

**Report on the Big Ocean Network meeting and Think Tank,
Auckland, New Zealand 1st-5th December 2011**

**Anne Sheppard
Chagos Conservation Trust**

Big Ocean is a network of the six very large marine protected areas (MPAs) in the world, although there is hope that this number will expand. The aim of the Network is to improve the effectiveness of management efforts, to serve as a peer learning resource and support system, and to build the professional standards of practice for this emerging genre of marine conservation.

Big Ocean also aims to share outcomes and lessons learned in order to increase understanding of the unique contributions of large-scale marine protection and how management of the ocean at such scales is changing the game of ocean governance.

The member sites of the Big Ocean Network are the Great Barrier Reef Marine Park and World Heritage Site, Papahānaumokuākea Marine National Monument and World Heritage Site, the Phoenix Islands Protected Area and World Heritage Site, the Marianas Trench Marine National Monument, the Chagos Marine Protected Area and Motu Motiro Hiva Marine Park. Three potential new member sites are the Cook Islands, the Kermadec Marine Sanctuary and the Coral Sea Heritage Park.

Purpose of Big Ocean Network meeting

Two different meetings were held over the 5 days. Day one was the Business Meeting of the managers of the member sites. Chagos was represented at this meeting by Ian Wright of the BIOT Science Advisory Group.

The purpose of this meeting was to continue to build a strong network between the managers of the member sites and potential new member sites and to address four main objectives. These were

Objective 1: To provide site member updates with a focus on remote enforcement and surveillance needs;

Objective 2: To further support effective management of existing and proposed large-scale marine managed areas by building relationships with potential new sites;

Objective 3: To review Big Ocean's accomplishments over the course of its first year of existence and identify important next steps to solidify the network; and

Objective 4: To create a road map for the network's participation at the third International Marine Protected Areas Congress (IMPAC 2013), by developing inclusive ways of building organizational capacity, developing new partnerships and outlining potential fundraising strategies.

A report is nearing completion by the meeting organisers and will be circulated when it is received.

Purpose of Big Ocean Network Think Tank

The aim of the four day 'think tank' meeting was to develop a shared research agenda for large marine protected areas. The focus was to identify knowledge gaps, scientific needs and research priorities and, importantly, how to improve access to research information for MPA managers.

Meeting discussion points

A representative from each of the six MPAs gave a fifteen minute talk on the research achievements, scientific gaps, research opportunities and priority research needs. These presentations were very valuable, allowing members to learn from experiences of the other MPAs.

These indicated that much of the work done and coordinated by the British Indian Ocean Territory (BIOT) conservation advisor Prof Charles Sheppard, and by the Chagos Conservation Trust (CCT) and BIOT is also done by the managers of the various MPAs. It has been found, for example, that the Phoenix Islands Protected Area (PIPA) has a similar coral mortality and recovery pattern to Chagos.

With regards to informing management in Chagos, the presentation by Andrew Skeat of the Great Barrier Reef Marine Park Authority (GBRMPA) was particularly informative.

Economic arguments were considered very important to illustrate the value of large MPAs.

GBRMPA, after many more years of managing a large MPA than most places, has found that the following factors were the greatest drivers for getting help and support in managing the MPA:

1. Economic valuation. In the GBR, tourism, because of the MPA, brings in \$5.1 billion every year. Commercial fisheries bring in about \$360million and recreational fisheries about \$160million. A good MPA for its own sake is therefore worth much more than the extractive uses it is put to
2. Bioregional classification
3. Direct effects of industries/fishing
4. Hindcasting historical records to show what they used to have
5. Hindcasting coral core data to show changes influencing the GBR (eg change in 1930s allowed them to go to farmers and say 'this was you, you must change')

GBRMPA uses the method below to prioritise research needs for management purposes.

Adequacy of information	Degree of concern to management		
	High	Moderate	Low
Low	Highest research priority		
Moderate			
Good			Lowest research priority

GBRMPA use the following table to help prioritise needs and assess information gaps:

	Islands	Beaches	Mangroves	Seagrasses	Reefs	Lagoon floor	Deep reefs
Commercial fishing							
Defence							
Fishing							
Ports and shipping							
Recreation							
Scientific research							
Traditional use of marine resources							
Climate change							
Coastal development							
Catchment runoff							

GBRMPA now has a purely management function and does no scientific research itself.

Management is a very large issue in all the other MPAs. The question of what is management and what is science was discussed, in the context of science being experimental or investigatory and management being more operational. It was agreed that monitoring is more of a management issue than a science issue. However it was noted that in Chagos, the purely scientific coral cover data collected over time had a very beneficial management benefit, so management should be between scientists and managers in iterative discussion. The meeting agreed that scientists should help managers formulate the questions needed for scientists to answer. It is not enough to write scientific papers but they must be interpreted for management and communication purposes for them to be effective.

Shipping passage and surveillance

In the Hawai'i Papahānaumokuākea MPA, all shipping has to relay it's intention to enter the MPA to the MPA offices. This means that staff are aware of all traffic and can monitor progress through the MPA. Any vessel which has not reported their intention and is found in the MPA waters is there illegally and is dealt with as such.

Jay Nelson of Pew suggested that the International Maritime Organisation (IMO) Particularly Sensitive Seas Status (PSSS) is something worth investigating for Chagos.

Andrew Skeat, director of GBRMPA, said that in effect GBRPMA spends many millions of dollars on surveillance and yet it is still ineffectual at stopping poaching or misuse of the MPA. He acknowledged that it is different in the GBR where anyone has a right to pass through almost all of it. He will send more information. Thus we can strive for good surveillance but should not expect complete success.

Connectivity

Much discussion was on connectivity, both between the MPA and the surrounding region and also within the MPA. The group led by Dr Brian Bowen at Hawai'i Marine Labs has done a lot of inter island connectivity research in the Papahānaumokuākea Marine National Monument site, which worryingly does not show that one area will repopulate another if depleted. The Chagos data presented on this was found to be of interest to the other groups (and some of this had been done by Prof Bowen's group at the University of Hawaii also).

Chagos /Big Ocean Network link

The Chagos MPA has no active management as such, unlike the other MPAs, and the other MPAs have official/government links to Big Ocean Network. NGOs cannot be the official link organisation with Big Ocean Network (so CCT could not be the official link). Will BIOT provide the BON link, perhaps advised by the conservation advisor? CCT could perhaps work in an advisory capacity to BIOTs BON membership too and BON is keen to work with CCT and other interested groups within e.g. CEN.

Outcomes

The meeting agreed the following shared research agenda questions.

What makes our place special or unique?

How much does our site contribute to greater 'good' of the oceans?

How much do our sites depend on what's going on outside the MPA?

How does the site contribute to the welfare of the people?

What are the lessons learned for other sites?

Research data in each of the MPAs should be shared. It was agreed that it would be good to put data on the various websites and the BON website would link to them. It was also agreed that it would be useful to share expertise.

It was proposed by Anne Sheppard that a good research paper, written in collaboration with the scientists who work on all 6 very large MPAs and describing the benefits of these Very Large MPAs would be useful. This was agreed and Dr Rob Toonen of Hawaii and Prof Charles Sheppard were nominated to lead on this. It was proposed that we write one short paper, aimed at *Nature* or *Science*, another larger paper aimed at *Marine Pollution Bulletin*, *Conservation Biology* or *Oryx* and a science policy piece written for perhaps *Science* policy forum. As well as these, to inform a larger audience, a popular piece written for something like *Time* magazine should also be written.

It was also proposed that there was a need for a handbook for very large MPA management, and that this might be published by the International Union for the Conservation of Nature (IUCN).

The meeting agreed that allowing a tuna fishery to fish in an MPA is not only encouraging the deterioration of the MPA but also allows a small number of people (generally corporations) to make a lot of money, with no benefit to that MPA.

Next meetings

The next Business Meeting of Big Ocean is in September 2012, in Jeju, Korea in conjunction with the 2012 IUCN World Conservation Congress. In conjunction with this, Big Ocean will convene its second Learning Exchange, the topic will be selected by Big Ocean members based on the greatest collective interest and need.

It is considered important that representatives of the Chagos MPA, the biggest no-take MPA in the world, be present at this meeting. Both in terms of input to the meetings and what can be gained from them.

Anne Sheppard
December 2011