Swakopmund, Namibia’s most popular coastal holiday resort, boasts an aquarium giving visitors a view of the Benguela ocean ecosystem through a transparent tunnel. Opened by President Sam Nujoma, on February 24, 1995, the National Marine Aquarium has become a popular attraction for Namibians and visitors from abroad.

The aquarium forms part of the National Marine Information and Research Centre, financed and operated by the Ministry of Fisheries and Marine Resources. Although planned as a research facility, the design evolved to include a marine information and education centre for Namibians. The aquarium depicts the marine life of the Benguela upwelling system along the Namibian coast, excluding deepsea species due to the difficulty of collecting such samples.

The aquarium functions as an open system with a daily water renewal of 25%. Raw seawater is pumped from the sea at a rate of 6 cubic metres per hour. The average sea temperature can vary between 12°C in winter and 22°C in summer. Since the raw water runs through the soil for a substantial distance and heats up before reaching the aquarium, the water temperature in the aquarium ranges between 16 and 25°C.

Extended periods of high sea temperatures of up to 22°C in the summer of 1995/96 caused the temperature of the aquarium to rise to 25.5°C. These warm conditions over several weeks resulted in the death of fish and crustaceans. Species most affected were westcoast steenbras (Lithognatus aureti) deepsea red crab (Chaceon maritae) and westcoast rock lobster (Jasus lalandii). Seaweed was also affected and kelp in the main tank had to be replaced every third or fourth day.

Ferric chloride is added to the raw seawater as a coagulant and the coagulates are filtered out. During unfavourable sea conditions such as sulphur eruptions and red tides, the aquarium can be converted to a closed system for a period of up to eight days. Problems occur when these conditions coincide with high sea temperatures.

The main tank is equipped with acrylic viewing panels, supplied and installed by an American company. The oval tank has a water capacity of 320 000 litres and is dissected by an 8 m acrylic viewing tunnel, which spans its width. Three acrylic bubbles, which provide a fish-eye view into the tank, are popular with children.

The aquarium also boasts 17 smaller exhibition tanks, a
circular pelagic tank, three touch pools, a foyer tank and two
dry displays. One dry display depicts a scene from one of
the Namibian offshore islands. The other is a scaled down
topographic model of the Namibian shelf. The display indi-
cates important marine species as they occur at various
depths.

Newly acquired specimens are held in two "porta" hold-
ing pools. More delicate species are kept in isolation in
small tanks to adapt to their captive environment. There is
also a quarantine or treatment area with ultra-violet treated
water.

Anemones, rock lobster, echinoderms, sea hare and inver-
tebrate organisms are shown in the 17 small tanks, while
colourful seaweed enhances the displays. Intertidal organ-
isms like starfish, sea cucumber, anemone and octopus are
exhibited in the touch pools. Deepsea red crab, which
inhabit the continental slope at depths of between 350 and
960 metres, are displayed in the foyer tank. This tank is a
freestanding refrigerated unit with a constant water tempera-
ture of 14°C.

New species are collected regularly. Research staff of the
Ministry assists in the collection of specimens and food

![Image: oval tank allows visitors a view through a transparent tunnel.]

**Marine life**

The largest shark in the aquarium is a ragged tooth shark,
*Eugomphodus taurus*, displayed with other sharks, rays and
angling fish, in the main tank. The ragged tooth shark has
adapted well to its confined environment. Although it hunts
actively, it has remained diver-friendly thus far!

Fish in the main tank are fed daily. Divers hand-feed fish
and sharks three times a week and the feeding times have
become popular events with visitors to the aquarium. Cape
hake (*merluccius capensis*) constitutes the major share of the
feed, while squid, mussels and seaweed enhance the diet.

Kelp (*Laminaria schinzii*) is also displayed in the main
tank. Because the aquarium has a roof the kelp does not get
natural sunlight and has to be replaced on a regular basis.
Ultra-violet lights will be installed above the main tank in the
near future. This may improve growth conditions for seaweed.

There are no displays of pelagic species such as
*Sardinops ocellatus* and *Engraulis capensis* in the main tank
as the collection, transport and survival of these are prob-
lematic. Displayed with the juvenile hound shark, is the
southern mullet *Liza richardsonii*.

while at sea on research cruises on the research vessel
*Welwitschia*. Sport anglers, skiboat fishermen and the pub-
lc at large also contribute specimens.

Since the official opening, the aquarium has had more
than 97 000 visitors. Taking into account Namibia’s popula-
tion of 1.6 million, of which only about 80 000 live at the
coast, this is a high number. Many visitors from the United
States of America, the United Kingdom, Australia and
South Africa also visit the aquarium. It has already become
one of Swakopmund’s main tourist attractions.

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