

1

# Shaping of the seabed by seagrass

**An outstanding example of an ongoing geological process.**

Over thousands of years, sediments and broken down shells and skeletons of marine life have been trapped by seagrasses in Shark Bay's shallow waters.

These sediments and skeletons have accumulated to form vast expanses of seagrass banks.

The Shark Bay area contains 400,000 ha of seagrass which covers an expanse the size of the Perth metropolitan area. There are 12 species of seagrass found in the bay.

These are the largest seagrass banks in the world. They have profoundly changed the geology, chemistry and biology of Shark Bay's marine environment.

Seagrasses are also the foundation of the Shark Bay marine food chain. They support one of the largest and most important dugong populations in the world.

**The largest SEAGRASS BANKS in the world are found in Shark Bay**



2

# Hypersaline marine waters



**A unique and superlative natural phenomena.**

With Shark Bay's hot dry climate and shallow waters, evaporation rates are very high. Because of this, seawater in shallow bays such as L'haridon Bight and Hamelin Pool becomes very salt concentrated, or "hypersaline".

Seagrass banks help maintain the hypersalinity of these waters by restricting tidal flows into and out of the shallow bays. This ensures the open ocean does not dilute Shark Bay's hypersaline waters.

Shark Bay has one of the few hypersaline marine environments in the world. Most marine life cannot survive in the super-salty waters, so there are few predators or competitors for food and places to live.

Because of this, salt-tolerant species, such as the tiny cockleshell *Fragum erugatum*, flourish in great numbers, creating unusual phenomena such as Shell Beach.

**Shark Bay has one of the world's very few HYPERSALINE marine environments**

3

# Stromatolites of Hamelin Pool

**An outstanding example of a major stage in the Earth's evolutionary history.**

Cyanobacteria are another type of salt-tolerant organism. They were the first life forms to appear on Earth 3,500 million years ago.

These ancient cyanobacteria often grew in colonies, trapping sediments with mucous to form enormous mats or great reefs of rock-like structures called stromatolites.

Large colonies of cyanobacteria occur very rarely today. This is because modern cyanobacteria are grazed by fish, snails, and other animals, and must also compete with plants for places to live. However in Hamelin Pool, salt concentrations are so high that most plants and animals cannot survive.

Because of this, a wide diversity of cyanobacteria now flourishes in Hamelin Pool, forming extensive mats and stromatolites, much as they did billions of years ago.

**Cyanobacteria flourish in Hamelin Pool, forming STROMATOLITES**



# Peninsulas and islands of Shark Bay

# Why World Heritage?



**Important habitats where threatened animal species still survive.**

The peninsulas and islands of Shark Bay provide significant habitats for threatened fauna.

Shark Bay's islands are home to six of the most endangered animals in Australia - animals which were once widespread across the country, until cats and foxes introduced by European settlers wiped them out.

Four of these endangered species no longer occur in the wild anywhere else in Australia: mala, banded hare-wallaby, Shark Bay mouse and western barred bandicoot. Because most of Shark Bay's islands are cat, fox, and livestock-free, they are safe havens for these threatened species.

Shark Bay is also home to 13 threatened reptile species, three rare birds and 35 migratory bird species.

## More reasons why...

Shark Bay is one of the few sites in the world that satisfies all four of the natural criteria for World Heritage listing.

- An eighth (approx 16,000) of the world's total dugong population.
- Exceptional coastal scenery at Zuytdorp Cliffs, Dirk Hartog Island, Peron Peninsula and other sites.
- Peron Peninsula's unusual birridas (gypsum pans).
- Diverse and abundant marine life.
- Spectacular spring wildflower displays.
- Australia's most important loggerhead turtle nesting areas.
- The meeting place of three climatic zones and tropical and temperate species.
- Many endemic plants, birds and reptiles.
- Gigantic shrubs of the tree heath.
- Salt-adapted and genetically unique pink snapper and venerid clams.

## For more information

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4 key reasons for Shark Bay's World Heritage status



Australian Government  
Department of the Environment and Heritage

