

17 February 2012

Re: Coral Sea Commonwealth marine reserve proposal

Thank you for the opportunity to comment on the *Coral Sea Commonwealth marine reserve proposal*. We congratulate the government for recognising the global significance of the coral sea and for proposing a marine park that will contribute to securing the environmental assets in the region. However, we believe that much more could be achieved at negligible, or no, net cost.

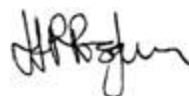
Our submission and scientific consensus statement has been endorsed by more than 300 individual scientists from Australia and from 21 other countries. In addition, this submission has also been endorsed by the President (Professor Lynnath Beckley) and Council of the *Australian Marine Sciences Association* (AMSA). AMSA is Australia's major professional association for marine scientists with >1000 members in all major marine research organizations across the country.

Based on a scientific appraisal of the plan, we conclude that the reserve proposal has significant shortcomings. In particular, the representativeness of the no-take reserve is poor, with inadequate protection for key habitats in the west and south, contrary to the Australian Government's own principles for marine conservation. The draft plan also makes significant concessions to pelagic fishing activities and to future recreational fishing that are inconsistent with achieving the conservation of species and ecosystems affected by these activities. The proposed marine national park is therefore not effective at representing the diversity of important habitats, environmental gradients, dispersal potential and highly sensitive species.

We offer 6 recommendations in our submission for improving the draft plan, which will have minimal social and economic costs due to the low levels of use in the region. Full protection for the Coral Sea based on a more rigorous application of scientific principles will boost Australia's reputation as a leader in marine stewardship and as destination for wild nature tourism, and it will provide a lasting legacy for future generations.



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A Consensus Statement from the the Australian and International Science Community on the proposed Coral Sea Commonwealth Marine Reserve

The Australian Government's draft plan for a marine reserve in the Coral Sea is a significant step forward, but it contains a number of short-comings. The draft plan misses a unique opportunity for Australia to demonstrate global leadership in marine stewardship, by declaring the Coral Sea within Australia's EEZ as the world's largest no-take area, to protect its immense environmental and heritage values from the escalating threats of overfishing and climate change.

We believe that an increased level of protection would be of immense benefit to Australia and to the world, at negligible cost. The Coral Sea is one of only a handful of places in the world where a very large oceanic no-take park could be created within a single national jurisdiction. A single large no-take area encompassing Australia's Coral Sea jurisdiction would ensure that the scale of management appropriately matches the biological scale of important ecosystem processes such as dispersal and migration. A very large no-take park immediately adjacent to the GBRMP and its network of highly protected areas would be by far the world's largest protected ocean ecosystem. It would substantially enhance Australia's reputation as a world leader in the stewardship of marine biodiversity, and bolster the World Heritage values of the Great Barrier Reef, which is showing concerning signs of degradation (GBR Outlook Report 2009).

We identify six major issues in the draft plan that need to be addressed:

1. Most of the shallow coral reefs, cays and sublittoral reefs of the western Queensland Plateau and the seamounts of the southern Coral Sea are not included in the proposed no-take zone. Thus the representativeness of the no-take reserve is poor, with inadequate protection for key habitats in the west and south, contrary to the Australian Government's own principles for marine conservation. The draft plan also makes significant concessions to pelagic fishing activities that are inconsistent with achieving the conservation of species affected by these activities. The South Equatorial Current bifurcates in the Coral Sea into the Coral Sea Gyre in the north and the southwards flowing East Australian Current (Young *et al* 2011), connecting the Coral Sea biota to both the GBR and southern reefs (Bode *et al.* 2006), as well as creating unique habitats and a genetic break in the north (van Oppen *et al.* 2008). The western Coral Sea, which is excluded from no-take zoning, has exceptionally high conservation value, because it includes the majority of the reefs and cays of the Queensland Plateau, breeding and calving grounds for humpback whales, nesting grounds for green turtles, foraging grounds for hawksbill turtles, populations of migratory pelagic species and breeding and foraging areas for seabird species, and the only known spawning aggregation site for black marlin (Ceccarelli 2011). Therefore, the proposed marine national park is not effective at representing the diversity of important habitats, environmental gradients, dispersal potential and highly sensitive species.

2. The coral reefs of the Coral Sea need more protection. Only 2 new reefs out of 25 named reefs in the Coral Sea are afforded a high level of protection. Monitoring by SEWPAC showed that of the two existing high-level reserves (Coringa-Herald and Lihou Marine Reserves), Coringa-Herald Marine Reserve has depauperate coral reef communities with low coral cover at present (Ceccarelli *et al.* 2008). To enhance connectivity in the region, and facilitate dispersal and recovery processes, additional reef habitat needs to be afforded no-take designation. Commercial and sport fishing targeting reef predators in the Coral Sea also has the potential to deleteriously affect the integrity of the small, relatively isolated and highly exposed reefs, which host smaller populations that are more reliant on large-scale dispersal of larvae than the highly interconnected Great Barrier Reef.

3. Deep benthic systems and seamounts need more protection. Neither the Queensland nor the Townsville Troughs are included in the proposed western no-take zone. Together they represent Australia's largest trough system, attracting large aggregations of feeding and spawning pelagic species. The Marion Plateau sub-region, including Marion and Saumarez Reefs, contains a high proportion of endemic species, in particular demersal sponge communities. Southern Coral Sea reef and deep benthic communities are also not represented in the no-take zone, yet they provide potential stepping stones for southwards range expansions of tropical reef species to gain access to climate change refugia (Beger *et al.* 2011).

4. Pelagic ecosystems need more protection. The southern Coral Sea is a hotspot for apex predators such as yellowfin tuna, barracuda and sharks. Long-lining should be excluded from the entire Coral Sea because of bycatch of non-target species, among which are sharks and rays, turtles and seabirds, including rare and endangered species in many of these groups. Consequently, as with the adjacent Great Barrier Reef Marine Park, long-lining should not be considered a reasonable activity in the proposed Coral Sea marine reserve.

5. Catch and release fishing in the Coral Sea is inadvisable. Catch-and-release fishing on coral reefs, which will be specifically allowed under the proposed plan, is especially problematic because released fish are vulnerable to predation and to high rates of mortality from barotraumas, hook injury and physiological stress. Catch-and-release fishing also poses a threat to sharks, which are a frequent bycatch in recreational reef fisheries. For example, studies on the Great Barrier Reef shows that grey reef sharks in Blue (fishing) zones are reduced by 97% compared to Pink (no-go zones) (Robbins *et al.* 2006). Recreational fishing for pelagic species in the Coral Sea Conservation Zone from 1989-2009 amounted to only 0.8% of total catch of black, blue and striped marlin, sailfish, and shortbill spearfish caught (and released) in the Great Barrier Reef Marine Park (NSW Dept. of Primary Industries). Therefore, the economic and social cost of extending the Coral Sea no-take zone to the outer GBRMP boundary is negligible.

6. Cost-effective management requires large no-take zones with simple boundaries. A recent study of potential management costs for the Coral Sea (Ban *et al.* 2011) demonstrated that management costs would increase sharply with subdivision of the Coral Sea into multiple-use zones, compared to a single no-take zone, largely due to the increased need for compliance activities. Cost-effectiveness of management therefore requires that the extensive additional no-take zoning in the western Coral Sea should be made, contiguous with the proposed eastern no-take zone. A reserve of this scale and level of protection would provide unprecedented refugia for top ocean predators that are under serious pressure elsewhere in the world (Game *et al.* 2009), improve the resilience of the region's coral reefs to climate change, and provide a globally significant scientific reference site. We believe that our recommendations will have minimal social and economic costs due to the low levels of use in the region, will boost Australia's reputation and branding as a leader in marine protection and destination for wild nature tourism, and will provide a lasting legacy for future generations.

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