Nuyts Archipelago 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).

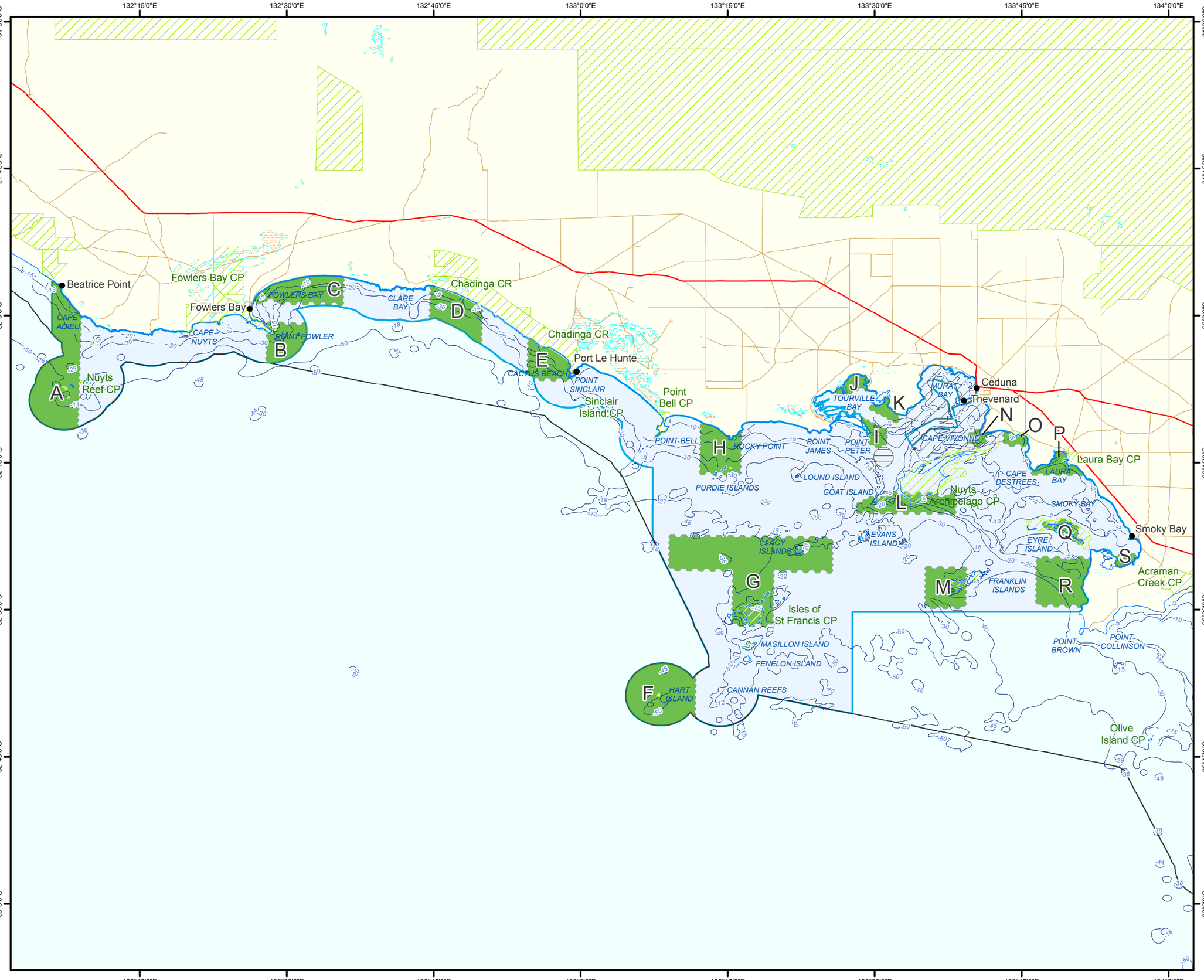
In developing your preferred zoning scenarios it will be important that you apply the full zoning checklists and policy commitments, to help ensure your suggestions meet the marine park design requirements. Doing this will help you develop a proposal for your park(s) that is good for conservation and 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 2
Nuyts Archipelago Marine Park

Preliminary Sanctuary Zone Scenario Starting Point Version 1



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

N

0 20

Kms

0 20

Nautical Miles

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
Harbours - DENR & Harbors and Navigation Act
Prospective Anchorage Locations - Flinders Ports

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

Government of South Australia

DEH MapID: 2010-3846

Basis for 'Starting Point' Preliminary Sanctuary Zone Scenario – Nuyts Archipelago Marine Park (Park 2)		
Location of proposed sanctuary zone	**Area**	**Rationale for possible Sanctuary Zone**
Zone A: From Cape Adieu extending offshore to Nuyts Reef	136 km^2	**This possible Sanctuary Zone represents the following habitats** • The shoreline of this possible Sanctuary Zone includes a mix of high and medium high cliffs broken up with coarse sandy beaches, often fronted by bedrock platform reefs, which are exposed to moderate to high wave energy. • This Zone includes the largest limestone reef in South Australian waters. • This Zone provides a link between the coastal zone and deep water (0 - 50m) that is exposed to high swell, wave and wind energy. • This Zone contains an example of the offshore islands, and a part of the significant limestone reef. **Other important features and natural processes** • This possible Sanctuary Zone represents a region with a high degree of 'naturalness' due to its isolation. • A warm current from Western Australia (the Leeuwin Current) passes through this Zone which includes one of the closest land masses (Nuyts Reef) to the current's path. The current also supports species more common in tropical waters including sponges, corals and seastars (Echinoderms). • Due to the Leeuwin Current this Zone supports migratory pelagic species such as southern bluefin tuna. • The Zone provides habitat for the endangered southern right whale and up to 16 other species of whales and dolphins. • Also found within the Zone are haul out sites for the vulnerable Australian sea lion and New Zealand fur seal as well as Australian sea lion breeding colonies. • The offshore reefs found within the Zone represent prime habitat for King George whiting spawning sites. **Social and economic considerations** • This possible Sanctuary Zone includes the Nuyts Reef Conservation Park.
Zone B: Waters east of Point Fowler	40 km^2	**This possible Sanctuary Zone represents the following habitats** • This possible Sanctuary Zone includes seagrass meadows, low profile platform reefs and habitats that are yet to be mapped. • This Zone includes underwater slopes that stretch from the shoreline to approximately 50m deep. • The shoreline includes medium cliffs with sheltered waters and cliffs exposed to high wave energy. **Other important features and natural processes** • The seagrass meadows and soft-bottom habitat are considered important breeding, spawning and nursery areas for a variety of fish and invertebrates including King George whiting, flathead, yellow-tail kingfish, blue swimmer crabs, southern calamari and scallops. • Seagrasses in this area are the western-most in South Australia. • Species including the vulnerable Australian sea lion, endangered southern right whale and endangered species of macroalgae are all found within this Zone. • Feeding, nesting and breeding areas for resident and migratory shorebirds, whose habitats are required to be protected under international treaties are located within this Zone. • The Zone also represents areas of sea surface temperature variations due to the warming of the sheltered bays during summer and the warm Leeuwin Current in winter. **Social and economic considerations** • To ensure ease of identification, compliance and enforcement the possible Sanctuary Zone uses straight north, south, west and east lines and aligns with prominent headlands and land-marks including Point Fowler. • The Zone has been designed to provide for heavy recreational fishing effort further west of Scott Bay, Cape Nuyts and Cabbots Beach. • This Zone is adjacent to the Fowlers Bay Conservation Park, providing a protected corridor from the land to the sea.
Zone C: East of the Fowlers Bay jetty	60 km^2	**This possible Sanctuary Zone represents the following habitats** • This possible Sanctuary Zone includes fine sandy beaches and entire shallow seagrass meadows and platform reefs. • As a precautionary measure, unmapped seafloor habitats were included up to 50m depths.

		Other important features and natural processes • The endangered southern right whale spends a considerable amount of time in the area breeding and resting every winter. • The seagrass meadows and soft-bottom habitats found within this possible Sanctuary Zone are considered important breeding, spawning and nursery areas for a variety of fish and invertebrates, including King George whiting, flathead, yellow-tail kingfish, blue swimmer crabs, southern calamari and scallops. • The Zone also represents areas of minimal sea surface temperature variations due to the warming of the sheltered bays during summer and the warm Leeuwin Current in winter. • A warm current from Western Australia (the Leeuwin Current) passes through this zone and supports species more common in tropical waters including uncommon coral plates (*Coscinaraea marshae)*, sea stars and feather stars. • The Zone supports a population of resident coastal shore birds including pied oystercatchers and the vulnerable hooded plover. • This Zone includes steep underwater slopes that stretch from the shoreline to about 30m deep. • This Zone includes a transverse bar and rip system beach and associated sediment transport mechanisms. • This Zone receives continual sediment supply from surrounding mobile dune fields, maintaining the sandy seafloor habitat. **Social and economic considerations** • This possible Sanctuary Zone protects Aboriginal historical sites of cultural significance for the Far West Native Title Coordinating Committee. • This Zone is designed to minimise impacts on shoreline and jetty-based recreational fishing in the Fowlers Bay and Clare Bay areas. • To ensure ease of identification, compliance and enforcement the Zone uses straight north, south, west and east lines.
Zone D: East of Eyre Bluff	54 km^2	**This possible Sanctuary Zone represents the following habitats** • The shoreline of this possible Sanctuary Zone includes fine sandy beaches with platform reef and soft-bottom habitat represented further out to sea. • As a precautionary measure, steeply sloping unmapped seafloor habitats were included up to 50m depths. **Other important features and natural processes** • Shoreline and seafloor habitats within this possible Sanctuary Zone are exposed to significant swell, wave and wind energy. • Feeding, nesting and breeding areas for migratory shorebirds, whose habitats are required to be protected under international treaties, are located within this Zone. • This Zone contains a transverse bar and rip system beach, with several offshore bars in places, and associated sediment transport mechanisms (supporting specific food webs). • The Zone receives frequent sediment supply from an active dune system at the western end. • This Zone is designed to represent the connectivity between the intertidal area close to shore and deeper offshore waters. **Social and economic considerations** • This possible Sanctuary Zone protects areas of Aboriginal historical sites and is of cultural significance for the Far West Native Title Group. • This Zone is designed to provide for shoreline recreational fishing and shacks at Clare Bay. • This Zone is adjacent to the Chadinga Conservation Reserve creating a protected corridor from the land to the sea. • This Zone has been located to create ecological connections with a nearby salt lake system and associated ecosystem. • To ensure ease of identification, compliance and enforcement the Zone uses straight north, south, west and east lines.
Zone E: West of Point Sinclair	38 km^2	**This possible Sanctuary Zone represents the following habitats** • The oceanic areas of this possible Sanctuary Zone are made up of reef, including limestone, while represented shoreline habitats include fine and course sandy beaches, cliffs and rock platforms. • As a precautionary measure, unmapped seafloor habitats were included up to 50m depths. **Other important features and natural processes** • This possible Sanctuary Zone is designed to provide connectivity between the intertidal zone and offshore deeper waters. • Protected within this Zone is habitat for endangered macroalgae and populations of resident and migratory coastal shore birds, whose habitats are required to be protected under international treaties. • This Zone also connects with a large and highly active, mobile coastal dune field.

		Social and economic considerations • This possible Sanctuary Zone is designed to provide for shoreline recreational fishing at Cactus Beach and Point Sinclair (200m shoreline buffer). • This Zone is adjacent to the Chadinga Conservation Reserve, creating a protected corridor from the land to the sea. • To ensure ease of identification, compliance and enforcement the Zone uses straight north, south, west and east lines. • This Zone protects the important geological monuments of Pleistocene outcrops at Port Le Hunte (Glanville and Bridgewater Formations).
Zone F: Hart Island and surrounding waters	105km^2	**This possible Sanctuary Zone represents the following habitats** • Hart Island is significant as it is one of the most distant islands from the mainland in South Australia. • As a precautionary measure, unmapped seafloor habitats were included up to 50m depths. **Other important features and natural processes** • Habitats in this possible Sanctuary Zone are subject to strong deepwater swells along with exceptionally clear water, allowing significant light penetration. • The Zone also represents areas of low sea surface temperature variations due to the warming of the sheltered bays during summer and the warm Leeuwin Current in winter. • Many important species are protected within this Zone including southern bluefin tuna, the vulnerable white shark, kingfish, samson fish, western blue groper, vulnerable Australian sea lion, New Zealand fur seal and crested tern. **Social and economic considerations** • This possible Sanctuary Zone is positioned to provide for significant recreational fishing at St Francis Island and Cannan Reef, which are closer to the mainland. • This Zone is complemented by the Isles of St Francis Conservation Park. • This Zone includes geologically significant granite rock formations which were created by an outpouring of acid lavas 1,525 million years ago. These volcanic rocks are different from mainland granite and granite of the Investigator Group of Islands.
Zone G: North and west of St Francis Island, including Smooth, Egg and Lacy Islands	234 km^2	**This possible Sanctuary Zone represents the following habitats** • Along the shoreline of this possible Sanctuary Zone rocky cliffs and sandy beaches are represented, and out to sea reef, seagrass meadows and some unmapped habitats are represented. • This Zone includes areas of reef and, as a precautionary measure, represents deeper water habitats that are yet to be mapped, as well as large areas of open ocean. **Other important features and natural processes** • Sections of coastline protected from strong open ocean swells and prevailing southerly winds are also included in this possible Sanctuary Zone. • The features and natural processes represented within this Zone are influenced by the warm Leeuwin Current and cool coastal upwellings. • This Zone connects a wide variety of habitats between an island shoreline and very deep water to the west. • The deep water included within the Zone provides important habitat for several shark species, including species of conservation importance such as the vulnerable white shark. • The area represents high species density and diversity of fish (predominantly reef fish), sharks, rays, endangered macroalgae, blacklip and greenlip abalone western king prawns, southern rock lobster, southern calamari, sponges, ascidians and jellyfish as well as seasonal observation of the vulnerable leatherback turtle. • Protected within the Zone is Petrel Bay which is considered an important breeding area for molluscs. • Represented within this area is habitat for the vulnerable Australian sea lion. • The area also protects populations of resident coastal shore birds as well as seabirds including endangered ospreys, rare Cape Barren geese, little penguins and the rare rock parrot. **Social and economic considerations** • To ensure ease of identification, compliance and enforcement the possible Sanctuary Zone uses straight north, south, west and east lines. • This Zone includes areas which are highly valued recreational diving sites within the Isles of St Francis and Nuyts Archipelago. • This Zone is complemented by the Isles of St Francis Conservation Park and Nuyts Archipelago Conservation Park. • This Zone has been designed to provide for the high-use recreational fishing sites at some of the more shore-ward islands such as Evans, Goat, St Peter &

		Lound Islands.
Zone H: Rocky Point and Purdie Rocks	53 km^2	**This possible Sanctuary Zone represents the following habitats** • Shallow areas of this possible Sanctuary Zone are made up of reef, seagrass, soft-bottom habitat and habitats which are yet to be mapped, while along the coast cliffs, rock platforms and sandy beaches are found. **Other important features and natural processes** • High energy south west swell, wind and waves strongly influence habitats and species in this area. • This possible Sanctuary Zone creates connections between the range of habitats and species found from the coast through the deep open ocean to offshore islands (Purdie Rocks). • The area includes small patches of seagrass which are considered important in one or more stages in the life cycle of southern calamari and various fish and elasmobranch (sharks and rays) species. • Included within the Zone are shallow water reefs which are thought to be a spawning site for adult sea sweep and a nursery area for western blue groper. • The area also provides foraging habitat for residents of the nearby Purdie Island Australian sea lion breeding colony, which is considered the fifth most important colony in South Australia. • This Zone provides for ecological connectivity between the coastline and deeper waters. **Social and economic considerations** • This possible Sanctuary Zone protects the culturally significant Aboriginal fish traps at Rocky Point. • To ensure ease of identification, compliance and enforcement this Zone uses straight north, south, west and east lines. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown.
Zone I: Point Peter	13 km^2	**This possible Sanctuary Zone represents the following habitats** • Habitats that make up this possible Sanctuary Zone include macroalgae, seagrass, reefs, and soft-bottom habitat in waters from 0 - 30m deep while the shoreline is made up of rock platform and sandy beaches. • This Zone includes the Eyre Peninsula's largest mangrove community and the most westerly mangroves in South Australia. **Other important features and natural processes** • This area includes one of the most important nurseries on Eyre Peninsula for western king prawn and has been identified as an area of international importance for shorebirds. • Habitats protected within this possible Sanctuary Zone include a possible breeding and nursery site for bottlenose dolphins. • Habitats included in this Zone such as tidal flats and soft-bottom are important for a variety of fish, shark and ray species including whiting, flounder, garfish, flathead, gummy, school and whaler sharks as well as eagle rays and smooth stingrays. • Tidal flats and soft-bottom habitat in the area are also important for a variety of other species including blue swimmer crab, western king prawn, razorfish, southern calamari as well as King and Queen scallops. • Sea surface temperatures in the area range significantly from 12°C in winter to more than 22.5°C in summer. **Social and economic considerations** • This possible Sanctuary Zone is positioned to provide for high-use recreational fishing and camping at Davenport Creek. • This Zone protects the culturally significant Aboriginal fish traps and occupation sites. • It is complemented by a netting closure which extends from Point Bell to Point Brown. • This Zone is situated in an area where significant scientific research and monitoring is to be undertaken (EPNRM, Flinders University, Uni SA). • To ensure ease of identification, compliance and enforcement this Zone aligns with easy to identify, prominent landmarks (Point Peter & headland at the mouth of Davenport Creek).
Zone J: Head of Tourville Bay	11 km^2	**This possible Sanctuary Zone represents the following habitats** • Shallow areas within this possible Sanctuary Zone include representative samples of reef, seagrass meadows and soft-bottom habitat while along the coast mangroves, saltmarsh, sandy beaches, cliffs and mudflats are found.

		Other important features and natural processes • Sea surface temperatures in the area range from 12°C in winter to more than 22.5°C in summer. • A variety of fish, shark and ray species including whiting, flounder, garfish, flathead, gummy, school and whaler sharks as well as eagle rays and smooth stingrays are supported by the habitats in this possible Sanctuary Zone. • Tidal flats and soft-bottom habitat in this area are also important for a variety of other species including blue swimmer crab, western king prawn, razorfish, southern calamari as well as King and Queen Scallops. • The area is surrounded by salt lakes which are subject to flooding causing influxes of sediments and nutrients. • This Zone contains what is possibly Eyre Peninsula's widest diversity of resident coastal and sea birds as well as migratory shorebirds, whose habitats are required to be protected under international treaties. **Social and economic considerations** • This possible Sanctuary Zone is part of the Tourville Bay system, rated as *near pristine* by a National Land and Water Resources Audit, and one of three South Australian estuaries of outstanding conservation significance. • This Zone provides for high-use recreational fishing effort at other parts of the estuarine system and areas of high use, such as the Davenport Creek camping area. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown. • This Zone protects the culturally significant Aboriginal fish traps and occupation sites at Nadia Landing. • This Zone is included in part of an area which has been subject to significant scientific research and monitoring (DEH, CSIRO, EPNRM).
Zone K: Cape Beaufort	10km^2	**This possible Sanctuary Zone represents the following habitats** • Shallow water within this possible Sanctuary Zone includes soft-bottom habitat and other habitats that are yet to be mapped while the shoreline is made up of sandy beaches, sand dunes, saltmarsh, mangroves and rock platforms. • This Zone provides connectivity between spawning grounds of various species and deeper water habitat. **Other important features and natural processes** • This possible Sanctuary Zone includes one of Eyre Peninsula's most important nurseries for western king prawn. • Habitats protected within this Zone include a possible breeding and nursery site for bottlenose dolphins as well as cockle bed communities. • The most western extent of mangroves in SA and largest mangrove community on Eyre Peninsula. • Habitats included in this Zone such as tidal flats and soft-bottom are important for a variety of fish, shark and ray species including whiting, flounder, garfish, flathead, gummy, school and whaler sharks as well as eagle rays and smooth stingrays. • Tidal flats and soft-bottom habitat in the area are also important for a variety of other species (invertebrates) including blue swimmer crab, western king prawn, razorfish, southern calamari as well as King and Queen scallops. • Sea surface temperatures in the area range significantly from 12°C in winter to more than 22.5°C in summer. **Social and economic considerations** • This possible Sanctuary Zone is positioned to provide for high-use recreational fishing and camping at Davenport Creek. • This Zone protects the culturally significant Aboriginal fish traps and occupation sites. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown. • This Zone is situated in an area where significant scientific research and monitoring is to be undertaken (EPNRM, Flinders University, Uni SA). • This Zone provides for areas of high public use due to the limited public access.
Zone L: South of St Peter Island and Goat Island	53km^2	**This possible Sanctuary Zone represents the following habitats** • More than half of this possible Sanctuary Zone is made up of low profile platform reef at water from 0 - 50m deep. • Also represented in the area is seagrass, soft-bottom habitat and some habitats that are yet to be mapped, while along the coast rock platform, sandy beach and cliffs present are found. **Other important features and natural processes** • The shallow water reefs, and sheltered beach habitat on the south-western side of St Peter Island and north east side of Goat Island are considered to be important for commercial fish and shark species including King George whiting, garfish, flounder, snapper, and gummy and whaler sharks. • The shallow water reefs and small seagrass stands found on the southern side of this possible Sanctuary Zone are considered to be important for

		commercial invertebrate species including southern rock lobster, southern calamari, blue swimmer crab, sand crab, razorfish and scallops. • Included within the Zone are shallow water reefs which are thought to be a spawning site for adult sea sweep and a nursery area for western blue groper. • Other species within the Zone include the threatened and unique coastal stingaree as well as the vulnerable Australian sea lion. • The area also protects diverse populations of residential and migratory seabirds and coastal shore birds including the endangered osprey, endangered white-bellied sea-eagle, rare Cape Barren geese, endangered fairy tern and buff-banded rail. **Social and economic considerations** • This possible Sanctuary Zone is positioned to provide for heavy recreational fishing on the northern and eastern side of St Peter Island. • To ensure ease of identification, compliance and enforcement this Zone uses straight north, south, west and east lines. • This Zone is located to provide for aquaculture zones and leases to the north. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown.
Zone M: Western Franklin Island	49 km^2	**This possible Sanctuary Zone represents the following habitats** • Habitats represented in this possible Sanctuary Zone include reefs, seagrass meadows, soft-bottom habitat as well as habitats that are yet to be mapped, while along the coast habitats include granite rock platform and sandy beaches. • The Zone contains habitats on very steep underwater slopes which drop to deeper than 50m in less than 3km from the south-western shoreline. **Other important features and natural processes** • The area is influenced by seasonal inflows of cool, nutrient-rich water that support a wide range of species. • Habitats in the area support rare and possibly unique cowries (molluscs) and assorted ascidians (filter feeding, soft organisms with vertebrae). • Habitats found within this possible Sanctuary Zone support an abundance of macroalgae which is important habitat for juvenile abalone and protective habitat for other smaller invertebrates including uncommon and possibly endemic ascidian species. • The area also protects diverse populations of residential and migratory seabirds and coastal shore birds including osprey (endangered), white-bellied sea-eagles (endangered), Cape Barren geese (rare), buff-banded rails and fairy terns (endangered). • This Zone protects one of the most important Australian sea lion breeding colonies in South Australia. **Social and economic considerations** • To ensure ease of identification, compliance and enforcement this possible Sanctuary Zone uses straight north, south, west and east lines which align with prominent landmarks (eastern side of West Franklin Island). • This Zone is designed to protect the habitats and ecology of the Franklin Islands, while providing for the popular recreational fishing area of East Franklin Island. • This Zone aims to provide for the high-use fishing on the north-east of the Franklin Islands, the recreational tuna fishing on the lumps to the south-west of the Franklin Islands and the prawn trawling grounds to the east. • This Zone is complemented by the Nuyts Archipelago Conservation Park and Franklin Islands Prohibited Area. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown.
Zone N: Cape Vivonne	7 km^2	**This possible Sanctuary Zone represents the following habitats**; • The shallow waters (0 - 10m) within this possible Sanctuary Zone host a variety of habitats and communities including macroalgae, medium profile reef, seagrass and soft-bottom habitat. The shoreline is predominantly sandy beaches and rock platform, with a small amount of sheltered cliff. **Other important features and natural processes**; • The area is influenced by seasonal inflows of cool, nutrient rich water that support a wide range of species. • The shoreline, adjacent waters and benthic (seafloor) habitats are protected from wind and wave energy by St Peters Island. • Sea surface temperatures in the area range from 12°C in winter to more than 22.5°C in summer. • Habitats protected within this possible Sanctuary Zone support extensive macroalgae communities. There are contrasting sand substrate based macroalgae, as well as reef substrate based macroalgae, which are home to species including feather-worms and sponges. • The area also protects habitats for razorfish and native oyster populations. • Subtidal sandflats and seagrass beds included in this Zone are an important nursery site important for a variety of fish, shark and invertebrate species including whiting, flounder, flathead and gummy, school and whaler sharks as well as western king prawn, blue swimmer crab, baitworm and southern calamari.

		Social and economic considerations; • This possible Sanctuary Zone is positioned to provide for aquaculture zones and leases to the east and south and boat ramps, jetties and moorings inside Bosanquet and Murat Bays. • The location of this Zone also provides for the urban and industrial areas of Thevenard. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown.
Zone O: Waters adjacent to Wittlebee Conservation Park	8 km²	**This possible Sanctuary Zone represents the following habitats** • The shallow waters (0 - 10m) within this possible Sanctuary Zone are predominantly seagrass with a small amount of soft-bottom habitat. The shoreline is made up of rock platform and sandy beaches. **Other important features and natural processes** • The area is influenced by seasonal inflows of cool, nutrient rich water that support a wide range of species. • Sea surface temperatures in the area range significantly from 12°C in winter to more than 22.5°C in summer. • The area protects habitats (predominantly soft substrate) for razorfish and native oyster populations, which in turn provide habitat for species which colonise on their hard shells. • This possible Sanctuary Zone is located in a transition area between the sheltered harbor, and more wind-exposed waters further south. • Subtidal sandflats and seagrass beds included in this Zone are an important nursery site important for a variety of fish, shark and invertebrate species including whiting, flounder, flathead and gummy, school and whaler sharks as well as western king prawn, blue swimmer crab, baitworm and southern calamari. **Social and economic considerations** • This possible Sanctuary Zone is positioned to provide for aquaculture zones and leases to the west and south and boat ramps, jetties and moorings inside Bosanquet and Murat Bays. • This Zone is complemented by the Wittlebee Conservation Park, establishing a protected corridor between the land and sea. • The location of this Zone also provides for the urban and industrial environment of Thevenard. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown.
Zone P: Laura Bay	18 km^2	**This possible Sanctuary Zone represents the following habitats** • In the shallow areas (0-10m deep) of this possible Sanctuary Zone reef, seagrass and soft-bottom habitat are found and, as a precautionary measure, includes some shallow habitats which are yet to be mapped. Along the coastline cliffs, sand beaches, saltmarsh, sandflats and mangroves can be found. **Other important features and natural processes** • This possible Sanctuary Zone provides connectivity between the shoreline and deeper waters up to 4 km offshore (in places). • The Zone provides a key nursery for a variety of fish including whiting, flounder, and flathead as well as and invertebrates including western king prawn, blue swimmer crab, southern calamari, scallops and spawning adult and juvenile mud cockles. • The area is protected from exposure to wind and wave energy by the Nuyts Archipelago and includes broad depth contours and shallow waters. • This Zone contains part of a depositional coastline and associated sediment input. • Sea surface temperatures in the area range from 12°C in winter to more than 22.5°C in summer. • Species represented within this zone include invertebrate communities such as sponges, ascidians (filter feeding, soft organisms with vertebrae) and razorfish as well as green, brown and red macroalgae. • The sandflats found within this Zone provide an important feeding area for coastal shorebirds. **Social and economic considerations** • To ensure ease of identification, compliance and enforcement this possible Sanctuary Zone has easily identifiable boundaries which align with prominent landmarks. • This Zone adjoins the Laura Bay Conservation Park, providing a protected corridor from the land to the sea. The Laura Bay Conservation Park is listed on the *Register of the National Estate.* • This Zone is located away from any boat ramps or launching facilities.

Zone Q: Eyre Island	14 km^2	**This possible Sanctuary Zone represents the following habitats** • Habitats found in shallow waters (0 - 10m deep) in this possible Sanctuary Zone are made up of seagrass and soft-bottom habitat as well as some habitats that are yet to be mapped. Also represented in this Zone are saltmarsh and mangrove habitats as well as inshore sand island habitat with exposed and sheltered shorelines. **Other important features and natural processes** • The subtidal sandflats, mangrove forests and seagrass beds represented within this possible Sanctuary Zone are an important nursery site for a variety of fish including whiting, flounder and flathead. • The tidal creeks found within this Zone are important habitat for invertebrates including blue swimmer and sand crabs, western king prawns, razorfish, mud cockles and scallops. • Within this Zone depositional sediment transport processes occur with significant sediment accumulation around and in the lee of the island. • Breeding sites for the uncommon buff-banded rail and habitat for various other coastal shore and migratory shorebirds, whose habitats are required to be protected under international treaties are found within this Zone. **Social and economic considerations** • This possible Sanctuary Zone is located to provide for aquaculture zones and leases to the north and west at Smoky Bay as well as commercial mud cockle effort at little Eyre Island. • This Zone is complemented by the Nuyts Archipelago Conservation Park. • Eyre Island is a site of Geological Significance, featuring remnants of the St Kilda Formation – a 6000 year old landform.
Zone R: Death Rock, north of Point Brown	73 km^2	**This possible Sanctuary Zone represents the following habitats** • The shoreline of this possible Sanctuary Zone is made up of sandy beaches, cliffs and rock platforms while in the shallow areas seagrass, soft-bottom habitat and reef can be found. Some of the habitats within this Zone in water 0 - 30m deep are yet to be mapped. **Other important features and natural processes** • This possible Sanctuary Zone has a high degree of ‘naturalness’ due to its isolation. • Unique features of this Zone include a western facing headland, exposed to significant wind and wave energy and a well defined granite reef plateau. • Sea surface temperatures in the area range from 12°C in winter to more than 22.5°C in summer. • The Zone is influenced by seasonal inflows of cool, nutrient rich water that support a wide range of species. • Macroalgae in the area provide an important habitat for juvenile abalone and smaller invertebrates (molluscs, bryozoans). • Found within this Zone are mature King George whiting, snapper and stingray species as well as occasional sightings of killer whales. **Social and economic considerations** • This possible Sanctuary Zone is located to provide for aquaculture zones and licenses to the north at Smoky Bay as well as heavy recreational fishing at Smoky Bay, Point Brown and St Mary Beach. • This Zone is complemented by a netting closure which extends from Point Bell to Point Brown.
Zone S: South of Smoky Bay	6 km^2	**This possible Sanctuary Zone represents the following habitats** • In the shallow waters (0 - 10m deep) within this possible Sanctuary Zone habitats include seagrass and soft-bottom habitat as well as some habitats which are yet to be mapped. Rock platforms, sandy beaches, saltmarsh and mangroves are found along the shoreline. • The Zone contains a shallow bay system which has been filled with marine sediment. • The Zone contains tidal channels and sub channels, tidal sandbanks and intertidal flats associated with a tidal estuarine system. **Other important features and natural processes** • This Zone includes extensive and densely populated razorfish beds which are capable of filtering very large volumes of water and provide microhabitat as hard surface for plants and animals which exist on the surface of other organisms (epibiotic). • Important habitat (soft sediment) for other filter feeders including native oysters and scallops and razorfish is found within this Zone. • Sea surface temperatures in the area range from 12°C in winter to more than 22.5°C in summer. • Habitats found in this Zone are important for a variety of fish such as whiting, flounder, and flathead as well as invertebrates such as the western king prawn, blue swimmer crab, southern calamari and spawning adult and juvenile mud cockles.

		Social and economic considerations; • To ensure ease of identification, compliance and enforcement this possible Sanctuary Zone has easily identifiable boundaries which align with prominent landmarks. • This Zone is located to provide for the boat launching facilities and associated activity at Smoky Bay as well as active aquaculture zones and leases. • This Zone includes an area which has cultural significance to the Aboriginal Far West Native Title Group. • There is limited public access to this Zone.

This table shows the environmental values represented in each possible Sanctuary Zone within the Nuyts Archipelago 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	J	K	L	M	N	O	P	Q	R	S	
Ecologically Important Species																					
Australian Sea lions (breeding sites)	Count	2							1				2	1							6	11
Australian Sea lions (haulout sites)	Count	1	1				1	4					1								8	16
Coastal Shorebird Sites	Count					14	2	6	4	33	23	12	2	11		2	31	33			173	537
Reef Fish Sites	Count							16						2							18	27
Sea Bird Breeding and Nesting Sites	Count						1	4					1					1			7	21
Underwater Habitats																						
Macroalgae (0 to -10m)	Km²									<1					3						4	28
Macroalgae (-10 to -30m)	Km²									2											2	5
Rocky Reef (0 to -10m)	Km²	1	1	9	3	3		3	8	<1	<1		13	2	<1		<1		1		44	140
Rocky Reef (-10 to -30m)	Km²	9	1	5	<1	<1		1		3			13	1							33	136
Rocky Reef (-30 to -50m)	Km²	7	<1					1					2	<1							11	31
Rocky Reef (>-50m)	Km²	1																			1	1
Seagrass (0 to -10m)	Km²		1	3				<1		5	7	6	5	<1	2	8	11	2	12	4	66	500
Seagrass (-10 to -30m)	Km²		<1					<1		<1				<1					<1		1	12
Soft-bottom Habitat (0 to -10m)	Km²	1		6	4				<1	2	3	3	1	<1	1	<1	7	3	3	2	36	144
Soft-bottom Habitat (-10m to -30m)	Km²	<1			3					<1											3	4
Soft-bottom Habitat (-30m to -50m)	Km²	<1																			<1	<1
Unmapped (0 to -10m)	Km²	2	1	6	<1	6	<1	7	18	<1	1	<1	4	2	<1	<1	<1	4	<1	<1	53	167
Unmapped (-10 to -30m)	Km²	12	11	18	14	19	2	10	25				4	4					56		174	625
Unmapped (-30 to -50m)	Km²	36	25	14	29	10	7	73	2				4	30					<1		230	1320
Unmapped (>-50m)	Km²	68	1				96	129						6							301	819
Shore Habitats																						
Bedrock Platform (Exposed)	Km					3			1	1					1				1		8	24
Bedrock Platform (Moderate)	Km								2			1									4	5
Bedrock Platform (Sheltered)	Km														1					4	4	9
Cliff (Exposed)	Km	9	2			4			1										2		18	55
Cliff (Moderate)	Km					1											3		2		6	9
Cliff (Sheltered)	Km		2								1				<1		4				8	36
Coarse Sand Beach (Exposed)	Km	2				1			5										5		12	31
Coarse Sand Beach (Moderate)	Km											1					4		1		6	12
Coarse Sand Beach (Sheltered)	Km								<1	<1	2	1			1		2			1	9	52
Emergent Land	Count							2	1					1			3	3			10	25
Estuary	Km²									9	11	10						13		6	48	239
Fine-medium Sand Beach (Exposed)	Km			16	9	5				1											32	97
Fine-medium Sand Beach (Moderate)	Km								<1												<1	<1
Fine-medium Sand Beach (Sheltered)	Km										1										1	1
Mangrove	Km²									<1	1	<1					<1	4		<1	5	11
Saltmarsh	Km²									<1	1	<1					<1	2		<1	3	7
Sand Dunes (Sheltered)	Km											2									2	6
Offshore Islands	Count	1					1	4	3				1	2				1			13	34

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