

CES EXPERTISE IN COASTAL ECOLOGY & COASTAL ZONE MANAGEMENT

The founding partners of Coastal & Environmental Services (CES), Dr Ted Avis and Professor Roy Lubke are both well-regarded coastal scientists in South Africa, and have both published widely in the field of coastal ecology and management. Ted Avis' PhD thesis entitled "Coastal Dune Ecology and Management in the Eastern Cape" and Roy Lubke's ongoing research in this field continue to strengthen CESs expertise in coastal ecology and coastal zone management (CZM).

CES SPECIALISES IN ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

We believe that a balance between development and environmental protection can be achieved by skilful, considerate and careful planning.

This approach is particularly relevant when dealing with ecologically sensitive shorelines placed under development pressure, where a scientific and holistic approach is essential. We have in-house expertise in disciplines that contribute to understanding coastal ecology and CZM. These include marine and freshwater ecology, coastal dune ecology and estuarine ecology.

In addition to the various projects listed in this statement, a large portion of CESs EIAs have been undertaken for developments along the coastline of South Africa and elsewhere in Africa, whilst others have included substantial marine components. Our expertise in coastal systems makes us well placed to ensure that coastal developments in South Africa are aligned with relevant coastal legislation, such as the NEM: Integrated Coastal Management Act.

Our staff are all exceptionally well qualified, with many being recognised experts in their particular disciplines. Several of our staff hold PhD degrees, and all have post-graduate qualifications in the environmental sciences.

For more information see www.cesnet.co.za

COASTAL ZONE MANAGEMENT PROJECTS

Strategic ecological overview of the Wild Coast

The Department of Environmental Affairs and Tourism and the Heath Commission required a strategic ecological overview of the Wild Coast and site-specific ecological assessments to investigate the alleged illegal developments along the former Transkei coast.

Coastal Management Policy Programme

Together with various respected coastal ecologists, CES contributed to the preparation of a number of baseline reports in support of the Coastal Management Policy Programme, the forerunner of the Integrated Coastal Management Act.

The following reports were prepared:

Avis, T., Christopher J., Hosking S., Lubke R., McGwynne, L. & G. Nicholson 1998. Garden Route Region (v.6), Western District Region (v.7) Border-Kei Region (v.8), Wild Coast Region (v.9), in Forbes, T., McCarthy, J. & N. Demetriades (Eds). Characterization and Assessment of the South African Coast, Coastal Management Policy Programme, Unpublished Reports.

The Algoa Bay Management Plan

The multi-use coastal zone of Algoa Bay and the threats to, and impacts on, the marine environment that affects both the commercial and recreational interests in the area necessitated the development of a management plan. It provided an outline for the development of a proactive and practical management plan for Algoa Bay, based on scientific integrity and stakeholder participation.

Eastern Cape Coastal Management Programme

The Provincial Department of Economic Affairs Environment and Tourism funded the development of the Eastern Cape Coastal Management Programme, which was undertaken by CES. This was a seminal piece of work that pre-dated the NEM: Integrated Coastal Management Act (ICMA). It was an initiative that

emanated from the White Paper for Sustainable Coastal Development and provided a framework for coastal management in the Eastern Cape before the development of an ICMA compliant plan.

Eastern Cape Estuaries Management Programme

CES developed a management framework and implementation plan for Eastern Cape estuaries, and management protocols for the sustainable utilisation of living resources in the Eastern Cape.

Application fee structuring system for vehicle use in the coastal zone

We developed an application fee structuring system in terms of the regulations promulgated under the National Environmental Management Act, 1998, for the control of vehicles in the coastal zone, on behalf of Department of Environmental Affairs.

Integrated Coastal Zone Management Plan (ICZMP)

We prepared one of the first Integrated Coastal Zone Management Plan (ICZMP), based on the requirements of the then Coastal Management White Paper for the Buffalo City Municipality coastline in the Eastern Cape. It established an appropriate framework for improved management of the coastline and included recommendations to promote the sustainable development and management of the marine and coastal environment and natural resources.

ADM District Coastal Management Plan:

CES prepared an Integrated Coastal Management Programme (CMP) for the coastal region from the Great Fish River to the Mbashe River, in the Eastern Cape Province, which covered the entire coastline of the Amathole District Municipality (ADM), excluding Buffalo City Metro Municipality (BCMM), for which a CMP had already been prepared by CES. The CMP was aligned

with the requirements of the NEM: Integrated Coastal Management Act (ICM Act). It focused more closely on the coastlines of the Great Kei and Ngqushwa local municipalities (LM), but also integrated the findings of the CMPs for Mbashe and Mnguma LMs.

Cost benefit analysis of the Integrated Coastal Management Act

We conducted a cost benefit analysis of the Integrated Coastal Management Act to provide overall estimates of the costs associated with implementing the Act by all affected spheres of government and civil society. This included an assessment of the intangible costs and benefits of the Act to society. Prepared for the Department of Environmental Affairs and Tourism, Marine and Coastal Management.

Integrated environmental management plans for coastal district and local municipalities

We have prepared several integrated environmental management plans for coastal district and local municipalities. These considered coastal management issues and generated management plans compliant with existing guidelines and the Eastern Cape Coastal Management Programme.

Western Cape State of Coast report

CES prepared this report on behalf of the Dept. of Environmental Affairs & Development Planning. The project involved three phases: (1) Conducting stakeholder engagement and developing a list of indicators for assessing the state of the Western Cape coast. (2) Writing a State of the Coast Report in terms of ICMA. (3) Development of an online platform for the display of indicator information and writing of a Monitoring and Evaluation Framework document". CES also assisted in developing a web-based platform for the display of indicator data, and prepared a Monitoring and Evaluation framework to (i) Identify gaps in the indicator data collected (ii) Identify data custodians and update frequency (iii) Identify desired data format.

Review of the Coastal Management Plan for the West Coast District Municipality

CES was appointed to update the West Coast District Municipality, and the five coastal Local Municipalities, Coastal Management Programmes (CMPs). This included a review of the current CMPs, a series of stakeholder workshops and public participation processes, determination of the status quo as well as ensuring that the 2nd generation CMP aligned with the National CMP.



COASTAL ZONE SPECIALIST STUDIES

Beach and estuarine boat launch sites audit

We conducted an audit of all beach and estuarine boat launch sites within the Eastern Cape Province and assessed existing and potential impacts at each site. The study was required because of legislation controlling the use of vehicles in the coastal zone. Prepared for the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism.

Various Coastal Dune Specialist Studies

These studies are required to assess the impacts of proposed developments located within coastal dune systems or within the Coastal Protection Zone. These studies assessed the developments' potential impacts on coastal dune vegetation and coastal dynamics, inclusive risks associated with developments within or close to the littoral active zone. In South Africa they are a requirement of the IEM: ICMA.

Estuarine Management Plans for various estuaries

According to the Integrated Coastal Management Act (Act No. 24 of 2008): National Estuarine Management Protocol (2013), and subsequent Draft Amendments (2021), the procedure for developing an EMP is a three-phase process, namely:

- ✓ Scoping phase.
- ✓ Vision and objectives setting phase.
- ✓ Development of Implementation Plan phase.

The key outputs are a Situation Analysis Report, which assesses the baseline conditions of the estuary; an Estuary Management Plan, which encompasses the visions and objectives for estuarine management and the outlining of Implementation Plans to achieve these objectives; and a Stakeholder Engagement Report that provides evidence of the public consultation process undertaken. CES has prepared numerous EMPs in the Eastern and Western Cape Provinces of South Africa.

City of Cape Town Marram Grass Risk Assessment

CES conducted a risk assessment to use Marram Grass (*Ammophila arenaria*) in dune reconstruction and rehabilitation projects at a number of beaches within the City of Cape Town jurisdiction. Since this species has been classified as a Category 3 species by the National Environmental Management Biodiversity Act: Alien and Invasive Species Regulations (2014), a permit to authorise the use of this species is required prior to any activities being carried out. Part of the permit application process was to conduct and submit a Risk Assessment Report that is in accordance with the provision of Regulation 14 and 15 of this Act. Based on previous extensive research undertaken by CES and their academic colleagues, the study demonstrated that Marram Grass is not invasive in the Western Cape, and its use was approved on a case-by-case basis.

Environmental Management and Maintenance Plans for dune systems

A Dune MMP is prepared to obtain authorization for the ongoing maintenance and management activities that are often required to ensure the integrity of coastal dune systems, especially in high use areas or coastlines subject to erosion. It avoids the need for obtaining repeated authorizations for the same activities that might be required year on year. CES prepared three Dune MMPs at Gouritz, Still Bay & Witsands in the Hessesque Local Municipality.

Rehabilitation programmes for coastal systems

CES has prepared a number of rehabilitation and restoration programmes for coastal dune systems in South Africa and elsewhere in Africa. These have been prepared for coastal mining operations, coastal developments and coastal restoration projects. They often include detailed specifications on how to arrest sand movement, planting densities and lists of suitable plant species to use. These plans are based on the principles of restoration ecology.

COASTAL ZONE SPECIALIST STUDIES

Tools of Sustainable Coastal Zone Management

We presented two one week short courses on behalf of NACOMA / World Bank on Coastal zone management and strategic environmental assessment to various public servants involved in CZM in Namibia.

Training course on the Integrated Coastal Zone Management Act.

Four two-day short courses were presented to various Government and NGO stakeholders to introduce and explain the NEMA: Integrated Coastal Zone Management Act. CES was the study leader and lead presenter. The course focused on raising awareness and building regulatory capacity in coastal zone management. It was presented on behalf of DEA: Oceans & Coasts.

