

---

# Marine Parks

Reserve today. Preserve forever.

---

## Environmental, Economic and Social Values of the Southern Spencer Gulf Marine Park

### PART 1



For further information, please contact:  
Coast and Marine Conservation Branch  
Department of Environment and Natural Resources  
GPO Box 1047  
ADELAIDE SA 5001

Telephone: (08) 8124 4900  
Facsimile: (08) 8124 4920

Cite as:

Department of Environment and Natural Resources (2010), *Environmental, Economic and Social Values of the Southern Spencer Gulf Marine Park*, Department of Environment and Natural Resources, South Australia

Mapping information:

All maps created by the Department of Environment and Natural Resources unless otherwise stated.

All Rights Reserved. All works and information displayed are subject to Copyright. For the reproduction or publication beyond that permitted by the Copyright Act 1968 (Cwlth) written permission must be sought from the Department.

Although every effort has been made to ensure the accuracy of the information displayed, the Department, its agents, officers and employees make no representations, either express or implied, that the information displayed is accurate or fit for any purpose and expressly disclaims all liability for loss or damage arising from reliance upon the information displayed.

© Copyright Department of Environment and Natural Resources 2010.

## TABLE OF CONTENTS

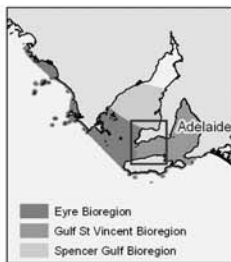
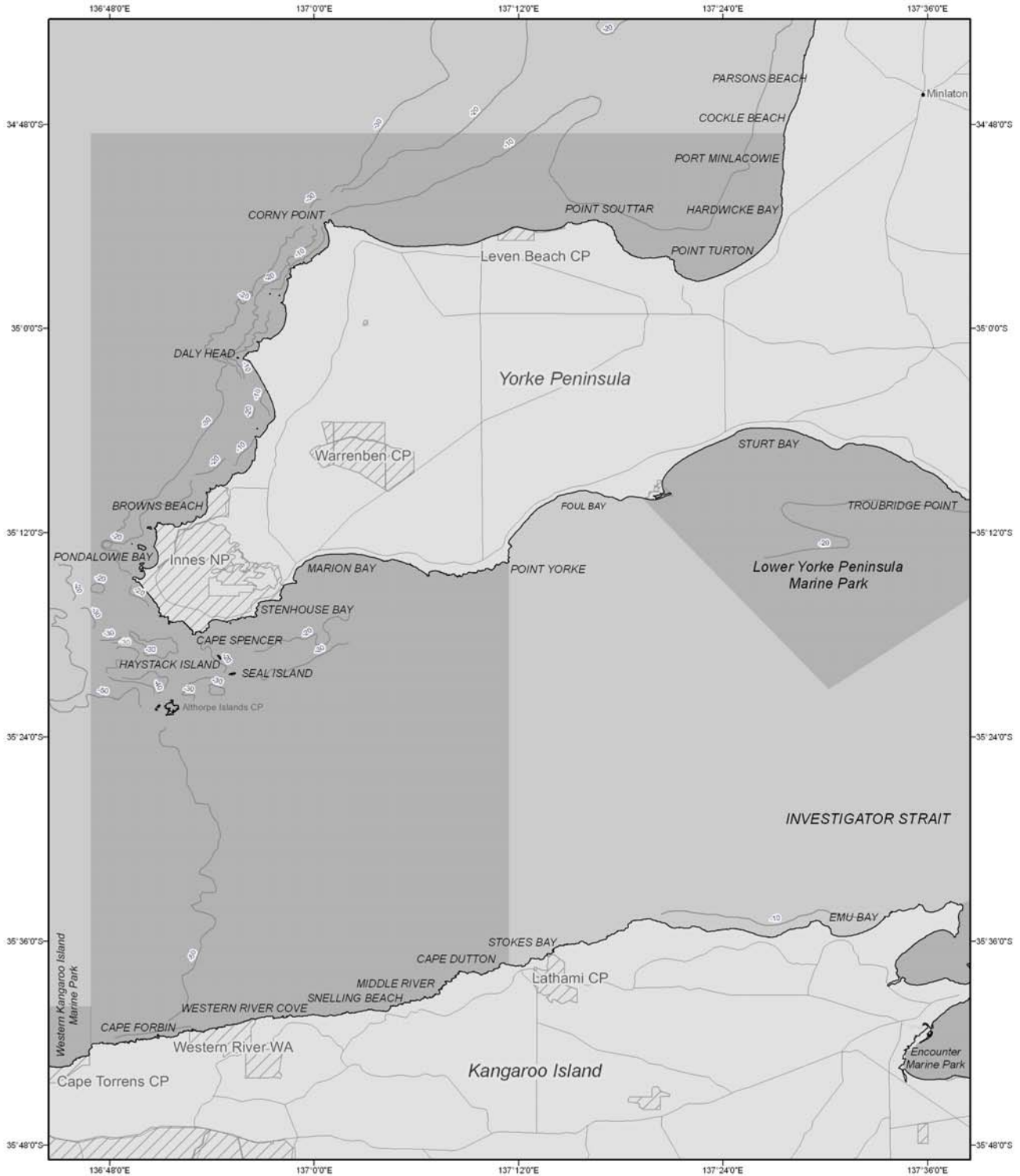
### PART 1 VALUES STATEMENT

<b>1 ENVIRONMENTAL VALUES</b> .....	<b>1</b>
1.1 ECOSYSTEM SERVICES.....	1
1.2 PHYSICAL INFLUENCES .....	2
1.3 HABITAT VARIETY .....	2
1.4 MARINE SPECIES .....	3
1.4.1 <i>Plants and algae</i> .....	3
1.4.2 <i>Bony fish, sharks and rays</i> .....	3
1.4.3 <i>Marine mammals</i> .....	3
1.4.4 <i>Seabirds and local and migratory shorebirds</i> .....	4
1.4.5 <i>Marine invertebrates</i> .....	4
<b>2 ECONOMIC VALUES</b> .....	<b>4</b>
2.1 AQUACULTURE .....	4
2.2 COMMERCIAL FISHING .....	5
2.3 TRANSPORT AND INFRASTRUCTURE .....	6
2.4 LOCAL TOURISM .....	6
<b>3 SOCIAL VALUES</b> .....	<b>6</b>
3.1 ABORIGINAL HERITAGE.....	7
3.1.1 <i>Language Groups</i> .....	7
3.1.2 <i>Agreements and Claims</i> .....	7
3.1.3 <i>Sites and Stories</i> .....	7
3.2 EUROPEAN HERITAGE .....	7
3.3 SCENIC VALUES .....	7
3.4 RECREATIONAL ACTIVITIES IN THE MARINE PARK.....	8
3.4.1 <i>Recreational beach and boat fishing locations</i> .....	8
3.4.2 <i>Popular surfing and swimming beaches</i> .....	9
3.4.3 <i>Popular diving locations</i> .....	9
3.4.4 <i>Other recreational activities in the park</i> .....	9
3.5 INTERPRETIVE AND EDUCATIONAL LOCATIONS WITHIN THE MARINE PARK.....	9
<b>APPENDIX 1 SPECIES LIST</b> .....	<b>10</b>
<b>REFERENCES AND SUGGESTED FURTHER READING</b> .....	<b>12</b>

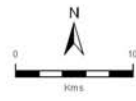
### PART 2 AN ATLAS OF MAPS

An atlas of maps containing environmental, economic and social/cultural information for this marine park has been produced as Part 2 of the Values Statement. The maps provide details specific to this park in a user-friendly visual format and may be viewed and downloaded from <http://www.marineparks.sa.gov.au>.

# Southern Spencer Gulf Marine Park



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



**Produced by** Coast and Marine Conservation  
Department for Environment and Heritage  
GPO Box 1047 Adelaide SA 5001  
[www.marineparks.sa.gov.au](http://www.marineparks.sa.gov.au)

**Data Source** Marine Parks, NPWSA,  
Bathymetry, Topographic Data - DEH  
Marine Bioregions - SARDI  
State Waters Jurisdiction - Geoscience Australia  
2 February 2010

**Compiled Projection Datum**  
Geographic Datum of Australia, 1994

©Copyright Department for Environment and Heritage 2010  
All Rights Reserved. All works and information displayed are subject to Copyright. For the reproduction or publication beyond that permitted by the Copyright Act 1968 (Cwth) written permission must be sought from the Department.

Although every effort has been made to ensure the accuracy of the information displayed, the Department, its agents, officers and employees make no representations, either express or implied, that the information displayed is accurate or fit for any purpose and expressly disclaims all liability for loss or damage arising from reliance upon the information displayed.



DEH MapID: 2010-3233

## **Southern Spencer Gulf Marine Park**

Spanning across transition zones of three of our bioregions: Spencer Gulf, Eyre and Gulf St Vincent, the Southern Spencer Gulf Marine Park covers 2,972 km<sup>2</sup> and extends around the eastern tip of Yorke Peninsula and across to the central north coast of Kangaroo Island. The marine park overlays the Althorpe Islands Conservation Park and parts of Innes National Park, Leven Beach Conservation Park and Western River Wilderness Area.

# 1 ENVIRONMENTAL VALUES

## 1.1 Ecosystem services

Ecosystems provide many critically important services that people benefit from, often at no direct cost to us. Examples of ecosystem services provided by coastal and marine habitats are shown in the following table. It is important to ensure that ecosystem health and integrity are maintained so that ecosystems continue to provide these services to us all.

Table adapted from McLeod, K and Leslie, H (2009).

	Life supporting services				Resources and products				Maintain earth's living space						Recreational and cultural services					
	Biogeochemical processes	Biophysical processes	Biodiversity	Nutrient cycling	Food	Fibre, fuel, shells etc	Non-biological materials (eg minerals)	Pharmaceuticals & nutraceuticals	Climate regulation	Waste processing	Flood/storm protection	Water flow/circulation	Erosion control	Water quality	Sediment quality	Cultural and amenity	Recreation and tourism	Aesthetics	Spiritual, religious, lifestyle	Education and research
Coastal, estuarine and marine habitat types																				
Bare sand	x	x	x	x	x	x	x			x		x		x	x	x	x	x	x	x
Seagrass	x	x	x	x	x	x		x	x	x		x	x	x	x	x	x	x	x	x
Reef (granite, limestone, calcarenite or low profile platform reef)	x	x	x	x	x	x	x	x	x	x		x	x	x		x	x	x	x	x
Water column	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x
Bedrock platform	x	x	x	x	x	x	x	x	x	x			x			x	x	x	x	x
Cliffs	x	x	x	x	x	x	x				x					x	x	x	x	x
Sandy beaches (dunes, coarse sand, fine sand)	x	x	x	x	x	x	x				x				x	x	x	x	x	x
Other beaches (boulder, pebble/cobble, mixed)	x	x	x	x	x	x	x				x		x		x	x	x	x	x	x

The Southern Spencer Gulf Marine Park will be designed to conserve examples of habitats and species found in the Spencer Gulf, Eyre and Gulf St Vincent Bioregions. Habitats, species and natural processes found here are summarised below.

## 1.2 Physical influences

Physical influences shape the type of habitats and species found in an area. Physical influences typical of this region include:

- localised strong tidal currents;
- low and high energy sandy beaches;
- clockwise circulation of Spencer Gulf waters;
- seasonal fluctuations in salinity caused by outflows along the eastern side of Spencer Gulf;
- variable depths and exposure to wind and wave energies, creating exposed, semi-sheltered and sheltered waters.

## 1.3 Habitat variety

**Table 1** Benthic (subtidal) habitats found in the Southern Spencer Gulf Marine Park

Benthic Habitat**	Area (km <sup>2</sup> )*	% of park
Bare sand	555	19%
Dense seagrass	165	6%
Medium seagrass	6	<1%
Sparse seagrass	<1	<1%
Heavy limestone reef	32	1%
Low profile platform reef	103	3%
Unmapped	2109	71%

\* habitat areas have been rounded to the nearest whole number

\*\*habitats included are those found from mapping at a resolution of 1:100,000

**Table 2** Shoreline (intertidal) habitats found in the Southern Spencer Gulf Marine Park

Shoreline Habitat	Length in park (km)*	% of park length
Boulder beach	2	1%
Bedrock platform	96	42%
Cliffs	21	9%
Coarse sandy beach	78	34%
Fine sandy beach	30	14%

\* habitat lengths have been rounded to the nearest whole number

The coastline of Hardwicke Bay contains broad, low energy beaches backed by extensive, densely vegetated sand dune systems. The shallow, marine embayment features seagrass meadows, sandy bottoms and extensive low platform and limestone reefs. Low energy pebble beaches and rocky shores in front of low cliffs are found in the Point Souttar area. Sandy beaches backed by low dunes continue to Corny Point, with shallow seagrass meadows and low profile reefs adjacent to the coast.

Along the 'toe' of Yorke Peninsula, the coast features exposed cliffs and high headlands, fronted by high energy intertidal reefs and shore platforms. The caves, crevasses and overhangs of the rocky reefs lead to sandy seafloors in deeper waters. Between the cliffs and headlands lie both sheltered and high energy sandy beaches, backed by sand dunes. The distinctive high energy Dust Hole Beach, south of Daly Head, is backed by huge mobile sand dunes. Seagrass meadows are a feature of the sheltered environs of Stenhouse Bay and Marion Bay. Chinamans Hat Island, off the coast of Innes National Park is a rim of broken cliffs and broad platforms, an arc of reef connects the islet to a nearby headland. There is reef of high relief and rocky outcrops near the western point. In the centre of Pondalowie Bay is Middle islet, which is separated from the mainland by a channel reef. The islet is composed of granite with calcarenite capping and dune. There is also a small semi-submerged reef around 740m west.

Off the coast of Stenhouse Bay is the group of Islands known as the Althorpe Islands, and consists of three main islands, Althorpe Island, Haystack Island and Seal Island. The habitat diversity in the area includes: near-shore benthic granitic basement reefs (platforms, ledges, boulders, caves, chasms, and crevasses, overhangs, rock walls, isolated reef outcrops and near-shore fringing reef patches); areas of small sandy beaches; and subtidal seagrass beds.

Extending across the Investigator Strait to Kangaroo Island, waters are up to 50 metres deep and include deeper water seagrass meadows and sandy seafloor habitats. The north coast of Kangaroo Island boasts the highest cliffs in South Australia, towering around 270m. Lying adjacent to the cliffs are platform bedrock reefs, occasionally interspersed with small sandy or boulder beaches.

## **1.4 Marine species**

The many habitats located within the Southern Spencer Gulf Marine Park support a variety of marine and coastal species, some of which have been identified as ecologically important. Refer to Appendix 1 for a more detailed list of species.

### *1.4.1 Plants and algae*

The Althorpe Islands, including Seal Island and Haystack Island contain a high species diversity of red macroalgae.

### *1.4.2 Bony fish, sharks and rays*

Fish species of conservation concern such as the harlequin fish, western blue devil, blue morwong and western blue groper can be found on many of the reefs throughout the marine park, including reef areas along Northern Kangaroo island and the south-western side of Yorke Peninsula and the Althorpe Islands. These fish have been identified as long-living, site attached species which are particularly vulnerable to fishing pressures. Browns Beach and other areas around the 'toe' of Yorke Peninsula are known nursery sites for juvenile blue gropers.

The inshore beach habitats and seagrass beds of lower Yorke Peninsula and Kangaroo Island provide spawning and nursery areas for many commercial and recreational fish species such as King George whiting, which are known to breed in the deep water patchy reef and seagrass habitats in Investigator Strait.

The bays on the 'toe' of Yorke Peninsula provide breeding and nursery areas for the Port Jackson shark. Other species of conservation concern that can be found in the park include coastal stingaree, whitespotted spurdog, spotted wobbegong, blue shark, dusky whaler, smooth hammerhead, school shark, shortfin mako and porbeagle, as well as the nationally *vulnerable* white shark. The shortfin mako and porbeagle were recently listed for protection under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The dusky whaler has been nominated for listing under the EPBC Act. Eight species of rays, stingarees or skates have been recorded along south-western Yorke Peninsula including fiddler, black and eagle rays.

Both leafy and weedy seadragons and other sygnathids such as the pipehorse, short-headed seahorse and southern pot-bellied seahorse inhabit various locations in the park including Hardwicke Bay, Althorpe Islands and southern Yorke Peninsula and northern Kangaroo Island. All species of sygnathids are protected in South Australia.

### *1.4.3 Marine mammals*

Haul out sites for the *vulnerable* Australian sea lion and New Zealand fur seal are located on the Althorpe Islands, with New Zealand fur seals also occasionally visiting the northern Kangaroo island coastline to haul-out.

Nationally *endangered* and state *vulnerable* southern right whales appear seasonally in the area and nationally protected bottlenose dolphins are regularly spotted.



#### 1.4.4 Seabirds and local and migratory shorebirds

There are many important sites for local and migratory shorebirds, as well as seabirds in this marine park such as the north coast of Kangaroo Island and the coastline of Innes National Park. Bird species recorded from these areas include the Caspian tern, crested tern, state *rare* eastern reef egret, state *vulnerable* hooded plover and little penguin, all of which are nationally protected. The state *rare* peregrine falcon, state *endangered* osprey and state *endangered* white-bellied sea eagle have also been recorded. Seal Island has breeding colonies of the state *endangered* fairy tern and state *rare* rock parrot, while short-tailed shearwaters and crested terns breed on Althorpe Islands.

#### 1.4.5 Marine invertebrates

The rarely recorded tropical nudibranch *Crosslandia viridis* has been reported around Point Turton. The nudibranch *Hypselodoris saintvincentius* may be endemic to South Australia and has been recorded on southern Yorke Peninsula. Commercially important species such as southern calamari and greenlip abalone use the nearshore reefs, seagrass and sandy seafloor. Juvenile sand crabs and bait worms can be found in the tidal flats of Hardwicke Bay.

Divers have reported a high diversity of sponges, soft corals, gorgonian corals, sea stars and molluscs on south western Yorke Peninsula and north western Kangaroo Island. Gorgonian corals are locally abundant around south western Yorke Peninsula and the islands, especially Haystack Island. A number of ascidians that are considered endemic to or uncommon in South Australia have been recorded in Investigator Strait.

For further environmental and social information refer to <http://www.marineparks.sa.gov.au>

## 2 ECONOMIC VALUES

The marine environment is an important source of wealth for South Australia and its coastal communities. Marine parks will be designed to accommodate existing economic activities wherever possible. The main economic activities in the Southern Spencer Gulf Marine Park are summarised below. Information in the Aquaculture and Commercial fishing sections have been provided by PIRSA.

### 2.1 Aquaculture

The South Australian aquaculture industry had a direct output value of \$324 million in 2008/2009 (EconSearch, 2010a). Marine species grown and harvested in South Australia include (but are not limited to) Pacific oysters and mussels (bivalve molluscs), southern bluefin tuna (prescribed wild caught tuna), abalone, yellow-tail kingfish and other species of finfish (aquatic animals – other than prescribed wild caught tuna – which require regular feeding).

**Table 3.** The statewide economic value of aquaculture industries in South Australia, 2008/09 (excludes freshwater aquaculture)

	Gross value of on-farm production (\$m)	Value to downstream* sectors (\$m)	On-farm number of employees (FTE)	Number of employees in downstream* sectors (FTE)
Southern bluefin tuna (prescribed wild caught tuna)	\$157.8	\$16.0	348	58
Bivalve molluscs (oysters)	\$32.6	\$42.6	529	252
Finfish (other than prescribed wild caught tuna)	\$29.2	\$15.4	108	84
Bivalve molluscs (mussels)	\$2.5	\$2.8	114	16
Abalone	\$8.1	\$0	64	0
Other	\$10.9	\$0	44	0

EconSearch, 2010a

\* Downstream activities include processing, transport, retail and food service.

The Eastern Spencer Gulf aquaculture zone policy exists in this marine park. Specifically, the inner, middle and outer subtidal aquaculture zones in Hardwicke Bay fall within the marine park boundary. Abalone are currently grown in the zones however the zones do allow for the farming of other molluscs. The Eastern Spencer Gulf aquaculture zone policy is currently under review (as at October 2010). A map showing current active sites, applications and aquaculture zone policies can be accessed online through the Aquaculture Public Register at: [http://www.pir.sa.gov.au/aquaculture/public\\_register](http://www.pir.sa.gov.au/aquaculture/public_register)

## 2.2 Commercial fishing

The commercial fisheries that operate in the Southern Spencer Gulf Marine Park are:

- Central Zone Abalone Fishery;
- Northern Zone Rock Lobster Fishery;
- Spencer Gulf Prawn Fishery;
- Sardine Fishery; and
- Marine Scalefish Fishery.

The value of each of these fisheries, including the direct and flow-on values, as well as the number of employees and export values, where available, are listed below. Note that the values provided below are for the entire area of the fishery and may not be specific to the Southern Spencer Gulf Marine Park.

**Table 4.** The 2008/09 economic value of fisheries operating in the marine park for relevant fishery areas (figures are not specific to the park area and include catches from outside the marine park boundary).

	Catch value(\$m)	Value of flow-on to other sectors (\$m)	Fishing (FTE) employment	Flow-on (FTE) employment
<b>Abalone (State)</b>	30	45.2	90	225
<b>Abalone (Central Zone)</b>	5.7			
<b>Northern Zone Rock Lobster (State)</b>	19.3	34.2	155	169
<b>Prawn (Spencer Gulf &amp; West Coast)</b>	30.8	71.2	185	342
<b>Sardine (State)</b>	17.5	22.7	48	110
<b>Marine Scalefish (Gulf St Vincent/ Kangaroo Island)#</b>	7.2	6.0	192	34

Econsearch 2010b, c, d, e and f.

# note the park is also part of the Spencer Gulf/Coffin Bay area of the MSF, but Gulf St Vincent/ Kangaroo Island figures have been used.

These fisheries are important to regional economies of the area both directly, through employment in each fishery, and indirectly, through a range of additional services such as processing, local transport, marketing, local retail and food services. Each of these activities generates flow-on effects to other sectors, through purchases of inputs and employment of labour.

The abalone fishery targets greenlip and blacklip abalone. The park lies within the Central Zone Abalone Fishery, which produced 18% of the State's total abalone harvest in 2008/09.

The park is part of the Northern Zone Rock Lobster Fishery, which operates from November to May. The northern zone contributes around 20% of the \$105m state-wide catch of southern rock lobster. The foot of Yorke Peninsula is an important area for the fishery.

The Spencer Gulf Prawn Fishery is the largest of the three prawn fisheries in South Australia. Over 80% of South Australia's king prawn harvest comes from Spencer Gulf, with 1,800 tonnes taken from that region in 2008/09.

The South Australian fishery for Australian sardine is the largest fishery by volume in Australia and is based out of Port Lincoln. Important waters include lower Eyre Peninsula and lower Spencer Gulf. The fishery has expanded rapidly over the past decade, providing a key source of feed for the growing aquaculture industry based in Port Lincoln.

The Marine Scalefish Fishery is a diverse multi-species, multi-gear fishery that operates across State waters, targeting four key species: Snapper, King George whiting, southern garfish and southern calamari. The King George whiting fishery in Spencer Gulf is the second most significant region for the fishery, after the west coast. The catch of King George whiting from southern Spencer Gulf was about 23% of the State catch in 2007-08.

Fishing charters also operate from a number of locations throughout this region.

For further information or to view maps of the fishing regions visit:

[http://www.sardi.sa.gov.au/\\_data/assets/pdf\\_file/0010/99739/No\\_305\\_South\\_Australian\\_Wild\\_Fishes\\_Information\\_and\\_Stats\\_report\\_200708\\_published.pdf](http://www.sardi.sa.gov.au/_data/assets/pdf_file/0010/99739/No_305_South_Australian_Wild_Fishes_Information_and_Stats_report_200708_published.pdf)

### **2.3 Transport and infrastructure**

Transport and infrastructure provide an important economic contribution to the region, providing for maritime activities such as: shipping ports for import and export of goods; boat ramps for launching of recreation or commercial vessels; jetties for fishing; and breakwaters and groynes for coastal management.

### **2.4 Local tourism**

Tourism is an important element of the region's economy. Yorke Peninsula has more intrastate visitors than any other tourist region in South Australia outside Adelaide. In 2009, the region attracted an estimated 435,000 visitors, staying more than 1.4 million nights, and a further 434,000 day-trip visitors. It was estimated that overnight and day-trip visitors spent \$162 million. Going to the beach and fishing are the top two activities for tourists in Yorke Peninsula.

Kangaroo Island is a premier tourism drawcard with an abundance of nature-based tourism opportunities on offer including swimming, fishing, boating, surfing, scuba diving, walking, and wildlife viewing. In 2008-09 Kangaroo Island attracted over 180,000 visitors who spent over 670,000 nights in the region, spending an estimated \$107m.

In 2008/09 77% of tourists observed and interacted with native animals and wildlife on the island. Going to the beach has become more popular over the last three years from 41% in 06/07 to 49% in 08/09. Visitors also enjoy other marine activities such as boating/fishing (15%) and scuba diving/snorkelling (6%). Snelling Beach and Western River Cove attract 17% and 10% of visitors to the island, respectively.

In 2008/09 Innes National Park recorded 126,571 visitors.

## **3 SOCIAL VALUES**

The marine environment is an important recreational asset for coastal communities. Marine parks will be designed to accommodate existing recreational activities wherever possible. This section highlights the social values of the Southern Spencer Gulf Marine Park and is separated into four parts:

- Aboriginal and European cultural heritage;
- scenic values;
- recreational activities and popular locations; and

- interpretive and educational opportunities.

### **3.1 Aboriginal heritage**

Aboriginal people have interacted with the marine environment for thousands of years and their relationships with the sea remain strong through customs, laws and traditions. Traditional usage, Aboriginal cultural heritage, Indigenous Protected Areas (IPAs), Indigenous Land Use Agreements (ILUAs) and Native Title considerations will be taken into account in developing the management plan for the Southern Spencer Gulf Marine Park.

#### *3.1.1 Language Groups*

The Narungga Aboriginal people have traditional associations with areas of the marine park including estuarine and coastal environments which provide food and resources for local Aboriginal people and still hold strong cultural significance today.

#### *3.1.2 Agreements and Claims*

Parts of the marine park are subject to an Indigenous Land Use Agreement (ILUA) with the Narungga People of Yorke Peninsula.

#### *3.1.3 Sites and Stories*

Kangaroo Island is believed to contain many cultural heritage sites from when the Island was connected to the main land, as well as more recently from the early 19<sup>th</sup> century when many Aboriginal women were taken to Kangaroo Island from Kaurna, Ngarrindjeri and Tasmanian Aboriginal groups by sealers and whalers.

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

### **3.2 European heritage**

Where possible, the management plan for the Southern Spencer Gulf Marine Park will recognise and complement sites of cultural and maritime heritage.

In 1802 Matthew Flinders named and mapped Yorke Peninsula, describing it as an 'ill shaped leg and foot'. He also named Investigator Strait. This narrow stretch of water was later to become a busy thoroughfare for vessels moving between Adelaide and coastal, interstate or overseas ports.

Many ships were wrecked in the waters of Investigator Strait or the southwest coast of Yorke Peninsula. Some, such as the *Hougomont* (1933), *Ismyr* (1879), *Ethel* (1904) and the *Willyama* (1907) are identified in the Investigator Strait Shipwreck Trail. The Finnish vessel *Fides* was wrecked on the north coast of Kangaroo Island in 1860. Others, like the *Pareora* (1919) and the *Young St George* (1878) were wrecked off Althorpe Islands. At least 40 known shipwrecks lie in the marine park, 26 of which are included in the Investigator Strait Maritime Heritage Trail.

The lighthouse, keeper's cottages, jetty and flying fox on Althorpe Island are listed in the State Heritage Register.

Gypsum mining began in the 1870s at Lake Fowler and later Marion Bay and Inneston. Gypsum was exported from the State heritage listed jetty and loading plant at Stenhouse Bay. The jetties at Marion Bay and Point Turton have been identified for their importance to the local communities.

Coastal geological features such as Corny Point, Point Turton, Browns Beach and Meteor Bay are identified as geological monuments.

### **3.3 Scenic values**

The scenic quality of South Australia's coast is a significant social, economic and environmental resource. The coastline has high amenity value and includes high quality landscapes, also known as viewsapes. The significance or quality of viewsapes is derived from a combination of

landform (relative relief, variety and complexity of landscapes), land cover (nature, scale and variety of vegetation), land use (impact of human activity), water, diversity, naturalism and colour.

The coastline of the Southern Spencer Gulf Marine Park has high scenic values, with some sections on both Yorke Peninsula and Kangaroo Island included among the highest ranked areas of coastal scenic quality in the State (Lothian 2005).

Along the high energy southern coast of Yorke Peninsula is a diverse landscape of beaches and dunes and low cliffs. The rugged and impressive west-facing coastline between Marion Bay and Corny Point comprises some of the most spectacular coastline in the State, with high cliffs (Cape Spencer, Reef Head), prominent headlands (West Cape, Royston Head, Daly Head, Corny Point) and long beaches with high dunes (Pondalowie Bay, Brown's Beach). The coastline between Corny Point and Port Minlacowie is of less scenic value where wide bays with beaches and dunes are separated by low headlands.

The entire section of the Kangaroo Island coastline within the marine park provides some of the State's most dramatic coastal scenery. It is a heavily indented coastline of high cliffs (up to 60m), intervening spurs and small bays (King George Beach, Snelling Beach, Western River Cove, Seal Beach and Snug Cove).

Scenic values of the offshore islands have not been assessed.

Scenic values of coastline in the Southern Spencer Gulf Marine Park (Lothian 2005).

*Kangaroo Island*

Rating	Coastal landform type	Ranking
7.0 – 8.0	High cliffs	High
7.0 – 8.0	Headlands and bays	High

*Yorke Peninsula*

Rating	Coastal landform type	Ranking
7.75 – 8.25	High cliffs	High
5.75 – 6.5	Low cliffs	Moderate
6.75 – 7.0	Headlands and bays	Moderate
6.0 – 6.5	Dunes and beaches	Moderate

For further information on coastal scenic values and viewsapes refer to <http://www.environment.sa.gov.au/coasts/management/coastal-viewsapes.html>

### **3.4 Recreational activities in the marine park**

The coastal and marine environments of the Southern Spencer Gulf Marine Park are very popular with recreational fishers, boat users, snorkellers, scuba divers, swimmers, and sightseers. Examples of these activities are provided below.

#### *3.4.1 Recreational beach and boat fishing locations*

Recreational fishing is a popular past time in South Australia. Recreational fishers collectively harvest significant proportions of the total catch for a number of key species. The total number of recreational fishers for the Southern Spencer Gulf (region 12, 13, 14 & 20) during 07/08 was 40,563 which amounted to 120,952 days of fishing. (Note figures relate to regions used for reporting fishing activities and include catches from outside the marine park boundary). King George whiting, snapper, southern garfish, southern calamari and blue swimmer crab were the most frequently caught species for the Southern Spencer Gulf region.

Recreational fishing is popular in many locations throughout this marine park, such as Hardwicke Bay to Corny Point, in Marion Bay, around the Althorpe Islands and off the north coast of Kangaroo Island, near access points such as Snellings Beach. Boat access is available at boat ramps in the marine park including Port Minlacowie, Point Turton and Marion Bay. Numerous beach launching locations also exist. There are several jetties located in the marine park including Point Turton, Stenhouse Bay, Marion Bay and Althorpe Island.

Charter boat operations are based in a number of locations, catering for fishing, diving, scenic tours and whale watching.

#### *3.4.2 Popular surfing and swimming beaches*

The southwest corner of Yorke Peninsula is one of Australia's great surfing drawcards, boasting numerous surfing spots and hosting major surfing competitions. There are numerous surfing locations within Innes National park including Chinamans, West Cape and Pondalowie Bay. Various other sites exist along the coast from Gleasons Landing to Point Margaret.

Swimming beaches can be found in the numerous sheltered bays, around the toe of the Peninsula with the safest and most sheltered beaches occurring along the northern facing coastline from Corny Point to Hardwicke Bay.

#### *3.4.3 Popular diving locations*

Popular diving locations include the jetties at Point Turton, Stenhouse Bay and Marion Bay, as well as the Althorpe Islands. Kangaroo Island is also highly rated as a diving location, famous for its clear waters, beautiful reefs and abundant marine life. Stenhouse Bay jetty also provides access to some of the shipwrecks in the area.

#### *3.4.4 Other recreational activities in the park*

There are several popular camping areas located adjacent to the marine park, between Corny Point and Marion Bay, mainly in the Innes National Park.

### ***3.5 Interpretive and educational locations within the marine park***

The Investigator Strait Maritime Heritage Trail lies between Yorke Peninsula and Kangaroo Island and highlights 10 of the 26 shipwrecks dating from 1849 to 1982.

## APPENDIX 1 SPECIES LIST

This list of some of the species identified in the Southern Spencer Gulf Marine Park indicates the diversity of species found there.

### ***Bony fish, sharks and rays***

Australian sardine	<i>Sardinops neopilchardus</i>
black ray	<i>Dasyatis thetidis</i>
blue morwong	<i>Nemadactylus valenciennesi</i>
blue shark	<i>Prionace glauca</i>
coastal stingaree	<i>Urolophus orarius</i>
crested pipefish	<i>Histiogamphelus cristatus</i>
dusky whaler	<i>Carcharhinus obscurus</i>
eagle ray	<i>Myliobatis australis</i>
fiddler ray	<i>Trygonorrhina fasciata</i>
harlequin fish	<i>Othos dentex</i>
King George whiting	<i>Sillaginodes punctata</i>
leafy seadragon	<i>Phycodurus equus</i>
pipehorse	<i>Solegnathus</i> spp.
porbeagle	<i>Lamna nasus</i>
Port Jackson shark	<i>Heterodontus galeatus</i>
school shark	<i>Galeorhinus galeus</i>
shortfin mako	<i>Isurus oxyrinchus</i>
short-headed seahorse	<i>Hippocampus breviceps</i>
smooth hammerhead	<i>Sphyrna zygaena</i>
southern bluefin tuna	<i>Thunnus maccoyi</i>
southern garfish	<i>Hyporhamphus melanochir</i>
southern pot-bellied seahorse	<i>Hippocampus bleekeri</i>
spotted wobblygong	<i>Orectolobus maculatus</i>
weedy seadragon	<i>Phyllopteryx taeniolatus</i>
western blue devil	<i>Paraplesiops meleagris</i>
western blue groper	<i>Achoerodus gouldii</i>
white shark	<i>Carcharhinus brachyurus</i>
whitespotted spurdog	<i>Squalus acanthias</i>
yellow-tail kingfish	<i>Seriola lalandi</i>

### ***Marine mammals***

Australian sea lion	<i>Neophoca cinerea</i>
bottlenose dolphin	<i>Tursiops truncatus</i>
New Zealand fur seal	<i>Arctocephalus forsteri</i>
southern right whale	<i>Eubalaena australis</i>

### ***Seabirds and local and migratory shorebirds***

Caspian tern	<i>Sterna caspia</i>
crested tern	<i>Sterna bergii</i>
eastern reef egret	<i>Egretta sacra</i>
fairy tern	<i>Sterna nereis</i>
hooded plover	<i>Thinornis rubricollis</i>
little penguin	<i>Eudyptula minor</i>
osprey	<i>Pandion haliaetus</i>
peregrine falcon	<i>Falco peregrinus</i>
rock parrot	<i>Neophema petrophila</i>
short-tailed shearwaters	<i>Puffinus tenuirostris</i>
white-bellied sea eagle	<i>Fregetta grallaria grallaria</i>

### ***Marine invertebrates***

ascidian	Ascidiacea
----------	------------

blacklip abalone	<i>Haliotis rubra</i>
gorgonian	Alcyonacea
greenlip abalone	<i>Haliotis laevis</i>
king prawn	<i>Melicertus latisulcatus</i>
King scallop	<i>Pecten fumatus</i>
mussel	Mytilidae
nudibranch	Nudibranchia
Pacific oyster	<i>Crassostrea gigas</i>
sand crab	<i>Ovalipes australiensis</i>
sea star	Asteroidea
soft coral	Alcyonacea
southern calamari	<i>Sepioteuthis australis</i>
southern rock lobster	<i>Jasus edwardsii</i>
sponge	Porifera



## REFERENCES AND SUGGESTED FURTHER READING

- A National Approach to Addressing Marine Biodiversity Decline Report to the Natural Resource Management Ministerial Council:  
<http://www.environment.gov.au/coasts/publications/marine-diversity-decline/index.html>
- Australian Construction Services. (1991). *Althorpe Island Lightstation Conservation Plan*, Australian Maritime Safety Authority, Canberra.
- Baker, J.L. (2004). *Towards a System of Ecologically Representative Marine Protected Areas in South Australian Marine Bioregions* - Technical Report. Prepared for Coast and Marine Conservation Branch, Department for Environment and Heritage, South Australia.  
<http://marineparkssa.ning.com/page/publications-reports#technical>
- Danvers Architects. (1993). *Corny Point Lightstation Conservation Plan*. Australian Maritime Safety Authority, Canberra.
- Department for Environment and Heritage. (2009). *A technical report on the outer boundaries of South Australia's marine parks network*: 21-26. Department for Environment and Heritage, South Australia. <http://marineparkssa.ning.com/page/publications-reports#technical>
- EconSearch. (2010a). *The Economic Impact of Aquaculture on the South Australian State and Regional Economies, 2008/09*. Report prepared for PIRSA Aquaculture, South Australia, Adelaide.  
[http://www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0007/138859/AquImpacts09\\_Final\\_100727.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0007/138859/AquImpacts09_Final_100727.pdf)
- EconSearch. (2010b). *Economic Indicators for the South Australian Abalone Fishery, 2008/09*. Report prepared for Primary Industries and Resources South Australia, Adelaide.
- EconSearch. (2010c). *Economic Indicators for the South Australian Marine Scalefish Fishery, 2008/09*. Report prepared for Primary Industries and Resources South Australia, Adelaide.
- EconSearch. (2010d). *Economic Indicators for the Spencer Gulf and West Coast Prawn Fisheries of South Australia, 2008/09*. Report prepared for Primary Industries and Resources South Australia, Adelaide.
- EconSearch. (2010e). *Economic Indicators for the South Australian Northern Zone Rock Lobster Fishery 2008/09*. Report prepared for Primary Industries and Resources South Australia, Adelaide.
- EconSearch. (2010f). *Economic Indicators for the South Australian Sardine Fishery 2008/09*. Report prepared for Primary Industries and Resources South Australia, Adelaide.
- For further information on fisheries economic indicators visit:  
[http://www.pir.sa.gov.au/fisheries/commercial\\_fishing/abalone\\_fishery/economic\\_performance\\_indicators](http://www.pir.sa.gov.au/fisheries/commercial_fishing/abalone_fishery/economic_performance_indicators)
- Edyvane K.S. (1999). *Conserving Marine Biodiversity in South Australia – Part 2 – Identification of areas of high conservation value in South Australia*. South Australian Research and Development Institute, Aquatic Sciences, Adelaide.  
[http://www.sardi.sa.gov.au/aquatic/marine\\_environment\\_and\\_ecology\\_program/environmental\\_assessment\\_mitigation\\_and\\_rehabilitation\\_subprogram/marine\\_biodiversity](http://www.sardi.sa.gov.au/aquatic/marine_environment_and_ecology_program/environmental_assessment_mitigation_and_rehabilitation_subprogram/marine_biodiversity)
- Fleurieu Regional Development Corporation: [www.frd.org.au](http://www.frd.org.au)
- Flinders, M. 1814, *A Voyage to Terra Australis*, Facsim Reprint, 1989, SA Government Printer Netley. First published: London: G & W Nicol, 1814.
- Jones K. (2009). *South Australian Recreational Fishing Survey*. PIRSA Fisheries, Adelaide, South Australian Fisheries Management Series Paper No 54.
- Lothian, A. (2005). *Coastal Viewscapes of South Australia*, Report for the Coast Protection Branch, SA Department for Environment and Heritage.  
<http://www.environment.sa.gov.au/coasts/management/coastal-viewscapes.html>
- Goldsworthy S.D. and Page B. (2009) *A review of the distribution of seals in South Australia*. Report to the Department for the Environment, Water, Heritage and the Arts. SARDI Aquatic Sciences Publication Number: F2009/000368-1. SARDI Research report Series Number: 373.
- Goldsworthy S.D., McKenzie J., Shaughnessy P.D., McIntosh R. R., Page B. and Campbell R. (2009). *An update of the report: understanding the impediments to the growth of Australian sea lion populations*. Report to the Department for the Environment, Water, Heritage and the Arts. SARDI Aquatic Sciences Publication Number: F2008/000847-1. SARDI Research report Series Number: 356.

Investigator Strait Shipwreck Trail:  
[www.environment.sa.gov.au/heritage/resources/shipwreck\\_trails.html](http://www.environment.sa.gov.au/heritage/resources/shipwreck_trails.html)

Kangaroo Island Development Board: [www.kangarooisland.org](http://www.kangarooisland.org)

Kangaroo Island Shipwreck Trail:  
[www.environment.sa.gov.au/heritage/resources/shipwreck\\_trails.html](http://www.environment.sa.gov.au/heritage/resources/shipwreck_trails.html)

Kangaroo Island Tourism Optimisation Management Model: <http://www.tomm.info/>

McLeod K. and Leslie H. (ed) (2009). *Ecosystem-based Management for the oceans*. Island Press Washington.

Middleton J.F. and Bye A.T. (2007). A review of the shelf-slope circulation along Australia's southern shelves: Cape Leeuwin to Portland. *Progress in Oceanography*, 75: 1-41.  
[http://www.flinders.edu.au/science\\_engineering/biology/our-school/staff-postgrads/research\\_pages/middleton/circ-sthrn.cfm](http://www.flinders.edu.au/science_engineering/biology/our-school/staff-postgrads/research_pages/middleton/circ-sthrn.cfm)

NatureMaps: an interactive online mapping tool <http://www.naturemaps.sa.gov.au/>

Policy commitments relating to activities such as fishing, aquaculture and mining can be found at:  
<http://marineparkssa.ning.com/page/fact-sheets>

Radford, A. (2005). 'Human Settlement on Althorpe Island and Condition of the Lighthouse Complex' in *Transactions of the Royal Society of S Aust* (2005), 129(2), 94-99

Robinson, A.C., Canty, P., Mooney, P. & Rudduck, P. (1996), *South Australia's Offshore Islands*. Australian Heritage Commission and Department of Environment and Natural Resources, SA

Shaughnessy, P.D. & Goldsworthy S.D. (2007). *Population assessment of fur seal and sea lions at some colonies in South Australia, 2006-2007*. Final report to the Department for Environment and Heritage, South Australia and the South Australian Wildlife Conservation Fund. SARDI Aquatic Sciences Publication Number: F2007/000750-1. SARDI Research report Series Number: 236, 43pp.  
[http://www.sardi.sa.gov.au/\\_data/assets/pdf\\_file/0017/113480/No\\_236\\_Population\\_assessment\\_of\\_fur\\_seals\\_and\\_sea\\_lions\\_at\\_some\\_colonies\\_in\\_South\\_Australia\\_2006-07.pdf](http://www.sardi.sa.gov.au/_data/assets/pdf_file/0017/113480/No_236_Population_assessment_of_fur_seals_and_sea_lions_at_some_colonies_in_South_Australia_2006-07.pdf)

South Australian Tourism Commission. (2010). *Yorke Peninsula 2009: Regional tourism profile*. SATC, Adelaide. <http://www.tourism.sa.gov.au/>

State of the Environment Report 2008: <http://www.epa.sa.gov.au/soe>

State Library of New South Wales, Matthew Flinders Collection:  
[http://www.sl.nsw.gov.au/discover\\_collections/history\\_nation/terra\\_australis/flinders.html](http://www.sl.nsw.gov.au/discover_collections/history_nation/terra_australis/flinders.html)

Tourism Research Australia. (2010). *Regional Tourism Profiles 2008/09 South Australia, Kangaroo Island Region*. TRA. Belconnen ACT.  
<http://www.ret.gov.au/tourism/tra/regional/government/Pages/default.aspx>

Weidenhofer Architects. (1998). *Heritage of the Yorke Peninsula*. Department for Environment, Heritage and Aboriginal Affairs, District Councils of Barunga West, Copper Coast and Yorke Peninsula