

# Benguela

## current news



THE NEWSLETTER OF THE BENGUELA CURRENT LARGE MARINE ECOSYSTEM PROGRAMME

## A new chapter in regional cooperation

by Dr Mick O'Toole

In April 2008, the Benguela Current Large Marine Ecosystem (BCLME) Programme finally drew to a close. At the same time, the three countries were working together to finalise the appointment of an executive secretary and ecosystems co-ordinator for the Benguela Current Commission (BCC). Under the leadership of an executive secretary, the BCC is expected to begin its work of developing and entrenching an ecosystem approach to ocean governance in the BCLME.

With the BCC poised to take regional cooperation to a new level, it is fitting to look back at the progress of the past five years and identify some of the key challenges that lie ahead.

Since the inception of the BCLME Programme, our knowledge and understanding of the dynamics and functioning of the Benguela Current Large Marine Ecosystem have advanced substantially and Angola, Namibia and South Africa have taken significant strides towards meeting the targets set for fisheries and the environment at the World Summit for Sustainable Development in 2002. The scope and detail of the work that has gone into achieving these targets is impressive. With the assistance of the regional research institutes, universities and scientific and management consultants situated all over the world, the BCLME Programme has supported over 100 projects worth US\$7 million (R35M).

It has worked conscientiously with its sister programme, the Benguela Environment Fisheries Interaction and Training Programme (BENEFIT), to gather and synthesise a wide range of information that is vital for the responsible management of the Large Marine Ecosystem and its natural resources.

Some of the projects supported by the BCLME Programme take the form of assessments or reviews of information, data and policies. Others have generated management tools and recommendations for policy actions. All have been transboundary in nature and contributed to our knowledge of the BCLME and our understanding of how best to rebuild, conserve or manage its resources. Many of the projects were designed to improve opportunities for scientists and technicians in the region. Computers, monitoring equipment and two ski-boats were purchased and major contributions were made to the refurbishment of the Angolan research vessel, *Tombwa*. Research surveys have been funded and a plethora of specialised training courses sponsored and arranged.

It now remains for the recommendations put forward by the BCLME Programme to be considered, prioritised and incorporated into national action plans and implemented by the governments of Angola, Namibia and South Africa. We expect that many of the key recommendations

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Photo: Mick O'Toole

The Angolan research vessel, *Tombwa*, which was refurbished and equipped to carry out environmental monitoring surveys, lies at anchor off Luanda. Turn to p.12 to read about the first voyage of the newly renovated research vessel.

## Um novo capítulo na cooperação regional

por Dr. Mick O'Toole

Em Abril de 2008, o Programa do Grande Ecossistema Marinho da Corrente de Benguela (BCLME) chegou finalmente ao seu termo. Ao mesmo tempo, os três países encontravam-se a trabalhar em conjunto para finalizar a nomeação de um secretário executivo e coordenador do ecossistema para a Comissão da Corrente de Benguela (BCC). Sob a liderança de um secretário executivo, espera-se que a BCC inicie o seu trabalho de desenvolvimento e fortalecimento de uma abordagem de ecossistema para a governação do oceano no BCLME.

Com a BCC preparada para elevar a cooperação regional a um novo nível, é oportuno olhar para trás, para o progresso dos últimos cinco anos, e identificar alguns dos desafios que estão para vir.

Desde o início do Programa BCLME, o nosso conhecimento e compreensão da dinâmica e funcionamento do Grande Ecossistema Marinho da Corrente de Benguela tem avançado substancialmente, tendo Angola, Namíbia e África do Sul tomado passos significativos rumo aos objectivos estabelecidos para as pescas e o ambiente na

Cimeira Mundial para o Desenvolvimento Sustentável em 2002. O âmbito e pormenor do trabalho que foi realizado para contribuir para estes objectivos é impressionante. Com a assistência dos institutos de investigação regionais, universidades e consultores científicos e de gestão localizados em todo o mundo, o Programa BCLME apoiou mais de 100 projectos num valor de US\$7 milhões (R35M). O Programa trabalhou com dedicação com o seu programa-irmão, o Programa de Interacção e Formação Pesqueira e Ambiental da Corrente de Benguela (BENEFIT), para recolher e resumir uma vasta gama de informação que é vital para a gestão sustentável do grande ecossistema marinho e dos seus recursos naturais.

Alguns dos projectos apoiados pelo Programa BCLME tomaram a forma de avaliações ou revisões de informação, dados e políticas. Outros geraram instrumentos de gestão e recomendações para acções políticas. Todos eles têm sido de natureza transfronteiriça e contribuído para o nosso conhecimento do BCLME e o nosso entendimento de como melhor reconstruir, conservar ou gerir os seus recursos. Muitos dos

projectos foram concebidos para criar melhores oportunidades para os cientistas e técnicos na região. Foram adquiridos computadores, equipamento de monitorização e duas embarcações (ski-boats), bem como foram feitas grandes contribuições para o reequipamento do navio angolano de investigação Tombwa. Foram financiados levantamentos de investigação e foram financiados e organizados vários cursos de formação especializada.

Resta agora considerar as recomendações apresentadas pelo Programa BCLME, estabelecer a sua prioridade e incorporá-las em planos nacionais de acção para serem implementadas pelos governos de Angola, Namíbia e África do Sul. Esperamos que muitas das recomendações chave venham a ser formalmente aprovadas pela BCC e eventualmente adoptadas pela região.

Foi obtido financiamento considerável para apoiar e fortalecer a BCC ao longo dos próximos quatro anos. O Fundo de Ambiente Global (GEF) comprometeu-se a apoiar as estruturas institucionais e

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will be formally endorsed by the BCC and eventually adopted by the region.

Significant funding has been sourced to support and strengthen the BCC over the next four years. The Global Environment Facility (GEF) has pledged to support the institutional and legal structures of the Commission with a grant of US\$5.2 million (R40M). The Norwegian government has generously agreed to provide US\$8

million (R70M) of support for the scientific programme of the BCC. This includes an agreement that the research vessel, *Dr Fridtjof Nansen*, will undertake surveys in the Benguela region 60 days per year. Moreover, each of the three countries will contribute about US\$100 000 (R750 000) per year over the four-year transition period for administrative costs.

The appointment of an executive secretary to lead the Commission and an ecosystem coordinator to manage its scientific programme will mark an important new chapter

in the history of regional cooperation in the BCLME. Following these appointments, it will be up to the marine scientists and administrators of Angola, Namibia and South Africa - in partnership with industry and other stakeholders - to develop and implement a unique form of ecosystem management that will safeguard the assets of this wonderfully productive Benguela Current.

*BCLME Chief Technical Advisor  
(Programme Coordinator)*



Dr Mick O'Toole



# Ministers meet to plan activities of BCC

The first ministerial conference of the Benguela Current Commission took place in Windhoek, Namibia last year. It was attended by Namibia's Minister of Fisheries and Marine Resources, Dr Abraham Iyambo and his counterparts Salomão Juheto Xirimimbini from Angola and Marthinus van Schalkwyk, Minister of Environmental Affairs and Tourism in South Africa.



At the Conference, the ministers decided that the Commission would be located in Namibia and chaired by Minister Iyambo in its first year. Dr Francisca Delgado, director of the Marine Research Institute (INIP) in Angola, was elected to chair the Management Board of the Commission. An executive secretary

and an ecosystem coordinator will administer the Commission and coordinate its scientific programme.

The task of the Benguela Current Commission is to make recommendations to Angola, Namibia and South Africa on research and management issues relating to the

sustainable utilisation, conservation and protection of the BCLME. It is informed by an Ecosystem Advisory Committee which will supply the countries with the best available information concerning the implementation of the ecosystem approach to management.



Ministers gather at the start of the first Ministerial Conference of the Benguela Current Commission. Pictured left to right are Kilus Nguvauva, Deputy Minister of Fisheries and Marine Resources in Namibia; Salomão Juheto Xirimimbini, Minister of Fisheries in Angola; Marthinus van Schalkwyk, Minister of Environmental Affairs and Tourism in South Africa;

Willem Konjore, Minister of Environment and Tourism in Namibia; Abraham Iyambo, Minister of Fisheries and Marine Resources in Namibia; Henock ya Kasita, Deputy Minister of Mines and Energy in Namibia and Simon Nhongo, Resident Representative of UNDP in Namibia.

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The preparatory work for the first ministerial meeting of the Benguela Current Commission was undertaken by the Management

Board of the Commission. Teams of managers and advisors from Angola, Namibia and South Africa worked well into the night in preparation for

the ministerial meeting. Pictured at the first Management Board meeting of the Benguela Current Commission were:



Neville Sweijid, director of the BENEFIT Programme, confers with Johann Augustyn, head of the South African delegation and Nangula Mbako, head of the Namibian delegation.



Members of the Angolan delegation, Joao Vintem, national director in the Ministry of Urban Planning and Environmental Affairs, Manuel Xavier Junior, head of the Department of Environmental Protection in the Ministry of Petroleum, Helena dos Santos Andre, environment specialist in the Ministry of Petroleum and Arlete Jose Sanhenga, legal specialist at the Marine Research Institute (INIP).



Mick O'Toole, acting executive secretary of the Benguela Current Commission and Francisca Delgado, director of the Marine Research Institute (INIP) in Angola, who was elected to chair the first Management Board of the Commission.

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legais da Comissão com uma doação de US\$5.4 milhões (R40M). O governo norueguês concordou generosamente em fornecer US\$8 milhões (R70M) para o apoio ao programa científico da BCC. Isto inclui o compromisso do navio de investigação Dr Fridtjof Nansen realizar levantamentos na região Benguela 60 dias por ano. Para além disso, cada um dos três países irá contribuir com

US\$100 000 (R750 000) por ano para os custos administrativos ao longo do período de transição de quatro anos.

A nomeação de um secretário executivo para liderar a Comissão e um coordenador do ecossistema para gerir o seu programa científico irá marcar um importante novo capítulo na história da cooperação regional do BCLME. Após estas

nomeações, caberá aos cientistas e administradores marinhos de Angola, Namíbia e África do Sul – em parceria com a indústria e outros grupos de interesse – desenvolver e implementar uma forma única de gestão do ecossistema que irá salvaguardar os bens desta Corrente de Benguela tão produtiva.

*Dr Mick O'Toole  
Coordenador do Programa BCLME*





# Review collates a wealth of fisheries data

The *State of Stocks Review 2007*, which was commissioned by the BCLME Programme with the objective of producing a comprehensive report on the status of the BCLME's shared and commercially harvested living marine resources, was published late last year.

by **Gabrielle Sulcas**

Edited by Dave Japp, Martin Purves and Sarah Wilkinson of Capricorn Fisheries Monitoring, the 97-page *State of the Stocks Review* represents a first attempt to collate information about fisheries resources in Angola, Namibia and South Africa into a single report.

Because the three countries have very different skills, capacity and experience in marine research and management, the task of compiling the report was extremely challenging, says Dave Japp, director of Capricorn Fisheries Monitoring.

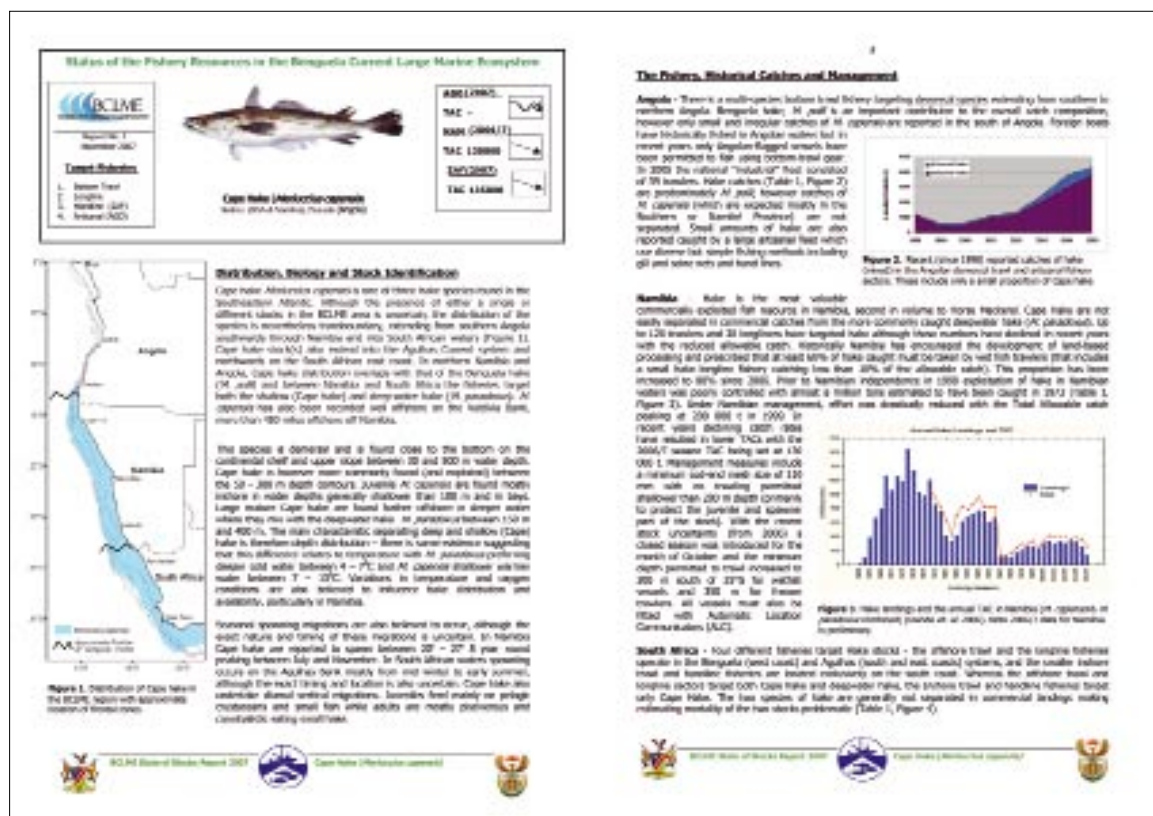
"Although basic biological, management and historical data are available, the actual stock assessments were difficult to compare between countries," says Mr Japp.

Despite these challenges, the authors collated as much of the available data about living marine resources as possible. For each species, a process of consultation was followed which identified key researchers, managers and stock assessment specialists. The information for each country on each resource was then collated, and where practical, combined.

The result is a comprehensive overview of the stocks in the region, which can be revised and updated annually. The report follows a simple format, with each species presented individually so that data may be extracted and read on its own. It is expected that this format will facilitate the distribution of information, such as the updating of websites and changes that may be required at a later stage.

The report divides the marine living resources of the region into five categories: demersal, small pelagic, crustacean, tuna-like species and "others". (The latter category includes mako and blue sharks, seabirds and the Cape fur seal). Each category concludes with a list of key references which provides readers with a useful guide to further reading.

Two hundred copies of the 2007 *State of the Stocks Review* were published and circulated in the region. Producing regular state of stocks reviews is expected to be one of the future responsibilities of the Benguela Current Commission. In the interim, a limited number of the 2007 Review may be obtained from Capricorn Fisheries Monitoring in Cape Town, South Africa. Contact Dave Japp at [jappy@iafrica.com](mailto:jappy@iafrica.com).





# Symposium marks the end of an era



A three-day symposium was held in Swakopmund, Namibia, last year to mark the imminent conclusion of the BCLME and BENEFIT programmes and the inauguration of the Benguela Current Commission (BCC). The symposium aimed to highlight key scientific outcomes and celebrate the many achievements of the two programmes over the past decade.

The multidisciplinary meeting covered a wide range of themes, including marine research, transboundary management of shared fish stocks, links between fisheries and the environment, monitoring the state of the ecosystem, marine pollution, data management and socio-economics and governance. It was attended by marine scientists and managers, representatives of the key marine industries in the region, non-governmental organisations and academics. There was also representation from international institutions, many of which participated in and supported the two programmes since their inception. The following text briefly documents some of the many highlights of the final BENEFIT/BCLME symposium. The contribution of Dr Alan Boyd, rapporteur for the three-day symposium, is gratefully acknowledged.







*The final symposium of the BENEFIT and BCLME programmes was attended by marine scientists, fisheries managers, representatives of marine industries, non-governmental organisations and academics from the Benguela*

*region. Many representatives from donor countries and international marine research institutes also attended the gathering, which was held at the gracious Swakopmund Hotel in the coastal town of Swakopmund, Namibia.*

## DAY ONE: People, governance and pelagic fish

The first session of the symposium was entitled "The history and philosophy of cooperation in the Benguela". It provided representatives from Angola, Namibia and South Africa with an opportunity to discuss their countries' participation in the BENEFIT and BCLME programmes.

Filomena Vaz Vehlo, from the Angolan Marine Research Institute (INIP), explained that the civil war, coupled with cultural and language barriers had initially discouraged Angola from participating in the two programmes. However, those involved saw the potential to gain knowledge and experience.

Ben van Zyl, the representative from Namibia's National Marine Information and Research Centre (NatMIRC), explained that the Benguela Current's resources, including fisheries and diamonds, are important to Namibia and NatMIRC appreciates that there is

a need for the BCC to establish cooperative management in the region.

Johann Augustyn, from South Africa's Department of Environmental Affairs and Tourism, described how it had taken some time to break down barriers between the three countries and encourage scientists to work together.

John Field of the University of Cape Town, who facilitated the discussion, drew the session to a close by reiterating the need for ongoing capacity development. He explained that while progress

depends on the structures that are put in place, human beings also need to do their share.

The second session of the day focused on governance and management of the BCLME. Participants considered the challenges facing the Southern African Development Community (SADC) and the New Partnership for Africa's Development (NEPAD) in the realm of natural resource management. Contributors to this session included representatives from SADC, DEAT and the ministries of fisheries and marine resources in Namibia. SADC's relationship with

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the BCC was discussed, as was the question of how best to ensure compliance with transboundary initiatives.

The third session of the day focused on "Social and economic considerations". An overview of artisanal fisheries in the BCLME region was presented by Agostinho Duarte of the Institute for the Development of Artisanal Fishing (IPA) in Angola. He noted that a great deal of work needs to be done to monitor and manage the activities of artisanal fishers in the region. A report back on a suite of socio-economic projects that were

implemented by a consortium led by Rhodes University followed. New fisheries, ecotourism and mariculture were discussed as ways of generating revenue and jobs in the fisheries sectors of the three countries.

The final session of the day focused on pelagic living resources. It was chaired by Manuel Barange, director of the GLOBEC international project office. Participants considered issues around pelagic resource fluctuation and how this can be effectively managed. Topics under discussion included whether sardine was still economically important

to Namibia, why sardine stocks have not recovered and the true status of horse mackerel stocks in the northern Benguela. Participants also considered whether non-target species such as jellyfish, mesopelagic fish and gobies have filled the ecological niche of some commercial pelagic fish stocks.

A question-and-answer session followed the presentations. Pertinent questions were raised about the use of environmental models for predicting sardine catches, horse mackerel surveys and whether small mesopelagic fish could be exploited in the region.

## Choir impresses at opening ceremony

The Mascato Coastal Youth Choir provided a musical opening for the final symposium of the BENEFIT and BCLME programmes, impressing participants with their lively rendition of the national anthems of Angola, Namibia and South Africa.



*With inimitable style, Neville Sweijda, former director of BENEFIT, looks forward to a successful conference!*



*Lebogang Motlana, deputy resident representative of UNDP in Namibia and Martha Mwandangi, assistant resident representative and head of the environment unit at UNDP in Namibia.*



*John Field of the University of Cape Town and Gotthilf Hempel of the University of Bremen.*



*The opening ceremony was attended by diplomats, ministers and top level government officials, all of whom praised participants for the spirit of cooperation and partnership that characterised the two programmes. It was officially opened by Kilus Nguvauva, deputy minister of Fisheries and Marine Resources in Namibia.*

*Pictured with the Mascato Coastal Youth Choir are Manuel Alexander Duarte Rodrigues, Angolan ambassador to Namibia, Eunice Komane, South African high commissioner to Namibia, Samuel Nuyyoma, regional governor of Namibia's Erongo region and Kilus Nguvauva, deputy minister of Fisheries and Marine Resources in Namibia.*



## DAY TWO: Bottom dwellers, fishermen and biodiversity

Day two began with a session on demersal living resources. Introducing the session, Mick O'Toole, chief technical advisor of the BCLME Programme, explained that substantial resources had been invested in hake research in the region over the past three years. He thanked Tore Strømme of the United Nation's Food and Agriculture Organization (FAO) for driving much of this research. Tore Strømme chaired the session which examined some of the results of transboundary hake research.

Looking to the future, Larry Hutchings, chief specialist scientist at Marine and Coastal Management, pointed out that although the Cape hake is one of the most valuable fisheries in the region, there is a great deal yet to be discovered about the species. He suggested that year round sampling was needed and noted there has been a lack of coherence between biological and environmental sampling. There is some knowledge about the inshore and offshore movement of hakes, but nothing is known of their longshore movements. Recruitment and natural mortality are not known in relation to the impact on the fishery. All these questions should drive future hake research, said Dr Hutchings.

Vere Shannon, honorary professor in the Department of Oceanography at the University of Cape Town, chaired a session on environmental and climate variability. Indicators of long-term change and variability, as well as the impacts of human activities on the region, were discussed.

Frank Shillington, also of the Oceanography Department at UCT, outlined the progress made over the past 10 years and concluded that scientists have come a long way over that period. Chlorophyll maps are regularly produced and can be used as tracers of physical processes. Sea-surface temperature (SST), an index of coastal upwelling, can be obtained from the internet. However there is still much progress to be made. Data assimilation models need to be better developed. Also, new

technology is needed to measure the key variables that influence the Angola current.

A number of contributors presented scientific data from Angola, Namibia and South Africa. They described environmental conditions in the Benguela region, including shelf dynamics, wind speed, annual surface and subsurface temperatures, as well as upwelling anomalies. The necessity for the BCC to look at ways to incorporate environmentally sensitive procedures into fisheries management was highlighted.

The third session of the day explored the relationship between scientists, managers and industry in the region. Suggestions were made as to how these relationships could be fostered and improved. Volker Kuntzsch, managing director of the leading Namibian whitefish producer, Hangan Seafood, chaired the session.

Mr Kuntzsch explained that the fishing industry had had limited involvement with the BCLME and BENEFIT programmes, but he was optimistic that interactions between industry and scientists could be enhanced through improved communication, cooperation and consistency.

The need to create personal relationships with industry leaders was highlighted and participants were assured that the BCC would create structures for formal and informal interactions. The session was concluded with the voicing of the common goal of science and industry – that of long-term

sustainability. It was concluded that working together makes good economic, environmental and social sense.

The final session of the day was chaired by Maria de Lourdes Sardinha, director of the BCLME Programme's activity centre for Biodiversity, Ecosystem Health and Pollution. The session considered how best to balance conservation and development. Contributors reported on subjects such as bycatch management, marine protected areas (MPAs) and the parameters used to measure the state of the Benguela ecosystem.

Neville Sweijd, director of the BENEFIT Programme, presented a report that quantifies threats to marine biodiversity in the region. Analyses were conducted for Angola and Namibia. Key challenges included coastal urbanisation, overfishing of marine and estuarine resources, lack of MPAs, pollution, mariculture and mining. Strategies to mitigate these were put forward.

The Worldwide Fund for Nature (WWF)'s Deon Nel spoke about maximising the benefits derived from the natural capital of the Benguela, including ecosystem processes, functionality and resilience, habitats, ecosystem services and diversity. He proposed that protecting this natural capital is the core business of the BCC and suggested that stakeholders should be involved in a structured way. Planning tools, such as guidelines for harmful activities and spatial conservation plans should be utilised to mitigate threats.



*Frans Tsheehama, permanent secretary of the Ministry of Fisheries and Marine Resources in Namibia, presided as master of ceremonies at the opening event.*



*Manuel Alexander Duarte Rodrigues, the Angolan ambassador to Namibia, arrives for the opening ceremony.*



*Kilus Nguvauva, deputy minister of Fisheries and Marine Resources in Namibia, addressed the gathering.*



*Michael O'Toole welcomes participants to the symposium.*

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*Silvi Nsiangango of the Institute of Fisheries Research in Angola.*



*Maria de Lourdes Sardinha, director of the BCLME Programme's activity centre in Luanda*



*Carola Kirschner of the Ministry of Fisheries and Marine Resources in Namibia*



*Jean Paul Roux of the Ministry of Fisheries and Marine Resources in Namibia*

## DAY THREE: Oil, gas, diamonds and fond farewells

The day began with a session entitled "Ecosystem health and pollution". A number of speakers presented project findings and discussed solutions to environmental threats like pollution.

Susan Taljaard from the Council for Scientific and Industrial Research (CSIR) in South Africa reported on the management of marine pollution in the BCLME. She described how municipal waste water, storm water run-off, industry and pollution from ships can have negative impacts on water and sediment quality. She set out a draft framework to better manage land-based sources of marine pollution in the BCLME.

Bjorn Erik Axelson of the Institute of Marine Research (IMR) in Norway, described a cooperative project between Angola and Norway to monitor the marine environment in Angola. According to his findings, Angolan waters are generally not heavily polluted, but background sediment pollution is widespread and the practice of flaring (by oil rigs) does cause pollution. These types of pollution need to be addressed in order to avoid the contamination of fish and potentially negative impacts on the health of coastal communities.

A session on mining and oil production highlighted the major contributions made by the mining, oil and gas sectors to the gross domestic products of the countries of the Benguela. The session considered how to reconcile the need for industry to develop and prosper

with the conservation of living marine resources and biodiversity.

Ema Gomes, from the Ministry of Petroleum in Angola, described the interaction between environmental protection and the oil and gas producers in Angola. Although laws are in place to control the environmental impacts of oil and gas extraction, there is a need for these laws to be better enforced, she said.

The National Petroleum Corporation of Namibia's (NAMCOR) Obeth Kandjoze described the exploration and licensing process in Namibia's petroleum industry. He noted that, in terms of Namibian law, mining companies are required to contribute to a decommissioning fund and adhere to other environmental planning conditions.

Fiona Olivier from Namdeb Diamond Corporation in Namibia explained how marine diamond mining affects the environment. Although the mining companies that operate on land and at sea between Oranjemund and Lüderitz are obliged to follow environmental guidelines, risks to the environment include alteration of habitat and sedimentation. Mining also has a direct impact on living marine resources.

The third session of the day explored the ecosystem approach to fisheries

management or EAF. It was chaired by Kevern Cochrane from the United Nations' Food and Agriculture Organization (FAO). Participants considered the key outcomes of a pilot study which was funded by the BCLME Programme and which tested the viability of introducing EAF in the Benguela region.

The penultimate session of the symposium was entitled "The Benguela Current Commission in context". It examined the strategic action plan of the BCC and the mandate of the Commission. Following a presentation by Mick O'Toole, who was acting at the time as executive secretary of the BCC, Kevern Cochrane noted that intensive planning has gone into the BCC. He emphasised that the challenge now lies in implementing its various objectives. Success will depend on sustained political commitment and the support of stakeholders.

The symposium drew to a close with a panel discussion during which participants were given the opportunity to reflect on their experiences as part of the BENEFIT and BCLME programmes. Most were extremely positive about the achievements of the previous 10 years. The symposium drew to a close with last words from Neville Sweijd and Mick O'Toole.



*Marek Lipinski of Marine and Coastal Management (MCM) in South Africa, Marek Ostrowski of the Institute of Marine Research (IMR) Norway, Larry Hutchings of MCM, Erlink Stenevik of IMR and Tore Stømme of the FAO.*



*Pat Morant of the Council for Scientific and Industrial Research in South Africa, Gabi Schneider of the Ministry of Mines and Energy in Namibia, Ema Gomes of the Ministry of Petroleum in Angola, Andrew Teal of ExxonMobil, Obeth Kandjoze of the National Petroleum Corporation of Namibia, and Fiona Olivier and Benedictus Dundee, both of De Beers Marine Namibia.*



## Fine dining in the desert

Participants in the final symposium of the BENEFIT and BCLME programmes were treated to an extraordinary desert experience when they dined in the dunes outside Swakopmund. They were transported into the desert by a well choreographed fleet of minibus taxis and then enjoyed drinks and a casual dinner in a specially erected marquee. Fresh air and a brilliant night sky were included in the meal.



*Carlos Dos Santos of the Angolan Ministry of Urban Planning and Environmental Affairs and Preciosa Evelyn Fançony of the Cabinda Gulf Oil Company.*



*Administration assistants for the BCLME Programme, Ayn Garises, Marcelina Rebelo and Evelyn Museke*



*Symposium participants relax around a desert campfire.*



*John Field of the University of Cape Town and Nik Sekhnan of UNDP/GEF*



*Larry Hutchings of Marine and Coastal Management and Astrid Jarre of the University of Cape Town*



*Beau Tjizoo and Titus Iilende, both of the Ministry of Fisheries and Marine Resources in Namibia*



*Nyambe Nyambe and Margaret Nyirenda of the SADC Secretariat, Domingas Paim of the Ministry of Fisheries in Angola and Kim Prochaska of Marine and Coastal Management in South Africa.*



*Beau Tjizoo of the Ministry of Fisheries and Marine Resources in Namibia, Manuel Barange of GLOBEC (and chair of BENEFIT's International Scientific Advisory Panel), Filomena vaz Velho of the Marine Research Institute in Angola and Carl van der Lingen of Marine and Coastal Management in South Africa.*



# Shake down on the Tombwa



The Angolan fisheries research vessel, *Tombwa*, embarked on an eight-day environmental monitoring survey in March 2008. This was the first cruise that the ship had undertaken since her repair and upgrade which was completed in Cape Town in 2007 at a cost of \$450 000 (R3.1 million).

The *Tombwa's* refurbishment was jointly funded by BENEFIT, the BCLME Programme and the Angolan Marine Research Institute, (INIP).

The short "shake down cruise" provided an opportunity for INIP scientists to test and familiarise themselves with the new oceanographic equipment that has been installed on the *Tombwa*. They were assisted by Larry Hutchings, senior specialist scientist at Marine and Coastal Management in South Africa.

Over many years, The BENEFIT Programme has established standardised oceanographic sampling lines at two sites in South Africa, two sites in Namibia and one in Angola, at Namibe. The *Tombwa* has been equipped to carry out similar routine oceanographic surveys at two further sites in Angola, as well as to continue the Namibe transect.

"We want to derive oceanographic indicators that are relevant to the

management of the most important marine resources in the region," explains Dr Hutchings, "in Angola that would be horse mackerel and sardinella."

There are distinct warm and cool seasons in Angolan coastal waters and fish move widely northwards and southwards in response to changing temperatures, oxygen levels and plankton.

With improved environmental information, oceanographers will be better equipped to monitor and explain changes in distribution and trends in these key commercial fisheries.

During the shake down cruise, monitoring lines were established at Luanda and Lobito. Water temperatures, salinity, fluorescence, phytoplankton and oxygen levels were sampled with a Seabird CTD to 1 300m and zooplankton was collected along the two lines with a standard WP-2 net and a Hydrobios Multinet, which collects separate zooplankton samples at different

strata in the upper 200m.

Both water and plankton samples were collected at different depths because an important feature of the ocean environment off Angola is that, while sea surface temperatures are warm and the water is clear blue, deeper waters are substantially cooler and more productive. Satellite imagery often cannot detect phytoplankton lying beneath the surface at the thermocline; in tropical and subtropical regions, production at subsurface depths is extremely important to maintain fish stocks. Frequent clouds over Angola also reduce the effectiveness of satellite imagery for detecting and determining changes in temperature and phytoplankton.

All samples were processed in the *Tombwa's* three well-equipped wet and dry laboratories.

Dr Hutchings reports that the *Tombwa* performed well for the duration of the cruise and says that the laboratory and oceanographic



A highlight of the cruise was watching a pod of dolphins riding the bow wave of the *Tombwa*.



Pedro Tchiplanica and Domingos Pedro collect water samples from the CTD.



Lia Neto and Catarina Ruby working with the Hydrobios Multinet, which is used to gather plankton samples.





equipment were in good working condition. The *Tombwa's* crew and scientists worked well together and not even a faulty air conditioning unit could dampen their enthusiasm.

"Working conditions in the laboratory were uncomfortable and

we watched the temperature climb as the day progressed," says Dr Hutchings, "at one point the mercury climbed over the 34°C mark. It was HOT!"

A high point of the cruise was when a pod of dolphins rode the

*Tombwa's* bow wave for nearly 10 minutes. The sight of the creatures surfing through crystal clear tropical water was a thrilling experience, says Dr Hutchings.



*A view of the Angolan fisheries research institute, INIP, taken from the stern of the Tombwa.*



*Dr Larry Hutchings, senior specialist scientist at Marine and Coastal Management in South Africa, accompanied the Angolan crew on the environmental monitoring survey. Dr Hutchings assisted the Angolan crew to deploy new equipment and gather and process samples. The picture suggests he enjoyed being in charge!*



*Catarina Ruby washing a zooplankton sample down in the Tombwa's newly constructed wet laboratory.*



# Early success for EAF training



The regional drive to introduce an ecosystems approach to fisheries management (EAF), has been boosted by a new training course which aims to introduce basic EAF principles to skippers, officers and crew working for Sea Harvest and I&J - South Africa's biggest hake producers.

A training course on responsible fishing is being rolled out to fishing crews of the two companies by the global conservation organisation, WWF. If it is successful, it is likely that the training course will be offered to other fishing companies in South Africa.

Through the course, WWF introduces skippers and fishing crews to the principles of EAF, explains Samantha Petersen, manager of WWF's Responsible Fishing programme.

"The programme is designed to build on existing knowledge and empower fishers to gain a broader understanding of the environment in which they operate."

Members of the fisheries compliance division within the South African Department of Environmental Affairs and Tourism have attended the training courses with the fishing crews. This means that the two groups are able to share knowledge and better understand each others' experiences, very often for the first time.

South Africa has committed itself to implementing an ecosystem approach to fisheries management by 2012. This has resulted in the introduction of new fisheries regulations which address, among other things, seabird bycatch, closed fishing areas and bycatch limits. Therefore, the training course aims to help fishers and compliance officers (fisheries inspectors) to

better understand why regulations or management measures are in place and how to implement them.

"It is vital that fishers who are at the coal face are empowered to understand the concepts that underpin fisheries management and the thought process behind management decisions," says Ms Petersen.

"And compliance officers, who enforce management actions, cannot do so effectively if they are not equipped with a thorough understanding of fisheries regulations."

The training programme was developed in collaboration with Sea Harvest and I&J and tailor-made for the South African fishing

industry. It runs over two days and includes four modules which cover subjects such as the ecosystem approach, food webs, habitat impacts, bycatch, an introduction to fisheries management, monitoring and enforcement. The two days are very interactive, full of discussion and practical exercises which allows for information sharing.

Participants are each presented with a certificate on completion of the course.

"To our knowledge this sort of training does not exist anywhere else in the world," says Ms Petersen.

Fishing companies that are interested in participating in future courses are invited to contact Samantha Petersen on [spetersen@wwf.org.za](mailto:spetersen@wwf.org.za).



*Samantha Petersen, manager of WWF's Responsible Fishing programme, is one of the presenters of the responsible fishing training course*



*Skippers, officers and office workers from I&J, one of South Africa's biggest fishing companies, attended the responsible fishing training course in April.*

## Fact File:

An ecosystem is a functional unit consisting of a collection of plants, animals, micro-organisms and non-living components of the environment, and the interactions between them.

The key objective of EAF is the sustainable use of the whole system and not just targeted species.

## The ecosystem approach

The need to sustain or improve the condition of ecosystems and their productivity is essential for maintaining or increasing the quality and value of fisheries production. EAF recognises that humans are an integral component of the ecosystem and that the many (sometimes competing) interests

of people in fisheries and marine ecosystems have to be addressed.

As signatories to the 2002 World Summit on Sustainable Development, Angola, Namibia and South Africa have committed themselves to introducing an ecosystem approach to fisheries management by 2012.





# Report outlines a blueprint for protecting the BCLME

**T**he BCLME Programme and the global conservation organisation, WWF, last year jointly launched a report that provides a detailed plan for reducing the impacts of fishing on the marine ecosystems of southern Africa.

The report is the culmination of a three year pilot project - funded by the BCLME Programme and implemented by Marine and Coastal Management and the United Nations' Food and Agriculture Organisation (FAO) - which sought to introduce an ecosystem approach to fisheries to the BCLME.

The ecosystem approach is an alternative to conventional fisheries management. It focuses on maintaining the overall health of the marine ecosystem, rather than simply managing commercially valuable target species. Over the past decade, the ecosystem approach has gained global impetus; in 2002, at the World Summit on Sustainable Development, Angola, Namibia and South Africa committed themselves to implementing the new approach by 2012.

The report, entitled "Ecological Risk Assessment: A tool for implementing an ecosystem approach for southern African fisheries" is regarded as a blueprint for giving effect to the new EAF approach in the BCLME.

It includes the results of ecological risk assessment workshops conducted on eight South African

and Namibian fisheries. These workshops sought to identify and prioritise the main ecological, social and governance risks of each fishery and to develop management responses to remedy these risks.

Some of the main ecological risks that were identified by the workshop participants included:

- The impacts of fishing on top predators such as seabirds, sharks and tunas, through the removal of fish they would normally feed on.
- The impacts of fishing gear on vulnerable and slow breeding species, such as turtles, seabirds and sharks.
- The impacts of heavy fishing gear on the sensitive sea life on the seabed.

The report goes on to propose a blueprint of 22 operational objectives that fisheries managers will need to consider if they wish to implement EAF in the BCLME.

Deon Nel, head of the WWF's Sanlam Living Waters Partnership, who was involved in facilitating the workshops and compiling the report, says:

"At the outset of this project, many stakeholders were intimidated by the complexity of implementing an ecosystem approach. However, through this process we have been successful in breaking down this complex aspiration into a practical plan that prioritises actions and resources".

"Having this plan on the table is a great achievement. However, we now need to move from planning to implementation," said Dr Nel.

Implementation might mean changing fisheries regulations to reduce impacts on the ecosystem, creating new governance structures to allow for effective participatory decision making, or initiating new research to allow a better understanding of the ecosystem.

"Importantly, we will need to implement a measurable way of systematically reviewing our progress towards meeting our WSSD goal of implementing an ecosystem approach by 2012. Otherwise this will remain just another meaningless commitment, and the health of our oceans, and the wellbeing of those who depend on them, will continue to decline," concluded Dr Nel.



Rob Tarr of Marine and Coastal Management and Pavitray Pillay, former training and capacity building manager of the BENEFIT Programme.



Nangula Mbako, former permanent secretary of the Ministry of Fisheries and Marine Resources in Namibia and Martha Mwandingi, head of the Environment Unit at the United Nations Development Programme (UNDP) in Namibia.



Pictured at the launch in South Africa of the BCLME Programme/WWF report are Frikkie Botes, director of the BCLME Programme's Activity Centre for Marine Living Resources in Swakopmund; Dr Mick O'Toole, head of the BCLME Programme, Dr Ben Van Zyl, deputy director of Resource Management at the Namibian Ministry of Fisheries and Marine Resources; and Japhet litenge, deputy director of Marine Pollution in the Namibian Ministry of Works, Transport and Communication.



# Cape Town hosts International Waters conference



Abraham Iyambo

Most of Africa's scarce water resources are in 80 shared basins and virtually every African country shares at least one international river system. The importance of African countries working together to better manage their shared water resources was highlighted by Abraham Iyambo, the keynote speaker at the International Waters Symposium which took place in Cape Town last year. Dr Iyambo is the Minister of Fisheries and Marine Resources in Namibia.

The International Waters Symposium attracted 350 participants from 100 countries. All were affiliated to the Global Environment Facility's (GEF) International Waters portfolio which has allocated US\$200 million to projects that address environmental problems such as depleted fisheries, nutrient enrichment and water conflicts.

Symposium participants came together in Cape Town to share experiences and innovative practices and to promote learning and capacity building between International Waters projects. Also discussed at the symposium were GEF policies and implementation procedures.

Addressing delegates at the symposium, Dr Iyambo emphasised that there is an obvious mismatch between population growth and water availability, especially in developing countries. While Africa

boasts some of the world's most important river systems, immense wetlands and widespread ground-water systems, many people are still desperately in need of sources of safe water.

He said that cooperative management of scarce water resources has the potential to prevent disputes and conflicts over water resources and make it easier for African countries to attract investment, control pollution and manage ecosystems.

In his address, Dr Iyambo referred to the launch of the Benguela Current Commission as a landmark achievement in ocean governance, saying that the institution offered a new framework for cooperative management of shared fish stocks and the protection of the Benguela Current Large Marine Ecosystem.

Other keynote speakers at the

Conference included Marthinus van Schalkwyk, Minister of Environmental Affairs and Tourism in South Africa and Fritz Holzwarth, deputy director general in the German Federal Ministry of the Environment, Nature Conservation and Nuclear Safety.

## Nhongo announces US\$5 million grant

Simon Nhongo, Resident Representative of the United Nations Development Programme (UNDP) in Namibia, addressed delegates at a side event of the International Waters Symposium. The informal event was hosted by the BCLME programme. In his speech, Nhongo announced that the Global Environment Facility (GEF) had approved a grant of US\$5 million (R35M) to develop and strengthen the Benguela Current Commission.



## Exhibition wins the people's approval!

The 10-panel BCLME display which was exhibited at the International Waters Symposium received "the people's choice" award for best exhibit.

The award was presented to Dr Mick O'Toole, chief technical advisor of the BCLME Programme, at the close of the three-day symposium.

The BCLME display was produced by Tony van Dalsen, head of the reprographics section at Marine and Coastal Management, with assistance from media consultant Claire Attwood and photographers, Claudio Velasquez Rojas and Geoff Spiby. It uses spectacular images of the Benguela region to convey the biological and socio-economic value of the resources of the Benguela Current Large Marine Ecosystem.





# Countries of east Africa unite to manage marine resources

**R**epresentatives of nine countries participating in the Agulhas Somali Current Large Marine Ecosystems (ASCLME) project met in Durban in January for the first steering committee meeting and inception workshop of the project.



Delegates from Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania met to discuss the implementation of the project. They were joined by representatives of the United Nations Development Programme (UNDP) which is responsible for implementing the project through its country office in Mauritius, and the United Nations Office for Project Services (UNOPS), which is providing administrative and logistical support.

The first day's proceedings focused on issues related to policy, protocol and management of the project, as well as internal project issues such as budget, delivery, monitoring and evaluation. The second day, attended by national, regional and international observers, expanded the discussion to include technical and scientific matters.

According to Dr David Vousden, director of the ASCLME project, the meetings provided a platform for

the nine countries to re-state their intention to cooperate and work together to ensure the long-term sustainability of the living resources of the ASCLME region, and thereby positively influence the societies and economies of the region.

The ASCLME project centres on the two large marine ecosystems (LMEs) of the western Indian Ocean region: the Somali Current LME which extends from the Comoros Islands and the northern tip of Madagascar to the horn of Africa, and the Agulhas Current LME which stretches from the northern end of the Mozambique Channel to Cape Agulhas. An estimated 56 million people depend on the resources of the two LMEs.

Over the next five years, the ASCLME project will gather new and important information about the complex ocean currents of the region and the ways they interact with and influence the climate, biodiversity and economies of the

Western Indian Ocean region. Environmental threats, such as marine pollution and declining fisheries will be documented in a Transboundary Diagnostic Analysis (TDA) for each of the LMEs and a Strategic Action Programme will be developed to help the countries of the region to tackle these environmental threats.

"The Agulhas and Somali currents have a major influence on the societies and economies of the Western Indian Ocean region," says Dr Vousden, "yet there are large gaps in our understanding of their oceanographic processes, biodiversity and other fundamentals."

A series of well-coordinated oceanographic research cruises will begin in August. These will gather information about the oceanography and living marine resources of the two LMEs.



Scientists and managers from the nine countries of the western Indian Ocean region met in Durban for the inception workshop of the ASCLME project. They are (front row) Harrison Ong'anda (Kenya); Angus Patterson (South Africa); Satyajeet Ramchurn (UNDP Mauritius); Hajanirina Razafindrainibe (Madagascar); Ronny Renaud (Seychelles); Middle row: David Vousden, project director; Ashley Naidoo (South Africa); Elena Gari (UNDP Mauritius); Mitrasen Bhikajee (Mauritius); Akiko Yamamoto (UNDP/GEF); Farid Anasse (Comoros); Claudio Caldarone (UNDP, Mauritius) Back row: Policarpo Napica (Mozambique); David La Roche (GEF); Johann Augustyn (South Africa); Peter Scheren (UNEP); Mahir Aliyev (UNOPS); Paul Skelton (South Africa) and James Stapley (ASCLME project).



# Oceans and coasts under spotlight in Vietnam



Monique Barbut, chief executive of the Global Environment Facility.



Dr Ken Sherman of the National Oceanic and Atmospheric Administration in the United States and an ardent proponent of the Large Marine Ecosystem approach to ocean management.



Rejoice Mabhudafasi, deputy minister of Environmental Affairs and Tourism in South Africa.



The BCLME Programme was highly profiled at the 4th Global Conference on Oceans, Coasts, and Islands which was held in April 2008 in Hanoi, Vietnam.

by Gabrielle Sulcas

Hosted by the Government of Vietnam's Ministry of Agriculture and Rural Development, the conference brought together 420 ocean and coastal leaders from 71 countries. Delegates included representatives from governments, intergovernmental and international organisations, donors and scientific institutions.

It aimed to provide a review of progress achieved in advancing ecosystem management and integrated coastal and ocean management at national and regional levels, as well as in areas beyond national jurisdiction. It also highlighted developments around two of the goals adopted at the 2002 World Summit on Sustainable Development – reducing marine biodiversity loss and establishing networks of marine protected areas.

The conference was structured

around three major themes – Achieving Ecosystem Management and Integrated Coastal and Ocean Management; Climate and Oceans: Addressing Impacts in Vulnerable Ecosystems and in Vulnerable Coastal Communities; and Governance of Marine Ecosystems and Uses in Areas Beyond the Limits of National Jurisdiction.

In addition to these themes, conference delegates also dealt with overarching, cross-cutting, and emerging issues through discussions and presentations. These issues were capacity development, indications for progress, compliance and enforcement, and public education and outreach.

Chief Technical Advisor to the BCLME programme, Dr Mick O'Toole, attended the conference, contributing as a leader of the discussion session "Experiences

in the Practical Implementation of Country-Driven GEF LME Programmes". Other LME programmes represented in this session were the Guinea Current LME project, the Yellow Sea LME project, the Baltic Sea LME Programme, and the Gulf of Mexico and Caribbean Sea LME projects. Dr O'Toole received a standing ovation for his work with the BCLME Programme and progress made towards the establishment of a Benguela Current Commission.

The results of the conference have been widely disseminated to stakeholders around the world. These include various organs of the United Nations and governments, civil society, industry and scientific groups. Specific recommendations emanating from the Conference will be considered by leaders at the World Ocean Conference, set to be held in May 2009 in Manado, North Sulawesi, Indonesia.





# "Current of Plenty" nears completion

**B**enguela: *Current of Plenty*, an account of the work carried out by the BENEFIT and BCLME programmes over the past fifteen years, is set to be published by mid-year. The 144 page, full colour book traces the history of marine science in the Benguela Current region and reflects on the work undertaken by Angola, Namibia and South Africa leading to the establishment of the Benguela Current Commission.

Edited by Gotthilf Hempel, Mick O'Toole and Neville Sweijid, *Benguela: Current of Plenty* includes detailed descriptions of the BENEFIT and BCLME programmes by their respective directors. Dr Abraham Iyambo, Minister of Fisheries and Marine Resources in Namibia, contributes the preface. Statements from other stakeholders, including the chief executives of the ministries in the three countries, representatives of donor agencies, researchers, students and administrators, offer personal perspectives on the two programmes.

The book provides an overview of the exploration of the Benguela ecosystem over the past century. It describes the history of marine and fisheries research in the three countries and deals with the integration of Benguela studies into global marine programmes.

Emphasis is placed on the develop-

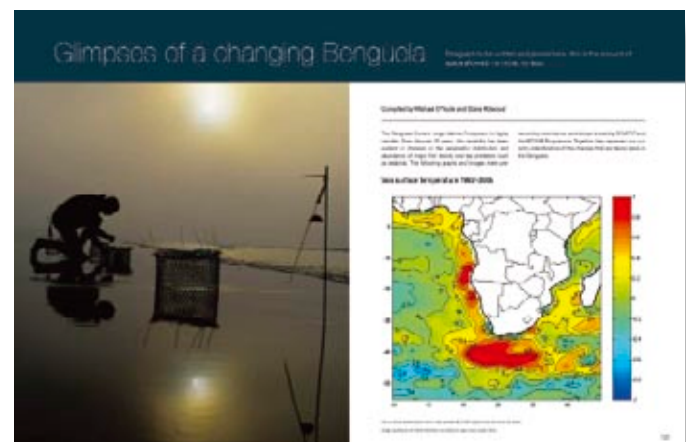
ment of international cooperation in fisheries research and its application to resource management. *Benguela: Current of Plenty* pays tribute to the Global Environment Facility (GEF), donor countries and the European scientists and technicians who participated in the training of their colleagues from the Benguela region.

While the BENEFIT and BCLME programmes are the main focus of *Benguela: Current of Plenty* the story extends beyond scientific progress and the development of organisational infrastructure and administrative capacity. *Benguela: Current of Plenty* is a testament to the goodwill and spirit of cooperation that facilitated productive work across national boundaries.

The lasting sentiment of the book is the hope for sustainable management and conservation of the BCLME under the Benguela

Current Commission, for strong Pan-African cooperation, and for the integration of the BCLME into a strong global network of LME projects.

An initial run of 500 books has been planned. *Benguela: Current of Plenty* will be widely circulated, both in the region and internationally.





# Products of the BCLME Programme



Over the past six years, the BCLME Programme has funded and supported a wide range of activities, including workshops, research projects, exhibitions and even the production of a documentary film. The list below details the products of the BCLME Programme.

## Books

Shannon V, Hempel G, Malanotte-Rizoli P, Moloney C, Woods J (eds) (2006) *Benguela: Predicting a Large Marine Ecosystem*. Elsevier Large Marine Ecosystem Series 14. Oxford UK

## Compact Discs

Attwood CS (compiler) (2005) Highlights Symposium 9-10 May 2005. A compilation of PowerPoint presentations

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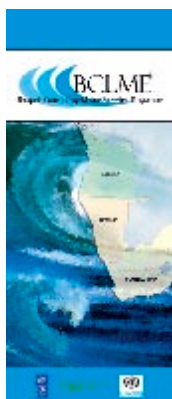
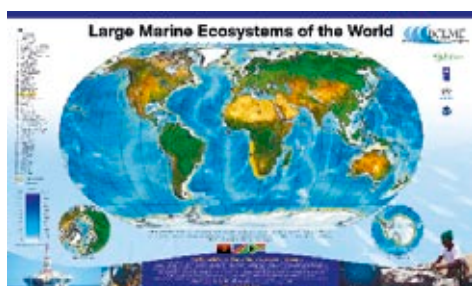
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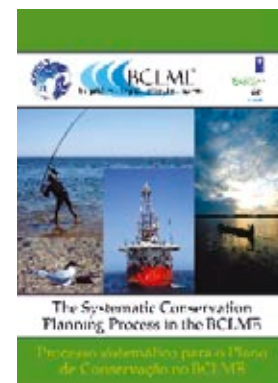
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# Products of the BCLME Programme

21.../continued



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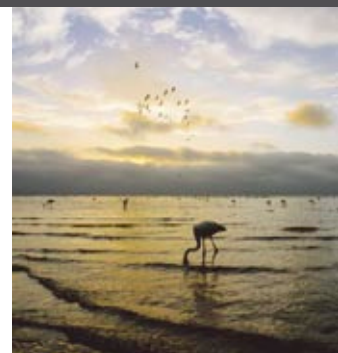
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27.../continued



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# Public Relations

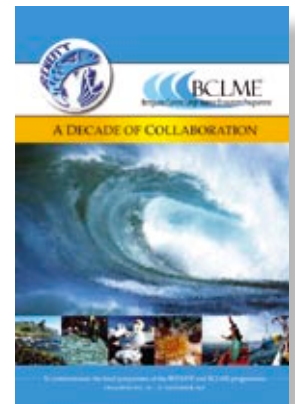
## Commemorative brochure launched

A 48 page brochure entitled "A decade of collaboration" was published to commemorate the final symposium of the BENEFIT and BCLME programmes.

Consisting largely of personal testimonies from 24 scientists, managers and administrators who worked

closely with the BENEFIT or the BCLME programmes, the brochure provides a moving historical account of how three previously conflict-ridden countries overcame their differences when working together towards a common goal – the responsible management of shared marine resources.

Also included in the brochure are a number of images presented by scientists at workshops hosted by BENEFIT and the BCLME Programme, and lists of cruises, reports and training and capacity building initiatives supported by the two programmes.



## Benguela to feature in climate change documentary

The Benguela region, which is thought by some scientists to be displaying the early effects of global climate change, is to be included in a wide ranging documentary that highlights the impact that climate change is having on ordinary people around the globe.

The documentary, provisionally entitled "Heat", will be broadcast in the United States in October. It is being produced by the award winning television journalist, Martin Smith, for America's premier public affairs programme, Frontline.

Martin Smith and camera man, Tim Grucza, visited the Benguela region to investigate the impact that climate change may be having in the region. Their visit was facilitated by Claire Attwood, media consultant to the BCLME Programme.

The filmmakers interviewed a number of marine scientists, including Larry Hutchings, Mick O'Toole, Neville Sweijd and Pedro Monteiro, questioning them about

the changes that have occurred in the Benguela region over the past 50 years.

One of the strongest trends to be documented by scientists is a warming at the northern and southern boundaries of the Benguela and an increased frequency of "warm events" off southern Angola and northern Namibia.

The filmmakers talked to fishermen and factory owners in Namibia and South Africa about their perceptions of how the Benguela may be changing. For example, in Walvis Bay, the managing director of United Fishing Enterprises, Willem Pronk, described how the failure of the pilchard resource in Namibia had devastated large pilchard canneries, and Tim Reddell, operations director of Viking Fishing explained the shift in pilchards stocks that has taken place in South Africa since 2000.

Scientists are generally reluctant to link the warming of the Benguela to the decline of pilchard stocks in

Namibia, but fishermen who have waited patiently for the fishery to respond to nearly two decades of conservative management, say that environmental change is a plausible explanation for their current problems.

Interestingly, the filmmakers' visit to Namibia coincided with the open fishing season for pilchards. This meant that they were able to film the first pilchards to be canned in Walvis Bay in two years. But, there was plenty of evidence that the failure of the Namibian pilchard resource has had a devastating impact on business and labour in Walvis Bay; they filmed a large fishmeal plant that was being dismantled piece by piece and sold for scrap metal and also filmed the cannery at United Fishing which has not processed a single pilchard since 2003.

"Heat" will be broadcast in the US in October. The documentary will also be available online at [www.pbs.org/frontline](http://www.pbs.org/frontline).



*The purse seiner, Coronella, lands at Walvis Bay harbour. The documentary "Heat" will highlight the impact that a failed pilchard resource is having on the economy of the fishing town.*



*Television journalist, Martin Smith, interviews Larry Hutchings at Kalk Bay harbour, near Cape Town.*



*The filmmakers filmed the mothballed United Fishing cannery - which has not processed any pilchards for five years - and the fishmeal plant at Tunacorn which was being dismantled for scrap metal at the time of their visit.*



A vibrant collage featuring a group of people, including two men in life preservers hanging from a red umbrella, a woman in a boat, and a large group of people at the bottom. The background is a bright blue sky with yellow birds and a green sign that reads "BCLME".



# er with the BCLME Programme!





# The BCLME Programme



**T**he Benguela Current Large Marine Ecosystem (BCLME) stretches up the west coast of South Africa and Namibia to Cabinda, the northern-most province of Angola. It is one of the richest ecosystems on earth.

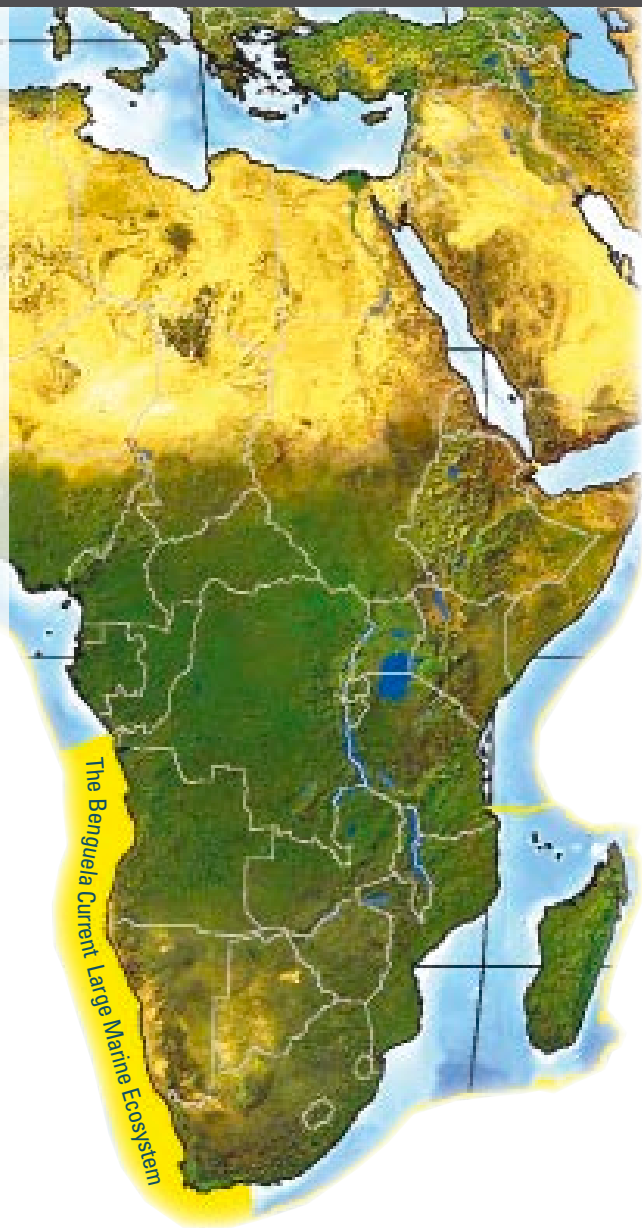
The BCLME Programme, a joint initiative between the governments of Angola, Namibia and South Africa to manage and utilise the resources of the Benguela region in a sustainable and integrated way, was wound up in April 2008.

Between 2002 and 2008, the BCLME Programme was extremely successful in capturing vital knowledge and information necessary for the development of an ecosystem-based and cooperative approach to the management of the BCLME. It has effectively laid the groundwork for the Benguela Current Commission (BCC), a formal institutional structure that was established by the three countries in 2006.

The BCC will help Angola, Namibia and South Africa to implement an "ecosystem approach" to managing the BCLME. This means that, instead of managing living and non-living marine resources at the national level, the three countries will work together to tackle transboundary environmental issues such as pollution, the management of shared fish stocks and the coordination of regional efforts to mitigate the impacts of marine mining and oil and gas production on the environment.

The Global Environment Facility (GEF) is supporting the institutional and legal structures of the Commission with a grant of US\$5.2 million and the government of Norway has pledged over US\$8 million to support the scientific activities of the BCC between 2008 and 2001. The government of Iceland has contributed US\$500 000 for training and capacity building.

The BCC will ultimately make recommendations to the three countries on research and management issues relating to the sustainable utilisation, conservation and protection of the BCLME. It will be informed by an Ecosystem Advisory Committee which will supply the countries with the best available information concerning the implementation of the ecosystem approach to management.



[www.bclme.org](http://www.bclme.org)

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**Photography:** Claire Attwood, Claudio Velasquez Rojas, Larry Hutchings, Mick O'Toole.