National statement on Marine Protected Areas from Australia's marine scientists

The Australian Marine Sciences Association (AMSA) and the Australian Coral Reef Society (ACRS) are Australia's peak professional bodies for marine scientists, with over 1500 members collectively. We wish to make the following statement regarding sanctuary, conservation or no-take zones in Marine Protected Areas.

What are Marine Protected Areas (MPAs)?

MPAs in Australia have a number of different aims depending on location, but generally are designed and managed to protect biodiversity and ecological processes while ensuring sustainable human use and activities. This is often achieved by dividing the MPA into zones with different levels of protection, although some MPAs have a single, consistent level of protection. Sanctuary zones, also known as conservation or no-take zones, offer the highest level of protection for marine life, while various types of recreational and/or commercial activities are provided for in other zones. MPAs are designed so they contain a comprehensive, adequate and representative sample of marine and estuarine biodiversity using internationally accepted guidelines. This is achieved through protection of a range of habitat types such as seagrass beds, reefs and offshore areas since each habitat represents a unique set of biodiversity values.

Why do we need this statement?

Recently, governments in Australia have committed to national and international agreements to protect marine biodiversity through the declaration of a national representative system of MPAs (known as the NRSMPA). The vast majority of ecologists and marine scientists agree on the value of MPAs to marine biodiversity and sustainable fisheries. We are concerned by suggestions that MPAs are of no value to the conservation of marine life and are an economic threat to coastal communities and fishing. Comments to the effect that no good evidence exists for the value of MPAs, and that most scientists dispute their value, are incorrect or misguided. This Statement clarifies these issues and states the position of two professional Australian marine science organisations. Given the perilous state of coastal marine environments and the various pressures on Australia's marine life, we believe that MPAs provide one essential management tool in the toolbox for maintaining marine biodiversity and healthy coastal ecosystems.

Benefits of Marine Protected Areas

Like the conservation of species and habitats by national parks on land, the conservation benefits of MPAs worldwide and in Australia (especially the sanctuary, conservation or no-take zones) have been demonstrated in many scientific studies. However, there are also extra benefits. For instance, local studies have shown increased size and number of lobster in reserves in Tasmania and Western Australia (Edgar and Barrett 1999; Babcock et al. 2007) recolonisation of Sanctuary Zones by snapper in New Zealand (Denny et al. 2004) and spill-over of mudcrabs from no-take Sanctuary zones into fished areas in Moreton Bay (Pillans et al. 2005). Even though some MPAs may not be designed to directly increase fish numbers or growth within their boundaries, MPAs provide insurance for some fish species by acting as a refuge and protecting broodstock. Benefits to fish populations flow on to other species of marine life as the ecosystem is restored, to the extent that overall productivity of coastal ecosystems can be increased (Babcock et al. 1999). MPAs act as critical 'baseline' areas to assess the impact of human activities and larger scale events such as global warming. The Australian Marine Sciences Association and the Australian Coral Reef Society together represent the majority of professional marine scientists in Australia. We support government initiatives to create representative MPAs on the basis of sound scientific evidence that MPAs (in particular sanctuary, conservation or no-take, zones) protect and enhance marine biodiversity and are a useful tool for the sustainable management of some fisheries.

References:

Babcock, R.C., Phillips, J.C., Lourey, M. Clapin, G. (2007) Increased density, biomass and egg production in an unfished population of Western Rock Lobster (*Panulirus cygnus*) at Rottnest Island, Western Australia. *Marine and Freshwater Research. in press.*

Babcock, R.C., Kelly, S. Shears, N.T., Walker, J.W., and Willis, T.J. (1999). Large-scale habitat change in temperate marine reserves *Marine Ecology Progress Series* 189: 125-134.

Denny CM, Willis TJ, Babcock RC (2004) Rapid recolonisation of snapper *Pagrus aratus*: Sparidae within an offshore island marine reserve after implementation of no-take status. Marine Ecology Progress Series 272: 183-190.

Edgar GJ, Barrett NS (1999) Effects of the declaration of marine reserves on Tasmanian reef fishes, invertebrates and plants. Journal of Experimental Marine Biology and Ecology 242: 107-144.

Pillans S, Pillans RD, Johnstone RW, Kraft PG, Haywood MDE, Possingham HP (2005) Effects of marine reserve protection on the mud crab *Scylla serrata* in a sex-based fishery in subtropical Australia. Marine Ecology Progress Series 295: 201-213.

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