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Department of Biodiversity,
Conservation and Attractions

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CARING FOR THE COAST

- ◆ Keep to well-established tracks and campsites to protect natural vegetation.
- ◆ Take care with campfires to avoid the risk of wildfire. Avoid making new fireplaces by using existing campfire sites. Preferably use portable cookers. Campfires are not permitted in Francois Peron National Park.
- ◆ Take all your rubbish with you. Marine animals often swallow litter and can die. Bins are provided at boat ramps and established facilities.
- ◆ Take a spade and bury toilet waste at least 100 metres from campsites and 30 cm deep.
- ◆ Turn generators off between 9pm and 9am where other people are affected by noise. Make sure your activities don't spoil someone else's enjoyment.
- ◆ Take care when passing through pastoral leases. Before camping on Tamala and Carrarang Stations please contact station managers.

FURTHER INFORMATION

 Department of Conservation
and Land Management
67 Knight Terrace
DENHAM WA 6537
Telephone: (08) 9948 1208
After Hours: (08) 9948 1076

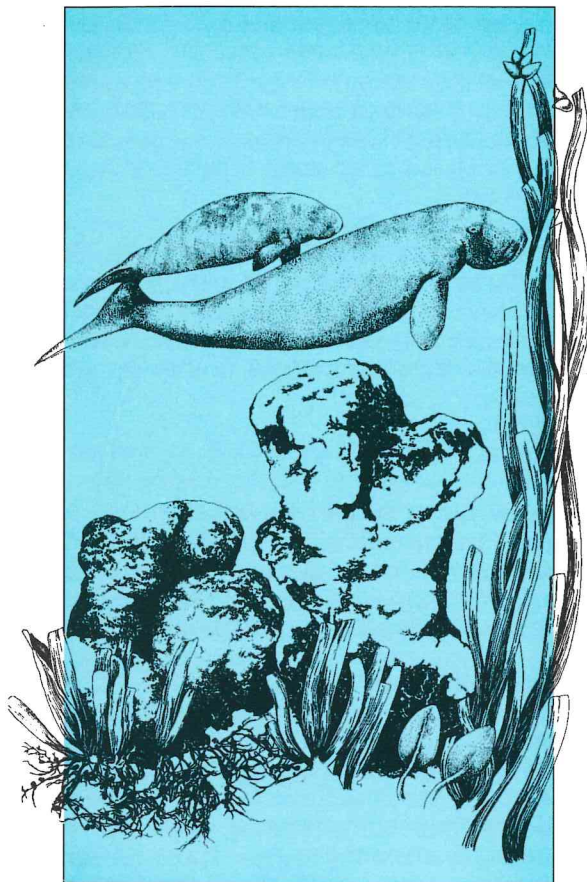
 Fisheries Western Australia
53 Knight Terrace
DENHAM WA 6537
Telephone: (08) 9948 1210
FISHWATCH: 008 815 507

 Department of Transport
Fishing Boat Harbour
Boat Harbour Road
CARNARVON WA 6701
Telephone: (08) 9941 1830
After Hours: (08) 9941 1618

For current information on National Parks visit
CALM's Website NatureBase at
<http://www.calm.wa.gov.au>

SHARK BAY MARINE ENVIRONMENT

VISITOR'S GUIDE



WORLD HERITAGE PROPERTY



DEPARTMENT OF CONSERVATION
AND LAND MANAGEMENT

Shark Bay is Australia's largest enclosed marine embayment characterised by rugged cliffs, islands and peninsulas protruding into the sea. Its rich, diverse, unique marine environment was important to the listing of Shark Bay as a World Heritage Property in 1991. Shark Bay's marine World Heritage values illustrate significant ongoing geological processes, representations of the major stages of the Earth's evolutionary history, superlative natural phenomena, areas of exceptional natural beauty and significant natural habitats where threatened species of animals still survive.



THE MARINE ENVIRONMENT

Lying beneath Shark Bay's waters are the world's largest seagrass meadows and the most diverse array of seagrass species. The seagrass provides rich habitat for many species of fish, reptiles, mammals and invertebrates, including threatened species such as dugongs and loggerhead turtles. This diversity and abundance of marine life is the result of Shark Bay being situated at the overlap of temperate and tropical marine environments.

The microbial communities found in Hamelin Pool are the world's finest examples of stromatolites, representatives of the Earth's earliest life forms.

This marine ecosystem has provided a rich resource for human usage and largely shaped the history of Shark Bay's development by humans. Aboriginal people, the original inhabitants of Shark Bay, have been witness to historical expeditions and a variety of maritime industries.

MARITIME INDUSTRIES

WHALING

From 1792 to the 1860s, American, French and British whalers were attracted to the large populations of humpback and right whales in Shark Bay. By 1840 there were 300 American whaling vessels working off the Western Australian coast. In 1861 foreign whalers were prohibited from fishing within the bays and harbours of Western Australia. As the humpback whale became vulnerable to overfishing, legislation was enacted to protect these endangered species. The Nor West Whaling Company unsuccessfully switched to sperm whale hunting and all whale hunting ceased in 1963.

GUANO

In the 1850s, the mining of guano (seabird droppings) became a significant export product for use as an agricultural fertiliser. Deposits were mined on the islands around Shark Bay.

PEARLING

During guano mining the potential of local pearls and pearl shell was recognised and in 1870 Shark Bay was officially established as a pearling centre. Large camps emerged at Freshwater Camp (now Denham) and Monkey Mia. Pearl oysters were dredged from the shallow waters in steel baskets dragged behind sailing cutters. The pearl shell was exported for the manufacture of buttons and the oyster meat was boiled in 'pogey' pots to reveal the pearls. The pearling industry declined during the economic depression of the 1930s, partly due to the overuse of pearling grounds. Now several aquaculture ventures culture pearls and pearling continues through the use of modern scientific practices, technology and farming methods.

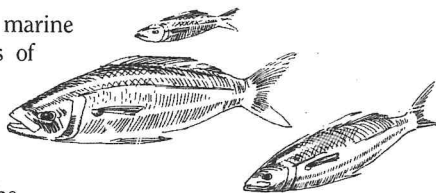


SALT HARVESTING

In 1962 the Adelaide Steamship Company began harvesting salt ponds in Useless Loop, beginning another exporting venture, that still remains a viable commercial industry. In this area, salt water from Shark Bay is channelled into a series of evaporation ponds until it finally precipitates as salt crystals. Now owned by Shark Bay Salt, around 882,000 tonnes of salt are exported each year.

FISHING

Today the Shark Bay marine environment is the basis of the local fishing and tourism industries. Commercial fishing has been a mainstay of the area for many years. The major commercial fisheries are for prawns, scallops and finfish. Aquaculture is a growing industry for pearl and finfish production.



Recreational fishing has always been a major pastime in the area and now it supports many local businesses. Special rules apply in Shark Bay to ensure fish stocks are used sustainably. Fisheries WA is responsible for the management of commercial and recreational fishing.

TOURISM

Visitors come to view and share these unique marine experiences and range of eco-tours available. Tourism brings to the local community a cultural diversity and income.

MARINE RESERVES

Shark Bay's Marine Reserves protect the area's special marine processes, habitats, flora and fauna, and are the basis of the area's fishing and tourism industries.

To provide for this variety of uses with minimal conflict and ensure that recreational and commercial uses do not impair the natural resources, reserves and marine park zones have been declared.

The Shark Bay Marine Reserves Management Plan shows how areas will be managed to protect important values.

SEAGRASS BANKS

Shark Bay has the largest and most diverse seagrass areas in the world. Seagrass banks or meadows cover more than 4000 square kilometres (a third of the Bay), and twelve different species have been recorded here.

The lush meadows are the major provider of food, habitat and breeding grounds for a diversity of marine fauna, including roving populations of dugong and turtle. The seagrass banks also modify tidal movement in Shark Bay, resulting in hypersaline bays and protective habitats for marine life. The restricted circulation into Hamelin Pool creates a hypersaline environment twice as salty as normal ocean water, enabling the stromatolites to survive as few predators can tolerate the salinity.

DUGONGS

About 10,000 dugongs live in Shark Bay. This is the second-largest population of dugongs in the world, and represents about one-eighth of the world's total dugong population.

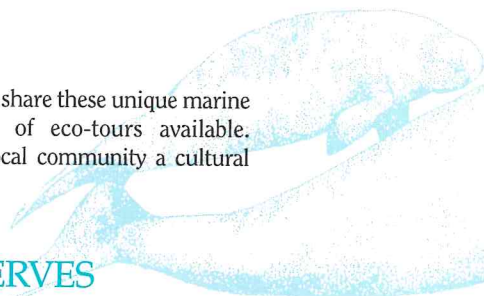
Dugongs congregate, feed and breed in the shallows amongst the seagrass. They eat seagrass foliage and use their snout to root into the sea bottom to extract plant rhizomes.

The dugong population in Shark Bay is stable in comparison to other dugong populations, which are declining worldwide. Protection of the remaining population and their habitat is a high priority.

DOLPHINS

The friendly dolphins of Monkey Mia show how wild animals can be attracted to human activity in the marine environment. It is vital that Monkey Mia's dolphins continue to forage for food so they continue to live as wild animals. People must not feed the dolphins other than at the Ranger-supervised dolphin interaction area at Monkey Mia. It is an offence to feed dolphins in the Shark Bay Marine Park.

Dolphins often ride in a boat's wake. When this happens maintain a constant speed and direction until the dolphins are well away from your boat and can't be injured by your propeller. Be particularly careful around calves. They are curious, and vulnerable to propeller injuries.



SAFETY ON THE WATER

- ❖ Get advice on weather, tide and currents before boating. Ensure you carry appropriate flares, life jackets for everyone on board and an EPIRB for your boat.
- ❖ Let someone responsible know your plans and never boat alone. Contact the Shark Bay or Carnarvon Volunteer Marine Rescue Group on channel 16VHF or 27-88MHZ. If you find yourself in trouble please radio the Volunteer Marine Rescue Group.
- ❖ Know your boat's limits and keep within them.
- ❖ Keep clear of divers and other boats.

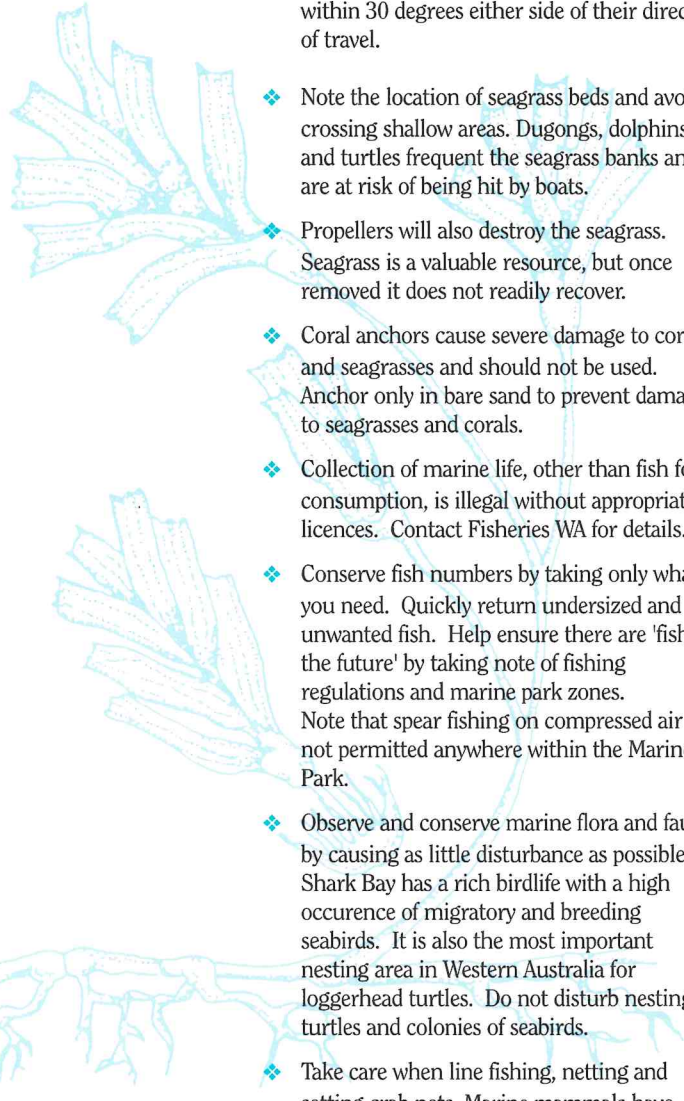
SAFETY IN THE WATER

- ❖ Wear shoes when walking in the shallows and exploring rock pools.
- ❖ Be cautious around marine plants or animals you are unsure about. Dangerous marine creatures, such as the blue-ringed octopus, stonefish, coneshells, cobblers and stingrays, are found in Shark Bay and will deliver toxins if threatened, harassed, or trodden on.
- ❖ Sea snakes and sharks are common in Shark Bay. Sea snakes are curious and may approach divers, but they will cause no harm if left alone.
- ❖ Display the appropriate flag when snorkelling or scuba diving. Your enjoyment and safety are our concern but your responsibility.
- ❖ For emergencies please contact the Silver Chain on 9948 1213.

Sea Nymph (*Amphibolis antarctica*)

CARING FOR THE MARINE ENVIRONMENT

- ❖ Reduce boat speed around dolphins and dugongs. Boats within 100 meters of dugongs should travel slower than 10 knots. Keep 100 meters from whales and ensure you are not within 30 degrees either side of their direction of travel.
- ❖ Note the location of seagrass beds and avoid crossing shallow areas. Dugongs, dolphins and turtles frequent the seagrass banks and are at risk of being hit by boats.
- ❖ Propellers will also destroy the seagrass. Seagrass is a valuable resource, but once removed it does not readily recover.
- ❖ Coral anchors cause severe damage to coral and seagrasses and should not be used. Anchor only in bare sand to prevent damage to seagrasses and corals.
- ❖ Collection of marine life, other than fish for consumption, is illegal without appropriate licences. Contact Fisheries WA for details.
- ❖ Conserve fish numbers by taking only what you need. Quickly return undersized and unwanted fish. Help ensure there are 'fish for the future' by taking note of fishing regulations and marine park zones. Note that spear fishing on compressed air is not permitted anywhere within the Marine Park.
- ❖ Observe and conserve marine flora and fauna by causing as little disturbance as possible. Shark Bay has a rich birdlife with a high occurrence of migratory and breeding seabirds. It is also the most important nesting area in Western Australia for loggerhead turtles. Do not disturb nesting turtles and colonies of seabirds.
- ❖ Take care when line fishing, netting and setting crab nets. Marine mammals have difficulty in detecting fishing line.



SHARK BAY MARINE RESERVES

HAMELIN POOL MARINE NATURE RESERVE

1 Protects the world's most diverse and abundant examples of stromatolites and microbial communities which represent of the Earth's earliest life forms. To protect this rare and fragile environment, all marine wildlife in Hamelin Pool is protected. A boardwalk at Hamelin Pool takes visitors over the stromatolites to observe this ecological phenomena.

SANCTUARY ZONE

2 Big Lagoon Sanctuary Zone

Provides a protected nursery for crustaceans and fish such as mullet and whiting. Protection of these sheltered waters, seagrasses and mangroves is important for the maintenance of local fish stocks.

3 Lharidon Bight Sanctuary Zone

Represents a unique ecosystem where extreme water salinity allows the bivalve *Fragum erugatum* to flourish while it's predators cannot. This results in massive deposits of tiny white shells along the shores of the bight, as seen at Shell Beach.

4 Sandy Point Sanctuary Zone

Provides a place free from fishing where divers can explore coral communities and see large resident fish species such as coral trout and potato cod. Once a heavily fished area, it is now a control site to monitor human impacts in coral communities. The site is also frequented by dugongs in the winter, and zoning provides protection for important dugong habitat.

5 Surf Point Sanctuary Zone

Protects one of the most diverse and fragile coral communities in the marine park and is ideal for experienced divers and snorkellers. Forty-two species of corals and 323 fish species have been recorded in the waters of South Passage, and dugongs visit the site in winter.

6 Disappointment Reach Sanctuary Zone

Conserves an area of the Wooramel seagrass bank and associated mangroves free from fishing, as a benchmark for monitoring the health of marine ecosystems. It is also an important dugong habitat.

7 Eighteen Mile Beach Sanctuary Zone

Contains a mix of shallow marine communities, including saltbush, tidal creeks and shell spits, and is a nursery for mullet and whiting.

8 Gudrun Wreck Sanctuary Zone

Is home to the largest known wreck of a wooden sailing vessel in the waters of Western Australia. It provides a haven for a good diversity of fish species. It is a great place for experienced divers, but the taking of fish by any means is prohibited within a radius of 500 metres of the wreck site.

9 Mary Anne Island Sanctuary Zone

Is a control site to monitor the impacts of fishing on the marine communities of isolated limestone outcrops in Henri Freycinet Harbour. It is a great snorkelling site, free from fishing, to observe baldchin groper, pink snapper and bluespotted tuskfish.

SPECIAL PURPOSE ZONE

10 Boorabuggatta Special Purpose Zone

Is a relatively pristine inlet providing a nursery for finfish and invertebrate species. Commercial and recreational line fishing and haul net fishing are allowed, but set nets are not permitted.

11 Cape Peron Special Purpose Zone

Is alive with marine life as a result of converging currents from the two bays. From the Cape clifftops you may see green turtles, dugongs, dolphins, sharks, manta rays and an abundance of small fish species. Spear fishing, recreational set netting and motorised water sports are not permitted in this zone. Diving, line fishing, boating, commercial and recreational haul net fishing are permitted.

12 Wooramel Coast Special Purpose Zone

Recognises the significance of the Wooramel seagrass bank in the Shark Bay ecosystem. It is the largest seagrass structure in the world, containing the world's richest assemblages of seagrass species. The area is used for recreational line, spear and crab fishing in the deep channels. Take care not to disturb the seagrasses as they provide essential habitat for dugongs, turtles and other marine life.

13 Gladstone Special Purpose Zone

Is an important dugong nursery and mating area. Most of this zone is closed to boats when dugongs frequent the area in summer. Boating and netting are prohibited from 1 September to 15 January south of the channel and from 1 December to 31 March north of the channel. The channel is open at all times. A small General Use Zone adjacent to the camping area allows for recreational fishing.

14 Freycinet Special Purpose Zone

Contains a diverse array of seagrasses and algae. Several of the seagrasses are an important source of nutrition for dugongs, which migrate to the harbour during summer when the waters are warm. Limestone islands dot the harbour and provide nesting places for seabirds and reef habitat for resident fish species such as baldchin groper and tuskfish. The area is popular for recreational fishing for pink snapper and tuskfish. Netting and snorkel spearfishing also occur in the area.

15 Big Lagoon Special Purpose Zone

Protects seagrass and mangrove habitat which is important as a fish nursery. The mouth of the lagoon is important for commercial and recreational haul net fishing.

RECREATION ZONE

16 Monkey Mia Recreation Zone

Protects the famous dolphins and helps sustain the experience of interacting with them. It is the only deep water access point on the east coast. A wide variety of recreation uses compatible with dolphin protection are catered for. Netting and spearfishing are not permitted in this zone, and recreational line fishing is permitted everywhere other than in the Dolphin Interaction Area and the jetty. High-speed water sports are not permitted.

17 Dubaut Inlet Recreation Zone

Protects an isolated mangrove community and a small lagoon that provide an important nursery for local fish. Spearfishing and netting are prohibited here, however recreational line fishing is allowed. To protect this fragile environment, please do not drive on the intertidal zone.

18 Little Lagoon Recreation Zone

Is readily accessible and popular for picnics and paddling. The presence of mangroves and sheltered waters provides a productive nursery habitat for fish and other marine life. The attractive scenery inspires a walk around the mouth of the lagoon.

MARINE NATURE RESERVE

Provides for the conservation of the natural environment, the protection and study of flora and fauna, and the preservation of features of scientific interest.

MARINE PARK ZONES

Separate the marine park into discrete management units which reflect the characteristics of natural habitats and resources and prescribed priorities for their use.

SANCTUARY ZONES

Provide special protection for marine communities where visitors can observe the features but fishing and collecting are not permitted. They are nursery areas and are used for scientific reference.

SPECIAL PURPOSE ZONES

Protect specific features or habitats. Permissible activities vary for each zone depending on the zone's purpose. Commercial and recreational uses that are compatible with the primary purpose of a Special Purpose Zone are allowed.

RECREATION ZONES

Provide for recreation activities compatible with conserving the environment. Commercial fishing is not permitted.

GENERAL USE ZONES

Provide for commercial and recreational uses consistent with conserving the natural resources.

