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Further reading

The Living Shores of Southern Africa. 1981. G. and M. Branch. Struik: Cape Town .

Explore the Seashore of South Africa. 1998. M. Branch. Cambridge University Press.

Hands-On: East Coast Rocky Shores (a field guide). 1991. T. Stewart. Share-Net: Howick.

Enviro Facts: Sandy Shores; Coastal Conservation; Harvesting the Sea.

Useful addresses

NPC Sea World Education Centre at uShaka Marine World. 1 King Shaka Avenue, Point, Durban, 4001. Tel (031) 328 8222; E-mail info@seaworld.org.za; Website www.seaworld.org.za

Treasure Beach EE Centre. PO Box 16126, Brighton Beach, 4036. Tel (031) 467 8507; E-mail tbeachedu@wessakzn.org.za; Website www.wessa.org.za

Share-Net. PO Box 394, Howick, 3290. Tel (033) 330 3931 ext 124; E-mail sharenet@wessa.co.za

Bayworld - Port Elizabeth Museum Complex. PO Box 13147, Humewood, 6013. Tel (041) 584 0650; Fax (041) 584 0661; E-mail pr@bayworld.co.za; Website www.bayworld.co.za

Iziko Museums of Cape Town. PO Box 61, Cape Town, 8000. Tel (021) 481 3800; E-mail info@iziko.org.za; Website www.iziko.org.za

Two Oceans Aquarium. PO Box 50603, Waterfront, 8002. Tel (021) 418 3823; E-mail aquarium@aquarium.co.za; Website www.aquarium.co.za

Ezemvelo KZN Wildlife. PO Box 13069, Cascades, 3202. Tel (033) 845 1999; E-mail info@kznwildlife.com; Website www.kznwildlife.com



Mission tomorrow

The Enviro Facts Project is sponsored by Pick 'n Pay through WWF-SA. The fact sheets have been developed with the support of several NGOs, government departments, academic institutions, and individuals.

A full set of 60 Enviro Fact sheets is available from Share-Net.

Please write to: Share-Net, Enviro Facts Project,
PO Box 394, Howick, 3290. Tel (033) 330 3931 ext 124/144;
Fax (033) 330 4576; e-mail sharenet@wessa.co.za

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We hope you will enjoy reading this fact sheet and join us in seeking to live more sustainably.

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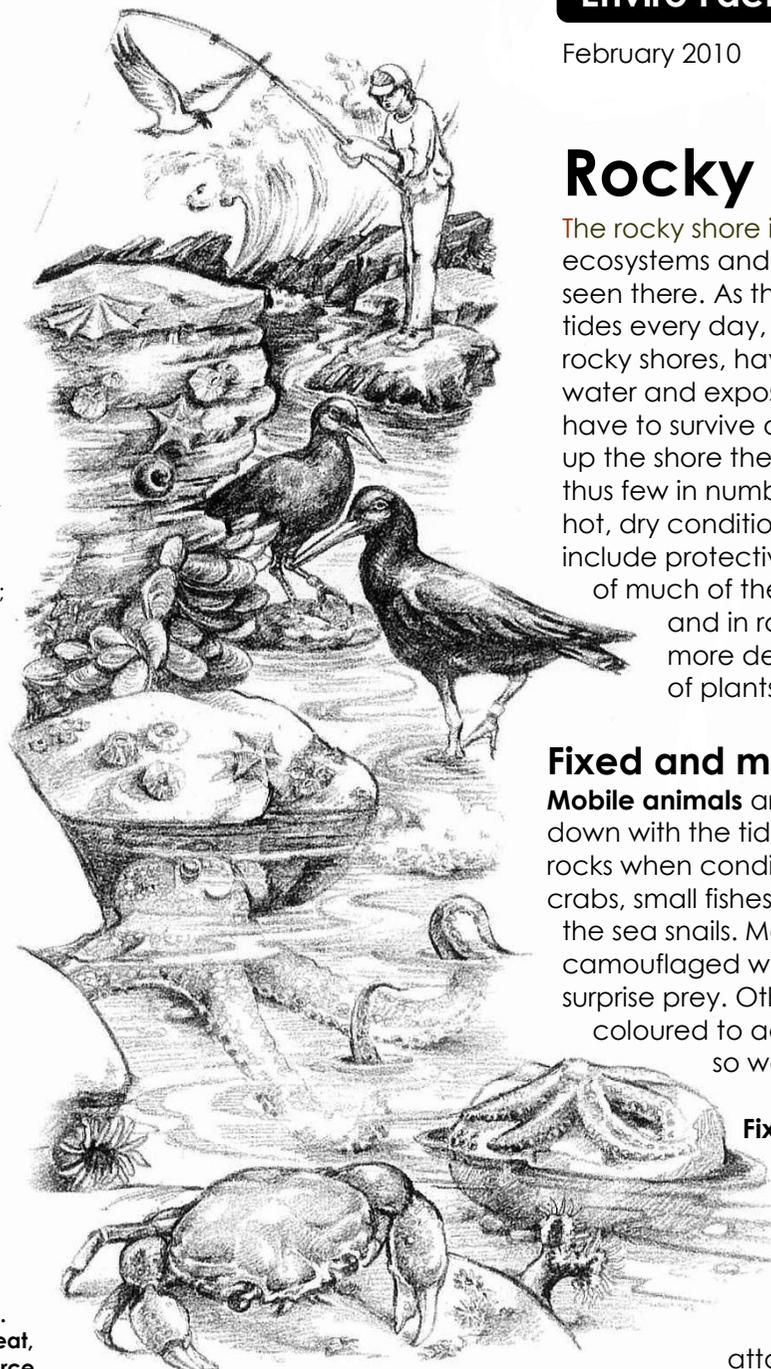
Rocky Shores

The rocky shore is amongst the most fascinating of all ecosystems and a huge variety of marine life can be seen there. As there are two high tides and two low tides every day, the animals and plants that live on the rocky shores, have to be able to live both under the water and exposed to the air. The length of time they have to survive out of the water increases the higher up the shore they are. The species at higher levels are thus few in number and are specially adapted to the hot, dry conditions on the beach. These adaptations include protective shells and an ability to tolerate loss of much of their body water. Lower on the shore, and in rock pools, the conditions are easier, so more delicate species and many more types of plants and animals can be found.

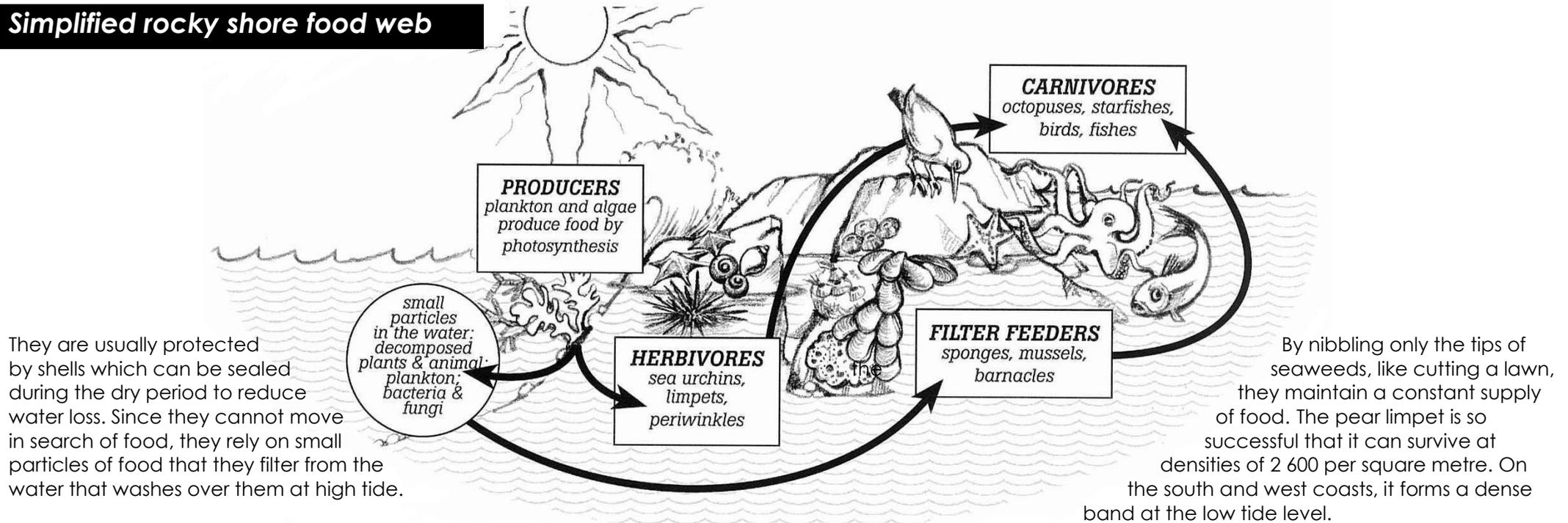
Fixed and mobile animals

Mobile animals are very active and either move up and down with the tides or retreat into gulleys and under rocks when conditions become stressful. They include crabs, small fishes, sea lice, star fishes and many of the sea snails. Mobile animals are often well camouflaged which helps them escape predation, or surprise prey. Others, like the sea slugs, are brightly coloured to advertise that they are poisonous and so warn off hungry predators.

Fixed or sedentary animals such as barnacles or mussels survive best in a narrow range of conditions to which they are adapted. Some are thus confined to the high shore, while others are found only at low tide level. They spend their lives firmly attached to the rocks so that they cannot be washed away by the waves.



Simplified rocky shore food web



Mussels pump water through their shells and filter food from it, barnacles use their feathery limbs to comb particles from the water, and many tube worms have tentacles to collect food particles. The beautiful sea anemones capture small creatures that stray within range of their tentacles. Sedentary animals are easy prey for birds, fish, crabs and octopuses and this is why they have developed various methods of defence such as thick, protective shells.

Limpets

South African shores are famous for their limpets. There are 27 species – more than anywhere else in the world! Each of these occurs in a particular geographical region or zone on the shore. The limpets roam the rocks scraping off algal spores and young seaweeds with their rasp-like tongues. Each limpet has a home scar on the rock to which its shell has grown for an exact fit. It returns to this spot at low tide and clamps firmly to the rock, providing itself with protection from wave action and water loss as well as making it difficult for predators to prize it off the rocks. Some species of limpets do not move far from their home scars and cultivate and protect a private garden of seaweed around them.

Threats to rocky shores

Rocky shores and the life associated with them can be harmed by pollution, much of which is brought to the coast by rivers (see *Enviro Facts River Catchments*). Sewage in river water can carry cholera which is then taken up by shellfish and, when this is eaten by people, the latter can become infected. Indiscriminate collecting of bait, shells and rock pool life is, however, the main threat to rocky shores.

What you can do

- Visit the rocky shore at low spring tide. Walk from the high water mark on a rock platform down the shore, noting how the animals and seaweeds occur in particular zones.
- Do not buy sea shore curios. By buying them, you contribute to creating a market and more will be taken from the sea to be sold.
- Do not remove sea shore life unless you have a permit to do so.