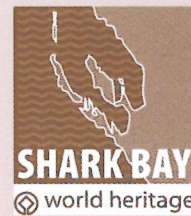


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# Shark Bay World Heritage Notes



ENVIRONMENT AND CONSERVATION DISTRICT OFFICE, DENHAM, WESTERN AUSTRALIA

## DUGONGS OF SHARK BAY

One of the largest – and most secure – populations of dugongs in the world forages in the shallow marine environment of Shark Bay, making it the ideal place to unravel some of the myths about these shy and mysterious 'sea cows'. Sea cow or sea pig is the literal translation of the name for dugong in several languages along the coasts of the Indian Ocean.

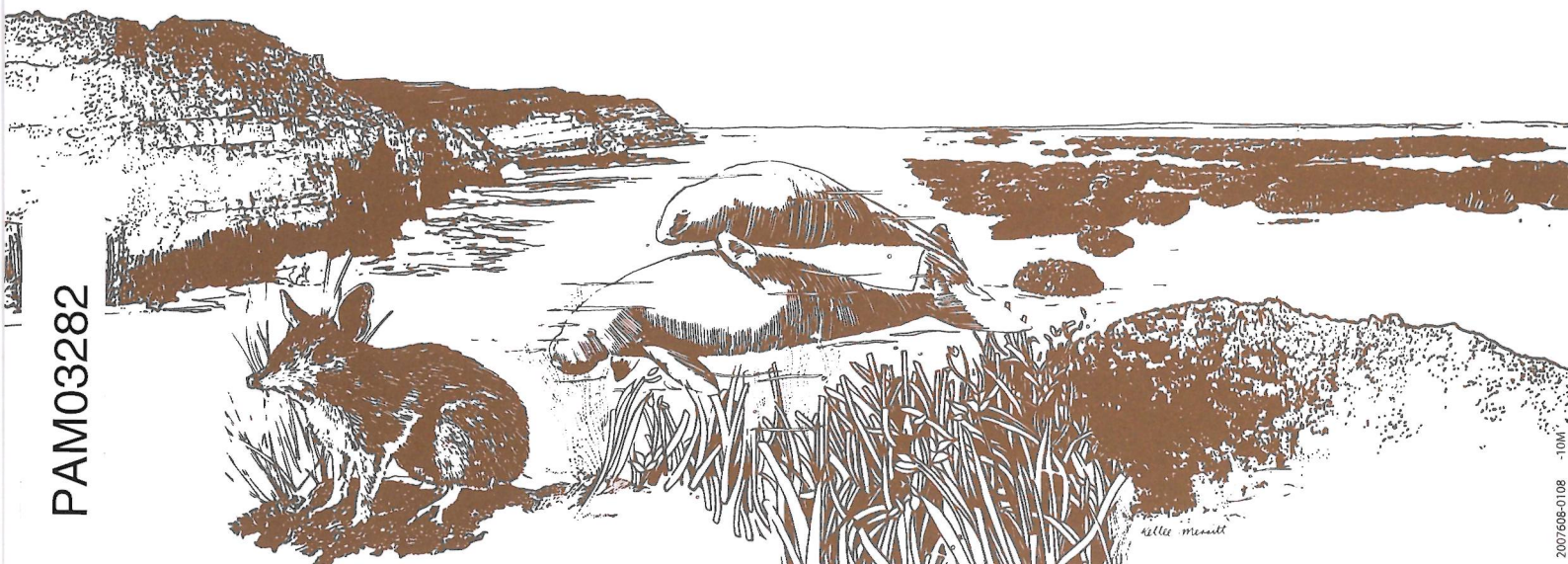
In shallow coastal waters, light reaches the sea bottom and large plants can grow. In Shark Bay, seagrasses, (which extract nutrients from the sea-floor), can grow in abundance. Seagrasses are an important resource for marine vegetarians and Shark Bay has vast and diverse seagrass meadows which cover some 4 000 square kilometres. Life in the sea requires the ability to get along without fresh water, a problem that is more difficult for an animal with a vegetarian diet. In the dugong, the seawater problem is solved by a pair of very unusual kidneys, and the solution for cellulose digestion has been to house bacterial assistants in an extremely long intestine as thick as a fire hose, stretching some 30 metres. This bulky organ accounts for the dugong's portly appearance.

The dugong's answer to having to spend so much time under the water grazing on seagrasses, is to have very dense, heavy bone, contributing to negative or at least neutral buoyancy. A rib-cage of such strong bone may also help the dugong in encounters with hungry predators. The dugong's snout is expanded into a short trunk, with a large upper lip equipped with bristles of varying size and stiffness. Feeding dugongs leave irregular wandering tracks through beds of seagrass species, stirring up mud clouds that are visible even from an aircraft.

The dugong has a heavy blunt head with the mouth opening downwards for convenient grazing and nostrils located on the top of the head, which close by a valve-like mechanism, enabling the animal to breathe while most of its body is underwater. Usually, they spend only seconds on the surface between dives.

Although considered slow swimmers, dugongs can reach 20 km/hr over short distances and can cover long distances at slow speeds, propelled by powerful beats of their fluked tails. They can grow to about 3.3 metres and weigh up to 400 kilograms, and an average adult measures about 2.7 metres and weighs between 250 – 300 kilograms.

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Dugongs have a very low reproductive rate. Females may live to 70 years of age, but don't produce their first calves until 12 – 17 years of age. The interval between births may vary between three to seven years and dugongs give birth after a gestation of 13 months, and in very shallow water with the single calf staying close to its mother and suckling for 18 months or more. A new borne calf weighs around 30 kilograms and is about a metre long. Dugongs communicate through bird-like chirps and high pitched squeaks and squeals.

Dugongs are alert, shy and very curious. Their hearing is excellent, allowing them to detect boats and other disturbances at a distance. They are easily frightened and will leave a feeding area if disturbed. Dugongs can detect and avoid a power boat moving at under 10 knots. However, they are unable to take evasive action if a boat approaches at high speeds, and collisions can damage the animal and boat.

Around the world, dugongs have been hunted to near extinction over much of their former range. It is estimated that between 10 000 – 14 000 dugong (about 10% of the world's remaining population) live in Shark Bay. Protection of this population is therefore a high priority. Dugongs are tropical animals, and Shark Bay is subtropical and lies at the southern limit of dugong range. Seasonal shifts in dugong distribution are in relation to relative water temperatures and dugongs seek out warmer parts of the Bay in winter.

Dugongs are the only herbivore adapted to the marine environment which graze on seagrasses and it is up to us to ensure that the environment of Shark Bay and its unique wildlife are given adequate protection.