

**IOSF 2008  
Focus Group 1**

**Marine Protected Areas and the sustainable use of marine biological diversity**

Co-chairs/ Rapporteurs:

**Dr Dave Billett (NOCS)**

**Professor Craig Smith (University of Hawaii)**

**Dr Chris Tomkins (Consultant)**

**KEY QUESTIONS:**

- 1 What are the present and future uses of marine biological diversity in the open oceans?
- 2 What are the major direct and indirect impacts on marine biological diversity in the open oceans?
- 3 Are Marine Protected Areas and other area-based management tools suitable for open ocean systems? Are methods developed for terrestrial and coastal zone management suitable?
- 4 What criteria should be used to establish MPAs in environments where there is little or no information?
- 5 How can biogeographic provinces be used to guide area-based management methods in the open ocean?
- 6 What constitutes a "vulnerable marine ecosystem"?
- 7 How important are conservation corridors in linking discontinuous environments in open ocean areas?
- 8 How can the enforcement of marine protected areas be accomplished on the High Seas and in The Area?
- 9 Are Vessel Management Systems suitable for regulating activities on the High Seas and in The Area?
- 10 How can inter-sectoral plans for Marine Protected Areas be achieved?
- 11 What are the major gaps in scientific knowledge for the adequate management of the open ocean?
- 12 How can joint international multi-national and multi-disciplinary scientific studies be created and funded to address key ocean management needs?
- 13 What are the key issues appearing on the horizon which we might consider for such a meeting in a year's time?

## REPORT:

### MPA FOCUS GROUP COVERED BROAD RANGE OF ISSUES, PRIORITIES AND ENFORCEMENT POSSIBILITIES

Bulleted commentaries on the following questions are summarised as follows:

- What are the present and future uses of marine biological diversity in the open oceans?

Fishing (commercial and recreational)  
Bioprospecting (biomedicines, biotechnology)  
Aquaria  
Curios  
Aphrodisiacs  
Biomass production in ecosystem services  
Ecosystem functioning  
Biofuels  
Carbon sequestration  
Iron fertilisation (Commercial and Academic Experiments)  
Tourism  
Scientific Research  
Feel good factor of good stewardship

- What are the major present and future direct/indirect pressures and impacts?

Fishing – loss of targeted species 1  
Fishing – habitat impacts 1  
Pollution – Chemical 1  
Pollution – Waste/Dumping/Litter 1  
Oil and Gas 2  
Deep-sea cables 3  
Climate change – change in water circulation, productivity 1  
Ocean acidification 1  
Growing human population 1  
Invasive species 3  
Mining 2  
Sonar and acoustics, noise, shipping, seismics 1/2  
Bioprospecting 2  
Aquaculture (via fishing and production of fishmeal for aquaculture) 1  
Navigation and shipping 2  
Nuclear testing 3  
Conflicts 2  
Renewable energy 3  
Dumping 3  
Biofuels 3  
Episodic catastrophic events 2

- Are MPAs and other area-based management tools suitable for open ocean systems?

Scientifically – yes  
Difficulties with legal regime,

How are priorities decided? On current level of impact? On areas perceived as not impacted? On areas thought to have unique biodiversity? Habitat mapping? Representivity? Needs change in attitudes of stakeholders? Should pelagic and benthic systems be separated? Are MPAs suitable for pelagic systems? Enforcement?

- What criteria should be used to establish MPAs when there is little information?

Habitat classification – at risk areas, stronger precautionary principle, other (see 3. above), depends on goals of MPA system (whales, mining etc.). Knowledge of depth variation. Topographic variation. Seabed features.

CCAMLR is working together with the Antarctic Treaty's Committee on Environmental Protection (CEP) to define 'bioregions' as a scientific basis for establishing a network of Marine Protected Areas, including:

- Representative areas
- Scientific reference areas
- Unique areas for habitats and species
- Areas vulnerable to human impacts
- Important ecosystem processes

- How can biogeographic provinces help in planning ocean MPAs?

Management areas should occur within a biogeographic zone, and integrated with these provinces. Within a habitat you would find similar species within a province. Different province system/classification in surface waters, mesopelagic, bathypelagic, bathyal, abyssal, hadal zones.

- Where are 'vulnerable' ecosystems/species? Is it a valuable concept?

Life history characteristics, species that provide structure. Need to look at risk and type of and impact (related to intensity). Needs information on distribution of species on a regional and global scale. Vulnerable habitats and species do not have the capacity to recover quickly? Timescale?

- What is a 'unique' habitat?

- How do we prioritise management, what do we protect first?

Resilience, resistance, risk from activity, uniqueness, 'vulnerable', fragility, but problem of knowledge of deep-sea species and habitats requires a representative approach (?based on habitat mapping, geomorphology). If no specific information – danger that policy makers will not 'buy in'. Target 30% representative areas of specific size and distance apart (cf. California coast) where there are potential impacts. Fisheries now more interested in these measures now that there are fewer fish. Political will. Maintenance of ecosystem function. Detailed habitat mapping required for deciding on resource development and MPA management and the balance between the two. Multibeam maps and backscatter information required with seabed imaging for validation. When do we have enough data? Lack of data used as an excuse? How can progress be made? Change the burden of proof.

- Conservation corridors linking discontinuous environments?

Spacing and arrangement of MPAs in design phase. Highly migratory species need certain corridors, e.g. whales.

- Enforcement of MPAs?

Detection? Satellite surveillance? VMS?

Punishment? Competence? Who is the policeman? How can they act?

Ship control (as below in 11.) if legally admissible (High Seas problem).

Regional bodies – greater chance of enforcement because of the ‘joint will’ of all countries interested in the resources of that region. Is it possible under their mandate, if so then VMS can be used.

- Should Vessel Management Systems be used in enforcement?

Wherever possible. eeVessel movements required in real time. Real issue is vessel management – flag states and port controls?

If VMS is used for safety of shipping only, then change mandate for environmental enforcement.

CCAMLR has used VMS for management – black listed not allowed to fish the following year. Regional management success.

- How can we improve inter-sectoral planning?

MPA agreement needs treaty with all stakeholders (e.g. mining, fisheries, etc.). Need improved cooperation. Change mandates of all regulatory bodies so that they are all moving in the same direction with the same management aims. Getting all regulating bodies to buy into ecosystem management. Avoid discussion on new regime. Need external pressure on driving progress in each body.

- What would a stakeholder forum look like for ABNJ?

RFMOs, ISA, Industry, NGOs, science institutions, UNEP, UNESCO, Governments and major groups. IPCC.

- Major science gaps?

- How to pay for international science?

G8 work together – connections in science base was good enough to allow groups to self organise. But no Government influence on Kaplan study in CCZ. Very little input. Combine NSF and EU Framework Programme funding? SCOR or POGO organisation and drive?

- Key issues for a further meeting on ocean governance?

Interaction between different bodies, connections, streaming in the same direction, review process, compliance.

Agreement on priorities of issues.

Examine connection between science and how policy is made - World summit on MPAs had ‘nothing’ to do with science. How do we facilitate this in a better way and raise awareness of emerging issues? e.g. decisions on ocean fertilisation regulations. HERMES Science Policy Panel as a model? How to inform policy makers on specific issues?

How to stimulate science input to policy? Rewards, benefits etc.