study assessing the intensity and impact of bait collecting activities on the ecology of the Diep River estuary, South Africa. The study included surveys of 1st the stocks all bait species in the estuary and an assessment of the numbers of all organisms collected or disturbed by bait collectors per annum. A management plan was formulated for the long-term sustainable use of the estuary.

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1998	South Africa	De Beers Namaqualand/ Gibb Africa	Marine/estuarine specialist on an EIA for the construction of a bridge across the Buffels estuary near Kleinzee. The study entailed an assessment of the likely impacts of bridge construction and identification of appropriate mitigation measures to minimise impacts on the estuary and marine environment.
1998	South Africa	Blaauberg Municipality/World Wide Fund for Nature	Project leader on a study assessing the intensity and impact of bait collecting activities on the ecology of the Diep River estuary, South Africa. The study included surveys of the stocks all bait species in the estuary and an assessment of the numbers of all organisms collected or disturbed by bait collectors per annum. A management plan was formulated for the long-term sustainable use of the estuary.
1997-2012	Namibia	Namdeb Diamond Company	Project leader on a series of baseline and impact assessment studies 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. Each study project included surveys and assessments of sandy beach macrofauna, rocky intertidal fauna and surf fish assemblages and considered possible effects of mining activities and mitigation measures to avoid or minimise impacts on the affected environment.
1997-1998, 2000-2001, 2009-2011	South Africa	Department of Environmental Affairs & Tourism/ Department of Agriculture, Forestry & Fisheries	Project leader 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. Responsibilities of the project manager included ensuring that observers collected accurate data on the nature of fisheries operations (catch, effort, fishing area, gear used, etc.), catch composition, by-catch mortality, fish biology (length, sex, reproductive state, stomach fullness, fat index), and quantity and size range of discarded target species, and biological samples (e.g. stomachs, gonads, otoliths, and flesh samples) as required. Data were captured electronically and submitted to the client for use in stock assessment and resource management programme.
1997-1998	South Africa	Foundation for Research Development/ University of Cape Town	Project co-ordinator for a study looking at the enhanced utilisation and management of demersal fish resources off the east, south and west coasts of South Africa. The project was aimed at assessing discarding practices employed by the industry and involved co-ordinating a team of observers deployed aboard commercial fishing trawlers operating from various ports around the country.
1997	United	Adnoc-Borealis	Co-leader on Environmental Impact Assessment and

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	Arab Emirates	Petrochemicals /Martin Mid-East	Baseline Survey for a new petro-chemicals plant in Dubai, UAE. Baseline surveys were conducted for benthic macrofauna, reef fish and corals.
1996	South Africa	Rein's Nature Reserve	Project leader on a study to assess status of exploited marine species in a small marine reserve near Mossel Bay, South Africa. Field surveys were used to assess the status of exploited fish and invertebrate species in the reserve and recommendations were formulated, aimed at making optimal use of this marine reserves as management and conservation tool.
1994-1996	South Africa	Sea Fisheries Research Institute/ World-wide Fund for Nature (SA)	Project Marine Biologist on a study investigating the impact of commercial beach-seine netting on the fish and invertebrates in False Bay, South Africa. The study was undertaken over a two-year period in which commercial fishing operations were intensively monitored and experimental netting undertaken. Data collected in the study were used in the formulation of regulations and a comprehensive management plan for the fishery.
1990	South Africa	Seafarm Products	Project Marine Biologist on a study examining the impact of fish predation on the cultured mussel, <i>Mytilus galloprovincialis</i> , in the Seafarm Dam, South Africa. Major predators feeding on cultured mussels were identified and measures designed to curb their impact were formulated.

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