



Australian Government
Department of Sustainability, Environment,
Water, Population and Communities

SUBMISSION FORM for the Coral Sea Commonwealth marine reserve proposal

Submission ID

(Office use only)

Thank you for your interest in the Coral Sea Commonwealth marine reserve proposal. Good information on our ocean habitats, wildlife and resources, and the people who use and enjoy them is critical to the identification of Commonwealth marine reserves. This public consultation period is an important opportunity for you to give feedback on the Coral Sea Commonwealth marine reserve proposal.

To ensure your submission is as relevant and effective as possible, please ensure that you:

- complete **Part 1** identifying yourself and/or your organisation
- provide clear and concise feedback
- in **Part 2** refer to the Coral Sea Commonwealth marine reserve and/or specific zones of the marine reserve you have feedback on

Submissions must be received by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) no later than close of business on 24 February 2012.

How to make a submission

Please refer to the Coral Sea Commonwealth marine reserve proposal when making your submission:

www.environment.gov.au/coasts/mbp/coralsea

Please ensure that you provide your contact details on your submission so that the Department can notify you that your submission has been received.

To submit your feedback :

- **email** this form complete with your contact details, feedback and any additional information to:
Submissions.CoralSea@environment.gov.au

or

- **post** this form **free of charge** to:

Department of Sustainability, Environment, Water, Population and Communities
MBP submissions – Coral Sea
Reply Paid 787
Canberra ACT 2601

Submissions must be post-marked or received by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) no later than close of business on 24 February 2012.



Part 1- Personal Information

Required fields are marked with an asterisk (*)

Any personal information you provide to the Department is protected by the provisions of the *Privacy Act 1988* and will only be used to assist the Australian Government to complete the marine bioregional planning process. Please include relevant contact details where possible so that the Department can notify you that your submission has been received.

Please fill out in black ink only

1. First Name:* Surname:*
2. Postal Address:* Level 5/263 Clarence Street
Suburb:* Sydney State/Territory:* NSW Post Code:* 2000
3. Telephone: 02 9262 6989
4. Email: emma.carmody@edo.org.au
5. Are you making this submission on behalf of an Organisation? Yes No
- Name of Organisation: Australian Network of Environmental Defenders Offices

Primary Interest

6. What is your primary interest in the marine environment? (please pick one)

- | | | |
|---|---|---|
| <input type="checkbox"/> Commercial fishing | <input type="checkbox"/> Research | <input type="checkbox"/> Mining |
| <input type="checkbox"/> Recreational fishing | <input checked="" type="checkbox"/> Conservation | <input type="checkbox"/> Ports |
| <input type="checkbox"/> Game fishing | <input type="checkbox"/> Yachting or private boating | <input type="checkbox"/> Oil and Gas |
| <input type="checkbox"/> Charter fishing | <input type="checkbox"/> Indigenous use and stewardship | <input type="checkbox"/> Shipping |
| <input type="checkbox"/> Aquaculture | <input type="checkbox"/> Tourism | <input type="checkbox"/> Leisure and recreation |
| <input type="checkbox"/> Fishing related business | <input type="checkbox"/> Community/local resident | |
| <input type="checkbox"/> Other please specify: | | |

Secondary Interest

7. please specify: _____

All comments will be treated as public documents and may be made public on the DSEWPaC website.

I consent to my name/organisation and comments (including any personal information in my comments) being made publicly available*

Yes No

Note: If you wish your comments to remain confidential, you must clearly mark all or part of your comments as 'confidential', providing reasons why the Department should consider your request for confidentiality. Please note that public submissions are not normally confidential and a request for confidentiality does not make your comments automatically exempt from release. Submissions (including submissions marked confidential) may be shared with other government agencies to assist the Australian Government to complete the marine bioregional planning process. All submissions may be subject to release under the *Freedom of Information Act 1982*.



Part 2: Coral Sea Commonwealth marine reserve proposal

To complete **Parts 2a and 2b** you will need to refer to the Coral Sea Commonwealth marine reserve proposal available at: www.environment.gov.au/coasts/mbp/coralsea

Part 2a.

Please provide specific feedback on the proposed zones for the Coral Sea Commonwealth marine reserve. In providing your feedback you may wish to consider:

- any aspects of the proposed zone boundaries and/or what activities are allowed in each of the zones.

Proposed Marine National Park Zone	Feedback

Proposed Habitat Protection Zone	Feedback

Proposed Special Purpose Zone	Feedback

Proposed Multiple Use Zone	Feedback

Part 2b.

Please provide general feedback on the Coral Sea Commonwealth marine reserve proposal. In providing your feedback you may wish to consider:

- the impacts of the proposed marine reserve on you/your sector/organisation/community
- the benefits of the proposed marine reserve for you/your sector/organisation/community
- any aspects of the proposed marine reserve boundaries and/or zones that you would like to see amended

Introduction

The Australian Network of Environmental Defenders Offices (ANEDO) welcomes the opportunity to comment on the Proposal for the Coral Sea Commonwealth Marine Reserve (Marine Reserve).

ANEDO consists of nine independently constituted and managed community environmental law centres located in each State and Territory of Australia. Each EDO is dedicated to protecting the environment in the public interest.

ANEDO's submission is divided into six sections. The first section outlines the law and policy considerations that should guide the design of the Marine Reserve. Sections two, three and four focus on the impacts of climate change on species and ecosystems within the Coral Sea. Section five discusses approved activities within the Marine Reserve, while section six summarises our recommendations.

Broadly speaking, we argue that a greater proportion of the Marine Reserve should be included in the Marine National Park Zone. We submit that this is particularly important if species and ecosystems within the Coral Sea are to build the resilience necessary to adapt to the impacts of climate change including rising sea temperatures and acidification.

Our suggestions are based on peer-reviewed journal articles, research conducted by the CSIRO, national legislation and policy, IUCN Guidelines, and the international environmental treaties to which Australia is signatory.

1. Law and policy considerations

Australia's International obligations, national legislation and national policies should govern the design of the Marine Reserve. The Government should therefore seek to implement the following legal obligations and policy commitments:

International Law

- The *Convention on Biological Diversity (Biodiversity Convention)*, in particular Article 8 (In-situ Conservation). Australia is a committed signatory of this and other international environmental treaties. The Commonwealth Government should therefore make every effort to ensure that ALL policy and legislation is in keeping with these treaties. Failure to do so may amount to a breach of our international legal obligations;
- the *Programme of work on marine and coastal biodiversity* outlined in the Conference of the Parties (COP) 4, decision IV/5 to the *Biodiversity Convention*. By way of background, the



Programme of work is in part designed to combat the impacts of climate change on the marine environment.

- the *IUCN Guidelines for Applying Protected Area Management Categories (2008) (IUCN Guidelines)*;
- the *Draft Guidelines for applying the ICUN Protected Area Management Categories to Marine Protected Areas (supplementary to the 2008 Guidelines): Second Draft: June 2011 (Draft IUCN MPA Guidelines)*;

Federal Legislation

- the objects of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*;
- the *EPBC Regulations* (in particular Schedule 8: *Australian IUCN reserve management principles*);

Federal policy

- the 'actions' specified in the *Australian Biodiversity Conservation Strategy 2010-30 (Biodiversity Strategy)*. As the purpose of the *Biodiversity Strategy* is to provide the 'guiding framework for conserving our nation's biodiversity over the coming decades'¹, we submit that the Marine Reserve should seek to integrate and advance its 'Priorities for action'; and
- the guidelines for Establishing the National Representative System of Marine Protected Areas 1998 (*NRSMPA Guidelines*).

2. Coral reefs and climate change

The proposed marine reserve will cover 100% of the Coral Sea Region, 51% of which is classified as 'no-take zones'. Unfortunately, the proposal does not offer this level of protection to 90% of the Coral Sea's coral reefs, shoals and cays, all of which are probably important dispersal stepping stones between the Pacific and Great Barrier Reef.

While coral reefs make up less than 1% of the Coral Sea's physical habitats, global biodiversity patterns suggest that they likely host the greatest proportion of the Coral Sea's marine species. Furthermore, these shallow reefs, shoals and cays are probably the most vulnerable to the predicted impacts of climate change. As such, they require protection from anthropogenic stressors in order to maintain resilience, which will in turn improve their capacity to adapt to changing conditions.

Coral bleaching events are generally correlated with high sea surface temperatures.² In 1998, coral reefs across the globe were affected by high sea surface temperatures. The Great Barrier Reef was heavily impacted by this phenomenon, with 87% of inshore reefs and 28% of offshore reefs showing some level of bleaching.³ Indeed, rising sea temperatures is considered the greatest threat to the Great Barrier Reef over the next few decades.⁴

¹ See Natural Resource Management Ministerial Council 2010, *Australia's Biodiversity Conservation Strategy 2010-30, Australian Government, Department of Sustainability, Environment, Water, Population and Communities*, page 7.

² Goreau, T. and R. Hayes (1994). "Coral bleaching and ocean 'hot spots'." *Ambio* **23**(3): 176-180.

³ Berkelmans, R. and J. Oliver (1999). "Large-scale bleaching of corals on the Great Barrier Reef." *Coral Reefs* **18**: 55-60.

⁴ Marshall, P. A. and J. E. Johnson (2007). *The Great Barrier Reef and climate change: vulnerability and management implications. Climate change and the Great Barrier Reef*. J. E. Johnson and P. A. Marshall. Australia, Great Barrier Reef Marine Park Authority and Australian Greenhouse Office.



Coral is also vulnerable to acidification. As ocean acidity increases, the rate of calcification decreases, affecting organisms which build skeletons or shells from calcium (that is, hard corals and coralline algae). It is predicted that by 2100, calcification could decrease by as much as 35% compared with 1880 levels, and that reduced calcification may prevent coral reef systems from expanding to higher latitudes in response to temperature increases⁵. As the carbon chemistry of the oceans changes, the depth at which calcium carbonate dissolves will decrease, which has implications for calciferous organisms found in deeper waters⁶.

It is therefore vital that all reefs, shoals and cays be included in the proposed Marine National Park Zone in order to minimise their exposure to anthropogenic stressors.

3. Critical habitat and climate change

The proposed Marine National Park Zone excludes the majority of the Coral Sea's terrestrial habitats. Consequently, most of the Coral Sea's key habitat for seabirds (including breeding habitat for at least 13 species including the red-footed Booby, least frigate bird and greater frigate bird) and turtles (including the critically endangered Hawksbill and endangered Green turtle) is excluded from the no-take zones. These species may therefore be exposed to stressors including fishing. As noted above, this will reduce their capacity to adapt to changing climatic conditions.

The area also hosts a high density of sharks and Nautilus. Under the current Marine Reserve design, a large percentage of their habitat has been excluded from the no-take zone. The Coral Sea is one of the few places in the world where several shark species are yet to be depleted. In order to maintain their numbers, it is vital to protect their habitat. Again, protection measures of this order will minimise exposure to anthropogenic stressors and increase their capacity to adapt to climate change.

4. Geological features and climate change

The Coral Sea contains unique geological features, including 14 mapped seamounts, some of which are not included in the no-take zones. Williams et al⁷ have recently undertaken the first broad scale biodiversity survey of invertebrate megafauna in deep sea environments of the southern Coral and Tasman seas. Seamount fauna in the southern Coral Sea was found to be highly unique with very restricted distribution and varying species assemblages. Many species (85% of the 1253) were rare. While we generally know very little about deep sea environments, research to date suggests that the deep waters of the Coral Sea have a high conservation value.

Furthermore, research on other seamounts indicates that they constitute important refugia for a range of species. Specifically, seamounts are known to act as spatial refugia, that is, species can move from one mount to another as local environmental conditions change.

Under climate change scenarios, they may also act as temporal refugia as deep sea species migrate to the upper areas of seamounts as deeper waters become increasingly acidic.⁸ Given that the distribution of seamount species varies based on latitude, depth and seabed topography, it is vital that all seamounts be

⁵ Kleypas, J. A., R. W. Buddemeier, et al. (1999). "Geochemical consequences of increased atmospheric carbon dioxide on coral reefs." *Science* **284**(5411): 118-120.

⁶ Raven, J., K. Caldeira, et al. (2005). Ocean acidification due to increasing atmospheric carbon dioxide. *Policy Document*. London, The Royal Society.

⁷ Williams A. Althaus F. Clark M. Gowlett-Holmes K. (2011) Composition and distribution of deep-sea benthic invertebrate megafauna on the Lord Howe Rise and Norfolk Ridge, southwest Pacific Ocean *Deep-Sea Research II* **58** 948–958

⁸ Tittensor, D. Baco, A. Hall-Spencer, J. Orr, J. & Rogers, A. (2011) Seamounts as refugia from ocean acidification for cold-water stony corals *Marine Ecology* **31** (Supplement 1): 212-225



included in the Marine National Park Zone if local populations are to be offered an adequate degree of protection from the impacts of climate change.

5. Approved activities within the reserve

Commercial Fishing

Under the current Marine Reserve design, commercial fishing will be permissible in nearly half the Coral Sea. This includes areas which provide habitat for critically endangered or vulnerable species such as whales, dolphins, sharks and turtles.⁹

While we appreciate that the fishing industry is an important part of the Queensland economy, all commercial fishing activities within the Marine Reserve must be conducted in a sustainable manner.

As the Consultation paper indicates, many areas within the Coral Sea remain unexplored. Further to this point, fisheries reports on the Coral Sea suggest that stock assessments for many species open to commercial fishing are limited.¹⁰

In the absence of adequate data, it is questionable as to whether sustainable fishing can take place in this region.

We therefore submit that commercial fishing practices be suspended until sufficient scientific data exists to ensure that they can be conducted in a sustainable manner.

Shipping and Commercial Vessel Transit

Oil spills, ballast water, toxic antifoulants, introduced marine pests, pollution from shipping operations and marine debris are commonly associated with shipping and commercial vessel transit.¹¹ [Despite the risks posed by these impacts](#), shipping passage is permissible in all zones within the Marine Reserve. Of particular concern is the absence of standards with respect to ships wishing to traverse the Marine National Park Zone and other areas of ecological importance.

The State Party Report on the Great Barrier Reef details the factors that increase the probability of shipping incidents. Many of these factors are applicable to the Coral Sea.¹² We submit that an assessment similar to that contained in the State Party Report should be undertaken of the Marine National Park Zone. The results of this assessment should guide management of vessels in this part of the Marine Reserve.

Hand Collection

Hand collection of marine species is not restricted outside the proposed Marine National Park Zone. According to the Australian Fisheries Management Authority (“**AFMA**”) Report for 2010,¹³ a stock

⁹ See Ceccarelli, D. M. (2011) Australia’s Coral Sea: A Biophysical Profile, Appendix 2 – Species listed on the EPBC (1999) Act and international agreements (CITES, JAMBA, CAMBA and ROKAMBA).

¹⁰ Woodhams, J, Stobutzki, I, Vieira, S, Curtotti, R & Begg GA (eds) 2011, Fishery status reports 2010: status of fish stocks and fisheries managed by the Australian Government, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra at page at page 60.

¹¹ Steve Raaymakers, ‘Ship Sourced Oil Pollution in the Great Barrier Reef: Causes, Frequency, Response and Prevention’ in Peter Ottesen (ed), *Hulls, Hazards and Hard Questions: Shipping in the Great Barrier Reef: Reducing the Risk of Spilling Oil and Other Hazardous Substances* (Great Barrier Reef Marine Park Authority, 1994) 11.

¹² State Party Report on the State of Conservation of the Great Barrier Reef World Heritage Area (Australia) 1 February 2012 in response to the World Heritage Committee decision WHC 35 COM 7B.10. at Appendix 2 page 81.

¹³ Woodhams, J, Stobutzki, I, Vieira, S, Curtotti, R & Begg GA (eds) 2011, Fishery status reports 2010: status of



assessment has not been carried out for either the Sea Cucumber or the marine aquarium fish sector. There is therefore no means of assessing mortality or biomass of the relevant species. As a consequence, the status of the fishery is classified as uncertain.

In relation to the fish trade, while it is known that the aquarium sector harvests more than 500 species and was worth approximately \$2.7 million in 2010,¹⁴ there is insufficient data to form a precise picture of what proportion of this harvest comes from the Coral Sea fishery.¹⁵

In view of this limited data, we submit that hand collection should be managed in accordance with the precautionary principle and sustainable fishing practices. In order to prevent target marine aquarium species being overfished, conservative fishing limits should be placed on the fishery. In particular, protection of significant areas within the near shore section of the proposed marine park adjacent to the GBRWHA must be increased.

Recreational Fishing

The proposal allows recreational fishing to continue in five of the six sub-regions. The impacts of recreational fishing often go unnoticed due to the lack of formal reporting mechanisms. Studies indicate that the recreational catch for some species is considerably greater than the commercial equivalent.¹⁶ Existing measures are inadequate to regulate the current levels of fishing activity.¹⁷ As such, they do not comply with international obligations to manage fisheries in accordance with the principals of ecological sustainability. We therefore submit that areas of high ecological significance be protected from all forms of fishing.

6. Final Recommendations

- a) The design of the Marine Reserve must be governed by Australia's international obligations, national legislation and national policies, as specified in section 1 of this submission. All subsequent recommendations reflect the substantive requirements of these instruments and strategies.
- b) All reefs, shoals and cays must be included in the proposed Marine National Park Zone.
- c) Terrestrial habit and habitat crucial to the continued survival of shark species and Nautilus must be included within the Marine National Park Zone.
- d) All seamounts must be included in the Marine National Park Zone.

fish stocks and fisheries managed by the Australian Government, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra at page 60.

¹⁴ Ibid.

¹⁵ the Australian Bureau of Statistics records the number and value of Australian ornamental fish exports, but does not distinguish between species groups or between marine and non-marine species, nor is it adequately able to define what percentage of Queensland supply comes from the Coral Sea Fishery: Woodhams, J, Stobutzki, I, Vieira, S, Curtotti, R & Begg GA (eds) 2011, Fishery status reports 2010: status of fish stocks and fisheries managed by the Australian Government, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra at page 62

¹⁶ D.P. McPhee, D Leadbitter and GA Skilleter, 'Swallowing the Bait: Is Recreational Fishing in Australia Ecologically Sustainable?' (2002) 8 Pacific Conservation Biology 40, 42.

¹⁷ D.P. McPhee, D Leadbitter and GA Skilleter, 'Swallowing the Bait: Is Recreational Fishing in Australia Ecologically Sustainable?' (2002) 8 Pacific Conservation Biology 40, 42.

http://espace.uq.edu.au/eserv/UQ:61819/Darrly_McPhee_Swallowing.pdf.



- e) Commercial fishing practices should be suspended until sufficient scientific data exists to ensure that they can be conducted in a sustainable manner.
- f) An assessment regarding the impacts of shipping vessels on the Marine National Park Zone should be undertaken. The results should guide management of vessels in this part of the Marine Reserve.
- g) Hand collection should be managed in accordance with the precautionary principle.
- h) Areas of high ecological significance must be protected from all forms of fishing.

