Marine Park 10
Upper Spencer Gulf Marine Park

Park at a glance

Upper Spencer Gulf Marine Park is in the upper reaches of Spencer Gulf, including waters north of a line from Whyalla-Cowleds Landing Aquatic Reserve extending across the Gulf to Jarrold Point.

At 1,602 km^2, it represents 6% of South Australia's marine parks network.

Community and industry

- The Barngala, Kokatha and Nukunu Aboriginal people have traditional associations with the region,
- Commercial fishing is a major industry, targeting western king prawns, blue swimmer crab and a variety of scalefish species.
- Fitzgerald Bay is a major source of farmed yellowtail kingfish.
- This marine park is near three of South Australia's largest regional centres, Port Pirie, Port Augusta and Whyalla, which are all linked to the resources sector.
- Recreational activities such as fishing, boating, swimming, snorkelling, camping, wind surfing and sailing are popular.
- The park features many historical or geological sites of significance such as the prominent pebble dune, the Port Germein jetty and numerous shipwrecks.

Fauna and flora

- The reef off Black Point hosts the world's largest known breeding aggregation of giant cuttlefish, which attracts many tourists.
- Coastal wetlands provide important feeding and resting sites for migratory shorebirds and nursery habitat for a wide range of juvenile fish and crustaceans.
- Species within the marine park are influenced by the distinctive patterns of currents in both upper and lower Spencer Gulf.

Habitat

- Upper Spencer Gulf Marine Park is within the Northern Spencer Gulf Bioregion.
- Habitats include:
  - mangroves, saltmarshes and seagrasses,
  - tidal flats, dune systems, pebble beach ridges,
  - submerged "sand waves" and reef systems.
- The habitats inside Upper Spencer Gulf Marine Park provide critical baselines to measure any changes to the State's marine ecosystems that may arise over time from, for example, pollution or climate change.
- Whyalla-Cowleds Landing, Yatala Harbour and Blanche Harbour-Douglas Bank Aquatic Reserves are included to protect linkages between land and sea.

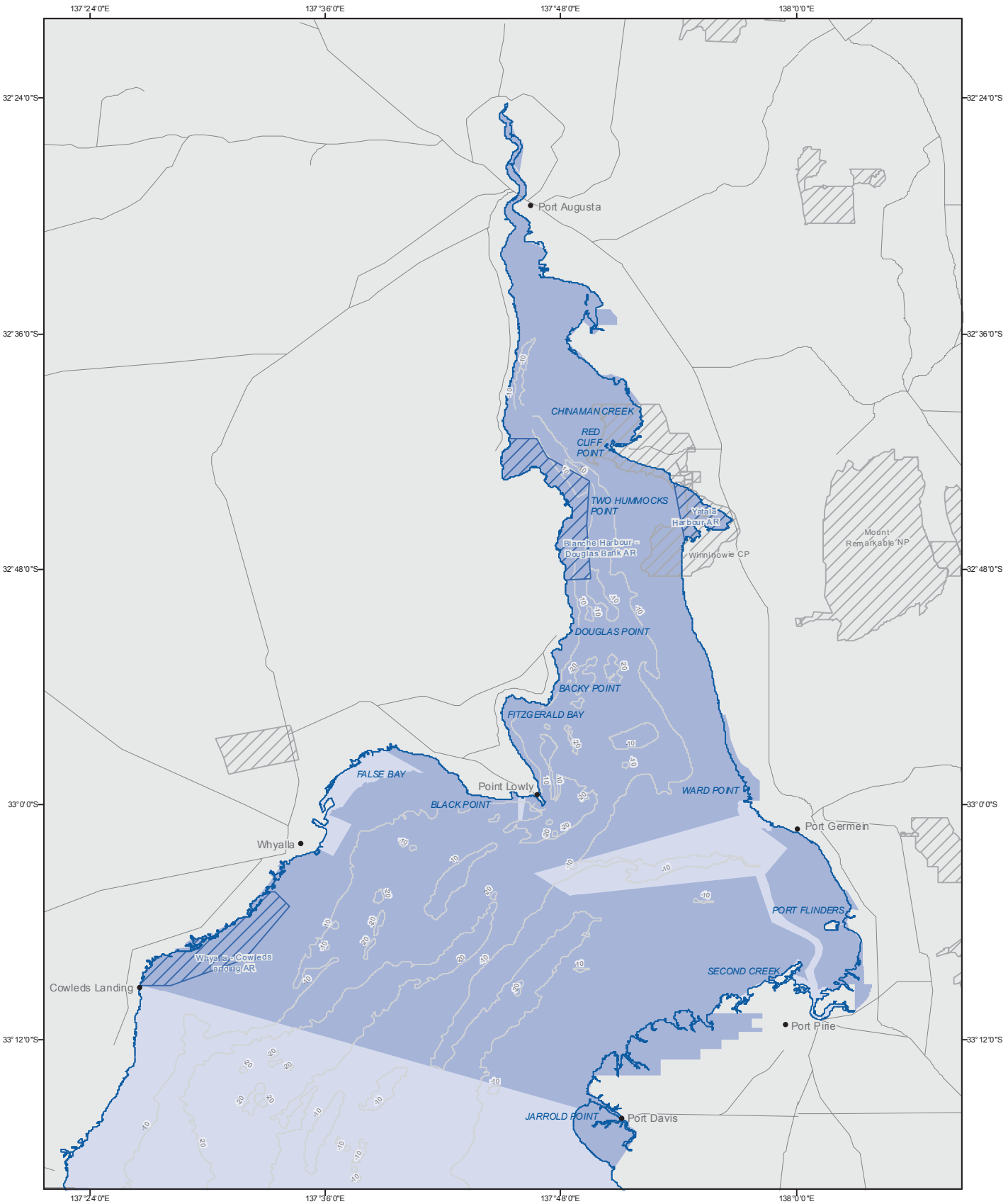
Boundary description

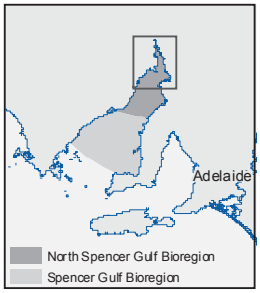
The Upper Spencer Gulf Marine Park comprises the bounded by a line commencing on the coastline at the median high water at a point 137°48'56.23"E, 33°15'28.01"S, then running progressively:

- westerly along the geodesic to its intersection with the coastline at median high water at a point 137°26'35.45"E, 33°9'14.9"S (at or about the southern boundary of Whyalla-Cowleds Landing Aquatic Reserve); and
- generally northerly and southerly along the coastline at median high water (inclusive of all bays, lagoons and headlands) to the point of commencement.

NOTE: *This boundary description is indicative only. It does not describe inclusions and exclusions of specific land parcels. For this detailed information, please refer to the DEH website: www.marineparks.sa.gov.au or Surveyor-General's office for the relevant marine park plan (known as a Rack Plan).*

Upper Spencer Gulf Marine Park





Marine Park
State Waters Jurisdiction
Parks and Reserves
Aquatic Reserves
Bathymetry Contours
Roads
Coastline (median high water)

N
0
10
Kms

Produced by	Coast and Marine Conservation Department for Environment and Heritage GPO Box 1047 Adelaide SA 5001 www.marineparks.sa.gov.au
Data Source	Marine Parks, NPWSA, Bathymetry, Topographic Data - DEH Aquatic Reserves - PIRSA, Marine Bioregions - SARDI State Waters Jurisdiction - Geoscience Australia
Compiled	21 July 2009
Projection	Geographic
Datum	Geocentric Datum of Australia, 1994

Bioregions and South Australia's marine parks network

Eight biologically distinct regions have been identified off South Australia's coastline. The State's marine parks have been carefully designed to include parts of each bioregion and the various habitats within them.

By including some examples of the marine biodiversity typical of the North Spencer Gulf Bioregion, the Upper Spencer Gulf Marine Park contributes to the marine parks network's goal of representing and protecting examples of the full diversity of South Australia's marine life.

The marine life, habitats and natural processes typical of this region are shaped by the unique physical environment and water circulation patterns of upper Spencer Gulf.

The 14 marine park Design Principles

To guide the initial identification and final selection of South Australia's multiple-use marine parks, 14 Design Principles were defined and adopted by the Government. The seven Biophysical Principles and seven Community Principles help ensure the marine parks network meets the objects of the *Marine Parks Act 2007* as well as South Australia's national and international obligations for marine protection.

The Biophysical Design Principles guided the identification of proposed marine park sites. The Community Design Principles were then applied to fine-tune site selection of the 19 multiple-use parks in the network.

Biophysical Design Principles

The seven Biophysical Principles address environmental conservation.

In the first instance, all parks were designed to meet the Precautionary Principle. Rigorous application of the Adequacy, Comprehensiveness and Representativeness Principles ensure the marine parks network meets South Australia's national and international marine protection obligations.

The remaining three Biophysical Principles helped to prioritise important local sites, to ensure the marine parks network maximises ecological outcomes (South Australia's Strategic Plan Target 3.4).

The Precautionary Principle

The Precautionary Principle is a risk-management tool which requires action to be taken now in areas where scientific knowledge is not yet complete. One of the ways the Precautionary Principle has been applied in developing marine parks is to include areas of unsurveyed seabed habitats.

As a precautionary measure 50 km^2 (69%) of unmapped habitat from the Upper Spencer Gulf Bioregion is included in the Upper Spencer Gulf Marine Park.

The Adequacy Principle

Adequacy is achieved if the marine park provides for both ecosystem integrity and the viability of whole populations of species.

A marine park is considered to have achieved Adequacy if both it and the network it contributes to are large enough to protect the species and habitats found there, and close enough to connect populations.

Upper Spencer Gulf Marine Park covers 1,602 km^2 (6% of the whole network). It has been designed to include multiple examples of each habitat type where possible, at sizes sufficient to contain viable populations of marine species.

The Principles of Connectivity and Linkages, Resilience and Vulnerability and Ecological Importance also contribute to the Adequacy of a marine park. Ultimately, Adequacy is closely linked to the success of marine park management plans with zoning.

Comprehensiveness and Representativeness Principles

To meet the Principle of Comprehensiveness, examples of all habitats that occur in a bioregion need to be included within whatever marine parks are in that bioregion.

To be Representative, all habitats in a region (e.g. reefs, beaches, seagrass, mangroves) need to be included across the full variety of physical situations in which they occur (e.g. shallow and deep water reefs, low and high energy beaches). This variety must be represented within the combination of parks created in a bioregion.

Spencer Gulf is one of two inverse estuaries in South Australia, in which salinities are greater at the top of the Gulf than at its mouth, largely due to low freshwater inflows and above-average sea surface temperatures and evaporation rates.

The range of physical conditions provides for a sheltered coastal wetland environment comprising a wide range of individual habitats, including mangrove forests, tidal creeks and saltmarshes, dense seagrass beds, exposed sand and mud flats, sandy and shell-grit beaches backed by low vegetated sand dunes, unusual chenier dune systems and pebble beach ridges.

Other habitat features include unusual submerged "sand waves" and sandy plains and intertidal, shallow and deeper (less than 30 metres) reefs. Such a variety of habitats supports an equally diverse range of marine plants, fish and other animals.

Connectivity and Linkages Principle

Connectivity describes how plants and animals move between different places. Linkages refers to the transfer of materials (e.g. organic matter) and energy flows. Connectivity and Linkages both depend on the way currents, tides and waves move water and on the abilities of marine life to move between different areas.

Upper Spencer Gulf Marine Park creates continuous coastal Connectivity and Linkages from the Whyalla-Cowleds Landing Aquatic Reserve to the top of the Gulf at Port Augusta, and along the eastern side of the Gulf to the southern end of Jarrold Point.

Offshore, the marine park creates continuous Connectivity and Linkages by protecting the gradient of habitats from the coast through to deep water. This helps protect species whose life cycles depend on access to different feeding, spawning, breeding and nursery habitats in small areas, as well as species dependent on areas separated by anything from tens of kilometres to hundreds of kilometres.

For example, the Upper Spencer Gulf Marine Park will protect the transition from coastal saltmarshes through to mangroves and tidal flats, followed by shallow seagrasses through to deeper sandy seafloor habitats. False Bay provides important habitat for juvenile prawns before they move into deeper waters as adults, while the tidal flats at Port Pirie provide important habitat for juvenile blue swimmer crabs. King George whiting also use the mangroves and shallow seagrasses for shelter and feeding grounds during their vulnerable juvenile life stages, before dispersing into deeper and more distant waters as adults.

Water enters Spencer Gulf along the western side and travels clockwise before exiting on the eastern side. In summer, a gyre can form that effectively separates water in the top of the Gulf (north of Port Pirie), and influences the distribution of nutrients, larvae and other materials.

Ecological linkages within upper Spencer Gulf are also influenced by the extreme spring tidal movements that can range from more than three metres at Port Pirie and Whyalla to more than four metres at Port Augusta. The Gulf's upper reaches feature regular periods of minimal tidal movement (dodge tides) and low wave energy.

Resilience and Vulnerability Principle

The combined Principle of Resilience and Vulnerability encourages the inclusion of places, plants and animals that are more susceptible to degradation or decline and/or less able to recover from damaging impacts.

Less resilient habitats, plants and animals are less able to resist disturbances or pressures. More vulnerable habitats, plants and animals have less capacity to recover once pressures are removed. For example, some seagrasses may take decades or more to recover from disturbance.

Examples of less resilient and more vulnerable habitats, plants and animals in the Upper Spencer Gulf Marine Park include extensive tidal flats, mangroves, saltmarshes and seagrass beds. These habitats are very vulnerable to physical disturbance such as damage caused by off-road vehicles, propeller scarring and also to sea-level rise associated with climate change. These vulnerable habitats are critical to a wide range of fish and crustacean species. These areas also provide for the very specialised habitat needs of a range of protected bird species such as the endangered fairy tern, rare lesser sand plover and vulnerable eastern curlew.

Upper Spencer Gulf Marine Park is designed to help protect less resilient and more vulnerable habitats, plants and animals from the impacts of climate change by including coastal parcels of land which may allow habitats such as mangroves and saltmarsh to move inland if sea levels rise.

Ecological Importance Principle

Upper Spencer Gulf Marine Park contains some of the largest mangrove forests and saltmarshes in southern Australia, such as those found in the areas around Chinaman Creek/Winninowie and from Port Pirie to Port Davis. Including mangrove and saltmarshes in this marine park as well as mudflats and seagrasses will protect nursery areas critical to a wide range of fish and crustacean species that are important to commercial and recreational fishers.

A genetically distinct sub-population of the giant cuttlefish *Sepia apama,* numbering in the hundreds of thousands, migrates to the waters around Black Point/Point Lowly each year to breed on the shallow rocky reefs in the area. This is the largest known breeding aggregation of this species in the world and has gained international recognition.

Seagrass beds located in the park provide very important habitat for several protected species of seahorses and pipefish from the *Syngnathid* family, such as the spotted pipefish recorded in False Bay and the pugnose pipefish near Port Pirie.

The upper Spencer Gulf coast has been identified as a Wetland of National Importance, being internationally significant habitat for many local and migratory shorebirds.

Summer warming of upper Spencer Gulf waters creates sub-tropical conditions and supports remnant populations of tropical and sub-tropical species such as the brown algae *Hormophysa cunieformis,* and *Sargassum decurrens*. The soft coral *Carijoa multiflora*, the sea pen *Virgularia gustaviana*, the sub-tropical goby species *Bathygobius kreffti* and the tiger pipefish *Filicampus tigris* have also been recorded within the park.

Community Design Principles

Synergies With Existing Protected Areas Principle

By aligning with existing protected areas, marine parks can contribute to the establishment of protected corridors across the land-sea interface. Upper Spencer Gulf Marine Park includes Blanche Harbour-Douglas Bank, Yatala Harbour and Whyalla-Cowleds Landing Aquatic Reserves and overlays part of Winninowie Conservation Park.

Complementing Existing Management Principle

Management of South Australia's marine parks will coordinate with and complement, but not replace, current management arrangements. By providing a more inclusive management framework, South Australia's marine parks network is designed to help existing environmental management practices.

The City of Whyalla, Port Augusta City Council, District Council of Mt Remarkable and the Port Pirie Regional Council play important roles in managing coastal Crown lands which abut and in some cases are included within the marine park. Upper Spencer Gulf Marine Park management will seek to integrate with existing local government management practices for the continued care of coastal Crown land community assets.

The Northern and Yorke and Eyre Peninsula Natural Resources Management (NRM) Boards share responsibility for mitigating impacts on the marine environment from land-based activities. Ongoing monitoring of ecosystem health in Upper Spencer Gulf Marine Park will help the NRM Boards prevent land-based pollution from reaching the sea.

The Department of Primary Industries and Resources South Australia's (PIRSA) Aquaculture Division has developed aquaculture policy zones in the Fitzgerald Bay area. All existing aquaculture leases and zones within Upper Spencer Gulf Marine Park will be accommodated. Marine park management will seek to integrate with existing management by PIRSA Aquaculture in the area to ensure that the established aquaculture industry can continue to benefit from healthy seas in the region.

Two netting closures have been established in the area, from Port Douglas Bank upwards and including the whole top of upper Spencer Gulf and from Ward Point to Second Creek. Management of the Upper Spencer Gulf Marine Park will respect and complement existing fisheries management arrangements, and will not change bag, boat and size limits or other area-based fisheries management arrangements.

A range of minerals, petroleum and geothermal exploration activities are approved within this marine park. OneSteel holds mining leases adjacent to Whyalla which are used for salt extraction. A petroleum pipeline licence and a mining claim just south-west of Whyalla are also within the marine park. All existing minerals, petroleum and geothermal licences and leases within Upper Spencer Gulf Marine Park will be accommodated, with no change to existing conditions. Marine park management will seek to integrate with existing management to ensure that industry can continue to benefit from the area.

Major port facilities exist at Whyalla and Port Pirie while each of the major centres has public boat launching facilities, jetties and moorings. All shipping and harbour activities will be accommodated within Upper Spencer Gulf Marine Park, as will the management and maintenance needs of shipping and boating facilities.

Wherever possible, provision will be made in the Upper Spencer Gulf Marine Park management plan with zoning to accommodate current and future economic, social and infrastructure requirements. Administrative agreements between agencies will support streamlined assessment so that marine parks do not create an extra approval process.

Give Consideration to the Full Diversity of Marine Uses Principle

The Government is committed to designing marine parks for conservation and for sustainable use, in close consultation with local communities and with minimal impact on existing activities.

The proclamation of the Upper Spencer Gulf Marine Park does not change the way people use the marine environment, or change any existing land or sea-bed tenure.

Wildcatch fisheries in the region target western king prawns, blue swimmer crabs and a variety of scalefish species. Proclamation of the Upper Spencer Gulf Marine Park does not displace any existing commercial fishing activity. The Government recognises that high-value catch areas occur within the marine park and will work with stakeholders during the development of management plans with zoning to avoid effort displacement from those areas wherever possible.

Aquaculture is an important economic activity in the region, with a number of licences in the Fitzgerald Bay – Point Lowly area. No existing aquaculture activities will be displaced as a result of the proclamation or future marine park zoning arrangements of Upper Spencer Gulf Marine Park. In addition, no further approvals or permits

will be required to conduct these existing activities. The habitats of the region are also important for biodiversity conservation and the marine parks program will seek to integrate with existing management strategies developed and delivered by PIRSA Aquaculture to ensure that the needs of both marine parks and aquaculture can be met.

Tourism is also a significant economic contributor to the region, with the coastal environment attracting many people to fish and dive.

Fishing from both shore and boat is a major recreational activity throughout the marine park, especially near major centres and shack settlements. The annual Whyalla snapper fishing competition, which draws competitors from across Australia, will be accommodated by the marine park.

The outer boundary of the Upper Spencer Gulf Marine Park does not change existing recreational fishing and boating activities and do not affect access to, or use of, jetties, break-walls or boat ramps. Existing access for recreational beach fishing will be maintained throughout Upper Spencer Gulf Marine Park, except in small areas designated as "sanctuary" or "restricted access" zones in the management plan with zoning. This will be developed over the next couple of years with extensive community input.

Important dive sites in the region include False Bay and cuttlefish viewing from Black Point to Point Lowly, which attract international divers to view the world's largest known aggregation of breeding cuttlefish.

With input from a Marine Park Local Advisory Group, industry and the community, a management plan with zoning will be developed for the Upper Spencer Gulf Marine Park which will cater for ongoing community use of the area. The management plan will be subject to community consultation and every effort will be made to minimise impacts on people and businesses.

Respect Indigenous Interests and Culture Principle

The Government is aware that there may be confidential Aboriginal heritage sites in South Australia's coastal areas. Where possible, these sites have been considered in the planning process. Future management plans will ensure these heritage sites are appropriately respected.

Barngala and Nukunu Aboriginal people have traditional associations with the land and waters around the marine park. Aboriginal people have expressed the aspiration to negotiate traditional Aboriginal fishing rights through an Indigenous Land Use Agreement (ILUA). Upper Spencer Gulf Marine Park will provide for continued traditional fishing in accordance with any fishing ILUAs.

Give Consideration to Cultural Heritage Principle

The Port Germein jetty, Port Augusta wharf and Point Lowly lighthouse are listed on the State Heritage Register, with the latter also on the Register of the National Estate.

Historic shipwrecks are located within the marine park, including the protected wrecks of the *York* at Port Flinders and the *Rooganah* off Cowled's Landing.

Significant geological monuments feature at Douglas Point, Backy Point, Redcliff Point, and Two Hummocks Point. The prominent pebble dune extending north from Point Lowly is one of the most striking examples of this unusual geological feature and is also of Aboriginal heritage significance.

Ensure Ease of Identification, Compliance and Enforcement Principle

Upper Spencer Gulf Marine Park was designed to ensure ease of identification, compliance and enforcement where possible.

Start and end points were chosen to coincide with the southern end of the Whyalla-Cowleds Landing Aquatic Reserve in the west and Jarrold Point in the east. Along the coastline, the marine park boundary lies at the median high water mark unless otherwise specified.

Provide for Education, Appreciation and Recreation Principle

Upper Spencer Gulf Marine Parks was designed to ensure the things we enjoy in this environment continue, by helping to maintain a healthy marine environment and our uses of it.

Further opportunities for education, appreciation and recreation will be achieved through the zoning and management planning process.

Need more information?

For further information, please see: *Design Principles Guiding the Development of South Australia's Marine Park Boundaries* and *Technical Report on the Outer Boundaries of South Australia's Marine Parks Network*. Both are available on the marine parks website: www.marineparks.sa.gov.au or by calling 1800 006 120.