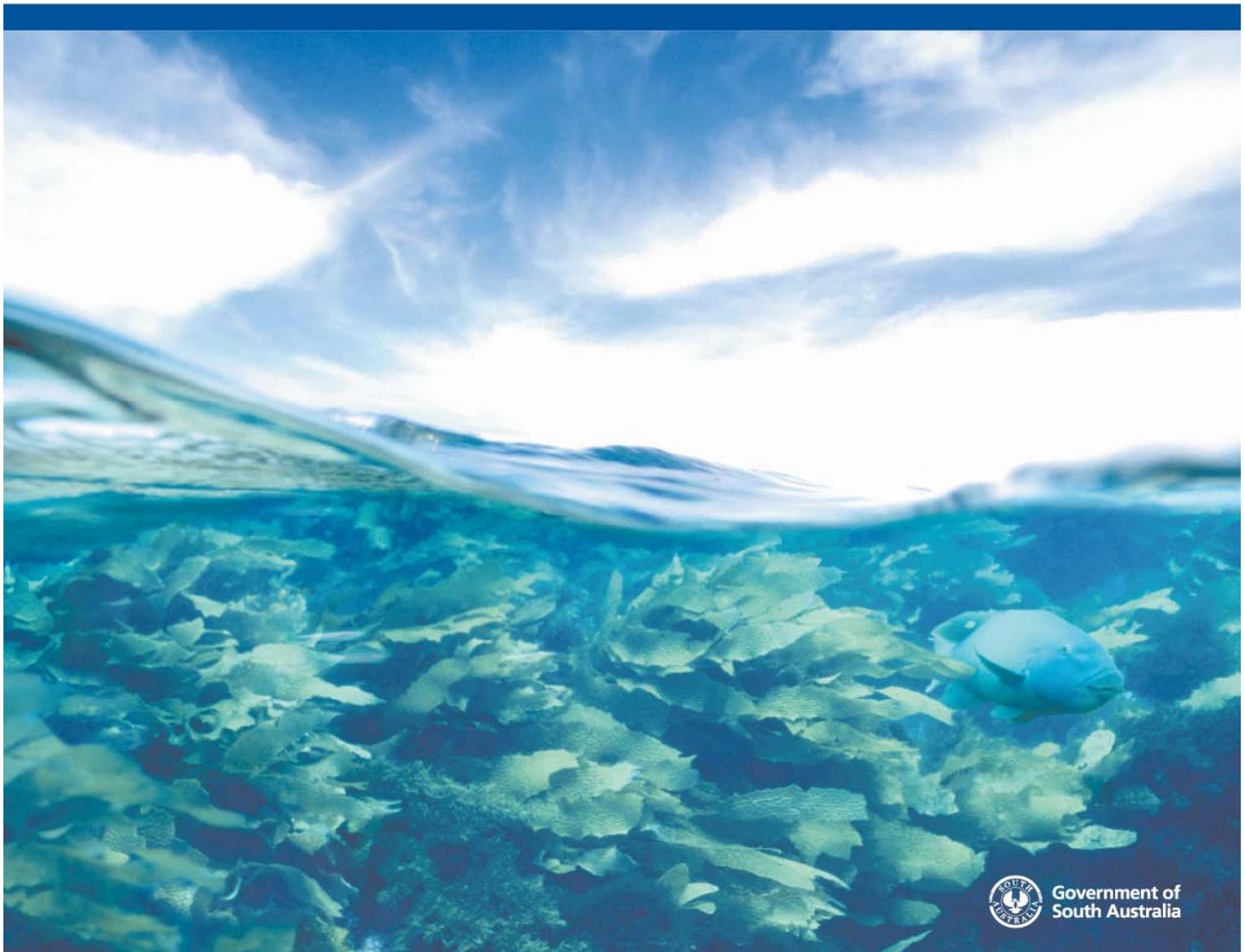

Marine Parks

Reserve today. Preserve forever.

Environmental, Economic and Social Values of the West Coast Bays Marine Park

PART 1



For further information, please contact:
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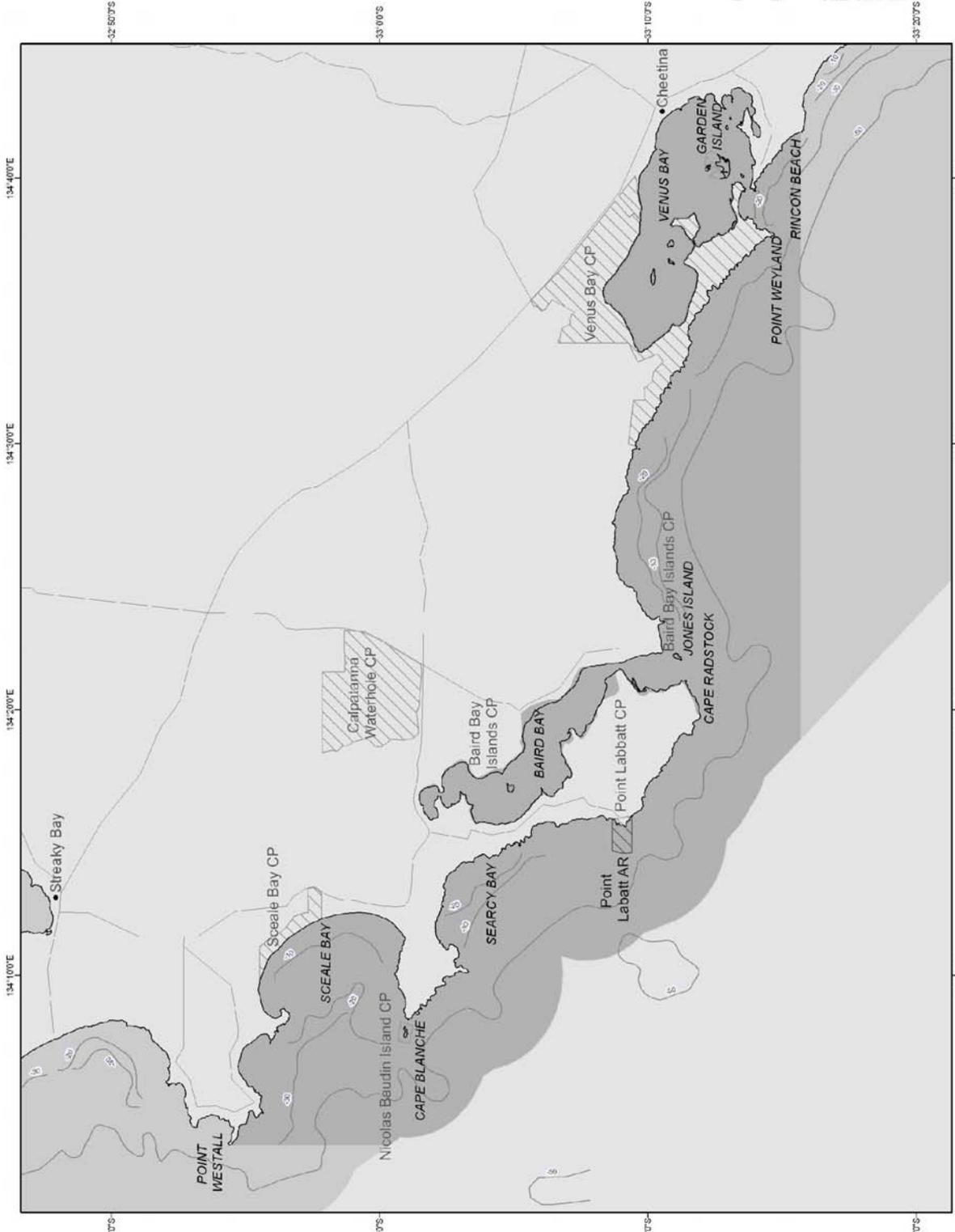
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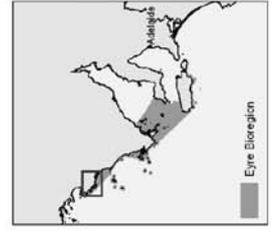
PART 2 AN ATLAS OF MAPS

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>.

West Coast Bays Marine Park



- Marine Park
- State Waters Jurisdiction
- Parks and Reserves
- Aquatic Reserves
- Bathymetry Contours
- Roads
- Coastline (mean high water)
- Eye Storage



Produced by
 Coastal and Marine Conservation
 Division for Environment and Heritage
 GPO Box 1947 Adelaide SA 5001
www.marine.gov.au
 Bathymetry: Topographic Data - CEI
 Aquatic Reserves - FIRSA
 Marine Reserves - SARD
 State Waters Jurisdiction - Geoscience Australia
 Geometric Datum of Australia, 1984

Data Source
 1: State Waters Jurisdiction - Geoscience Australia
 2: Bathymetry - CEI

Compiled
 Projection
 Datum
 Geometric Datum of Australia, 1984

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West Coast Bays Marine Park

Covering 789 km², the West Coast Bays Marine Park is situated in the Eyre Bioregion. Beginning at the southern end of Rincon Beach it extends to near Point Westall and includes Sceale, Venus and Baird Bays. This marine park encompasses Nicholas Baudin Island, Baird Bay Island and Point Labatt Aquatic Reserve and partially overlays Sceale Bay, Point Labatt and Venus Bay Conservation Parks up to median high water.

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	x
Saltmarsh	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Mangrove	x	x	x	x	x	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 West Coast Bays Marine Park will be designed to conserve examples of the variety of habitats and species found in the Eyre 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:

- a persistently high south-west swell and strong westerly onshore winds;
- the warmer Leeuwin Current¹;
- the cooler Flinders Current²; and
- seasonal nutrient-rich upwellings.

1.3 Habitat variety

Table 1 Benthic (subtidal) habitats found in the West Coast Bays Marine Park

Benthic Habitat**	Area (km ²)*	% of park
Bare sand	90	12%
Dense seagrass	66	8%
Granite reef	3	<1%
Heavy limestone reef	41	5%
Unmapped	579	74%

* 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 West Coast Bays Marine Park

Shoreline Habitat	Length in park (km)*	% of park length
Bedrock platform	10	4%
Cliffs	138	52%
Coarse sandy beach	42	16%
Fine sandy beach	22	8%
Mangrove	2	1%
Sand dunes	11	4%
Intertidal seagrass	<1	<1%
Saltmarsh	38	14%

* habitat lengths have been rounded to the nearest whole number

The region features high energy surf beaches, cliffs, and rocky headlands with fringing reefs and sandy plains extending rapidly into deeper waters. In contrast, the enclosed embayments of Venus Bay and Baird Bay provide very sheltered conditions and support dense seagrasses, sandy seafloor, tidal flats and coastal saltmarshes. Although relatively exposed, the Smooth Pool area at the northern end of the marine park provides habitat for a significant and wide variety of fish, invertebrates and bird species as well as sea lions.

Both Baird Bay and Venus Bay are recognised estuaries, with Baird Bay a Wetland of National Importance, featuring numerous groundwater seepages that create brackish soak springs, supporting marsh and sedge islands and attracting many types of waterbirds. The orientation of these Bays is also a significant factor in their role as nursery areas for many forms of fish and other marine life. The mouths of both bays face the summer south-easterly winds, allowing the bays to receive the larvae of summer spawning species.

¹ The Leeuwin Current originates in the tropical Indian Ocean, flows south along the Western Australian coast, and turns east along the shelf break to the Great Australian Bight, bringing warm, relatively low nutrient waters (Middleton & Bye 2007).

² The Flinders Current is a deep south-east to west current which is thought to flow from the west Tasmanian shelf to Cape Leeuwin and increases in flow speed from south-east (5cm / second) to west (20cm / second). (Middleton & Bye 2007).

Sceale Bay is a large sandy bay bordered by heavy limestone reefs and cliffs at the northern end (Speeds Point) and Cape Blanche on the southern end. Heavy limestone reef dominates Searcy Bay.

1.4 Marine species

The many habitats located within the West Coast Bays Marine Park support a variety of marine and coastal species including fish, sharks, mammals, birds and invertebrates, some of which have been identified as ecologically important. Refer to Appendix 1 for a more detailed list of species. Some the unique features of The West Coast Bays Marine Park include:

- the national and state listed *vulnerable* bead glasswort and state *rare* cushion samphire;
- include a nursery ground for gummy sharks at Venus Bay;
- the largest mainland colony of the nationally and state listed *vulnerable* Australian sea lion;
- the state *rare* rock parrot located on Jones Island;
- important nursery areas for western king prawns located at Baird and Venus Bays; and
- the smallest live-bearing starfish, *Parvulastra parvivipara*.

1.4.1 Plants and algae

The state and nationally *vulnerable* bead glasswort and the state *rare* species of cushion samphire are found in the saltmarsh environments around Venus Bay including Germein Island.

1.4.2 Bony fish, sharks and rays

Fish species of conservation concern including the western blue groper are associated with near shore reef areas surrounding Sceale Bay, Smooth Pool and Searcy Bay to Venus Bay. While the seagrass beds of Baird and Venus Bay are habitat for southern calamari, King George whiting, Western Australian salmon, southern garfish and whaler shark. Venus Bay is also a nursery ground for species such as gummy sharks.

Sharks and rays of conservation concern that occur in the area include coastal stingaree, whitespotted spurdog, spotted wobblygong, blue shark, dusky whaler, smooth hammerhead, school shark and the nationally *vulnerable* white shark. The shortfin mako and porbeagle can also be found in the park and were recently listed for protection under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The dusky whaler has been nominated for protection under the EPBC Act.

1.4.3 Marine mammals

Nicholas Baudin Island provides an important breeding and haul-out site for the nationally and state listed *vulnerable* Australian sea lion and New Zealand fur seal. Haul-out sites can also be found at Smooth Pool and Cape Blanche. Jones Island at the mouth of Baird Bay has a small breeding colony of Australian sea lions. The granite reef off Point Labatt provides habitat for Australia's largest mainland colony of Australian sea lions.

Due to its proximity to the Great Australian Bight, nationally *endangered* and state *vulnerable* southern right whales are occasional visitors in the bays of this park and pods of bottlenose dolphins are regularly observed here. All cetacean species are nationally protected.

1.4.4 Seabirds and local and migratory shorebirds

Both Baird and Venus Bays are recognised for their international significance for local and migratory shorebirds, with many species of conservation importance and/or listed under international conservation treaties. For example, the extensive tidal flats of Baird Bay support the highest population on the west coast of grey plovers, a migratory species of international and national importance, while Venus Bay is of international significance for sooty oystercatchers. Other species that can be found include the red knot and lesser sand plover, as well as the common greenshank, sharp-tailed sandpiper, banded stilt, buff-banded rail and red-necked stint. Hooded plovers and pied oystercatchers have also been sighted on the beach at Sceale Bay.

The state *endangered* white-bellied sea eagle and osprey are also known to nest on cliffs in the area, such as at Point Labatt, Cape Blanche and Cape Radstock, while Jones Island is known to provide habitat for the state *rare* rock parrot.

1.4.5 Marine invertebrates

The west coast bays are an important area for the southern rock lobster with spawning areas and juvenile habitat located in Baird and Venus Bays. In addition the macroalgae and associated communities, as well as the deeper offshore calcareous reefs found in the park are known locations for adult and juvenile lobsters to live and feed.

Baird Bay and Venus Bay are also recognised as important nursery areas for western king prawns in the eastern Great Australian Bight. Mature adult prawns move into the deeper waters of Anxious Bay where high catch rates can occur.

Spawning and juvenile southern calamari, greenlip and blacklip abalone, giant cuttlefish, Maori octopus and purple sea urchin have also been recorded at reef areas around Jones Island, Baird and Venus Bays. The giant Australian cuttlefish is currently nominated for protection under the *Environment Protection and Biodiversity Conservation Act 1999*. Sand crabs and southern calamari utilise the sandy bottom of Baird Bay.

A key species of this marine park is one of the world's smallest live-bearing starfish, *Parvulastra parvivipara*, known locally as 'Little Patty'. It is known only on the Western Eyre Peninsula at locations including Point Labatt and Smooth Pool.

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 West Coast Bays 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.

No current aquaculture zone exists in this marine park, however, interest in abalone farming exists in Sceale Bay. 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

2.2 Commercial fishing

The commercial fisheries that operate in the West Coast Bays Marine Park are:

- Western Zone Abalone Fishery;
- Northern Zone Rock Lobster Fishery;
- 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 West Coast Bays 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 (Eyre)	30	20.3	90	102
Abalone (Western Zone)	19.6			
Northern Zone Rock Lobster(Eyre)	19.3	14.5	155	77
Marine Scalefish (West Coast Region)	3.2	2.4	40	13
Cockles (mud cockles)	1.4 [^]			

EconSearch 2010 b, c and d.

[^] note this value is for Cockles (mud cockles) state-wide, not just the west coast.

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 abalone and blacklip abalone. The park lies within the Western Zone Abalone Fishery, which produced about 64% (\$19.6m) of the State's 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 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. It also includes the Cockle (mud cockle) Fishery for which quotas were introduced in 2008 to better manage the fishery and protect the species from over-exploitation. The West Coast also includes a charter boat fishery, with snapper and King George whiting being the targeted species.

For further information 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

Currently, offshore South Australia is only lightly explored for oil and gas and no economic discoveries have been made; however, potential exists for giant petroleum accumulations on the continental shelf and slope where recognised exploration targets are similar to those in prolific gas-oil provinces elsewhere in the world. Such discoveries may require access for landing pipeline infrastructure onshore in the region.

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.

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.

An Extractive Mining Lease abuts the marine park along the eastern side of the entrance to Baird Bay, near Jones Island. A mineral Exploration Licence Application abuts the marine park around Venus Bay as well as the Tyinga Beach area.

An Extractive Mining Lease for sand is located on the coastline along the eastern side of the entrance to Baird Bay, near Jones Island (One Steel). A mineral Exploration Licence Application is located inshore from the coast near Venus Bay.

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.

2.5 Local tourism

Tourism is Eyre Peninsula's third largest industry, supported by 1,600km of coastline and a popular recreational fishing industry. Eyre Peninsula tends to have a predominantly domestic tourist market. The Park provides opportunities for swimming, surfing, canoeing, snorkelling, diving, sea kayaking and windsurfing. The sheltered beach environments and coastal national parks are used for bushwalking, camping, photography and wildlife viewing.

Some of the marine-based drawcards for visitors in the region include swimming or snorkelling with bottlenose dolphins and Australian sea lions in the Baird Bay area and whale watching from May to October. The cliffs of Point Labatt provide a viewing platform to see the sea lion colony below.

Charter boats provide for off-shore fishing, diving, marine mammal watching and bird watching.

3 SOCIAL VALUES

The marine environment is an important recreational and cultural asset for coastal communities. Marine parks will be designed to accommodate existing activities wherever possible. This section highlights the social values of West Coast Bays 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 West Coast Bays Marine Park.

3.1.1 Language Groups

The Wirangu 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 West Coast Bays Marine Park are included in the Wirangu No.2 Title Claim (1997).

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 West Coast Bays Marine Park will recognise and complement sites of cultural and maritime heritage.

Fragile remains of a whaling station, established in the 1840s, are located on the northern shore of Sceale Bay. Artefacts and evidence of a settlement there have been located, as well as the try works, where the whale blubber was rendered down to oil. This site is yet to be listed on the State Heritage Register.

Two early shipwrecks are believed to be located in Sceale Bay: the whaling vessels *Elizabeth Rebecca* (1845), and *Arachne* (1848). Both these were driven ashore in storms but have not been found. They are both protected. The wrecks of several other fishing vessels are located within the park.

Associated with the fishing industry are the Venus Bay and Port Kenny jetties which have been identified as being of importance to the local community.

The conservation values of the Baird Bay Islands, Venus Bay and Point Labatt Conservation Park are recognised by their entry in the Register of the National Estate. A shore platform at Smooth Pool, south of Point Westall is listed 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 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 West Coast Bays Marine Park has high scenic values and is part of the longest section of spectacular landscapes in South Australia (Lothian 2005). The high (40-100m), steep and indented cliffs north of Point Weyland, between Cape Radstock and Point Labatt and from Slade Point to Cape Blanche are among the highest ranked examples of coastal scenic quality in the State. The beaches and dunes at Tyinga, Searcy Bay and Sceale Bay form a sharp visual contrast to the cliffs.

Venus and Baird Bays are considered to have lower scenic values, their shallow sheltered waters surrounded by combinations of sandflats, low cliffs and samphire and mangrove communities.

Scenic values of coastline in the West Coast Bays Marine Park (Lothian 2005).

Rating	Coastal landform type	Ranking
7.5 – 8.0	Headlands & cliffs	High
6.75 – 7.25	Beaches and dunes	Moderate - High
5.0 – 5.5	Low cliffs	Moderate
4.5-5.0	Samphire and Mangroves	Low

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 West Coast Bays Marine Park are very popular for swimming, diving, snorkelling and four wheel driving. 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 area (region 3) during 07/08 was 5,950 which amounted to 30,915 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, Southern garfish, Southern calamari and Blue swimmer crab were the most frequently caught species for this region.

Popular fishing spots are located at many points along the coast and include boat, rock or shore fishing at Sceale, Baird, Searcy and Venus Bays targeting species such as whiting, southern garfish, salmon and gummy sharks. Jetties are located at Venus Bay and Port Kenny, with boat ramps available at Sceale Bay and Venus Bay.

3.4.2 Popular surfing and swimming beaches

Surfing locations in this marine park include sites in Sceale Bay, with swimming popular in the sheltered bays of Baird and Venus Bays.

3.4.3 Popular diving locations

Dive sites located in the region include the many offshore reefs throughout the park and in Bairds Bay.

3.4.4 Other recreational activities in the park

Camping is popular at several locations throughout the park, with caravan parks or camping sites available at Sceale Bay, Venus Bay and Port Kenny.

3.5 Interpretive and educational locations within the marine park

At Point Labatt, a cliff top viewing area about 50 metres above the colony provides a view of the sea-lions and other coastal wildlife.

APPENDIX 1 SPECIES LIST

This list of some of the species identified in the West Coast Bays Marine Park indicates the diversity of species found there.

Plants and algae

bead glasswort
cushion samphire

Sarcocornia quinqueflora
Centrolepis cephaloformis

Bony fish, sharks and rays

blue shark
coastal stingaree
dusky whaler
garfish
gummy shark
King George whiting
porbeagle
salmon
school shark
shortfin mako
smooth hammerhead
snapper
southern bluefin tuna
southern garfish
spotted wobblygong
Western Australian salmon
western blue groper
whaler shark
white shark
whitespotted spurdog
yellow-tail kingfish

Prionace glauca
Urolophus orarius
Carcharhinus obscurus
Hyporhamphus melanochir
Mustelus antarcticus
Sillaginodes punctata
Lamna nasus
Arripis truttaceus
Galeorhinus galeus
Isurus oxyrinchus
Sphyrna zygaena
Pagrus auratus
Thunnus maccoyi
Hyporhamphus melanochir
Orectolobus maculatus
Arripis truttaceus
Achoerodus gouldii
Carcharhinus brachyurus
Carcharodon carcharias
Squalus acanthias
Seriola lalandi

Marine mammals

Australian sea lion
bottlenose dolphin
New Zealand fur seal
southern right whale

Neophoca cinerea
Tursiops truncatus
Arctocephalus forsteri
Eubalaena australis

Seabirds and local and migratory shorebirds

banded stilt
buff-banded rail
common greenshank
grey plover
hooded plover
lesser sand plover
osprey
pied oystercatcher
red knot
red-necked stint
rock parrot
sharp-tailed sandpiper
sooty oystercatcher
white-bellied sea eagle

Cladorhynchus leucocephalus
Gallirallus philippensis
Tringa nebularia
Pluvialis squatarola
Thinornis rubricollis
Charadrius mongolus
Pandion haliaetus
Haematopus longirostris
Calidris canutus
Calidris ruficollis
Neophema petrophila
Calidris acuminata
Haematopus fuliginosus
Fregetta grallaria grallaria

Marine invertebrates

blacklip abalone
giant Australian cuttlefish
greenlip abalone
Maori octopus

Haliotis rubra
Sepia apama
Haliotis laevigata
Octopus maorum

mud cockle
mussel
Pacific oysters
purple sea urchin
sand crab
southern calamari
southern rock lobster
western king prawn

Katylsia spp
Mytilidae
Crassostrea gigas
Heliocidaris erythrogramma
Ovalipes australiensis
Sepioteuthis australis
Jasus edwardsii
Melicertus latisulcatus

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