



Australian Government

Department of the Environment, Water, Heritage and the Arts

Marine Bioregional Planning in the South-west Marine Region

Areas for Further Assessment

This document provides a broad overview of the seven areas for further assessment identified for the development of a Commonwealth Marine Reserves Network in the South-west Marine Region. Comprehensive information about the Commonwealth marine environment of the South-west can be found at <http://www.environment.gov.au/coasts/mbp/publications/south-west/sw-region-profile.html>.

The shape files and metadata for the Areas for Further Assessment can be obtained by emailing SW_marine_plan@environment.gov.au

What progress has been made in marine bioregional planning in the South-west?

The Marine Bioregional Planning program started in 2006. It is a three step process and will result in the development of marine bioregional plans under national environment law for all Australian waters. It will also establish networks of Commonwealth Marine Reserves which will contribute to the National Representative System of Marine Protected Areas. All governments in Australia have a shared and international commitment to establish a national representative system by the year 2012.

The South-west is the marine region where the Australian Government's marine bioregional planning program is most advanced. The process began in July 2006 and the bioregional profile (stage one) was released in October 2007. Profile describes the geomorphology, oceanography and ecology of the region, and identifies its conservation values. The profile also explains how new marine protected areas (MPAs) will be identified and it provides information about the human activities currently taking place in the region.

In April 2008 stakeholder forums were held in Perth and Adelaide, to outline the contents of the profile and the intent to develop a draft plan (stage two) that includes a proposed network of MPAs.

Work to identify and design a marine reserve network has so far been undertaken within Government, although stakeholders were given an initial indication of key focus areas at the stakeholder forums in 2008.

Recently, the Department of the Environment, Water, Heritage and the Arts (DEWHA) completed the first stage of the network design and is preparing to gather further information from government and non-government stakeholders on specific Areas for Further Assessment.

What are Areas for Further Assessment?

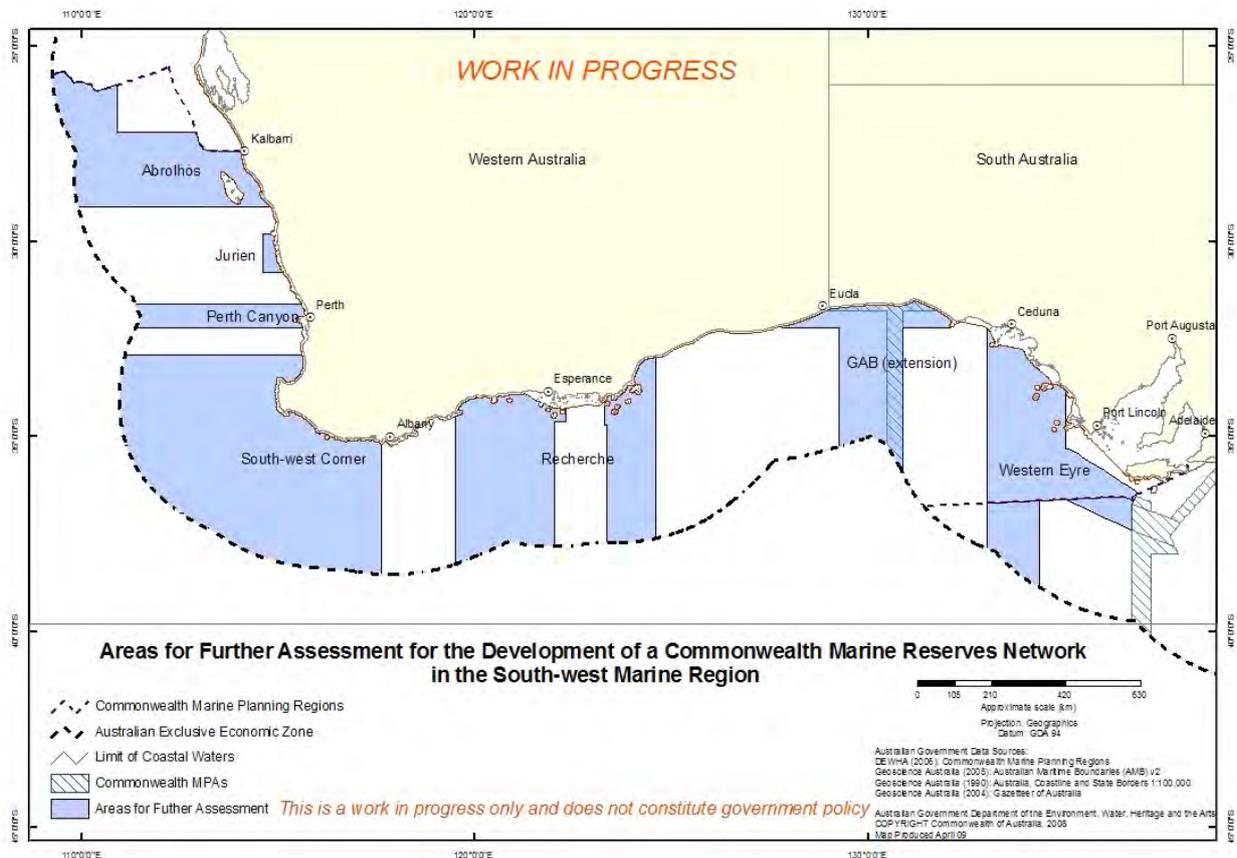
Areas for Further Assessment are large areas that encompass representative examples of the range of biodiversity and ecosystems within the South-west marine region. Reserves that include the key characteristics of these areas should meet the goals and principles for the establishment of the regional networks.

Areas for Further Assessment are NOT proposed reserves.

The assessment process that DEWHA is undertaking on the Areas for Further Assessment aims to ensure that proposed marine reserves in the South-west Marine Region will achieve robust conservation outcomes while minimising the socio-economic costs associated with their establishment. Based upon an understanding of the distribution of values (socio-economic and conservation), reserve boundaries and zones will be designed and a Draft Network Proposal will

be included in the Draft South-west Marine Bioregional Plan. This is due for completion in late 2009. It will be followed by a statutory period of public consultation. Public comments will inform finalisation of the Marine Bioregional Plan (stage three), following which the process of declaration will commence. The declaration process has its own statutory consultation requirements.

Figure 1. Areas for Further Assessment for the Development of a Commonwealth Marine Reserves Network in the South-west Marine Region



How were Areas for Further Assessment identified?

Areas for further assessment in the South-west marine region were identified through the application of the goals and principles for the establishment of marine reserves in Commonwealth waters and the use of available scientific data and informed by internationally recognised approaches to reserve design. The goals and principles can be viewed at:

<http://www.environment.gov.au/coasts/mbp/publications/general/goals-nrsmpla.html>

What measures other than marine reserves may be included in the South-west Marine Bioregional Plan?

In addition to the establishment of regional marine reserves networks, the marine bioregional planning process will lead the preparation of a marine bioregional plan under the Section 176 of the national environment law (the *Environment Protection and Biodiversity Act 1999*). As this law requires the Minister to have regard to a Plan in making any decision of relevance to an area for which a plan is in place, the primary role of a plan is to support decision-making and to provide an integrated framework for all Commonwealth conservation measures and initiatives within a marine region. Measures associated with marine bioregional plans will include administrative guidance about matters of national environmental significance occurring in the region. The plans will also outline key considerations that will inform referral and approval decisions as well as strategic

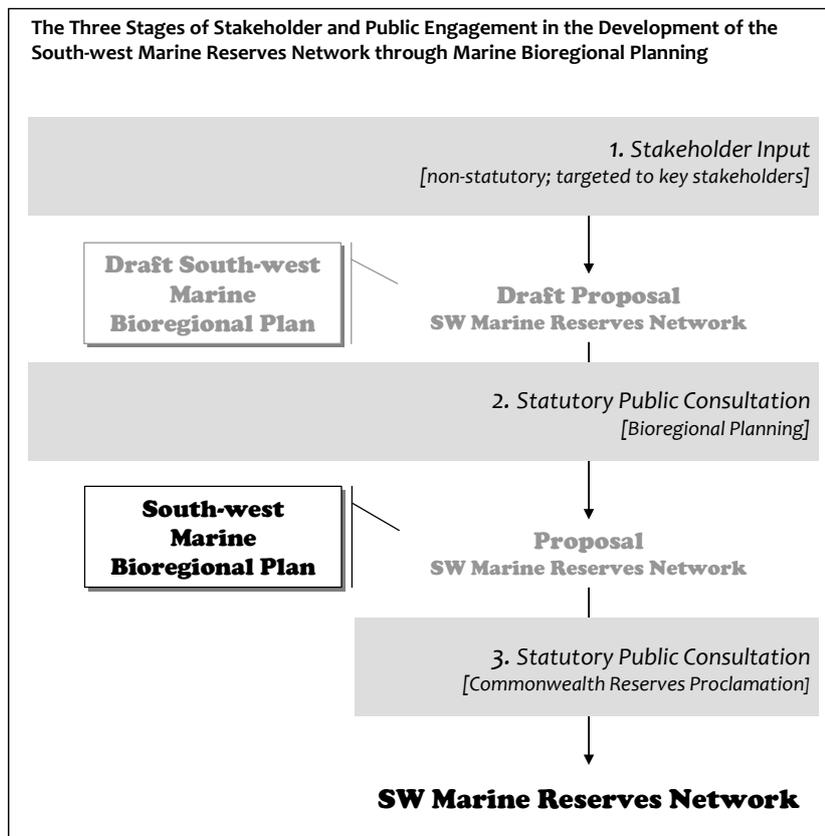
assessment decisions for export and Commonwealth-managed fisheries. Statutory measures that might be part of a plan include: recovery plans, threat abatement plans, wildlife conservation plans, listing of critical habitat and declarations of important cetacean habitat areas.

How can stakeholders and the public input into the process?

Non-government stakeholders in the South-west include representatives of the following sectors: commercial fishing, offshore aquaculture, oil and gas exploration and production, carbon sequestration, shipping and ports, and conservation organisations. Recreational fishing and Indigenous groups are also key stakeholders, although their interests tend to be focused on state waters, i.e. inshore of 3 nautical miles.

Stakeholder consultation on the new marine protected areas will comprise of three main stages:

1. **Targeted meetings** of key stakeholders in the region, will be held between mid May and early August 2009, to gather input and views in relation to the Areas for Further Assessment. This input will inform the development of a Draft Proposal for a Commonwealth Marine Reserves Network, which will be included in the Draft Plan.
2. A period of **statutory consultation (minimum 60 days)** will commence following the release of the Draft South-west Marine Bioregional Plan, which will include the Draft Proposal for a Commonwealth Marine Reserves Network, including proposed zoning arrangements. This will occur during the first half of 2010.
3. Additional **statutory consultation (minimum 60 days)** will occur during the process of proclamation of the Commonwealth Marine Reserves as required under the national environment law. This will happen in late 2010 / early 2011.

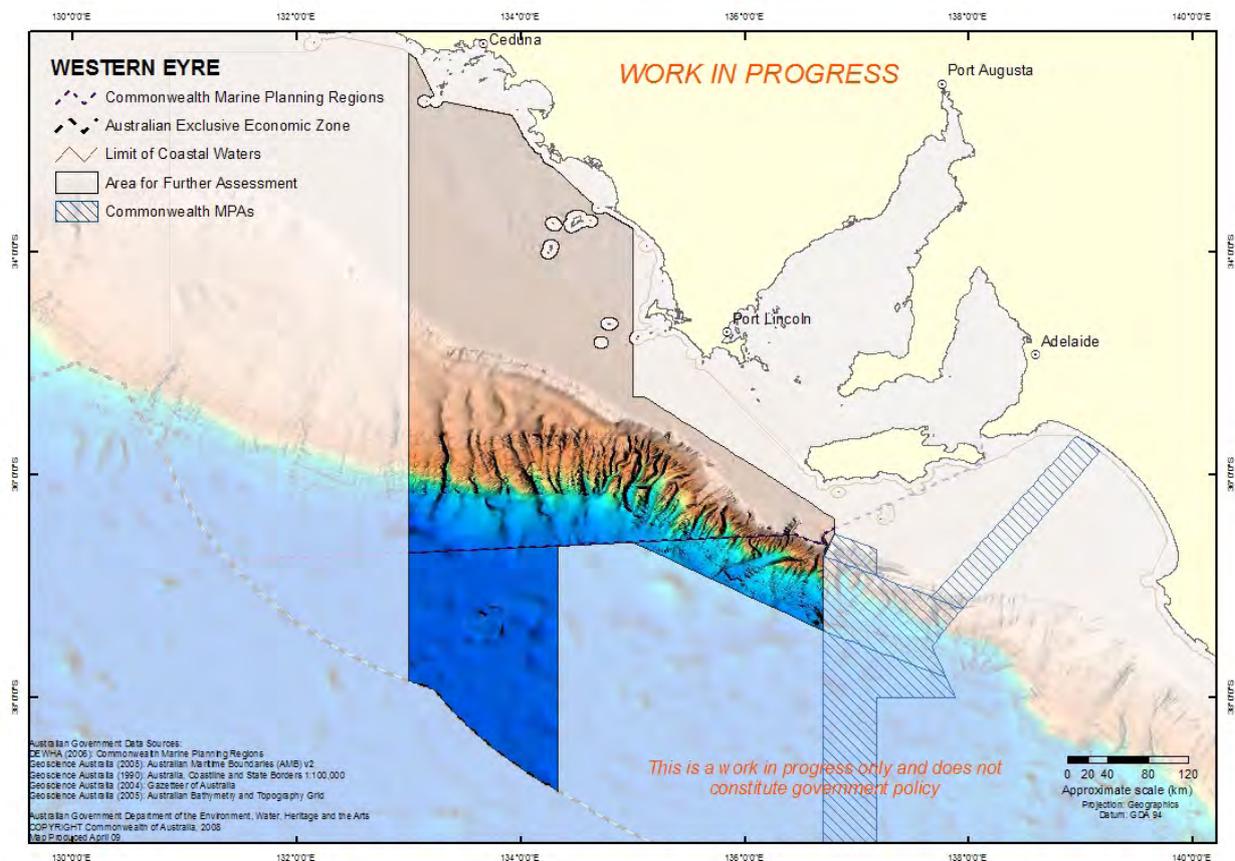


Where can I get more information?

More information is available at <http://www.environment.gov.au/coasts/mbp/index.html>

You can also direct your queries to the Department by emailing SW_marine_plan@environment.gov.au.

1. WESTERN EYRE Area for Further Assessment



The Western Eyre area for further assessment encompasses ecosystems from four bioregions: the Great Australian Bight Shelf Transition, the Southern Province, the Spencer Gulf Shelf Province and the West Tasmanian Transition. The area includes shelf, slope, terrace and extensive canyon environments.

Stretching from Kangaroo Island to the west of the Eyre Peninsula, seasonally predictable local upwellings of nutrient rich water make this area of regional ecological importance. Off the Western Eyre area Commonwealth waters surround ecologically important “shield” islands, such as the Nuyts and Investigator groups and Kangaroo Island. The environment supports highly diverse benthic communities and aggregations of krill and salps. The area is home to several breeding colonies of the threatened Australian sea lion and the crested tern, little penguin and the short-tailed shearwater. Each of these threatened species forage extensively in the Commonwealth waters. In addition, a number of large whales feed and rest in the area, taking advantage of the productivity, which is seasonally high relative to adjacent regions.

Proposed conservation objectives for reserve(s) established within the Western Eyre Area for Further Assessment:

1. To protect ecologically adequate examples of the benthic/demersal habitats and communities of the eastern Great Australian Bight (GAB) region, specifically the Eyre and Murat meso-scale bioregions of the Great Australian Bight Shelf Transition, the Spencer Gulf Shelf Province, Southern Province and the West Tasmanian Transition.
2. To protect ecologically adequate examples of pelagic habitats and communities of the eastern Great Australian Bight region, including those environments associated with enhanced productivity and species aggregations (feeding and breeding areas). These include:

- Kangaroo Island Canyons and adjacent shelf break
 - The seasonally predictable upwellings of the Kangaroo Island Pool and Eyre Peninsula
 - The seasonally predictable meso-scale eddies south of the Eyre Peninsula
3. To contribute to the recovery and long-term protection of the endemic, biologically unique and threatened Australian sea lion, including the species genetic diversity
 4. To preserve in their natural conditions areas of the Spencer Gulf Shelf Province and the eastern parts of the Southern Province
 5. To contribute to the scientific understanding of the response over time of the marine ecosystems and species of the Great Australian Bight Shelf Transition (Eyre and Murat meso-scale bioregions) to climate change and variability

Range of IUCN Categories to which reserve(s) within the Western Eyre Area might be assigned:

(Under the national environment law, Commonwealth reserves must be assigned to a IUCN Category; a reserve may also be divided into “zones”, with each zone being assigned to a IUCN Category)

IUCN Cat. Ia (Strict Nature Reserve): managed primarily for scientific research and environmental monitoring*

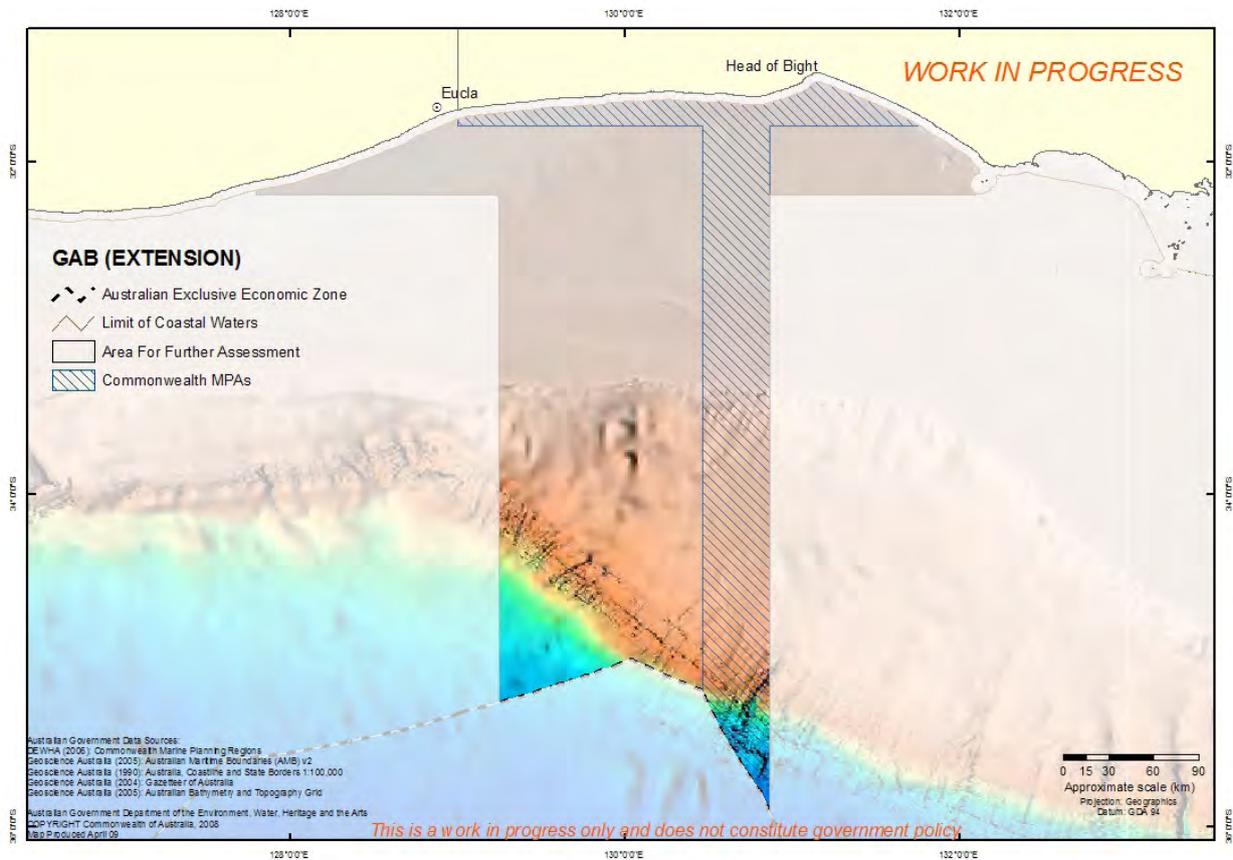
IUCN Cat. II (National Park): managed primarily to preserve its natural condition*

IUCN Cat. IV (Habitat/species management area): managed primarily to meet the requirements of species and/or maintain habitats *

IUCN Cat. VI (Managed resource protected area): managed primarily for sustainable use*

* in accordance with the principles outlined in Schedule 8 of the Regulations

2. GREAT AUSTRALIAN BIGHT (EXTENSION) Area for Further Assessment



The Great Australian Bight (Extension) area for further assessment encompasses ecosystems from the Great Australian Bight Shelf Transition and the Southern Province bioregions. As the name suggests, this area is an extension to both the inner shelf and benthic protection components of the existing Great Australian Bight Marine Park. The area includes important habitats at the Head of the Bight for a range of marine species. The benthic invertebrate communities found on the shelf, particularly sponges, ascidians and bryozoans, have been described as among the world's most diverse soft sediment ecosystems. The Head of the Bight represents a hotspot of biodiversity and productivity. It is one of the most important calving areas for southern right whales in Australia and is important for other protected species including the Australian sea lion and the white shark.

Proposed conservation objectives for reserve(s) established within the GAB (extension) Area for Further Assessment:

1. To protect ecologically adequate examples of benthic invertebrate habitat communities of the Great Australian Bight, specifically within the Eucla meso-scale bioregion and the Southern Province.
2. To protect ecologically adequate examples of the pelagic environments associated with the Great Australian Bight Shelf Transition and the Southern Province.
3. To preserve in their unmodified and/or natural conditions areas of the Great Australian Bight Shelf Transition and the Southern Province.
4. To contribute to the recovery and long-term protection of the southern right whale.
5. To contribute to the recovery and long-term protection of the endemic, biologically unique and threatened Australian sea lion, including the species genetic diversity.

6. To contribute to the scientific understanding of the response over time of the marine ecosystems and species of the Great Australian Bight Shelf Transition (Eucla meso-scale bioregion) to climate change and variability

Range of IUCN Categories to which reserve(s) within the GAB (extension) Area might be assigned:

(Under the national environment law, Commonwealth reserves must be assigned to a IUCN Category; a reserve may also be divided into “zones”, with each zone being assigned to a IUCN Category)

IUCN Cat. Ia (Strict Nature Reserve): managed primarily for scientific research and environmental monitoring*

IUCN Cat. Ib (Wilderness Area): managed primarily to preserve its unmodified condition*

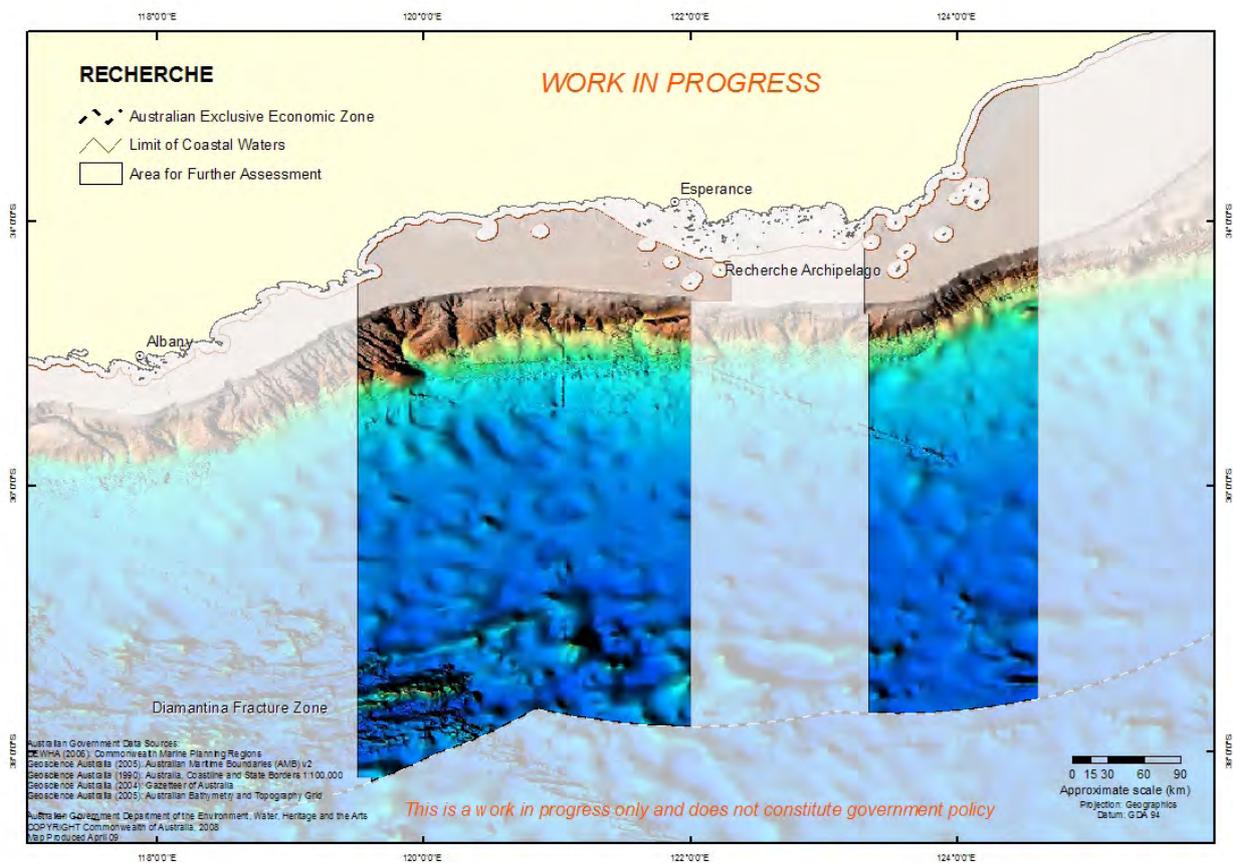
IUCN Cat. II (National Park): managed primarily to preserve its natural condition*

IUCN Cat. IV (Habitat/species management area): managed primarily to meet the requirements of species and/or maintain habitats *

IUCN Cat. VI (Managed resource protected area): managed primarily for sustainable use*

* in accordance with the principles outlined in Schedule 8 of the Regulations

3. RECHERCHE Area for Further Assessment



The Recherche area for further assessment encompasses ecological examples of the Southwest Shelf Province and Southern Province bioregions and includes a number of ecologically important sites and features. The area includes bank, shoals, knoll, reef and canyon environments. The eastbound Leeuwin current generates an eddy at a predictable location offshore of Esperance resulting in high species productivity and biodiversity. The Albany Canyon Group is also thought to be associated with small periodic upwellings that enhance productivity and attract aggregations of marine life in the area. The Recherche Archipelago on the shelf is the most extensive area of reef in the South-west Marine Region and it supports a high species diversity of fish, molluscs, sponges and macro-algae. The reef and seagrass habitats also support a high diversity of warm temperate species (fish, molluscs, sponges and algae). The area is important for Australian sea lions and New Zealand fur seals and is of conservation significance for seabirds. The sheltered bays are important southern right whale calving areas.

Proposed conservation objectives for reserve(s) established within the Recherche Area for Further Assessment:

1. To protect ecologically adequate examples of the benthic/demersal habitats and communities of the South-west Shelf Province (Western Australian South Coast meso-scale bioregion), including the diverse reef habitats of the continental shelf surrounding the Recherche Archipelago.
2. To protect ecologically adequate examples of pelagic habitats and communities of the South-west Shelf Province (Western Australian South Coast meso-scale bioregion), including those environments associated with enhanced productivity and species aggregations (feeding and breeding areas):

- Albany Canyons (east) and adjacent shelf break
 - the seasonally predictable meso-scale eddies south of the Recherche Archipelago.
3. To contribute to the recovery and long-term protection of the endemic, biologically unique and threatened Australian sea lion, including the species genetic diversity.
 4. To contribute to the scientific understanding of the response over time of the marine ecosystems and species of the South-west Shelf Province (Western Australian South Coast meso-scale bioregion) to climate change and variability

Range of IUCN Categories to which reserve(s) within the Recherche Area might be assigned:

(Under the national environment law, Commonwealth reserves must be assigned to a IUCN Category; a reserve may also be divided into “zones”, with each zone being assigned to a IUCN Category)

IUCN Cat. Ia (Strict Nature Reserve): managed primarily for scientific research and environmental monitoring*

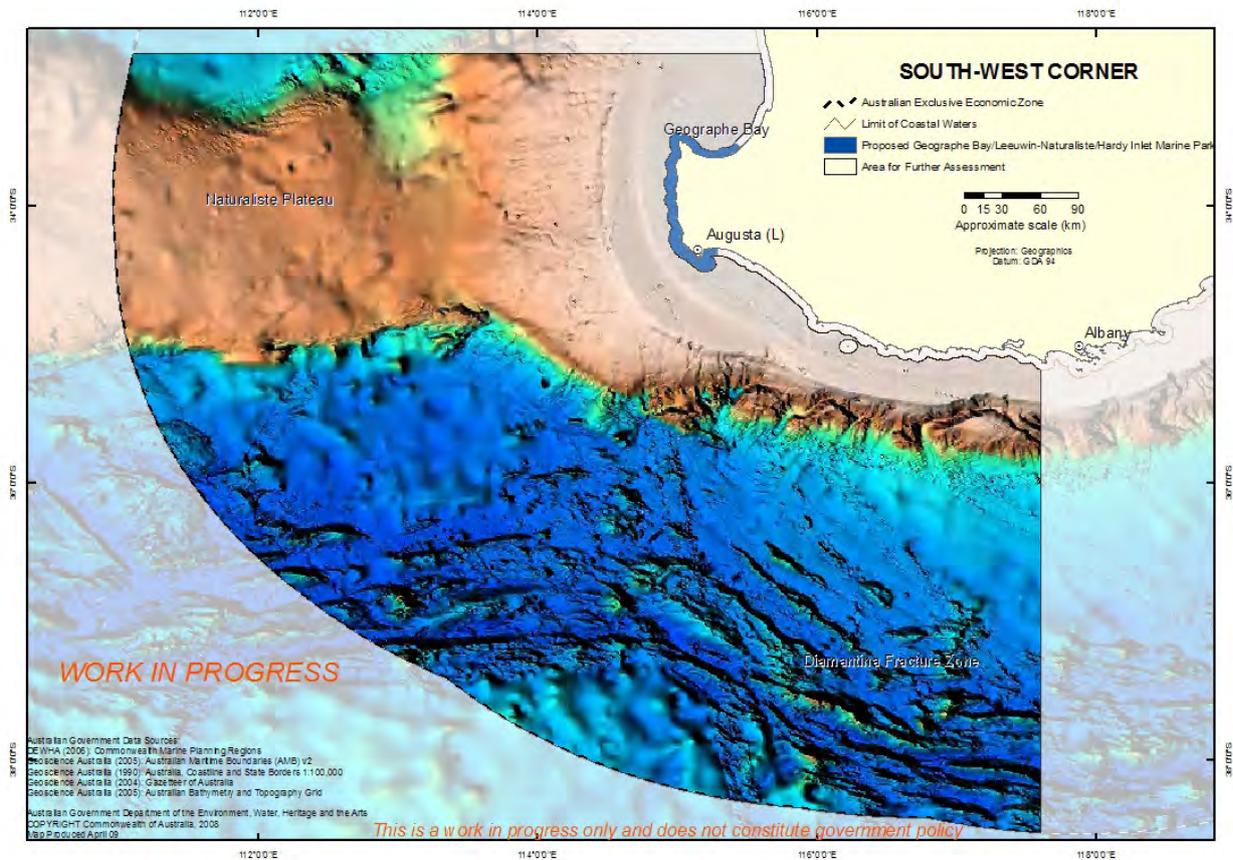
IUCN Cat. II (National Park): managed primarily to preserve its natural condition*

IUCN Cat. IV (Habitat/species management area): managed primarily to meet the requirements of species and/or maintain habitats *

IUCN Cat. VI (Managed resource protected area): managed primarily for sustainable use*

* in accordance with the principles outlined in Schedule 8 of the Regulations

4. SOUTH-WEST CORNER Area for Further Assessment



The South-west Corner area for further assessment encompasses the relatively pristine and unexploited ocean environments of the Southwest Transition, the Southwest Shelf Province and the Southern Province bioregions. The south-west corner of the Australian continent is characterised by two distinctive features, the Naturaliste Plateau and the Diamantina Fracture, both of which are believed to be associated with rich and possibly unique biological communities. Extending into Commonwealth waters from Geographe Bay, extensive beds of tropical and temperate seagrass account for 80% of the benthic primary production in the area. The area includes the Cape Mentelle Upwelling, known for its enhanced productivity (pelagic) and feeding aggregations. Within the Cape Mentelle Upwelling blooms of phytoplankton provide the basis of an extended food chain characterised by aggregations of small pelagic fish, larger predatory fish, seabirds, dolphins and sharks. The area is an important foraging area for the threatened Australian sea lions and includes important resting areas for migrating humpback whales.

Proposed conservation objectives for reserve(s) established within the South-west Corner Area for Further Assessment:

1. To protect ecologically adequate examples of the benthic/demersal habitats and communities of the Naturaliste Plateau, Diamantina Fracture Zone and the Leeuwin-Naturaliste meso-scale bioregion.
2. To protect ecologically adequate examples of pelagic habitats and communities of the southern Western Australian marine region, in particular those environments associated with enhanced productivity and species aggregations (feeding, resting and breeding areas):
 - Albany Canyons (west) and adjacent shelf break
 - The seasonally predictable meso-scale eddy south of Albany

- The area associated with the abrupt diversion to the east of the southbound Leeuwin current
 - The seasonally predictable Cape Mentelle Upwelling
3. To preserve in its natural and/or unmodified conditions the unique uninterrupted transect of protected land and water, extending from the coast (the Leeuwin-Naturaliste and the D'entrecasteaux National Parks), to inshore waters (the soon to be declared Ngari Capes Marine Park, WA) and into the deep ocean.
 4. To contribute to the long-term protection of large whales, including migrating humpback whales and the southern right whale.
 5. To protect one of the few examples of temperate seagrass habitats extending into Commonwealth waters (off Geographe Bay).
 6. To contribute to the scientific understanding of the response over time of marine ecosystems and species of the South-west Transition to climate change and variability

Range of IUCN Categories to which reserve(s) within the South-west Corner Area might be assigned:

(Under the national environment law, Commonwealth reserves must be assigned to a IUCN Category; a reserve may also be divided into "zones", with each zone being assigned to a IUCN Category)

IUCN Cat. Ia (Strict Nature Reserve): managed primarily for scientific research and environmental monitoring*

IUCN Cat. Ib (Wilderness Area): managed primarily to preserve its unmodified condition*

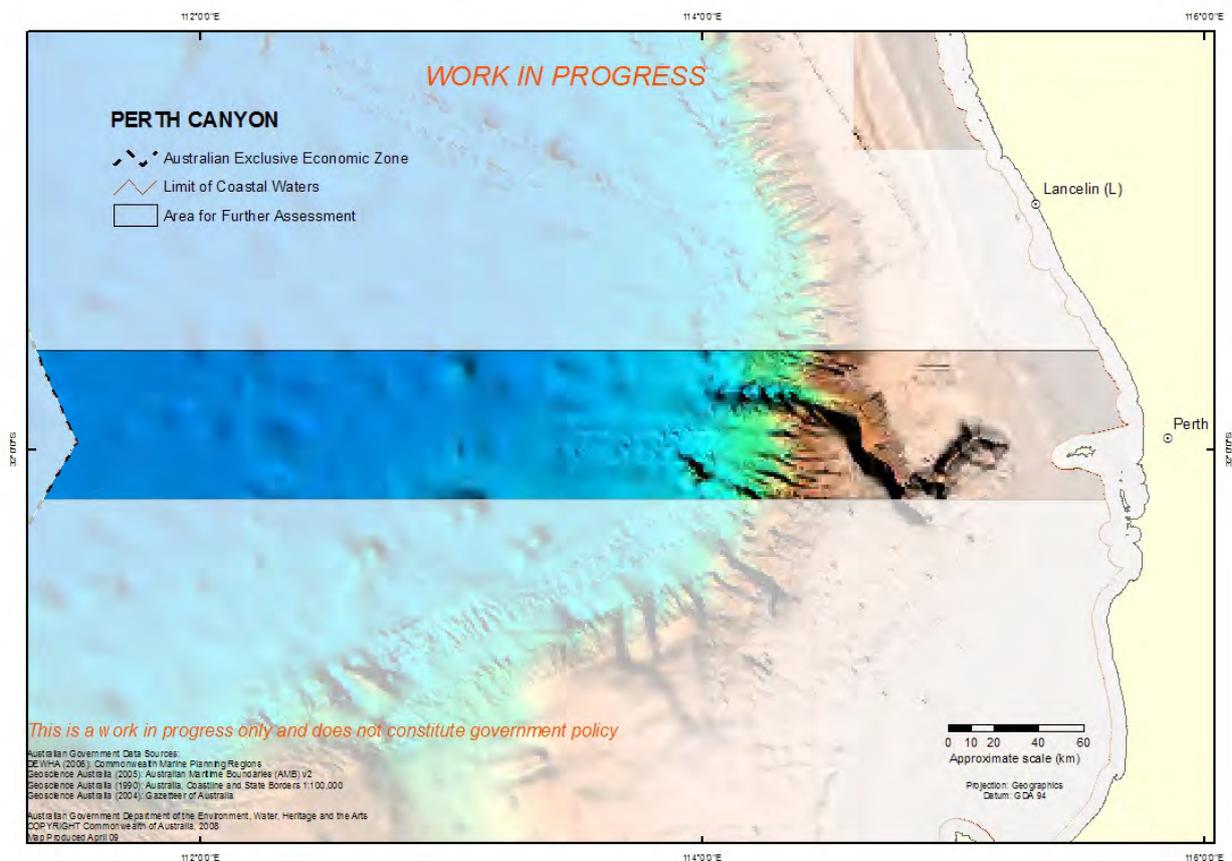
IUCN Cat. II (National Park): managed primarily to preserve its natural condition*

IUCN Cat. IV (Habitat/species management area): managed primarily to meet the requirements of species and/or maintain habitats*

IUCN Cat. VI (Managed resource protected area): managed primarily for sustainable use*

* in accordance with the principles outlined in Schedule 8 of the Regulations

5. PERTH CANYON Area for Further Assessment



The Perth Canyon area for further assessment encompasses ecological examples of the Central Western Province and South-west Transition. The Perth Canyon is Australia's largest submarine canyon and is an important and unique feature, of particular biological significance because it cuts into the continental shelf. The area also represents the ecological transition from tropical to temperate marine ecosystems. The Perth Canyon's topography is thought to contribute to the frequent formation of eddies and frontal structures to the north of Rottnest Island. Meso-scale eddies in this area enhance productivity locally and drive feeding aggregations which support oceanic communities. Pygmy blue whales and other deep diving mammals feed around the rim of the canyons.

The area is adjacent to the important west coast inshore environments, associated with high biodiversity and endemism. Over the shelf area includes ecosystems important for benthic productivity, including macro-algae and seagrasses communities, and breeding and nursery aggregations for numerous marine species.

Proposed conservation objectives for reserve(s) established within the Perth Canyon Area for Further Assessment:

1. To protect ecologically adequate examples of the benthic/demersal habitats and communities of the central west coast, specifically the Central West Coast and Leeuwin-Naturaliste meso-scale bioregions of the Southwest Transition and the Central Western Province.
2. To protect the benthic, demersal and pelagic ecosystems associated with the unique and biologically important geomorphic feature of the Perth Canyon.
3. To protect the biologically important area of aggregation for the threatened pigmy blue whale

4. To contribute to the scientific understanding of the response over time of marine ecosystems and species of the Central Western Province and South-west Transition to climate change and variability.

Range of IUCN Categories to which reserve(s) within the Perth Canyon Area might be assigned:

(Under the national environment law, Commonwealth reserves must be assigned to a IUCN Category; a reserve may also be divided into “zones”, with each zone being assigned to a IUCN Category)

IUCN Cat. Ia (Strict Nature Reserve): managed primarily for scientific research and environmental monitoring*

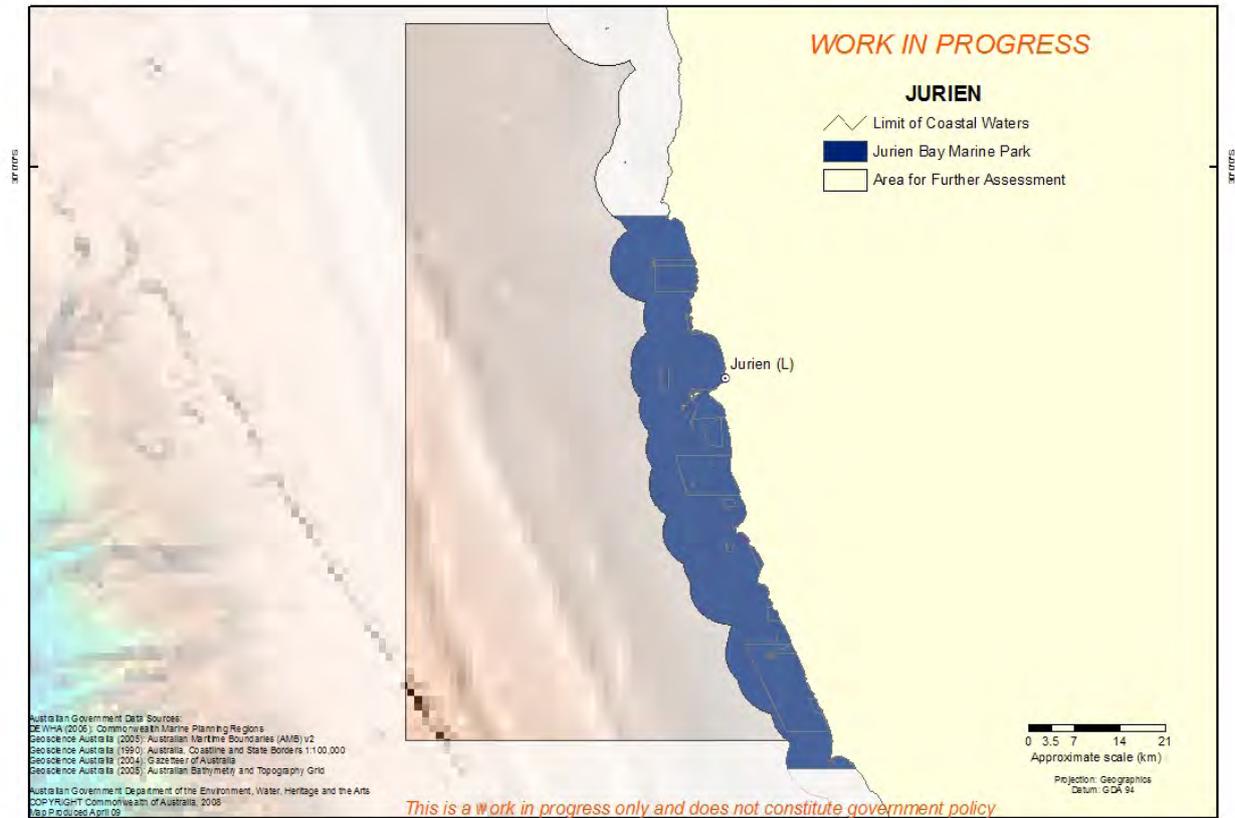
IUCN Cat. III (Natural Monument): managed primarily to preserve its natural features*

IUCN Cat. IV (Habitat/species management area): managed primarily to meet the requirements of species and/or maintain habitats *

IUCN Cat. VI (Managed resource protected area): managed primarily for sustainable use*

* in accordance with the principles outlined in Schedule 8 of the Regulations

6. JURIEN Area for Further Assessment



The Jurien area for further assessment encompasses ecological examples of the South-west Shelf Transition and abuts the ecologically important west coast inshore lagoons. Within the Jurien area, seafloor ridges at around 30 metres depth create sheltered, inshore lagoons that characterise the seafloor and are associated with high biodiversity and endemism. The area includes ecosystems important for benthic productivity, including macro-algae and seagrasses communities, and breeding and nursery aggregations for many temperate and tropical marine species. The Jurien area also includes an important foraging habitat for the threatened Australian sea lion. The area includes the Cambewarra SS, an historical shipwreck of Dutch origin that sunk in 1914.

Proposed conservation objectives for reserve(s) established within the Jurien Area for Further Assessment

1. To protect ecologically adequate examples of benthic/demersal habitat and communities of the Central West Coast meso-scale bioregion of the South-west Shelf Transition.
2. To protect ecologically adequate examples of pelagic habitats and communities of the Central West Coast meso-scale bioregion of the South-west Shelf Transition, including environments adjacent to west coast inshore lagoons and associated with enhanced productivity and species aggregations (feeding, foraging and breeding areas)
3. To complement spatial conservation measures in place in the adjacent state waters (Jurien Bay Marine Park).
4. To contribute to the recovery and long-term protection of the endemic and biologically unique threatened Australian sea lion, in particular its northern-most foraging range.
5. To contribute to the scientific understanding of the response over time of marine ecosystems and species of the South-west Transition to climate change and variability

6. To protect the heritage values represented by the SS Cambewarra historic shipwreck sunk in 1914.

Range of IUCN Categories to which reserve(s) within the Jurien Area might be assigned:

(Under the national environment law, Commonwealth reserves must be assigned to a IUCN Category; a reserve may also be divided into “zones”, with each zone being assigned to a IUCN Category)

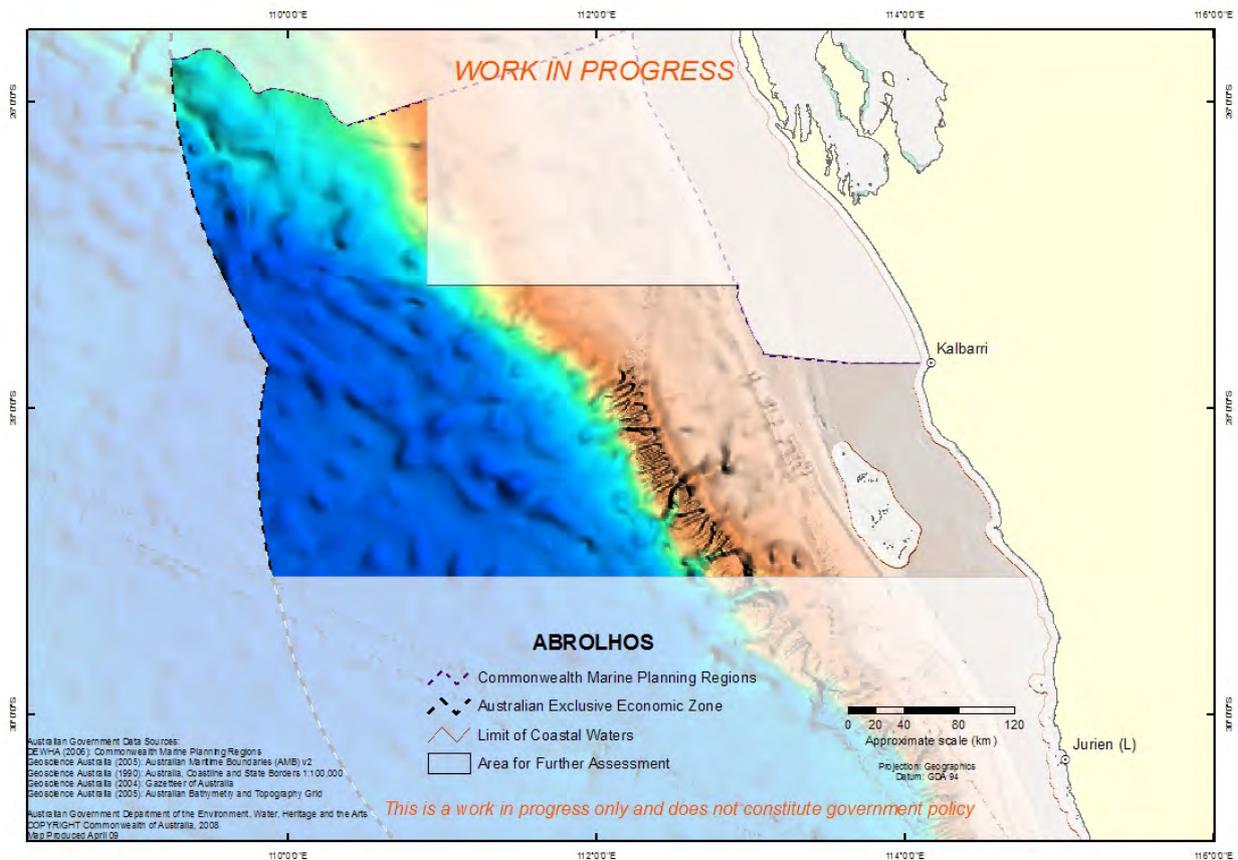
IUCN Cat. Ia (Strict Nature Reserve): managed primarily for scientific research and environmental monitoring*

IUCN Cat. IV (Habitat/species management area): managed primarily to meet the requirements of species and/or maintain habitats *

IUCN Cat. VI (Managed resource protected area): managed primarily for sustainable use*

* in accordance with the principles outlined in Schedule 8 of the Regulations

7. ABROLHOS Area for Further Assessment



The Abrolhos area for further assessment encompasses ecological examples of the Southwest Shelf Transition and the Central Western Province. The Houtman Abrolhos Islands and surrounding reefs are noted for their high biodiversity. This is attributed to the mix of tropical, sub-tropical and temperate marine life resulting from the Southward transportation of species by the Leeuwin Current over thousands of years. The reefs support corals, demersal fish, molluscs, sponges, echinoderms and benthic algae. The Abrolhos area also includes ecologically significant canyons such as Murchison Canyon, which are thought to contain rich benthic communities associated with high biodiversity and productivity. The area is also thought to support a large number of endemic fauna species. The Houtman Abrolhos islands have global significance as breeding sites for seabirds, and these seabirds forage extensively in the Commonwealth waters around the islands. The area also covers the northernmost foraging habitat of the Australian sea lion and important humpback whale resting areas. The Area abuts the Abrolhos Fish Habitat Protection Area (managed by the Western Australian Department of Fisheries).

Proposed conservation objectives for reserve(s) established within the Abrolhos Area for Further Assessment

1. To protect ecologically adequate examples of the benthic/demersal habitats and communities of the Southwest Shelf Transition (Abrolhos Islands meso-scale bioregion) and the Central Western Province.
2. To protect ecologically adequate examples of pelagic habitats and communities of the Central Western Province, in particular those environments associated with enhanced productivity and species aggregations (feeding, foraging and breeding areas).

3. To protect the foraging habitats of a broad range of seabirds surrounding the Houtman Abrolhos islands - recognised as one of the most important breeding sites for seabirds in the world.
4. To preserve in their natural conditions environments surrounding the globally significant Houtman-Abrolhos Habitat Protection Area.
5. To protect nationally important resting habitats for the humpback whale.
6. To contribute to the long-term protection of the many endemic benthic/demersal species associated with the West Coast continental shelf and upper slope.
7. To contribute to the scientific understanding of the response over time of marine ecosystems and species of the Southwest Shelf Transition (Abrolhos Islands meso-scale bioregion) and the Central Western Province to climate change and variability.

Range of IUCN Categories to which reserve(s) within the Abrolhos Area might be assigned:

(Under the national environment law, Commonwealth reserves must be assigned to a IUCN Category; a reserve may also be divided into “zones”, with each zone being assigned to a IUCN Category)

IUCN Cat. Ia (Strict Nature Reserve): managed primarily for scientific research and environmental monitoring*

IUCN Cat.II (National Park): managed primarily to preserve its natural condition*

IUCN Cat. IV (Habitat/species management area): managed primarily to meet the requirements of species and/or maintain habitats *

IUCN Cat. VI (Managed resource protected area): managed primarily for sustainable use*

NOTE: this is work-in-progress conducted by the Department and does not reflect

* in accordance with the principles outlined in Schedule 8 of the Regulations