
DO THE AUSTRALIAN GOVERNMENT'S PROPOSED NEW MANAGEMENT PLANS PROTECT AN EQUAL NUMBER OF CONSERVATION FEATURES?

Centre for Conservation Geography Fact Check

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CENTRE FOR CONSERVATION GEOGRAPHY

The Centre for Conservation Geography is a research group established in June 2011 to provide expert technical support and advice to government and non-government decision-makers and stakeholders.

The centre applies world's best practice in decision support to biodiversity conservation planning. Based in Australia, CCG is a multi-disciplinary team capable of providing support to conservation decisions being made across the world's ecoregions.

The Centre for Conservation Geography currently has projects in Australia and in the Southern Ocean. Our areas of expertise are in marine and terrestrial protected area planning, including protected area performance assessment, cost-efficient conservation priority setting and planning for multiple objectives (e.g. carbon sequestration and biodiversity protection).

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Daniel is the director of the Centre for Conservation Geography, a visiting scholar at San Francisco State University's Marine & Coastal Conservation and Spatial Planning Lab, and an adjunct research fellow at the Centre for Biodiversity and Conservation Science at the University of Queensland.

He has over 15 years of experience in the theory and practice of systematic conservation planning both on land and in the ocean, and has been engaged in planning for marine protected areas and marine sanctuaries in Australia since 2004.

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The Australian Government is claiming that its new management plans protect the same number of conservation features as the previous zoning established in 2012. For example, on Monday the 18th of September the Director of National Parks, Sally Barnes provided the following statement to ABC Radio:

"The draft plan would protect the same number of conservation features as before but with a smaller effect on users." ¹

This is a false statement. Based on the minimum scientific standards of protection 34 fewer primary conservation features are protected within the Government's proposed new management plans (Table 1).

A number of primary conservation features fail to meet a 30% threshold for protection in either 2012 or 2017 by a small amount. However, even if the analysis is restricted to only those cases where the 2012 or 2017 zoning fails to meet the 30% minimum threshold by a significant margin (i.e. greater than 5%) the 2012 zoning clearly protected many more primary conservation features (30) than the new zoning proposed (See Appendix B: Primary conservation features with changed protection status between the 2012 zoning and the proposed 2017 management plans).

In making the statement that an equal number of features are protected it appears that the Government is attempting to ignore the accepted scientific standards ^{2,3} and instead consider a conservation feature protected if more than 0km² is included within Sanctuary or National Park Zones.

This is a demonstrably false proposition. On examination of the Government's proposed primary conservation features there are numerous features that have more than 0km² within Sanctuary or National Park Zones that are clearly not adequately protected.

For example, can the Tweed Moreton bioregion truly be considered protected when 1.6km² (0.004%) out of the 26,335km² within the Temperate East planning region has been protected and the remaining 99.996% remains unprotected including almost all of the diverse habitats, species and communities to which the bioregion is home (Table 2)?

Equally, can the bank/shoal habitats of the North region be considered protected when 0.8km² (0.01%) of the 9,290km² of these habitats are protected and the remaining 99.99% remains unprotected including a diversity of habitats within completely different depth ranges and biological regions (Table 2)?

Table 2 contains ten such examples where the level of protection provided is clearly inadequate. Many more of these types of examples are present within the data and can be provided by Centre for Conservation Geography (CCG) upon request.

The inclusion of more than 0km² within the Sanctuary or National Park Zones is a false measure of protection. Rather protection depends on at least the following questions:

1. Is enough of the conservation feature included within Sanctuary or National Park Zones? ²
2. Is there replication of the conservation feature across Sanctuary or National Park Zones? ²
3. Do the Sanctuary or National Park Zones adequately represent the full range of known diversity for that feature? ²

¹ Sally Barnes, Director of National Parks, in statement to ABC Radio
<<http://www.abc.net.au/radio/programs/am/global-marine-science-luminaries-slam-marine-parks-plan/8955820>>

To provide a timely response before the deadline for submissions on the new management plans in a few hours time this brief analysis by CCG focusses on the first question only.

In 2009 the Australian marine conservation science and planning community developed a consensus statement to provide scientific guidance to the development of Australia's National Representative System of Marine Protected Areas.² These guidelines establish the Australian scientific benchmarks for the protection of conservation features within Marine National Park Zones at between 30% and 100%. These guidelines are the same as those set by the 2014 World Parks Congress where the nations of the world, including Australia, committed to protecting at least 30% of all marine habitats within Marine National Park Zones across the world's marine bioregions by 2030.³

If we look at the Government's proposed primary conservation features⁴ we can see that the 2012 zoning provided 121 primary conservation features with at least 30% protection within Sanctuary or National Park Zones, while the proposed new management plans provide 34 fewer primary conservation features with this minimum level of protection (Table 1).

TABLE 1: NUMBER OF THE GOVERNMENT'S PROPOSED PRIMARY CONSERVATION FEATURES THAT HAVE AT LEAST 30% OF THEIR EXTENT WITHIN SANCTUARY OR NATIONAL PARK ZONES IN THE 2012 ZONING AND IN THE NEW MANAGEMENT PLANS PROPOSED BY THE COMMONWEALTH GOVERNMENT.

| Primary Conservation Feature | Number protected in 2012 | Proposed new Government management plans | Total within planning regions ⁵ |
|--|--------------------------|--|--|
| Provincial bioregions | 6 | 3 | 32 |
| Mesoscale bioregions | 1 | 1 | 35 |
| Total bioregions | 7 | 4 | 67 |
| Depth ranges | 86 | 66 | 347 |
| Biologically informed seascapes | 2 | 2 | 75 |
| Key ecological features | 7 | 5 | 43 |
| Seafloor features | 19 | 10 | 84 |
| Total | 121 | 87 | 683 |

² The Ecology Centre, University of Queensland (2009) Scientific Principles for Design of Marine Protected Areas in Australia: A Guidance Statement. 29pp.
<http://ecology.uq.edu.au/filething/get/39100/Scientific_Principles_MPA_s_c6.pdf>

³ IUCN World Parks Congress, 2014. *A strategy of innovative approaches and recommendations to enhance implementation of marine conservation in the next decade*. International Union for the Conservation of Nature, Gland, Switzerland.

⁴ See Appendix A: Data Sources for data used.

⁵ The Coral Sea, Temperate East, North, North-west and South-west planning regions.

TABLE 2: TEN EXAMPLES OF PRIMARY CONSERVATION FEATURES WHERE MORE THAN 0KM² IS INCLUDED WITHIN SANCTUARY OR NATIONAL PARK ZONES BUT WHERE THE HABITATS, COMMUNITIES AND SPECIES THAT RELY ON THIS CONSERVATION FEATURE CANNOT BE CONSIDERED TO BE 'PROTECTED'.

| Primary conservation feature type | Name | Area within Sanctuary or National Park Zones (km ²) | Total area (km ²) | Proportion protected (%) | Proportion unprotected (%) |
|--|---|---|-------------------------------|--------------------------|----------------------------|
| Provincial bioregions | Central Eastern Shelf Province | 4.1 | 14,464 | 0.03% | 99.97% |
| Mesoscale bioregions | Tweed-Moreton | 1.6 | 26,335 | 0.004% | 99.996% |
| Mesoscale bioregions | Oceanic Shoals | 406 | 150,514 | 0.3% | 99.7% |
| Depth ranges | Central Western Shelf Province Deep Shelf to Shelf Edge Transition | 0.4 | 2,787 | 0.01% | 99.99% |
| Depth ranges | Northwest Shelf Transition Shallow Shelf to Deep Shelf Transition | 12 | 31,447 | 0.04% | 99.96% |
| Biologically informed seascapes | NW Outer Shelf | 12 | 50,121 | 0.02% | 99.98% |
| Key ecological features | Continental Slope Demersal Fish Communities | 94 | 33,182 | 0.3% | 99.7% |
| Key ecological features | Commonwealth marine environment within and adjacent to the west coast inshore lagoons | 7 | 1,762 | 0.4% | 99.6% |
| Seafloor features | North bank/shoal | 0.8 | 9,290 | 0.01% | 99.99% |
| Seafloor features | North-west shelf | 106 | 138,784 | 0.08% | 99.92% |

APPENDIX A: DATA SOURCES

| Dataset | Source |
|---|---|
| Marine Park zoning for 2017 proposed management plans | Commonwealth of Australia, 2017. <i>Australia's network of Marine Parks – draft management plans zoning 2017</i> <file://\\PVAC01FILE03\erin_share\$\Marine\data\protected_areas\mpa\draft_mgt_plans\export\AustraliasNetworkMarineParks.shp> |
| Marine Park zoning established in 2012 | Commonwealth of Australia, 2012. <i>Australia's network of Commonwealth Marine Reserves</i> <file://\\pvac01file01\erin_share\$\Marine\rmp\all_rmps\proposed_mpas\export\commonwealth_marine_reserves_network_2012_v2.shp> |
| Provincial bioregions | IMCRA, 2006. A Guide to the Integrated Marine and Coastal Regionalisation of Australia Version 4.0. Department of the Environment and Heritage, Commonwealth of Australia, Canberra, Australia. |
| Mesoscale bioregions | IMCRA, 2006. A Guide to the Integrated Marine and Coastal Regionalisation of Australia Version 4.0. Department of the Environment and Heritage, Commonwealth of Australia, Canberra, Australia. |
| Depth ranges | Provincial bioregions intersected with: Commonwealth of Australia, 2011. <i>Bathomes within Australian waters</i> . < http://www.environment.gov.au/metadataexplorer/full_metadata.jsp?docId={1C0DC470-61A9-446C-83E2-48CC9F8356CF}&loggedIn=false > |
| Biologically informed seascapes | Marine Regions of Australia used to clip the extents of: Ellis, N., 2009. Predicted seabed assemblage patterns of marine fauna in the Northwest marine region, CSIRO, Melbourne, Victoria. Ellis, N., 2009. Predicted seabed assemblage patterns of marine fauna in the North marine region, CSIRO, Melbourne, Victoria. |

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|-------------------------|---|
| | <p>Ellis, N., 2009. Predicted seabed assemblage patterns of marine fauna in the Southwest marine region, CSIRO, Melbourne, Victoria.</p> <p>Ellis, N., 2010. Predicted seabed assemblage patterns of marine fauna in the East marine region, CSIRO, Melbourne, Victoria.</p> |
| Key ecological features | <p>Commonwealth of Australia, 2012. <i>Key Ecological Features</i>. <http://www.environment.gov.au/webgis-framework/apps/ncva/ncva.jsf></p> |
| Seafloor features | <p>Marine Planning Regions of Australia intersected with: Commonwealth of Australia, 2004. <i>Geomorphic features of the EEZ</i>. <http://www.environment.gov.au/metadataexplorer/full_metadata.jsp?docId={45B47601-DFDD-4A33-AA58-59E4AF14F369}&loggedIn=false></p> |

APPENDIX B: PRIMARY CONSERVATION FEATURES WITH CHANGED PROTECTION STATUS BETWEEN THE 2012 ZONING AND THE PROPOSED 2017 MANAGEMENT PLANS

| Primary conservation feature type | Name | 2017 proposed protection (%) | 2012 protection (%) |
|-----------------------------------|---|------------------------------|---------------------|
| Provincial bioregions | Kenn Province | 3% | 47% |
| | Northeast Province | 16% | 46% |
| | Northeast Transition | 1% | 56% |
| Depth ranges | Cape Province Abyssal Plain above Calcite Compensation Depth | 0% | 100% |
| | Cape Province Deep Mid-Slope | 15% | 62% |
| | Central Western Transition Abyssal Plain below Calcite Compensation Depth | 16% | 74% |
| | Great Australian Bight Shelf Transition Coast | 19% | 37% |
| | Kenn Province Continental Rise | 0% | 100% |
| | Kenn Province Deep Continental Slope | 1% | 42% |
| | Kenn Province Deep Mid-Slope | 5% | 32% |
| | Kenn Province Deep Upper Slope | 27% | 62% |
| | Kenn Province Deep Upper Slope to Shallow Mid-Slope Transition | 19% | 52% |
| | Kenn Province Shallow Upper Slope to Deep Upper Slope Transition | 29% | 61% |
| | Kenn Transition Deep Mid-Slope | 27% | 44% |
| | Northeast Province Abyssal Plain above Calcite Compensation Depth | 0% | 100% |
| | Northeast Province Continental Rise | 0% | 71% |
| | Northeast Province Deep Continental Slope | 3% | 41% |
| | Northeast Province Deep Mid-Slope | 16% | 44% |
| | Northeast Province Shallow Mid-Slope | 28% | 31% |
| | Northeast Province Shallow Shelf | 28% | 32% |

| | | | |
|--------------------------------|---|-------|-------|
| Depth ranges | Northeast Province Shallow Upper Slope to Deep Upper Slope Transition | 35% | 26% |
| | Northeast Province Shelf Edge | 36% | 29.6% |
| | Northeast Transition Abyssal Plain above Calcite Compensation Depth | 0% | 100% |
| | Northeast Transition Continental Rise | 2% | 91% |
| | Northeast Transition Deep Continental Slope | 1% | 42% |
| | Northeast Transition Deep Mid-Slope | 0% | 38% |
| | Northeast Transition Deep Upper Slope to Shallow Mid-Slope Transition | 24% | 35% |
| | Northwest Transition Abyssal Plain below Calcite Compensation Depth | 10% | 74% |
| | Timor Province Continental Rise | 37% | 23% |
| Key ecological features | Diamantina Fracture Zone | 7% | 53% |
| | Reefs, cays and herbivorous fish of the Marion Plateau | 16% | 33% |
| Seafloor features | Coral Sea basin | 1% | 73% |
| | Coral Sea canyon | 8% | 42% |
| | Coral Sea continental-rise | 2% | 84% |
| | Coral Sea ridge | 12% | 84% |
| | Coral Sea saddle | 21% | 41% |
| | Coral Sea terrace | 6% | 55% |
| | North tidal-sandwave/sand-bank | 33% | 26% |
| | North-west abyssal-plain/deep ocean floor | 29% | 80% |
| | North-west continental-rise | 29.5% | 39% |
| | South-west knoll/abyssal-hills/hills/mountains/peak | 6% | 49% |
| | South-west ridge | 10% | 56% |