



KwaZulu-Natal's Coastal Management Newsletter

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Managing our KZN coast

The KZN Department of Agriculture & Environmental Affairs (DAEA) is entering a new year of coastal management, and there are a number of things on the go in the province.

It is with great excitement that the DAEA can advise that the much-needed Provincial Coastal Committee (PCC) has been formulated. A first meeting is anticipated to take place in the 2nd quarter of 2014. The PCC will confront a number of challenges pertaining to coastal management in the province, including the development of a vision and objectives for the KZN Coastal Management Programme.



Durban's Golden Mile

With this in mind, the DAEA and the Oceanographic Research Institute (ORI) have developed a unique resource for coastal managers along the KZN coast - a book that profiles the coast, its resources, their value and how this unique ecosystem is managed. The book is called *Ugu Lwethu – Our Coast, A profile of coastal KwaZulu-Natal*, and will be freely available as an electronic document, with limited printed copies available at this stage.

The Southern African Marine Linefish Species Profiles

Linefish are considered an important resource for South Africa. Scientific information is required in order to better inform management of this resource. As a result, scientific information has been collected on key southern African marine linefish species and compiled into a single 'book' for ease of reference.

Past editions of the so called "Visboekie" have informed fisheries management and linefish research in the country. The fourth edition has recently been completed and provides up-to-date information on the biology, ecology, status and vulnerability of important linefish species found around the southern African coastline. This version profiles 139 species from 38 families caught in southern African

waters, including teleosts (bony fish) and elasmobranchs (sharks and rays).

These summaries help fishers, managers and scientists to develop effective management plans, thus ensuring the future conservation and sustainable use of each species. The profiles are often used when evaluating the vulnerability of South African linefish species for the IUCN Red List; and for determining the sustainability of a species for the Southern African Sustainable Seafood Initiative (SASSI).

The latest (4th) edition of the Southern African Marine Linefish Profiles is available electronically free of charge at:
www.ori.org.za/publications

-Bruce Mann (ORI)

A place you should visit...

Maphelane ~ A meeting place of great rivers

Located in the southern section of the iSimangaliso Wetland Park and just south of the village of St Lucia, lies a great forest-clad dune that gives shelter to the small resort of Maphelane. Not only is this the place of remarkably rich coastal forests, but it is located on the southern banks of a suite of rivers entering the sea. Prominent is the Mfolosi River, which drains a large section of the Zululand hinterland, while just before entering the sea, it is joined by the Msundusi River, which drains a rich nearby wetland system. These rivers share their common connection to the sea with the St Lucia Estuary, which in its own right drains not only the great Lake of St Lucia, but also the four rivers that drain higher up into the lake.

The dune at Maphelane is one of a number of similar sand dunes in iSimangaliso and rank as some of the highest in the world. These dunes are covered by rich climax forests, comprising coastal milkwood trees and another 150 species of vegetation. A mixed blessing is the fact that these dunes also represent rich deposits of valuable heavy metals. To the south, these dunes are extensively mined, generating substantial revenue and job creation. However, the mining process destroys much of the rich biodiversity of the systems and hence it is appropriate that from Maphelane northwards dune mining has been prohibited – a fact underwritten by former President Mandela.



To the south of Maphelane are the Sokhulu, a coastal community that has depended on harvesting coastal resources for many years. However, when their demands became incompatible with coastal management, a unique scientific programme was developed, whereby this community contributed to research whilst harvesting resources sustainably.

Driving from KwaMbonambi to Maphelane takes one along the edge of one of South Africa's finest wetland and freshwater mangrove systems. With an abundance of Barringtonia trees on one side and climax dune forest on the other, this road is a must for nature lovers.

The small resort of Maphelane offers moderate accommodation and camping facilities.

-Rudy van der Elst (ORI)

SA's coral reefs – beautiful, tranquil and highly valuable

Coral reefs are considered to be the second most biodiverse ecosystem on Earth. They are home to 25% of the world's marine life, supporting over 4000 species of fish, yet they only cover about 0.25% of the ocean floor. Coral reefs are also important to coastal livelihoods through the tourism, recreation and subsistence opportunities they provide. They also offer other less obvious services, such as coastal protection, creating habitats and nurseries for fish and sand generation and retention.

South Africa's coral reefs, found in the iSimangaliso Wetland Park - a World Heritage Site, are considered to be unique given how far south they occur. The Sodwana Bay coral reefs are highly utilised by SCUBA divers with over 60 000 dives happening per year, and by boat-based fishermen with launches happening on 320 days of the year. The tourism aspects associated with these coral reefs provide some 200 casual and 400 permanent jobs.

Each year divers spend about R40 million at Sodwana Bay, while fisherman that rely on the coral reefs contribute an additional R 11 million per year. It is estimated that sand generation and entrapment by the coral reefs is worth about R60 million per year in terms of ecosystem goods and services, resulting in the reefs total annual value being between R 100 and R 125 million per year.

It is important to remember that jobs related to coral reefs are only there if the reefs continue to attract tourists. For this, they need to be well managed and sustainably used.

Lovely view of the reefs at Sodwana Bay



~Stuart
Laing
(ORI)

An elephant seal visits the KZN coast

In June 2013, a young southern elephant seal (*Mirounga leonina*) washed up at Southbroom, exhausted and starving. It was clear that he needed help and was taken to the uShaka Sea World rehabilitation centre where he was named Selso (Southern ELEphant seal – SOuthbroom). Southern elephant seals normally inhabit the Sub-antarctic, with the closest island haulout site being Marion Island 2,200 km south of South Africa and therefore it was unusual for the young seal to strand on the KZN coast.

When Selso arrived, he weighed 73 kg, less than half of what he should have weighed. He was given time to rest and adjust to his new surroundings before treatment started. Within days he was feeding and ongoing observations were undertaken in order to ensure he was receiving the best possible care.

Soon, Selso was gaining about 400g a day, consuming 12 kg of fish. Within two months he had gained 30 kgs (Southern elephant seals are the largest of all the seals with adult males tipping the scales at 1 500 to 3 000 kg). It was planned that when Selso reached 180 kg he would be released.

To get him ready for release, the team changed his feeding regime from hand feeding to throwing fish into the water for him to collect. When the time came for release, having gained 107 kg, Selso was fitted with a satellite tag, which transmits his position whenever he surfaces (the tag will fall off during the next annual moult).

On 9 January 2014, Selso started his journey for release from the cruise ship, the MSC Sinfonia. He was released 25 nautical miles due south of Port Elizabeth. Since then the satellite tag has been transmitting daily information on Selso's position.



Did **U** know?

"You are what you eat" – Nudibranchs

Nudibranchs are soft-bodied molluscs and form part of the sea slug family. Have you ever wondered why some nudibranchs are so colourful? Or how they are able to defend themselves? The answer lies in their diet. They have two tentacles (called rhinophores) on top of their heads that are sensitive to touch, taste and smell. This is how they are able to identify their prey.

Nudibranchs are omnivorous and graze on algae, sponges, anemones, corals, barnacles and even other nudibranchs. They are not born with stingers (nematocysts) but steal them by eating creatures that have stinging cells and storing them in the tissue on their back, which they are able to use in defence against predators.

Nudibranchs are a great addition to the underwater canvas with their fascinating patterns, shapes and colours. Their colours are derived from the food they eat by means of accumulating pigments contained in their food. Some nudibranchs have a symbiotic relationship with algae, enabling them to be 'solar-powered' through storing algae in their outer tissues and living off the sugars produced by the algae's photosynthesis.

~Marinel Janse van Rensburg (ORI)



Photos: National Geographic

Ulwandle, meaning "sea" in Zulu, is jointly produced by the KZN Department of Agriculture and Environmental Affairs (DAEA) and the Oceanographic Research Institute (ORI)



Contact Us

If you wish to be added to our mailing list or have any comments about *Ulwandle* - please contact

Mr Omar Parak

DAEA, Private Bag X9059, Pietermaritzburg, 3200, SOUTH AFRICA

Tel: + 27 33 355 9438 | Email: omar.parak@kzndae.gov.za