Marine Parks

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Environmental, Economic and Social Values of the Lower Yorke Peninsula Marine Park

PART 1

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Cite as:
Department of Environment and Natural Resources (2010), *Environmental, Economic and Social Values of the Lower Yorke Peninsula 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.

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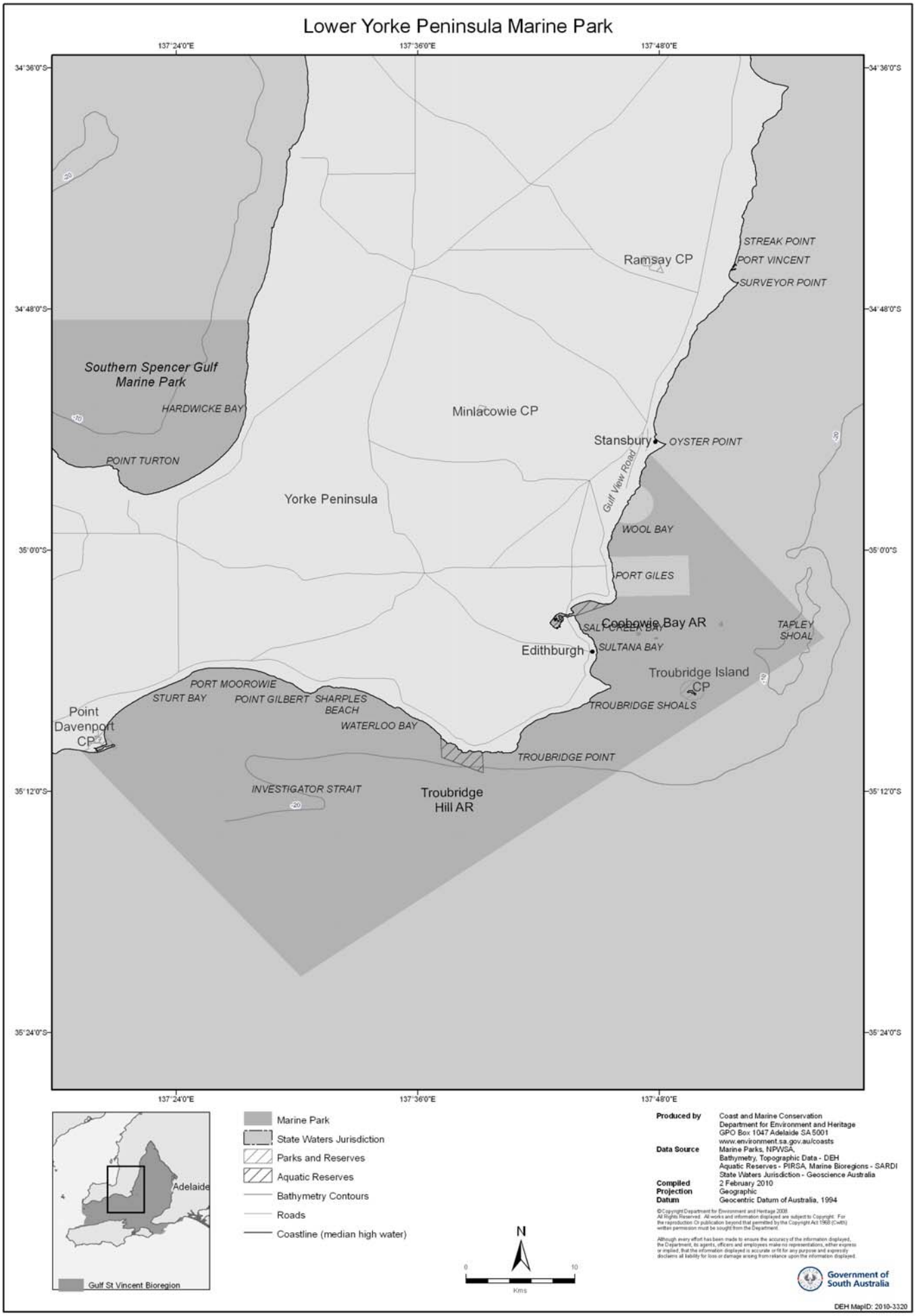
PART 2 AN ATLAS OF MAPS

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.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Adelaide
Gulf St Vincent Bioregion
Marine Park
State Waters Jurisdiction
Parks and Reserves
Aquatic Reserves
Bathymetry Contours
Roads
Coastline (median high water)
N
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Kms
Produced by
Coast and Marine Conservation
Department for Environment and Heritage
GPO Box 1047 Adelaide SA 5001
www.environment.sa.gov.au/coasts
Data Source
Marine Parks, NPWSA,
Bathymetry, Topographic Data - DEH
Aquatic Reserves - PIRSA, Marine Bioregions - SARDI
State Waters Jurisdiction - Geoscience Australia
Compiled
2 February 2010
Projection
Geographic
Datum
Geocentric Datum of Australia, 1994
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Government of South Australia
DEH MapID: 2010-3320

Lower Yorke Peninsula Marine Park

Covering around 850 km^2 and situated in the Gulf St Vincent Bioregion, the Lower Yorke Peninsula Marine Park is located around the heel of Yorke Peninsula, from Point Davenport Conservation Park to near Stansbury, and includes Troubridge Island. This marine park also overlays Coobowie Bay and Troubridge Hill Aquatic Reserves, Troubridge Island Conservation Park and partially overlays Point Davenport Conservation Park.

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				
Coastal, estuarine and marine habitat types	Biogeochemical processes	Biophysical processes	Biodiversity	Nutrient cycling	Food	Fibre, fuel, shells etc	Non-biological materials (eg minerals)	Pharmaceuticals & nutriceuticals	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
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	x
Intertidal seagrass	x	x	x	x	x	x		x	x	x		x	x	x	x	x	x	x	x	x

The Lower Yorke Peninsula Marine Park will be designed to conserve examples of habitats and species found in the Gulf St Vincent Bioregion. 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:

- strong tidal currents which pass through Investigator Strait and Backstairs Passage;
- exposure to wind and wave energy, strong tidal current flow and strong wind-induced waves;
- the wind-driven water flows in the Troubridge area, which move north-easterly into Gulf St Vincent.

1.3 Habitat variety

Table 1 Benthic (subtidal) habitats found in the Lower Yorke Peninsula Marine Park

Benthic Habitat**	Area (km²)*	% of park
Bare sand	41	5%
Dense seagrass	111	13%
Dense seagrass patches	2	0%
Medium seagrass	98	12%
Heavy limestone reef	1	0%
Low profile platform reef	153	18%
Unmapped	442	52%

* 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 Lower Yorke Peninsula Marine Park

Shoreline Habitat	Length in park (km)*	% of park length
Bedrock platform	18	22%
Cliffs	11	14%
Coarse sandy beach	51	62%
Intertidal seagrass	2	2%

* habitat lengths have been rounded to the nearest whole number

The park contains a range of rocky and sandy habitat types, including the high current shoal grounds adjacent to Edithburgh, and the unique mobile sand spit of Troubridge Island. There are large areas of low profile platform reef interspersed with sandy seafloor and seagrass beds in the waters from Troubridge Point to Oyster Point. Troubridge and Tapley Shoals are included within the park.

Sturt and Waterloo Bays contain large areas of dense and medium seagrass meadows scattered with sandy seafloor patches. The seagrass meadows of northern Investigator Strait and the heel of Yorke Peninsula contribute significantly to the primary productivity of the region. The seagrasses trap and stabilise sediment floating in the water and provide important habitat for scalefish and prawns in the region.

The sheltered to moderately exposed shoreline of the marine park contributes many kilometres of sandy beaches backed by well vegetated sand dunes and significant sections of cliffs and rocky coasts. The east facing coastline from Sultana Point to Stansbury is dominated by limestone cliff slopes and includes mostly sheltered, low rocky shores, bays and some sandy beaches.

Salt Creek and Point Davenport are the only two estuaries on lower Yorke Peninsula and both of these important habitats are included in the marine park. Point Davenport is listed as a wetland of national significance. Estuaries harbour habitats for native plants and animals and are important for conservation of biodiversity. Their environments support commercial and recreational fisheries

by providing nursery areas where many fish and crustacean species spend their early life stages before moving offshore. These species can include King George whiting, yellow-eye mullet and blue swimmer crab. Estuaries carry nutrients which are important for the plants and animals within and around the estuary.

1.4 Marine species

The many habitats located within the Lower Yorke Peninsula 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. The Lower Yorke Peninsula Marine Park features:

- one of the few areas in South Australia where the broadnose sevengill shark have been recorded;
- an important spawning and nursery area for King George whiting, in locations such as Tapley shoal;
- many species of local and migratory shorebirds at Salt Creek, Coobowie and habitat for over 40 species of coastal and sea birds on Troubridge Island;
- an abundance of gorgonian corals around Troubridge Point;
- several uncommon species of squid including the stripe pyjama squid and southern pygmy squid.

1.4.1 Plants and algae

The reef habitat around Edithburgh supports algal species of limited range, including the red macroalgal species *Bonnemaisonia spinescens* and the brown macroalgal species *Spatoglossum australasicum*. Around Troubridge the reefs are dominated by *Cystophora* species and *Ecklonia*. The low lying reefs around Troubridge contain abundant deep water red algae communities. Also present but not so dominant are *Sargassum* species and *Osmundaria* and an understorey of a mix of red, coralline and small brown algae. The uncommon coralline red species *Amphiroa garcilis* is found in the region. The shallow subtidal seagrass beds that dominate the heel of Yorke Peninsula comprise mainly of *Posidonia* with *Heterozostera* and *Halophila* being present. In the shallows around Coobowie there is calcarenite reef with *Sacberia*, turfing browns, *Ulva* and *Heterozostera* patches in sand. The nearshore area of Port Giles comprises of dense beds of *Posidonia* as well as a mixed habitat of *Amphibolis* interspersed with rocky reef. The rocky reef areas are covered with *Cystophora* species, *Sargassum* species, *Ecklonia* and *Scaberia* with filamentous red algae as an understorey.

1.4.2 Bony fish, sharks and rays

Edithburgh is one of a few areas in South Australia where the broadnose sevengill shark and South Australian endemic coastal stingaree have been recorded. Edithburgh also has a very high number of Port Jackson shark egg cases. Other sharks of conservation concern in the region include whitespotted spurdog, spotted wobbygong, dusky whaler, smooth hammerhead and school shark as well as the nationally *vulnerable* white shark. The dusky whaler has been nominated for listing under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

Restoration works at Salt Creek, Coobowie have reinstated tidal flows to this once rich coastal wetland, known to be an important nursery area for juvenile King George whiting and many other fish species. Tapley Shoal is a spawning area for King George whiting and an important feeding area for other recreational and commercial fish species. Spawning of King George whiting occurs during March to May in the offshore grounds to which the fish migrate. The resulting larvae are advected (move with the currents) northwards where they settle in shallow protected bays during winter and spring each year.

A high diversity of fish can be found around the heel of Yorke Peninsula including reef fish of conservation concern such as the harlequin fish, western blue devil and western blue groper. Other reef dwellers that can be seen include Victorian scalyfin, magpie perch, rock whiting, western talma and herring cale.

This area also provides habitat for leafy and weedy seadragons, two species of seahorse and various pipefish species. The pipefish can be found in the seagrass beds and sandy bottoms of the area. The Gulf pipefish may be endemic to the gulf areas, although not much is known about it.

1.4.3 Marine mammals

Nationally *endangered* and state *vulnerable* southern right whales may be seen off the southern end of Yorke Peninsula during their winter migration period and nationally protected bottlenose dolphins are regularly spotted in the area.

1.4.4 Seabirds and local and migratory shorebirds

Point Moorowie to Troubridge Point provides habitat for the state *endangered* osprey and white-bellied sea eagle.

Over 40 species of coastal birds and sea birds have been recorded on Troubridge Island, including the state *vulnerable* hooded plover and the state *rare* Cape Barren goose, peregrine falcon and rock parrot. The state *endangered* fairy tern, nationally protected black-faced cormorant and Pacific gull breed on the island. It is also an important summer feeding ground for international migratory waders and seabirds including the nationally protected crested and Caspian terns. The Arctic skua, protected under international treatise, also inhabits Troubridge Island. The Arctic skua breeds in the circumpolar regions of the Arctic Circle and northern Europe, and seasonally migrates to southern and eastern Australia.

1.4.5 Marine invertebrates

The heel of Yorke Peninsula, Troubridge shoal and Tapley Shoal Sections have a high abundance and diversity of some invertebrate taxa including hydroids, nudibranchs, gastropod molluscs, sponges (including the rare toxic *Neofibularia*), echinoderms, ascidians, bryozoa, gorgonians and other corals. Gorgonian corals are abundant around Troubridge Point.

The protected bays with their large seagrass meadows and shallow reefs provide important nursery habitats for crustaceans such as sand crabs and western king prawns.

The low, cylindrical stony coral, *Paracyathus vittatus* has only been recorded in Investigator Strait and there are a few ascidian species in the Strait that may be endemic to southern Australia.

Several uncommon squid species have been recorded in the area including the bottle-tail squid and the striped pyjama squid, as well as the southern pygmy squid which is only found in seagrass habitats of Spencer and St Vincent Gulfs. The region is important for cowries, volutes and other specimen shells, some of which are rare, and many are of conservation concern.

Other uncommon species in the area include the tropical nudibranch *Aegires villosus* and the unusual octopus *Grimpella thaumastocheir*, which is endemic to southern Australia.

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 Lower Yorke Peninsula Marine Park are summarised below. Information in the Aquaculture, Commercial fishing, and Mineral and energy resources 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.

Aquaculture within this marine park includes the farming of Pacific oysters and abalone. There is no current aquaculture zone policy in this area. A map showing current active sites and any applications can be accessed online through the Aquaculture Public Register at: http://www.pir.sa.gov.au/aquaculture/public_register

2.2 Commercial fishing

The commercial fisheries that operate in the Lower Yorke Peninsula Marine Park are:

- Central Zone Abalone Fishery;
- Gulf St. Vincent Prawn 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 are not specific to the Lower Yorke Peninsula 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
Abalone (State)	30	45.2	90	225
Abalone (Central Zone)	5.7			
Prawn (Gulf St Vincent)	3.5	10.1	28	49
Marine Scalefish (Gulf St Vincent/ Kangaroo Island)	7.2	6.0	192	34

Econsearch 2010 b, c and d.

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 Central Zone Abalone Fishery has access to this area to take greenlip and blacklip abalone.

The Gulf St Vincent Prawn Fishery contributes about 10% of South Australia's total king prawn production.

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.

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_Fisheries_Information__and__Stats_report_200708_published.pdf

2.3 Mineral and energy resources

Gulf St Vincent has potential for offshore petroleum discoveries and two deep offshore exploration wells were drilled unsuccessfully in the 1990s. Access for seismic surveys may be needed.

The potential for offshore geothermal energy resources has not yet been addressed, however potential exists to utilise geothermal energy in adjacent coastal or inland water settings for a variety of purposes, including power for desalination plants.

Shipping facilities for limestone are located at Klein Point.

Regional magnetic and gravity data show that prospective rock units, particularly of the Gawler Craton, continue offshore in large areas of some parks. Prospectivity for minerals that could be dredged or remotely mined from the seabed is unknown. Exploration for basement rock targets, below the seabed, is likely to be limited to shallower water areas.

There is a petroleum exploration licence (PEL 423) overlapping part of this marine park extending from Troubridge Point to near Stansbury but does not include Troubridge Island. There are nine Mining Leases/Miscellaneous Purposes Licences adjacent the park relating to limestone mining near Klein Point.

2.4 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 recreational or commercial vessels; jetties for fishing; and breakwaters and groynes for coastal management. For example Port Giles was visited by a total of 14 commercial vessels between January 2009 and December 2009(Flinders Ports).

Following consultation on the marine park outer boundaries, existing commercial ports and indenture areas that are heavily trafficked were excluded from the park boundaries in the July 2009 proclamation.

2.5 Local tourism

Tourism is an important part 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.

Much of the tourism appeal of the region lies with its coast, particularly unspoilt landscapes and numerous opportunities for water based activities such as recreational fishing, water-skiing, wind-surfing and diving as well as its mining and maritime heritage and the character of townships.

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 Lower Yorke Peninsula Marine Park and is separated into three parts:

- Aboriginal and European cultural heritage;
- 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 Lower Yorke Peninsula 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.

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 Lower Yorke Peninsula Marine Park will recognise and complement sites of cultural and maritime heritage.

Investigator Strait has been a crucial thoroughfare for shipping throughout South Australia's history. Over the years, many wrecks have occurred around the 'heel' of Yorke Peninsula and form part of the Investigator Strait Shipwreck Trail. The best known of these is the *Clan Ranald* which sank off Troubridge Point in 1909 with the loss of 40 lives. It was one of South Australia's worst maritime disasters. The *Success* was wrecked nearby in 1917. Marion Reef is surrounded by the wrecks of several vessels including the *Sultana* (1849) and the *Dart* and the *Parsee*, both wrecked in 1838. These are amongst some of the earliest shipwrecks in the state.

The Troubridge Island lighthouse was built in 1856 in response to shipwrecks in the area. It is South Australia's second oldest lighthouse and the state's only prefabricated cast iron lighthouse. It and the keeper's cottages are registered as State Heritage Places and on the Register of the National Estate.

Jetties were built at Edithburgh and Wool Bay to service the grain growing industry of the Peninsula and the large, unusually designed lime kiln, built in the cliffs adjacent to the marine park above the jetty at Wool Bay, is listed, with the jetty, as a State Heritage Place.

A section of coast located adjacent to the marine park at Port Moorowie is identified as a geological monument.

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 viewscapes. The significance or quality of viewscapes 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 Lower Yorke Peninsula Marine Park has moderate scenic values(Lothian 2005). It is dominated by long beaches and dunes which are divided by low rocky headlands (Troubridge Point, Point Gilbert) and low cliffs (Edithburgh to Wool Bay).

Scenic values of the offshore islands have not been assessed.

Scenic values of coastline in the Lower Yorke Peninsula Marine Park (Lothian 2005).

Rating	Coastal landform type	Ranking
6.25 – 7.0	Headlands	Moderate
6.0 – 6.5	Low cliffs	Moderate
6.0 – 6.5	Dunes and beaches	Moderate

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

3.4 Recreational activities in the marine park

The coastal and marine environments of the Lower Yorke Peninsula 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 Lower Yorke Peninsula (region 14 and 15) during 07/08 was 20,978 which amounted to 58,316 days of fishing. (Note figures relate to regions used for reporting fishing activities and include catches from outside the marine park boundary). Blue swimmer crab was the most abundantly caught species, followed by King George whiting, southern garfish, southern calamari and snapper for the Gulf St Vincent and Kangaroo Island region.

Recreational fishing is popular at many locations throughout this marine park particularly near Edithburgh, Troubridge Point, Wool Bay, Salt Creek Bay and Port Moorowie with yellowfin whiting, King George whiting, Australian herring, squid, bream, trevally, mulloway and southern garfish regularly caught.

Jetty fishing is popular at Port Giles and Edithburgh. Boat ramps are available at Port Moorowie, Edithburgh and Wool Bay, providing access to the many fishing locations throughout the park.

Several charter boat operations operate within the park boundaries and provide for fishing, diving and visits to Troubridge Island.

3.4.2 Popular surfing and swimming beaches

Edithburgh has a saltwater swimming pool, and many of the coastal beaches are accessed for swimming and surfing.

3.4.3 Popular diving locations

Popular dive sites include jetties such as Edithburgh and Klein Point and the waters off Troubridge Point. There are also a number of historic shipwrecks located within the marine park, of which the best known is the *Clan Ranald*, located near Troubridge Point. An artificial tyre reef is also located near Giles Point and is popular with divers.

The waters off Port Moorowie offer fantastic sheltered shallow snorkelling, with great visibility.

3.4.4 Other recreational activities in the park

Kite surfing and sail boarding is a popular pastime in the waters around Edithburgh and Troubridge Island.

Caravan parks adjacent to the marine park at Edithburgh and Coobowie provide accommodation for the many tourists and recreational fishers that visit the area.

3.5 Interpretive and educational locations within the marine park

The Investigator Strait Maritime Heritage Trail is located between Yorke Peninsula and Kangaroo Island and includes the famous *Clan Ranald*.

APPENDIX 1 SPECIES LIST

This list of some of the species identified in the Lower Yorke Peninsula Marine Park indicates the diversity of species found there.

Bony fish, sharks and rays

Australian herring	*Arripis georgianus*
black ray	*Dasyatis thetidis*
bream	*Acanthopagrus butcheri*
broadnose sevengill shark	*Notorynchuscepedianus*
coastal stingaree	*Urolophus orarius*
crested pipefish	*Histiogamphelus cristatus*
dusky whaler	*Carcharhinus obscurus*
gulf pipefish	*Stigmatopora narinosa*
harlequin fish	*Othos dentex*
herring cale	*Odax cyanomelas*
King George whiting	*Sillaginodes punctata*
leafy seadragon	*Phycodurus equus*
magpie perch	*Cheilodactylus rubrolabiatus*
mulloway	*Argyrosomus japonicus*
pipefish	Signathidae
rock whiting	*Neoodax balteatus*
school shark	*Galeorhinus galeus*
smooth hammerhead	*Sphyrna zygaena*
snapper	*Pagrus auratus*
southern bluefin tuna	*Thunnus maccoyi*
southern garfish	*Hyporhamphus melanochir*
spotted wobbygong	*Orectolobus maculatus*
trevally	*Pseudocaranx georgianus*
Victorian scalyfin	*Parma victoriae*
weedy seadragon	*Phyllopteryx taeniolatus*
western blue devil	*Paraplesiops meleagris*
western blue groper	*Achoerodus gouldii*
western talma	*Chelmonops curiosus*
white shark	*Carcharadon carcharias*
whitespotted spurdog	*Squalus acanthias*
yellow-eye mullet	*Aldrichetta forsteri*
yellow-tail kingfish	*Seriola lalandi*

Marine mammals

bottlenose dolphin	*Tursiops truncatus*
southern right whale	*Eubalaena australis*

Seabirds and local and migratory shorebirds

Arctic skua	*Stercorarius parasiticus*
black-faced cormorant	*Phalacrocorax fuscescens*
Cape Barren goose	*Cereopsis novaehollandiae*
Caspian tern	*Sterna caspia*
crested tern	*Sterna bergii*
fairy tern	*Sterna nereis*
hooded plover	*Thinornis rubricollis*
osprey	*Pandion haliaetus*
Pacific gull	*Larus pacificus*
peregrine falcon	*Falco peregrinus*
rock parrot	*Neophema petrophila*
white-bellied sea eagle	*Fregetta grallaria grallaria*

Marine invertebrates

ascidian	Ascidiacea
blacklip abalone	*Haliotis rubra*
blue swimmer crab	*Portunus pelagicus*
bottle-tail squid	*Sepiadarium austrinum; Sepioloidea lineolata*
bryozoa	Bryozoa
coralline red algae	Corallinaceae
cowrie	Cypraeidae
cylindrical stony coral	Scleractinia
gorgonian	Alcyonacea
greenlip abalone	*Haliotis laevigata*
king prawn	*Melicertus latisulcatus*
King scallop	*Pecten fumatus*
mussel	Mytilidae
nudibranch	Nudibranchia
Pacific oyster	*Crassostrea gigas*
sand crab	*Ovalipes australiensis*
southern calamari	*Sepioteuthis australis*
southern pygmy squid	*Idiosepius notoides*
sponge	Porifera
striped pyjama squid	*Sepioloidea lineolata*
volutes	Volutidae
western king prawn	*Melicertus latisulcatus*

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