

4.4 TEMPERATE EAST COMMONWEALTH MARINE RESERVES NETWORK

The Temperate East CMR Network, established in 2012, includes eight reserves and covers 383 352 km² of Commonwealth waters from the southernmost extent of the Great Barrier Reef Marine Park (GBRMP), approximately 40 km north of Bundaberg in Queensland, to offshore Jervis Bay in southern New South Wales (NSW) as well as the waters surrounding Lord Howe Island and Norfolk Island. The network incorporates four reserves—Cod Grounds CMR, Solitary Islands Marine Reserve (Commonwealth Waters), Lord Howe Island Marine Park, and Elizabeth and Middleton Reefs Marine National Nature Reserve—that were proclaimed prior to 2012 (Figure 4.4.1).

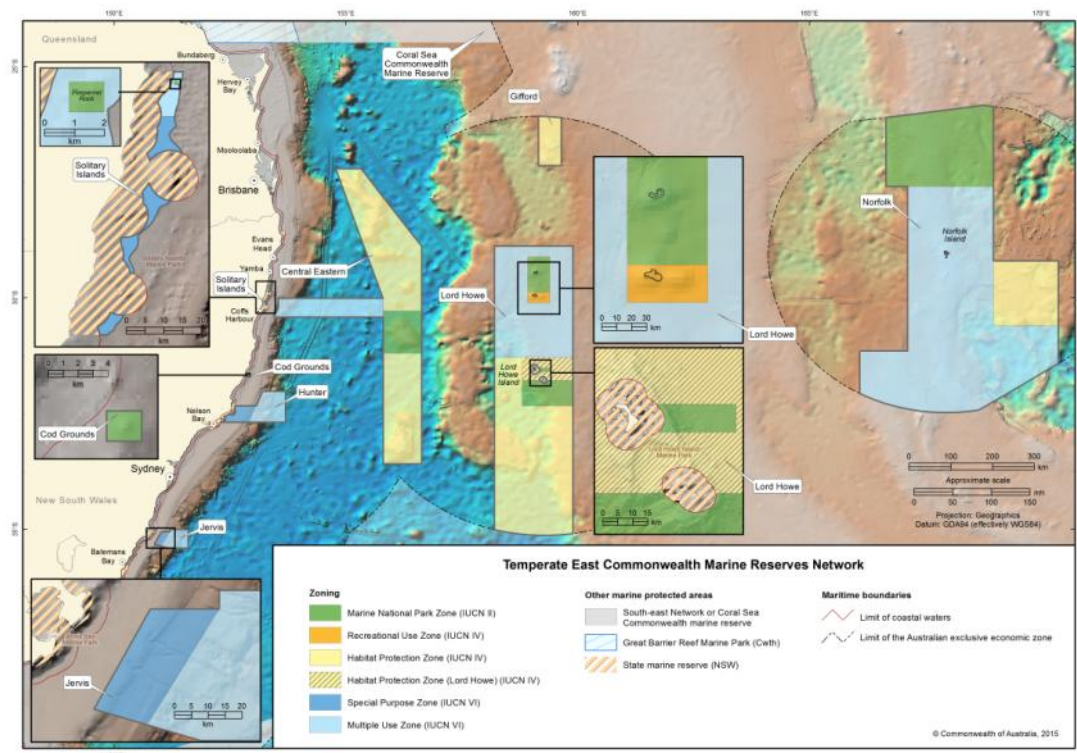


Figure 4.4.1 Temperate East CMR Network, as proclaimed

Issues raised during the CMR Review that were generic across the Temperate East CMR Network included:

- The lack of high-level protection in the network, particularly for the continental shelf, canyons and seamounts, and poor representation of the continental shelf in the network
- Concerns about the potential for mineral extraction including oil and gas exploration and seabed mining in marine reserves
- Removing destructive fishing practices from reserves—specifically, demersal trawling and auto-longlining on seamounts
- The commercial fishing industry had adapted to the proclaimed zoning and further restrictions would have a detrimental effect on fishers and their families; the industry needs certainty that zoning will not change within the 10-year management plan period
- Allowing recreational fishing in MNPZ (IUCN II).

A comprehensive list of issues raised is provided at Appendix G.

Temperate East network—outcomes

Zoning changes are recommended for the Jervis, Hunter, Solitary Islands, Central Eastern, Norfolk and Lord Howe CMRs, while no changes are recommended for the Gifford and Cod Grounds CMRs. These are shown in Figure 4.4.2 and summarised in Table 4.4.1.

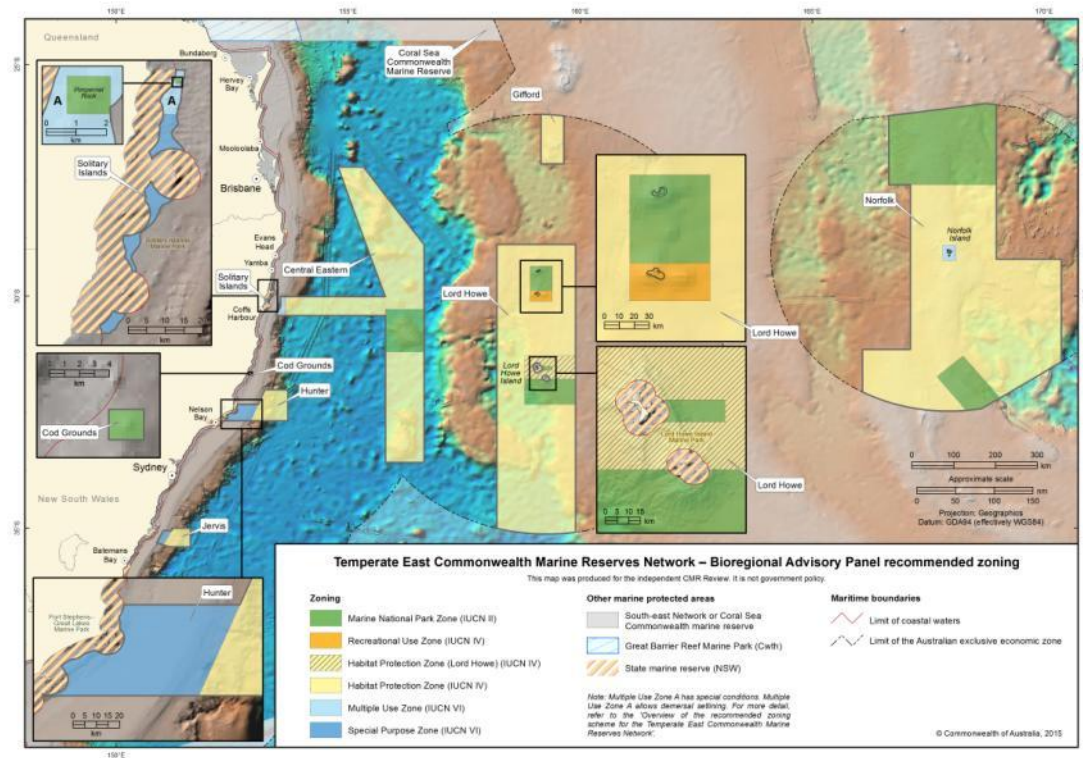


Figure 4.4.2 Recommended zoning for Temperate East CMR Network

Table 4.4.1 indicates how the areas of different zone types (within the outer boundaries of the network) will change between the proclaimed and recommended zoning. The area under MNPZ increases from 16% to 18% of the network. There is a large increase in the area under HPZs, from 36% to 81%. Together MNPZ and HPZs make up 99% of the network. There is a 47% decrease in the area under MUZ.

Table 4.4.1 Comparison of areas of zone types between proclaimed and recommended zoning for Temperate East CMR Network

Zone	Proclaimed		Recommended		Difference	
	Area (km ²)	% of Network	Area (km ²)	% of Network	Area (km ²)	% of Network
MNPZ (IUCN II)	60 264	15.72%	67 661	17.65%	+7 397	+1.93%
HPZ (IUCN IV)	133 776	34.90%	305 393	79.66%	+171 617	+44.76%
HPZ (Lord Howe) (IUCN IV)	5 136	1.34%	5 136	1.34%	Nil	Nil
RUZ (IUCN IV)	1 170	0.31%	1 170	0.31%	Nil	Nil
MUZ (IUCN VI)	180 607	47.11%	1 593	0.42%	-179 014	- 46.70%
MUZ/MUZ A* (IUCN VI)	37	0.01%	37	0.01%	Nil	Nil
SPZ (IUCN VI)	2 361	0.62%	2 361	0.62%	Nil	Nil
Total	383 352	100%	383 352	100%		

*The proclaimed Solitary Islands MUZ and recommended MUZ 'A' have the same allowable activities, and are therefore reported as the same zone type.

Note: All figures are rounded to the nearest km² (and therefore in some instances can appear to not add up to the totals supplied). No changes have been made to the outer boundaries and total area of the reserves. Percentages are calculated based on the rounded figures.

Conservation outcomes

The recommended zoning changes will provide several improvements to the conservation outcomes for the Temperate East CMR Network. They include:

- The introduction of new or improvements to MNPZs in two reserves, which amounts to a small overall increase (2%) in no-take protection including:
 - Introduction of a new MNPZ in the Norfolk CMR, to provide a high level of protection for the Vening-Meinesz Fracture Zone
 - Expansion of the MNPZ at Pimpnel Rock in the Solitary Islands CMR, to improve protection of important habitat for threatened grey nurse sharks.
 It is noted, however, that most of the MNPZs in the Temperate East CMR are in deep offshore areas, and the shelf remains poorly represented in MNPZs, or reserves more generally.
- A significant increase in the area under HPZ (45%), prohibiting activities that interact with the seafloor and providing better protection of the benthic habitat in five reserves. They include the Jarvis, Hunter, Central Eastern, Lord Howe and Norfolk CMRs.

Table 4.4.2 shows how the recommended zoning in the Temperate East Network improves the representation of primary conservation features in MNPZs (IUCN II) and HPZs (IUCN IV), providing an indication of their performance against the four primary goals under the Goals and Principles. The recommended zoning will provide increased protection to a further five conservation features in MNPZs and 20 conservation features

in HPZs in the network. The five conservation features newly captured in MNPZs result from the zoning changes in the Norfolk CMR, and include four Depth Ranges (by Provincial Bioregion) and one Seafloor Type. The 20 conservation features newly captured in HPZs include 15 Depth Ranges (by Provincial Bioregion), two of which are also newly captured in MNPZ; two KEFs; and three seafloor types (see Appendix H).

The recommended zoning will result in 55 conservation features occurring in both MNPZs and HPZs, bringing the overall number of conservation features represented in these zones to 82 (75% of the network's features), an increase from the 65 features occurring in these zones in the proclaimed network. Twenty eight conservation features are not represented in either of these high-protection zones.

Table 4.4.2 Comparison of representation of conservation features between proclaimed and recommended zoning for Temperate East CMR Network

Goal	Primary Conservation Feature	Total No. In Network	Proclaimed		Recommended	
			MNPZ (IUCN II)	HPZs (IUCN IV)	MNPZ (IUCN II)	HPZs (IUCN IV)
1	Provincial Bioregions (PBs)	7	4	4	4	4
	Meso-scale Bioregions	3	1	0	1	0
2	Depth by PB	73	35	40	39	55
3	Key Ecological Features	6	4	2	4	4
	Biologically Informed Seascapes	6	1	0	1	0
4	Seafloor Types	15	11	10	12	13
	Total	110	56	56	61	76

Note: Some features are represented in MNPZs and HPZs and therefore the total number of features represented in both zones is not the simple sum of their occurrence in each zone.

Socio-economic impacts

Commercial fishing

The recommended zoning for the Temperate East CMR Network is expected to slightly increase impacts on the commercial catch for fishing operations in Hunter and Central Eastern CMRs. Impacts on catch will decrease for fishers in the Lord Howe CMR. Impacts on commercial fishing in the remaining reserves will not change compared to the proclaimed zoning.

A total of seven NSW and Commonwealth commercial fisheries will experience some displacement from the recommended zoning. This is the same number that would have been impacted by the proclaimed zoning.

Although there will be an overall slight increase in the impact on commercial fishing across the network, the recommended zoning will reduce the overall level of displacement for the East Coast Deepwater Trawl sector of the Commonwealth SESSF.

Recreational and charter fishing

The increase in MNPZ will not reduce access for recreational and charter fishers within the Temperate East CMR Network, because of its distance offshore, except in the Solitary Islands CMR, where the small change in area may have a slight local effect. Overall, the recommended zoning for the Temperate East CMR Network is not expected to have a negative socio-economic impact on the recreational and charter fishing sectors.

Practicality of implementation

At a network level, the recommended changes will not increase difficulty with compliance. Straight north-south or east-west running boundary lines have been maintained where possible. Where this was not possible, such as with the new MNPZ introduced in the Norfolk CMR, impacts on existing uses have been largely avoided. Specific depth contours that are important determinants of fishing grounds for commercial operators have been considered in proposing changes to zoning across the network. For the Norfolk CMR, existing uses of the reserve by Norfolk Islanders consistent with protecting reserve values can be maintained around the island.

Native title

The Temperate East CMR Network does not overlap with any native title determinations, applications or IPAs. Native title is not impacted by the proclamation of CMRs or the development and implementation of management plans for reserves under the EPBC Act. Recommendations relating to involvement of Indigenous groups and traditional owners in management of CMRs are outlined in Chapters 5 to 7 of this report.

The recommended zoning for the network was developed to minimise the broader socio-economic impact for Australia and energy security concerns.

Conclusion

The recommended zoning for the Temperate East network addresses most of the key areas of contention that arose during the consultations. Overall socio-economic impacts on the commercial fishing sectors have not substantially changed. Concerns about poor representation of continental shelf in the network could not be effectively addressed within the outer boundaries of the reserves without a higher economic cost to a number of valuable commercial fisheries. A higher level of protection is provided to more conservation features through a modest increase in area of MNPZ and a large increase in HPZ, which means that 99% of the network is in zones assigned as either IUCN II or IV, providing a substantial increase in benthic protection. This brings a total of 82 primary conservation features into high protection, amounting to a 26% increase on the 65 conservation features within these two IUCN categories in the proclaimed network.

Table 4.4.3 Overview of recommended zoning scheme for Temperate East CMR Network

Activity type ^a		Special Purpose Zone (IUCN VI)	Multiple Use Zone (IUCN VI)	Habitat Protection Zone (IUCN IV)	Habitat Protection Zone (Lord Howe) (IUCN IV)	Recreational Use Zone (IUCN IV)	Marine National Park Zone (IUCN II)
MINING^b	Mining (including exploration, development and other activities)	✓	✓	✗	✗	✗	✗
COMMERCIAL FISHING^c	Handline/rod and reel	✓	✓	✓	✓	✗	✗
	Hand collection (including marine aquarium fish)	✓	✓	✓	✗	✗	✗
	Dropline ^d /Minor line/Poling	✓	✓	✓	✓	✗	✗
	Pelagic longline (including driftline)	✓	✓	✓	✗	✗	✗
	Purse seine	✓	✓	✓	✗	✗	✗
	Mid-water Trawl	✓	✓	✓	✗	✗	✗
	Traps and pots (including lobster, crab and fish)	✓	✓	✗	✗	✗	✗
	Nets (Spanner crab)	✓	✓	✗	✗	✗	✗
	Gillnet (including demersal and pelagic)	✗	✗	✗	✗	✗	✗
	Demersal longline (including auto-longline and trotline)	✗	✗ ^e	✗	✗	✗	✗
	Danish seine	✓	✗	✗	✗	✗	✗
	Demersal trawl	✓	✗	✗	✗	✗	✗
AQUACULTURE		✓	✓	✗	✗	✗	✗
RECREATION	Boating	✓	✓	✓	✓	✓	✓
	Scuba diving and snorkelling	✓	✓	✓	✓	✓	✓
	Recreational fishing ^f (including spear-fishing)	✓	✓	✓	✓ ^g	✓	✗
COMMERCIAL TOURISM	Non-fishing related tourism (incl. scuba/snorkel tours; nature watching)	✓	✓	✓	✓	✓	✓
	Fishing related tourism (including charter fishing and fishing/spear diving tours)	✓	✓	✓	✓ ^g	✗	✗
INDIGENOUS ACTIVITIES	Non-commercial Indigenous harvesting and hunting (consistent with the <i>Native Title Act 1993</i>)	✓	✓	✓	✓	✓	✓
RESEARCH		✓	✓	✓	✓	✓	✓
GENERAL USE	Defence	✓	✓	✓	✓	✓	✓
	Shipping (general transit) ^h	✓	✓	✓	✓	✓	✓

a. All activities require approval to be undertaken in CMRs; approvals are provided in the management plan or through class approvals or individual permits.

b. Proposed mining operations carried out under usage rights that existed immediately prior to the declaration of a reserve do not require approval from the DNP.

c. Commercial fishing methods not listed in the table may require assessment.

d. Dropline is defined as: a line that is vertically set or suspended in the water column, with no more than a single anchor point in contact with the seabed or substrate; and not operated with or as a trotline

e. Demersal setlining is allowed in the Temperate East CMR Network MUZ A.

f. Recreational fishing is managed by the states. NSW recreational bag and size limits and other NSW recreational fishing restrictions apply in the Temperate East CMR Network unless otherwise specified in this management plan. Norfolk Island recreational fishing rules apply in the Norfolk CMR.

g. Spearfishing is not permitted in the Temperate East CMR Network HPZ (Lord Howe).

h. Ballast water exchange is managed under national arrangements. Restrictions may apply in some areas.

4.4.1 JERVIS COMMONWEALTH MARINE RESERVE

Background

The Jervis CMR is located approximately 20 km offshore adjacent to Jervis Bay, extending into deep water off the continental shelf. The reserve was established in 2012 and covers approximately 2 473 km² and contains two zone types: Multiple Use (79%) and Special Purpose (21%) (Figure 4.4.1.1).

Conservation values represented within the reserve include examples of the ecosystems of the Central Eastern Province and the Southeast Shelf Transition Provincial Bioregions and the Batemans Shelf Meso-scale Bioregion; shelf rocky reefs and canyons on the eastern continental slope; one of three shelf-incising canyons occurring in the region; and important migratory pathways for humpback whales.

The NSW managed Ocean Trap and Line Fishery and Lobster Fishery as well as the Commonwealth managed SESSF, Small Pelagic Fishery, and Eastern Tuna and Billfish Fishery (ETBF) overlap with the area of the reserve. The area is a popular tourist destination particularly in the adjacent NSW Jervis Bay Marine Park and Commonwealth Booderee National Park, and recreational and charter fishing and whale watching occur within the area.

Other activities which occur in the area include shipping and defence training.

Issues raised

In addition to the Temperate East CMR Network issues raised above in Section 4.4, the Jervis CMR was canvassed in several submissions and in meetings with stakeholders. Several of these proposed the alteration of the outer boundary to link the reserve to the Jervis Bay Marine Park, but this was outside the scope of this review. Issues raised included:

- Inadequate protection—specifically:
 - The lack of no-take MNPZs
 - Higher protection for the shelf
 - The lack of protection for areas important to cetaceans.

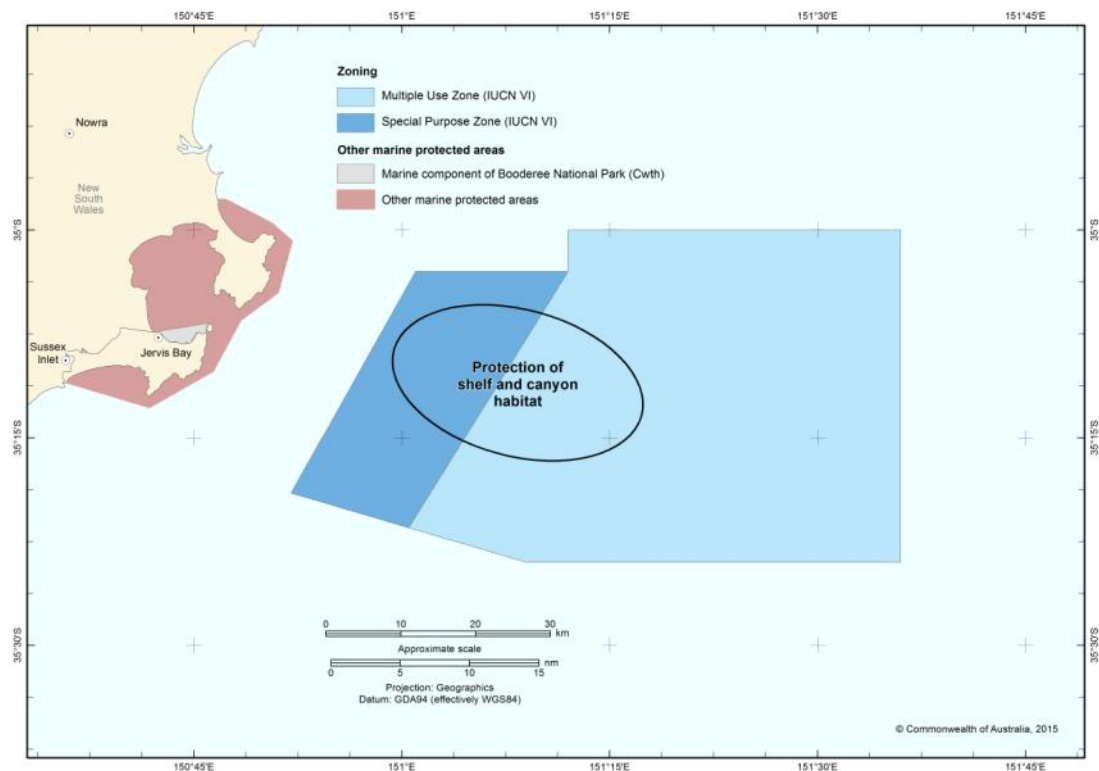


Figure 4.4.1.1 Jervis CMR as proclaimed, showing key issues and drivers for change identified during the CMR Review

Areas of contention

The Regional Panel determined that the lack of protection on the shelf in this area, and more generally in the Temperate East CMR Network, was an area of contention.

Conservation

The canyons in the reserve link the shelf and lower slope and include one of three shelf-incising canyons in the Temperate East. Canyons are a KEF of the region. A higher level of protection for the shelf and canyons was sought by the conservation sector.

Trawling

Although the FGRA for the East Marine Region stipulates that trawling is not compatible with the conservation values of the area, it is a permissible activity in the SPZ.

Trawling in the Jervis CMR is part of the Commonwealth South East Trawl sector of the SESSF. It stretches from Barranjoey Point north of Sydney, south around Tasmania and west to Cape Jervis in SA. It is a multispecies otter trawl fishery taking over 30 quota species, with blue grenadier, flathead, pink ling and silver warehou accounting for most of the catch.

The Regional Panel gave careful consideration to several options aimed at increasing the area of the shelf under MNPZ, and in particular to provide protection to an east-west canyon feature in the middle of the CMR. These options were not pursued due to the operational impact on trawl and the popularity of the canyon edges for recreational and charter fishing.

The Regional Panel noted that in the area proclaimed as SPZ, there were several canyons on the shelf that were said to be avoided by the fishery and therefore not fished by this method. This observation was consistent with recent findings that only 6% of the area of the SESSF was impacted by trawl.

Conservation

The Regional Panel noted that changing the MUZ to HPZ would exclude activities that impact the benthos and would provide further protection for the canyons on the lower continental slope. There were no identified economic impacts of increasing the level of protection from MUZ to HPZ.

Recommendation

The recommendation for the Jarvis CMR is to change the MUZ to HPZ.

This change is shown in Figure 4.4.1.2 and summarised in Table 4.4.1.1.

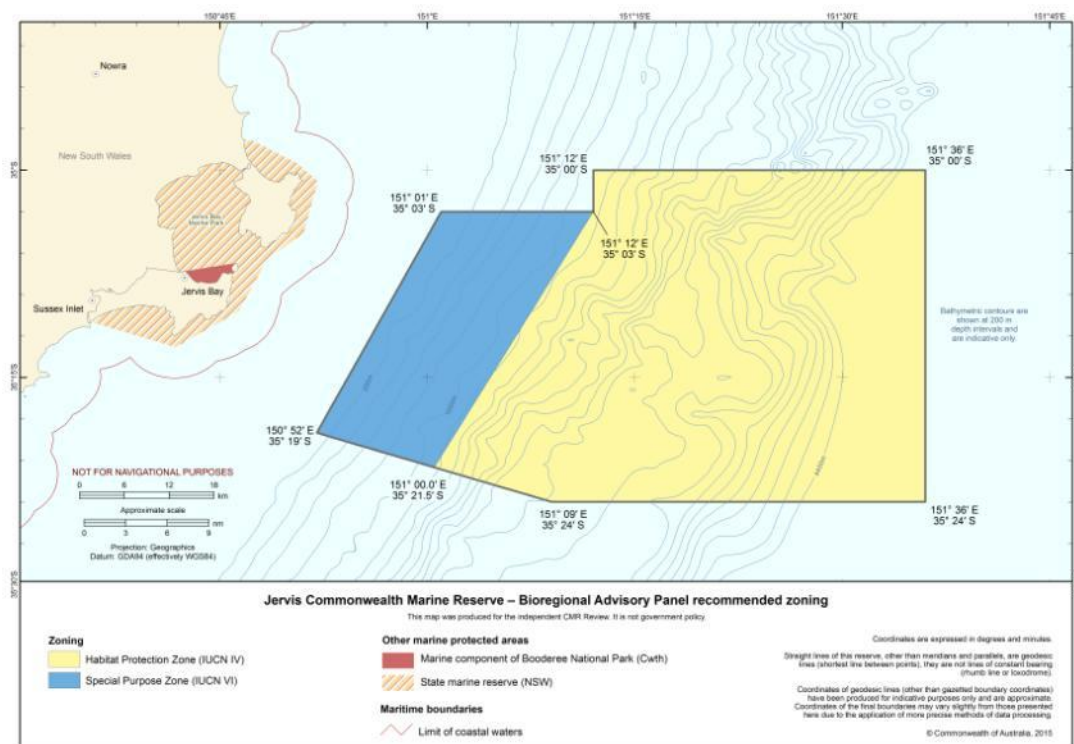


Figure 4.4.1.2 Recommended zoning for Jarvis CMR

Table 4.4.1.1 indicates how the areas under different zone types (within the outer boundaries of the reserve) will change with the recommended zoning. The MUZ is zoned as HPZ to increase the protection of habitat in the reserve.

Table 4.4.1.1 Comparison of areas of zone types between proclaimed and recommended zoning for Jervis CMR

Zone	Proclaimed		Recommended		Difference	
	Area (km ²)	% of CMR	Area (km ²)	% of CMR	Area (km ²)	% of CMR
HPZ (IUCN IV)	Nil	Nil	1 965	79.46%	+1 965	+79.46%
MUZ (IUCN VI)	1 965	79.46%	Nil	Nil	-1 965	-79.46%
SPZ (IUCN VI)	508	20.54%	508	20.54%	Nil	Nil
Total	2 473	100%	2 473	100%		

Note: All figures are rounded to the nearest km² (and therefore in some instances can appear to not add up to the totals supplied). No changes have been made to the outer boundaries and total area of the reserves. Percentages are calculated based on the rounded figures.

Outcomes

The recommended zoning for Jervis CMR improves the conservation outcome for this reserve without impacting further on recreational or commercial fisheries. The HPZ that will cover nearly 80% of the reserve area provides an increased level of protection to six conservation features in the Temperate East Network, including four Depth Ranges (by Provincial Bioregion), one KEF and one Seafloor Type (see Appendix H).

The recommended zoning for Jervis CMR will not change the level of access for recreational and charter fishers or the impact on commercial fishing from the 2012 proclaimed zoning.

Jervis CMR does not overlap with any native title determinations, applications or IPAs.

The recommended new HPZ in this reserve will restrict mining activities in nearly 80% of the reserve, above the level of restriction set out in the 2012 proclaimed zoning. The area covered by this recommended zoning change is rated as having low petroleum prospectivity.

4.4.2 HUNTER COMMONWEALTH MARINE RESERVE

Background

The Hunter CMR covers an area stretching from NSW state waters to approximately 100 km offshore adjacent to the area between Port Stephens and Sugarloaf Point. The reserve established in 2012 covers approximately 6 257 km² and contains two zone types: Multiple Use (72%) and Special Purpose (28%) (Figure 4.4.2.1).

Conservation values represented within the reserve include examples of the ecosystems of the Central Eastern Province and the Central Eastern Shelf Province Provincial Bioregions and the Manning Shelf Meso-scale Bioregion; two KEFs: shelf rocky reefs and a shelf-incising canyon; and Biologically Important Areas for humpback whales, white sharks and a number of seabird species.

The NSW managed Ocean Trap and Line Fishery, Ocean Trawl Fishery and Lobster Fishery operate in the area. The Commonwealth managed SESSF and ETBF also operate in the area. Tourism, recreational and charter fishing also occur in the area and the area is a key gamefishing location.

Other activities that occur in the area include defence training and shipping.

Issues raised

In addition to the Temperate East CMR Network issues raised above in Section 4.4, the Hunter CMR was canvassed in a few submissions and in meetings with stakeholders.

Issues raised included:

- Inadequate protection—specifically:
 - The lack of no-take MNPZs
 - Higher protection for the shelf
 - Lack of protection for areas important to cetaceans.
- Loss of access for commercial fisheries and cumulative impacts of past closures and restrictions.
- Importance of the area for recreational gamefishing.

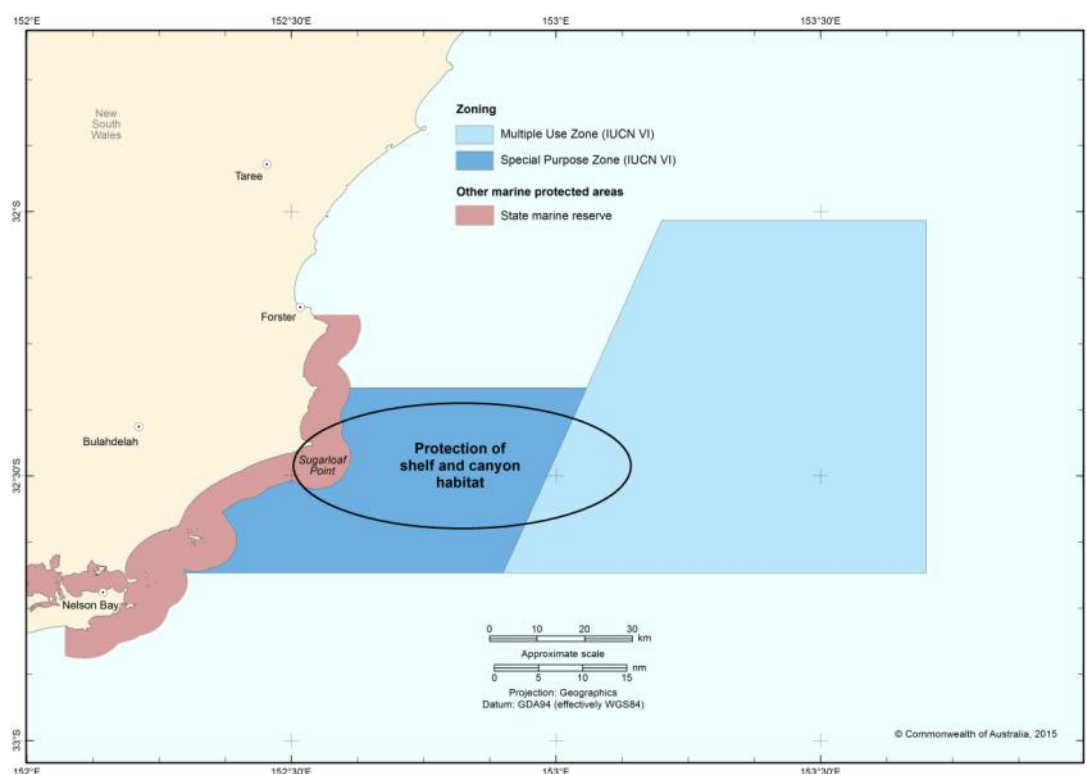


Figure 4.4.2.1 Hunter CMR as proclaimed, showing key issues and drivers for change identified during the CMR Review

Areas of contention

The Regional Panel determined that the lack of protection on the shelf in this area, and more generally in the Temperate East CMR Network was an area of contention.

Conservation

The lack of MNPZs on the shelf was consistently identified as a significant deficiency in the design of the Temperate East CMR Network, and the Hunter and Jervis CMRs specifically, by conservation groups and by a number of scientists.

Trawling

Although the FGRA for the East Marine Region stipulates that trawling is not compatible with the conservation values of the area, it is a permissible fishery in the proclaimed SPZ.

Trawling in the Hunter CMR is part of the NSW Ocean Trawl Fishery, which includes two sectors: the prawn trawl sector and the fish trawl sector. Both sectors use similar otter trawl gear, and many of the fishers endorsed for fish trawling are also endorsed for prawn trawling. The fishery produces product predominately for the domestic market. The major species taken in the Ocean Trawl Fishery include school whiting (comprising stout whiting and red spot whiting); eastern king, school and royal red prawns; tiger flathead; silver trevally; various species of sharks and rays; squid; octopus; and bugs.

Lobster

The lobster fishery extends from the Queensland border to the Victorian border and includes all waters under jurisdiction of NSW to around 80 nm from the coast. The main target species is the eastern rock lobster (*Sagmaraisus verreauxi*) but southern rock lobster (*Jasus edwardsii*), and two species of tropical rock lobster (*Panulirus longipes* and *P. ornatus*) are also taken.

Trap and line

The Ocean Trap and Line Fishery is a multi-method, multi-species fishery targeting demersal and pelagic species along the entire NSW coast, in both continental shelf and slope waters.

The trawl, lobster and trap and line fisheries provide product to both the Wallis Lakes Commercial Fishermen's Coop (which supplies the Forster and Tuncurry areas) and the Commercial Fishermen's Cooperative, Newcastle. This product is sent throughout the local community, greater NSW, Australia and export markets.

The Regional Panel noted that several submissions called for more MNPZ status on the shelf in the Temperate East CMR Network and gave careful consideration to options aimed at establishing an area of the shelf in the Hunter CMR under MNPZ. The main option considered was the area of shelf adjacent to the state MPA off Seal Rocks and to extend this seawards, possibly to the eastern boundary of the SPZ. Testing this option with stakeholders revealed that the area immediately adjacent to the state no-take zone on the shelf was significant to the lobster, ocean trawl and trap and line sectors, as well as being important for the recreational game fishing sector. There was strong opposition to this option from these sectors.

The paucity of high-level protection on the shelf for a number of conservation features including Provincial Bioregions, mesoscale bioregions, depth ranges, KEFs, biologically informed seascapes and seafloor types—in the Temperate East CMR Network remains a significant concern.

Late in the review the BAP considered a further option for an MNPZ along some or the entire southern boundary of the shelf section of the Hunter CMR but did not have the opportunity to test this option with stakeholders. It seemed likely that a configuration could be developed that would improve the representativeness of the network and not substantially impact on commercial fishing interests. This option could be pursued in the future.

The Regional Panel noted that changing the MUZ to HPZ to exclude activities that impact the benthos would provide additional protection for several of the reserve's conservation features, including canyons and shelf slope. There were no identified economic impacts of increasing the level of protection in the MUZ to HPZ.

Recommendation

The recommendation for the Hunter CMR is to change the MUZ to HPZ.

This change is shown in Figure 4.4.2.2 and summarised in Table 4.4.2.1.

The lack of any significant highly protected area over the continental shelf and associated conservation features in the Temperate East CMR Network remains a deficiency in the comprehensiveness, adequacy and representativeness of the overall CMR estate. The Government should during the life of the first Temperate East network management plan investigate the conservation benefits, and social and economic impacts, of creating an MNPZ extending eastwards from state waters along the southern border of the Hunter CMR. The MNPZ transect should be not be less than 10km wide to ensure adequate protection from the impact of human activities.

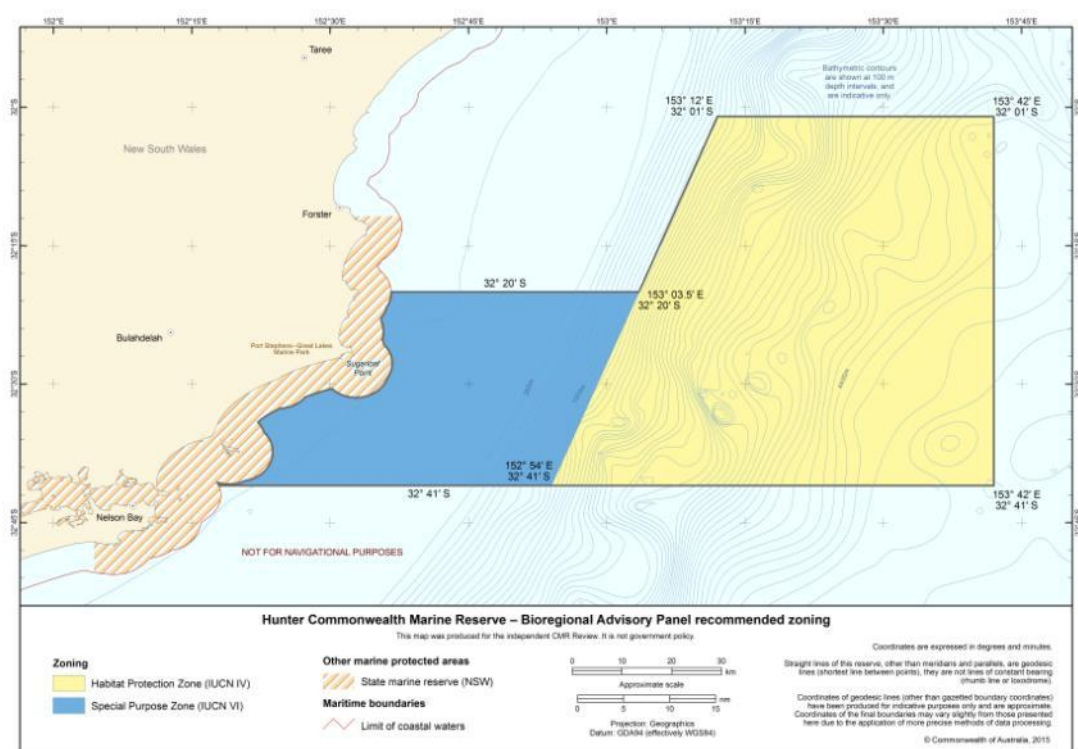


Figure 4.4.2.2 Recommended zoning for Hunter CMR

Table 4.4.2.1 indicates how the areas under different zone types (within the outer boundaries of the reserve) will change with the recommended zoning. The MUZ is zoned as HPZ to increase the protection of habitat in the reserve.

Table 4.4.2.1 Comparison of areas of zone types between proclaimed and recommended zoning for Hunter CMR

Zone	Proclaimed		Recommended		Difference	
	Area (km ²)	% of CMR	Area (km ²)	% of CMR	Area (km ²)	% of CMR
HPZ (IUCN IV)	Nil	Nil	4 519	72.22%	+4 519	+72.22%
MUZ (IUCN VI)	4 519	72.22%	Nil	Nil	-4 519	-72.22%
SPZ (IUCN VI)	1 739	27.79%	1 739	27.79%	Nil	Nil
Total	6 257	100%	6 257	100%		

Note: All figures are rounded to the nearest km² (and therefore in some instances can appear to not add up to the totals supplied). No changes have been made to the outer boundaries and total area of the reserves. Percentages are calculated based on the rounded figures.

Outcomes

The recommended zoning for Hunter CMR will improve the conservation outcome for this reserve without impacting further on recreational fisheries. The introduction of an HPZ which will cover just over 72% of the reserve area will provide an increased level of protection to a further nine conservation features in the Temperate East Network,

including seven Depth Ranges (by Provincial Bioregion), one KEF and one seafloor type (see Appendix H).

The recommended zoning for Hunter CMR will not change the level of access for recreational and charter fishers.

The recommended introduction of a new HPZ is expected to increase the impact on the NSW Ocean Trap and Line Fishery, which was only marginally affected by the proclaimed zoning.

The recommended zoning of Hunter CMR changes the area of the proclaimed MUZ to an HPZ without altering the internal boundaries. The boundary between the SPZ and new HPZ would remain below the 1 000 metre depth contour to ensure ease of compliance and continued access to the SPZ by commercial fishers.

Hunter CMR does not overlap with any native title determinations, applications or IPAs.

The recommended new HPZ in Hunter CMR will restrict mining activities in 72% of the reserve, above the level of restriction set out in the proclaimed zoning. The area covered by this recommended zoning change does not have a petroleum prospectivity rating.

4.4.3 SOLITARY ISLANDS COMMONWEALTH MARINE RESERVE

Background

The Solitary Islands CMR is located approximately 5.5 km offshore adjacent to the area between Coffs Harbour and Sandon Bluffs. The reserve established in 2012 incorporates the former Solitary Islands Marine Reserve (Commonwealth Waters) and covers approximately 152 km² and contains three zone types: Marine National Park (1%), Multiple Use (24%) and Special Purpose (75%) (Figure 4.4.3.1).

Conservation values represented within the reserve include examples of the ecosystems of the Central Eastern Shelf Transition and the Tweed-Moreton Meso-scale Bioregion; habitat for the critically endangered east coast population of grey nurse sharks; and Biologically Important Areas for humpback whales, white sharks and a number of seabirds.

The NSW Ocean Trap and Line Fishery, Ocean Trawl Fishery and Lobster Fishery operate within or near the marine reserve. The Commonwealth ETBF also operates in the area. Recreational fishing, spearfishing, recreational scuba diving and snorkelling activities also occur within the area.

Other activities which occur in the area include defence training.

Issues raised

In addition to the Temperate East CMR Network issues raised above in Section 4.4, the Solitary Islands CMR was discussed in a number of submissions and meetings with stakeholders. Several of these proposed the alteration of the outer boundary to link the reserve to the Central Eastern CMR, but this was outside the scope of this review.

Issues raised included:

- Inadequate protection—specifically, the level of protection (MNPZs) on the shelf.
- Access for commercial fishers—specifically, that state marine park restrictions had led to major adjustment in operations and that further closures would impact on operations and the local fishing cooperative.

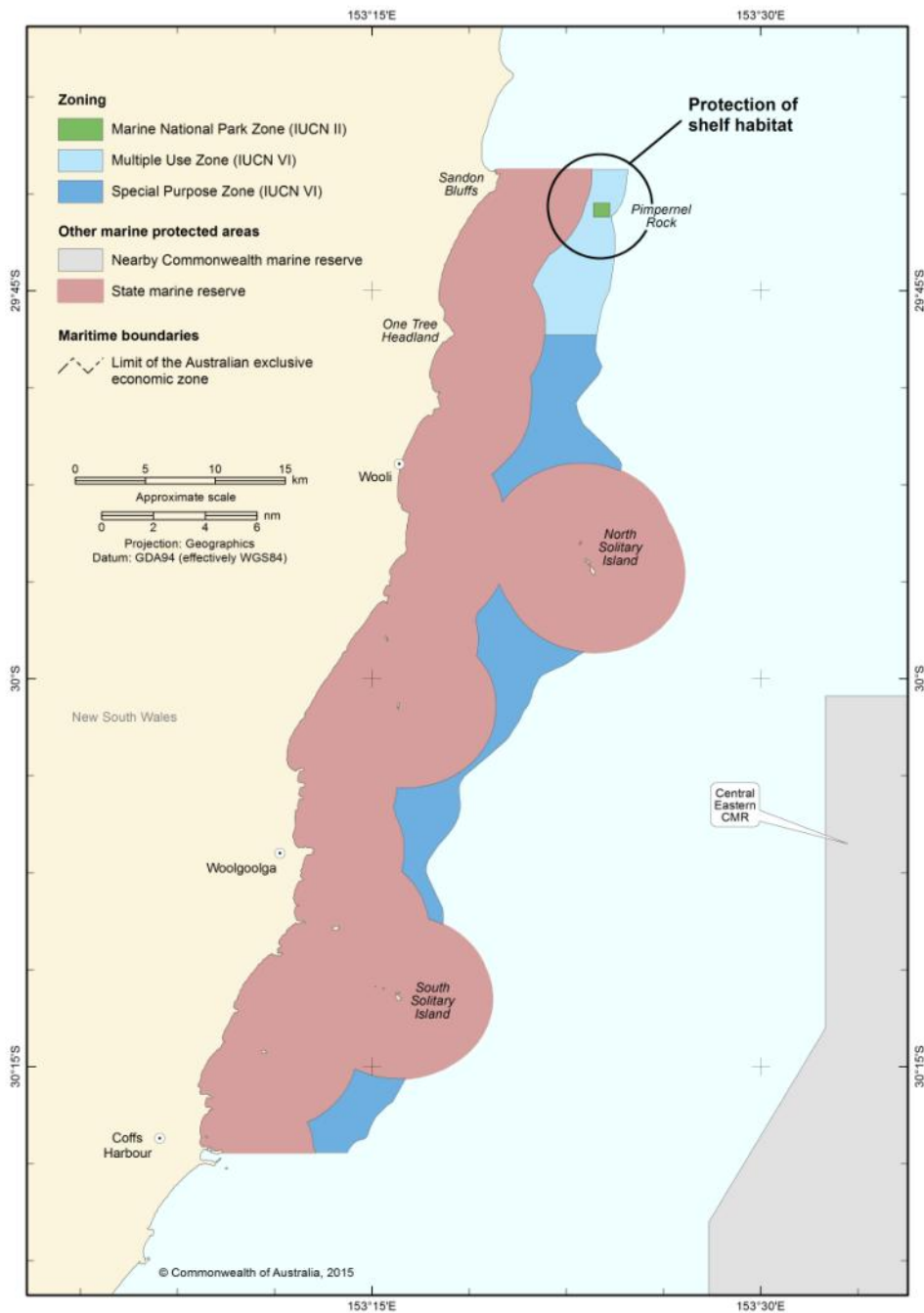


Figure 4.4.3.1 Solitary Islands CMR as proclaimed, showing key issues and drivers for change identified during the CMR Review

Areas of contention

The Regional Panel determined that inadequate representation of shelf in MNPZs was an area of contention.

Recommendation

The recommendation for the Solitary Islands CMR is to extend the MNPZ over Pimpemel Rock eastward to the reserve boundary (by 80m) and by the same distance on the north, south and west sides.

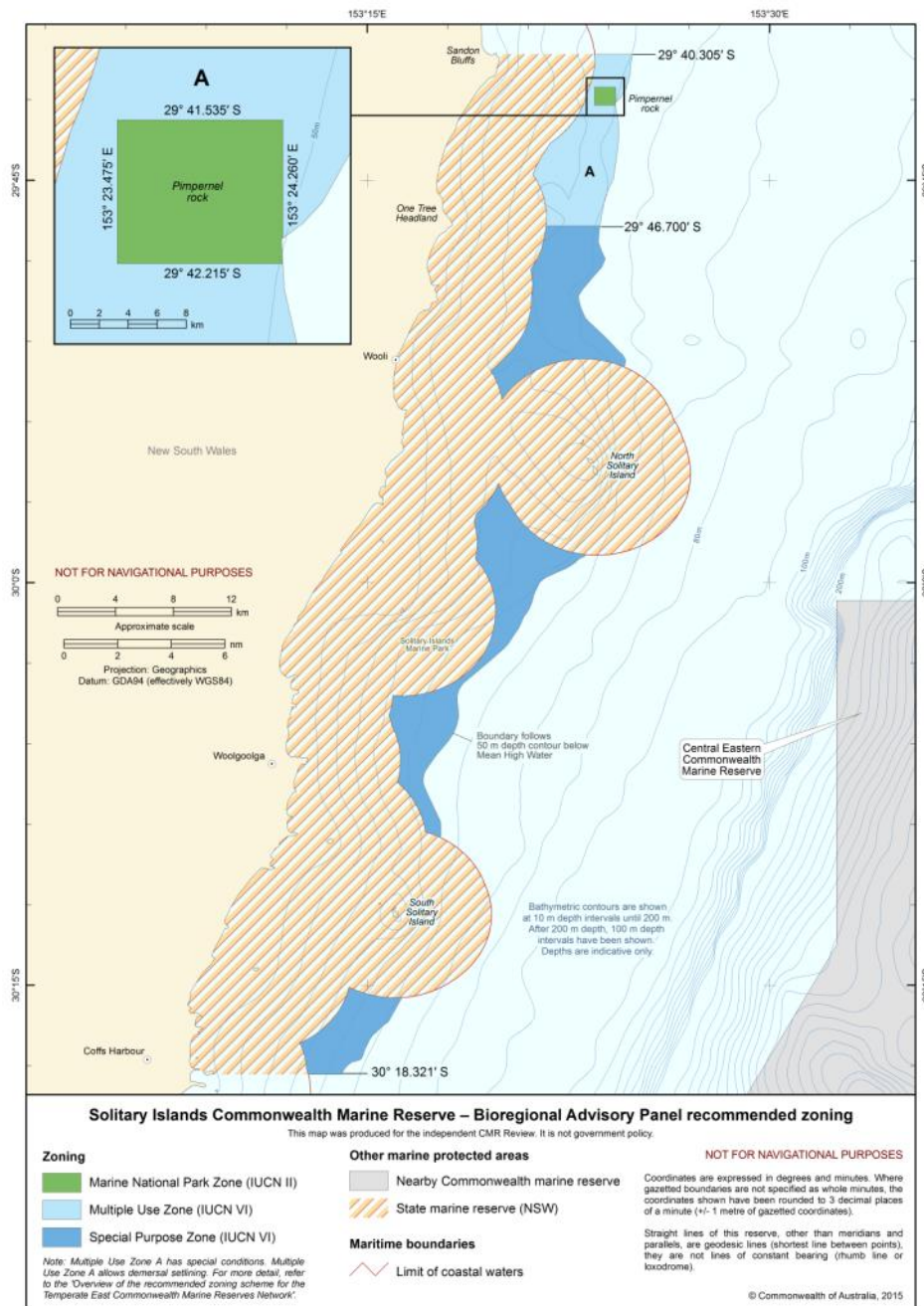


Figure 4.4.3.2 Recommended zoning for Solitary Islands CMR

Table 4.4.3.1 indicates how the areas under different zone types (within the outer boundaries of the reserve) will change with the recommended zoning.

Table 4.4.3.1 Comparison of areas of zone types between proclaimed and recommended zoning for Solitary Islands CMR

Zone	Proclaimed		Recommended		Difference	
	Area (km ²)	% of CMR	Area (km ²)	% of CMR	Area (km ²)	% of CMR
MNPZ (IUCN II)	1.04	0.68%	1.59	1.04%	+0.55	+0.36%
MUZ/MUZ A* (IUCN VI)	37.21	24.43%	36.66	24.07%	-0.55	-0.36%
SPZ (IUCN VI)	114.08	74.90%	114.08	74.89%	Nil	Nil
Total	152.3	100%	152.3	100%		

Note: All figures are rounded to the nearest km² (and therefore in some instances can appear to not add up to the totals supplied). No changes have been made to the outer boundaries and total area of the reserves. Percentages are calculated based on the rounded figures.

*Note—the proclaimed Solitary Islands CMR MUZ and recommended MUZ 'A' have the same allowable activities, and are therefore reported as the same zone type.

Outcomes

The recommended expansion of the MNPZ in Solitary Islands CMR to just over 1% of the reserve area will provide a small increase in level of protection and include one Depth Range (by Provincial Bioregion) in MNPZ in the Temperate East CMR Network and a minor increase in protection for grey nurse shark habitat around Pimpernel Rock.

This will result in a minor reduction of access for recreational and charter fishing. The additional impact on commercial fishing is expected to be negligible for three NSW managed fisheries (Ocean Trap and Line, Ocean Trawl and Lobster) which would also have been displaced by the proclaimed zoning. The recommended zoning for Solitary Islands CMR will not result in any increased difficulty of compliance.

The Solitary Islands CMR is adjacent to the Yaegl People registered native title claim, which does not extend into Commonwealth waters.

The recommended expansion of the MNPZ in the Solitary Islands CMR will slightly restrict mining activities above the level of restriction set out in the proclaimed zoning. The area covered by this recommended zoning change does not have a petroleum prospectivity rating.

4.4.4 CENTRAL EASTERN COMMONWEALTH MARINE RESERVE

Background

The Central Eastern CMR extends from shelf-edge depths approximately 30 km offshore to deep ocean waters approximately 200 km offshore. It spans more than 500 km in a north–south alignment over the southern seamounts of the Tasmanid Seamount Chain. The CMR established in 2012 covers approximately 70 054 km² and contains three zone types: Marine National Park (12%), Habitat Protection (74%) and Multiple Use (14%) (Figure 4.4.4.1).

Conservation values represented within the reserve include examples of the ecosystems of the Central Eastern Province, Central Eastern Shelf Transition, and Tasman Basin Province Provincial Bioregions and the Tweed-Moreton Meso-scale Bioregion; canyons on the eastern continental slope (part of one of three shelf-incising canyons occurring in the region); the Tasmanid Seamount Chain including the Taupo seamount; and Biologically Important Areas for humpback whales, white sharks and a number of seabird species.

The NSW managed Ocean Trap and Line Fishery, Ocean Trawl Fishery and Lobster Fishery operate within or near the marine reserve. The Commonwealth managed SESSF and ETBF also operate in the area. Recreational and charter fishing occur in the area.

Other activities which occur in the area include shipping, tourism, defence training and petroleum exploration.

Issues raised

In addition to the Temperate East CMR Network issues raised above in Section 4.4, the Central Eastern CMR was canvassed in a number of submissions and meetings with stakeholders. Some of these proposed the extension of the western outer boundary to link the reserve to the Solitary Islands CMR, but this was outside the mandate of the review. Issues raised included:

- Relationship between the Coral Sea CMR and Temperate East CMR Network that results in:
 - Loss of access for commercial fisheries, particularly pelagic longline.
 - The potential for displaced effort—specifically, tuna operators that fished in the Coral Sea would have to move further south, placing increased pressure on limited swordfish stocks.
- Issues relating to the drift of pelagic longlines—specifically, that MNPZs needed a ‘buffer’ around them to avoid the problem of lines drifting into the reserve.
- Loss of access for potential fisheries—specifically, deepwater crab resources in waters between 400 and 1 000m.
- Need to re-evaluate the FGRA for demersal longlining.

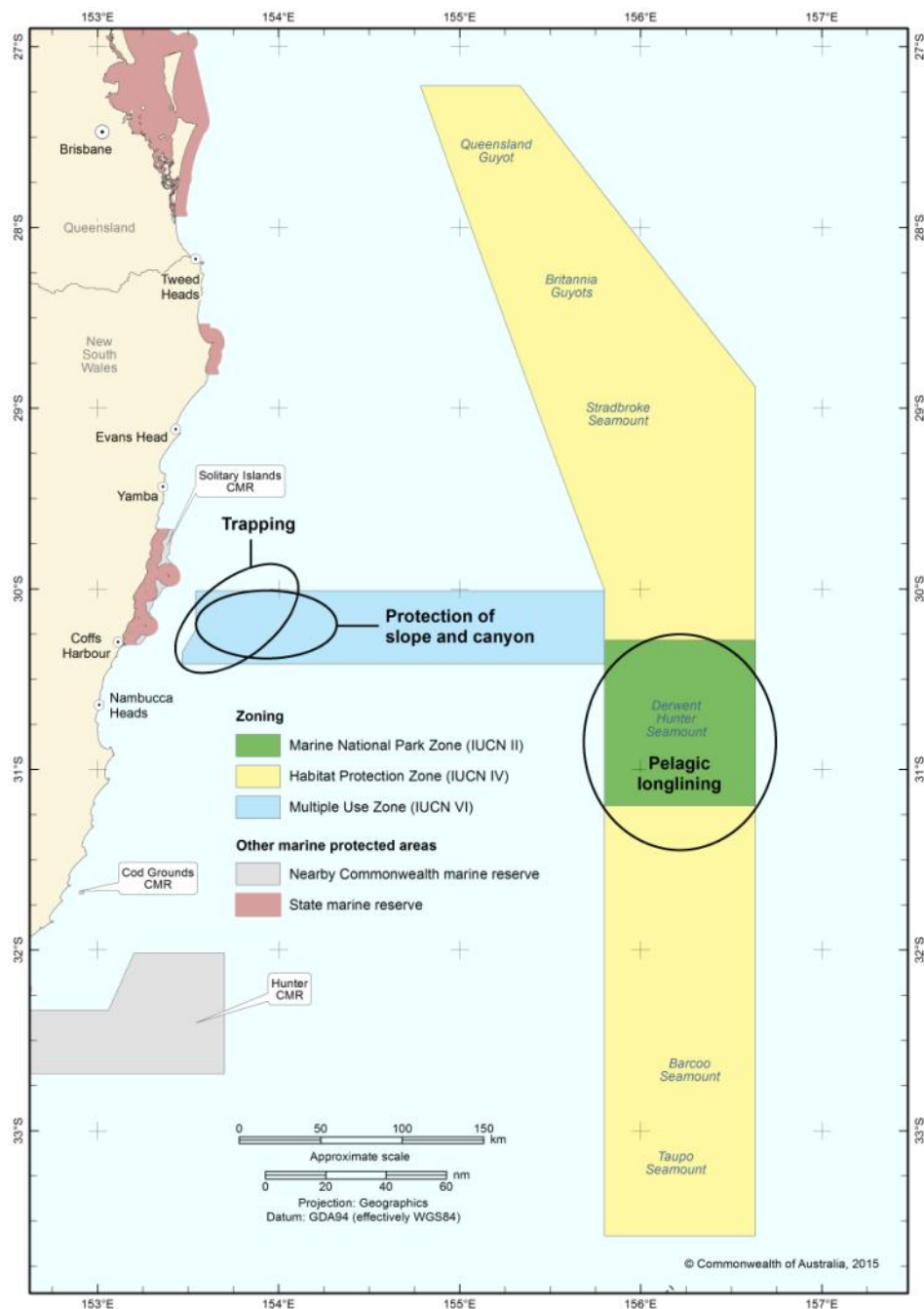


Figure 4.4.4.1 Central Eastern CMR as proclaimed, showing key issues and drivers for change identified during the CMR Review

Areas of contention

The Regional Panel did not record any specific area of contention in this reserve, beyond general concerns over lack of connectivity to and protection on the continental shelf and canyons in the Temperate East CMR Network, and the more general concerns of the ETBF.

Conservation

The Regional Panel noted the paucity of highly protected areas on the shelf and shelf slope and in particular the Central Eastern Shelf Transition and Central Eastern Provincial Bioregions and the canyon KEF. The Regional Panel also noted the lack of connectivity between the Central Eastern CMR and the Solitary Islands CMR, which would require an alteration of outer boundaries and was beyond the scope of this review.

The Regional Panel suggested that the MUZ over the Central Eastern reserve could be zoned as HPZ to improve the benthic protection over the shelf slope canyons and the Central Eastern Provincial Bioregion without impacting on any commercial fisheries, except the deepwater trap and line fishery on the shelf break.

Pelagic longline fishery

The Regional Panel considered the perspectives of different elements of the pelagic longline industry, the sector most significantly impacted economically by the CMR. While there was some industry acceptance of the objective of a fully protected seamount in the Temperate East CMR Network, none wanted the MNPZ to impact on their area of operation, suggesting the MNPZ be moved either further north or south. The Regional Panel concluded that the MNPZ over the Derwent-Hunter seamount remains the most reasonable compromise.

The Regional Panel also noted suggestions that more of the seamounts in the Central Eastern CMR be zoned as MNPZs—specifically, Queensland, Britannia, Stradbroke, Barcoo and Taupo—despite the fact that Queensland and Britannia are closed to commercial fishing to protect gulper sharks. All of these seamounts are in HPZ which excludes fishing methods with a benthic interaction including traps, crab nets, Danish seine, demersal trawl, gillnet and demersal longlining. The Regional Panel noted concerns of longliners that the MNPZ represented just one of several closures affecting them, drawing attention in particular to the fisheries closure to protect gulper sharks on other seamounts. There was a strong view expressed that there could be better coordination between conservation and fisheries managers especially where conservation outcomes were the focus.

The Regional Panel noted the issue of gear drift in the pelagic longline fishery which meant that there was an effective ‘buffer’ area around each MNPZ within which the gear should not be set (to avoid the gear drifting into the MNPZ). This did not mean that fish could not be caught in this ‘buffer’.

Recommendation

The recommendation for the Central Eastern CMR is to retain the MUZ down to 1000 m depth and change the balance of the MUZ in the Central Eastern CMR to HPZ.

This change is shown in Figure 4.4.4.2 and summarised in Table 4.4.4.1.

The BAP noted that as the lack of significant highly protected areas over the continental shelf and associated conservation features in the Temperate East CMR Network remains a deficiency in the comprehensiveness, adequacy and representativeness of the overall CMR estate, the Government should during the life of the first Temperate East CMR Network Management Plan investigate the conservation benefits, and social and economic impacts, of extending the east–west ‘arm’ of the Central Eastern CMR westwards to join the Solitary Islands CMR, and of including an MNPZ transect from state waters eastwards across the shelf and slope that includes one of the reserve’s canyon features.

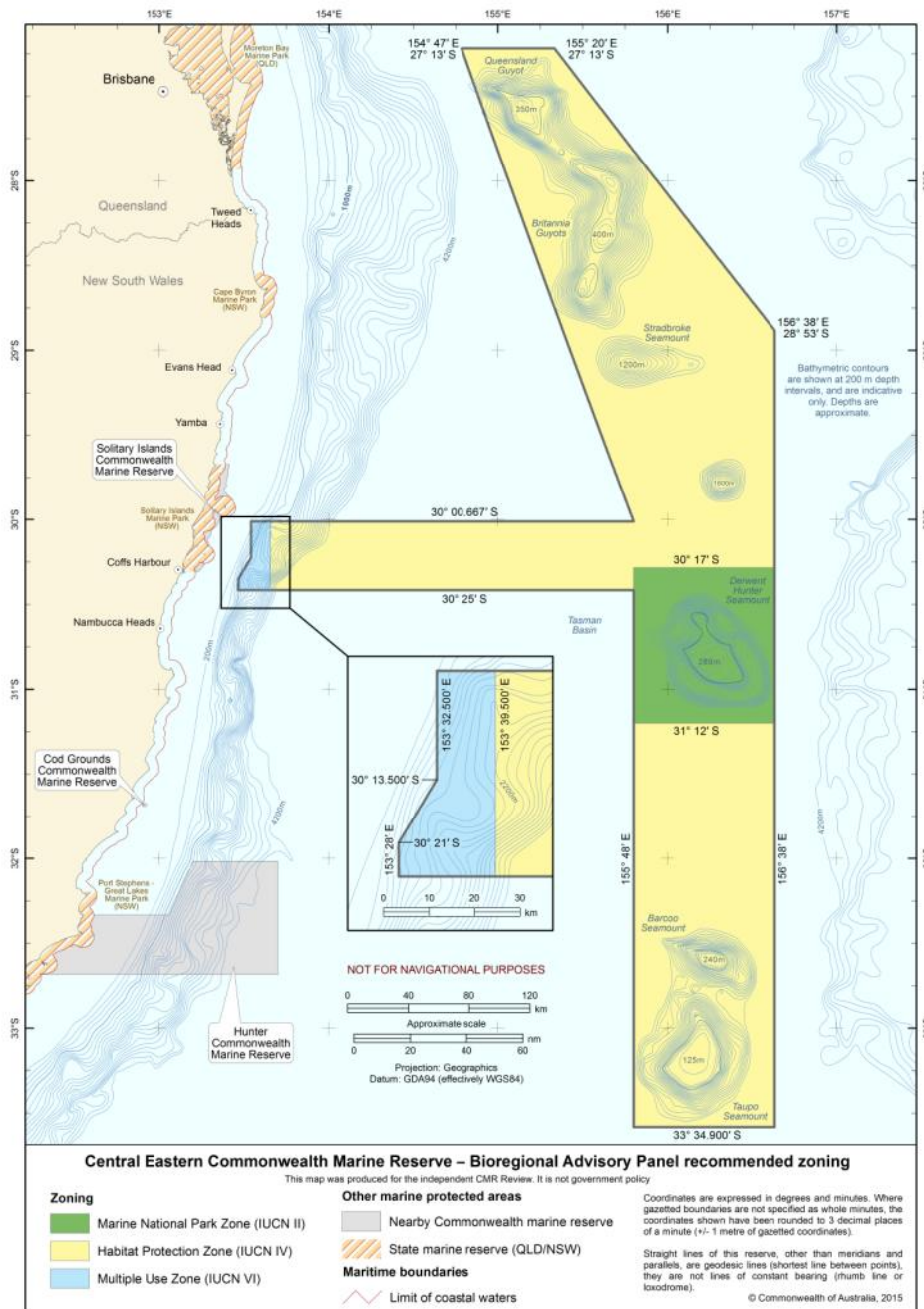


Figure 4.4.4.2 Recommended zoning for Central Eastern CMR

Table 4.4.4.1 indicates how the areas under different zone types (within the outer boundaries of the reserve) will change with the recommended zoning. There is no change to MNPZ but HPZ is increased by 13%, with a corresponding decrease in the area under MUZ. Together the MNPZ and HPZ provide a high level of protection to 99% of the reserve.

Table 4.4.4.1 Comparison of areas of zone types between proclaimed and recommended zoning for Central Eastern CMR

Zone	Proclaimed		Recommended		Difference	
	Area (km ²)	% of CMR	Area (km ²)	% of CMR	Area (km ²)	% of CMR
MNPZ (IUCN II)	8 110	11.58%	8 110	11.58%	Nil	Nil
HPZ (IUCN IV)	52 066	74.32%	61 336	87.56%	+9 270	+13.23%
MUZ (IUCN VI)	9 878	14.10%	608	0.87%	-9 270	-13.23%
Total	70 054	100%	70 054	100%		

Note: All figures are rounded to the nearest km² (and therefore in some instances can appear to not add up to the totals supplied). No changes have been made to the outer boundaries and total area of the reserves. Percentages are calculated based on the rounded figures.

Outcomes

The recommended expansion of HPZ in the Central Eastern CMR, which covers approximately 88% of the reserve area, will provide increased protection to a further six conservation features in the Temperate East CMR Network, including four Depth Ranges (by Provincial Bioregion), one KEF and one seafloor type (see Appendix H). This seafloor type (canyon) is also represented in MNPZ.

The recommended zoning for the Central Eastern CMR will not change the level of access for recreational and charter fishers but is expected to result in a small increase in the impact on commercial fishing.

The recommended zoning will not increase the total number of zone types in the reserve. However, as the area of MUZ will be substantially smaller than that proclaimed there is the potential for a slight increase in complexity and difficulty of compliance for some users, such as commercial operators using fishing gear types that are not compatible with HPZs. The MNPZ over the Derwent Hunter Seamount will remain the same as in the proclaimed zoning, with no resultant changes in practicality of implementation in this area.

The Central Eastern CMR does not overlap with any native title determinations, applications or IPAs.

The recommended expansion of the HPZ in the Central Eastern CMR will restrict mining activities above the level of restriction set out in the proclaimed zoning. The area covered by this recommended zoning change does not have a petroleum prospectivity rating.

4.4.5 LORD HOWE COMMONWEALTH MARINE RESERVE

Background

The Lord Howe CMR spans 680 km in a north–south alignment over the Lord Howe seamount chain. The reserve, established in 2012, incorporates the former Elizabeth and Middleton Reefs Marine National Nature Reserve and Lord Howe Island Marine Park (Commonwealth waters). It covers approximately 110 139 km² and contains five zone types: Marine National Park (10%), Recreational Use (1%), Habitat Protection (Lord Howe) (5%), Habitat Protection (50%) and Multiple Use (35%) (Figure 4.4.5.1).

Conservation values represented within the reserve include examples of the ecosystems of the Lord Howe Province and the Tasman Basin Province Provincial Bioregions; the Lord Howe seamount chain, Elizabeth and Middleton reefs and the Tasman Front and eddy field; a key location for black cod; Biologically Important Areas for humpback whales and a number of seabird species; and a major seabird breeding area for masked booby, grey ternlet, red-tailed tropic bird, black-winged petrel and Kermadec petrel.

The Commonwealth managed SESSF, the ETBF and the Small Pelagic Fishery operate within or near the marine reserve. Charter and recreational fishing occur in the area, mostly operating from Lord Howe Island. Shipping also occurs in the area.

Issues raised

In addition to the Temperate East CMR Network issues raised above in Section 4.4, the Lord Howe CMR was canvassed in several submissions and in meetings with stakeholders. Issues raised included:

- Loss of access for recreational fishing—specifically, spearfishing in Commonwealth waters around Lord Howe Island
- Loss of access for commercial fisheries—specifically, pelagic longline and pelagic trawl.

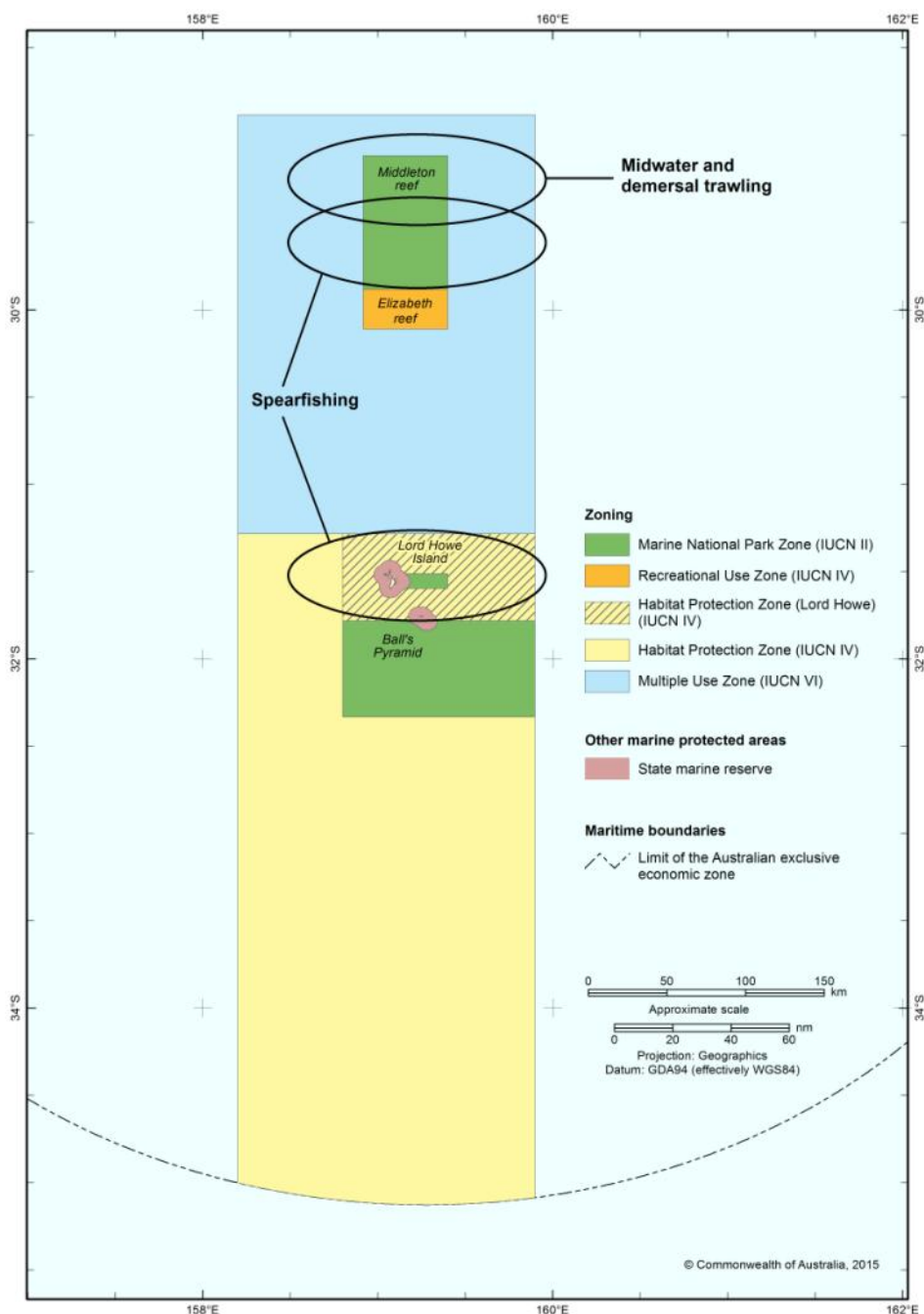


Figure 4.4.5.1 Lord Howe CMR as proclaimed, showing key issues and drivers for change identified during the CMR Review

Areas of contention

The Regional Panel determined that loss of access by established commercial fisheries was an area of contention, particularly with regard to the northwards extension of the MNPZ over Middleton Reef in the 2012 proclamation.

The Regional Panel noted concerns from the ETBF that any MNPZs present problems for the fishery because of the issues associated with gear drift.

The Regional Panel heard representations over the loss of access for the fishery north of Middleton Reef. This was proposed as both demersal and pelagic trawl. The Regional Panel suggested that the northern boundary of the MNPZ be moved south to the original Elizabeth Middleton MNPZ boundary, to allow access for the fishery, but that the area be zoned as HPZ.

The Regional Panel noted concerns expressed by the spearfishing sector in relation to access to waters around Lord Howe Island, but also heard concerns from island representatives who argued against this access and for parity between state and Commonwealth arrangements in marine reserves.

Recommendations

The recommendations for the Lord Howe CMR are to:

- Re-establish the northern boundary of the MNPZ over Middleton Reef at its original northern boundary at 29°21'S
- Convert all MUZ to HPZ.

These changes are shown in Figure 4.4.5.2 and summarised in Table 4.4.5.1.



Figure 4.4.5.1 Recommended zoning for Lord Howe CMR

Table 4.4.5.1 indicates how the areas under different zone types (within the outer boundaries of the reserve) will change with the recommended zoning. While the area of MNPZ reduced slightly, this is offset by the increased HPZ and corresponding reduction in MUZ. All other zones stay the same.

Table 4.4.5.1 Comparison of areas of zone types between proclaimed and recommended zoning for Lord Howe CMR

Zone	Proclaimed		Recommended		Difference	
	Area (km ²)	% of CMR	Area (km ²)	% of CMR	Area (km ²)	% of CMR
MNPZ (IUCN II)	10 488	9.52%	9 273	8.42%	-1 215	-1.10%
HPZ (IUCN IV)	54 897	49.84%	94 559	85.85%	+39 662	+36.01%
HPZ (Lord Howe (IUCN IV))	5 136	4.66%	5 136	4.66%	Nil	Nil
RUZ (IUCN IV)	1 170	1.06%	1 170	1.06%	Nil	Nil
MUZ (IUCN VI)	38 446	34.91%	Nil	Nil	-38 446	-34.91%
Total	110 139	100%	110 139	100%		

Note: All figures are rounded to the nearest km² (and therefore in some instances can appear to not add up to the totals supplied). No changes have been made to the outer boundaries and total area of the reserves. Percentages are calculated based on the rounded figures.

Outcomes

The recommended zoning for Lord Howe CMR will overall provide greater protection to the benthic habitat in the reserve, with the expansion of HPZ by 36% to cover just over 85% of the reserve area. The recommended expansion of HPZ and reduction of MNPZ in the Lord Howe CMR will not change the number of conservation features represented in MNPZs or HPZs in the Temperate East CMR Network.

The zoning will maintain access for recreational and charter fishers and decrease the overall impact on commercial fishing. The small change to the MNPZ above Middleton Reef will provide access for pelagic trawling for alfonso in this area. The recommended zoning for the Lord Howe CMR reduces the number of zone types from five to four and will reduce complexity and improve ease of compliance for users.

The Lord Howe CMR does not overlap with any native title determinations, applications or IPAs.

The recommended extension of HPZ in the Lord Howe CMR will restrict mining activities above the level of restriction set out in the proclaimed zoning. The area covered by this recommended zoning change is rated as having medium-low to low petroleum prospectivity.

4.4.6 NORFOLK COMMONWEALTH MARINE RESERVE

Background

The Norfolk CMR is centred around Norfolk Island, spanning more than 700 km in a north–south alignment over the Norfolk Ridge. The reserve, established in 2012, covers approximately 188 443 km² and contains three zone types: Marine National Park (22%), Habitat Protection (11%) and Multiple Use (67%) (Figure 4.4.6.1).

Conservation values represented within the reserve include examples of the ecosystems of the Norfolk Island Province; the Norfolk Ridge; benthic habitats thought to act as stepping stones for faunal dispersal; the Tasman Front; and Biologically Important Areas for humpback whales and a number of seabird species.

The Commonwealth SESSF and the ETBF operate within or near the marine reserve. There is also an inshore shelf/upper slope fishery and an exploratory offshore deepwater fishery around Norfolk Island. Tourism shipping, charter fishing and recreational fishing occur in the area.

Issues raised

In addition to the Temperate East CMR Network issues raised above in Section 4.4, the Norfolk CMR was canvassed in several submissions, as well as in meetings with stakeholders. Issues raised included:

- Access and protection for local fishers
- Inadequate protection—specifically, inshore areas around Norfolk Island and Norfolk Island seamounts
- Unprotected habitats—particularly the lack of MNPZs over seamount features.

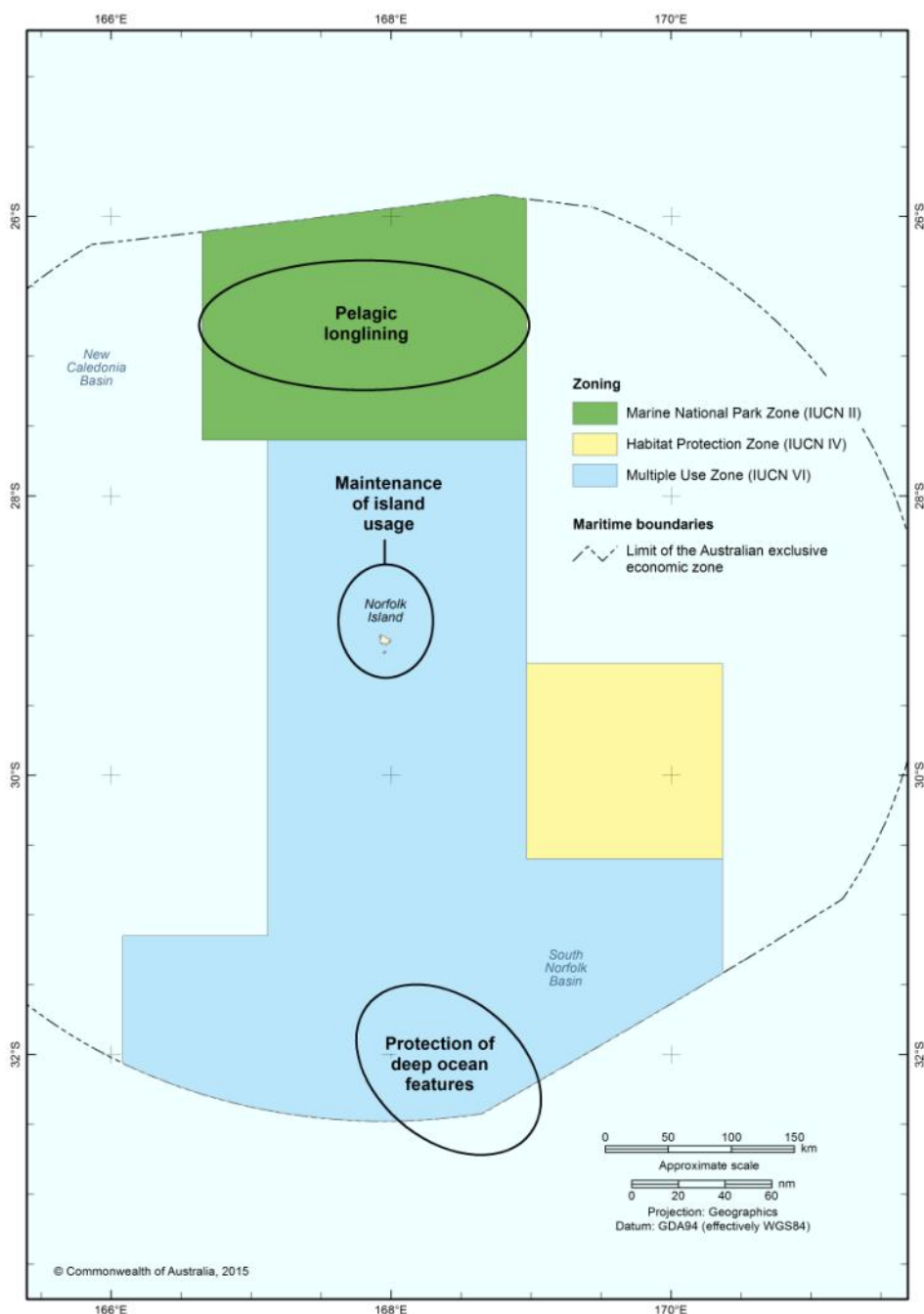


Figure 4.4.6.1 Norfolk CMR as proclaimed, showing key issues and drivers for change identified during the CMR Review

Areas of contention

The Regional Panel noted that the Norfolk CMR was one of few CMRs that extended to the high-water mark where there was permanent habitation. The Regional Panel noted that this required more specific site management arrangements and was something that could be considered under the CMR Review's broader recommendations.

The Regional Panel noted submissions and representations from the Norfolk Island residents, which requested continued access and control over fishing in the area. The Regional Panel noted that delegation of fishing authorities' regulations was beyond this review's terms of reference.

The Regional Panel noted submissions and representations from the conservation sector calling for increased protection to seamounts in areas such as Norfolk CMR.

The Regional Panel noted the importance of retaining access to the Wanganella Banks area for commercial and recreational fishers. It also noted that there was some exploratory fishing in the current HPZ and in the area immediately north of it. They also noted some interest in pelagic longlining in the MNPZ.

The Regional Panel did not identify any areas of contention in the Norfolk CMR, but noted the opportunity to increase the level of protection over the Vening-Meinesz Fracture Zone feature and increase the representation of depth ranges under high protection in the CMR.

Recommendations

The recommendations for the Norfolk CMR are to:

- Change the MUZ to HPZ except for an area of 10 km x 10 km centred around Norfolk Island
- Establish a new MNPZ over the Vening-Meinesez Fracture Zone in the south of the Norfolk CMR.

These changes are shown in Figure 4.4.6.2 and summarised in Table 4.4.6.1.

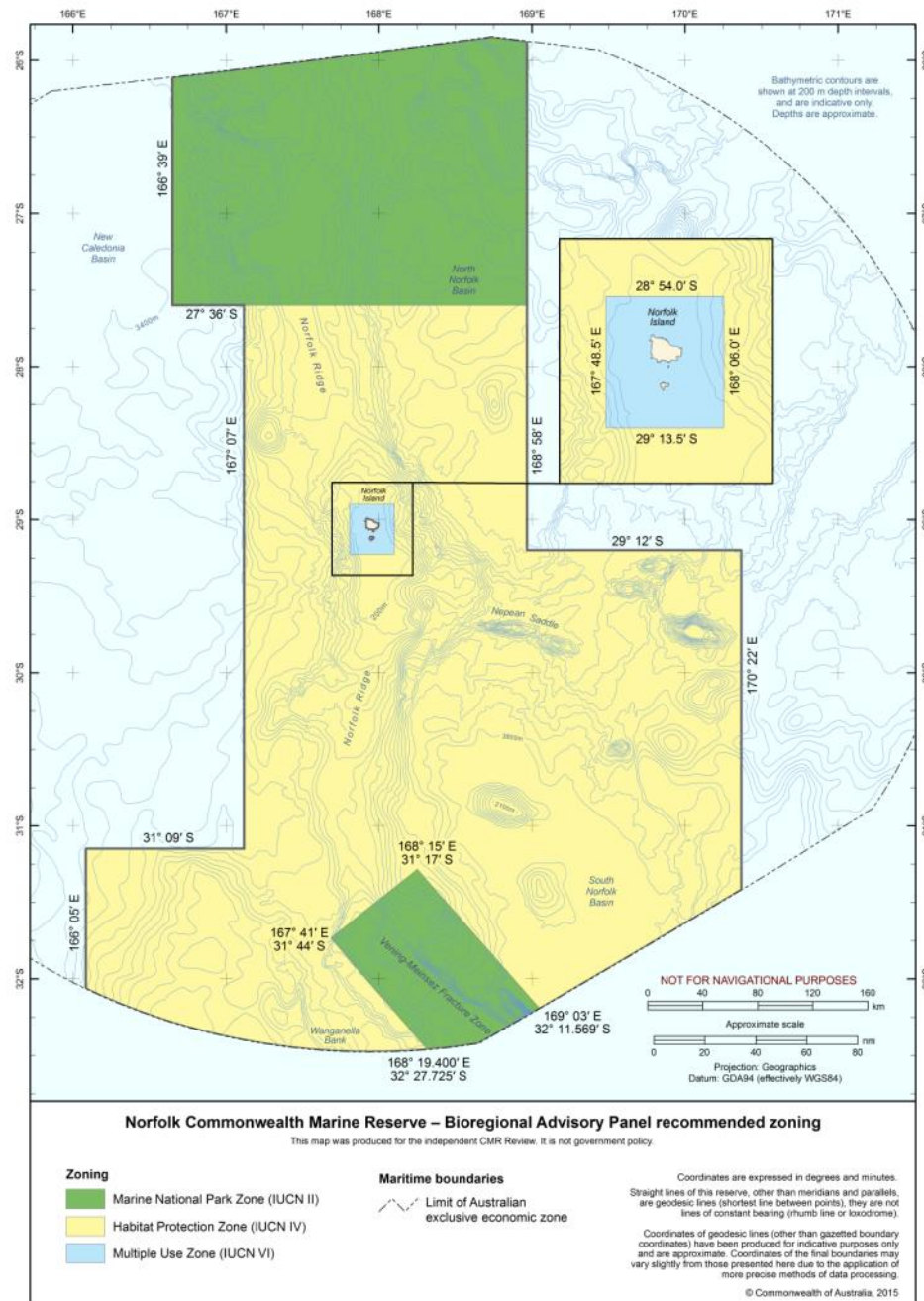


Figure 4.4.6.2 Recommended zoning for Norfolk CMR

Table 4.4.6.1 indicates how the areas under different zone types (within the outer boundaries of the reserve) will change with the recommended zoning. The area under MNPZ is increased, as is the area under HPZ. Together these zones, which afford a high level of protection, make up 99% of the reserve. There was a corresponding reduction in the MUZ.

Table 4.4.6.1 Comparison of areas of zone types between proclaimed and recommended zoning for Norfolk CMR

Zone	Proclaimed		Recommended		Difference	
	Area (km ²)	% of CMR	Area (km ²)	% of CMR	Area (km ²)	% of CMR
MNPZ (IUCN II)	41 661	22.11%	50 273	26.68%	+8 612	+4.57%
Habitat Protection Zone (IUCN IV)	20 984	11.14%	137 186	72.80%	+116 202	+61.66%
Multiple Use Zone (IUCN VI)	125 799	66.76%	985	0.52%	-124 814	-66.23%
Total	188 444	100%	188 444	100%		

Note: All figures are rounded to the nearest km² (and therefore in some instances can appear to not add up to the totals supplied). No changes have been made to the outer boundaries and total area of the reserves. Percentages are calculated based on the rounded figures.

Outcomes

The recommended introduction of an additional MNPZ and expansion of HPZ in the Norfolk CMR will provide increased protection to a further four conservation features in MNPZ and 11 conservation features in HPZ in the Temperate East CMR Network. The four conservation features newly captured in MNPZ include three Depth Ranges (by Provincial Bioregion) and one Seafloor Type. Two of these Depth Ranges (by Provincial Bioregion) will be newly included in both MNPZ and HPZ. The conservation features newly captured in HPZ zoning include an additional six Depth Ranges (by Provincial Bioregion), one KEF and two Seafloor Types. Changes to the representation of specific conservation features are listed in Appendix H.

The recommended zoning for Norfolk CMR is not expected to impact on any commercial, recreational or charter fisheries because of the remoteness of the area.

The recommended introduction of an additional MNPZ may increase the difficulty of compliance with the zoning of the Norfolk CMR for any commercial fishers operating in the area, particularly those with concerns about gear drift. Changing the boundaries of the MUZ and expanding the HPZ is not expected to result in any changes in difficulty of compliance. An MUZ around Norfolk Island will be maintained to allow a variety of existing marine uses to continue, and for more detailed management arrangements to be developed in the future in consultation with the island community.

The Norfolk CMR does not overlap with any native title determinations, applications or IPAs.

The recommended introduction of an additional MNPZ and expansion of HPZ in the Norfolk CMR will restrict mining activities above the level of restriction set out in the proclaimed zoning. The area covered by these recommended zoning changes is rated as having medium-low to low petroleum prospectivity.