

**Submission to audit of NSW marine parks**

**Nature Coast Marine Group Inc. (NCMG)**

**Comments against the audit's terms of reference**

**1. Review the domestic and international commitments to conserving marine biodiversity, current actions for meeting these commitments and the effectiveness of these actions**

Marine parks in NSW are a local example of a global process of action that is based on international concerns and implemented through national law and policy all over the world. NSW has legal obligations under agreements with the Commonwealth to implement a system of marine protected areas. These should be in the form of a comprehensive, adequate and representative (CAR) network (ANZECC 1998). Although catalysed by the realisation that fish catches are declining worldwide, the process will also help address some of the other threats to marine biodiversity.

Because of the rates of endemism in Australian marine species, especially in temperate and southern waters such as NSW, the need for marine sanctuaries is particularly important.

*"The following marine endemism rates have been indicated for southern Australia (from Richer de Forges et al 2000, Phillips 2001, Poore 2001, Williams et al 2006):*

*fish 85%; echinoderms 90%; molluscs 95%; and temperate seaweeds 62%*

*These estimates clearly underscore Australia's global responsibility for the conservation of marine biodiversity." (Hobday et al, p 1)*

NSW has a mediocre record of marine conservation. Less than 7% of NSW marine ecosystems are protected in no-take zones, or to put it another way, 93% of NSW waters are available to be exploited in some form. The plan to create marine parks to represent all major bioregions has not been implemented, as no marine parks have been created in the Hawkesbury and Twofold bioregions. Representative samples of marine ecosystems in these bioregions are therefore not protected. Current confrontational politics are making things worse.

NSW can look to the New Zealand experience where no-take reserves have been in place for some time. Bill Ballantine gives a very sensible explanation on why marine protected areas are necessary and how they should be managed. (Ballantine 1999)

**2. Review the scientific data provided to the Panel by the NSW Department of Primary Industries and the Office of Environment & Heritage**

NCMG is not in a position to comment on this term of reference.

### **3. Review the degree to which all threats to the varying types of marine environments have been properly identified and prioritised. The Panel will then consider the degree to which the marine parks process is anticipated to address each significant threat**

There are many very real threats to the marine environment. Most can be broadly categorized as fishing threats, pollution threats, and threats from climate change. The priority accorded to threats to marine environments will vary according to the type of marine environment and its location in relation to the source of the threat, and other factors.

NCMG is not in a position to prioritise threats and thus cannot comment on the degree the marine parks process can address all such threats, but it does wish to make the following points:

#### **Why should marine parks be expected to mitigate all threats to marine environments?**

Surely mitigating fishing threats, maintaining and increasing biodiversity, providing comparatively undisturbed study and educational areas and meeting conservation aims generally are more than enough justification for developing an adequate, comprehensive and representational system of no-take zones!

Terrestrial national parks have never been expected to address all significant threats to terrestrial environments – why should marine parks solve all the problems for marine environments?

#### **Fishing threats**

An adequate, comprehensive and representational system of no-take zones clearly mitigates fishing threats, including over-fishing, growth over-fishing, recovery of stocks and increasing exploitation from new fisheries. Where no-take zones have been established for some time there is an increase in the numbers, size and reproductive ability of fish and invertebrates within them. The Poor Knights Marine Reserve in New Zealand is just one example in southern hemisphere temperate waters. Rock Lobsters in a marine protected area in Tasmania showed the same response. (Barrett et al 2009 p 417). The Turban Shell fishery is an example where little is known about sustainable catch levels or the impact of the fishery on the ecosystems. (NSW Industry & Investment, Turban Shells).

#### **Threats from pollution and climate change**

These must be addressed by a whole of government approach. It is unrealistic to expect marine parks to directly mitigate against threats from inappropriate land use, urban and industrial pollution, run-off from agriculture, and marine debris - especially plastics. Climate change requires a global approach.

However, protecting marine biodiversity may give the best chance that marine ecosystems will be resistant and resilient to the effects of the other threats from pollution and climate change. But getting hard scientific data on this isn't possible without the existence of marine protected areas.

#### **References**

- Climate scientists say that east Australia, especially the south east, will be the marine region most affected by climate change - Hobday et al p 13, CSIRO 2009 Marine Report Card.

- Warming waters shown to reduce the abundance of habitat-forming subtidal kelps and increase the numbers of invertebrate grazers - Schiel et al 2004, Ecology 85.
- Species shift southwards, eg. black urchins (*Centrostephanus rodgersii*) - Johnson et al 2005.
- Ocean acidification may have a greater effect on deep ocean benthic communities but, apart from the well-documented impacts on corals, some other vital components of marine ecosystems are also vulnerable (eg. forams and coccolithophorids). The effect of acidification on all the life stages of near coastal species of fish, invertebrates and coralline algae needs to be researched –( Bristol University, Feb 2010.)
- Sea level rise will mean the loss of mangrove and saltmarsh ecosystems in many estuaries where topography and land use prevent them moving landward – (DCCEE factsheet). Where low lying agricultural land could become intertidal this land could be earmarked for acquisition as marine sanctuaries for new saltmarsh/mangroves.
- Strengthening of the east Australian Current and associated warming of coastal waters are likely to cause changes in larval distribution and the productivity of marine ecosystems - Hobday et al 2006, p 5.

#### **4. Review the specific science relating to the effectiveness of marine parks in protecting different habitat types and recommend further action and/or alternative management approaches if necessary**

It takes decades for the changes afforded by protecting marine areas from exploitation to become apparent (Edgar et al 2009 p 1967). Trained NCMG volunteers have been conducting scuba surveys with the Reef Life Survey project in many locations all around Australia. Our local Batemans Marine Park is very new and there has not been time for significant changes in sanctuary zones. Where NSW marine protected areas have been in existence for a longer time, surveys have recorded greater biomass of fish in sanctuary zones than in nearby fished areas.

Under the supervision of the Batemans Marine Park Scientist, Dr Mel Coleman, trained volunteers have also been doing snorkel surveys on selected shallow reefs outside and in sanctuary zones. Sanctuary zones in areas that are less vulnerable to illegal fishing are already showing an increase in the size and numbers of fish and abalone. Where local residents take “ownership” of adjacent sanctuaries there is usually less illegal activity.

For marine protected areas to be most effective in achieving their aims, some locations that may currently be heavily fished need to be included in sanctuary zones. (Edgar et al 2009 p 1967). The process of public consultation and zoning of marine protected areas seems to have resulted in sanctuary zones sometimes being established in areas where little previous fishing pressure existed, yet somehow these areas are still expected to change following protection when the public demand to see results.

#### **5. Recommend ways to increase the cost-effectiveness of marine park zoning arrangements**

NCMG makes the following suggestions which relate to management costs (particularly enforcement costs) as well as the cost of non-compliance to the community:

- Try to design the zones so that they are larger and with fewer changes in boundaries, while still meeting the CAR criteria for selecting habitats for protection.
- Larger, regular-shaped zones are easier to define and recognise so it is easier for fishers to know where they are and for rangers to check compliance.
- Where possible, ensure known aggregation sites and habitats of threatened species such as grey nurse sharks are included in larger sanctuary zones.

## 6. Recommend ways to improve inclusion of social and economic impacts into decision-making on marine parks, in particular the design and management of marine parks

### Consultation

Ideally there should be a better method of consultation that more accurately reveals the true costs and benefits of the decisions. Unfortunately decision making on marine parks has been hampered by a noisy minority spreading misinformation and in the process harming local economies. For example, the local tourism industry suffered and had to pay to advertise to overcome the lie that no fishing would be allowed in the Batemans Marine Park.

Stakeholder/reference groups and advisory committees should be selected from people who are willing to work towards better triple bottom line outcomes, not just be negative.

### Social impacts

Surveys of residents' and visitors' attitudes can give a good assessment as to whether marine parks are valued by the community. From contact with other members of the public, tourism operators and local businesses, and through the media, NCMG with its 300+ member base drawn from in and around the Eurobodalla Shire is aware that support for the Batemans Marine Park is widespread in the local community. This reflects other state-wide surveys such as *Who cares about the environment in 2009* (p.59) where 85% of people agreed or strongly agreed that some areas of the marine environment should be protected, even if it means recreational and commercial fishing is excluded in those areas.

Below are some examples of the extensive consultation carried out on behalf of Council in 2010 and 2011.

- IRIS Research 2010, Eurobodalla Strategic Plan Community Engagement, p 1  
714 people participated and their Vision is ***“for the preservation of the natural environment and, responsible and considered development. They want a prosperous local economy with growth and development that is carefully controlled and planned so that it fits the character of the area and has minimal impact on the environment.”***
- Evolve Communities April 2011, Eurobodalla 2030 Deliberative Forums: Record of Discussions, p2  
*“Examples of some of the key visioning elements identified by the Community Reference Group:  
... “Set in a place of stunning natural beauty and cared for to pass onto future generations.”  
... “Where respect for nature and sustainability practices are balanced with needs for*

**development.”**

- Dr Meredith Wray August 2011, Tourism Stakeholder Consultation Report – Draft, p 2.  
There was wide consultation with businesses, tourism operators, Council, and the community (see Appendices 1 & 2 of the Report)

#### *2.0 Values and Vision*

*“From this analysis, the following core values were determined to underpin the development, management and marketing of tourism for the Eurobodalla destination region over the next ten years:*

- *Achieve a sustainable, innovative tourism economic sector*
- **Preserve the natural environment**
- *Cooperate and support each other*
- *Communicate effectively with our community to foster acceptance and support for tourism*
- *Celebrate and offer a diversity of quality visitor experiences **related to our natural environment, culture and heritage***
- *Welcome and care for our visitors”*

### **Economic impacts**

Individual businesses come and go, and are influenced by many factors that have nothing to do with marine parks. The recent Australia-wide decline in retail sales of goods is just one example.

However, the Batemans Marine Park has created business opportunities for enterprising individuals. There has been a growth in the sale and use of kayaks, for instance, and since the declaration of the Park several eco-tourism businesses have become established around guided kayak tours and other low impact marine activities. Diving, snorkelling and charter operations to see whales, penguins and sea lions are growing in popularity. Fishing charters continue to operate successfully out of Batemans Bay and Narooma and could possibly be even better patronised if their operators did not undermine their own businesses by claiming the Marine Park was hurting fishing.

Tourism is a major industry in our area. It was estimated by Eurobodalla Shire’s then Tourism Manager to be worth \$340 million annually to local businesses in 2007. It has been growing every year since in spite of a downturn in tourism in other parts of Australia. The Batemans Marine Park is seen as a selling point.

In an area like ours of high unemployment, the local Marine Parks office generates jobs, and the benefits flow on via local spending on maintenance and supplies, as well as through staff salaries.

### **Education**

Marine Parks offer educational opportunities that are a social benefit to adults and children and that encourage many to continue with further marine studies.

Batemans Marine Park has a very effective schools program organised by the Ranger in co-operation with Council’s environment team. NCMG has been assisting on the excursions. All fifth and sixth classes from local primary schools, public and private, take part.

The excursions to rock platforms nearest the various schools are greatly appreciated by students and teachers. Although most children visit the beach frequently, it is surprising how little some of them know about the marine life. The lessons are also an opportunity to talk

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about the reasons for marine park zones and for fishing size and bag limits.

## **7. Identify and recommend ways to address the most significant information gaps hindering robust, evidence-based decision-making on marine parks**

At the moment, decisions on zoning have to be based on representing habitats, due to the logistical difficulties and lack of funding and capacity to collect reliable fisheries-independent data on what is where and how many there are. Current moves to cut government research even further are likely to further reduce the level of information on which to guide all marine biodiversity management.

However, wherever data has been gathered it should be shared. This would include university and government department research, as well as mapping by the navy.

A network of long-term data sets needs to be built and marine parks provide an opportunity as basis for this research.

- *Australia currently has a poor network of marine time series for assessing climate change impacts*
- *Although most marine groups do not have adequate baselines, the scarcest data are for the non-commercial and non-charismatic groups such as phytoplankton, zooplankton, soft-bottom fauna, mangroves and rocky shores (e.g. intertidal) (Hobday et al 2006, p.15)*

No-take marine reserves in marine parks will help allow areas to approach their pre-European settlement condition re biodiversity and give a better baseline for comparing the other impacts on marine ecosystems.

## **8. Make recommendations on how all current potential threats to the marine environment could be effectively addressed and which bodies or agencies would be most appropriate to address them**

Given that this is a Term of Reference for an audit of the marine parks system in NSW, please see our comments at Term of Reference #3; in particular 'Why should marine parks be expected to mitigate all threats to marine environments?'

Certainly, it is necessary to combine marine protected areas with other threat reduction management strategies, but even though it is likely that marine protected areas help manage and mitigate multiple threats, they (MPAs) are justified based simply on mitigating the various fishing threats (which have been occurring for 200 + years and are guaranteed to have had profound impacts on how the marine ecosystems operate).

Why is it not a good enough result of MPAs to have important areas managed to try to restore natural ecosystem operation as best as possible?

Apart from these fundamental issues, some practical suggestions include:

- There needs to be close co-operation at all levels of government including Commonwealth, state and local government. Most threats to the marine environment cannot be addressed by just one body.

- The Great Barrier Reef Marine Park Authority could perhaps be used as a model on how to co-ordinate efforts. It has had some success in improving the quality of run-off water by working with various natural resource management bodies, industry and the community. (GBRMPA website)
- Marine Parks should be managed separately to Fisheries as the latter is exploitation oriented. However, staff of the two agencies were able to co-operate quite well at the local level regarding the Batemans Marine Park and hopefully this will continue here and elsewhere.

## **9. Make other recommendations as appropriate, related to achieving better management of the NSW marine environment**

The “science” behind the establishment of marine parks is often challenged by opponents of marine parks. Yet in the process of community consultation about marine parks, recommendations by scientists are often modified to accommodate the wishes of the community, in particular, those of recreational fishers. Thus design of marine parks tends to be based on a mix of science and community requirements. This is as it should be; however, those in a position to influence public opinion have an obligation to challenge the misinformation put out by marine park opponents who decry the science when it doesn't suit them, in order to confuse and alienate the public.

Where possible, sanctuary zones off national parks have the advantage of having reduced impacts from land use. This has worked well in Batemans Marine Park where reasonably sized no-take zones have been established off parts of Murramarang and Eurobodalla National Parks.

The buy out of trawlers in the Batemans Marine Park has been a great benefit to the marine environment by reducing habitat destruction. It has also enhanced recreational fishing.

Netting should be prohibited in areas known to be important sites for juvenile fish.

Where there are established research facilities they should continue to be used. Cronulla Fisheries Research Station for example. However, scientists also need to be based in the regions because studies of local marine environments and species are essential.

Local Marine Park offices should be retained and used to house the regional scientists, Park staff and Fisheries compliance staff. More people on the water are needed to ensure compliance with fishing regulations as well as those of the Parks. Sharing the work, premises and equipment makes economic sense.

Local staff build better relations with the community and encourage better compliance, as well as volunteer assistance with education, clean-ups etc.

Finally, it appears to NCMG that the whole process of debating the merits of marine protected areas seems to have been turned over to fisheries scientists and fishers to reflect only their interests and what they deem important (eg. freedom to fish / exploit, spillover and improving fish stocks).

Why is there not a Term of Reference for this Audit that addresses the benefits of marine protected areas **other than to fisheries?**

**Education, conservation, scientific study and non-invasive forms of recreation in comparatively natural marine environments are equally real benefits of the marine parks process, and ultimately of great benefit to society!**

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