



Company Profile



ANCHOR
environmental

Biodiversity • Ecosystems • Resources | Natural Capital

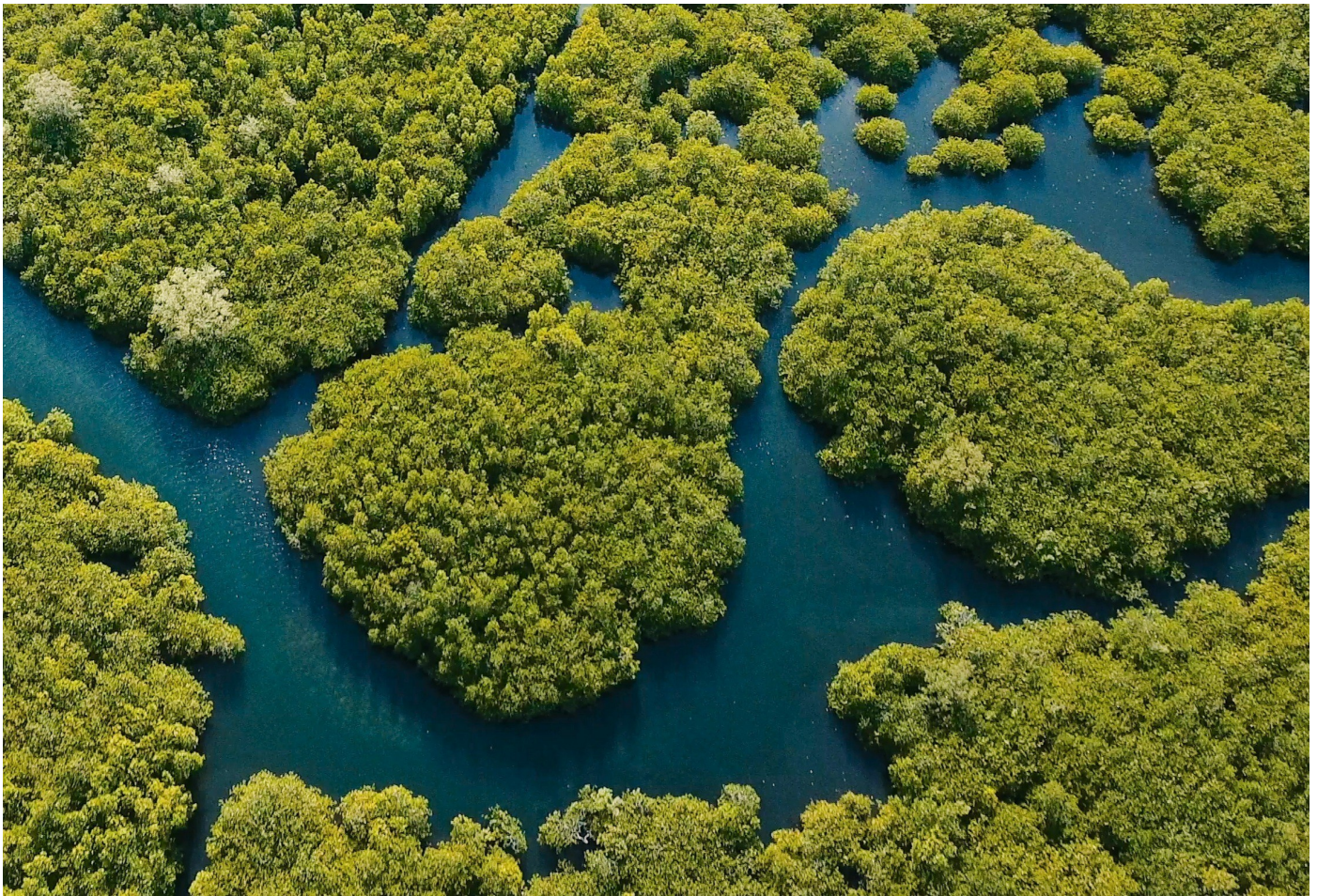
Overview

Introduction

Anchor Environmental is a consulting firm based in Cape Town, South Africa, that offers ecological and socio-economic research, assessment and monitoring to inform environmental management and policy. Our work is focussed on biodiversity, ecology, livelihoods, economics, ecosystem services and natural capital accounting; it straddles marine, estuarine, freshwater and terrestrial realms; and it addresses decision-making, planning, policy and strategy regarding conservation, rural and urban development, resource allocation and management, and climate change. We take pride in our ability to see the bigger picture, simplify complex problems and to provide rational and pragmatic solutions.

Our mission:

By integrating our expert understanding of biodiversity, ecosystems, socio-ecological systems and economics, we provide advice on the status, use and strategic management of biodiversity and natural capital, to the benefit of society as a whole



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Services

We undertake research and consulting in **three interrelated areas**:

- biodiversity and ecology;
- fisheries and aquaculture; and
- natural capital and ecosystem services.

The **type of work** we do includes ecological research and baseline studies, accounting and monitoring, scenario and cost-benefit analysis, strategy and planning.

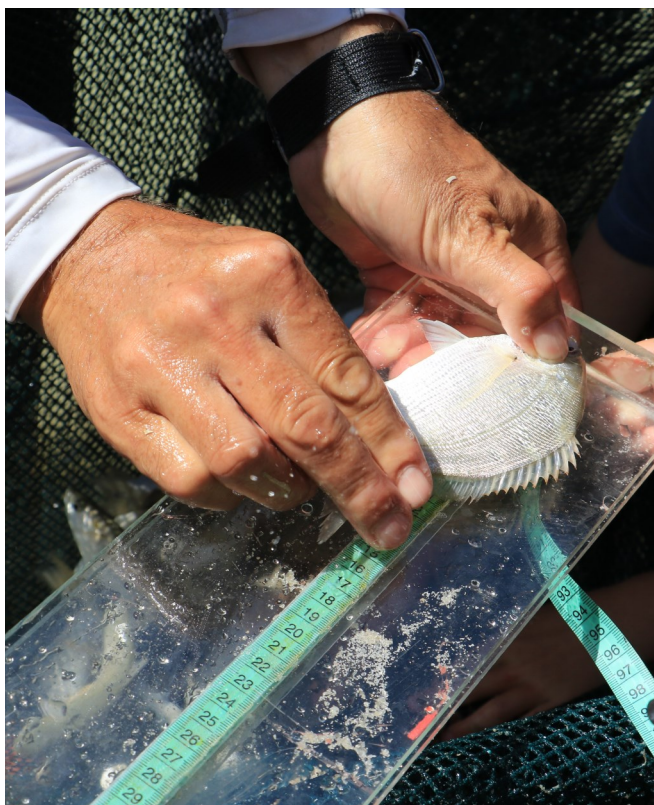
We draw on a **variety of frameworks and approaches**, including natural capital accounting (NCA), strategic environmental assessment (SEA), environmental and social impact assessments (ESIA), environmental management plans (EMPs), and environmental flow assessments (EFA).

These studies are applied in a huge variety of **contexts**, ranging from oceans, tropical deltas, estuaries, wetlands and river basins to the arid karoo and from communal lands to private commercial farmlands and protected areas.



Examples of projects we have tackled include:

- Comprehensive long term State of the Bay monitoring for Saldanha and St Helena Bays
- Long term monitoring of shore-based, near-shore and offshore fisheries in South Africa
- Development and implementation of environmental flow assessment methods for estuaries in southern, central and eastern Africa
- Assessing long term changes in vegetation, herpetofauna, fish, mammal and bird communities in the Lesotho highlands
- Hydrological, hydrodynamic, ecological and socio-economic studies to guide the rehabilitation of the Lake St Lucia estuary system
- Modelling and monitoring the dispersion of effluent from desalination plants and waste water treatment works
- Assessing vulnerability to climate change of protected areas and communities, both globally and in countries throughout Africa
- Return-on-investment studies to guide efforts to secure water supply for Cape Town, Free-town and the Okavango Delta
- Behavioural experiments to guide the development of payments for ecosystem services in Namibia's communal conservation areas
- Mapping and valuing ecosystem services from Zambia's forests to Namibia's deserts and Durban's green open spaces
- Compiling natural capital accounts for South Africa's land and ecosystems and for KwaZulu-Natal's ecosystem services and asset value





Expertise

Anchor employees are **nationally- and internationally recognized experts** in their fields. Our expertise covers the research areas of taxonomy, zoology, ecology, oceanography, climate science, conservation biology, environmental economics and finance.

We are skilled in ecological sampling, social surveys, statistics and econometrics, ecological-economic modelling, dispersion and hydrological modelling, remote sensing and geographic information systems, writing and communication.

We have the **largest taxonomic laboratory** for benthic estuarine and marine invertebrate identification in Africa, including a reference collection of specimens from all around Africa.

We also draw on our **well-established network** of associates, and have experience in managing large projects and interdisciplinary studies.

Our staff have published numerous **peer-reviewed scientific papers** and we regularly participate in international conferences.

Capacity building

Our strong academic background and continued association with the University of Cape Town, University of KwaZulu-Natal and the South African Institute for Aquatic Biodiversity strengthens our capacity-building efforts.

We have delivered **stakeholder training courses** in marine ecology, fisheries management, environmental flows, resource economics, and natural capital accounting. Our staff also regularly supervise **postgraduate students** and teach **postgraduate university courses**.

Our company also funds the education of previously disadvantaged children at top schools.

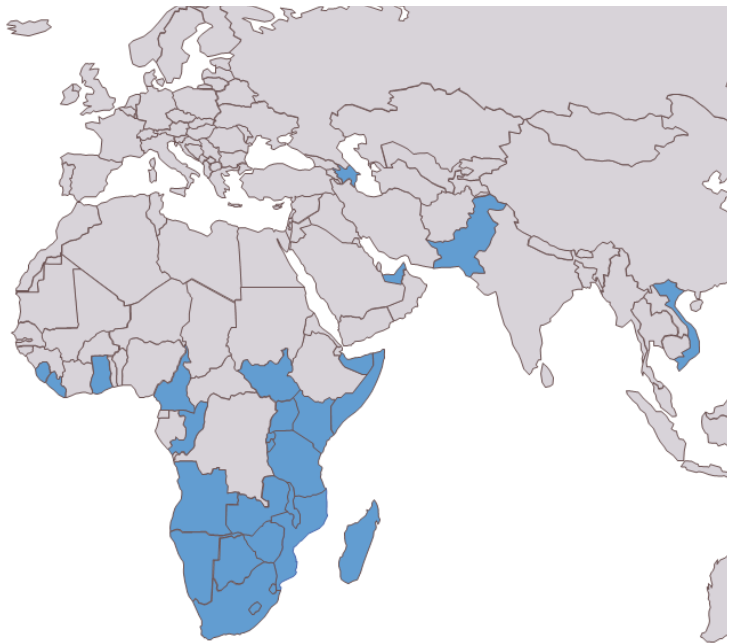


Geographic reach

We have worked on projects throughout southern and eastern Africa, as well as in West Africa, the Middle East and Asia. In addition, many of our projects are of a global nature.

Clients

Our clients and partners include a diversity of stakeholders involved in the environmental sector including mining and industry, government and non-governmental organisations operating from local to international scales, including World Bank, UNDP, UNEP, GIZ, USAID, IUCN, WWF, FFI, Conservation International, World Conservation Society, WCMC, Golder, ERM, SRK, AECOM, Aurecon and WSP.



Facilities and equipment

Anchor has a well-equipped lab, sophisticated lab and field sampling equipment such as ADCPs, CTDs and sediment and particle analysers, as well as boats and off road vehicles.

It has a well equipped scuba diving facility that supports a team of six in-house scientific divers. It also has a library of books, reports and journals, as well as research-associate access to the University of Cape Town's electronic library.



Our research areas

Biodiversity & ecosystems

Ecosystem research and assessment

We describe the status and functioning of ecosystems based on historical data, field studies and remote sensing data analysis, using state of the art methods, models and technologies.

We undertake specialist marine and estuarine field studies on oceanography, water quality, invertebrates, fish and birds, as well as problem species. We also co-ordinate field studies of wetland and terrestrial biodiversity.

We model hydrological, hydrodynamic and ecological processes in aquatic and terrestrial ecosystems in order to analyse the potential consequences of future management options.

Environmental flow assessments

Anchor staff have made a major contribution to developing the method for classifying and determining the freshwater requirements of rivers and estuaries. We offer specialist expertise in the estuarine and socio-economic components as well as leading multidisciplinary studies.

Environmental Impact and Strategic Environmental Assessment

We provide specialist input to environmental impact studies on marine and estuarine biodiversity, including invertebrates, fish and birds, as well as socio-economic studies such as tourism. We undertake strategic environmental assessments to guide environmental management and conservation and development planning. We also prepare industry norms and standards.



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Water quality, waste management and toxicology studies

We develop water quality guidelines and monitoring systems, we undertake dispersion modelling and advise on the management of effluents in to the inshore marine environment. We also undertake acute and chronic toxicity testing using guidelines such as those of the US-EPA, OECD, ISO, NIWA and ASTM.

Conservation and management plans

We bring a rare multidisciplinary perspective to conservation planning that takes account of economic and social opportunities and constraints as well as ecological targets.

We prepare management plans for marine protected areas and estuaries, starting from a situation assessment and consultation with stakeholders to devising ecologically, socially and economi-



cally sound strategies for achieving the desired objectives. We devise workable action plans. We also produce environmental management and monitoring plans to assist industry in mitigating the potential impacts of development and in meeting their environmental policy objectives.

Fisheries & aquaculture

Monitoring, resource status assessments and management plans

We assist clients in assessing the status of natural resources, sustainability of existing use, and the design of optimal harvesting strategies which take the socio-economic context into account. We have also managed long term fisheries monitoring programmes.

Feasibility, risk and impact assessments

We provide advice and assistance to new entrants and existing operators in biodiversity business such as mariculture, helping them to maximise their economic returns.

Benchmarking, ecolabelling and certification

We are qualified to undertake MSC certification, and experienced in undertaking fishery assessments for other ecolabelling ventures, and for Fisheries Performance Indicators.



Natural capital & society

Ecosystem services, natural capital assessment and accounting

We are internationally-recognised leaders in the application of multidisciplinary methods for the quantification and valuation of ecosystem services for natural capital accounting, as well as for economic analysis and environmental impact assessment. We model and value the consumptive use of resources, recreation and tourism, ecosystem functioning, and the intangible values of biodiversity, using state of the art spatial techniques and econometric methods. Our valuation studies are uniquely grounded in a thor-

ough understanding of the underlying biodiversity and ecosystem functioning. We are contributing to the national and international development of protocols for natural capital accounting under the System of Environmental Economics Accounting (SEEA).

Conservation and restoration strategy and financing

We undertake studies to understand environmental problems and to devise strategies to address them. These include studies of community conservation initiatives and the design of incentive mechanisms such as payments for ecosystem services and certification programmes, and studies relating to the financing and roll out



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of ecosystem restoration, including for water funds and conservation funds. This work includes carrying out surveys, behavioural experiments, choice experiments and financial modelling in conjunction with biophysical modelling.

Green urban development

We have strong interests in informing policy on strategies to improve the productivity and quality of life in our rapidly growing cities. Our work includes detailed assessments of the functions and value of natural capital in cities, and on best management practices for dealing with urban runoff.

Climate change vulnerability, adaptation and mitigation studies

We summarise global climate change data and interpret implications at a local level. We assess the impacts of climate change on biodiversity and agricultural systems, as well as on sectors including protected areas and local government. We undertake economic analysis of the impacts of climate changes and interventions relating to environmental policy.

Water security

We advise on measures to improve all aspects of water security, particularly for rapidly-growing cities in complex developing country contexts.

Environmental policy

Our work includes the careful interrogation of environmental policy through ecological-economic analysis. Some examples include policies on plastic waste, and understanding and dealing with different forms of land degradation.





Directors

Dr Barry Clark founded Anchor in 1996, after completing his PhD in Marine Biology at the University of Cape Town. He has mainly worked on estuaries and inshore marine ecosystems, and anywhere where there are fish. His work has taken him from the coral reefs of East Africa to the steamy mangroves of West Africa and the cold streams of the Lesotho highlands. He has published 27 papers in peer-reviewed journals as well as numerous scientific reports.



Dr Jane Turpie joined Anchor in 2003, and expanded our focus into new realms and research disciplines. Jane obtained a PhD in Behavioural Ecology from UCT in 1994, then followed a career path into conservation biology and environmental economics. She is a Senior Research Fellow at UCT's the Environmental Policy Research Unit and Honorary Research Fellow of the South African Institute for Aquatic Biodiversity, and has taught annually on UCT's MSc Conservation Biology course since 1995. She has travelled extensively, has done time in remote villages from Tanzania to Pakistan, and has a reasonable bird list. Jane has supervised over 40 postgraduate students, and has authored 54 peer-reviewed papers, 12 book chapters, 5 books and over 150 technical reports in ecology and economics disciplines.



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