

The BCLME Programme is administered by a Programme Co-ordinating Unit based in Windhoek, Namibia, and functions primarily through a number of specialist Advisory Groups driven by Activity Centres in each of the three countries.

It is guided by a Programme Steering Committee consisting of senior representatives from the relevant Ministries of the three governments. It is envisaged that this will later link in with a Benguela Current Commission to facilitate the management of fisheries, mariculture, mining, pollution and biodiversity conservation across national boundaries.

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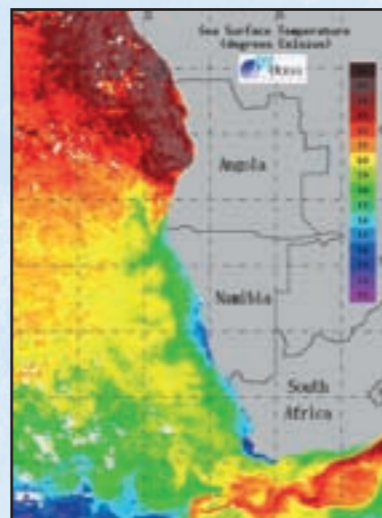


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## THE BENGUELA CURRENT LARGE MARINE ECOSYSTEM (BCLME)

The Benguela Current Large Marine Ecosystem spans some 30 degrees of latitude, extending from Angola's Cabinda province – north of the Congo River – to just east of Port Elizabeth in South Africa. It includes the reflection area of the warm Agulhas Current, the cold waters of the Benguela Current upwelling system, and the warm, stratified waters of Angola, making for a highly variable environment.



Apart from the inherent variability associated with pulsed upwelling, warm water of Agulhas Current origin periodically intrudes into the southern Benguela system, dramatically influencing its oceanography and productivity. At the BCLME's northern extreme, the Congo River discharges vast quantities of freshwater, intensifying the stratification of Angolan surface waters.



The BCLME region is also subject to extreme events that sometimes have catastrophic consequences. The most wide-scale of these occur when episodic warming in the tropical eastern Atlantic causes elevated sea temperatures in Namibia and southern Angola. Known as 'Benguela Niños' because of their apparent similarity to El Niño events in the Peruvian upwelling system, these events have a significant impact on local fisheries by displacing fish stocks and causing marine mass mortalities.



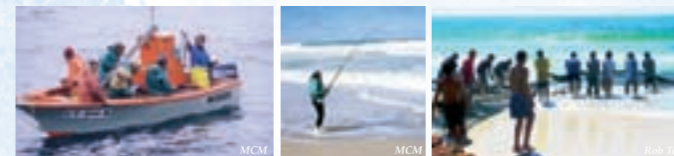
Harmful algal blooms, sulphur eruptions and incursions of low-oxygen water also occur in the BCLME region, with a variety of negative effects.

## Resources of the BCLME

The productive waters of the BCLME support a number of commercially exploited fish, including hake, anchovy, pilchard (sardine), horse mackerel, tuna and snoek, as well as crustacean fisheries for rock lobster in the south and shrimp and deep-sea crab in the north.



Artisanal and small-scale fisheries provide an important livelihood and food source for coastal communities in some areas, while recreational fishing for various species of linefish is a popular past-time.

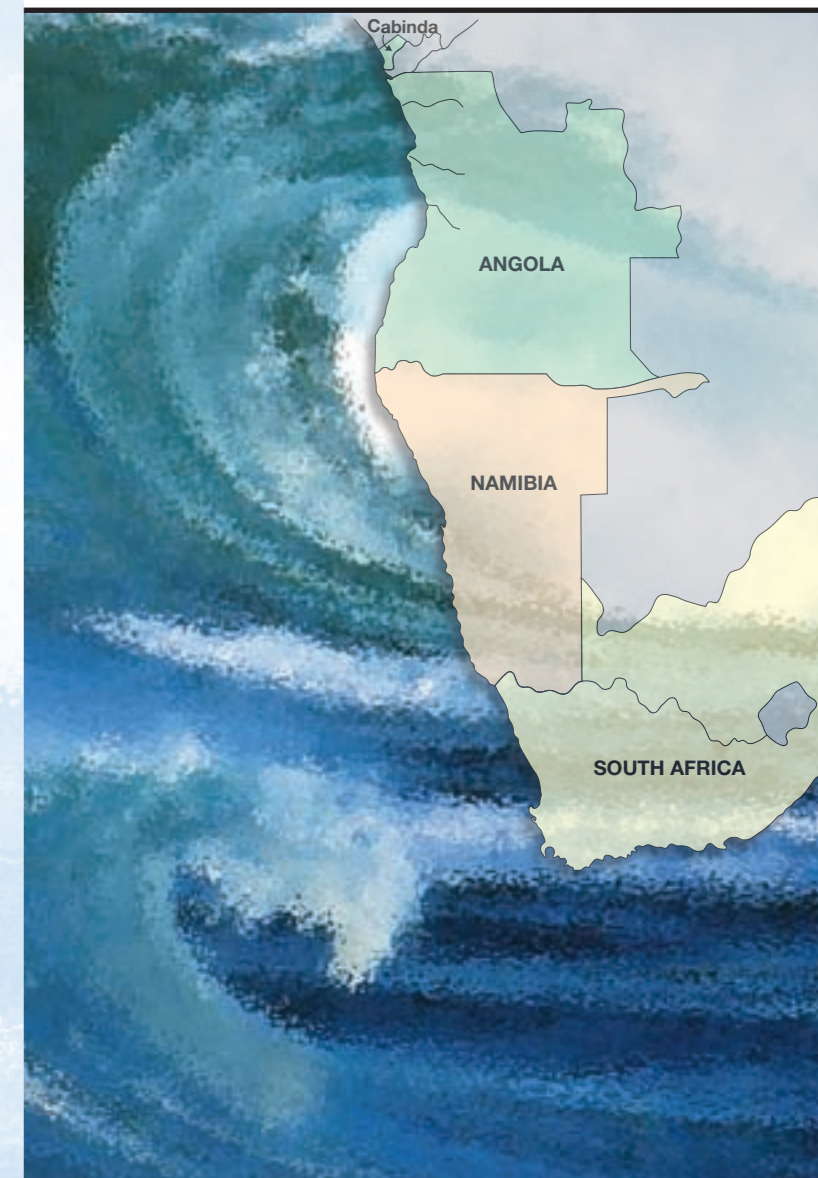


Marine life that is not harvested, such as whales, dolphins and sea-birds, is increasingly recognized as a valuable resource for nature-based tourism.

The area's exceptional natural beauty, biodiversity and cultural attributes also offer great potential in attracting growing numbers of international tourists.



The BCLME's nearshore and shelf environments have rich reserves of oil, gas and minerals, particularly diamonds. While Angola is already a significant oil-producing nation, Namibia and South Africa are actively developing their own oil and gas industries. The marine diamond-mining industry in Namibia and South Africa yields close to a million carats of diamonds each year.



## THE BCLME PROGRAMME

The BCLME Programme is a joint initiative by the governments of Angola, Namibia and South Africa to manage and utilise the resources of the Benguela Current Large Marine Ecosystem in a sustainable and integrated manner.

Although the three countries have policies, legislation and structures for managing their own parts of the Benguela ecosystem – their marine Exclusive Economic Zones – a co-ordinated approach is needed to deal with problems and issues that occur across national boundaries to ensure that the ecosystem is managed as a whole.

These transboundary issues include the migration or straddling of valuable fish stocks across national boundaries, the introduction of invasive alien species via the ballast water of ships moving through the region, and pollutants or harmful algal blooms that can be advected by winds and currents from the waters of one country into another.



The BCLME Programme was originally conceived in 1995 and then developed over the next five years by Angola, Namibia and South Africa in partnership with the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP).

Key milestones during the development phase were:

### Synthesis and assessment of information on the BCLME

All available information on the BCLME was compiled into a suite of six comprehensive reports on Fisheries; Oceanography and Environmental Variability; Diamond Mining; Coastal Environments; Off-shore Oil and Gas Exploration/Production; and Socio-economics of Some Key Maritime Industries.

### Transboundary Diagnostic Analysis (TDA)

The main issues and problems in the BCLME, their root causes, and actions required to resolve them were identified through an extensive multi-sectoral consultation process, and recorded in a detailed Transboundary Diagnostic Analysis report.

### Strategic Action Programme (SAP)

A strategy was then developed to address the identified transboundary problems in a cost-effective manner. The SAP was signed by seven Ministers in the three countries, and represents a formal commitment to execute a number of policy actions aimed at protecting the Benguela ecosystem.

### Policy Action: Sustainable Management and Utilisation of Living Marine Resources



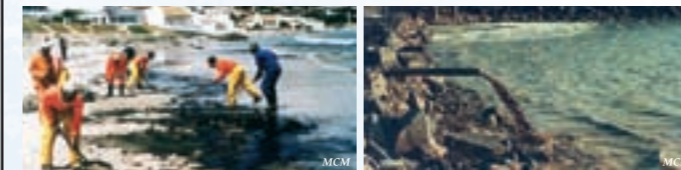
- Establish a regional structure to conduct transboundary fish stock and ecosystem assessments, evaluate transboundary resource-environment linkages and advise governments accordingly.
- Undertake joint surveys and assessment of shared stocks of key species.
- Harmonise management of shared stocks.
- Conduct research on non-exploited species.
- Develop a regional mariculture policy.
- Analyse the socio-economic consequences of various harvesting methods, the improved use of living marine resources, and the economic value of the Benguela ecosystem.
- Ensure that fishery conservation measures are compatible in the three countries.
- Comply with the FAO Code of Conduct for responsible fishing.

### Policy Action: Management of Mining and Drilling Activities

- Develop a regional consultation framework to mitigate the negative impacts of mining, reduce inter-sectoral conflicts and ensure that benefits accrue.
- Harmonise policy relating to shared resources, cumulative impacts and their mitigation.
- Undertake impact assessments of the cumulative effects of mining activities on the BCLME.
- Co-ordinate actions for the assessment and mitigation of negative impacts on the ecosystem of oil and gas exploration and production.



### Policy Action: Management of Pollution



- Co-ordinate efforts to control marine pollution, minimise impacts and develop cost-effective solutions by harmonising environmental quality objectives.
- Ensure that oil pollution contingency plans are complementary in the three countries, and develop a regional policy to minimise transboundary impacts of oil pollution.

### Policy Action: Maintenance of Ecosystem Health and Protection of Biological Diversity

- Undertake a regional assessment of the status of vulnerable species and habitats.
- Develop a regional policy on ballast water management.
- Develop a regional management plan for marine biodiversity conservation.



### Policy Action: Assessment of Environmental Variability, Ecosystem Impacts and Improvement of Predictability

- Develop an early-warning system for monitoring major environmental events within the BCLME.
- Analyse existing data series to establish a baseline against which future transboundary variability and change can be measured.
- Improve the predictability of extreme events with transboundary impacts.
- Establish a regional network for reporting Harmful Algal Blooms (HABs) and develop contingency plans to assess their transboundary effects.
- Assess the status of the BCLME as a carbon dioxide source/sink and hence its role in climate change.



- Implement MARPOL 73/78 – the International Convention for the Prevention of Marine Pollution from Ships – in the BCLME region.
- Launch an awareness campaign about marine litter and harmonise the relevant legislation, enforcement and implementation of standards.



### Policy Action: Capacity Strengthening

- Determine the existing human and infrastructure capacity in the region, as well as capacity and training needs, to develop a strategic plan for capacity strengthening.
- Implement the capacity strengthening strategic plan throughout the BCLME region.

