



# SPECIES FACT SHEET

## Dugong *Dugong dugon*

### Classification:

<b>Kingdom:</b>	Animalia
<b>Phylum:</b>	Chordata
<b>Class:</b>	Mammalia
<b>Order:</b>	Sirenia
<b>Family:</b>	Dugongidae
<b>Genus:</b>	<i>Dugong</i>
<b>Species:</b>	<i>dugon</i>

**Conservation Status:** Vulnerable



**Identification:** Dugongs are marine mammals that are related to elephants. They spend their entire life in the water and are graceful swimmers. Adults can measure up to 3.3 m and weigh in at over 400 kg. This sirenian is characterized by little sexual dimorphism, though females may be slightly larger, and both sexes have two slow-growing tusks. Dugongs have a brown/bronze smooth dorsal surface and cream/gray underbelly. Their head is blunt with valved nostrils for surface breathing and a down-turned snout covered in whiskers to allow them to feed efficiently on seagrasses. Their body is robust and they have two paddle-like flippers. Unlike their close relatives, the manatees, which have a paddle-shaped tail, dugongs have a fluked tail. Dugongs have very dense bones that offset the buoyancy of their fat and allow them to submerge with ease in shallow waters. Their fluked tails and powerful musculature allow dugongs to maneuver quite well and swim in bursts of 20 km/hr. This speed and maneuverability helps them elude their main predator, the tiger shark. Legend has it that the dugong is responsible for the mermaid myth.

**Distribution:** Dugongs can be found in the shallow waters of shoals, reefs, sand flats, and seagrass beds throughout the tropical and subtropical Indo-Pacific. In Australia, they are distributed from Shark Bay in Western Australia around northern Australia to Queensland. Throughout most of their range, dugongs are threatened with extinction, but the Shark Bay population remains large and well-protected. Current estimates suggest a population of more than 10,000 individuals, which could represent nearly 10 percent of the global population. Dugongs can be found throughout Shark Bay during summer months, especially over the Worumel seagrass bank in the Eastern Gulf, but they largely abandon the Eastern Gulf in winter, when the temperatures fall below 19 degrees C, and move to warmer waters found north of Shark Bay and in the Western Gulf of Shark Bay near the Indian Ocean.

**Growth and Age:** Calves are born at 1-1.3 m in length and 20-35 kg in weight. They can grow to lengths of over 2.5 m in ten years and can live for up to 70 years. Ages are determined by analyzing growth layers of the incisor teeth of both male and female dugongs. Narrower layers are usually laid in the winter months but with permanent tooth wear occurring over the lifespan of a dugong, accurate aging is not always possible using this method.

**Reproduction:** Dugongs reach sexual maturity in about 10 years and at a length of around 2.5 m. Gestation lasts for about 13 months, after which females calve from spring to early summer. Newborn calves are reliant on their mothers for an 18-month nursing period and sometimes continue to swim with their mothers for months after being weaned, meaning that females tend to calve every three to seven years. Dugongs are generally thought to mate in large herds with multiple males following a single receptive female. However, in Shark Bay there may be lek mating – where males have small territories and display for females that come to select a mate.

**Diet:** Dugongs are the only mammalian herbivores that spend their entire lives in marine waters. They mainly feed on seagrass – although they may occasionally consume benthic invertebrates – and use one of two feeding tactics. Dugongs either excavate seagrasses to get to the nutritious rhizomes (fleshy stems below the sediment) or crop leaves from the vegetation above the substrate. In order to process and digest large amounts of seagrass, dugongs have intestines up to 30 m in length and as big around as a fire hose.

**Ecological Importance:** Dugongs can play an important role in seagrass ecosystems. In order to meet their energetic needs, dugongs must consume roughly 30 kg of seagrass every day. When they forage in groups, dugongs can remove up to 95% of the seagrass above the sediment and up to 71% of the biomass of seagrass below the surface! Consequently, dugongs can influence the amount of seagrass that is available in an ecosystem as well as the types of seagrass that are present. In general, heavy excavation grazing by dugongs tends to favor fast-growing seagrass species over slow-growing species. This means that the loss of dugongs from a seagrass ecosystem may alter seagrass species composition and, ultimately, the many species that rely on the seagrass from invertebrates to fishes.

**SBERP Research:** SBERP has been studying how dugongs respond to risk from tiger sharks and the impact of dugong grazing on seagrass communities. We have found that dugongs prefer to forage in shallow seagrass beds when sharks are rare. When tiger shark numbers increase in the bay and shallow waters become more dangerous, dugongs spend less time foraging in the shallows and spend most of their time cropping seagrass leaves as opposed to excavating rhizomes. They probably abandon the excavation tactic in order to avoid creating large plumes of sediment that might mask the approach of a tiger shark. Our studies of how changes in dugong foraging locations and methods influence seagrass beds are still ongoing – check the SBERP website ([www.SBERP.org](http://www.SBERP.org)) for updates!

