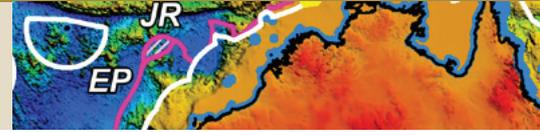


Setting Australia's limits

Understanding Australia's marine jurisdiction

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On 9 April 2008, the Commission on the Limits of the Continental Shelf adopted recommendations confirming Australia's entitlement to a continental shelf beyond 200 nautical miles from the coastline (extended continental shelf) of some 2.56 million square kilometres. This is an area slightly larger than the land area of Western Australia and one-third the size of the Australian continent.

The Commission is a body established under the United Nations Convention on the Law of the Sea (UNCLOS) and meets at the United Nations in New York. The recommendations marked the culmination of 15 years of intensive scientific, legal and diplomatic work and commitment from a number of Australian Government agencies, particularly through a close partnership between Geoscience Australia and the Department of Foreign Affairs and Trade and the Attorney-General's Department.

“Australia now has a secure regime within which to manage the resources and environment of virtually all parts of its continental margins, associated plateaus and ridges, and adjacent ocean basins.”

The decision means Australia is the first country to be in a position to proclaim the outer limit of its continental shelf on the basis of the recommendations of the Commission. A proclamation establishing that outer limit will be made in the near future under the *Seas and Submerged Lands Act 1973*, which is administered by the Attorney-General's Department.

The continental shelf, however, is only one of a number of zones that make up Australia's marine jurisdiction. Other important zones are also derived from UNCLOS and national legislation, as well as arising out of treaties with neighbouring countries.

Defining the limits

Usually when people consider what constitutes a maritime country they start from the geographical perspective associated with the shape and size of the landmass and the often familiar outlines of their coastlines. Indeed, as a matter of international law, it is the coastline and not the size of the landmass which is important. From a geoscience perspective, maritime States can be viewed quite differently according to the geological and crustal characteristics that underpin them. These characteristics can extend for vast distances beyond the coastline and underlie the shelf, terraces, plateaus, slopes and rises of the continental margins of countries. In reality, limits of countries are governed by national and international rules and arrangements based on legislation, treaties and customary international law. These limits include the sovereign territory of the country as well as jurisdictional zones associated with various sovereign rights assigned to the country under international law.

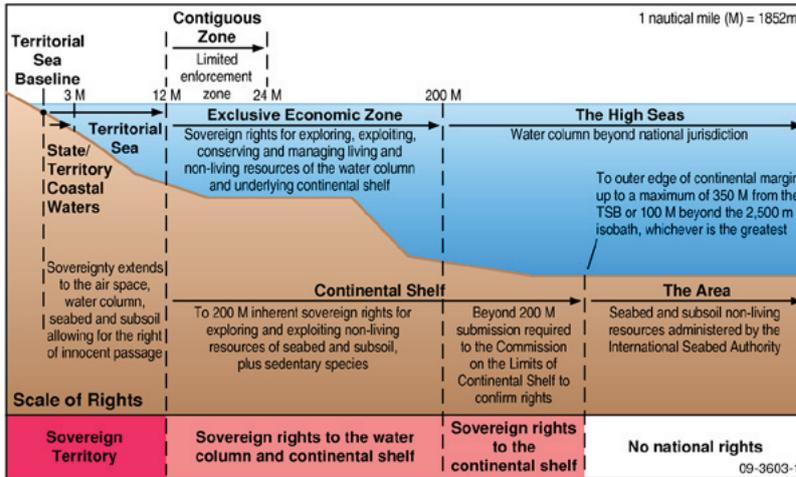


Figure 1. Maritime zones and rights under the 1982 United Nations Convention on the Law of the Sea (UNCLOS).

The different descriptions of countries based on any of the above perspectives can, of course, change over time. Geographical and geological descriptions are dynamic, and can be affected by tectonics, climate change, and erosional and depositional processes. These can all alter the shape and location of a coastline, and the geological characteristics of a landmass and its submerged prolongation beneath the sea. The political and legal descriptions of countries can also change.

In recent years, UNCLOS has been the major influence on the maritime zones of countries and the rights and responsibilities associated with those zones. The adoption of UNCLOS in 1982 marked the culmination of many years of negotiations involving over 150 States. The Convention established a comprehensive legal framework for the regulation of all ocean space. It covers a diverse range of issues such as the offshore limits of national jurisdiction, access to the seas, navigation, protection and preservation of the marine environment, exploitation and conservation of living resources, exploitation of non-living resources, seabed mining, and scientific research.

UNCLOS zones and rights

UNCLOS provides for the establishment of successive jurisdictional zones that extend over the continental margin and ocean basins adjacent to maritime nations. The characteristics and rights associated with these maritime zones (shown in figure 1) are as below:

- **Territorial Sea** – extends not more than 12 nautical miles from the territorial sea baseline (TSB). A coastal State has sovereignty over this zone (just as it has sovereignty over its land territory) – it includes the water column, seabed and subsoil, as well as the airspace above it. In the

territorial sea, this sovereignty is subject to the right of innocent passage of foreign vessels.

- **Contiguous Zone** – this is the next 12 nautical miles beyond the territorial sea in which a coastal State may exercise control over customs, immigration and quarantine matters.
- **Exclusive Economic Zone (EEZ)** – extends beyond the territorial sea to not more than 200 nautical miles from the TSB. Within the EEZ, a coastal State has sovereign rights for the purposes of exploring and exploiting, conserving and managing the natural resources (living or non-living) of the water column, seabed and subsoil. This is not full sovereignty.
- **Continental Shelf** – extends beyond the territorial sea to 200 nautical miles from the TSB, or beyond that to the outer edge of the continental margin as defined in Article 76 of UNCLOS. In this zone a coastal State has sovereign rights for the purposes of exploring and exploiting mineral and other non-living resources of the seabed and subsoil, together with sedentary living organisms.
- **High seas** – the area beyond national jurisdiction in which all States have freedom of navigation and overflight, and,

subject to other parts of the Convention, the freedom to lay cables/pipelines, construct artificial islands/installations, fish and conduct scientific research.

- **The Area** – seabed and subsoil beyond national jurisdiction. The Area and its non-living ‘mineral’ resources are the common heritage of mankind and are managed on behalf of mankind by the International Seabed Authority – a body established under UNCLOS.

The sovereign territory of a country only extends to the limits of its territorial sea. Beyond that the UNCLOS maritime zones are associated with the various exclusive and non-exclusive sovereign rights and duties outlined above and no sovereign territory is involved. Under UNCLOS all member States have the obligation to protect and preserve the marine environment. In particular, coastal

States’ sovereign rights under UNCLOS to exploit resources in their national jurisdictions must be exercised consistent with their duty to protect and preserve the marine environment.

Ultimately, the outer limit of national marine jurisdiction, particularly for the broad zones such as the EEZ and continental shelf, is defined in two main ways. Where there is overlapping jurisdiction between opposite or adjacent States, it is subject to delimitation through negotiations and agreement to achieve an equitable solution based on international law, and is normally confirmed by a treaty between the States. Where it involves areas facing open ocean adjacent to the high seas and the Area, it is subject to rules set out in international conventions, the most important of which is UNCLOS.

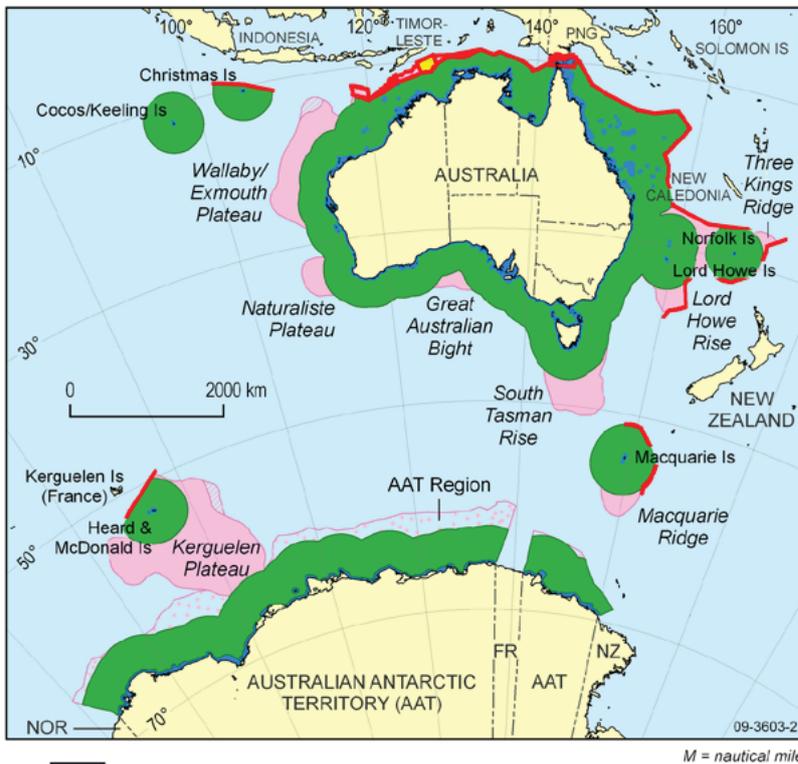


Figure 2. Depiction of the various UNCLOS zones and limits that comprise Australia's marine jurisdiction.

Australian maritime jurisdictions and boundaries

In addition to the various international UNCLOS maritime zones discussed above, there are other national maritime zones that are peculiar to Australian legislation. This national framework is a result of an agreed division of responsibilities between the Australian Government and the state/Northern Territory governments.



Coastal waters is the area between the territorial seabed baseline (TSB) and a line three nautical miles seaward of the TSB (figure 1), as well as waters (internal waters) lying between the land and the TSB but outside the constitutional limits of the Australian states and Northern Territory as defined in the 'Letters Patent' for each state in the mid 1800s. As a result of the Offshore Constitutional Settlement in 1983, title to the seabed and rights to the water column within this zone is vested by legislation in the adjacent state or territory. The states and the Northern Territory were also accorded legislative powers over that area. Responsibility for offshore areas beyond three nautical miles remains with the Australian Government. Thus, for Australia, there has been some division of responsibility over the 12 nautical mile territorial sea. Adjacent to Australia's states and the Northern Territory, the UNCLOS 12 nautical mile territorial sea is divided into a three nautical mile state or territory jurisdiction (outer part of the coastal waters) and a nine nautical mile Australian Government jurisdiction extending beyond the coastal waters (figure 1). Adjacent to Australia's external territories the full 12 nautical mile territorial sea is under Australian Government jurisdiction.

Australia has negotiated maritime boundaries with several neighbouring countries (figure 2) and these boundaries define the limits of sections of Australia's jurisdiction in these areas. Clockwise from the northwest these negotiated boundaries are with: Indonesia (1971, 1972, 1997), Papua New Guinea (1978), Solomon Islands (1988), France (1982), and New Zealand (2004). The 1997 maritime boundaries with Indonesia off northern and northwestern Australia, and between the islands of Java and Christmas Island are contained in a treaty which is signed but not yet ratified. Further negotiations may be necessary with France for the area to the northeast of Norfolk Island. Australia has also negotiated maritime arrangements with Timor-Leste, including a Joint Petroleum Development Area under the Timor Sea Treaty of 2002 (figure 2).

Australia also has three neighbouring claimant States (Norway, France and New Zealand) adjacent to the Australian Antarctic Territory (figure 2). To date no boundaries have been delimited with any of these States in this region. The boundaries between the adjacent claimant States are shown unofficially as equidistance (median) lines in figure 2, extending out to sea from the onshore sectoral boundaries to the limits of the various maritime zones.

The continental shelf was the first maritime zone expressly claimed by Australia, in 1953. Australia proclaimed a 200 nautical mile exclusive fishing zone (the Australian Fishing Zone) with effect from 1 November 1979, extended its territorial sea to 12 nautical miles

with effect from 20 November 1990, proclaimed a 200 nautical mile EEZ with effect from 1 August 1994, (including adjacent to the Australian Antarctic Territory) and proclaimed a 24 nautical mile contiguous zone with effect from 7 April 1999. The limits and rights associated with all of these zones are set out in the *Seas and Submerged Lands Act 1973*, and were amended through the *Maritime Legislation Amendment Act 1994* to align Australia's marine jurisdictional zones with those contained within UNCLOS when UNCLOS entered into force for Australia on 16 November 1994. The 1994 Act also resulted in a change to the definition of the outer limit of the continental shelf from an approach that reflected the 1958 Convention on the Continental Shelf to one based on Article 76 of UNCLOS.

Confirmation of Australia's continental shelf submission

Where the natural prolongation of Australia's land territory extends beyond 200 nautical miles and entitlement to an extended continental shelf exists, a submission seeking confirmation of that entitlement was required to be made to the Commission on the Limits of the Continental Shelf. Australia lodged its submission with the Commission on 15 November

Table 1. Areas of Australia's land and maritime jurisdiction, including areas of extended continental shelf confirmed by the recommendations of the Commission on the Limits of the Continental Shelf on 9 April 2008.

Land	Area million km ²	
Australia and island external territories		7.69
Australian Antarctic Territory		5.90
Total Australia/island territory/AAT land area		13.59
Internal waters (IW)		
Approx. internal waters ¹	0.24	
Approx. additional marine areas within the limits of States ²	0.02	
Approx. total marine area landward of territorial sea baseline (TSB)		0.26
Coastal waters (CW)		
Internal waters ¹	0.24	
Area 3 nautical miles seaward of TSB	0.15	
Total area of CW		0.39
Territorial sea (TS)		
Australia and island external territories		0.68
Australian Antarctic Territory		0.17
State (coastal waters) 3 nautical mile portion of TS	0.15	
Commonwealth portion of TS	0.70	
Total area of territorial sea (full 12 nautical mile zone)		0.85
Exclusive economic zone (EEZ)		
Australia and island external territories		8.15
Australian Antarctic Territory		2.04
Total area of EEZ		10.19
Continental shelf		
Continental shelf to 200 nautical miles (200CS)		10.19
Extended continental shelf (ECS)	Submitted	Confirmed
Australia and island external territories (see figure 1 for locations)	2.69	2.56
Argo	0.01	0.01
Great Australian Bight	0.07	0.07
Kerguelen Plateau ³	1.19	1.13
Lord Howe Rise	0.27	0.26
Macquarie Ridge	0.08	0.08
Naturaliste Plateau	0.15	0.14
South Tasman Rise	0.31	0.30
Three Kings Ridge	0.05	0.05
Wallaby and Exmouth Plateaus ³	0.56	0.52
Australian Antarctic Territory - Australia requested the Commission not consider this region for the time being	0.68	
Total area of submitted extended continental shelf	3.37	
Total area considered by the Commission and yet to be resolved ³	0.08	
Total area lost during examination by the Commission ⁴	0.05	
Total area of confirmed extended continental shelf (ECS)		2.56
Total area of confirmed continental shelf (200CS+ECS)		12.75
Australia's confirmed UNCLOS marine jurisdiction (TS+EEZ+ECS)		
Australia and island external territories		11.39
Australian Antarctic Territory		2.21
Total area of Australia's confirmed marine jurisdiction		13.60
<i>Australia's full confirmed marine jurisdiction (including marine areas landward of TSB to coast – approx. 0.26 mill. km²)</i>		13.86
<i>Australia's maximum possible marine jurisdiction (including areas not yet resolved and areas landward of TSB to coast)</i>		14.62
Australia's complete jurisdiction (land + full confirmed marine)		
Australia and island external territories		19.34
Australian Antarctic Territory		8.11
Total area of Australia's complete, confirmed jurisdiction		27.45

¹ Approximate area only of internal waters landward of the TSB as it includes many inter-tidal areas between the coastline and lowest astronomical tide (LAT).

² Approximate area that includes features such as Spencer Gulf and Gulf of St Vincent that are within the limits of South Australia.

³ Region considered by the Commission, confirmed in part, but containing some unresolved issues.

⁴ As a result of discussions with the Sub-commission and the deliberations of the full Commission some minor changes to the outer limit occurred reducing the submitted area of extended continental shelf by 0.05 million km².

2004 and was the third country to do so. On 9 April 2008, the Commission meeting at the United Nations in New York adopted recommendations confirming Australia's entitlement to an extended continental shelf of some 2.56 million square kilometres (95 per cent of the area submitted) encompassing nine distinct regions (see table 1; figure 2; *AusGeo News* 90).

The submission, the largest and most complex lodged to date, covered ten areas (a total of 3.37 million square kilometres). The Commission agreed to Australia's request that it not consider for the time being, the region adjacent to the Australian Antarctic Territory (0.67 million square kilometres) because of the special legal and political status of Antarctica under the Antarctic Treaty. Seven of the nine regions submitted by Australia were confirmed, some with slight amendment. A further two regions were adopted with small reductions (3 per cent of the area sought). The Commission felt there was insufficient available evidence to justify the full continental shelf associated with two distinct undersea features (the Williams Ridge in the Kerguelen Plateau region and Joey Rise in the Wallaby and Exmouth Plateaus region). However, Australia has an option to make a new or revised submission for these two areas (figure 3).

After proclamation, a description of the continental shelf boundary will be deposited with the Secretary-General of the United Nations and with the Secretary-General of the International Seabed Authority.

Australia now has a secure regime within which to manage the resources and environment of virtually all parts of its continental margins, associated plateaus and ridges, and adjacent ocean basins. The outer limit of Australia's full marine jurisdiction is now largely in place except for: the area off the Australian Antarctic Territory, two small areas associated with the Joey Rise and Williams Ridge that are subject to a potential new or revised submission, and a small area of potential continental shelf delimitation with France to the northeast of Norfolk Island. Further, a permanent seabed delimitation between Australia and Timor Leste has been set aside for up to 50 years, or longer if both countries agree, under the Treaty on Certain Maritime Arrangements in the Timor Sea.

Characteristics of the marine jurisdiction

The area of Australia's marine jurisdiction and its component parts is set out in table 1, and shown in figures 2 and 3. The area of Australia's confirmed marine jurisdiction (water column and seabed beyond the territorial sea baseline) is 13.60 million square kilometres, and the full confirmed marine jurisdiction beyond the coast itself is about 13.86 million square kilometres – about 1.8 times the size of Australia's continental landmass. Even when the Australian Antarctic Territory is included (to give a total land area of 13.59 million square kilometres) Australia has as much maritime jurisdiction as land territory. Australia's total territorial sea is 0.85 million square kilometres, its EEZ jurisdiction with water column rights is 10.19 million square kilometres, and its confirmed area of extended continental shelf jurisdiction beyond 200 nautical miles is 2.56 million square kilometres.

The size of Australia's marine jurisdiction is in the top three in the world along with the USA and France. In fact, Australia is custodian of about 3.8% of the oceans, and about 9.1% of the land, and with a full land and marine jurisdiction of 27.45 million square kilometres is custodian of about 5.4% of the Earth's surface.

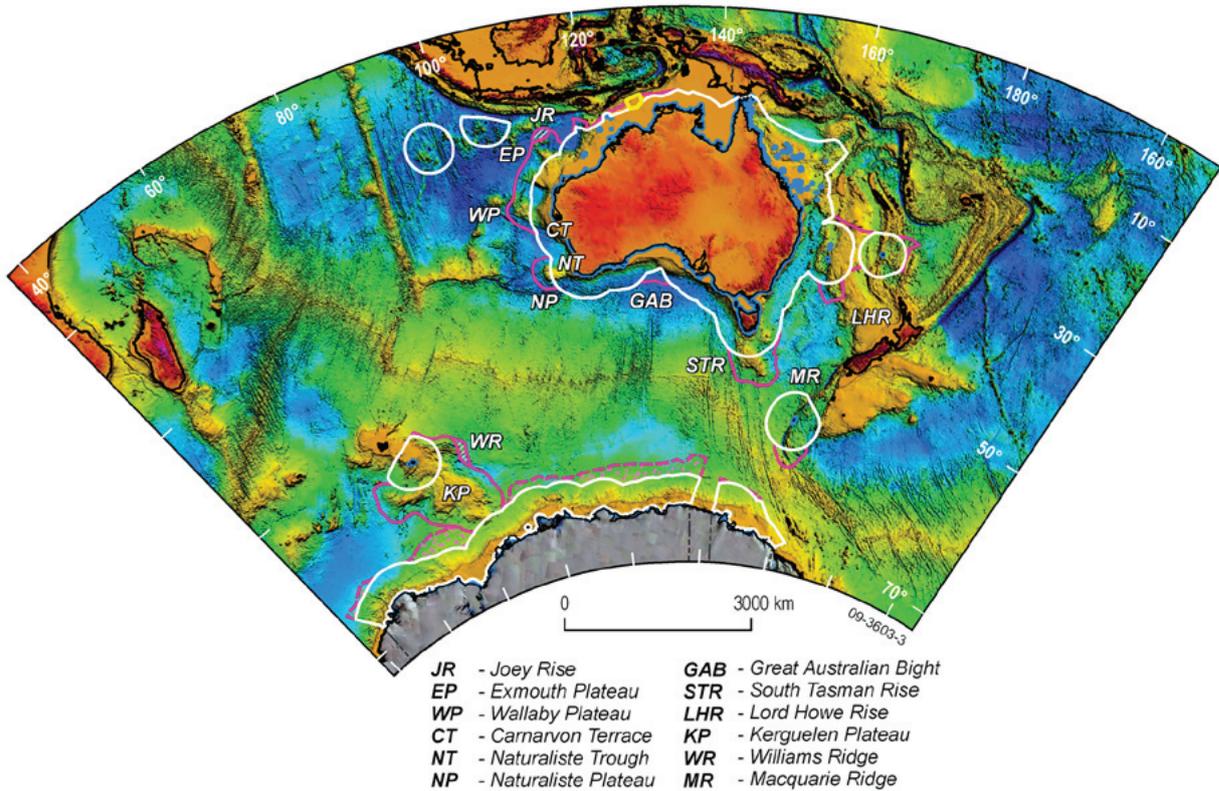


Figure 3. Depiction of Australia's marine jurisdiction and associated seafloor morphology. This image indicates the form of the submarine features that lie within the jurisdiction. The characteristics of the various marine zones can be deduced from figure 2.

Implications of this jurisdiction

Australia has sovereign rights for resources across a vast marine jurisdiction: however, many parts of the jurisdiction are remote, poorly known, and lie in water depths of 1000 to 4500 metres (figure 3). Previous and current petroleum exploration has mostly occurred in the relatively shallow waters of the territorial sea and inner parts of the EEZ and continental shelf. There are very few areas of Australia's marine jurisdiction that can be regarded as mature for petroleum exploration, and most parts are still underexplored, particularly by international standards.

It is now apparent that all Australia's continental margin sedimentary basins with petroleum potential will lie within the newly confirmed marine jurisdiction. The deep water parts of the continental margin include significant frontier petroleum exploration areas. Many of these areas are poorly surveyed and are generally not included in conventional estimates of undiscovered resources. Several regions, in particular the Exmouth Plateau, Naturaliste Trough, Great Australian Bight, South Tasman Rise and Lord Howe Rise regions, are known to have petroleum potential (figure 3).

Geophysical surveys undertaken by Geoscience Australia over many years for both delineation of the continental shelf and petroleum resource evaluation have defined sedimentary basin systems in these regions. Some of these basins have similar characteristics to basins already explored in adjacent, shallow water areas that are known to contain oil and gas resources.

Geoscience Australia's surveys acquired a large amount of bathymetric, seismic reflection, gravity and magnetic data over some of the more remote parts of Australia's margins. This provided the necessary bathymetric and sediment



thickness data to support Australia's continental shelf submission. These data provided a significant improvement in understanding the geology and resource potential of the outer parts of Australia's marine jurisdiction. They also highlighted a number of frontier areas that have recently been the focus of Geoscience Australia studies under its 'Big New Oil' (2003 to 2007: see *AusGeo News* 87) and the current 'Offshore Energy Security' programs (see *AusGeo News* 90).

Areas such as the Capel and Faust Basins of the northern Lord Howe Rise in Australia's remote eastern frontier (see *AusGeo News* 89), and most recently the Exmouth and Wallaby Plateaus, the Carnarvon Terrace and the Naturaliste Trough off western and southwestern Australia (see *AusGeo News* 92) have now been surveyed using modern exploration tools. Though other parts of Australia's jurisdiction, such as the Macquarie Ridge, do not have any petroleum potential, they do have considerable significance because of their living resource, environmental and scientific values.

By having comprehensive limits to its national jurisdiction, Australia now has the opportunity to regulate and manage a range of activities within its maritime zones under guidelines laid down in UNCLOS. Much remains to be done to adequately assess and manage the resource potential and environmental values of the vast area of seafloor that now lies within Australia's marine jurisdiction. Australia's control of nearly 4 per cent of the global ocean provides rights and responsibilities that will create significant opportunities for resource and environmental managers, engineers, scientists and all those with an interest in the long-term sustainability of both the onshore and offshore parts of Australia.

Acknowledgements

This article was prepared in consultation with the Attorney-General's Department (Bill Campbell QC, First Assistant Secretary, Office of International Law) and the Department of Foreign Affairs and Trade (Todd Quinn, Executive Officer, Sea Law, Environment Law and Antarctic Policy Section).

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