

Since 1997, a residential course entitled '*The Principles and Dynamics of Marine Reserves*' has held at the Leigh Marine Laboratory. Most participants are 4th year university students, working for an M.Sc. in Marine Science, but it is also attended by staff from the Department of Conservation, members of various NGOs and people from overseas. The piece below developed during the course as a collective effort. This is the 2000 version.

DENIALS, DISTRACTIONS AND DEADENDS

Many objections to marine reserves have been stated, as well as a large number of other arguments that prevent effective progress. On careful examination, these are found to be some combination of irrelevant, unnecessary, premature, illogical or simply untrue, but their number and range are intimidating, at least when first encountered. Listing and sorting all the objections and apparent difficulties shows that there are only a few classes (each with a range of variants), each of which effectively denies or ignores some the principles of marine reserves. By restating the principles and classifying the objections with respect to these helps understand why the various objections arise and shows how they can be answered effectively and fairly.

I The basic principles of marine reserves:

- 'No-take' (whether or not any 'problems' are perceived)
- No human-induced disturbance (that can reasonably be prevented)
- People encouraged to view and study the results (within limits of the above)
- Permanent (not open for harvest on rotation)

Objections that deny the basic principles:

1. People are part of nature, everything they do is 'natural'.
2. What's the problem? "If it ain't broke, don't fix it."
3. Universal fishing is a right, unless there is a clearly defined problem.
4. Indigenous peoples' fishing rights (or other cultural uses) cannot be disturbed.
5. Displaced fishing and/or fish mobility will ensure there are no real benefits.
6. Protection must be absolute – so people must be excluded from reserves.
7. 'Reserves' should be opened to fishing at intervals.

II Multiple benefit principles:

Marine reserves have many potential benefits and these cover a wide range. They are not sectorial.

Marine reserves are an addition to detailed management, not an alternative.

Marine reserves form a different level of management, that is pro-active and based on total experience. They are not designed to solve single identifiable problems.

Denial of multiple benefits, need or urgency: distractions based on 'alternatives'

8. Improved detailed management on existing lines is the answer.
9. General planning in the sea (e.g. multi-use zones) is the answer.
10. Aquaculture is the answer.
11. Active restoration of stocks (e.g. breeding and release) is the answer.
12. Fish aggregation devices (FADS) and/or artificial reefs are the answer.
13. Other problems are more important and must have precedence.

III System principles:

- Representation of all biogeographic regions
- Representation of all major habitats in each region
- Replication
- Network design
- Self-sustainable total amount

Denial of system principles: an insistence on precise justification

14. 'The purpose' of each reserve must be defined – by sector and/or stock.
15. Reserves must be located in the 'right places'.
16. Surveys and data are needed to locate the 'right places'.
17. Monitoring is necessary to 'show success'.
18. Success is when there is 'more and better' inside than out.

IV Principles for implementation

- Top-down insistence on principles and the speed of implementation.
- Local and sectional control of detail (within the principles)

Denial of principles –NIMBY, insistence on special/local justification.

19. Each proposed area has important current uses.
20. Each proposed area is not sufficiently special to justify the special restrictions.

THE REAL PROBLEMS:

Ignorance

There's nothing I need to worry about.

Indifference

You want me to care about worms and crabs.

Inertia

They will sort it out one day, it's not my concern.