West Coast Bays Marine Park

Preliminary sanctuary zone scenario

Starting point for Marine Park Local Advisory Group discussion

South Australians enjoy the benefits of a healthy marine environment. However, the marine environment is under increasing pressure from a range of sources, including climate change, run-off and competition for resources, which could affect how we use and enjoy it in the future.

Marine parks are currently being set up around Australia as part of a national and international response to these increasing pressures.

In 2009, the South Australian Government declared a network of 19 marine parks to help protect and conserve areas of natural value within our State's waters for generations to come.

Your assistance is now needed to help develop the zoning and management plans for these marine parks.

At this meeting, you will begin the process of developing a proposed zoning scenario for your local marine park(s). You will be provided a range of information about zoning, including a preliminary sanctuary zone scenario developed by DENR, and other government agencies to provide a starting point for discussions by your MPLAG about how marine parks might be zoned for conservation, commerce and community use.

The preliminary sanctuary zone scenario is only a starting point and does not represent a Government proposal or preference. There may be better ways to design a marine park zoning scheme to achieve the desired outcomes. Your MPLAG's advice on its preferred zoning scenario(s) is sought.

The preliminary sanctuary zone scenarios have been developed using the environmental, social and economic information currently available to Government, including the information provided through SAMPIT (the South Australian Marine Parks Information Tool).

The next step is for the scenarios to be worked on over the next six months by the MPLAGs and key stakeholders, such as the seafood industry, tourism operators, local government and conservation interests, who all have important information to bring to the table.

It is expected that this work will result in changes to what is initially provided. Indeed, this is the purpose of MPLAGs and key stakeholder engagement - to better inform and assist the Government in this process - so we can help ensure that the needs of local communities and industries are met.

The State Government has not adopted an arbitrary percentage target for the size of sanctuary zones. Instead, it remains open to the advice of the community as to how to best design the marine parks network to protect and conserve marine biodiversity and marine habitats in a manner that accords with the objects of the *Marine Parks Act 2007*.

To assist MPLAGs, key stakeholders and other community members to develop their preferred zoning scenario(s), you will be provided with some indicative zoning guidelines.

These guidelines have been developed with due regard to advice from the Marine Parks Scientific Working Group and Marine Parks Council of South Australia, which provide independent advice on marine park matters.

One of these zoning guidelines is that sanctuary zones should cover about 20-25% of each marine park - this would translate to about 10% of our State's waters.

However, this is a guideline only and may not be achievable in some marine parks, particularly where there are significant policy commitments in place to provide for various current and future activities.

Your attention is drawn to the marine park policy commitments made by the Government in 2009, in particular the assurance given to the commercial fishing industry that the outcome of marine parks zoning will have no more than a 5% economic impact (as per the 2007 EconSearch report).

In developing your preferred zoning scenarios it will be important that you apply the full zoning checklists and policy commitments, to help ensure your suggestions meet the marine park design requirements. Doing this will help you develop a proposal for your park(s) that is good for conservation and good for commercial and community interests.

For more information, *please contact your MPLAG Executive Officer via email at DENRmarine@sa.gov.au, or phone the Coast and Marine Conservation Branch, Department of Environment and Natural Resources, on Freecall 1800 006 120.*

Paper prepared for Marine Park Local Advisory Group: 12 November 2010

Marine Park 3
West Coast Bays Marine Park

Preliminary Sanctuary Zone Scenario Starting Point Version 1

134°6'0"E 134°12'0"E 134°18'0"E 134°24'0"E 134°30'0"E 134°36'0"E 134°42'0"E

32°48'0"S 32°54'0"S 33°0'0"S 33°6'0"S 33°12'0"S 33°18'0"S

Streaky Bay
Yanerbie
POINT WESTALL
SMOOTH POOL
SCEALE BAY
Sceale Bay CP
Nicolas Baudin Island CP
Calpatanna Waterhole CP
CAPE BLANCHE
SEARCY BAY
BAIRD BAY
Point Labatt CP & AR
JONES ISLAND
CAPE RADSTOCK
Venus Bay CP
VENUS BAY
Port Kenny
Cheetina
POINT WEYLAND
RINCON BEACH

A B C D E F G H I

-13 -30 -17 -29 -17 -1 -15 -30 -20 -40 -15 -46 -44 -14 -20 -30 -45 -8 -50 -24 -50 -20 -16 -50 -30 -15 -15 -30 -15 -15 -12 -15 -20 -10

N

0 10
0 Kms 5
Nautical Miles

Adelaide

- Possible Sanctuary Zones
- Marine Park
- Lake - Intermittent
- Lake - Mainly Dry
- Land Subject to Inundation (STI)
- Parks and Reserves
- Aquatic Reserves
- Special Purpose Areas (Harbours)
- Bathymetry
- Coastline (median high water)
- Coastal Waters of the State
- Major Road
- Minor Road

Produced by Coast and Marine Conservation
Department of Environment and Natural Resources
GPO BOX 1047 Adelaide SA 5001
www.marineparks.sa.gov.au

Data Source Marine Parks, Parks and Reserves,
Topographic Data, Bathymetry - DENR
Coastal Waters of the State - Geoscience Australia
Aquatic Reserves - PIRSA
Harbours - DENR & Harbors and Navigation Act

Compiled 8 November 2010
Projection Geographic
Datum Geocentric Datum of Australia, 1994

Government of South Australia

DEH MapID: 2010-3848

Basis for 'Starting Point' Preliminary Sanctuary Zone Scenario – West Coast Bays Marine Park (Park 3)		
Location of possible Sanctuary Zone	**Area**	**Rationale for possible Sanctuary Zone**
Zone A: Sceale Bay	18 km^2	**This possible Sanctuary Zone represents the following habitats** • This possible Sanctuary Zone has an exposed coarse sandy beach shoreline, as well as a significant area of soft-bottom habitat in several depth classes. • The Zone also provides for the transition of habitats from the surf zone to 3 km offshore (in places). **Other important features and natural processes**: • Seagrass meadows and unvegetated soft bottom within the possible Sanctuary Zone are the sites for differing lifecycles of a wide variety of fish and invertebrates including mulloway, whiting species, flathead species and sand crabs. This area is also considered a nursery area for juvenile school whiting • There is breeding, roosting and feeding habitat for residential and migratory coastal shore birds within the Zone. **Social and economic considerations:** • This possible Sanctuary Zone provides for the high activity areas of the boat ramp facility at Sceale Bay and the beach access at Yanerbie, and from a commercial perspective, is in a low catch block area for rock lobster and abalone. • This Zone is directly connected to the terrestrial Sceale Bay Conservation Park, establishing a protected corridor between the land and sea. • This Zone is shaped with easily identifiable, straight line east-west and north-south boundaries.
Zone B: Cape Blanche to the top of Searcy Bay (including Nicolas Baudin Island)	47 km^2	**This possible Sanctuary Zone represents the following habitats** • This possible Sanctuary Zone encompasses a wide variety of habitat and exposure features, including exposed cliff shorelines (medium and high cliffs), bedrock platforms, sheltered and exposed coarse sandy beach shorelines, heavy limestone or calcarenite reef in a variety of depth classes, and habitats from the intertidal zone to waters > 50 m in depth. • As a precautionary measure, a large proportion of this Zone represents unmapped habitat. • This Zone also provides connectivity from the coastal zone to deeper waters offshore. **Other important features and natural processes** • Open headlands within the possible Sanctuary Zone, such as Cape Blanche, are considered nursery sites for the vulnerable white shark. • These waters are an important area in one or more life cycle stages of King George whiting (the offshore reefs are thought to be spawning habitat). • This Zone is an area which hosts an important Australian sea lion and New Zealand fur seal breeding colony and haul out sites. • This Zone is also important areas for breeding ospreys. **Social and economic considerations** • This possible Sanctuary Zone includes the Nicolas Baudin Island Conservation Park. • The Zone is an area which is considered low density recreational fishing. • This Zone crosses two fishing blocks for the abalone industry, one with a high catch record and the other with a low catch record. • Some commercial rock lobster fishing occurs in this Zone. • This Zone is shaped with easily identifiable, straight line, east-west boundaries.
Zone C: Point Labatt	1 km^2	**This possible Sanctuary Zone represents the following habitats** • This possible Sanctuary Zone includes exposed cliff shoreline, granite reef and heavy limestone or calcarenite reef. • It encompasses a range of depth classes form the intertidal zone to 30m deep. **Other important features and natural processes** • This possible Sanctuary Zone includes one of the few mainland colonies of the vulnerable Australian sea lion and colony of the worlds smallest sea star (the rare and endemic *Parvulastra parvivipara* or little patty), found only on the western Eyre Peninsula. New Zealand fur seals also haul out here, and there have been sightings of the rare Australian fur seal in the vicinity. • A rare species of red macroalgae, *Gigartina wheliae* is found within this Zone. • Point Labatt is a breeding site for the endangered osprey and habitat for the endangered white-bellied sea eagle. Point Labatt is also included in the

		Directory of Important Wetlands. **Social and economic considerations** • This possible Sanctuary Zone is also protected by a netting closure and the Point Labatt Conservation Park and Aquatic Reserve. • There is low recreational or commercial fishing activity in this Zone due to the Aquatic Reserve and location away from popular access points and boat ramps.
Zone D: Head of Baird Bay	8 km^2	**This possible Sanctuary Zone represents the following habitats** • This possible Sanctuary Zone includes a variety of habitats including sheltered cliff, sheltered coarse sandy beach and sheltered sand dune shorelines. It also encompasses areas of sparse, medium and dense seagrass, large areas of soft-bottom habitat as well as a macroalgae community. • This Zone also contains saltmarsh habitat, which are important breeding / nursery areas for a variety of fish and crustaceans. • Waters in this zone exhibit high (up to 16°) variation between summer and winter sea surface temperatures, and also seasonally experience high salinity, low nutrient waters associated with an inverse estuary. **Other important features and natural processes** • This area includes a large flood tide delta at the head of the bay, associated with an inverse estuary with high salinity and low nutrient waters, which is rare on the Eyre Peninsula, and also a very specific ecosystem type. There is also habitat and nesting sites for 19 species of water bird including gull, tern, plover, oystercatcher and cormorant species, as well as raptors. • Baird Bay is an important site for migratory birds with 10 species present in the area listed under international treaties and is also included in the *Directory of Important Wetlands.* • This area provides habitat for the endemic pipefish and uncommon javelin pipefish, as well as a spawning, breeding and nursery area for a wide variety of fish, sharks, rays and invertebrates such as western king prawns and southern calamari. • This part of the bay is heavily influenced by seasonal fresh water input. **Social and economic considerations** • This possible Sanctuary Zone is in close proximity to the Baird Bay Islands Conservation Park, the Calpatanna Waterhole Conservation Park, and a netting closure, which provides additional layers of terrestrial and marine protection. • There is relatively low recreational or commercial fishing activity in this area of Baird Bay, and the Zone provides for popular access points and boat ramps.
Zone E: Belly of Baird Bay	19 km^2	**This possible Sanctuary Zone represents the following habitats** • This possible Sanctuary Zone includes a variety of shoreline landforms, including sheltered bedrock platform, sheltered coarse sandy beach and sheltered sand dunes. • There are also a diverse array of benthic habitats in various depth classes including dense seagrass, cobble (rare in this bioregion), soft-bottom habitat, mud flats and a macroalgae community. • This Zone also contains saltmarsh habitat, which are important breeding / nursery areas for a variety of fish and crustaceans. • Waters in this Zone exhibit high (up to 16°) variation between summer and winter sea surface temperatures, and also seasonally experience high salinity, low nutrient waters associated with an inverse estuary. • This Zone includes a fresh water seep, influencing marine process. • This part of the bay is more influence by oceanic processes. **Other important features and natural processes**: • Channel, sub-channel, basin and tidal sandbanks associated within an estuarine system (more water exchange than zone 4). • Habitat and nesting sites for 19 species of water bird including gull, tern, plover, oystercatcher and cormorant species, as well as raptors. This area is also an important site for migratory birds with 10 species present in the area listed under international treaties. • Baird Bay provides habitat for the endemic Venus pipefish and uncommon javelin pipefish, as well as a spawning, breeding and nursery area for a wide variety of fish, sharks, rays and invertebrates such as western king prawns and southern calamari. • Baird Bay is included in the *Directory of Important Wetlands.* **Social and economic considerations:**

		• This possible Sanctuary Zone is in close proximity to the Baird Bay Islands Conservation Parks, which provide additional, terrestrial protection, as well as being encompassed by a netting closure. • This Zone has a wide variety of habitats, and includes known recreational dive sites which are important to conserve. • There is relatively low recreational or commercial fishing activity in this area of Baird Bay due to the shallow and constricted bathymetry & coastline.
Zone F: East of Tyringa	73 km^2	**This possible Sanctuary Zone represents the following habitats** • The coastline and waters within this possible Sanctuary Zone contain exposed cliff shoreline, as well as heavy limestone or calcarenite reef in several depth classes. • There are also large areas of unmapped habitat in depth classes which stretch from the intertidal zone to > 50m deep. **Other important features and natural processes** • This possible Sanctuary Zone is situated adjacent to one of the most southerly facing stretches of coastline on western Eyre Peninsula, making it very exposed to swell, currents and other oceanic influences such as upwelling plumes. • The intertidal reefs in these waters contain higher densities of Roe's abalone than any other coastal region, whilst deeper water reefs provide habitat and spawning locations for western blue groper. • The design of this Zone also provides connectivity from the coast through to very deep water. **Social and economic considerations** • This possible Sanctuary Zone is in an area with low catch records from the abalone industry, and provides for the trawling grounds of the West Coast Prawn Fishery. • For ease of identification, compliance and enforcement, his Zone is shaped with straight north / south boundaries. • This Zone is immediately connected to the Venus Bay Conservation Park, establishing a protected corridor between the land and sea. • Due to the restricted accessibility of this area, there is low recreational fishing activity in this Zone.
Zone G: Western end of Venus Bay	30 km^2	**This possible Sanctuary Zone represents the following habitats** • There are a variety of different shorelines within this possible Sanctuary Zone, including sheltered cliffs, sheltered coarse sandy beach and sheltered sand dunes. • This Zone includes a diverse array of benthic habitats including large macroalgae and invertebrate communities, extensive areas of soft-bottom habitat and seagrass communities, all of which exist in shallow waters (< 10m). • This Zone also contains saltmarsh habitat, which are important breeding / nursery areas for a variety of fish and crustaceans. • Waters in this Zone exhibit high (up to 16°) variation between summer and winter sea surface temperatures, and also seasonally experience high salinity, low nutrient waters associated with an inverse estuary. Bathymetric landforms associated with an estuarine system, such as a central basin, intertidal flats and tidal sandbanks are represented in this Zone. **Other important features and natural processes** • The waters of this bay are one of the most important nursery areas on Eyre Peninsula for many species of fish, sharks (particularly gummy sharks), rays and invertebrates (prawns, crabs, scallops and cockles), as well as supporting a sub-species of bottlenose dolphin, known as the inshore bottlenose dolphin. • This area of the bay has seasonal high salinity, low nutrient waters (inverse estuary processes due to high evaporation), although the ecosystems are also influenced by fresh, groundwater input. • There are several calcarenite islands in the bay. • This bay contains a rare estuarine seagrass *Ruppia* which is an important food source for coastal waterbirds, and there is recorded presence of the endemic gastropod *Anachis fenestrata* (a small dove shell). • This bay provides important breeding sites for sea and shore birds, including white-bellied sea-eagle, pied and sooty oystercatchers, silver gull, Pacific gull and fairy tern. **Social and economic considerations** • This Zone has been identified as existing within an 'occupation site complex' with Aboriginal middens, campsites, artefacts and a waterhole, and is culturally significant to the Wirangu people. • This possible Sanctuary Zone is immediately connected to the Venus Bay Conservation Park, establishing a protected corridor between the land and sea,

		and is afforded extra marine protection by a netting closure. • This Zone is away from the township of Port Kenny and Venus Bay and associated boat ramps and high tourism fishing effort, and is shaped with easily identifiable, straight line, north / south boundaries.
Zone H: Germein Island	2 km^2	**This possible Sanctuary Zone represents the following habitats** • Benthic habitats includes soft-bottom habitat (sand, mud, silt) and a seagrass community in the 0 – 10m depth class, as well as representing sand island habitat and associated ecosystems within the bay. • This Zone also contains saltmarsh and mangrove habitats, which are important breeding / nursery areas for a variety of fish and crustaceans. • Within this Zone there are tidal channels, sandbanks and intertidal flats associated with an estuarine system, and due to the shallow nature of the bay, high (up to 16°) variation between summer and winter sea surface temperatures. **Other important features and natural processes** • This possible Sanctuary Zone is part of an important nesting, roosting and foraging area for coastal birds, as well as one of the most important nursery areas on Eyre Peninsula for many species of fish, sharks, rays and invertebrates (prawns, crabs, scallops and cockles). • This Zone is influenced by significant tidal exchange, as well as supporting inverse estuarine processes, and is seasonally exposed to fresh, groundwater input. • These waters support a sub-species of bottlenose dolphins, known as the inshore bottlenose dolphin, and there is recorded presence of the endemic gastropod *Anachis fenestrata* (a small dove shell). **Social and economic considerations** • This possible Sanctuary Zone is in close proximity to the Venus Bay Conservation Park and is complemented by a netting closure. • This Zone seeks to provide for the most productive mud cockling grounds west of Germein Island, and the high intensity recreational fishing area in the mouth of the bay and at the channel junction.
Zone I: Eastern Venus Bay (Paradise Bay)	4 km^2	**This possible Sanctuary Zone represents the following habitats** • The shoreline classifications in this possible Sanctuary Zone are predominantly sheltered cliff, saltmarsh and intertidal seagrass. • Benthic habitats include; soft-bottom, seagrass communities as well as tidal channels, sandbanks and intertidal flats associated with an estuarine system all of which are in relatively shallow water (< 10m). • This Zone also contains saltmarsh and mangrove habitat, which are important breeding / nursery areas for a variety of fish and crustaceans. **Other important features and natural processes** • This possible Sanctuary Zone encompasses a rare north-west facing micro bay system, which is influenced by significant tidal exchange. • This Zone is part of an important nesting, roosting and foraging area for coastal birds, as well as one of the most important nursery areas on Eyre Peninsula for many species of fish, sharks, rays and invertebrates (prawns, crabs, scallops and cockles). • The ecology of this Zone is influenced by high (up to 16°) variation between summer and winter sea surface temperatures, as well as supporting inverse estuarine processes, and is seasonally exposed to fresh, groundwater input. • These waters support a sub-species of bottlenose dolphin, known as the inshore bottlenose dolphin. **Social and economic considerations** • This Zone has been identified as existing within an ‘occupation site complex’ with Aboriginal middens, campsites, artefacts and a waterhole, and as such is culturally significant to the Wirangu people. • This possible Sanctuary Zone is complemented by a netting closure. • This Zone provides for the high intensity recreational fishing area in the mouth of the bay and at the channel junction, and seeks to provide for the most productive mud cockling grounds west of Germein Island. • This Zone has an easily identifiable, straight line boundary across two prominent headlands. • This Zone encompasses a research site investigating the recruitment of western king prawns by SARDI.

This table shows the environmental values represented in each possible Sanctuary Zone within the West Coast Bays Marine Park

Environmental Values	Units	Possible Sanctuary Zones									Total in all Zones	Total in Marine Park
		A	B	C	D	E	F	G	H	I		
Ecologically Important Species												
Australian Sea lions (breeding sites)	Count		1								1	2
Australian Sea lions (haulout sites)	Count		1								1	1
Coastal Shorebird Sites	Count		12		1	370	1	7	3	2	396	727
New Zealand Fur Seals (breeding sites)	Count		1								1	1
Reef Fish Sites	Count		4								4	13
Sea Bird Breeding and Nesting Sites	Count							4			4	6
Underwater Habitats												
Cobble (0 to -10m)	Km²					<1					<1	<1
Invertebrate Community (0 to -10m)	Km²							<1			<1	<1
Macroalgae (0 to -10m)	Km²				1	<1		5			6	12
Reef (0 to -10m)	Km²		4	<1			3	1	<1		8	33
Reef (-10 to -30m)	Km²		2	1			1				4	15
Reef (-30 to -50m)	Km²		<1								<1	<1
Seagrass (0 to -10m)	Km²				2	7		21	<1	2	33	77
Soft-bottom Habitat (0 to -10m)	Km²	12			4	8		2	1	1	28	59
Soft-bottom Habitat (-10m to -30m)	Km²	5									5	7
Unmapped (0 to -10m)	Km²	<1	2	<1	<1	<1	2	<1	1	1	6	20
Unmapped (-10 to -30m)	Km²	1	5	<1			9				15	99
Unmapped (-30 to -50m)	Km²		8				28				36	184
Unmapped (>-50m)	Km²		25				31				56	275
Shore Habitats												
Bedrock Platform (Exposed)	Km		2								2	7
Bedrock Platform (Sheltered)	Km					2					2	3
Cliff (Exposed)	Km		8	1			11				20	72
Cliff (Moderate)	Km											4
Cliff (Sheltered)	Km		1		5	1		17		3	26	62
Coarse Sand Beach (Exposed)	Km		5								5	17
Coarse Sand Beach (Moderate)	Km		1								1	5
Coarse Sand Beach (Sheltered)	Km		<1		5	2		1			9	20
Emergent Land	Count						1				1	1
Estuary	Km²				7	19		30	2	4	62	143
Fine-medium Sand Beach (Exposed)	Km	8									8	22
Mangrove	Km²								<1		<1	1
Seagrass (Sheltered)	Km									<1	<1	<1
Saltmarsh	Km²				<1	2		<1	1	<1	3	4
Sand Dunes (Sheltered)	Km				3	4		1			8	11
Offshore Islands	Count		1					3		1	5	10

* note that numbers have been rounded to the nearest whole number.