

## APPENDIX 1

### INTRODUCTION TO WORKSHOP

by

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The Authority is in the business of managing a national natural resource.

It must recommend to the Minister on areas of the Great Barrier Reef Region which should be declared parts of the Marine Park, and it must establish regulations that will allow management of specific zones for different purposes within the Marine Park.

The Authority has *not* been established to wrap the Reef in cotton wool and prevent use of the region. Rather, it has been established to ensure the controlled development of the Great Barrier Reef Region as a resource to be enjoyed and utilised by today's generation and maintained, with a minimum of human disturbance to its natural state, for the enjoyment and utilisation of future generations.

To be effective and responsible in its functions, the Authority has a role to play in -

- . planning and liaison
- . research
- . public participation
- . management.

Within this functional role, factors of biology, ecology, hydrography, demography, economic development, transportation, recreation and impacts of island and mainland activity have to be better understood.

But, as in any business, we must make decisions now - not wait until every aspect in this complex situation is understood. We want to make decisions on the best possible advice available. That is why you are here for one specific aspect of the basics to be considered in the overall decision-making process.

You will know that the Authority is committed to early declaration of the Capricorn/Bunker region as the first Marine Park.

You should apply your consideration in this workshop first to the general Reef Region, but if difficulties arise, then your attention should be directed to specific requirements of this Capricorn/Bunker Region.

I *do* want to see clear objectives agreed to. Within these objectives, there can be searching questions but I would like to think that at the end of the period, we will have a set of recommendations for the Authority to assist it in its zoning and management role.

I will introduce several questions. Mr. Soames Summerhays will then centre on some basic definitions and on specific objectives.

With specific regard to fishing, there are many requests the Authority will have to answer, among these may be some apparently simple questions such as:

- . What is the best place to see reef fish?
  - (a) in glass bottom boats?
  - (b) skin diving?
  - (c) SCUBA diving ?

Where can I catch a reef fish or a specific fish e.g. a red emperor?

Then there will be more extensive questions, such as:

- (a) the reef is being overfished. I cannot get fish the way I used to. Why don't you do something about it? How can we responsibly answer that question?

What do we know about fish on the Great Barrier Reef or even, specifically, on Heron Island Reef? You are the people to whom we turn. Let me now give some general introduction and perhaps repeat myself a little - specifically on 'fish'.

The Great Barrier Reef Region is an area of major attractions for many reasons.

Overall, it has a considerable historic and romantic appeal in the challenge presented in the mastery of its waters, and the areas near reefs have great aesthetic value in the variety of colours presented, due not only to the living organisms, but also to the great variety of colour tones in the water themselves.

Many people are attracted to the reef simply for relaxation, for occasional viewing from glass-bottom boats, for diving among the corals and the fish, or for reef-walking.

Many others are attracted to collect different marine organisms and, although I do not have precise figures, I suspect that a high percentage of reef visitors *will* throw a line in the water at some time, hoping to 'catch a fish'.

Fish and fishing are major attractions to the region, fish being perhaps the most significant single publicised exploitative activity - and it is to the benefit of all if a management protocol could be established which enables maintenance of fish stocks at levels which are consistent with the overall ecosystem, and which allow a reasonable probability of visitors being able to refer, as one of the highlights of their visit to the Reef, that they saw all these beautiful fish and actually caught this 'beauty' (illustrated) on a fishing trip!

It may seem strange that I introduce the workshop topic of 'Reef Fish Assessment and Monitoring' in this way. I do it deliberately because the Authority exercises its functions over an area which is subject to increasing human presence. After declaration of a section of the Great Barrier Reef Region as a Marine Park, the Authority has the responsibility under s.32(1) of the Act to prepare, as soon as practicable, a zoning plan in respect of that Region.

The zoning plan shall make provision with respect to the purposes for which the zone is to be, or may be, used or entered.

In the preparation of this zoning plan, Section 32 (7) of the Act requires that regard shall be had to the following objects:

- (a) the conservation of the Great Barrier Reef;
- (b) the regulation of the use of the Marine Park so as to protect the Great Barrier Reef while allowing the reasonable use of the Great Barrier Reef Region'
- (c) the regulation of activities that exploit the resources of the Great Barrier Reef Region so as to minimise the effect of those activities on the Great Barrier Reef;
- (d) the preservation of some areas of the Great Barrier Reef in its natural state undisturbed by man except for the purposes of scientific research.

Objects (b) and (c) clearly relate to activities which exploit the resources of the Region. All five objects have a strong 'fish component'. One should note however that, apart from Authority approved research and investigations relevant to the establishment, care and development of the Marine Park, or for scientific research, no operations for the recovery of minerals shall be carried on in the Marine Park (Section 38).

One may therefore assume that all other forms of exploitation may be proposed for the Authority's consideration.

Fishing, in my opinion, is a key aspect.

What do we mean by fish in this workshop? Fish as individuals or as assemblages? That topic will be addressed by Mr. Soames Summerhays in the next part of the opening session.

For me and the Authority, there are many questions to which we would eventually want to have the answers.

Some of these would be:

1. Is it possible to define reliable methods to evaluate populations of fished species?
2. Can these methods be made applicable to rapid assessment over relatively large areas e.g. around Heron Island?
3. How does one verify these methods?
4. Can one identify important components of an ecosystem for a stable fish population, e.g. currents, substrate, algae, corals, etc.
5. To what extent is there recruitment or exchange of fish populations from one section of the Reef to another?
6. Is it possible to define specific sections of reef areas which are important in the breeding season?
7. Is there a breeding season?
8. Is the breeding season the same for all species?
9. If one identifies the major species of fish or interest to the private (?) professional (?) fisherman, are all species distributed over the entire Barrier Reef Region?
10. If not, should certain species be specifically protected in specific areas?
11. What length of time is necessary to determine if a fish population is varying due to the influence of man (whether that influence be direct - e.g. fishing - or indirect - e.g. destruction of habitat, pollution etc.)?
12. Would it ever be possible to establish when a fish population is in jeopardy, prior to a 'point of no-return' being reached?
13. Can one identify evidence as to the presence of certain fish e.g. nocturnal feeders, even if they are not directly observable in a day-time survey?

14. How important are factors such as ; the time of day - weather conditions - tide - phase of moon, in applying fish population assessment methods? Many people claim that the best fishing is either early morning or late evening. Others say fish bite better on dull overcast days, still others claim fish bite best on a rising tide. Do these proposals relate to movement of fish from one region of the reef waters to another at certain times; are they indications of preferred feeding habits in a population always present in the same area; or are these popular theories not supportable anyhow?  
(Whether they are or not, fishermen will always claim that their own theories always - or nearly always - apply.)
15. Is it possible that the demands in the Great Barrier Reef Region differ from those of other fisheries in that there is a significant non-destructive involvement with reef fishes e.g. glass bottom boat, SCUBA diving, for aesthetic pleasure?
16. The Great Barrier Reef Region encompasses regions from the Queensland coast to the reefs and beyond to the open Pacific Ocean waters. It also covers from 2,000 linear km in a north-south direction.
- (a) Are mangrove systems important to reef fish populations? Why?
  - (b) Are the waters in the Region, not closely associated with reefs, significant in any 'reef' fish populations? Why?
  - (c) Is there any consistent variation in species from outer reef to inner reef regions?
  - (d) Is there a north-south variation in species?
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17. What is a reef? Is it something containing coral at any depth or is it something containing coral, which is partly or wholly exposed at low tide?
18. What features of food chains are important to the different reef fish species?
19. Are any symbiotic (or related) relationships, important in any of the reef fish to be considered?
20. What fish are important to man in the Reef region (for viewing in their 'natural' habitat for sport, for sustenance, for sale)?
21. Are these the only fish populations which should be monitored?
22. Does one specific method of catching fish more than any other cause any significant change in habit of the remaining fish stock?

All these questions may be asked of an Authority which is seen to be responsible for the management of the Reef resources.

There are many more questions which may properly be proposed, but in this workshop I would hope that we can draw upon your individual areas of expertise to address ourselves to the fundamental questions which must be debated and resolved by you as experts, the answers translated to theories and the theories practised in the field so that a management body has methods to assess the impact of man on the presence of fished demersal fish in the Barrier Reef Region. It seems that the questions 1, 2, 3, 4, 13, 14, and 20 may be the first to assess.

I wonder if the methods perfected would only be applicable to Barrier Reef waters? Certainly I hope not. The reason for the Authority conducting the workshop is that we believe we have to find the methods of assessment of different species populations. Fish are but one group, but they do require special consideration. You people represent the most significant expertise in the general field of fish ecology - particularly reef fish ecology.

There is no place for politics or sectional interests in this workshop. There are problems; they need a solution. The results of your work, with your concurrence, will be made widely available through appropriate publications.

To ease the task of recording the decisions and major proceedings of each Section of the workshop, Ms. Hilary Jasper has been appointed rapporteur. She will need your help to ensure that the recordings are accurate. This will lead to an early publication of the workshop activities and decisions.

Mr. Soames Summerhays is the Authority staff member who has instigated this workshop. He will in the next presentation, pose some additional questions, and, with us, determine the realistic objectives and scope of this workshop, which I now formally declare open.