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KwaZulu-Natal Coastal Working Group (CWG)  
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## SACOAST: Pioneering the use of the Internet in Coastal Management

By Yazeed Petersen  
*University of the Western Cape*

Information Systems (GIS) technology to  
the site.



coastcare

The White Paper for Sustainable Coastal Development recognises the need for raising awareness of wise management of South Africa's coastal resources.

To this end, and in support of the implementation of the White Paper, the Coastal Management Office (CMO) of the Department of Environmental Affairs and Tourism has initiated the development of the South African Coastal Information Centre through its CoastCARE campaign. This website, known colloquially as 'SACOAST', is being developed by the International Ocean Institute, Southern Africa (IOI-SA) at the University of the Western Cape. The IOI-SA was responsible for creating the CMO's award-winning homepage at <http://www.environment.gov.za/sacoast/>.

As an Internet project, SACOAST fosters a participatory approach in which coastal management and education stakeholders provide appropriate content for hosting and dissemination through the website. Presently, users can access popular educational material on marine and coastal issues, listen to audio material on coastal management, view digitally generated video clips of land- and seascapes, create and print their own coastal maps or register and maintain a web page on their coastal management project. Ultimately, SACOAST seeks to stimulate public and organisational interest in coastal management.

"This is the first website of its kind in South Africa and one of only a small number worldwide", maintains Project Director of SACOAST and head of IOI-SA, Prof Derek Keats. The site's uniqueness... Page 2

SACOAST aims to:

- Provide a clearinghouse of educational resources on marine and coastal issues;
- Develop an on-line database of coastal management projects; and
- Develop interactive coastal maps by integrating advanced Geographical

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... and success rests on it bringing traditionally sophisticated tools and specialised resources into the realm of public use in a user-friendly, interactive and informative manner. It is therefore both a professional tool for coastal management stakeholders and an educational medium for the public at large. This uniqueness in approach recently led to it being featured as "site of the week" on the front page of *GIS.com*, the most comprehensive resource for GIS users around the world.

Benefits derived from using the SACOAST website will be felt widely considering the cross-sectoral nature of coastal management. Its further

development will become an important symbol of CoastCARE's efforts to utilise environmental communication media to promote sustainable coastal development. Why not participate in this project by directing your mouse to <http://sacoast.uwc.ac.za>. Users will also be able to comment on the site via on-line feedback forms.

For further information on how to contribute resources to the clearinghouse contact: Jocelyn Collins, Project Coordinator: Tel (021) 959 3782, Fax (021) 959 1213, Email [jcollins@uwc.ac.za](mailto:jcollins@uwc.ac.za).

## Community Coastal Monitoring Programme

By Jenny Burkinshaw

*Illenberger and Associates*



The Coastal Management Office of the Department of Environmental Affairs &

Tourism (DEAT) appointed Illenberger & Associates, namely the team of Werner Illenberger, Jenny Burkinshaw (Gon) and Lesley McGwynne, to implement the initial pilot phase of the Community Coastal Monitoring (CCM) programme between October 2000 and March 2001.

The prototype for the CCM project is the old CLEO (Continuous Low-level Environmental Observations) programme that was run by the CSIR in the late 1980's and early 1990's, when volunteer observers monitored physical aspects of beaches and estuaries on a weekly basis along the South African coast.

The CLEO project aimed to provide useful background data on long-term and short-term fluctuations in the coastal zone to planners, developers and researchers. This time round the brief was to broaden the scope of monitoring and to focus on the educational experience of monitoring, i.e. to make the new CCM programme more educationally valid than CLEO was. The Community Coastal Monitoring programme is one of several initiatives currently being implemented by DEAT's Coastal Management Office in line with its commitment to achieve the objectives of the recently released White Paper for Sustainable Coastal Development in South Africa.

Illenberger & Associates developed appropriate biophysical and socio-economic indicators and/or observations for the beach, dune, estuary and rocky shore environments, and produced a kit

containing equipment and a comprehensive field guide or manual. The monitoring programme requires regular routine measurements and observations to be made either monthly or seasonally, depending on the nature of the parameters. Sites and participants in the Western Cape, Eastern Cape and KwaZulu-Natal were identified. The project targeted mainly environmental clubs from secondary schools, but participants also include NGO interest groups, interested individuals, lifesavers and primary school groups. Each participating group (about 25 in all) received a complete field kit. The coordinators introduced the programme to each participating group in a series of field exercises during the first quarter of the year. The coordinators also distributed copies of the manual as widely as possible to educators involved in coastal environmental education, and also to environmental educators... Page 3



... in general.

It is anticipated that the second pilot phase will commence in September/ October 2001 and will run for 18 months. Local meetings and a national workshop will be held at the start of the second pilot phase to enable the coordinators to assess progress made during the

first phase and discuss the visions, goals and objectives for the second phase.

For more detailed information on the progress of the project to date you can access the following web address for newsletter no. 2, produced by Illenberger &

Associates, at the end of the initial pilot phase:

[http://www.webvision.co.za/illenberger/coastaware/march\\_2001/index.html](http://www.webvision.co.za/illenberger/coastaware/march_2001/index.html)

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## SHOAL OF FISH SCIENTISTS VISIT DURBAN

By Dr Lynnath Beckley  
*ORI*



The 6<sup>th</sup> Indo-Pacific Fish Conference (IPFC) was held in Durban from 20-25th May 2001 and attracted some 250 delegates from 34 countries, many of whom were visiting


Africa for the first time. The conference was hosted by the Oceanographic Research Institute (ORI), in collaboration with scientists from the Natal Sharks Board, JLB Smith Institute of Ichthyology and the South African Museum.

Indo-Pacific Fish Conferences cater for scientists studying the fishes of the vast-connected tropical Indian and Pacific Oceans. They are held every four years and previous conferences have been held in Sydney, Tokyo, Wellington, Bangkok and Noumea.

The conference was officially opened on the Sunday evening by Dr Ben Ngubane, national Minister of Arts, Culture, Science and Technology and the next morning the delegates got down to serious fishy business. The first plenary session was preceded by the introduction of a special guest to the assembled delegates. This was none other than the sprightly, 94 year-old, Dr Marjorie Courtenay-Latimer from East London who saved the first coelacanth for

science way back in 1938.

Dr Jack Randall from Hawaii, and doyen of Indo-Pacific fish scientists, was the invited plenary speaker and he set the scene by presenting a pictorial view of coastal fishes in the Western Indian Ocean, highlighting the diversity and endemism of fishes in the region. Dr Lynnath Beckley then presented a synopsis of marine ichthyology in South Africa, discussing the oceanography of the sub-continent, the accumulation of knowledge about South African fishes and the biogeography of coastal fishes. Dr Kent Carpenter completed the plenary session by elucidating the recent advances in the study of phylogenetic patterns in sparid fishes (sea breams) based on both morphological and molecular evidence. This paper was particularly relevant to South Africa as we boast the highest diversity of seabreams in the world (74... eg. slinger, musselcracker, perch, karanteen etc.).

The 162 oral papers on offer at the conference were split into various symposia and presented in three parallel sessions over four days. In addition, on Tuesday evening, a well-attended poster session (no doubt bolstered by the liberal dispensing of products from the Coelacanth Brewery!) did justice to a further 51 poster presentations by...  Page 4



... conference delegates. The various symposia covered aspects of the taxonomy, ecology, biology, genetics and conservation of coastal and reef fishes, deep-sea fishes, pelagic fishes, estuarine fishes, fish larvae and sharks. South African scientists and students were well to the fore with no fewer than 35 oral presentations and 10 posters.

Overall, the conference was a huge success with excellent scientific presentations and plenty of opportunity for fruitful discussions amongst the

## SHARK SENSE

*Extract from Time Magazine, 30 July 2001*

Sharks have been swimming the earth's oceans for hundreds of millions of years, and today they comprise at least 370 species ranging in size from 15cm to 12m. Efficient predators, their bodies are filled from nose to tail with keen sensing equipment to detect even tiny changes in their surroundings.

### SENSING

A network of pores connected to long canals spread across the head enables a shark to detect weak electrical fields that small fish and other sea creatures create as they breathe.

### SMELLING

A shark has a fairly acute sense of smell; it can detect concentrations of blood as low as 1 part per million.

### SEEING

Like a cat, a shark has a special reflective layer behind the retina that helps it see in dim light. A shark must move its head from side to side to see objects directly in front.

### HEARING

Tiny holes on top of the head lead to very sensitive ears. Three semicircular canals in the inner ear help maintain balance. A shark might be able to pick up the sound of a struggling fish about 550m away.

### SKIN

A shark's skin is covered with a protective layer of microscopic, tooth-like scales called denticles. Like the

delegates. In addition, a mid-conference break allowed delegates to recharge their batteries and see something of KwaZulu-Natal. The bid to host the 7<sup>th</sup> Indo-Pacific Fish Conference in 2005 was won by Taiwan.

The proceedings of the IPFC will be published in the international journal *Marine and Freshwater Research* and should be available early next year. Anyone interested in obtaining an electronic copy of the abstracts can contact Dr Lynnath Beckley at [seaworld@dbn.lia.net](mailto:seaworld@dbn.lia.net).

teeth, they are pointed, covered in enamel and contain a nerve. They also are shed and grow again.

## A BEEG BITE!!

A shark's jaws, which are made of cartilage rather than bone, contain multiple rows of razor-sharp teeth. Each time a tooth is lost, another moves forward to replace it.

1. The jaws are normally positioned under the braincase.
2. As the animal homes in on its prey, it lifts its snout, enabling the upper jaw to slide forward and the lower one to drop.
3. Once the jaws are fully open, muscle contractions shift it away from the braincase and out of the mouth, giving the shark a better grip. A great white's bite is so powerful that it can exert pressure of 140kg/sq cm.

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