



Australian Government

Department of Sustainability, Environment,
Water, Population and Communities

SUBMISSION FORM for the Commonwealth marine reserves network proposal and draft Marine Bioregional Plan for the Temperate East Marine Region

Submission ID

(Office use only)

Thank you for your interest in the Commonwealth marine reserves network proposal and draft Marine Bioregional Plan for the Temperate East Marine Region. Good information on our ocean habitats, wildlife and resources, and the people who use and enjoy them is critical to the marine bioregional planning process and the identification of Commonwealth marine reserves. This public consultation period is an important opportunity for you to give feedback on the Temperate East marine reserves network proposal and the draft Temperate East Marine Bioregional Plan.

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 specific marine reserves and/or parts of the marine reserves network you have feedback on
- in **Part 3** refer to specific parts and sections of the draft Marine Bioregional Plan that 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 21 February 2012.

How to make a submission

Please refer to the Commonwealth marine reserves network proposal and draft Marine Bioregional Plan for the Temperate East Marine Region when making your submission:

www.environment.gov.au/coasts/mbp/temperate-east

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.TemperateEast@environment.gov.au

or

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

Department of Sustainability, Environment, Water, Population and Communities
MBP submissions – Temperate East
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 21 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:* Emma Surname:* Carmody
2. Postal Address:* C/- Environmental Defender's Office NSW, 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 Defender's Offices (ANEDO)**

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 (organisation only) 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: Commonwealth marine reserve network proposal for the Temperate East Marine Region

To complete **Parts 2a and 2b** you will need to refer to the Commonwealth marine reserves network proposal for the Temperate East Marine Region available at:

www.environment.gov.au/coasts/mbp/temperate-east

Part 2a.

Please provide feedback on the Commonwealth marine reserves network proposal for the Temperate East Marine Region noting, where relevant, the name of the specific reserve to which your feedback relates. In providing your feedback you may wish to consider:

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

Proposed Jervis Commonwealth marine reserve
Feedback

Proposed Hunter Commonwealth marine reserve
Feedback

Proposed amendment to Cod Grounds Commonwealth marine reserve <ul style="list-style-type: none">• existing reserve with proposed boundary adjustment and zone name change
Feedback

Proposed amendment to Solitary Islands marine reserve (Commonwealth waters) <ul style="list-style-type: none">• existing reserve with proposed boundary adjustment to Pimpernel Rock and zone name change
Feedback

Proposed Clarence Commonwealth marine reserve
Feedback

Proposed Tasmantid Commonwealth marine reserve
Feedback

Proposed Gifford Commonwealth marine reserve
Feedback



Proposed amendments to Lord Howe Commonwealth marine reserve includes:

- **proposed new areas**
- **existing Lord Howe Island Marine Park (Commonwealth Waters) with proposed boundary adjustment and zone name change**
- **existing Elizabeth and Middleton Reefs Marine National Nature Reserve with proposed boundary adjustment**

Feedback

Proposed Norfolk Commonwealth marine reserve

Feedback



Part 2b.

Please provide general feedback on the Commonwealth marine reserves network proposal for the Temperate East Marine Region.

1. Introduction

The Australian Network of Environmental Defender's Offices (ANEDO) welcomes the opportunity to comment on the proposed Marine Reserve Network in the Temperate East Marine Region (the Network).

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 reflects our recent work on the impacts of climate change on the marine environment. While we have commented on matters that are not directly connected to this issue, our principle aim is to ensure that the Network will facilitate the conditions necessary for species and ecosystems to adapt to warming temperatures, acidification, altered currents, increased storm activity, changes in salinity, and changes in rainfall and runoff.

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.

Broadly speaking, the proposed Network should seek to:

- implement the *Convention on Biological Diversity (Biodiversity Convention)*, in particular Article 8 (In-situ Conservation). Australia is a proud 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;
- implement the *IUCN Guidelines for Applying Protected Area Management Categories (2008) (IUCN Guidelines)*;
- have regard to 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)*;
- advance the objects of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, and more generally maintain consistency with this Act and its Regulations (in particular Schedule 8 of the EPBC Regulations: *Australian IUCN reserve management principles*); and
- implement 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 Plan should seek to integrate and advance its 'Priorities for action'.

2. IUCN Categories

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.



The proposed Network covers 371,114 km², or 25.3 percent of the Temperate East Marine Region. This 25.3 percent is further divided up into nine marine parks, each of which is accorded a specific IUCN 'category' or 'zone'. The following statistics demonstrate the overall proportion of each IUCN category across the Network:

- Multiple Use Zone 247,704 km² (66.7 per cent of the network and 17 per cent of the Region)
- Marine National Park Zone 63,241 km² (17 per cent of network and four per cent of Region)
- Habitat Protection Zone 54,201 km² (14 per cent of the network)
- Special Purpose Zone 4683 km² (1.3 per cent of the network)
- Recreational Use Zone 1170 km² (0.3 per cent of the network)
- General Use Zone 114 km² (0.03 per cent of the network)

As these figures indicate, two thirds of the Network has been allocated the lowest IUCN category, namely 'Category VI'² (or 'Multiple Use'). As noted in the Consultation Paper, mining exploration and development is permissible within this zone, as is commercial fishing (with the exception of certain forms of fishing).

Extensive use of Category VI would seem to reflect the Commonwealth Government's goal of 'seeking to minimise the potential impacts on industry, communities and recreational uses.'³ That is, the Network's overall design has been driven by socio-economic imperatives, with conservation goals being a secondary consideration.

This is problematic for a number of reasons. Firstly, it is incompatible with the objectives of the Marine bioregional Plan for the Temperate East Marine Region (the Plan), in particular:

- Conserving biodiversity and maintaining ecosystem health
- Ensuring the recovery and protection of threatened species.⁴

In other words, Category VI is incapable of ensuring that these conservation goals will be realised within the Network. By way of concrete example, the Region's Key Ecological Features will be exposed to controlled actions approved by the Minister under the EPBC Act. As noted above, this may include impactful actions such as mining exploration and development.

Secondly, use of Category VI across two thirds of the Network may constitute a breach of the *Biodiversity Convention*. Article 8 (In situ Conservation) states that parties to the Convention shall:

(a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity.

The second part of this Article makes it clear that the purpose of a system of marine parks (for example) is to 'conserve biological diversity'. To that extent, establishing a network of protected areas 'in name only' is inadequate for the purposes of Article 8 (a). Conserving biological diversity (and thereby meeting our international obligations) would arguably require the Network to be dominated by the three highest IUCN Categories, namely Categories 1a, 1b and 2.

Thirdly, the *Biodiversity Convention* does not promote environmental protection at the expense of good socio-economic outcomes. Rather, it prioritises biodiversity conservation while making provision for the 'sustainable use of biological diversity'.⁵ As previously noted in our submission, the Network has been

² Dudley, N. (Ed.), *Guidelines for Applying Protected Area Management Categories*, IUCN, Gland, Switzerland, page 22.

³ Proposal for the Temperate East Commonwealth Marine Reserves Network – Consultation Paper, page 5.

⁴ Marine bioregional plan for the Temperate East Marine Region, Draft for Consultation, page 2.

⁵ This term is used several times throughout the *Convention on Biological Diversity*. See for example the Preamble.



designed in accordance with diametrically opposed methodology (that is, prioritising socio-economic outcomes at the expense of biodiversity conservation). This should be reversed so as to reflect the intent of the *Biodiversity Convention*.

Fourthly, Schedule 8 to the *EPBC Regulation* (Australian IUCN reserve management principles) specifies seven 'General administrative principles' for the management of protected areas. Taken together, these principles clearly prioritise biodiversity conservation. As with the *Biodiversity Convention*, socio-economic imperatives are considered within the context of sustainability (or in this instance, ecologically sustainable use).⁶ Thus it may be argued that socio-economic goals are to be optimised after ensuring that the environment has received an adequate degree of protection.

3. IUCN Categories and facilitating adaptation under climate change

In their report to the former Department of Environment and Water Resources entitled *Ecosystems of the East Marine Planning Region*, the CSIRO outlined some of the possible impacts of climate change on the Temperate East Marine Region. These include 'strengthening southward flow of EAC resulting in less mixing of surface waters reducing nutrient input from deep waters, and increased ocean acidity.'⁷ Unequivocal language is employed in respect of the following alterations to biodiversity:

*'The southward shift in distribution caused by ocean warming will displace many local species and will result in an earlier annual appearance of many groups; especially species that live at the limits of their physical tolerances. This will alter trophic and competitive relationships among species and disrupt foodwebs. There are also implications for larval health and transport and therefore recruitment to adult benthic and pelagic populations.'*⁸

The report also lists certain changes that have *already* been attributed to global warming, such as 'increased frequency of algal blooms and introduction of new species...'⁹

In short, the CSIRO report indicates that the Temperate East Marine Region is vulnerable to the impacts of climate change.

With this in mind, the design of the Network should aim to assist species and ecosystems adapt to changing climatic conditions. A plethora of peer-reviewed literature demonstrates that building resilience is fundamental to this process. This can be achieved by reducing stressors such as overfishing, water quality, mining and disease.¹⁰

One of the most effective means of reducing these stressors and subsequently increasing the resilience of species and ecosystems is creating a network of marine protected areas. The caveat, however, is that an adequate proportion of the network must be afforded a sufficiently high level of protection (namely IUCN

⁶ EPBC Regulations, Schedule 8, Part 1, 5 'Ecologically sustainable use.'

⁷ Brewer, D.T et al, *Ecosystems of the East Marine Planning Region*, CSIRO Marine Research, October 2007, page 123. A report prepared for the former Department of Environment and Water Resource, page 123.

⁸ Ibid.

⁹ Ibid.

¹⁰ Keller, B. and B. Causey, 'Linkages between the Florida Keys National Marine Sanctuary and the South Florida Ecosystem Restoration Initiative,' *Ocean & Coastal Management*, 48: 869-900, 2005; Hobday, A. J., T. A. Okey, et al., *Impacts of climate change on Australian marine life: Part A, Executive Summary: Report to the Australian Greenhouse Office, Canberra, Australia, 2007*; Johnson, J. E. and P. A. Marshall, Eds., *Climate change and the Great Barrier Reef, Great Barrier Reef Marine Park Authority and Australian Greenhouse Office, 2007*; Brander, K., 'Tackling the old familiar problems of pollution, habitat alteration and overfishing will help with adapting to climate change,' *Marine Pollution Bulletin* 56: 1957-1958, 2007.



Categories 1a, 1b and 2) if this is to be achieved. This argument is supported by the *IUCN Guidelines*, which state that

*‘protected areas will be able to play a role in mitigating climate change, by providing buffers against extreme climate events (Stolton et al. 2008) and a network of natural habitats to provide pathways for rapid migration and space for evolution and adaptation (Dudley Stolton 2003)’.*¹¹

The *IUCN Guidelines* go on to analyse the relative merits of each category under climate change. They conclude that Category 1b affords the greatest level of overall protection within the context of global warming.¹²

The next logical step is to determine exactly how much of the Network should be afforded this level of protection. Consideration should be based around the principles of comprehensiveness (including full range of ecosystems at an appropriate scale), adequacy (the level of protection required to ensure the ecological viability and integrity of populations, species and communities) and representativeness (reflecting the biotic diversity of the marine ecosystems from which they derive).

To that end, various formulas have been developed, however the general principle to be extracted from each of these is the same: a representative percentage of the entire Network must be protected from anthropogenic impacts. For example, the Ecology Centre at the University of Queensland released a scientifically robust guide to designing marine protected areas.¹³ The guide, which was supported by many of Australia’s leading marine scientists, recommends including at least thirty percent of **each bioregion** in a given network of marine parks. They further recommended providing thirty percent of **each conservation feature** within a network with Marine National Zone Protection (IUCN Category 2).

Currently, the Network **only covers twenty five percent** of the entire Temperate East Marine Region, with this twenty five percent being spread unevenly across each bioregion. Furthermore, only four percent of the entire Region is recommended for Marine National Park Zone Protection (IUCN Category 2). This is clearly underwhelming, particularly in light of the University of Queensland’s recommendations. Accordingly, significant revision of the areas proposed to be Marine National Park Zones is necessary if the resilience of species and ecosystems to adapt to climate change is to be maintained.

Finally, we would like to note that use of the higher IUCN Categories has been associated with improved outcomes for fish stocks, thereby providing the opportunity for the Network to achieve multiple Commonwealth objectives. Specifically, they have been shown to:

- increase biomass and abundance of fish populations;
- increase size of and productivity of resident fish; and

¹¹ Dudley, N. (Ed.), *Guidelines for Applying Protected Area Management Categories*, IUCN, Gland, Switzerland, page 45.

¹² *Ibid*, page 47.

¹³ The Ecology Centre, The University of Queensland, *Scientific Principles for Design of Marine Protected Areas in Australia: A Guidance Statement*. Available at http://www.ecology.uq.edu.au/docs/Scientific_Principles_MPA_s_c6.pdf



- increase number and viability of species (and fish catches) in surrounding waters through a 'spillover effect'.¹⁴

4. Percentage of Temperate East Marine Region included in the Network

The Temperate East Marine Region covers 1,466,792 km². The proposed Network only covers 371,114 km², or 25.3 percent, of the Region. This compares unfavourably with the network proposed for the Coral Sea Marine Reserve (100 per cent of the Region), the South-west Marine Region (42 per cent of the Region) and the North-west Marine Region (33 per cent of the Region).

There is considerable evidence to suggest that the best environmental outcomes are achieved when proportionally large areas are afforded a high level of protection.¹⁵ The urgency to set aside sizable zones for conservation purposes is heightened given the probable impacts of climate change on biodiversity within the Region. Large areas are more likely to maintain connectivity between bioregions, which in turn helps to build resilience under climate change. This is particularly true in the Temperate East Region, where the East Australian Current is likely to increase in strength, thereby creating substantially different environmental conditions to those that currently exist.

¹⁴ Fisheries models predict maximum benefits with closures of 20–40% See *Gell, F.R. and C.M. Roberts (2003) Benefits beyond boundaries: the fishery effects of marine reserves and fishery closures. Trends in Ecology and Evolution 18: 448-455.*

¹⁵ See for example, The Ecology Centre, The University of Queensland, Scientific Principles for Design of Marine Protected Areas in Australia: A Guidance Statement. Available at http://www.ecology.uq.edu.au/docs/Scientific_Principles_MPA_s_c6.pdf



Part 3: Draft Marine Bioregional Plan for the Temperate East Marine Region

To complete **Parts 3a and 3b** you will need to refer to the draft Marine Bioregional Plan for the Temperate East Marine Region available at: www.environment.gov.au/coasts/mbp/temperate-east

Part 3a.

Please provide feedback on the draft Marine Bioregional Plan for the Temperate East Marine Region noting the parts and sections to which your feedback relates. In providing your feedback you may wish to consider:

- any aspects of the draft Plan that you would like to see amended
- any information that you believe is missing
- your feedback on the supporting information to the draft Plan (for example, are the proposed information tools such as the Temperate East Report Cards and Conservation Values Atlas easy to use and informative?)
- the effects of draft Plan on you/your sector/organisation/community

Part, section and page number of the draft Marine Bioregional Plan for the Temperate East Marine Region	Feedback



Part 3b.

Please provide general feedback on the draft Marine Bioregional Plan for the Temperate East Marine Region

1. Introduction

The Australian Network of Environmental Defender's Offices (ANEDO) welcomes the opportunity to comment on the draft Marine bioregional plan for the Temperate East Marine Region (the Plan).

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 reflects our recent work on the impacts of climate change on the marine environment. While we have commented on matters that are not directly connected to climate change, our principle aim is to ensure that the Plan will facilitate the conditions necessary for species and ecosystems to adapt to warming temperatures, acidification, altered currents, increased storm activity, changes in salinity, and changes in rainfall and runoff.

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

Broadly speaking, the Plan should seek to:

- implement the *Convention on Biological Diversity (Biodiversity Convention)*, in particular Article 8 (In-situ Conservation). Australia is a proud 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 will amount to a breach of our international legal obligations;
- advance the objects of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, and more generally maintain consistency with this Act; and
- implement 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 Plan should seek to integrate and advance its 'Priorities for action'.

2. Objectives (page 2)

Section 1.3 outlines the Plan's objectives, namely:

- Conserving biodiversity and maintaining ecosystem health
- Ensuring the recovery and protection of threatened species
- Improving understanding of the region's biodiversity and ecosystems and the pressures they face.

While we support these objectives, we submit that they should be broadened to take into account the following matters:

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.

- a. Recognising the role of indigenous Australians
- b. Ecologically sustainable development (ESD) – the precautionary principle
- c. Maintaining and re-establishing ecosystem health
- d. Reducing pressures on biodiversity
- e. Climate change

These matters are explored in turn below.

a. Recognising the role of indigenous Australians

Section 1.3 specifies that the Plan’s objectives have been developed with a view to achieving consistency with the objects of the *EPBC Act*. The *EPBC Act* has 8 objects; these are provided for in section 3 of the Act. Several of these objects, notably those pertaining to indigenous Australians, are not reflected in the Plan’s objectives. It is arguable that this omission gives rise to a degree of inconsistency between the *EPBC Act* and the Plan, which is problematic.

To that end, the Plan’s objectives should be amended to reflect sections 3(f) and 3(g) of the *EPBC Act*. These are outlined below:

(f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and

(g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

The inclusion of an objective reflecting sections 3(f) and 3(g) of the *EPBC Act* would also bring the Plan into line with Australia’s international obligations, in particular Article 8 (j) of the *Biodiversity Convention*.²

Finally, the *Biodiversity Strategy* also provides for indigenous engagement in order to realise the Strategy’s goals.³

b. Ecologically sustainable development (ESD) – the precautionary principle

Section 1.3 states that the Plan’s objectives have been developed within the context of ESD. By way of background, Section 3A of the *EPBC Act* provides for a definition of ESD. The definition comprises 5 elements, including the precautionary principle.⁴

In its 2007 report to the former Department of Environment and Water Resources entitled *Ecosystems of the East Marine Planning Region*, the CSIRO identified five broad areas that are ‘poorly understood and have high relevance to broad-scale conservation planning in the region — deep-water faunal assemblages;

² This Article requires contracting parties to:

(j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

³ See *Priority for action 1: Engaging all Australians, Subpriority 1.2, Increasing Indigenous Engagement* in Natural Resource Management Ministerial Council 2010, *Australia’s Biodiversity Conservation Strategy 2010-30, Australian Government, Department of Sustainability, Environment, Water, Population and Communities*, page 55.

⁴ *EPBC Act*, section 3A (b)



endemism; dispersal and connectivity; regionally iconic areas; and trophic webs and life-cycles of important species.⁵

The CSIRO also outlined the likely consequences of climate change on the Temperate East Marine Region.⁶ Their findings reflect the growing body of literature documenting the effects of rising temperatures, acidification, increased storm activity and alterations to currents on the marine environment in general.⁷

Given both the paucity of data on key aspects of biodiversity in the Temperate East, and the likely impacts of climate change on species and ecosystems within the Region⁸, we consider it appropriate to broaden the Plan's objectives to include application of the precautionary principle to all aspects of the bioregional planning process.

While section 391 of the *EPBC Act* does require the Minister to 'take into account' the precautionary principle when making certain decisions, more specific reference to the principle in the Plan is important for the following reasons:

- Firstly, explicit inclusion of the precautionary principle would remove some of the difficulty typically associated with interpreting and applying the concept of 'ESD'.⁹ Eliminating ambiguity is in this instance particularly desirable as the Plan will be used by the Minister when assessing controlled actions (for example) in the Temperate East Marine Region.¹⁰
- Secondly, case law indicates that the precautionary principle has been overlooked during the decision making process in order to advance socio-economic outcomes.¹¹
- Reinforcing the centrality of the precautionary principle in the marine bioregional planning process would therefore seem prudent given the pressures that climate change will impose on biodiversity in the Temperate East. This is particularly true with respect to decisions concerning controlled actions in the Region, which under the proposed IUCN categories for the Marine Reserves Network will include actions with potentially high impacts such as oil and gas exploration and production.
- Thirdly, the Conference of the Parties 4, decision IV/5 of the *Biodiversity Convention* acknowledged the threat posed by climate change to the marine environment and called on member states to implement the *Programme of work on marine and coastal biodiversity* outlined in the decision in order to mitigate this threat. The *Programme* comprised numerous principles, including the 'Precautionary approach'. Specifically,

*'The precautionary approach...should be used as guidance for all activities affecting marine and coastal biological diversity...'*¹²

⁵ Brewer, D.T et al, Ecosystems of the East Marine Planning Region, *CSIRO Marine Research*, October 2007, page 123. A report prepared for the former Department of Environment and Water Resource, page 4.

⁶ *Ibid*, page 123.

⁷ See for example Pachauri, R. and A. Reisinger, Eds., *Climate change 2007: Synthesis Report*. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva, Switzerland, *IPCC*, 2007; Berkelmans, R. and J. Oliver, Large-scale bleaching of corals on the Great Barrier Reef, *Coral Reefs* 18: 55-60, 1999.

⁸ *Ibid*, page 123.

⁹ Bates, G.M., *Environmental Law in Australia*, 6th edition, *LexisNexis Butterworths*, Sydney, page 128.

¹⁰ Section 176 (5) of the *EPBC Act*: 'Subject to this Act, the Minister must have regard to a bioregional plan in making any decision under this Act to which the plan is relevant.'

¹¹ *Nature Conservation Council of NSW Inc. v Minister for Environment and Water Resources and Ors. [2007] AATA 1876* (the 'Grey Nurse Shark' case).



c. *Maintaining and re-establishing ecosystem health*

The objectives make provision for the protection and recovery of threatened species. While we support programmes and strategies designed to enhance outcomes for threatened species, these should be complemented by an ecosystem-based approach to biodiversity conservation.¹³

Fundamental to the marine bioregional planning process is the recognition of 'key ecological features'. The Plan describes these features as having 'importance for the region's biodiversity or ecosystem function and integrity.' Provision must therefore be made – where necessary – for ecosystem-based recovery planning.

Amending the objectives accordingly would reflect Australia's international obligations under the *Biodiversity Convention*. Specifically, Article 8 (In situ Conservation) states that the parties to the Convention shall:

(f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies.

An ecosystem-based approach is also an important tool for building resilience under climate change. This is acknowledged in the *Biodiversity Strategy*. Specifically, 'maintaining and re-establishing ecosystem function' is listed as a key component of 'Priority for action 2: Building ecosystem resilience in a changing climate.'¹⁴

d. *Reducing pressures on biodiversity*

While understanding the pressures faced by the region's biodiversity is indispensable to the development of protection and adaptation strategies, the Plan should strive to *reduce* these pressures in order to protect and restore biodiversity. Including an objective of this nature would bring the Plan into line with the following:

- Article 8 (In situ Conservation) of the *Biodiversity Convention*, in particular subsections:

(d) promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings, and

(i) Endeavour to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components.

- Priority for action 2: Building ecosystem resilience in a changing climate, in particular:

A18 Integrate biodiversity conservation into planning instruments including by implementing a decision-making hierarchy for biodiversity management: the first aim is to avoid loss; if this is not possible, then aim to minimise loss; if biodiversity loss is unavoidable, impacts should be managed to maintain ecosystem functions, including, where feasible, through the use of offsets.¹⁵

¹² The Conference of the Parties to the Convention on Biological Diversity. *Programme of work arising from decision II/10 (Jakarta Mandate on Marine and Coastal Biological Diversity)*.

¹³ See Natural Resource Management Ministerial Council 2010, *Australia's Biodiversity Conservation Strategy 2010-30*, Australian Government, Department of Sustainability, Environment, Water, Population and Communities, pages 29-30.

¹⁴ *Ibid*, page 57.

¹⁵ *Ibid*.



e. *Climate change*

Climate change is identified in the *Biodiversity Strategy* as one of the key threats to biodiversity.¹⁶ The CSIRO has further specified a number of probable climate-induced ecosystem changes in the Temperate East Marine Region. For example,

*The southward shift in distribution caused by ocean warming will displace many local species and will result in an earlier annual appearance of many groups; especially species that live at the limits of their physical tolerances. This will alter trophic and competitive relationships among species and disrupt foodwebs.*¹⁷

The Plan itself also names climate change as one of two sources of pressure in Temperate East Marine Region.¹⁸

It would therefore seem logical for the objectives of the Plan to acknowledge the importance of assisting species and ecosystems in the Temperate East Region to adapt to climate change.

Again, this would assist Australia in meeting its international obligations under the *Biodiversity Convention*. Specifically, the Conference of the Parties 4, decision IV/5 of the *Biodiversity Convention* acknowledged the threat posed by climate change to the marine environment and called on member states to implement the *Programme of work on marine and coastal biodiversity* outlined in the decision in order to mitigate this threat. As noted above, the decision placed particular emphasis on the application of the precautionary principle.¹⁹

3. Key ecological features (pages 9 – 11)

The Plan specifies nine Key Ecological Features in the Temperate East Marine Region. Three areas of ecological significance have been omitted from this list, namely the continental shelf, the Lord Howe Plateau and the Caledonian Basin. These should be included for the reasons outlined below:

a. *Continental Shelf*

The continental shelf in the Temperate East Marine Region supports a wide variety of habitats including shallow kelp beds and coral reefs (in the north), sponge dominated reefs at intermediate depths and deep reefs that are home to a variety of invertebrates known as ascidians and gorgonians. Within these areas there are significant regional variations driven by the presence of coastal features, offshore islands and depth. These habitats in turn support marine animals with a high degree of endemism. As a result of the interaction between these unique biological and biophysical aspects, the continental shelf in the Temperate East bioregion is considered especially vulnerable to climate change.²⁰ It is therefore imperative that it be identified as a key ecological feature and protected accordingly.

b. *Lord Howe Island Plateau*

¹⁶ Ibid, page 29.

¹⁷ Brewer, D.T et al, *Ecosystems of the East Marine Planning Region, CSIRO Marine Research*, October 2007, page 123. A report prepared for the former Department of Environment and Water Resource.

¹⁸ Page 19.

¹⁹ The Conference of the Parties to the Convention on Biological Diversity. *Programme of work arising from decision II/10 (Jakarta Mandate on Marine and Coastal Biological Diversity)*.

²⁰ See for example Hall, Stephen J., *The continental shelf benthic ecosystem: current status, agents for change and future prospects*, *Environmental Conservation* 29 (3): 350 – 374, page 362.



The Lord Howe Island Plateau is also strongly influenced by the Tasman Front with associated eddies transporting heat and salt across its breadth seasonally. Deep water currents are driven by the Subantarctic Water Mass. The interaction of currents in the region contributes to the high diversity of species, including many migratory fish and species at the edge of their range. A survey of the Lord Howe Rise conducted in 2003 showed species diversity in the region was linked to sediment type and depth, meaning species composition on the Plateau is unique. In other words, it differs from other areas of the Lord Howe Rise.²¹

The Lord Howe Island Plateau is likely connected to the Caledonian Basin via the East Australian Current and Tasman Front. As noted in the section of our submission concerning the Proposal for the Temperate East commonwealth Marine Reserves Network, maintaining connectivity is fundamental to good marine park design²². This is particularly important under climate change, as networks of protected areas are the most reliable means of facilitating species and ecosystem adaptation to warming oceans, acidification and so on.

Given the significance of this area and its vulnerability to climate change, it should be listed as a Key Ecological Feature.

c. Caledonia Basin

As with many deep sea areas, very little is known about the ecology of the Caledonia Basin. The currents in the region are likely to be dominated by the East Australia Current and the Tasman Front. Strong thermal gradients concentrate nutrients creating high levels of productivity and attracting predatory species including sharks,²³ a taxa known to be at risk.

The East Australia Current and Tasman Front are likely to be the principle mechanism facilitating connectivity between the Lord Howe Island Plateau Sub-Region.²⁴ We reiterate that every effort should be made to protect connected areas in order to assist species and ecosystems adapt to climate change.

4. Strategy E (page 38)

One of the current objectives of the Plan is ‘conserving biodiversity and maintaining ecosystem health.’ The Plan’s strategies should reflect this objective.

Accordingly, ‘*Strategy E: Develop partnerships with relevant industries to increase understanding of the impacts of anthropogenic disturbance on the region’s key ecological features and protected species*’, should strive to go beyond information sharing and understanding. Specifically, it should make provision for translating knowledge into action with a view to *reducing* anthropogenic disturbance of the region’s key ecological features. This would bring the Plan into line with the following:

- Article 8 (In-situ Conservation) of the *Biodiversity Convention*. Specifically, this Article requires parties to the Convention to:

(d) promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings.

²¹ A. Williams, F. Althaus, M.R. Clark, K. Gowlett-Holmes, Composition and distribution of deep-sea benthic invertebrate megafauna on the Lord Howe Rise and Norfolk Ridge, southwest Pacific Ocean Deep Sea Research Part II: Topical Studies in Oceanography 58 (7-8), 2007, 948-958.

²² Coleman, Melinda A., Chambers, Justine, et al., Connectivity within and among a Network of Temperate Marine Reserves, *PLoS ONE* 6 (5): e20168. doi: 1371/journal.pone.0020168, 2007.

²³ Brewer, D.T et al, Ecosystems of the East Marine Planning Region, *CSIRO Marine Research*, October 2007, page 123. A report prepared for the former Department of Environment and Water Resource, page 102.

²⁴ *Ibid.*



- Priority for Action 2: Building ecosystem resilience in a changing climate, subpriority 2.3 Reducing threats to biodiversity, action 18 of the *Biodiversity Strategy*:

A18 Integrate biodiversity conservation into planning instruments including by implementing a decision-making hierarchy for biodiversity management: the first aim is to avoid loss; if this is not possible, then aim to minimise loss; if biodiversity loss is unavoidable, impacts should be managed to maintain ecosystem functions, including, where feasible, through the use of offsets.²⁵

²⁵ Natural Resource Management Ministerial Council 2010, Australia's Biodiversity Conservation Strategy 2010-30, Australian Government, Department of Sustainability, Environment, Water, Population and Communities, page 57.



Thank you for your interest and feedback on the Commonwealth marine reserves network proposal and draft Marine Bioregional Plan for the Temperate East Marine Region.