The decision of 1993 to sign the Convention on Biological Diversity committed Australia to a system of areas that were to be managed for conservation purposes (to become known as 'Marine Protected Areas, MPAs) with unfortunately little evaluation of the substantive issues. It seemed like a politically advantageous idea at the time and there was no urgency to assess exactly what the costs and benefits would be: they did not have to be implemented until 2012.

There was in 1993 a rising ground-swell of opinion that the burgeoning human population was putting pressures on global ecosystems. It was becoming accepted that solutions would require lateral thinking and new management measures. It was not only necessary to take greater care of our planet it was becoming increasingly politically beneficial to be seen to be doing so. This was particularly so if action could be apparent with minimum economic disadvantage to the country taking the action.

At the same time it was confirmed that, even though it had paralleled human population growth until about 1990, the world's fisheries production had finally plateaued. This confirmed that, like our land areas, the resources of the oceans were not limitless. Closer examination showed that numerous fish resources around densely populated areas and in some particularly heavily fished areas were already 'overfished'. Collectively these indicators fuelled two influential notions; that traditional fisheries management had failed and there was merit in restricting all fishing activities in the cause of 'conservation'; and secondly, that 'reserve-type' conservation measures that had been valuable on land needed to be projected into marine environments.

Unfortunately these less than perfect concepts gained momentum in Australia without adequate evaluation of many fundamental principles or questions, including:

- whether fisheries management had failed in Australia;
- the relevance of terrestrial reserve-type management for marine systems;
- the feasibility of truly protecting selected marine areas against even the threats known at that time;

- the wisdom of disproportionately concentrating management resources in parts of the total area at the expense of more uniform management of the whole area,
- the efficacy of area management for addressing every threat rather than addressing each threat in the specific location in which it arises,
- proper assessment of the costs and benefits that would actually materialise from area management in marine environments including its impact on Australia's long-term seafood security.

The wisdom of using area management in marine environments remains largely unquestioned today. Rather its use continues to be based on the unjustified transposition of terrestrial paradigms of national parks into marine environments that are highly interconnected and mostly volatile or even mobile. Marine environments are such that artificial boundaries are largely irrelevant to the ecological processes within them and therefore also often irrelevant to their proper conservation or management. The failure to adequately assess the contribution of area management to the conservation requirements for hugely different marine environments, ranging from high energy ocean beaches to relatively more static deepwater seamounts, further exposes the inadequacies of the process.

Unfortunately the declaration of an area as an 'MPA' has been accepted by many governments as a proxy for providing proper protection. This is evident from the common definition of a marine protected area that is adapted from the IUCN of "An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity....". The declaration in itself does not provide protection. Nor does merely calling it 'protected'.

In order for an area to be adequately and appropriately protected three fundamental steps must be taken:

- all significant threats must be identified (Article 7 of the Convention on Biological Diversity),
- the processes that constitute these threats must be addressed (EPBC Act, Commonwealth of Australia 1999) and,

- the management action that is taken must "not be disproportionate to the significance of the environmental problems (Intergovernmental Agreement on the Environment, Government of Australia 1992).

These simple steps have not been systematically followed in the declaration of most of Australia's MPAs.

The flaw in assuming that area management should be the fundamental process for marine conservation has been translated into policy through the objectives of Australia's Regional Marine Plans. There are three key objectives for these plans. The first is stated to be "to determine conservation requirements of each marine region, **including** the establishment of marine protected areas". Thus the commitment to have so called 'marine protected areas' as prescribed action had been assumed even before the conservation requirements had been determined. This fundamental advocacy for marine protected areas at the expense of logical progression of the processes of good governance has seriously flawed Australia's whole approach to marine conservation and management. The failure of the National Representative System of Marine Protected Areas to deliver against the second and third objectives is later discussed.

Unfortunately, another flawed, pre-emptive assumption by Australian governments, that closing areas to all types of fishing somehow represents total or at least high levels of 'protection', has been incorrectly asserted to have been based on science. There has been complete absence of proper assessment within Australia of the threat posed by each and every form of fishing to each and every one of the areas claimed to be 'protected'. The transposition of examples from other countries or areas with inadequately managed fisheries, or even destructive fishing practices, to Australia has lead to repeated, grossly distorted projections from fishing closures. In Australia we have strictly controlled fishing and existing fisheries legislation (under Commonwealth and state fisheries management acts and the over-arching EPBC Act) that enables management to be tightened further in every instance when it is assessed to be necessary. Where overfishing is assessed to have occurred recovery plans are mandated.

The blanket bans on all forms of fishing applied in areas of most of Australia's MPAs are inefficient management actions. Area management can be an efficient management tool for some forms of fishing, for example fish-trawling over hard bottoms. However, in the current MPA process areas that are determined to be 'sanctuary zones' are assumed to require closing to all forms of fishing. This often renders what might be an efficient management action for one gear type into little more than blanket anti-fishing advocacy. In the absence of proper assessments of individual fisheries and areas it is not logical or rational management. This is particularly apparent in the southern regions of Australia's waters where controls on fish trawling are necessary and wise area management appears appropriate, but where what is being projected is MPA-type management which closes many selected areas to all types of fishing. The area closures that result often represent excessive, heavy handed and inappropriate management for many forms of fishing and yet may not even close enough area to the one type of fishing that may require area management.

MPAs are such a blunt instrument it is difficult to find a single area in Australia where they represent the most cost-effective way of benefiting even a single fishery, let alone all fisheries that are impacted by blanket closures. Even more importantly there is a growing body of evidence, consistent with the intermediated disturbance hypothesis and community succession theory, to support the case that well managed fishing is not a serious threat in most areas and in many it is actually better for biodiversity than is an MPA-type total fishing closure.

Contrary to common public perceptions Australia's commitment to having a NRSMPA does not require the declaration of more fishing closures: it certainly does not require any increased percentage of our waters be closed to fishing. As discussed above the commitment is to have areas cost-effectively protected against the properly identified threats. Even the IUCN guidelines do not specify that to be 'protected', areas must be closed to fishing. Australia's waters are already protected against the threats from fishing that have been properly identified and as such are fully qualified to be declared 'protected' against fishing. The same cannot be said for our level of protection against other major threats such as pollution and introduced organisms.

It is, in 2011, obvious that the performance of the NRSMPA against the second and third goals of the three prescribed under the Oceans Policy of 1998 have been ineffective or even counter-productive. The second objective, prevention of "conflict between sectors (commercial, recreational, charter) in relation to resource allocation" has certainly not been achieved. In fact the preferential allocation of areas to recreational users over commercial fishers in numerous areas of many marine parks has created major new divisions and heightened pre-existing tensions (note the parks were supposedly created for conservation purposes and not fisheries management and certainly not resource allocation which is fully and directly covered under pre-existing fisheries legislation). Furthermore, the process of 'buying out' commercial fishers has been so ill-considered and badly managed in many parks that it has created a totally new form of conflict. Selected commercial fishers are lobbying for MPA fishing closures as they wish to be cashed-out for short-term personal gain, at the expense of seafood consumers and the seafood industry more generally who wish to maintain optimum long-term, sustainable supplies.

The results against the third objective, the "provision of long-term security for all ocean users" have also been contrary to governments' expectations. By declaring very large parks with multiple, changeable zones and by continuing threats to declare even more parks and bigger zones within them, (both depending on the political wind of the day and mostly at the whim of the Minister and only the Minister), long-term security has been destroyed in many fishing and seafood industries.

The lack of Commonwealth or state policies and plans for long-term seafood security for all Australians is lamentable. The failure to adequately and demonstrable accommodate seafood security in the marine planning process is completely contrary to adherence to Australia's guiding principle for natural resource use and conservation - Ecologically Sustainable Development (ESD). Measures, such as the declaration of fishing closures in marine parks, which restrict access to resources without proper evaluation of the costs and benefits of such actions, are contrary to the wise protection of food security for Australia's future.

It is important to note that Australia already has a disproportionate fraction of the world's MPAs but without appropriate assessment of how they are performing against the stated objectives. Australia certainly is not required to declare more fishing closures under the guise of 'sanctuary zones' or any other misleading label. Furthermore, there has been an extension on international commitments to MPAs to 2020. There should certainly not be indecent haste in declaring more marine parks until the cost-effectiveness of the many we already have in the many different types of areas have been properly assessed and openly debated.

Robert Kearney PhD DSc AM Emeritus Professor of Fisheries University of Canberra