



**GREAT BARRIER REEF**  
MARINE PARK AUTHORITY

**RESEARCH PUBLICATION No. 65**

# **Recreation and Tourism Experience in the Great Barrier Reef Marine Park and Implications for Management**



**L M Scherl,  
P S Valentine and  
M Millard**

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P.O. Box 1379  
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**June 1997**

**A REPORT TO THE GREAT BARRIER REEF MARINE PARK AUTHORITY**

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## SUMMARY

### The Nature of the Study

This report describes a detailed study of visitors' experiences to Lady Musgrave Island and Reef which is located in the southern section of the Great Barrier Reef Marine Park. The project involved extensive cooperation between managers and researchers throughout all stages, and the ultimate design reflected identified concerns of managers, as well as a desire to understand how different visitors experience reef and island environments. A great deal of assistance and support was also provided by the tour operators during data collection.

The research methodology had a very strong qualitative focus with normal scientific design criteria used for sampling and analysis. This was the first attempt to develop a taxonomy of reef experiences. The data collection was based on the recorded interviews of a sequence of open-ended questions most of which probed the respondents on their experiences, perceptions, values and preferences related to being in that location of the Great Barrier Reef Marine Park. Data interpretation was based primarily on content analysis of transcribed versions of the taped responses, plus some formal observational data. This highly complex process produced a rich set of insights into the nature of the recreational/tourism experience from the perspective of the visitors, with little imposition of meaning from the researchers.

This summary cannot do justice to the data set, and readers are strongly advised to carefully examine the detailed discussions of methodology and results. The fundamental goal of this research was to understand how and what people experience when they visit the Great Barrier Reef Marine Park, and to identify possible management-related aspects to these experiences. The authors caution readers against simplistic interpretations of the data. In this type of data set the range of responses is as important as the percentage of people that expressed a certain type of perception. Also, percentages in this report reflect the number of people who spontaneously mention an experience dimension or management issue, rather than a conventional interpretation of percentages (i.e. percentage of people who responded to items presented to them).

The research task was to develop an awareness of the experiences of visitors as well as an inventory and taxonomy of these experiences. Subsequently, addressing the understanding obtained here for management was of primary importance. The data set is based on 208 useable responses which comprised 114 daytripper interviews (visitors that go to the Great Barrier Reef Marine Park only for a day), 54 camper interviews and 40 interviews with visitors from private yachts.

### Overview of Results

#### *Characteristics of Visitors*

There was a high proportion of repeat visitors (generally divided up into three user groups: yachties, campers and daytrippers) and the origins of the visitors were Queensland (38%), other Australian states (40%) and overseas (22%). There was a general heterogeneous mix of demographic, cultural and social characteristics.

#### *The Nature of the Lady Musgrave Recreation Experience: The Overall Experience*

Clearly the Lady Musgrave Island and Reef experience is very complex and diverse.

In responding to general open-ended questions on experiences, visitors alluded to all of the experiential dimensions. They not only talked about themselves, their feelings and what the experience represented to them (the *self dimension*), but they also referred to what they've been doing while at Lady Musgrave Island and Reef (the *activity dimension*), their perceptions and interactions with other people (the *social dimension*), their perceptions and interactions with nature and the physical environment in general (the *physical environment dimension*), and made observations on managerial and organisational factors.

Given that these were very general and open-ended questions, it is important to note the wide range of different aspects of the experience mentioned. The responses confirm the notion that outdoor recreation and tourism experiences are multi-dimensional, and that the visitors themselves are aware of all of these dimensions. Not only that, these dimensions all happen almost simultaneously and resource managers should be aware of the potential interactions among them.

When noting the relative salience of the dimensions overall, visitors talked more predominantly about the self dimension. However, coding of references to the physical environment required the largest number of categories. This is both a reflection of salience, but could also be due to the fact that it is easier to separate specific environmental characteristics (e.g. a coral from a fish), and to develop more categories for that domain, than to separate emotional or cognitive characteristics.

Whilst there were many more categories used to code environmental salience than other experiential domains, many categories were also used to code visitors' expressions related to their own self experience. In fact, the actual percentage of references to some of the categories within this dimension were higher than for any other categories in the taxonomy. Visitors also referred to a wide range of water- and land-based activities they undertook while at Lady Musgrave Island and Reef. By comparison, the social environment and managerial/organisation dimensions were less salient to people.

Visitors in general felt very positive about their experiences. There were, however, interesting differences among the three user groups. It is clear that these groups cannot be seen homogeneously in terms of what is salient to them and the experiences they are seeking, and this has implications for management. Campers value tranquillity, peacefulness, relaxed environment, family togetherness and a sense of escape. Day visitors see their experiences much more in terms of mental stimulation and talk about their experiences more commonly as 'activities' when compared to campers and yachties. Although all visitors are attentive to a diverse range of environmental features and the environment is very salient to them, there are differences in the physical environmental emphasis. Day visitors focused more broadly on the marine environment with less emphasis than campers on the terrestrial environment. Campers, by comparison with daytrippers, focus more evenly on both terrestrial and marine environments. Yachties share values with both campers and daytrippers: like campers they value tranquillity, peacefulness and relaxation, but tend to be a bit more marine orientated.

Many daytrippers considered the Lady Musgrave Island and Reef experience to be new and unique. Interestingly, half of the daytrippers who said that the Lady Musgrave Island and Reef experience was unique, had also been to other locations on the Great Barrier Reef. It seems then, that the perception of uniqueness is not only related to not having been to the Marine Park before, but also to the fact that Lady Musgrave is perceived as a unique place within the Great Barrier Reef Marine Park itself.

### **The Activity Dimension of the Experience**

There is a diverse range of activities which visitors enjoy and the report identifies the most salient for each of the different groups. Snorkelling is clearly very important both in terms of the amount of people who undertake this activity and also in the strong positive emotion aroused. Contemplating nature was another activity with high participation levels. Some activities are more important for different types of visitors. It is significant that visitors display a great richness in their definitions of activities.

### **The Physical Environment Dimension of the Experience: Individual Interaction**

Visitor perceptions and descriptions of the Lady Musgrave natural environment were very diverse, ranging from general overall perceptions of its naturalness and isolation, to very specific aspects of the fauna and flora (e.g. turtles and corals). The different visitor groups revealed some consistent variation between them. It is clear that for many visitors the natural attributes of Lady Musgrave were perceived as special. This included references to unique characteristics ('like nothing ever seen before') and to natural and 'unspoiled' environments (corals, island, reef and lagoon).



Visitors felt positive about the environment. Campers especially valued the isolation and escape opportunities and the absence of development, daytrippers particularly referred to corals, and yachties (people that visit on private boats) emphasised lagoon features. Naturalness was a key part of daytrippers' and yachties' perceptions of environmental attributes contributing to their enjoyment, as were particular groups of fauna. There was little about the Lady Musgrave natural environment that detracted from visitor enjoyment. Although not part of the question asked, there was a surprisingly high spontaneous reference to concern for the environment and conservation. In the case of daytrippers this was quite high, even more than campers and yachties. This may be an indication of a quite high level of environmental awareness and concern within the overall population. Generally campers perceive and describe the environment in a more focused and detailed way compared with daytrippers, a fact which may have implications for management.

### **The Social Environment Dimension of the Experience**

Generally respondents described other visitors as very friendly and some recognition was given to the diverse and interesting nature of other visitors, especially by campers who perhaps had a greater opportunity to get to know their fellow visitors. Staff of tour boat operations were generally praised by daytrippers.

As well as being more aware of their fellow visitors, campers were also more inclined to identify inappropriate behaviour and were very sensitive to the entire social environment. They spontaneously drew attention to conflict between themselves and daytrippers, and recognised very different purposes and values. There was a high sense of community ('belongingness') amongst campers that was not felt by the daytrippers and yachties. It is clear that campers are much more socially sensitive than the other types of visitors, while daytrippers relate more with staff. On particular issues there were a variety of views, some very strong. The use of generators caused considerable disturbance to campers (46% do not like it), however there is a recognition of a need for compressed air for scuba diving amongst some campers.

The social carrying capacity was a key focus of this section of the study and reactions to the numbers of people varied considerably as might have been expected. Despite the surveys being undertaken at times of only moderate use, 21% said there were too many people on the boat and pontoon, with 46% accepting the perceived level of use. With regard to encounters on the island, campers were once again highly sensitive to crowding compared with daytrippers. One-third of daytrippers went to the camping area and their presence there elicited a range of responses including concern about loss of privacy, security of gear and feelings of being intruded upon. There were also more positive responses including those who felt such visits were acceptable.

With regard to the numbers of campers, there was a clear sense that campers were feeling crowded already. Very few felt a solution might be a larger camping ground. Concern was also expressed about camping group sizes. By using the data to calculate an index of perceived crowdedness it was shown that 87% of visitors overall, and similar proportions of each group, were experiencing perceptions of being crowded.

### **Perceptions of Facilities and Level of Development**

Generally the views of visitors support existing levels with a strong indication that no further expansion should occur. Their comments reveal considerable sensitivity to the need for facilities to be unobtrusive and, consistent with perceptions of crowding, some visitors felt the operations were too developed already.

### **Information and Interpretation Services/Facilities**

Most information received was in written form and gave general information about the environment. There was strong positive evaluation about the information but also a desire for more detailed material. Types of information sought varied between groups, with yachties seeking more management and regulation while daytrippers and campers required more detailed environmental

information. Visitors suggested a variety of ways in which they would like to receive information, also varying between the groups. The clear message is that most visitors desire more detailed interpretive information about Lady Musgrave Island and Reef than is currently available.

### **Zoning and Regulations**

Awareness of zoning and regulation varies and few visitors have any detailed knowledge, though a high proportion expressed concern about environmental impacts and recognised the need for regulation. Yachties and campers were better informed than daytrippers. Visitors expressed concern about potential impacts of boats anchoring in the lagoon and showed awareness of potential damage. There were strong negative views about commercial fishing and its potential impacts, and even some concerns about recreational fishing, especially by campers.

### **General Observations about Management**

Overall perceptions of management were favourable. Visitors revealed a very strong desire for restrictive management leading to an overall impression of support for even more control and limitation of use. It was clear that this was related to both concern for the natural environment and concern for the social setting in order to maintain the highly valued 'character' of the island recreation opportunity.

### **Recollection of the Experience**

Responses when visitors were asked to recollect their experience further highlight one of the key differences between the experiences of campers and other user groups, i.e. the far greater importance to campers of the relaxed, tranquil, peaceful nature of the experience, as compared to the excitement and uniqueness of a 'day on the reef' for daytrippers. Yachties also mentioned relaxing as important, rather than the hype, excitement and 'new experience' of daytrippers. For campers, the experience seems to be primarily one of escape and peacefulness with a strong emphasis on family togetherness in a natural setting.

### **Motivation for going to Lady Musgrave Island and Reef**

The exploration of motivations for visiting Lady Musgrave Island and Reef indicated overall similarities and some important differences among user groups. Generally it was good, positive emotional feelings, and anticipation of rewarding positive experiences that were salient amongst all groups. The activities associated with these expectations were largely contemplating nature, scuba diving and experiencing the Great Barrier Reef and the general reef community.

However, as in previous sections, there were also important user group differences. For the campers the experience was more emotional, involving greater levels of anticipation, particularly in association with scuba diving. Although accessibility and convenience seemed less salient for campers, relatively low cost was important, suggesting Lady Musgrave Island provided such an option for experiencing the Great Barrier Reef Marine Park. Despite campers' high expectation of a 'special' experience, there is some indication that these expectations were generally fulfilled.

### **General Observations about the Study**

The study was very well received by the participants with 51% saying it was a good/very good idea, 43% feeling positive about managers seeking visitors' opinions, with 50% spontaneously noting that they felt the study could have a positive contribution to management.

The report also contains management application sections (sections 8 and 9) which summarise the study results in light of management issues. It is particularly important that resource management agency staff read these sections carefully.

## **Management Application**

The single most important result for managers is the identification of the complexity and diversity of the Great Barrier Reef recreation and tourism experience at that location. Also, that the experiences and expectations vary across different groups of visitors. Any management decision will have some impact on some or all of these experiences attained by the different groups—the issue here is to understand exactly where this impact may occur. The detailed understanding of such experiences afforded by this research allows a much better analysis of any impact. Perhaps a not-expected outcome was the identification of strong views about management. Visitors expected and welcomed strict management and seemed prepared for greater restrictions on use. A key value of the experience was naturalness—where options exist, the choice should be to adopt actions that retain and reinforce this value.

There are many similarities among the user groups but also a great diversity in the values they place on their experience. For instance, walking on a track around the island had minimal impact on the overall experience of daytrippers (a result in contrast to claims made by boat skippers of the daytrip operations that island access is crucial to their operation). Many daytrippers also sought a higher quality of environmental interpretation than they received. There is some perception of crowding by the campers and a very high amount of contact between campers and daytrippers.

Since this research from the very beginning took place within a management context, a number of specific management questions were also discussed in light of research results, to help address management issues.

### ***Should there be Another Operator in the Lagoon?***

The main issue of concern here is the potential interaction between day visitors and campers who are largely seeking a very different experience. The sense of feeling crowded, expressed by many campers, is not in keeping with the expressed experience values (relaxed, peace, tranquillity, escape). The potential exists to further aggravate this if even more contact occurs between numerous day visitors and campers, and this should be avoided. However, another operator located at a distant part of the lagoon (away from the present operations), with no access to the island, is unlikely to have an appreciable impact on existing visitor experiences.

### ***Should there be Fewer or More Campers than the Present 50?***

If the consideration of camper experience is important in setting quotas, then the number of campers should be set at less than the present 50 (i.e. results indicated that nearly all campers experienced being crowded).

### ***Should Generators/Compressors be Banned from Lady Musgrave Island?***

This question raises a number of issues beyond the results of this study. It should be addressed by analysis of the regional recreation/tourism opportunities to ensure that existing appropriate experience opportunities are not accidentally lost. Despite many of the respondents being in groups which use the generators/compressors, they do recognise the disturbance that they can cause to other campers. The overall evaluation of campers' responses to this question suggests that the use of motorised equipment on Lady Musgrave Island is inappropriate. By examining regional recreation opportunities (ROS approach) a possible solution is to establish one island as the key large group camping destination for those wishing to use generators and compressors (recalling that such groups normally charter a boat and thus have more access to other places than smaller groups that rely on tour operators).

### ***Should Large Camping Groups be Prevented from Coming to Lady Musgrave Island?***

Once again the campers' responses seem to be clearly in the direction of not only fewer campers, but also smaller groups. This is not unrelated to the discussion of the previous question.

### ***Should Commercial Fishing be Permitted at Lady Musgrave?***

The poor image of commercial fishing activities in association with a tourism and recreation destination could be addressed by either banning commercial fishing locally or by attempting to inform people about the reasons for permitting it.

### ***Should there be Restrictions on Daytrippers' Use of the Island?***

The physical separation of campers and daytrippers clearly enhances the prospects of maintaining the dichotomy between the two very different type of experiences attained by these groups and minimising conflict. This suggests the management option of restricting access by day visitors. This could best be achieved by establishing an intensive use area in the north-east corner of the island (away from the camping area) where interpretation could be provided.

### ***Summary of Management Recommendations***

- There should be a physical separation between daytrippers and campers.
- The land-based component of the daytrip experience should be enhanced with an interpretative track.
- There should only be a small group of daytrippers on the island at any one time.
- The perception by campers of being crowded should be alleviated.
- The size of camping groups should be small.
- Generators/compressors should not be allowed.

Since this study provides baseline data which allows for the first time a comprehensive understanding of recreational and tourism experiences in a marine park setting, a number of suggestions were also given on the issue of monitoring experiences.

## 1.0 THE GREAT BARRIER REEF MARINE PARK AND OUTDOOR RECREATION PLANNING AND MANAGEMENT

The Great Barrier Reef Marine Park (hereafter GBRMP or Marine Park) extends over 2000 kilometres along the east coast of Australia with a number of islands and coral cays. The overall management of the Park is undertaken by the Great Barrier Reef Marine Park Authority (GBRMPA) and the Queensland Department of Environment and Heritage (QDEH) (now referred to as the Queensland Parks and Wildlife Service). The latter agency undertakes the day-to-day management of the Marine Park and is independently responsible for management of the islands and coral cays within the Park.

The GBRMP is a multiple-use area in which reasonable use of the Marine Park is allowed (including extractive activities), and areas of the Reef are set aside for appreciation and enjoyment by the public. Moreover, any proposal to use the Marine Park is assessed by GBRMPA in terms of the impacts of the proposed use on the existing and future amenity of the users of the area in question, and of adjacent areas. Within this multiple-use system, the Park caters for a variety of recreation and tourism activities: from daytrips to more extensive stays on islands, either camping or in resorts. There are large and small-scale resorts, specialised dive and sailing operations, boat charters, scenic flights and high-speed catamarans.

Recreation/tourism is the greatest use of the Park and managers of the Marine Park are currently facing questions and issues such as:

- What level and type of use affects amenity of an area?
- How many boats can be allowed in a lagoon before there is an impact on the amenity of users?
- How can crowded, moderately crowded and uncrowded experiences be defined?
- When is the visual amenity of a site degraded?
- What factors affect a visitor's experience on reefs and islands?
- What is a wilderness experience on the reef?
- What potential conflicts might emerge in specific areas among specific user groups?
- How does understanding visitors' experiences help us to develop more effective management plans?

Despite the complexity of some of these questions, GBRMPA's approach to looking at the management of recreational and tourism activities in the Park is still (1998) very much an activity-based management approach (i.e. zoning is primarily based on managing and regulating activities). Movement towards an experience-based management approach (Driver 1991) is beginning to emerge in GBRMPA. In such an approach, management objectives need to take into account the opportunities for experiences to be provided in each area. In this context it is important to understand the experiences that visitors have in the Marine Park. Management objectives must go beyond such generalities as 'protect the resource' and 'provide satisfying experiences' (Heberlein 1977). To be effective, management objectives need to define the type of experience to be provided in terms of appropriate ecological and social conditions (Stankey 1980). In addition, to provide objectives which are amenable to monitoring, emphasis must be placed on explicit qualities rather than on broad conditions. This approach is central to the concept of 'Limits of Acceptable Changes' (LAC) (Stankey et al. 1985) and 'Visitor Impact Management' (Graefe et al. 1990) frameworks used to manage the interaction between visitors and the environment. These frameworks explicitly highlight both ecological and experiential components of this interaction, and seek to define explicit qualities of each of these.

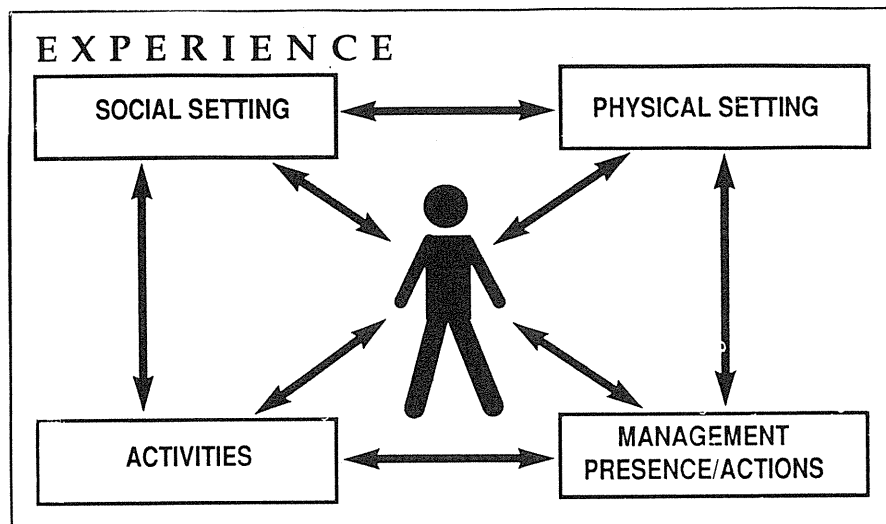
In this study, an outdoor recreation experience is defined as a multi-dimensional concept (see figure 1). The dimensions include physical and social setting, activities, perceptions and emotions (self/experience), management regulations, presence and actions which simultaneously interact (Scherl 1988a, 1990).

For instance, a descriptive term such as 'camping', disguises the rich complexity of the experience of camping which has a number of the dimensions mentioned above. It is important to be reminded that outdoor recreation/tourism experiences need to be managed in the context of other human uses



of the Park, and in accordance with the GBRMP Act and regulations and corporate aims and goals of GBRMPA.

Within the general functions of GBRMPA there is recognition of, and provision for, human use of the Marine Park and there is a role for social scientists to provide information and analysis which will contribute to the effective management of the Marine Park. Moreover, when considering human use, there is a need to integrate the management of the GBRMP with adjacent island National Parks.



**Figure 1.** Outdoor recreation experience: A multi-dimensional concept

A number of aspects of the legislation, which specifies GBRMPA's powers and functions, and of the Corporate Plan, which specifies operational aims and goals, are relevant to the social sciences. Aspects of direct interest are those which address human use of the Park and the need for GBRMPA to liaise with and inform both user groups and the general public about the Park. These aspects are summarised and listed elsewhere (Scherl 1990). Some examples are mentioned below.

Under the *Great Barrier Reef Marine Park Act 1975*, one of the functions of the Authority is 'to provide, and arrange for the provision of, educational, advisory and informational services relating to the Marine Park' (s. 7(1)(cd)).

In the preparation of zoning plans, among a number of factors that need to be considered are:

- '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';
- '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'; and
- 'the reservation of some areas of the Great Barrier Reef for its appreciation and enjoyment by the public' (s. 32(7)).

In considering an application for permission to use the Park, the Authority shall pay regard to 'the likely effect of granting permission on future options for the Marine Park'; 'the nature and the scale of the proposed use in relation to the existing use and amenity, and the future or desirable use and amenity, of the relevant area and of nearby areas'; and 'the likely effects of the proposed use on adjoining and adjacent areas and any possible effects of the proposed use on the environment and the adequacy of safeguards for the environment' amongst other likely events.

A stated goal of GBRMPA is 'to provide for the protection, wise use, understanding and enjoyment of the Great Barrier Reef in perpetuity' by, among other things, 'involving the community meaningfully in these processes.'

The Great Barrier Reef Marine Park Authority's corporate aims include 'to enhance community understanding, appreciation, experience of and support for the Great Barrier Reef (GBR), the Marine Park and the Authority by providing and arranging for the provision of advice, education and information materials and services.'

To be of value to management, this research needs to link an understanding of visitors' perceptions of their experiences and management issues to the management functions and obligations of GBRMPA and QDEH. The research was coordinated through GBRMPA by the first author and conducted jointly with QDEH and researchers from James Cook University. The general purpose of this research was to understand recreation and tourism experiences in the GBRMP. The specific purpose is tied to its application to management. The goals and regulations mentioned above highlight some of the management responsibilities with respect to human use, and hint on the possible applications of this type of research to management.

## 2.0 RESEARCH AND MANAGEMENT PURPOSES: A PROCESS FOR DEVELOPING RESEARCH DESIGN

Many studies on recreation use of national parks and natural areas have been of little use to management planning because of limited interaction between managers and researchers in the design and completion of the research. Moreover, researchers are seldom involved in the decision-making processes related to planning and management. In this study, care was taken to involve managers who could potentially use the research results in the context of their decision-making processes from the very outset. No doubt, what facilitated this process was the fact that the first author was both a researcher and a participant of inter-section and inter-agency management planning teams for the GBRMP.

The site of the study location was decided in consultation with managers. As no such study had been undertaken before, and it was impossible to conduct the study over the whole GBRMP, it was important that the choice of study location was made very carefully. The condition specified by the researchers was for a site which received a variety of user groups, was an area managed by both GBRMPA and QNPWS (Queensland National Parks and Wildlife Service)<sup>1</sup> (i.e. had sea and land components to it), and for which results from a study on recreational/tourism use could help management in the near future (i.e. it fitted within priorities of management planning and permit assessment). It was important for the researchers to anticipate the application of study results from the outset, at least at an overall level. Therefore the choice of a complex and diverse site with representation of many of the user groups and physical and biological conditions of the GBRMP was required. Such a criterion would maximise the relevance of this study to other parts of the Marine Park.

Lady Musgrave Island and Reef was selected through this process of consultation with managers because it had all of the conditions specified by the researchers mentioned above (i.e. diversity of user groups, sea and land components and management planning priorities). It is the southern-most island of the GBRMP; a forested coral cay set on a vibrant living reef with a deep lagoon (see map 1). It is largely free of human-made structures, and maintains a natural look with only a few basic camping facilities (toilets, signs, garbage-bag box and a track), and a pontoon in the lagoon for one of the tourist operations.

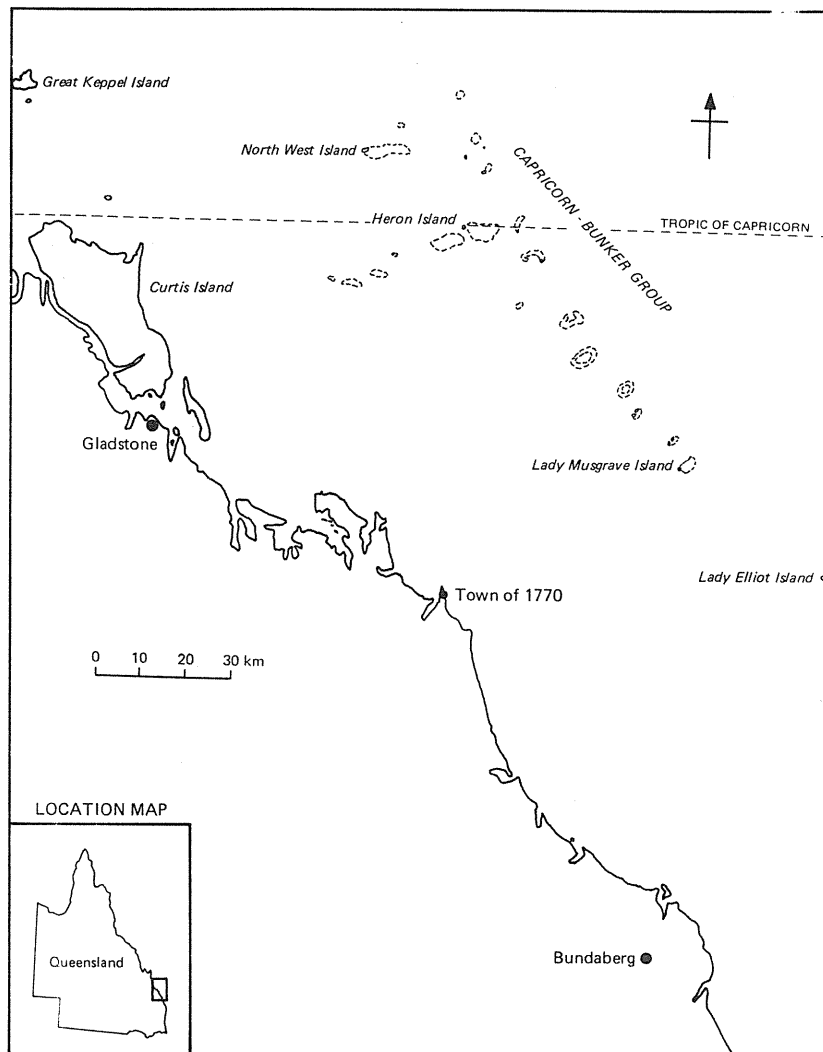
Three staff, one from the management planning section and one from the environmental impact management section of GBRMPA, and the third from QDEH, all working in the section of the Marine Park that incorporates Lady Musgrave Island and Reef, met initially with the first author (from the research and monitoring section of GBRMPA) for most of a day. A brainstorming session was conducted to bring to the fore all of the issues that managers perceived they were, or anticipated, facing in the management of Lady Musgrave Island and Reef, in particular with respect to human use. The initial number of issues presented through this process was much larger than what could possibly be canvassed in a single research project. A selection of more salient issues was then agreed to in the context of that group discussion.

The preliminary research design based on discussions from the above meeting was then developed (by the first author in consultation with Peter Valentine and later Richard Schreyer—both working as consultants to GBRMPA) and sent to the initial meeting participants (and other managers) for comments. Throughout this initial process there were ample opportunities for managers to convey their perception of management issues, and for researchers to communicate how these issues could or could not be addressed in a research design.

A pilot study was then undertaken at Lady Musgrave Island and Reef by interviewing a small number of users from all three user groups.

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<sup>1</sup> The current name for the agency is QPWS (Queensland Parks and Wildlife Service—part of the Environmental Protection Agency). When the study was conducted the agency was still called QNPWS and when the report was written it was called QDEH (Queensland Department of Environment and Heritage). Both 'QNPWS' and 'QDEH' are used in this report to refer to the same agency.



**Map 1.** Location of the study area

### **User groups**

**Daytrippers:** visitors who go on tour operations just for one day;

**Campers:** visitors who stay overnight and sleep in tents on the island and get there either with the regular tour operators or by chartered boats;

**Yachties:** visitors who get there by private or hired boats and anchor nearby the island and use the boats as their base.

The researchers decided to treat these groups as separate user groups to mirror the distinction made within the day-to-day management practices for the GBRMP (i.e. they are seen as visiting the place in different ways).

Researchers and managers participated in this pilot study (Lea M. Scherl, Peter Valentine, Richard Schreyer, and Peter Slaughter from QDEH). Discussions about the research design were held between interview times. After the pilot study the research design was finally reviewed by Lea M. Scherl and Peter Valentine.

Ultimately the issues addressed by the research design were a compromise between researchers' and managers' ideas. This may have been facilitated by the fact that the first author, as mentioned previously, had roles of both researcher and manager. Observations from Driver (1989, p. 600) are listed below to encapsulate some of the feelings of this process.

Work with practitioners reminds the scientist that most problems require multi-disciplinary skills, that many problems are either unsolvable or only partially solvable, that problems can be difficult to fit into tight research designs, and that most problems are changing and long term, so only temporary answers can be found.

We found that many problems/issues anticipated by managers could not be directly translated into a specific research question or a question tackling exactly that problem (e.g. how many boats can we allow in the lagoon before there is an impact on the amenity of the users?). Instead, a number of questions addressing different angles of a problem/issue could be asked.

Managers generally have little direct involvement with research, and this is more accentuated in the case of social sciences because it is relatively new in the resource management field particularly in Australia. As another way of strengthening the understanding between managers and researchers, most of the interviewers for this project were staff of GBRMPA or QDEH. Training sessions were held to familiarise managers with the interview procedures and to minimise inter-interviewer differences (see appendix 1 for information distributed to them). The very structured format of the interview schedules, behavioural procedures and interviewing style asked of interviewers were all aimed at ensuring that differences among interviewers were minimised (see appendices 1 and 2). In addition, debriefing sessions were conducted after every period of data collection (normally one week/person) to provide an opportunity for managers to reflect upon the process of interaction with users and on the information derived from this interaction. This, in addition, provided the researchers with a better understanding of how managers may or may not value the information they were obtaining, and the interaction with the user groups in the context of their everyday work. Feedback was also sought from interviewers on the logistics of conducting the data collection. Thus, through this process, researchers and managers also developed a broader appreciation of the logistics needed to conduct this type of research project, and how best to incorporate this within the organisational context.



### 3.0 METHOD AND APPROACH FOR DATA COLLECTION

This study was exploratory in nature since little research has been undertaken with the aim of understanding recreation and tourism experiences in the GBRMP. The research design needed to evoke responses from participants on their recreation experiences with as little imposition of meaning as possible from the interviewer. It is important in experience research to capture visitors' own perceptions as they are evolving and in the ways that they themselves would like to express it. On the other hand, the study was funded by resource management agencies which were engaged in management planning and were responsible for the ongoing day-to-day management for that area. These managers needed to understand visitors' perceptions on a number of issues which are considered in the context of management practices. Furthermore, research on outdoor recreation experiences identified the multi-dimensional nature of these experiences (e.g. Scherl 1988a) and it was also important to gain understanding of participants' perceptions of all of these dimensions.

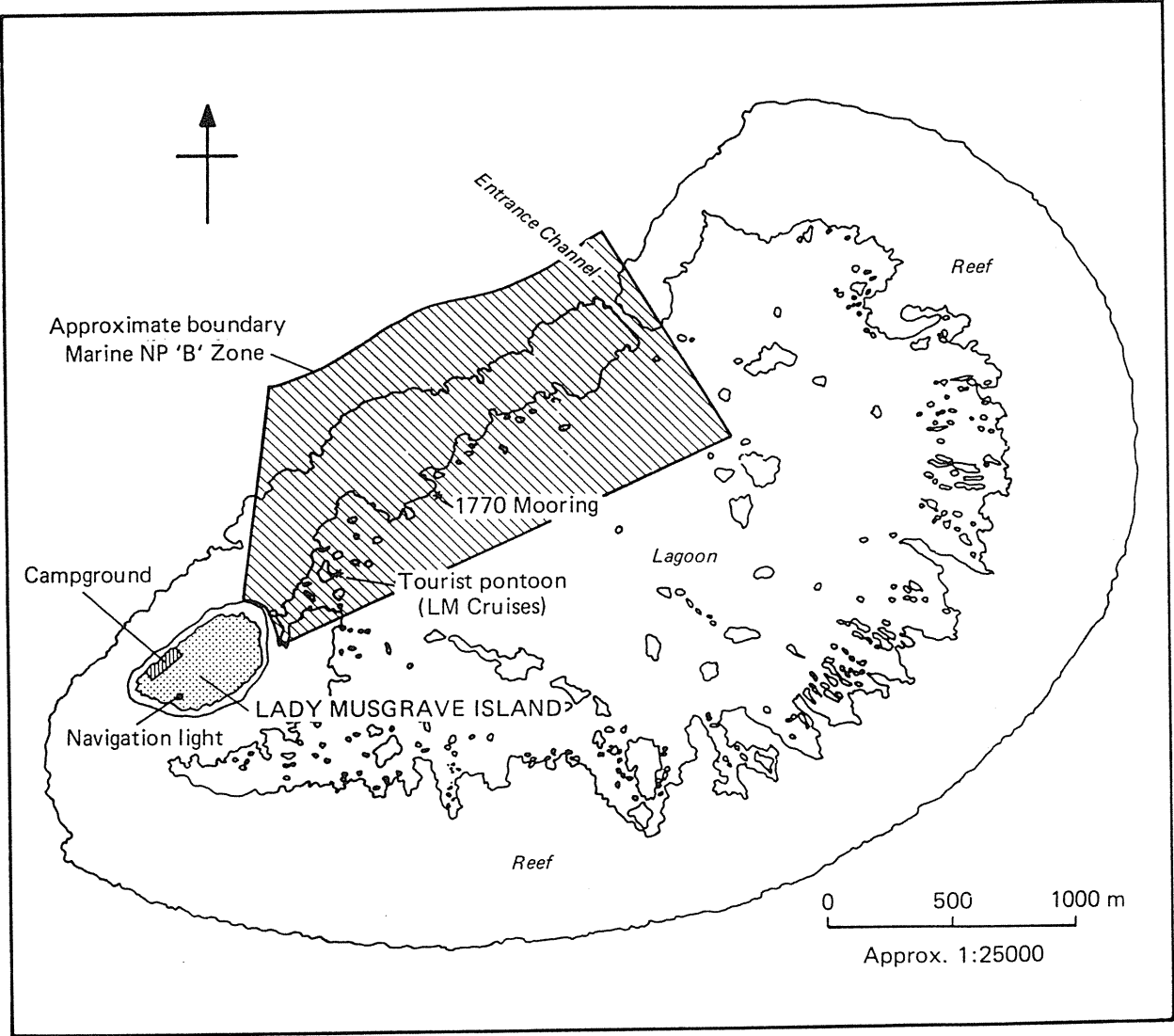
It was hoped that respondents would address a number of the management-specific issues and comment on many of the outdoor experience dimensions through open-ended general questions. However, as there was a need to ensure a full coverage of such management issues and experience dimensions, open-ended questions focusing on specific issues were also part of the research design.

Data for this study was collected through on-site interviews and was recorded onto tapes with the respondent's permission. Respondents remained anonymous. The interview contained in essence three parts:

- a) participant's personal information;
- b) open-ended general questions asking respondents to tell the interviewer about his/her visit to, and their experience at, Lady Musgrave; and
- c) open-ended questions asking respondents about a particular experience dimension (e.g. social environment) and more specific management issues related to that experience dimension (e.g. numbers of people encountered).

A number of isolated questions tapping motivation for going to Lady Musgrave Island and Reef, and perceptions of the study, were also included.

In addition to the interviews, site behavioural observation for the daytrip tour operations was conducted. The intention was to document the spatial distribution of visitors throughout the time of their stay at Lady Musgrave Island and Reef as a means of understanding their behavioural patterns. Map 2 shows the spatial pattern of the island, reef, lagoon, pontoon and camping ground.



**Map 2.** Lady Musgrave Island, Reef and Lagoon

#### 4.0 DATA COLLECTION

The original intention in the research design was to have two periods of data collection: a ‘peak’ and a ‘low’ visitation time. However, it was not possible to achieve this goal. During the ‘low’ visitation time chosen originally, there were no campers on the island and the daytrip operators were running very infrequently. It became impossible to achieve a good sample within the constraints of the field logistics, i.e. difficult access, the need to transport interviewers to the data collection site, the need for management agency personnel to be on site helping with the data collection and the costs of it all.

Data were still collected in three different periods in 1991: one around Easter time (20/3/91 to 4/4/91), one during June–July (20/6/91 to 7/7/91) and the last one, interviewing campers only, during September–October (26/9/91 to 2/10/91). Table 1 indicates how many interviews from each of the data collection periods were completed and used in the study. Data was collected from the three recreational user groups: daytrippers, campers and yachties.

**Table 1.** Number of completed interviews per data collection period

Period	Count	Per cent
03/91	86	41
04/91	19	9
06/91	49	24
07/91	32	15
09/91	21	10
10/91	1	1

The first daytripper data collection was conducted during six trips. Four of these were with the larger tourist operation—Lady Musgrave Cruises, maximum number of passengers 150; and two were with the smaller tourist operation—MV 1770, maximum number of passengers 40. The weather varied in terms of wind strength, which sometimes made travelling uncomfortable resulting in some people getting seasick, but in general it was sunny. The four Lady Musgrave trips carried 87, 67, 110 and 71 passengers. Nearly all of the passengers were interviewed during the two MV 1770 trips, since there were only a small number of people on board (17 and 19 in each trip).

The second data collection period also had samples from both tour operations. Data were collected during six trips of Lady Musgrave Cruises and five of MV 1770. On the six Lady Musgrave Cruises, numbers of passengers were 111, 102, 50, 50, 49 and 104. Numbers of people on the MV 1770 trips were 33, 15, 40, 38 and 20.

The third data collection aimed at interviewing campers only. There was a need to get a better cross-group representation (i.e. sampling from both small and larger groups with varied group composition) than what had been achieved with the two previous data collection periods. On average, over both data collection periods, there were 80 passengers on Lady Musgrave Cruises and 26 on MV 1770.

During both trips the interviewers (a minimum of four and a maximum of six, and always a mixture of both sexes) were dressed in T-shirts with GBRMPA badges or in QDEH uniform. They had clipboards with the GBRMPA logo. The coordinator for data collection (in most cases this was the first author) was introduced by the skipper at the commencement of the return trip.

The research data collection coordinator explained the research on the PA system in the following way:

The Great Barrier Reef Marine Park Authority and the Queensland National Parks and Wildlife Service are conducting a study about people’s experiences at Lady Musgrave Island and Reef. The Management Plan for Lady Musgrave Island and Reef is currently under review and we want

to get information from visitors on their experiences and perceptions of management that could help this management plan and the management of the Great Barrier Reef Marine Park and islands in general.

After introduction, a list of numbers was announced through the PA system. Interviewers had already distributed numbered cards to passengers towards the end of their stay and at the commencement of the return trip without mentioning the survey—saying that the reason for distributing the numbers would be announced on the PA system. Numbers called were randomly selected. Passengers with the announced numbers had to approach the interviewers on both the upper and the lower deck of the boat.

Interviewers also camped on the island to talk to campers and visitors on yachts anchored around the island (yachts were approached with a small boat and interviews were conducted on board the visitor's vessel). For these groups, interviews were conducted towards the end of the visitor's period of stay. To achieve this, a first approach was usually made to arrange a suitable time for the interviews. Interviews with campers and yachties were conducted during the same periods of 1991 as the ones conducted with daytrippers. No daytrippers or yachties were interviewed during the third (i.e. last) data collection period.

In total, 270 interviews were conducted, and the response rate was very good. There were no refusals from campers, and only two yachties approached and lined up for interviews were not interviewed (they left early in the morning before the interviews could be conducted). From all of the numbers called for interviews during the daytrips, 80% came forward with their numbers. The remaining 20% of interviews was achieved by approaching passengers on board the boat and asking whether they minded being interviewed, or by interviewing passengers whose numbers were not announced on the PA system but who came forward saying they would like to be interviewed. Selection of passengers who did not come forward with their numbers was on the basis of trying to achieve a good mixture of passenger characteristics (i.e. if many older females were being interviewed already during that trip then young males might have been chosen).

Of the 270 interviews conducted 208 were used in the final sample. Interviews which were incomplete, difficult to transcribe, or judged as poor quality by the interviewers were not used (interviewers were asked to rate the quality of each interview). The data collection strategy, for daytrips in particular, aimed for more interviews than were needed for the final sample. This was to safeguard against problems of interview quality given noise of motors and bad weather conditions. At the end there were more useable daytrip interviews than were needed. The sample analysed (N = 208) comprised 114 daytripper, 54 camper and 40 yachtie interviews.

## **5.0 METHOD AND APPROACH FOR ANALYSIS OF DATA**

### **5.1 What is Content Analysis?**

Content analysis is a procedure for studying the content and themes of written or transcribed qualitative data, usually by reducing it into more structured or concise units of information. Most content analysis uses a scheme of categories that are relevant to the research objectives and a number of judges who systematically characterise the content in terms of these categories. The judgments have to be validated, or agreed on between the judges (who make their interpretations independently) to ensure that the judgments of content are not idiosyncratic.

In this research, content analysis procedures were used to address the information provided by the free and open-ended responses to interview questions. Such a procedure has a number of advantages over more conventional 'fixed-response' interview techniques. It allows whatever is salient to the respondent to emerge and therefore prevents the undue constraint of answers by the fixed options usually given for survey questions. In an exploratory study primarily concerned with experiences, such freedom of response was particularly important. Researchers could not know beforehand the possible diversity that might be offered, and therefore would have found it impossible to provide a sufficient range of fixed-response options. This means, however, that it is likely that the coding system will be quite complex and diverse, at least if the responses contain such diversity and the coding scheme reflects this. It also means that the proportion of respondents referring to a single category is less likely to be a large majority, yet the category is still important given that it was spontaneously expressed, rather than prompted in a fixed-format interview.

### **5.2 Developing the Coding Categories**

The coding categories were, in the first instance, derived from the literature on outdoor recreation experiences, in particular from the work of Scherl (1988a, 1988b, 1990) and Hunnam (1990), both in Australia, and Graefe et al. (1988), in the United States of America. The common characteristic of all of these studies is that they used content analysis to summarise data obtained from visitors' reports of outdoor recreation and tourism experiences elicited through open-ended research designs.

Scherl (1988a, 1990) developed a hierarchical taxonomy of the different domains of a wilderness experience based on the literature, some other research results on participants' constructions of their experience (Scherl 1988b), and validated against log book contents. The work of Hunnam (1990) is the first on outdoor recreation and tourism experiences in a reef environment using an open-ended interviewing methodology. He, similarly, based on previous research (particularly the work of Scherl 1988a) and his own understanding of the reef experience situation from a manager's perspective, used a number of experience factors as the framework for content analysis of day visitors' interview transcripts. Graefe et al. (1988) developed a number of user behaviour interview scales based on a literature review completed by Berger and Schreyer (1986). These scales were used to content analyse interviews with people rafting rivers in the United States.

The research carried out during the 1980s has grown out of a perception that we need to understand the nature of outdoor recreation experiences from the perspective of the participants and with as little imposition of meaning as possible from the researcher. It is, however, pertinent to make the observation that there are similarities between these experience domains, factors and behaviour scales and the Recreation Experience Preference (REP) scales developed by Driver and co-workers in the 1970s (e.g. Driver 1977).

Although in the present study an initial, tentative list of categories was devised based on previous research, the final taxonomy and the list of categories used to code the questions with specific themes emerged from the data contained in the interviews. A number of people involved in the project, including some of the researchers, interviewers, the people responsible for data analyses and the coders, went through a process of 'mock' coding, that is they attempted to fit the content



of the interviews into the existing list of categories. (This process was undertaken during the interview period by the first author; for one week after coming back by the first and third authors and one of the interviewers; and for five days in a group context by the coders and all of the project researchers.) When the content could not be placed into any category a new one would be developed. After each person did this all of the new additions were integrated into the existing categories during a group discussion. Moreover, the taxonomy was also structured by the group in a way that made logical sense for coding.

In this way, a comprehensive list of categories was developed (see appendix 3 for details). Because the survey had both general experiential and specifically focused items, the coding categories were developed separately for different questions, and were tailored to the focus of the item (see appendix 4). For several general questions about experience and motivations (questions 1, 2, 22, 23, 24), the categories were formed into a single taxonomy applied to all of these general items. This taxonomy contained a superordinate level, and within each section in the superordinate level there were a number of subordinate categories (e.g. Scherl 1988a, 1990). The superordinate categories were self/experience, type of activities, social environment, physical environment—nature factors, physical environment—natural conditions, physical environment—interpretative, environment—human interactions, managerial/organisational factors, trip overall, and miscellaneous (figure 2). There were varying numbers of sub-categories within each of these. Therefore, as an example, respondents answering **question 1**, *'Tell me about your visit to Lady Musgrave and what sort of experience has today been for you'* might have talked about positive feelings; the things that they did that were important enough to be mentioned in response to such a general question about experience; some aspects of the social environment and the natural environment that were salient to them; and perhaps made some reflections about managerial organisational factors, the weather, or the history of the place. The taxonomy coding scheme, as it was developed, would have captured the importance of these general categories, as well as the specific items within them.

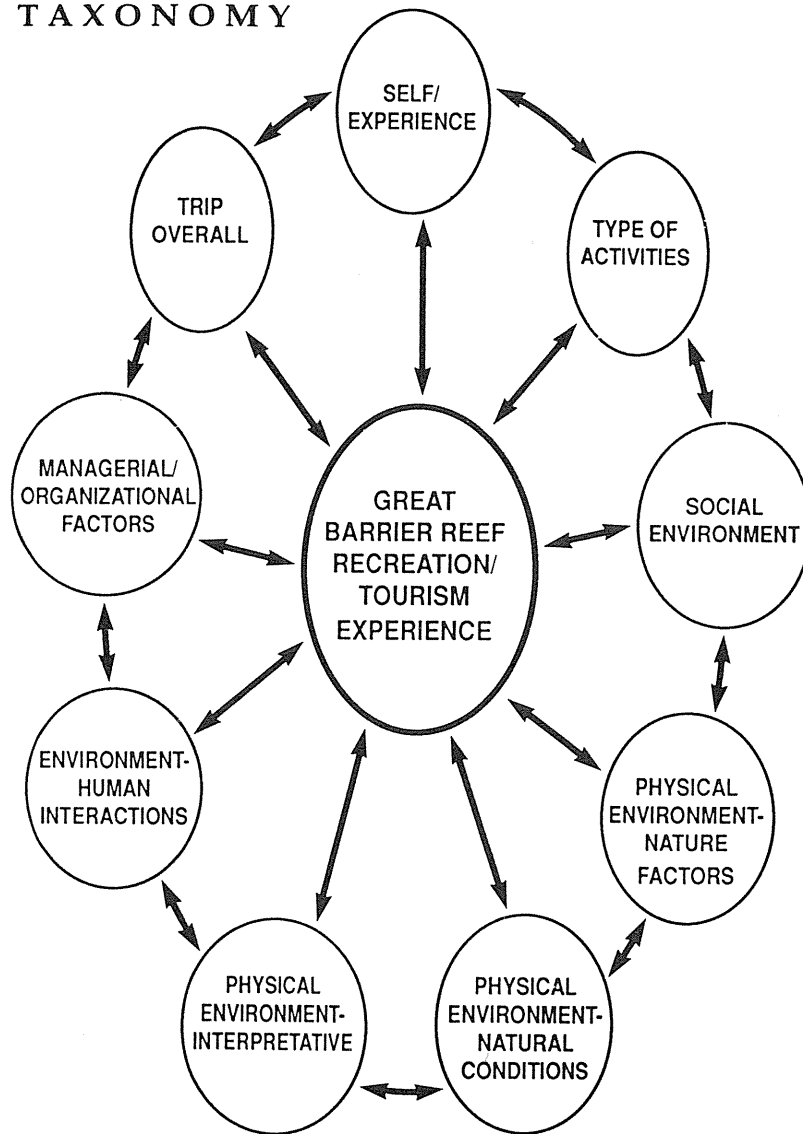
### 5.3 The Process of Content Analysis

The material provided in visitors' accounts of their experiences and perceptions of management issues during their stay at Lady Musgrave Island and Reef resulted in valuable records, reinforcing Miles and Huberman's (1984) suggestion that qualitative data are a 'source of well-grounded, rich descriptions and explanation of process occurring in local context' (p. 41). In this study, the interviews were content analysed by two judges.

All of the interviews were transcribed and the coding unit (i.e. the unit of analysis) was defined as the string of words and sentences elicited as a response to one question. Therefore, judges read each question separately, and, using the set of categories developed for that question, decided how applicable each of the categories was to the content. If the content in any part of the question 'satisfied' a category, then this category was recorded as applicable (see appendix 5). No attempt was made to measure the proportion of the total response to a question that was devoted to a particular topic, since the quantity of talk was thought to not necessarily be proportional to importance. It may, for example, only take a few words to say, 'I've had a great day, and it just feels so good to be here in such a beautiful natural setting', but it may require much more talk to attempt to explain the strange nudibranch and its behaviour that a respondent may have seen while snorkelling.

The content analysis procedure used here was one that allowed judges to characterise the content of a response into as many coding categories as they thought appropriate to capture that content. The categories were therefore not used in a mutually exclusive way where only one category was chosen into which was 'fitted' as a 'best fit' all of a unit of content. Judges were also asked to assess the graded extent to which a category was appropriate to the content of a response. The graded scale that was used for this purpose varied from a rating of '0' for 'not at all relevant' through, say, 3 for 'relevant' and 4 for 'very relevant' (see Scherl and Smithson 1987 and Smithson 1987, where this work is reported, for more details). Thus for each unit of context judges selected multiple categories.

## TAXONOMY



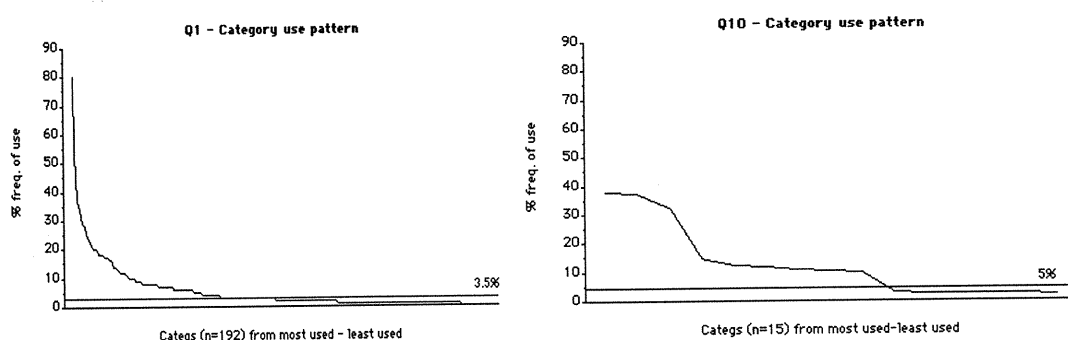
**Figure 2.** Taxonomy of recreation/tourism experience in the Great Barrier Reef Marine Park

The flexibility of choosing a number of categories to represent visitors' responses is compatible with the definition of an outdoor recreation experience in this study, i.e. that an outdoor recreation experience is considered to be multi-dimensional with a number of these dimensions interacting simultaneously. The methodological flexibility of co-occurrence of categories for coding written material was introduced by Scherl (1988a, 1990) in an attempt to capture this multi-faceted and interacting aspect of outdoor recreation and tourism experiences.

While the use of this technique clearly captures much of the richness and co-occurrence of features of experience, **it also means that readers should be cautious about adding up the reported frequency counts for groupings of categories.** Since the categories were not mutually exclusive, readers cannot simply refer to tables of results and add up, say, the 126 people who mentioned that they went snorkelling and the 72 who said they walked around the island to say 198 people went snorkelling or walked around the island. Some clearly did both, while others may have done one or the other. Where applicable a valid combination of category frequencies was obtained by only counting once the people who mentioned both categories. In places in the text where these additions have been computed, they are reported in *italics*.

## 5.4 Preliminary Data Reduction

Given that the category lists developed through the above procedure were extensive, the first step of the data reduction procedure was to sort and retain the categories that had proven reasonably salient after all the interviews had been coded. Firstly, after a preliminary combination of the two judges' sets of ratings, categories that were not at all relevant to the content were eliminated, although records were kept of those because this non-use may have been of interest in itself (i.e. those are the categories that do not appear in the results tables but are in the coding scheme, the taxonomy and categories are presented in appendices 3 and 4). Then, since there were many categories that had very low levels of applicability (only applicable to two or three per cent of respondents), an attempt was made to ascertain whether there were natural cut-off points which could be used as an elimination level for categories that were not used to any appreciable extent by the judges. A 'scree' test similar to that used in Factor Analysis was conducted in an attempt to locate such cut-off points. Plots of decreasing frequency of use of all the *non-zero* categories were carried out. Figure 3 shows two examples, i.e. question 1 and question 10.



**Figure 3.** Examples of 'scree' plots of category relevance to content

These graphs, and those for the other questions contained in appendix 6, contain lines indicating the cut-off points. These might be interpreted as the points above which category relevance to content seems to increase appreciably, or sharply. Below them, as you can see, use is at a consistently low level. Results presented in the tables are only the categories that were salient at a level above the cut-off points, which are represented by the lines across the graphs.

## 5.5 Inter-judge Agreement

Using the category relevance cut-off points, the original judges' files were cleansed of all zero and near zero categories prior to the assessment of inter-rater agreement. This assessment used a variance partition based on Smithson's (1987) 'T2' fuzziness coefficient. This technique, which is similar in many ways to conventional analysis of variance, partitions the total variation in the ratings of applicability of categories. Taking as input the two judges' data sets for all the interviews, the program partitions variation into that due to inter-judge disagreement or difference (*between* judges in ANOVA terms), and that due to the spread or variability of all values across the graded scale, which indicates fuzziness or a lot of gradation in the applicability of categories (*within* variation in ANOVA terms). A coefficient is computed from this partition which represents the proportion of variance due to inter-judge disagreement. This coefficient varies from zero to one, with zero representing extremely low disagreement (high agreement) and one representing maximum possible disagreement. Thus, in the ensuing tables, this measure of *disagreement* is reported for each question. On all of the questions it proved to be extremely low, reflecting independent consensus among the judges about the quantified applicability of the categories used, to the content they characterised. The files of the two judges were then recombined in a reduced version using the geometric mean of the two ratings, and producing the final data set for further analysis.

## 5.6 Fuzziness of Categories

It is important when *graded* scales of applicability of categories are used, as in this case, that assessment is made of the extent of this gradation within each category. For example, if the judges, when using a graded scale, mostly judged across all cases a category dichotomously as either 'highly applicable' or 'not at all applicable', then the use of gradation across the range of the scale is small, the category is said to have been used in a non-fuzzy way, and the graded scale of category salience adds little information above simple frequencies. If, however, judges were often using middle level ratings on the scale like 'slightly applicable', 'moderately applicable' etc. (a more 'fuzzy' use of the category) then this fuzziness can be measured and incorporated into the analysis. In the case where many middle level ratings are used, then simple frequencies of respondents for whom a category was salient might not reflect the 'true' extent of its salience, since a count of the numbers of people to whom it was applicable (to any degree) does not capture more subtle trends in the gradedness or fuzziness of the judgments. For example, the content of 10 interviews judged as slightly applicable gives the same frequency count as 10 responses judged highly applicable, yet the salience of the category in the latter group is much higher. In such situations, salience of categories is more accurately represented by 'fuzzy per cents' which take account of the full 'gradedness' of the applicability of the category.

One simple way to calculate such a 'fuzzy' category salience proportion is to add up the total graded ratings of content in categories, and for each category divide this by the maximum possible rating total for a category, which would be the number of respondents multiplied by the maximum range of the graded scale. If, however, the categories were not used in a 'fuzzy' way, then the frequencies of respondents mentioning the category does closely parallel the graded 'fuzzy' salience of the category, and 'fuzzy per cent' proportions provide little extra information.

In this exercise therefore, the fuzziness of each category was assessed using the 'T2' fuzziness coefficient (Smithson 1987). This coefficient measures, as explained above, the extent to which judges' ratings were or were not dichotomous or clearly in or out of the category, as opposed to partly in and partly out. It varies from zero to one with zero being highly 'un-fuzzy.'

Overall, the fuzziness indices were extremely low for almost all of the categories. The average overall was 0.02. This meant that the coders were generally using the categories in a clear-cut way. Either the category was judged as highly relevant to a fragment of content, or it was not at all relevant.

In terms of analysis and presentation of results, this meant that there would be little value in adding fuzzy per cents to the tables. Therefore the tables contain only frequency of use of the category and the percentage of total respondents that this frequency represents.

## 5.7 Data as a Resource for Further Analysis

### *Overview of Analysis*

Material obtained during the open-ended interviews was content analysed using two judges who independently rated the content for its fit into a comprehensive set of coding categories developed by the authors. Judges assess the graded salience of each category to the units of content, with the aim of reasonably capturing and summarising this content in terms of the categorical scheme. Judges' ratings were checked for independent agreement, then combined to produce a single data set of category salience ratings. Categories that were not at all relevant were eliminated using a systematic technique, and tables were produced showing frequencies of respondents whose content fell into each category. Some specific management issues were addressed through the construction of indices of perceived crowding and perceived high density, and the computation of measures of association and difference between user groups on these indices. Because of the enormity of the data set, further specific management questions were addressed through examination of category frequencies. This was the extent of data analyses that this research team could conduct within the time constraints and resource availability.

### ***Resource for Further Analysis***

In many respects the data collated from this study represents an important resource in itself. Time and financial constraints (on such a project) limited analyses actually conducted and reported. Apart from those presented here, a number of other analysis possibilities were considered, and represent future possibilities for exploration of this data set. It would, for example, be informative to engage further data reduction techniques such as Factor Analysis and Cluster Analysis on limited subsets of the most salient categories in various subsets of this data. The authors, for example, are particularly interested in whether patterns of association exist between sets of experiential categories and sets of activity categories. It would also be informative to assess whether identifiable factors or clusters would correspond to the user group differences that are already apparent in the data. This would also inform inquiries into whether there are other possible experiential groupings of users other than the *a priori* groupings used in the comparisons contained in this study. Other possibilities include computing measures of association separately across subsets of categories to address specific theoretical or management questions. These, and no doubt others, are things that still remain to be done on this large and complex data set.

## 6.0 RESULTS

### 6.1 Format for Reporting of Results

There are six sections of results:

- (1) Characteristics of the study population and of the trips;
- (2) The overall recreation/tourism experience of Lady Musgrave Island and Reef;
- (3) Experience dimensions and management issues:
  - the activity dimension,
  - the physical environment dimension: individual–environment relationships,
  - the social environment dimension (including discussions of perceptions of crowding),
  - facilities and level of tourism development,
  - information and interpretation services/facilities,
  - zoning and regulations, and
  - general observations about management;
- (4) Reflection about the experience;
- (5) Motivation and expectations; and
- (6) General observations about the study.

In each of these sections the question used in the interview is written literally (**bold** for question number, *italics* for question content). The table where results are reported is also written at the end of the question (underlined).

All of the tables of results presented below indicate the number of categories available initially for coding the data for that question, the number of ‘surviving’ categories after establishing the cut-off point and the inter-rater disagreement index.

When necessary, the reason for including the question in the research design is explained at the outset. Results are discussed in the text for each question both in terms of main overall saliency and also pointing to differences for each user group. The range of reactions to a question summarised in the categories presented in the tables, as well as their intensity, overall and for each user group, are equally important. Since participants were allowed to respond in their own individual ways, an understanding of the range of these expressions revealed the scope of visitors’ perceptions of their experience and their feelings/thoughts on management issues.

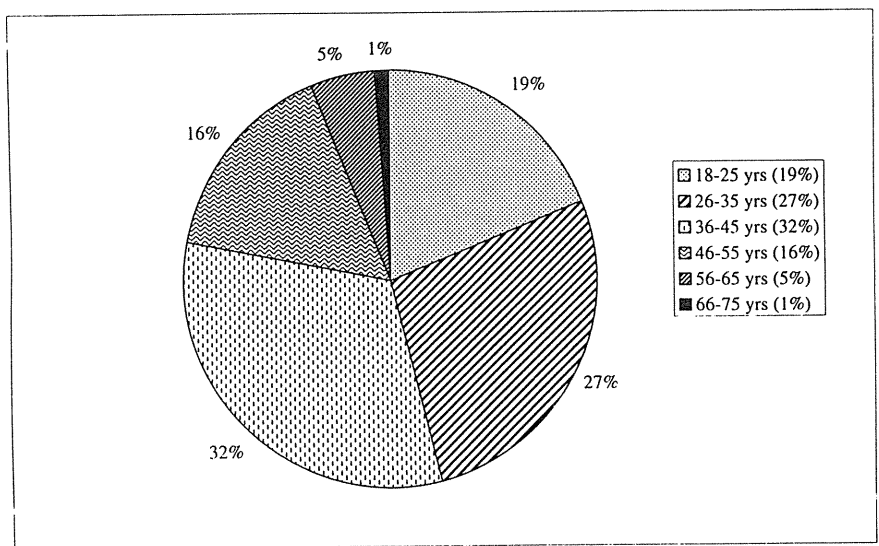
### 6.2 Characteristics of the Study Population and of the Trips

There were 208 interviews analysed: 114 ‘daytrippers’, 54 ‘campers’, 40 ‘yachties.’ The sampling techniques achieved a heterogeneous group of respondents. In terms of age, it can be seen from figure 4, that a wide variety of age groups were included in the sample. About one-fifth of the visitors were in the 18–25 year age bracket, roughly one-third were 26–35 years old, and a further third (approximately) between 36 and 45 years of age. A total of 22% of the sample were older than 45, and of these, 6% were older than 55.

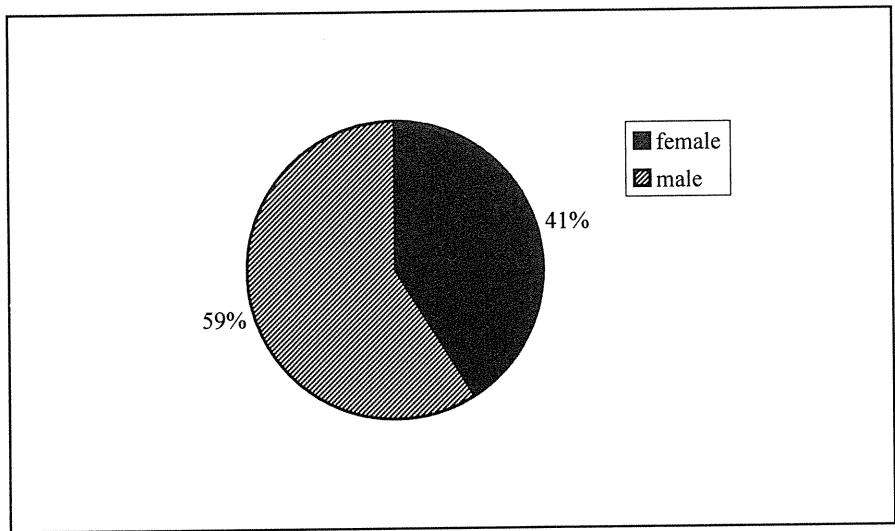
The sample comprised 41% female and 59% male respondents (see figure 5).

A substantial proportion of respondents had previously visited Lady Musgrave and other locations on the GBR. Overall, more than a third had been to Lady Musgrave previously and two-thirds to other locations in the Marine Park. Figure 6 illustrates these patterns.

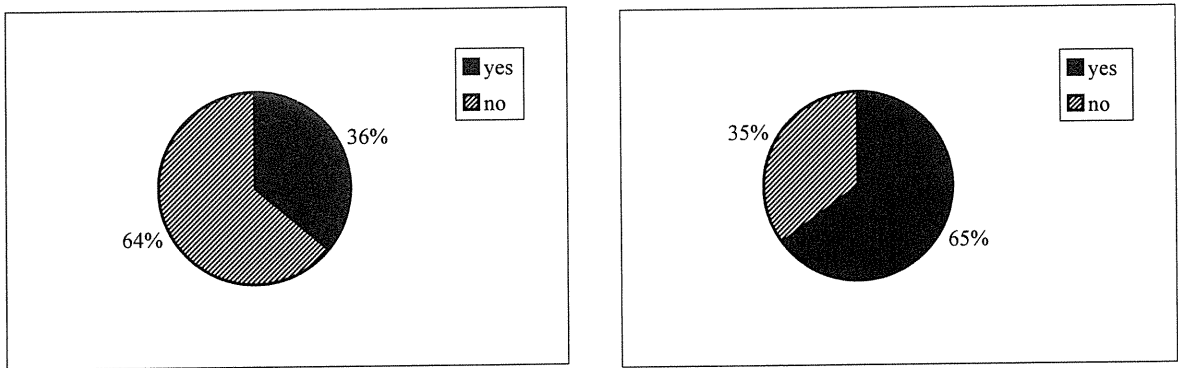
In particular, campers and yachties showed substantial proportions of repeat users. A total of 44% of campers and 53% of yachties had visited Lady Musgrave before. There were also 16% of daytrippers who were making a repeat visit to Lady Musgrave. An even larger number of campers and yachties had been to other locations on the GBR—80% and 85% respectively. Also, most daytrippers (51%) had previously been to other locations in the GBR.



**Figure 4.** Age distribution of the sample



**Figure 5.** Sample sex distribution

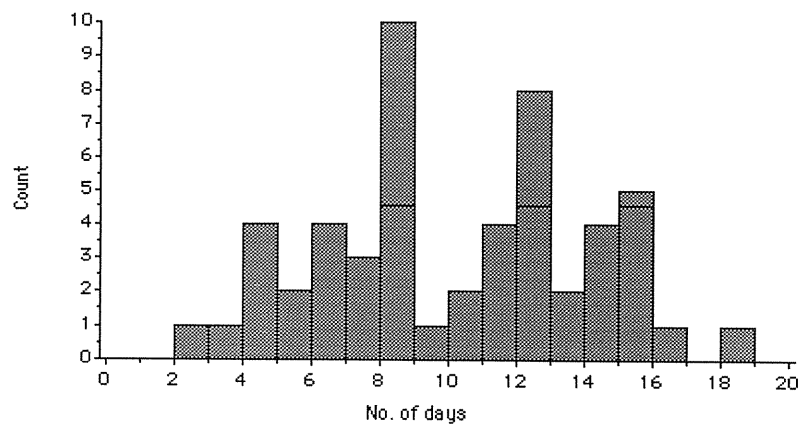


**Figure 6.** Visitation history Lady Musgrave Island (left) and other Great Barrier Reef locations (right)

Respondents also provided information on the date of their first visit to Lady Musgrave. The earliest date offered was in the 1950s and there was also someone from the early 1960s but most repeat visitors had been to the island first in the 1980s, and of these, more than half in the period from 1985 to 1990.

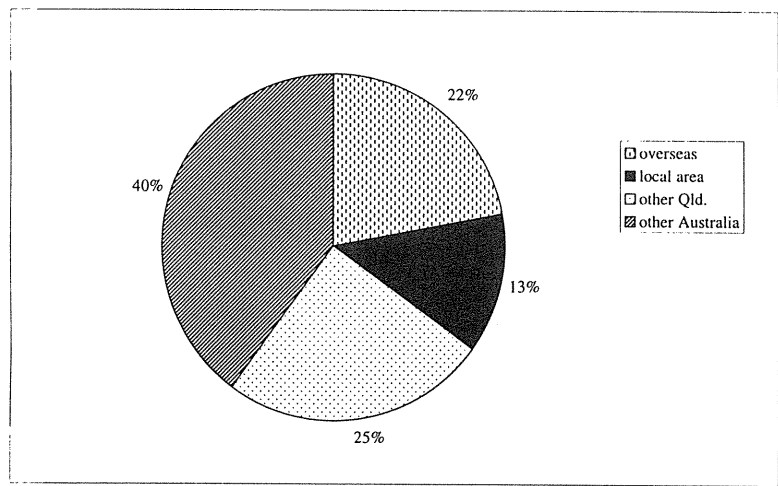
The campers interviewed during the study were staying on the Island for long, short, and intermediate times. Duration of stay figures, presented in figure 7, indicate that there was a wide variety of stay times from just one or two days, through to two to three weeks. The distribution was bi-modal with the primary mode at eight days, but with another frequency peak at 12 days duration of stay. There were 25 campers interviewed who were members of large groups, which would have contributed to the patterns in these duration of stay figures.

It was apparent from responses that more than half of all visitors to the island had come with family or just a few friends (58%), and a further 27% said that they had come with a close friend or spouse. Only 14% of the total were in large groups, but most of these were campers so the proportion of campers in large groups was much higher at 46% than for other groups. Very few people visited the island alone (7%).



**Figure 7.** Campers’ duration of stay

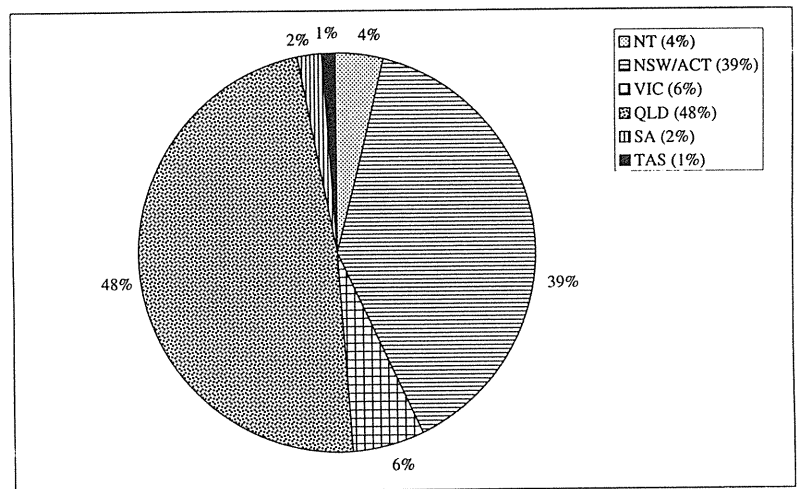
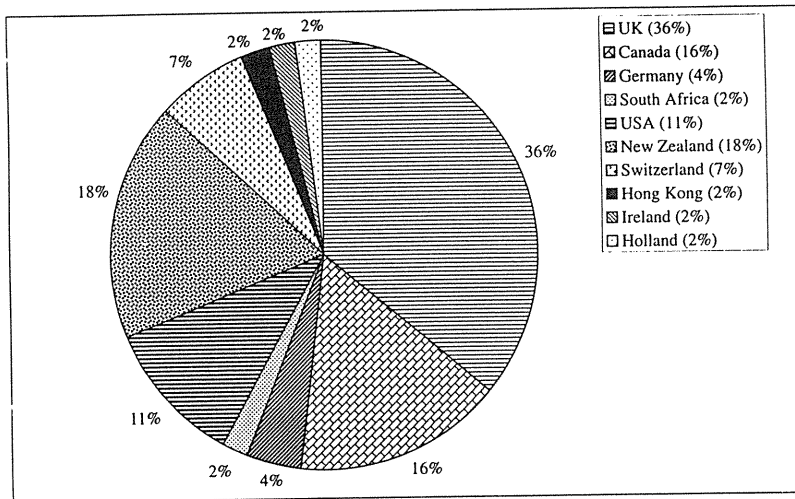
Respondents for the study had travelled to Lady Musgrave Island from an extraordinary diversity of locations both within Australia and overseas. As figure 8 shows, almost a quarter of the interviewees were from overseas, 38% from Queensland (including 13% from the Bundaberg/ Gladstone area), and the remaining 40% from other locations within Australia.



**Figure 8.** Categories of respondent place of origin

Of the international respondents, a large proportion (36%) were from the United Kingdom. There were also substantial numbers from New Zealand, Canada and the USA. Most of the other international visitors came from European countries (see figure 9). This figure also contains details of the State of origin of Australian respondents. Almost half of these were from Queensland and 93% from the eastern mainland States combined (QLD, NSW, ACT, VIC).





**Figure 9.** Country of origin of international visitors (top) and State of origin within Australia of Australian visitors (bottom)

In summary, these patterns indicate that the total sample is characterised mostly by eastern seaboard Australians. The data also revealed that 65% overall have had some exposure to the GBR, of which 30% had previously to Lady Musgrave Island. A greater proportion of campers and yachties had been to Lady Musgrave before—44% and 53% respectively. There were also 16% of daytrippers who had been to Lady Musgrave before. This is a surprisingly high proportion for both user groups (yachties and campers) and also quite unexpected for daytrippers who tend to be tourists from interstate or overseas. An even larger number of campers and yachties have been to other locations on the GBR—80% and 85% respectively. Also, most daytrippers have been to other locations in the GBR—51%.

In the sample there was a sizeable proportion of international visitors, mainly from European and North American destinations, and a notable number of ‘locals.’ Most of the visitors had come with family and/or friends, in reasonably small groups. There were, however, some large groups among the campers, and there was great diversity in the amount of time that campers were spending on the Island. The overall sex and age distributions did not reflect substantial deviation from what would be expected, except for a slightly disproportionate number of males. The sample therefore can be seen to contain fairly good representation from sex and age groups, and an interesting diversity in places of origin.

### 6.2.1 Structure of Daytrip Activities

Commercially catered day visitors to Lady Musgrave Island and Reef depart from the mainland at Bundaberg (Lady Musgrave Cruises) or the Town of 1770 (MV 1770), both locations shown

on map 1. The journey to Lady Musgrave takes a little over two hours (slight weather-dependent variation). The two commercial operations are distinct, and the social and managerial settings differ sharply. The MV 1770 provides a smaller-scale operation (maximum load of 40 passengers) with no on-site infrastructure other than a mooring buoy. Passengers swim, snorkel, relax on board the boat, or visit Lady Musgrave Island.

In contrast the Lady Musgrave Cruises operation is much larger (maximum load of 150 passengers) and has significant infrastructure on site. A large flat pontoon with built-in observatory is permanently moored at the site. In addition there is a glass-bottomed boat and other smaller craft for scuba divers, and transfers to the island. Upon arrival, visitors are invited to select from options including remaining on the large vessel, swimming or snorkelling from the pontoon or simply relaxing on the pontoon. In the course of the visit (approximately four hours), each person is able to participate in all of the options. Lunch is provided as part of the package. Guests could choose to stay on board the vessel either inside or outside the enclosed areas; a decision likely to be influenced by local weather conditions (especially if the sun is strong, some people prefer to be protected from the direct rays for at least some periods). One aspect of the study was to identify the timing and pattern of choices people made regarding the different opportunities provided by each operator. See map 2 for the spatial relationship between daytrip pontoon, the Island and camping ground.

Lady Musgrave Cruises (the larger operation) chose at one time to remove their pontoon to the mainland for repairs and this fortuitous period of absence allowed us to compare the behaviour of day visitors with and without the presence of the pontoon. Some control data were provided by the parallel monitoring of MV 1770 during both periods. The next section of the report describes this observational part of the study.

### **6.2.2 Behavioural Observations of Day Visitors**

The techniques adopted to collect the data on visitor behaviour involved the use of observers throughout the visit recording the locations of passengers at regular intervals. A recording sheet was devised for this purpose (appendix 7) and each observer was required to estimate the proportion of visitors who were located at predetermined (specified) sites. For the Lady Musgrave Cruises passengers the following choices were identified:

- a) in the water,
- b) in the glass-bottomed boat,
- c) on the pontoon,
- d) in the observatory,
- e) inside the vessel (enclosed parts),
- f) on the vessel but outside (outer vessel), and
- g) on the island.

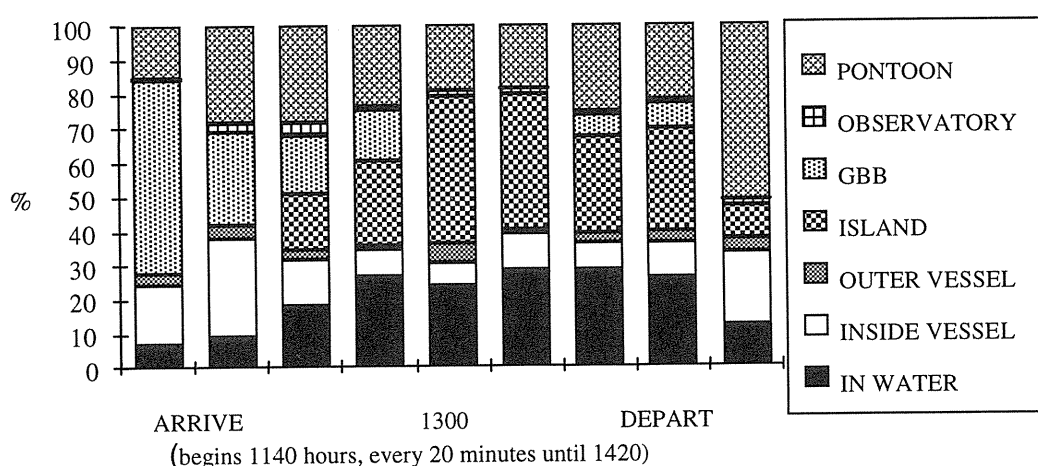
Each observer made independent counts at 20-minute intervals and the starting times were fixed for all Lady Musgrave Cruises observations during the study period. These times were as follows: 1140, 1200, 1220, 1240, 1300, 1320, 1340, 1400, 1420 and 1440. These 10 observation times avoided the inevitable confusion of activity and congestion upon arrival and departure but provided a regular series of discrete counts for the period when guests had maximum choices (figures 10 and 11 show the first nine observations only). To help overcome the inevitable errors of judgment for each time period there were two independent observers. Usually observers worked a one hour (three count) shift before being spelled. Each pair of data was combined and mean values used in reporting. Most estimates were similar or very close.

In the case of Lady Musgrave Cruises, detailed observations were made on four separate days while the pontoon was present (21/3/91, 23/3/91, 24/3/91 and 26/3/91), with another six days when the pontoon was absent (27/6/91, 29/6/91, 30/6/91, 2/7/91, 6/7/91 and 7/7/91). In the case of the latter only five locations (see above) were available as options (with the pontoon and observatory missing).

For the MV 1770, observations were made on four days (21/3/91, 22/3/91, 26/6/91 and 6/7/91): the first two coinciding with the pontoon being present with Lady Musgrave Cruises, and the last two with the pontoon absent from Lady Musgrave Cruises. Times of observation were slightly different from those used for Lady Musgrave Cruises, reflecting the different time and managerial setting of the MV 1770 operation. Observations commenced at 1050 and continued every 20 minutes until 1450, thus giving 13 discrete observation times. There were only four options for location: in the water, inside the vessel (enclosed), on the vessel (outer areas), on the island. The following section provides detailed results of these observations.

### 6.2.3 Results and Analysis of Behavioural Observations

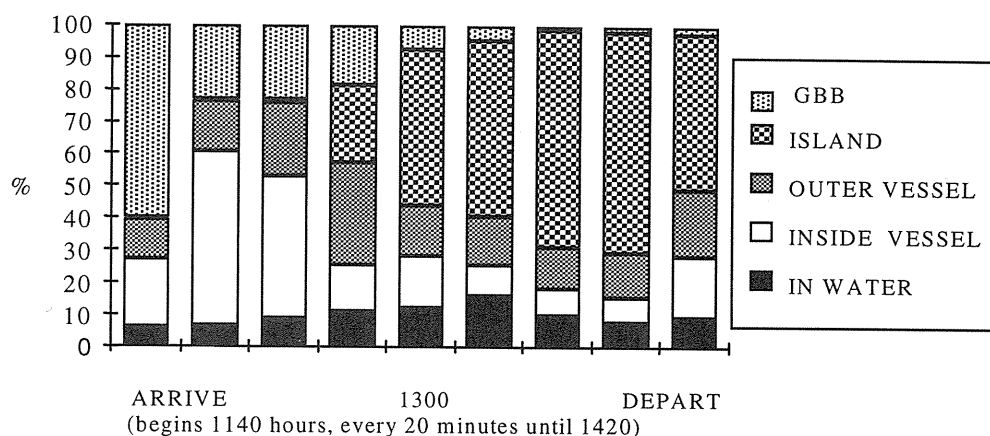
Several sets of results are presented below, beginning with the two graphs for Lady Musgrave Cruises. Figure 10 shows the behavioural observations with the pontoon in place (March 1991). This graph is the most complex with seven different locations monitored every 20 minutes from arrival to departure. Each column in the composite graph shows the percentage of visitors at each of the seven places identified in the legend. The category 'outer vessel' refers to the unclosed space on board the MV *Lady Musgrave* (sun decks and open seating areas), whereas 'inside vessel' refers to the enclosed sections of the boat which includes the area where lunch is served.



**Figure 10.** Behavioural observations Lady Musgrave Cruises, pontoon in place, March 1991

The general pattern of activities and associated spatial and temporal behaviour seems fairly consistent on Lady Musgrave Cruises. Initially there is much use of the glass-bottomed boat which tapers off by the midpoint of the visit. The early high level of use of inner parts of the boat is associated with lunch. Swimming and snorkelling activities continue throughout the visit but peak a little after the midpoint (between 1300 and 1400). The built-in observatory seems to be used briefly, by a few people at a time, throughout the period and therefore appears as a minor addition to the pontoon use. Visits to the island get under way about one hour into the visit and continue until just before departure with a peak at the midpoint of the stay. The pontoon is clearly well used by visitors for most of the period. It should be noted that easy access to the water is provided by the pontoon and the distribution of snorkelling gear also occurs on the pontoon. The graph (figure 10) shows these patterns quite clearly. The second graph (figure 11) illustrates the results without the pontoon.

A number of interesting contrasts are apparent, perhaps most significant is the much greater use of the island when the pontoon is missing. Variation in other components may also be due in part to displacement from the pontoon but there may be other factors operating also. For example the increased use of outer vessel areas (18% compared with only 3% when the pontoon was present), while likely to be related to the pontoon may also reflect different environmental conditions. Similarly, the lower level of water-based activities may reflect the change in ease of access to the water, but also perhaps environmental differences.

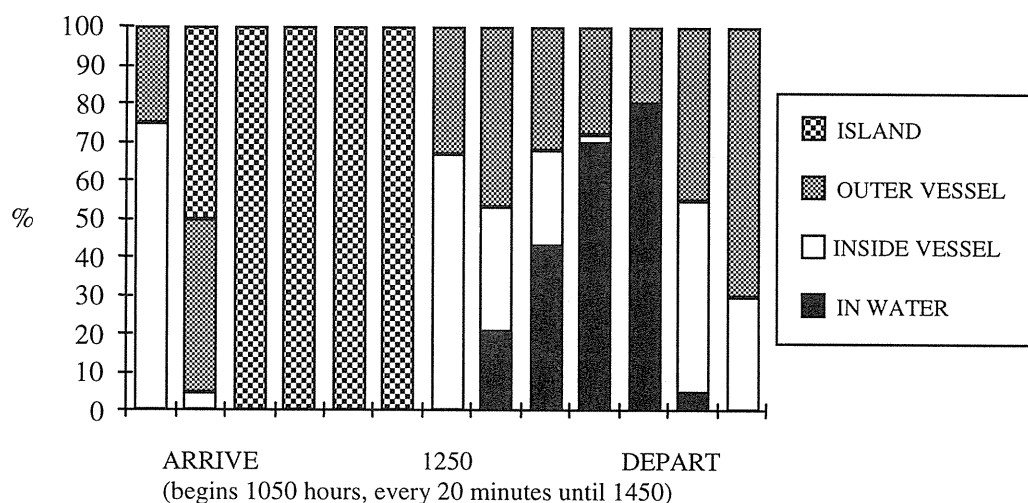


**Figure 11.** Behavioural observations Lady Musgrave Cruises, no pontoon in place, June–July 1991

It should be noted however, that all days on which behavioural observations were made were sunny and most days only had gentle breezes.

A comparison of overall use of site facilities is interesting. Use of the glass-bottomed boat was constant (14.7% overall with pontoon, 15.9% without). But loss of infrastructure suggests a transfer of use away from the pontoon to the vessel (26.7% pontoon and observatory use; when pontoon absent, vessel use rose from 16.8% to 39.8% of overall use). Island use also went up from 21.3% overall with the pontoon to 35.1% without.

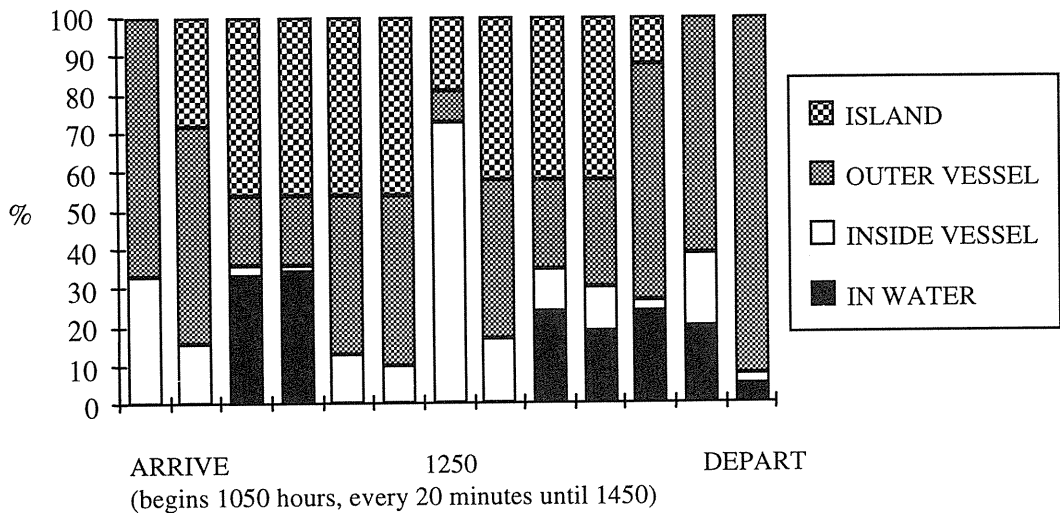
The extent to which seasonal conditions, or other factors, may have affected swimming activities or the use of the island may be assessed by comparing data on the MV 1770 for each of the periods. Figures 12 and 13 show the temporal and spatial patterns of use by guests on the MV 1770 for March and June–July.



**Figure 12.** Behavioural observations MV 1770, March 1991

It is clear from an inspection of the graphs that although the temporal pattern differs for the two periods, the total amount of time spent at each site is similar. The March visit is notable in that the island visits all occurred early in the day, there was no swimming during this period as all visitors went ashore for most of this time. In June–July the island visits were stretched out for most of the day with less than 50% of visitors ashore at any one time. Overall, island visits occupied a little

less time in winter than in summer (28.4% versus 34.4%). A little less time was also spent in the water in winter (12.2% versus 16.8%) but these differences seem relatively minor.



**Figure 13.** Behavioural observations MV 1770, June–July 1991

As an overall indication of use by visitors of different locations, all the data from Lady Musgrave Cruises were aggregated and the relative proportions of visitor time devoted to the three key locations are 15% in the water, 57% on vessels and infrastructure, and 28% on the island. The other (smaller) operator, MV 1770, has almost exactly the same overall distribution (14.9% in the water, 54.8% on the vessel and 30.3% on the island).

The behavioural observations presented here provide further information on the structure of day visitor activities at Lady Musgrave Island and Reef. It is clear that most visitor time is occupied on or near the vessel on which they journeyed to the island, but around 30% of visitor time may be spent on the island. The absence of the pontoon appears to have led to a significant increase in island use, greater even than the use by MV 1770 guests at the same time. With the pontoon in place only 21.4% of visitor time was spent on the island compared with 34.4% of visitor time on the MV 1770 in the same period.

The significance of island-based experiences will be discussed in more detail as part of the analysis below.

**6.2.4 Observations/Experience of Repeat Users**

The observations, experiences and comments of repetitive users of recreational sites are recognised as extremely valuable for management agencies. These experienced users are likely to provide insight into long-term change and could give early warning about problems, especially site and experience degradation and associated potential displacement. It was possible from the survey to obtain some indication of the experience and perceptions of repeat users as compared to ‘first time’ visitors. This was done through the specific question addressed to repeat users who had noticed changes, question 12a.

**Question 12a.** Have you noticed any changes? (only cases who had been to Lady Musgrave before and noticed changes, N = 38) TABLE 2

Little differences which were explicitly mentioned appear to relate mainly to visitation levels and impacts of visitors. **More built structures** were noted by 29% of repeat visitors, with some 26% observing **more visitors**.

Other observations included the **corals being different** (24%): ‘I think there is a little bit of damage to the reef possibly by the snorkellers because I noticed there is a lot of coral broken off close in.’ ‘The coral has started to die. Mainly just the coral changing. It is just dying especially around the boat.’ More **management presence** (18%), **more tourist operations** (16%) and **more human degradation** (16%) were also noted: ‘A greater amount of people wandering around from last time. There is definitely more campers here and more yachts here. The daytrippers too, they weren’t coming here in the past.’ ‘There is a lot more yachts in here than what there was in 1978.’

Repeat users could potentially be more sensitive to environmental degradation, more concerned about specific management issues, and more perceptive of specific details of the environment.

**Table 2.** (Q12a) Have you noticed any changes?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
12a.3 island	6	•	4	2	16	•	27	12
12a.6 terrestrial fauna and flora - different	4	1	1	2	11	17	7	12
12a.9 marine fauna and flora - different	4	2	•	2	11	33	•	12
12a.10 coral - more	2	•	•	2	5	•	•	12
12a.11 coral - less	3	1	1	1	8	17	7	6
12a.12 coral - different	8	4	3	1	21	67	20	6
12a.14 fish - less	4	•	3	1	11	•	20	6
12a.15 fish - different	4	1	2	1	11	17	13	6
12a.16 birds - more	2	•	•	2	5	•	•	12
12a.17 birds - less	2	•	1	1	5	•	7	6
12a.18 birds - different	2	1	•	1	5	17	•	6
12a.22 trees - more	3	2	•	1	8	33	•	6
12a.24 trees - different	3	1	1	1	8	17	7	6
12a.28 visitors/users - more	10	1	3	6	26	17	20	35
12a.29 visitors/users - less	1	•	1	•	3	•	7	•
12a.31 management - more	7	1	3	3	18	17	20	18
12a.33 management - different	3	•	2	1	8	•	13	6
12a.34 tourist operations - more	6	•	1	5	16	•	7	29
12a.36 tourist operations - different	2	•	•	2	5	•	•	12
12a.37 human impact/ degradation - more	6	3	3	•	16	50	20	•
12a.40 built structures - more	11	1	5	5	29	17	33	29
12a.41 built structures - less	1	•	1	•	3	•	7	•
12a.42 built structures - different	3	•	2	1	8	•	13	6
N of respondents	38	6	15	17	No. of original categories			43
Disagreement	.0011				Category cut-off			2.5%
					No. of remaining categories			24

At Lady Musgrave the proportion of repeat visitors varied depending on visitor type with yachties highest (52.5%), followed by campers (44.4%) and daytrippers (14.2%). Not all of the repeat users noticed changes and the survey suggests that visitor perceptions of changes on Lady Musgrave are highest amongst yachties and campers, less so among daytrippers. Of yachties, 81% noticed changes with the greatest proportion being observations of more visitors, more tourist operations and more built structures. Campers who noticed changes (62%) drew attention to more built structures and related aspects of more visitors. They also noticed change to the island more than the other groups. Of the daytrip visitors who had been to Lady Musgrave before 37% noticed

changes, but as the total number in this category is low (only six noticed changes) the results are less reliable.

Repeat visitors frequently drew attention to management features which were less apparent to novice visitors. Examples include positive comments about the toilets, box of garbage bags and information services. Repeat users also expressed more concern about some management aspects compared with novice users. Examples included need for moorings, need to restrict activities and need for more personnel presence.

### 6.3 The Overall Recreation/Tourism Experience of Lady Musgrave Island and Reef

Results discussed in this section are from all of the questions which looked at the overall experience, and the meaning of the experience to people. For all of these questions the complete taxonomy of experiences, presented in appendix 3, was used as categories for coding.

**Question 1.** *Tell me about your visit to Lady Musgrave and what sort of experience has today been for you.* TABLE 3

It was important for the first question in the interview to be very open allowing respondents to come forward with their immediate reaction towards their experience. Given that participants could express anything about their experience, it is interesting to note the range of reactions to this question expressed in the 78 categories that met the cut-off point. They ranged from talking about one's personal feelings, the social aspect of the experience, activities undertaken, perceptions of the environment, one's relationship with the environment, to general evaluation of the experience.

#### *Self/Experience—Trip Overall*

The most salient **reaction** to the experience was **positive** for 88% of respondents, overall: 'Wonderful. I have never done anything like this before basically.' 'It has been a tremendous experience. I would say it is one in a lifetime job, but from what I have seen and observed, I sincerely hope to come again.' There were reactions of **excitement** (i.e. high arousal) for 63% of respondents. Visitors' general **evaluation** of the **trip** was also **positive** (25%). This was, in general, the case for all user groups, with daytrippers being slightly more positive than the other user groups, and campers the only group who more explicitly mentioned negative emotions (24%). Inspection of the interviews' content revealed that these negative emotions included reactions to closeness of other campers, too much wind at the campsite, and disappointment over a minor diving accident.

Thirty per cent overall (and 23% of daytrippers—more noticeable than other groups) said that the visit to Lady Musgrave Island and Reef was a **new** and **unique experience** to them respectively: 'It has been a really nice experience. I have seen something that I haven't seen before, a coral cay which I had no idea what it was before...' Feeling **relaxed/tranquil and peaceful** was more salient to both campers and yachties (43%/35%), and less so to daytrippers. Further analysis revealed that of daytrippers who said this was a '**unique experience**' 86% of them have not been to Lady Musgrave before, but 51% have been to other locations in the GBR. So perceptions of uniqueness attributed to Lady Musgrave Island and Reef also have an element of comparison with other locations of the GBR. Daytrippers also found the experience more **mind stimulating** (25%) than campers and yachties. Interestingly, though, with reference to interpretive activities, not many visitors overall reported that they had learned anything (7%).

Visitors also referred to their **anticipation** about the experience and this, from inspection of interview contents, was mainly in a positive way. Campers also made comparisons between their **expectations** and their actual experience (17% matched expectations and 13% failed expectations).

**Table 3.** (Q1) Tell me about your visit to Lady Musgrave and what sort of experience has today been for you.

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
<b>Self/Experience</b>								
T3 sense of control	13	6	5	2	6	5	9	5
T5 challenge	9	4	3	2	4	4	6	5
T6 emotion - positive	183	105	44	34	88	92	81	85
T7 emotion - negative	26	11	13	2	13	10	24	5
T8 emotion - high arousal	130	79	31	20	63	69	57	50
T10 relaxed/tranquil/peaceful	45	8	23	14	22	7	43	35
T12 physical state - negative	11	5	5	1	5	4	9	3
T14 escape	15	3	9	3	7	3	17	8
T15 new experience	52	34	10	8	25	30	19	20
T16 unique experience	36	26	4	6	17	23	7	15
T17 fantasy/magical/religious	21	11	7	3	10	10	13	8
T20 mind - stimulating	34	28	3	3	16	25	6	8
T21 learning	14	12	•	2	7	11	•	5
T23 recollection	22	6	6	10	11	5	11	25
T24 anticipation - positive	34	16	13	5	16	14	24	13
T26 anticipation	30	12	11	7	14	11	20	18
T27 expectation - exceeded	20	13	2	5	10	11	4	13
T28 expectation - failed	19	10	7	2	9	9	13	5
T29 expectation - matched	28	16	9	3	13	14	17	8
<b>Type of activities</b>								
T33 snorkelling - positive	45	35	7	3	22	31	13	8
T34 snorkelling	43	26	14	3	21	23	26	8
T37 swimming	15	6	3	6	7	5	6	15
T40 scuba diving - introduction	13	10	2	1	6	9	4	3
T42 scuba diving – certified - positive	14	4	7	3	7	4	13	8
T43 scuba diving - certified	41	13	16	12	20	11	30	30
T46 viewing from glass-bottomed boat		8	•	•	4	7	•	•
T51 contemplating nature - positive	46	30	8	8	22	26	15	20
T52 contemplating nature	71	44	13	14	34	39	24	35
T70 fishing	16	1	10	5	8	1	19	13
T73 relaxing	29	4	19	6	14	4	35	15
T79 eating	10	1	9	•	5	1	17	•
T88 walking - track	11	7	1	3	5	6	2	8
T94 walking - around island	17	8	3	6	8	7	6	15
T97 boating	19	3	1	15	9	3	2	38
T99 main vessel ride - positive	16	15	1	•	8	13	2	•
<b>Social Environment</b>								
T115 family togetherness	29	16	12	1	14	14	22	3
T116 spending time with friends	10	3	6	1	5	3	11	3
T122 other people's enjoyment	23	13	7	3	11	11	13	8
T125 numbers of people/not crowded few	9	4	2	3	4	4	4	8
<b>Physical Environment - nature factors</b>								
T141 environment evaluation - positive	90	50	21	19	43	44	39	48
T144 physical isolation	12	5	2	5	6	4	4	13
T145 quietness/peace	16	2	8	6	8	2	15	15
T146 naturalness	35	22	7	6	17	19	13	15
T148 naturalness - island	11	8	1	2	5	7	2	5
T149 ocean/GBR - positive	15	11	2	2	7	10	4	5
T150 ocean/GBR	59	35	13	11	28	31	24	28



**Table 3** cont.

T152 reef community - positive	29	20	4	5	14	18	7	13
T153 reef community	71	44	12	15	34	39	22	38
T155 island community - positive	33	26	2	5	16	23	4	13
T156 island community	77	46	18	13	37	40	33	33
T158 fish - positive	30	18	5	7	14	16	9	18
T159 fish	54	37	9	8	26	32	17	20
T161 corals - positive	32	23	6	3	15	20	11	8
T162 corals	43	28	7	8	21	25	13	20
T165 other marine life	14	7	3	4	7	6	6	10
T171 birds	22	11	5	6	11	10	9	15
T174 turtles	15	7	2	6	7	6	4	15
T180 trees	8	4	2	2	4	4	4	5
T188 clarity of water - positive	19	7	5	7	9	6	9	18
T191 beaches	21	5	9	7	10	4	17	18
T194 lagoon	18	6	4	8	9	5	7	20
T196 lagoon safety/anchorage - positive	15	4	2	9	7	4	4	23
<b>Physical Environment - natural conditions</b>								
T198 weather conditions - positive	46	18	19	9	22	16	35	23
T199 weather conditions - negative	20	5	11	4	10	4	20	10
T200 sea conditions - calm	9	3	1	5	4	3	2	13
T201 sea conditions - rough	10	8	•	2	5	7	•	5
<b>Physical Environment - interpretative</b>								
T205 reef environment	11	8	2	1	5	7	4	3
T206 island environment	13	10	3	•	6	9	6	•
T208 corals	8	5	2	1	4	4	4	3
<b>Environment—Human interactions</b>								
T215 concern for human impact	9	5	3	1	4	4	6	3
T231 engagement with nature	31	18	7	6	15	16	13	15
T232 intimate encounters with nature	12	9	2	1	6	8	4	3
<b>Managerial/organisational factors</b>								
T233 development	23	10	10	3	11	9	19	8
T273 commercial vessel	8	3	2	3	4	3	4	8
<b>Trip overall</b>								
T284 evaluation - positive	51	39	7	5	25	34	13	13
T286 I would come back	10	5	3	2	5	4	6	5
T294 convenience/access	20	12	4	4	10	11	7	10
N of respondents	208	114	54	40	No. of original categories			297
Disagreement	.0030				Category cut-off			3.5%
					No. of remaining categories			77

### *Type of Activities*

Of the activities mentioned **contemplating nature** (44%) and **snorkelling** (34%) were the most salient overall. **Snorkelling** is most salient to daytrippers (40%) and to campers (37%), but has little salience in yachties' descriptions of experience. **Certified scuba diving** is, however, more important to campers (30%) and yachties (33%). **Relaxing** and **family togetherness** are salient to campers (35%/22%) but not to other user groups.

### *Physical Environment*

The **environment** was generally **evaluated** in a **positive** way by respondents (43%) across all of the groups: 'It is so unspoiled I think that is what is good about the place.' The maritime

environment was mentioned in a range of general and specific ways. Both the **ocean/GBR** and the **general reef community** (33%/40%) were expressed as being part of visitors' experiences: 'Actually seeing the coral reef, it was like a different world looking at all the different corals... actually seeing them in real life was an amazing experience.' The general reef community is more salient to yachties and daytrippers (43%/47%) than to campers. **Corals** and **fish** were the two specific marine life details mentioned most often (30%/31%). This again better characterises daytrippers' and yachties' responses. The **lagoon** is distinctively salient to yachties (23%). Weather conditions are even more salient to campers (46%) than yachties (28%).

The **general island community** is salient overall (45%) but also more to daytrippers and yachties (52%/40%): 'The only other point to mention is the island itself in its diversity of bird life, we found that quite interesting.' The **beaches** are more salient to campers and yachties (17%/18%).

**Question 2.** *Thinking about the experience you have been having at Lady Musgrave what were some of the things that were going through your mind?* TABLE 4

This question was designed to elicit unprompted characteristics of the Lady Musgrave experience. It was an extension of question 1, encouraging visitors to express what thoughts they had during their visit. The most salient thoughts about their experiences would be mentioned and responses were unconstrained by the interviewer. The researchers were interested in finding out whether this type of question, which may evoke some analysis of the experience would elicit different responses to the one provided in question 1.

### *Self/Experience*

The dominant theme to emerge from question 2 was an **emotional response to the experience**: 'Today has been what's really good in life.'; overall 56% of respondents expressed **positive emotion** about their experience—'It was just beautiful, I have never experienced anything like it'—with similar percentages for campers and daytrippers while yachties had a slightly lower level of response (45%).

Some 33% overall expressed **high arousal**, with daytrippers and campers at 35% and 37% respectively and yachties 20%. Clearly there is a strong emotional component in the reflections about experiences of all types of visitors to Lady Musgrave, but yachties seem less highly affected by the experience. It is very interesting to note that even though this question drew explicit attention to cognitive functions ('thinking about'), responses were still strongly affective.

It is also interesting to note the contrast in state of being between daytrippers and campers. The latter placed emphasis on being **relaxed, peaceful, tranquil** at a much higher level (35%) than daytrippers (only 12%). This suggests that a strong sense of tranquillity is an essential part of the camping experience, something clearly less available for daytrippers. Yachties are somewhat affected in this regard compared with campers, 20% finding **peace/tranquillity/relaxation** as being an important part of their experience. There is also a strong emphasis on **escape** by campers (20%), compared with 9% of daytrippers and 15% of yachties mentioning this aspect of experience.

### *Type of Activity*

The most salient activity elements of the reflections about Lady Musgrave experiences is **contemplating nature**: 'Like you can look out there now and see the dolphins cruising along. The whales that we have been seeing. Each day you find new coral and fish. It is a never ending source of information really...' Overall this was mentioned by 35% of all visitors with 36% and 37% from daytrippers and campers respectively; 25% of yachties mentioned this: 'Occasionally a manta ray will break the surface or a dolphin or the whales or whatever.' With regard to specific activities, it is interesting that **walking around the island** was much more significant (salient) for yachties (13%) with only 4% of campers mentioning this activity. For daytrippers it had no salience (failed to make the scree cut-off). **Scuba diving** was of greater importance to campers

(22%) than daytrippers (9%), but **snorkelling** was equally important (18%/19%). The broad activity category, **relaxing**, was clearly salient to a much greater percentage of campers (17%) compared with either daytrippers (3%) or yachties (5%); reflecting the very different overall ambience of camping on Lady Musgrave compared with the energetic daytrip environment.

**Table 4.** (Q2) Thinking about the experience you have been having at Lady Musgrave what were some of the things that were going through your mind?

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
<b>Self/Experience</b>								
T4 effort	9	•	6	2	4	•	11	5
T6 emotion - positive	116	67	31	18	56	59	57	45
T7 emotion - negative	22	14	4	4	11	12	7	10
T8 emotion - high arousal	68	40	20	8	33	35	37	20
T10 relaxed/tranquil/peaceful	41	14	19	8	20	12	35	20
T13 luck/fortune	21	13	4	4	10	11	7	10
T14 escape	27	10	11	6	13	9	20	15
T15 new experience	26	17	7	2	13	15	13	5
T16 unique experience	16	12	3	1	8	11	6	3
T17 fantasy/magical/religious	24	16	5	3	12	14	9	8
T19 mind - clear	27	14	10	3	13	12	19	8
T20 mind - stimulating	24	15	5	4	12	13	9	10
T22 lack of knowledge	10	6	2	2	5	5	4	5
T23 recollection	21	11	5	5	10	10	9	13
T24 anticipation - positive	34	18	11	5	16	16	20	13
T25 anticipation - negative	19	10	5	4	9	9	9	10
T26 anticipation	22	13	3	6	11	11	6	15
T27 expectation - exceeded	14	9	2	3	7	8	4	8
T28 expectation - failed	10	6	3	1	5	5	6	3
T29 expectation - matched	20	13	6	1	10	11	11	3
<b>Type of activities</b>								
T33 snorkelling - positive	13	7	4	2	6	6	7	5
T34 snorkelling	21	15	6	•	10	13	11	•
T37 swimming	6	4	2	•	3	4	4	•
T40 scuba diving - introduction	14	11	3	•	7	10	6	•
T42 scuba diving - certified - positive	8	2	4	2	4	2	7	5
T43 scuba diving - certified	20	8	8	4	10	7	15	10
T51 contemplating nature - positive	22	12	8	2	11	11	15	5
T52 contemplating nature	49	29	12	8	24	25	22	20
T70 fishing	8	1	4	3	4	1	7	8
T73 relaxing	14	3	9	2	7	3	17	5
T79 eating	7	2	5	•	3	2	9	•
T94 walking - around island	7	•	2	5	3	•	4	13
T97 boating	9	2	3	4	4	2	6	10
<b>Social Environment</b>								
T106 sociable - other visitors	7	2	4	1	3	2	7	3
T115 family togetherness	22	13	6	3	11	11	11	8
T119 respect/appreciate place - visitors	7	3	1	3	3	3	2	8
T120 behaving inappropriately - visitors	8	4	2	2	4	4	4	5
T122 other people's enjoyment	17	8	3	6	8	7	6	15
T123 get involved in the activity	7	4	1	2	3	4	2	5
T124 nos people/crowded many	6	•	3	3	3	•	6	8
T125 nos people/not crowded few	11	3	5	3	5	3	9	8
<b>Physical Environment - nature factors</b>								

**Table 4 cont.**

T141 environment evaluation - positive	63	39	14	10	30	34	26	25
T142 environment evaluation	13	5	5	3	6	4	9	8
T144 physical isolation	8	5	1	2	4	4	2	5
T145 quietness/peace	20	6	9	5	10	5	17	13
T146 naturalness	27	14	7	6	13	12	13	15
T148 naturalness - island	7	3	2	2	3	3	4	5
T149 ocean/GBR - positive	19	13	3	3	9	11	6	8
T150 ocean/GBR	35	21	7	7	17	18	13	18
T152 reef community - positive	16	10	2	4	8	9	4	10
T153 reef community	40	21	12	7	19	18	22	18
T155 island community - positive	11	6	4	1	5	5	7	3
T156 island community	39	24	9	6	19	21	17	15
T158 fish - positive	18	13	2	3	9	11	4	8
T159 fish	32	23	6	3	15	20		8
T161 corals - positive	9	5	3	1	4	4	6	3
T162 corals	29	23	2	4	14	20	4	10
T165 other marine life	17	11	5	1	8	10	9	3
T171 birds	10	4	4	2	5	4	7	5
T174 turtles	8	3	4	1	4	3	7	3
T180 trees	10	5	5	•	5	4	9	•
T182 colour of the reef - positive	10	10	•	•	5	9	•	•
T185 colour of the water - positive	7	7	•	•	3	6	•	•
T188 clarity of water - positive	13	11	•	2	6	10	•	5
T196 lagoon safety/anchorage – positive	6	1	1	4	3	1	2	10
<b>Physical Environment - natural conditions</b>								
T198 weather conditions - positive	13	5	2	6	6	4	4	15
T199 weather conditions - negative	9	•	•	9	4	•	•	23
T200 sea conditions - calm	7		•	3	3	4	•	8
<b>Physical Environment - interpretative</b>								
	•	•	•	•	•	•	•	•
<b>Environment–Human interactions</b>								
T215 concern for human impact	32	18	5	9	15	16	9	23
T223 human impact marine - concern for	14	7	4	3	7	6	7	8
T226 human impact marine - negative	9	5	2	2	4	4	4	5
T231 engagement with nature	33	18	12	3	16	16	22	8
T232 intimate encounters with nature	17	11	5	1	8	10	9	3
<b>Managerial/organisational factors</b>								
T233 development	20	8	9	3	10	7	17	8
T234 management - positive	18	8	4	6	9	7	7	15
T235 management	30	13	7	10	14	11	13	25
T254 management - regulation/zoning	13	6	4	3	6	5	7	8
T260 private boats	8	2	1	5	4	2	2	13
<b>Trip overall</b>								
T284 evaluation - positive	16	12	2	2	8	11	4	5
T286 I would come back	10	6	1	3	5	5	2	8
Number of respondents	208	114	54	40	No. of original categories			297
Disagreement	.0026				Category cut-off			2.5%
					No. of remaining categories			80

*Social Environment*

Turning to the social environment, it is clear that this was not a directly salient element in thinking about the Lady Musgrave experience. For most visitors their reflections about experiences revealed the natural environment, their appreciation and enjoyment of that natural environment,

and the self/experience elements as being more salient. However **interacting socially** with other visitors was salient much more for campers than for either daytrippers or yachties, but **family togetherness** was an aspect mentioned by all three groups: 'I think the best thing I have found is that my family has enjoyed the shallows here on top of the reef, swimming around and snorkelling and that and it is an experience just seeing them getting along with the other children in our party.' Yachties placed greater emphasis on **other people's enjoyment**, presumably due to the common characteristic of yachties taking along friends on their boats.

### *Physical Environment*

Many responses included categories described as nature factors of the Lady Musgrave physical environment. These included, for example, references to **beaches, ocean, reef and island environment** and also references to **aesthetics** and **general environmental aspects** (used only when there was no specific mention of a particular element of the physical environment): 'Everything was just so beautiful and unspoiled and friendly. You seem to move in not as an intruder but as a sort of part of the environment and you feel very much at one with nature and the environment.'

In this part of the taxonomy the most salient element was reference to the **general environment** (36% overall) with strong emphasis also on the **general reef community** (27%), **ocean and GBR** (26%) and the **general island community** (24%). Some responses show strong contrasts between the different user groups including reference to specific marine life details. In the case of **fish** (overall 24%), 31% of daytrippers mentioned this compared with only 15% and 16% for campers and yachties: 'To be able to reach out and touch the fish as you are feeding them.' 'Sharks, I kept on thinking about sharks all the time.' In the case of **corals** (18% overall), 24% of daytrippers mentioned this compared with 10% and 13% for campers and yachties: 'I think really the extent of the coral reef. I never imagined it to be quite so big.' 'I was very keen to find out what the reef was actually like.' The marine focus of daytrippers is further highlighted by the reference to water conditions; the **colour of the reef**, the **colour of the water** and the **clarity of the water** were all salient elements for daytrippers but were not as salient for campers and yachties (missed the scree cut-off). By contrast yachties were particularly focused on **weather and safety factors**: 'I was worrying about the weather and the holding. I just hope we get no bad storms and hope the anchor doesn't drag.'

One further contrast between daytrippers and the other two groups relates to **quietness and peace**. This was salient to both campers and yachties (17% and 13%) while only 5% of daytrippers mentioned this aspect of the physical environment. This accords with the responses noted above which mentioned **peace/tranquillity and relaxation**. All user groups noted the naturalness of the place (13% overall).

The following category of responses relates to those of human interactions with the environment. These included general expressions of concern for **human impact on the environment** (15% overall; 23% yachties, 16% daytrippers and 9% campers). Visitors for whom **engagement with nature** was a salient element of the Lady Musgrave experience (16% overall) ranged from a low of 8% (yachties) through to 16% daytrippers and 22% campers: 'It is great to just sit here like we are and look at the ocean and I could just watch it all day and watch the tide coming in and out.' 'I think the sea is always a place if you are upset about something or you need to think the sea always makes you. It has a very soothing effect and makes you re-evaluate yourself.' **Intimate encounters with nature** was a category also dominated by campers and daytrippers: 'Sitting under the casuarina trees watching the sun set into the ocean, diving in some of my favourite spots and knowing how nice they are from year to year and I suppose swimming with the whales which I have been able to do for the last couple of years.'

### *Management*

The remaining type of categories in the taxonomy related to management. A surprisingly large

number of respondents included some reference to **management** in their responses to question 2 (23% overall) which was a very open question asking visitors to reflect about their experiences at Lady Musgrave. More yachties (40%) than campers or daytrippers (20% and 18%) spoke about **management** when describing their experiences at Lady Musgrave: 'I would hope that this sort of thing is going to be preserved forever by the authorities and that they will make sure that people come and know what they can and what they can't do...' 'I think it is important that this island stays the way it is. I would hate to see it developed any more.' Some 17% of campers mentioned **development** (compared with 8% and 7% for yachties and daytrippers), again a surprisingly high proportion, which indicates the role of management in affecting experiences.

### *Summary of the Overall Experience*

Clearly the Lady Musgrave Island and Reef experience is very complex and diverse. In responding to general open-ended questions on experiences visitors alluded to all of the experiential dimensions depicted in figure 1. They not only talked about themselves, their feelings and what the experience represented to them, but they also referred to what they've been doing while at Lady Musgrave Island and Reef, their perceptions and interactions with other people, their perceptions and interactions with nature and the physical environment in general, and made observations on managerial and organisational factors.

Given that these were very general and open-ended questions it is important to note this wide range of responses to different aspects of the experience. It confirms the notion that outdoor recreation experiences are multi-dimensional and that the visitors themselves are aware of all of these dimensions. Not only that, they are all happening almost simultaneously and resource managers should be aware of the potential interactions among them.

When noting the relative salience of the dimensions overall, visitors more predominantly talked about the self/experience dimension. Coding of environmental references required the largest number of categories overall. This is both a reflection of salience but also due to the fact that it is easier and more explicit to separate specific environmental characteristics (e.g. a coral from a fish) and develop more categories for that domain, than separating emotional or cognitive characteristics. It was clear to us when developing the taxonomic scheme that we needed more specific categories for the physical environment at the superordinate level to be able to better organise the interview contents. Thus the development of physical environmental categories relating to nature factors, natural conditions, interpretation and one which captures the interactions between humans and the environment was necessary.

Whilst there were many more categories to code environmental salience, many categories were also used to code visitors' expressions related to their own self-experience. In fact, the actual percentages of references to some of the categories within these dimensions were higher than for any other categories in the taxonomy.

Visitors also referred to a wide range of activities they undertook while at Lady Musgrave Island and Reef, both water-based and land-based. On the other hand, the social environment and managerial/organisation factors were less seldom referred to.

Visitors in general felt very positive about their experiences. There were, however, interesting differences among the three user groups. It is clear that these groups cannot be seen homogeneously in terms of what is salient to them and the experiences they are seeking.

Campers value tranquillity, peacefulness, a relaxed environment, family togetherness and a sense of escape. Day visitors see their experiences much more in terms of mental stimulation, and talk about their experiences more commonly as activities when compared to campers and yachties. Although all visitors are attentive to a diverse range of environmental features and the environment is very salient to them, there are differences in the physical environmental emphasis. Day visitors focused more broadly on the marine environment with less emphasis than campers on the terrestrial environment. Campers, by comparison with daytrippers, focus more evenly on both

terrestrial and marine environments. Yachties share values with both campers and daytrippers. In common with campers, they value tranquillity, peacefulness and relaxation but tend to have a bit more of a marine orientation rather than terrestrial, akin to daytrippers.

Many daytrippers considered the Lady Musgrave Island and Reef experience to be new and unique. Interestingly, half of the daytrippers sampled who said that the Lady Musgrave Island and Reef experience was unique have also been to other locations on the GBR. So these perceptions of uniqueness are not only related to not having been to the Marine Park before, but to the fact that it is perceived as a unique place with the GBRMP.

#### *Methodology Note*

There were two questions in the interview asking visitors about their experience with slightly different wording. The intention was to see whether they may evoke different responses, and to try out different ways of asking such general experiential open-ended questions which could provide some guidance for future studies. Answers to these two questions were by and large very similar. One of the slight differences noted was that there were more references to managerial/organisational factors when asking visitors to 'think' about their experience (a more reflective task) rather than just 'talking' about their experiences (a more immediate reaction). But perhaps surprisingly, environmental evaluation is higher when participants are talking rather than thinking about their experience.

There is also a very important order effect here which colours any interpretation of these differences, i.e. the task of being asked to tell about one's experience might have been perceived as being very similar by the respondents from the task of 'thinking' about one's experience (particularly given that interviews were conducted towards the end of one's experiential phase). It would seem from results that the second question would have been perceived as being a bit repetitive by the respondents. During the interviewing context however, they were quite willing to 'think' about their experiences after 'telling us' all about them. The range of responses within question 2 backs this observation. In retrospect, the first question alone would have been sufficient to evoke an understanding of how visitors construe their experiences.

### **6.4 Experience Dimensions and Management Issues**

Most of the questions focusing on specific themes addressed four different experience elements (activities, physical environment, social environment and management/regulations). This conforms with the concept of recreation experiences as being multi-dimensional, as mentioned earlier.

#### **6.4.1 The Activity Dimension**

**Question 3.** *Could you tell me a bit about what you specifically did while you were here? What was that like?* TABLE 5

This question was designed to find out the most salient activities of visitors to Lady Musgrave. Following the unprompted responses, specific activities were mentioned by the interviewer if the respondent had not already referred to these (swimming, snorkelling, diving, glass-bottomed boat (or 'glassy' in tables) and observatory). The intention was to obtain as clear a picture as possible of what people did while at that location. Not surprisingly the main activity across all types of users was **snorkelling** (67%), with campers more than daytrippers more than yachties (74%/69%/50%). Daytrippers mentioned **snorkelling** in a **positive** way almost three times as frequently as either campers or yachties did.

**Contemplating nature** was also very important to visitors as a category of activity. Daytrippers mentioned this more frequently than yachties and much more frequently than campers. On the other hand **fishing** was not mentioned by daytrippers but received equally high attention from yachties and campers (38% and 35%). Some activities were equally salient to all types of visitors, such as **walking around the island** (around 35%) and **birdwatching** (12%). However viewing

from the **glass-bottomed boat** was very important for daytrippers but hardly mentioned by campers. In contrast it was mainly the campers (48%) and yachties (33%) for whom **scuba diving** was salient, with few daytrippers (7%) mentioning this activity. Using the **observatory** was of relatively moderate salience amongst daytrippers (22%).

**Table 5.** (Q3) Could you tell me a bit about what you specifically did while you were here?

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
3.4 snorkelling - positive	53	41	7	5	25	36	13	13
3.5 snorkelling	126	69	37	20	61	61	69	50
3.8 swimming	64	37	14	13	31	32	26	33
3.13 scuba diving - certified - positive	14	9	3	2	7	8	6	5
3.14 scuba diving - certified	47	8	26	13	23	7	48	33
3.16 viewing from glassy - positive	37	36	1	•	18	32	2	•
3.17 viewing from glassy	53	51	2	•	25	45	4	•
3.19 observatory - positive	16	15	1	•	8	13	2	•
3.20 observatory	17	16	1	•	8	14	2	•
3.23 bird-watching	25	14	7	4	12	12	13	10
3.31 contemplating nature - positive	39	28	5	6	19	25	9	15
3.32 contemplating nature	93	59	16	18	45	52	30	45
3.38 photography	13	10	1	2	6	9	2	5
3.41 fishing	34	•	19	15	16	•	35	38
3.44 relaxing	51	18	21	12	25	16	39	30
3.50 eating	38	21	13	4	18	18	24	10
3.53 walking	42	22	12	8	20	19	22	20
3.56 walking - reef	17	3	9	5	8	3	17	13
3.59 walking-track	57	37	6	14	27	32	11	35
3.62 walking - beach	22	11	6	5	11	10	11	13
3.65 walking - around island	72	40	19	13	35	35	35	33
3.68 boating	31	6	10	15	15	5	19	38
Number of respondents	208	114	54	40	No. of original categories			73
Disagreement	.0022				Category cut-off			5.0%
					No. of remaining categories			22

The second part of the question (*‘What was that like?’* [TABLE 6](#)) resulted in a number of respondents giving **further descriptions of activities** (41%), but it also elicited numerous qualitative references to the experiences they had. Perhaps of greatest importance was the very high percentage of visitors who expressed **positive emotion** (60% overall)—‘I enjoyed it on the glass-bottomed boat and I loved the walk around the island, I thought that was super.’ ‘Snorkelling was something I have never experienced before, I thought it was just wonderful.’—with 81% of daytrippers giving such responses, compared with 40% of yachties and 31% of campers. Amongst the other elements mentioned were references to specific island and marine life details (**fish, corals, and birds**) and also to the **general island community** (around 60%): ‘It was quite incredible to see those birds sitting in the trees right by our noses and the island itself is very beautiful.’ ‘I went diving outside the reef and I dived inside the reef. Well, outside the reef it was sort of breathtaking. It was like being in one gigantic aquarium I suppose with millions of different coloured fish, thousands of different corals and it was just great.’ ‘The reef walking was also great. I could actually go very close to everything and I could see how fragile it is.’

*Summary of the activity dimension*

There is a diversity of activities which visitors enjoy and this section identifies the most salient for each of the different groups. Snorkelling is clearly very important both quantitatively and in the strong positive emotion aroused. Daytrippers had exceptionally high levels of positive emotion in



their overall response to Lady Musgrave activities. Examples given clearly show the excitement attached to visitor activities. Contemplating nature was another activity with high participation levels. Some activities are more significant for different types of users as the tables illustrate.

### 6.4.2 The Physical Environment Dimension: Individual–Environment Relationships

The questions which follow all referred to the physical environment. They were aimed at understanding broad level environmental perceptions as well as more specific individual–environment relationships.

**Table 6.** (Q3a) What was that (what you did) like?

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
3a.1 further description of activities	86	56	15	15	41	49	28	38
3a.7 emotion - positive	125	92	17	16	60	81	31	40
3a.8 emotion - negative	27	19	6	2	13	17	11	5
3a.9 emotion - high arousal	86	68	8	10	41	60	15	25
3a.10 emotion - low arousal	20	18	•	2	10	16	•	5
3a.11 relaxed/tranquil/peaceful	19	5	10	4	9	4	19	10
3a.17 mind - stimulating	39	27	8	4	19	24	15	10
3a.20 anticipation - positive	16	9	5	2	8	8	9	5
3a.28 new experience	17	11	5	1	8	10	9	3
3a.36 evaluation - positive	28	19	2	7	13	17	4	18
3a.40 ocean and GBR	51	31	13	7	25	27	24	18
3a.43 reef community	54	23	17	14	26	20	31	35
3a.45 island community - positive	18	16	•	2	9	14	•	5
3a.46 island community	109	64	23	22	52	56	43	55
3a.48 fish - positive	22	20	2	•	11	18	4	•
3a.49 fish	60	41	7	12	29	36	13	30
3a.51 corals - positive	16	13	2	1	8	11	4	3
3a.52 corals	50	34	9	7	24	30	17	18
3a.55 other marine life	18	13	2	3	9	11	4	8
3a.58 birds	45	23	12	10	22	20	22	25
3a.61 turtles	17	8	7	2	8	7	13	5
3a.67 trees	26	17	5	4	13	15	9	10
3a.78 water clarity - positive	15	9	3	3	7	8	6	8
3a.81 beaches	42	26	10	6	20	23	19	15
N of respondents	208	114	54	40	No. of original categories			88
					Category cut-off			5.5%
Disagreement	.0069				No. of remaining categories			24

**Question 4.** *How would you describe the physical environment at Lady Musgrave to a friend planning to visit it?* [TABLE 7](#)

This question was related to general visitors’ perceptions of the physical environment and attempted to understand what characteristics of the physical environment were salient to visitors. It is important to be reminded that the responses here reflect spontaneous observation by the respondents on one’s perceptions of salient environmental features. An understanding of the array of salient environmental features (the overall content of these individual perceptions) is as important as the quantification of how many responses made reference to a particular feature.

Overall, the three user groups had a **positive evaluation of the environment (65%)**: ‘With the camping there it doesn’t seem spoiled because they still have the natural environment everywhere and the walking trail was just beautiful, the trees, the way they form and just the reflection of the sun through it all and everything.’ ‘It is in good shape. It is clean and still nature’s home environment.’ A smaller number of yachties, compared to other user groups, is found in this category, with campers (59%) having the largest number of responses in this category.

**Table 7. (Q4) How would you describe the physical environment at Lady Musgrave to a friend planning to visit it?**

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
4.1 recommendation	51	30	11	10	25	26	20	25
4.3 environment evaluation - positive	136	74	40	22	65	65	59	45
4.4 environment evaluation	•	•	•	•	•	•	15	10
4.6 paradise	18	8	8	2	9	7	15	5
4.7 desert island	17	9	6	2	8	8	11	5
4.8 perfect	9	2	6	1	4	2	11	3
4.9 beautiful	47	22	17	8	23	19	31	20
4.10 unique	29	18	6	5	14	16	11	13
4.11 isolation/escape	31	13	11	7	15	11	20	18
4.12 quiet/peaceful/tranquil	19	10	7	2	9	9	13	5
4.13 natural/unspoiled	58	36	9	13	28	32	17	33
4.16 ocean and GBR - positive	20	9	7	4	10	8	13	10
4.17 ocean and GBR	49	20	17	12	24	18	31	30
4.19 reef community - positive	19	10	4	5	9	9	7	13
4.20 reef community	58	28	19	11	28	25	35	28
4.22 island community - positive	20	3	6	11	10	3	11	28
4.23 island community	84	37	25	22	40	32	46	55
4.25 fish - positive	18	11	3	4	9	10	6	10
4.26 fish	24	13	8	3	12	11	15	8
4.28 corals - positive	16	10	2	4	8	9	4	10
4.29 corals	65	30	20	15	31	26	37	38
4.32 other marine life	8	1	4	3	4	1	7	8
4.35 birds	34	16	13	5	16	14	24	13
4.38 turtles	8	•	6	2	4	•	11	5
4.43 trees - positive	18	8	7	3	9	7	13	8
4.44 trees	50	26	16	8	24	23	30	20
4.52 water colour - positive	9	4	3	2	4	4	6	5
4.53 water colour	18	13	2	3	9	11	4	8
4.55 water clarity - positive	25	9	12	4	12	8	22	10
4.57 beaches - positive	15	4	10	1	7	4	19	3
4.58 beaches	33	14	15	4	16	12	28	10
4.60 lagoon - positive	9	2	4	3	4	2	7	8
4.61 lagoon	31	10	9	12	15	9	17	30
4.63 lagoon safety/ anchorage - positive	13	3	4	6	6	3	7	15
4.65 weather conditions - positive	23	6	12	5	11	5	22	13
4.66 weather conditions - negative	16	2	10	4	8	2	19	10
4.71 management	13	10	3	•	6	9	6	•
4.72 facilities - camping	32	12	19	1	15	11	35	3
4.73 facilities - other	19	10	5	4	9	9	9	10
4.74 absence of facilities/ uncommercial	25	10	11	4	12	9	20	10
Number of respondents	208	114	54	40	No. of original categories			75
Disagreement	.0026				Category cut-off			3.5%
					No. of remaining categories			40

General **island community** as a component of the total physical environment is very salient overall and for all user groups. It is highly salient to yachties (73%) and campers (50%) when describing the environment, and to a lesser extent to daytrippers (35%): ‘It is a beautiful island with sandy shores, lots of coral, lots of sea life, fabulous visibility. I loved the forests and the birds.’ ‘The island is just a coral island with trees on it. It is a pretty island with different characteristics at each tide...’

‘The colours are much more vibrant in the afternoon.’ Of all of the **island community** details the one which is most salient to visitors is the **vegetation** (trees, 28%): ‘It is basically a desert island in the middle of the ocean with a forest above...I didn’t expect so many trees’, and this is more so to campers (41%). The **beaches** (22%) were reasonably salient overall, but three times more important in campers’ experiences (43%) than daytrippers’ (15%) or yachties’ (13%). **Birdlife** (24%), **camping facilities** (35%) and general **absence of facilities** (20% expressed in a positive way) and **good weather conditions** (22%) are also much more salient to campers than to other user groups.

The character of Lady Musgrave Island and Reef of being natural and unspoiled was also salient to visitors: ‘Everything seemed so clear and natural still. Absolutely unspoiled. As far as I was concerned it was unspoiled.’ ‘The most noted thing is that it is not polluted in any way.’

‘You can walk on the island and very seldom would you see a can or a bit of paper lying around. You don’t see plastic or anything that is detrimental to the environment.’ Close to one-third of visitors mentioned it overall with daytrippers and yachties commenting on the naturalness of the place to a higher degree than the campers. (Perhaps the closer you get to know the place the more you note human interference.) The place was also perceived as being **beautiful** (23% overall). Campers, in particular, described it this way, with 32% making this reference. Many people also described Lady Musgrave as a place they would **recommend to others** (25% overall).

The **ocean and the GBR** in an overall sense was referred to by over one-third of visitors and more by the campers (44%) and yachties (40%), with the general **reef community** being slightly more salient to visitors (37% overall) and again more so to campers (44%), and yachties, (40%). **Corals** were mentioned by more than one-third of respondents and are noted more by campers (41%) and yachties (37%) than daytrippers (26%): ‘We actually recommend this particular island to anybody who is contemplating a brief visit to the Barrier Reef because I think it is the most convenient and it is one of the best examples of coral reef that we have seen...’. The **lagoon** is particularly salient to yachties (37.5%): ‘The water is very blue and I would say that it is a big lagoon surrounded by reef and there is only one little entrance in...it is pretty hairy when you are in a yacht that is worth a bit of money.’ ‘...a big lagoon and every one was quite amazed at how big the lagoon is.’

**In summary**, there were a wide range of environmental features perceived and described by visitors of Lady Musgrave Island and Reef, from general overall perceptions of the place (e.g. its naturalness) to specific aspects of fauna and flora (e.g. turtles). User groups also varied in their perceptions of the environment, highlighting that the way they relate to the environment can not be seen as homogeneous. Different user groups may want, and perceive, something different from their relationships with the environment. Campers’ responses indicated a more detailed appreciation of environmental features than the other user groups. They tended to be alert to more specific detailed features of the environment (e.g. type of fauna and flora and facilities) rather than using broad descriptions (e.g. naturalness) in their responses. This is not surprising since they have more time for detailed appreciation of the environment. But it also raises the issue of interpretation. They may be an important group to be targeted for interpretation, which should perhaps be more detailed and complex than that for daytrippers. An interesting result is the importance of the general island community, and the activity of landing and walking around the island, to yachties. Managers need to estimate the number of yachties visiting the island itself and incorporate consideration of this in various impact/management issues.

**Question 5.** *Is there anything special about this place that you think makes it distinctive from other places?* TABLE 8

This question aimed at refining further whether visitors perceived something particularly special about the Lady Musgrave island and reef environment.

Visitors overall felt that the place was unique, with daytrippers mostly accounting for this response (42% when compared to 19% for campers and 25% for yachties): ‘It is different for me, I have never been to a place quite like this before.’ ‘I have seen a lot of the fish life at different places, but

not all at one place at one time like today. The diversity in one place is incredible and I guess the coral cay itself was very unique.’ A sense of **isolation and escape** was particularly important to campers in their perceptions of what is special about Lady Musgrave Island (37%): ‘The most distinctive thing I suppose is the fact that it is isolated, it is difficult to get to, not many people know about it as yet.’ ‘I think the fact that it is just this tiny little island and it feels amazing to be out here on this tiny island so far from anywhere else.’

**Table 8.** (Q5) Is there anything special about this place that you think makes it distinctive from other places?

	Frequency of N				Percent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
5.1 no	17	8	4	5	8	7	7	13
5.2 don't know/nothing to compare it with	33	25	6	2	16	22	11	5
5.3 environment evaluation - positive	51	24	17	10	25	21	31	25
5.10 beautiful	11	6	4	1	5	5	7	3
5.11 unique	68	48	10	10	33	42	19	25
5.12 isolation/escape	39	14	20	5	19	12	37	13
5.13 quiet/peaceful	22	11	7	4	11	10	13	10
5.14 natural/unspoiled	42	24	12	6	20	21	22	15
5.18 ocean and GBR	32	18	8	6	15	16	15	15
5.21 reef community	49	22	16	11	24	19	30	28
5.24 island community	61	34	18	9	29	30	33	23
5.27 fish	15	15	•	•	7	13	•	•
5.29 corals - positive	15	7	5	3	7	6	9	8
5.30 corals	43	27	7	9	21	24	13	23
5.36 birds	12	8	3	1	6	7	6	3
5.45 trees	10	4	4	2	5	4	7	5
5.59 beaches	8	5	3	•	4	4	6	•
5.61 lagoon - positive	16	7	4	5	8	6	7	13
5.62 lagoon	34	11	8	15	16	10	15	38
5.64 lagoon safety/anchorage - positive	20	6	4	10	10	5	7	25
5.72 access to island	22	12	4	6	11	11	7	15
5.73 access to beach/lagoon/campsite	22	4	10	8	11	4	19	20
5.74 facilities - camping	18	6	12	•	9	5	22	•
5.75 facilities - other	14	11	3	•	7	10	6	•
5.76 absence of facilities/development	37	17	16	4	18	15	30	10
5.77 activities	42	16	14	12	20	14	26	30
5.78 social environment	31	7	17	7	15	6	31	18
5.79 management	15	9	6	•	7	8	11	•
N of respondents	208	114	54	40	No. of original categories			81
Disagreement	.0013				Category cut-off			3.0%
					No. of remaining categories			28

Both the general island and reef community were perceived to be something special about the place (29% and 24%) with campers highlighting these features more than the other user groups: ‘The fact that it is a coral cay I suppose...But it is different from any island I have been to before in that there is no drinking water, stacks of birds and a few ground animals...Just the coral right around, I don't recall seeing that much before.’

Daytrippers (24%) and yachties (23%) perceived **corals** as something special more than campers. However, **camping facilities** (22%), **absence of facilities** (30%), **activities** (26%) and **social environment** (32%) were considered special features of the place by campers but not for the other

groups: 'The fact that you really have to be prepared to come here, there is no fresh water on the island which I don't mind at all because it tends to keep crowds away.' 'The fact that there is no development on it and it is pretty well untouched except for the toilet block.' 'I like camping with very few facilities and that's what I like here.' **Access to beach** was important to both yachties and campers (20%/19%). The **lagoon** is obviously very special to yachties (76%) and not so to other groups: 'Without a doubt, the fact that it is a lagoon fully enclosed.' 'It is very different when you can actually sail into a lagoon that is inside a reef. That makes it very exciting and unusual.'

Answers to this question also revealed that all visitors felt **positive about the environment** (25%) and perceived its **natural/unspoiled** character as something special.

**Question 6.** *Was there anything about what you saw in the environment that increased or decreased your enjoyment of the place?* TABLE 9

This question aimed at linking perceptions of environmental features with visitors' enjoyment of the place, i.e. to evoke people's perceptions of individual–environment relationships.

Some responses overall revealed that there was nothing about the environment which increased (27%) or decreased (45%) visitors' enjoyment of the place. Of the things that increased one's enjoyment of the place the **general aesthetics** (18%) and **naturalness** (17%) were mentioned most often. It is interesting to note that whilst **naturalness** is part of daytrippers' and yachties' perceptions of environmental elements contributing to enjoyment (20%/23%), this descriptor is not part of campers' expressions (6%): 'Well for once there are not all the buildings around... It is just quiet and as I said before it is just so unspoiled.' 'There is certainly no sign of any rubbish around or anything like that to take away from the natural beauty.' This provides support for results in question 4 that campers tend to perceive and describe the environment in a more focused and detailed way.

Here also **turtles** and **birds** were seen as contributing to campers' enjoyment (22%/19%) and to a lesser extent to yachties' (15%/3%) and negligibly to daytrippers' (3%/8%): 'I think seeing the turtles yesterday—three of them all together, two huge ones and one little one about one metre across... Then last night I was walking up the beach looking for hatchlings and I found a little hatchling going down to the water. That sort of thing I really enjoy.' 'The birds here are fantastic. As far as increasing it, I get a real kick out of watching the mutton birds come in at night and crash landing everywhere.' Campers would obviously have more experience of these fauna. **Fish**, however, are moderately important in a similar way to all user groups.

In general, not many things in the environment detracted from visitor enjoyment. The two most noticeable detractors were **dead birds** (20%) and **damage to terrestrial environment** (17%) which campers mentioned: 'You have groups of 20 people that are entirely isolated and it is just a community that moves in and do their bit and move out. That island has no time to recuperate from the last 20 people that left.' Yachties complain of being disturbed by the tourist operators (15%): 'Oh, that's a pain, it really is. I don't know who is driving it but gee, he goes out of here and comes in here like he is the next Brisbane to Gladstone yacht race but he is driving a motor cruiser. It is a bit of a pain.' 'I would prefer not to see day visitors here. The reason is that I don't believe an island such as Lady Musgrave can take the traffic of people.' Some damage to the marine environment was also noted overall (11%): 'I noted the presence of a fair amount of what I thought was broken coral and dead coral right around the channel where the glass-bottomed boats come out to the island.' 'The only thing that decreased the enjoyment was the amount of damage to the reef itself.'

**Table 9.** (Q6) Was there anything about what you saw in the environment that increased or decreased your enjoyment of the place?

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
<b>Increased</b>								
6.6 no, nothing	56	35	12	9	27	31	22	23
6.8 reef community	5	3	0		1	1	9	
6.9 island community	21	15	4	2	10	13	7	5
6.10 aesthetic	37	17	9	11	18	15	17	28
6.11 fish	33	19	7	7	16	17	13	18
6.12 coral	23	13	6	4	11	11	11	10
6.13 other marine life	14	3	7	4	7	3	13	10
6.14 birds	20	9	10	1	10	8	19	3
6.15 turtles	21	3	12	6	10	3	22	15
6.17 trees	13	6	5	2	6	5	9	5
6.19 naturalness	35	23	3	9	17	20	6	23
6.23 water colour	10	9	1	•	5	8	2	•
6.24 water clarity	9	4	1	4	4	4	2	10
6.28 weather conditions	9	5	2	2	4	4	4	5
6.32 management presence	12	8	2	2	6	7	4	5
6.38 unpolluted	17	10	3	4	8	9	6	10
6.39 everything/whole experience	34	21	8	5	16	18	15	13
6.40 impact of environment on individual/self	10	6	2	2	5	5	4	5
<b>Decreased</b>								
6.41 no, nothing	94	61	16	17	45	54	30	43
6.42 noise pollution	8	1	6	1	4	1	11	3
6.43 visual pollution - marine	11	6	2	3	5	5	4	8
6.44 visual pollution - terrestrial	6	3	3	•	3	3	6	•
6.54 disturb. - other comm. operators	9	•	3	6	4	•	6	15
6.55 damage to marine environment	22	14	5	3	11	12	9	8
6.56 damage to terrestrial environment	12	2	9	1	6	2	17	3
6.58 dead birds	19	7	11	1	9	6	20	3
6.59 impact of environment on individual/self	17	8	7	2	8	7	13	5
N of respondents	208	114	54	40	No. of original categories			60
Disagreement	.0011				Category cut-off			2.5%
					No. of remaining categories			27

**Question 7.** *How important are natural environments to you during your leisure time and tell me why?* TABLE 10

**Natural environments** are considered to be **very important** to the majority of the visitors (56%) and more so for campers (61%) and yachties (60%). Whilst important, only 26% of respondents overall revealed that they **visit** natural environments **a lot**. Campers are the most frequent visitors (37%).

A number of reasons were given for why natural environments were important to visitors: **naturalness** (53%) [‘...but the natural environment, particularly when it is natural or as close to natural as it can be, is just that extra special difference for someone who lives in the city.’ ‘The importance of the natural environment to me is that it sort of enhances the pleasure of the place in your leisure time to be able to go and look at something that hasn’t been disturbed, or busted or smashed or something like that.’], the **activities one can do** (47%) with yachties mentioning this more often (65%) [‘...and I can relax and I can do physical things as in swimming and diving and

walking because that appeals to me.'], the fact that they felt a **positive emotion** towards natural environments (41%) and because they had **concern for environmental conservation** (37%): 'We only have this one earth so we have to take care of it and if we don't we just destroy it even faster than we do now.' '...the air is clean and the water is clean and everything, it just gives you tremendous freedom and to be able to preserve that I think is the most important thing we can do.'

**Table 10.** (Q7) How important are natural environments to you during your leisure time? Tell me why?

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
7.3 natural environments - important	47	26	13	8	23	23	24	20
7.4 natural environments - very important	116	59	33	24	56	52	61	60
7.5 visit a lot	54	26	20	8	26	23	37	20
7.6 sometimes visit	13	7	4	2	6	6	7	5
7.15 evaluation - positive	18	11	7	•	9	10	13	•
7.16 naturalness	111	59	32	20	53	52	59	50
7.17 quietness/peacefulness	44	18	17	9	21	16	31	23
7.18 escape/seclusion/isolation	61	27	24	10	29	24	44	25
7.19 the activities one can do	98	46	26	26	47	40	48	65
7.27 emotion - positive	85	40	26	19	41	35	48	48
7.28 emotion - high arousal	22	10	5	7	11	9	9	18
7.31 just being in it	15	8	4	3	7	7	7	8
7.33 engagement with nature	28	11	12	5	13	10	22	13
7.35 concern for environment/conservation	77	55	11	11	37	48	20	28
N of respondents	208	114	54	40	No. of original categories			32
Disagreement	.0080				Category cut-off			5.0%
					No. of remaining category			14

It is interesting to note that a question which focuses on the individual: 'Why are natural environments important to one during leisure times?' evoked responses referring to general environmental concern and conservation. This may be an indication of the level of environmental awareness in the community. It is also interesting to note that the latter was expressed more often by daytrippers (48%), compared to the campers (20%) and yachties (28%). Perhaps the fact that 36% of daytrippers were overseas tourists may contribute to this, or perhaps daytrippers, who do not visit natural environments a lot, may still have a vicarious experience of and identification with natural environments expressed in their concern for conservation.

#### *Summary of the physical environment dimension*

Visitor perceptions and descriptions of the Lady Musgrave natural environment were very diverse, ranging from general overall perceptions of its naturalness and isolation, to very specific aspects of the fauna and flora (e.g. turtles and corals). The different user groups studied revealed some consistent variation between them.

It is clear that for many visitors the natural attributes of Lady Musgrave were perceived as special. This included references to unique characteristics ('like nothing ever seen before') and to natural and 'unspoiled' environments (corals, island, reef and lagoon). Visitors felt positive about the environment. Campers especially value the isolation and escape opportunities, and the absence of development, whereas daytrippers particularly referred to corals, with yachties giving emphasis to lagoon features. The attempt to evoke awareness and perceptions of the interaction between individual visitors and specific elements of the Lady Musgrave environment also revealed some contrasting aspects of the different user groups. Naturalness was a key part of daytrippers' and yachties' perceptions of environmental attributes contributing to their enjoyment, as were

particular groups of fauna. There was little about the Lady Musgrave natural environment which detracted from visitor enjoyment. The visitors to Lady Musgrave rated natural environments as very important in their normal leisure choices. Although not part of the question asked, there was a surprisingly high spontaneous reference to concern for the environment and conservation. In the case of daytrippers this was very high, even more so than for campers and yachties. This may be an indication of a very high level of environmental awareness and concern within the overall population. Generally, campers perceive and describe the environment in a more focused and detailed way compared to daytrippers, a fact which may have implications for management.

### 6.4.3 The Social Environment Dimension: Individual–Environment Relationships

We turn now to discussion of questions related to the **social environment dimension** of a recreation experience. They also ranged from eliciting broad observations of the social environment to more specific issues such as crowding, inter-group perceptions and use of motorised equipment. Implicit in the aim of some of these questions was an understanding of conflicts among user groups. If such conflicts exist, general questions on inter-group perceptions, and more specifically on impact of others' behaviour on self, should allow plenty of opportunities for perceptions of conflicts to surface.

**Question 8.** *How would you describe the people, and their behaviour, that you met at Lady Musgrave to a friend planning to visit it?* TABLE 11

**Table 11.** (Q8) How would you describe the people, and their behaviour, that you met at Lady Musgrave to a friend planning to visit it?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
8.1 friendly - other visitors	122	65	39	18	59	57	72	45
8.2 friendly - staff	80	63	10	7	38	55	19	18
8.4a boat staff - other	46	42	3	1	22	37	6	3
8.5 sociable - other visitors	53	20	17	16	25	18	31	40
8.6 sociable - staff	19	15	2	2	9	13	4	5
8.7 nonsociable - other visitors	44	14	18	12	21	12	33	30
8.10 supportive/helpful - other visitors	38	22	12	4	18	19	22	10
8.11 supportive/helpful - staff	39	34	4	1	19	30	7	3
8.13 belongingness - other	23	7	13	3	11	6	24	8
8.16 others here for same purpose	37	9	15	13	18	8	28	33
8.17 diverse/interesting people	32	16	11	5	15	14	20	13
8.18 respect the place - other visitors	52	25	13	14	25	22	24	35
8.18a respect the place - staff	28	22	3	3	13	19	6	8
8.21 behaving inapprop. - other visitors	25	6	14	5	12	5	26	13
8.23 other people's enjoyment	53	34	11	8	25	30	20	20
8.24 get involved in the activity	34	21	7	6	16	18	13	15
8.26 numbers of people -not crowded/few	9	1	4	4	4	1	7	10
8.35 activity by other people - disturbing	11	3	7	1	5	3	13	3
N of respondents	208	114	54	40	No. of original categories			46
Disagreement	.0055				Category cut-off			4.0%
					No. of remaining categories			18

This was the general question related to the social environment. Responses to this question, beyond tapping different dimensions of social perception related to other visitors, also gave some indication of the extent to which social interactions might have occurred and how other visitors affected the respondent.



By and large, other visitors were described by respondents as being very friendly (59%), with campers being more forthcoming with this observation (72%) compared to daytrippers and yachties (57%/45%): 'People are generally very friendly.' The staff of tourist operations are also perceived as being friendly, primarily by the daytrippers (55%): 'The staff on the boat were all very friendly and not pushy in any way. They made you feel welcome and told you enough about it without ramming it down your throat.' 'The crew on board have been really helpful and really nice.'

Respondents have expressed both that other visitors were sociable (25%) and non-sociable (21%). These observations are more characteristic of campers and yachties (31%/40% for sociable campers/yachties)—'...everyone helps out with each other. You go past a boat and say g'day. It is good to see. Everyone I have spoken to gets on well'—and 33%/30% for non-sociable campers/yachties—indicating that they tend to socialise more with other visitors and are more attuned to this social behaviour than daytrippers (18%/12% sociable/non-sociable).

Campers were also alert to the fact that other visitors were diverse and interesting, perhaps because they would have had more time to get to know other campers, in particular. This user group came forward spontaneously in this broad question, with most perceptions of inappropriate behaviour (26%) which included mention of uncontrolled children, dogs (brought by yachties), and inappropriate exploitation of marine resources, i.e. catching and accumulating large stocks of fish to be taken away. One theme that ran through several of these responses was the failure of others to exhibit an appropriate attitude to the environment and to the nature or 'wilderness' character of the experiences of respondents. This included people incessantly taking pictures and film—trying to capture and consume the place on film and threatening privacy in the process, and people bringing too many extras and incidentals and setting up a 'little city' in the camping ground. The interview content revealed a theme of dislike of the character and attitude of many daytrippers by campers—they were not there for the same purpose and didn't share the values and qualities of experience for which campers were striving. Moreover, campers perceived other visitors (largely other campers according to the interview content) as being supportive (22%) whilst for daytrippers social support comes from the tour operator staff (30%): 'They went around from person to person to see how you were and every single worker in this boat came up and talked to me today and that is incredible.' These results, in combination with others in this survey, might suggest there is considerable contact between campers and daytrippers but not much affinity or meaningful interaction.

Mostly campers reported a sense of belongingness, i.e. feeling part of a group. However, both campers and yachties were aware that other visitors were there for the same purpose (28%/33%): 'You are all out here for the same sort of reasons.' This may indicate that yachties and campers perceive themselves as being a more homogeneous user group than do the daytrippers.

Overall, there is a perception that other visitors respect the environment (25%): 'Very relaxed and nature-loving people, respectful people, they are not destructive, abusive, they are very relaxed and excited and they enjoy the environment.' This is particularly noticeable for yachties (35%) when compared to daytrippers and campers (22%/24%).

Visitors are also conscious of others' enjoyment of Lady Musgrave Island and Reef (25%), this being more salient for daytrippers (30%, compared to 20% for both campers and yachties): 'They all seemed to be enjoying themselves, they all seemed to be focusing on enjoying the natural beauties of the place and they certainly all enjoyed the swimming and taking in the corals and the fish.'

**Question 9.** *Was there anything about these people and their behaviour that increased or decreased your enjoyment of the place?* TABLE 12

Whether there was anything in particular about other visitors' behaviour that increased or decreased one's enjoyment of the place was asked in question 9. Overall, 40% of responses revealed that there was nothing in particular about the social environment which increased one's

enjoyment of the place, whilst 58% of responses revealed that there was nothing which decreased one’s enjoyment of the place. Campers had the lowest number of responses in these categories, but were the only user groups which more notably pointed out social sources of decreased enjoyment.

Campers noted inappropriate behaviour by other visitors (24%), disturbing activities by other people (22%) and disturbing use of motors (17%) as things that decreased their enjoyment of the place: ‘The worst part was when I saw them pick the coral. I thought that was disgusting. ‘Even if you said to them, you can’t take the coral, there is a fine for it. They put all the coral back down and as soon as you turn your back, they would pick the best one up.’ ‘I guess I am not all that happy about heaps of people coming up here fishing and filling up a freezer full of fish and then taking it back with them. I don’t think that is quite in the spirit of the place.’ ‘...and someone over there is playing loud music and I haven’t the courage or the tenacity to ask them to stop it.’ ‘...I guess the generator and the compressor...I would prefer they weren’t there.’

**Table 12.** (Q9 all) Was there anything about these people and their behaviour that increased or decreased your enjoyment of the place?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
<b>Increased</b>								
9.6 no	83	46	17	20	40	40	31	50
9.7 friendly - other visitors	42	21	14	7	20	18	26	18
9.8 friendly - staff	31	27	4	•	15	24	7	•
9.9 sociable - other visitors	24	5	13	6	12	4	24	15
9.12 supportive/helpful - other visitors	20	11	9	•	10	10	17	•
9.13 supportive/helpful - staff	32	28	4	•	15	25	7	•
9.18 others here for same purpose	18	4	9	5	9	4	17	13
9.20 respect place - other visitors	29	17	7	5	14	15	13	13
9.21 other people’s enjoyment	42	24	9	9	20	21	17	23
9.22 get involved in the activity	14	6	4	4	7	5	7	10
9.28 activity by other people – not disturbing	12	3	6	3	6	3	11	8
<b>Decreased</b>								
9.37 no	121	69	26	26	58	61	48	65
9.47 behaving inapprop. - other visitors	23	10	13	•	11	9	24	•
9.49 number of people	10	1	5	4	5	1	9	10
9.54 activity by other people - disturbing	16	4	12	•	8	4	22	•
9.55 use of motors - disturbing	10	•	9	1	5	•	17	3
N of respondents	208	114	54	40	No. of original categories			55
Disagreement	.0025				Category cut-off			4.0%
					No. of remaining categories			16

It is important to remember that these were spontaneous reactions to a broad question and warranted closer investigation of interview contents because of the importance of understanding these experience detractors for management purposes. A check on the interviews revealed that most of these responses centred around the theme of the arrival of large numbers of daytrippers disturbing and changing the nature of the camping experience. The campers spoke about a sense of unity of experience and purpose that was shared with most (but not all) other campers, and that the feeling was not the same with daytrippers. They also mentioned how the arrival of daytrippers in large numbers simply changed the character of the place for a time, and also changed their experience. One respondent said, ‘Suddenly this whole new crowd comes in with all their new noise and new faces and everything and you have just settled into such an automatic groove for the entire day, that it just disrupts you for a few hours.’

Campers were also the only ones who made the observations that the friendly and social behaviour of others (mostly other campers) increased their enjoyment of the place (26%/24%): ‘One night the family came around and sat around the campfire with us and we chatted with them, so that was nice.’ ‘Most of the people enhanced because you do meet with another group that have come to the island before and they are tremendous people and there has been no problems there.’ In general, it seems pretty clear from responses to this and other questions that campers are the most socially sensitive group.

Daytrippers, on the other hand, noted the friendly (24%) and supportive (25%) behaviour of the tour operators’ staff—‘I guess the fact that people were very friendly and cooperative and happy to help each other added to the enjoyment of the day’—whilst both daytrippers and yachties felt that seeing others enjoyment increased their own enjoyment of the place.

**Question 9a.** *Different people bring different types of gear to the island. How do you feel about the use of motors (e.g. generators, compressors) in the camping area?* TABLE 13

The issue of using motorised equipment in the camping area was a more specific aspect of the relationship between behaviour of others and one’s experience addressed in question 9. Perceptions on this issue were only obtained from campers. Overall, there is a strong negative reaction towards the use of motorised equipment in the camping area: 46% do not like it, 46% found it disturbing and 22% said it should not be allowed (37 responses out of 54 camper interviews (69%) contained one of these sentiments). The following quotes from interviews capture the strength of these feelings: ‘I think they are terrible. It is a terrible thing to bring to an island especially such a tiny little island that you can’t get away from them.’ ‘I don’t think you should use power generators. I think that gets away from the spirit of why you come here to relax and do things on your own resources.’ ‘I am totally against the use of compressors and generators of any motorised function on this island. It is just totally unnecessary.’

**Table 13.** (Q9a) Different people bring different types of gear to the island. How do you feel about the use of motors (e.g. generators, compressors) in the camping area?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
9a.1 do not like it	25	•	25	•	46	•	46	•
9a.2 disturbing	25	•	25	•	46	•	46	•
9a.3 OK	3	•	3	•	6	•	6	•
9a.3a concerned acceptance	30	•	30	•	56	•	56	•
9a.4 it is necessary	14	•	14	•	26	•	26	•
9a.5 should not be allowed	12	•	12	•	22	•	22	•
9a.6 should be away from the camping area	14	•	14	•	26	•	26	•
N of respondents	54		54		No. of original categories			7
					Category cut-off			4.0%
Disagreement	.0022				No. of remaining categories			7

There was also a large number of campers (30, 56%) who accepted the fact that generators and compressors were allowed but nonetheless were concerned about them. Inspection of interviews revealed that their main concerns were related overall to the noise, and its impact on their experience, and more specifically to the need of imposing restrictive time limits for the use of motorised equipment, and the need to muffle the noise or relocate this activity. Only three (6%) respondents felt that the use of motorised equipment was unquestionably OK, and 26% said it was necessary, mainly due to the fact that they needed to refill scuba tanks. Twenty-six per cent also felt that this equipment should be away from the camping area.

It is important to note that such overall unfavourable perceptions about the use of motorised equipment in the camping area are expressed despite the fact that half of the camper interviews were conducted with members of large groups, primarily diving groups.

When we consider responses to this specific question, with spontaneous reactions to the broader question discussed above, there appears to be a very strong message that the issue of motorised equipment in the camping area will need to be addressed by managers. It would appear, from visitors’ perceptions, that this is an inappropriate use for Lady Musgrave Island camping area.

**Question 10.** *How did you feel about the numbers of people you encountered on the boat and pontoon?* TABLE 14

The next set of questions related to the social environment and addressed perceptions of crowding. Campers and daytrippers were asked how they felt about the numbers of people they encountered on the boat and pontoon. There are some interesting differences between these two groups, with the former being more sensitive to crowding than the latter. For instance, 41% of campers’ responses indicated that there were too many people compared to 12% for daytrippers (‘It was quite full. Actually there wasn’t very much room.’ ‘It was probably a bit too crowded.’). Daytrippers (61%) said that the number of people was good/just right/appropriate (‘I thought the amount of people that was on the boat today was a good amount’), whilst only 17% of campers said this. Daytrippers (49%) said there were not too many whilst this was the case for 20% of campers. Overall, 46% said the numbers of people were acceptable (many with qualifications and reservations), but 6% of campers also said less is best.

**Table 14.** (Q10) How did you feel about the numbers of people you encountered on the boat and pontoon?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10.1 acceptable	77	50	27	•	46	44	50	•
10.2 no more	28	21	7	•	16	18	13	•
10.3 too many	36	14	22	•	21	12	41	•
10.4 not too many	67	56	11	•	40	49	20	•
10.5 good/just right/appropriate	79	70	9	•	47	61	17	•
10.6 enhanced experience	32	29	3	•	19	25	6	•
10.12 wasn't full	27	24	3	•	16	21	6	•
10.13 less is best/better	27	24	3	•	16	21	6	•
N of respondents	168	114	54		No. of original categories			15
Disagreement	.0030				Category cut-off			5.0%
					No. of remaining categories			8

It is important to note that most of the data collection took place during times of moderate or low density conditions (60% of vessel capacity and sometimes as low as 30%). Visitors’ perceptions of the fact that there were not too many people are therefore not responses to maximum use conditions.

**Question 10a.** *How did you feel about the numbers of people you met on the island?* TABLE 15

A subset of question 10 looked at how everyone that went to the island felt about the numbers of people they met. In general, visitors felt that there were not too many (46%) (‘There is enough space, although the island is small you didn’t feel hemmed in or crowded. It seemed to be right for me’), it was acceptable (26%), and good/just right/appropriate (23%). Some also felt that there were too many people (23%) (‘In some ways perhaps I would be happier to see fewer people on the island’). This is primarily the campers’ perceptions (46%) (‘Too many...I realise it is only meant to be 50 here, but I just found people queuing up for toilets and things like that’), a large proportion of whom also explicitly commented that there should be no more people allowed on the island (28%), and less is better (24%): ‘The camp was absolutely full and I think it would have been nicer if there had been a few less people.’

**Table 15.** (Q10a) How did you feel about the numbers of people you met on the island?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10a.1 acceptable	55	22	22	11	26	19	41	28
10a.2 no more	23	4	15	4	11	4	28	10
10a.3 too many	47	15	25	7	23	13	46	18
10a.4 not too many	95	59	21	15	46	52	39	38
10a.5 good/just right/appropriate	47	30	12	5	23	26	22	13
10a.6 enhanced experience	7	6	1	•	3	5	2	•
10a.7 detracted experience	9	1	6	2	4	1	11	5
10a.8 expectations - more than	17	5	7	5	8	4	13	13
10a.10 expectations - less than	1	1	•	•	•	1	•	•
10a.11 less is best/better	22	7	13	2	11	6	24	5
10a.12 more is better/best	4	3	1	•	2	3	2	•
10a.13 did not see anyone	29	27	•	2	14	24	•	5
10a.14 did not go to the island	20	13	•	7	10	11	•	18
N of respondents	208	114	54	40	No. of original categories			15
					Category cut-off			0.1%
Disagreement	.0014				No. of remaining categories			13

Again, as in the previous question, it is noticeable that campers are more sensitive to crowding than are other user groups. Although large proportions of campers also found the numbers acceptable, and said there were ‘not too many’, inspection of the interviews revealed many of these comments co-occurred with qualifications and reservations about numbers, and some interviews received codes for both ‘too many’ and ‘not too many.’ Managers shouldn’t be surprised by this, which is an outcome of a methodology which attempts to do justice to the complexity and ambiguity of human communication. What this meant was that many campers were speaking in an accepting way, but also going on in their talk to then express doubt about the numbers of people, make suggestions as to what might be changed, and mention how numbers influenced their experience. This is a different response than a relatively straightforward, unqualified, not too many. There is indication from the data that visitors do not feel that more people would be better, and also that they felt numbers on the island were not greater or fewer than they expected. Campers particularly feel numbers are of concern but daytrippers and yachties are not so much concerned about numbers.

For management purposes, it is interesting to note that 11% and 18%, respectively, of daytrippers and yachties interviewed did not go to the island.

To further our understanding of the amount of interaction between campers and other user groups and of inter-group perceptions, a number of more specific questions were asked of daytrippers and yachties, as visitors to the island, and separate questions for campers.

**Question 10b.** *Did you go to the camping ground? If yes, how did you feel about the number of people you encountered there?* TABLE 16

This was a question asked of daytrippers and yachties. Responses revealed that 55% of daytrippers and 18% of yachties did not go to the camping ground. One-third of daytrippers and over half of yachties respectively went to the camping area (remember some daytrippers and yachties did not go to the island at all).

There is an indication from the data, of the potential for a reasonable amount of interaction already occurring between campers and yachties and daytrippers. The groups that just visit the island (do not stay overnight) found it a bit difficult to express how they felt about the number of people they saw on the camping ground. Little response was yielded from daytrippers whilst yachties said acceptable (30%) (‘There seemed to be enough space for everyone, so I don’t think they were overdoing it.’), but also ambivalently said too many (18%), and not too many (18%).

**Question 10c.** *Did you encounter daytrippers within the camping ground, toilets, on the tracks and/or on the beach and how did you feel about this?* TABLE 17

Campers were asked whether they encountered daytrippers within the camping ground, toilets, tracks and/or on the beach and how they felt about this. Answers to this question confirm that there is a fair amount of contact between daytrippers and campers; 83% of campers met daytrippers on the island. The places that campers met daytrippers were on the beach (46%), in the camping ground (37%) and on the tracks (30%): ‘I usually see them on the beach. They have popped in a couple of times.’ ‘About a dozen people walked through our camp site...’ Some of these encounters also bothered campers: ‘Yes, some Asian gentleman who walked right in amongst our camp and was right in amongst the camp and wandering around as if we were exhibits at a zoo...’ Only five (9%) campers saw daytrippers using the toilets.

**Table 16.** (Q10b) Did you go to the camping ground? If yes, how did you feel about the number of people you encountered there?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10b.1 no	70	63	•	7	46	55	•	18
10b.1a yes	60	38	•	22	39	33	•	55
10b.2 acceptable	22	10	•	12	15	9	•	30
10b.3 no more	11	8	•	3	7	7	•	8
10b.4 too many	14	7	•	7	9	6	•	18
10b.5 not too many	19	12	•	7	12	11	•	18
10b.6 good/just right/approp.	9	7	•	2	5	6	•	5
10b.9 expectations - more than	4	3	•	1	3	3	•	3
10b.10 expectations - met	2	2	•	•	1	2	•	•
10b.12 full	3	2	•	1	3	2	•	3
10b.14 less is best/better	1	1	•	•	1	1	•	•
10b.16 should not be any campers	2	1	•	1	1	1	•	3
10b.17 did not see anyone	17	14	•	3	12	12	•	8
N of respondents	154	114		40	No. of original categories			19
					Category cut-off			0.1%
Disagreement	.0010				No. of remaining categories			13

**Table 17.** (Q10c) Did you encounter daytrippers within the camping ground, toilets, on the tracks and/or on the beach and how did you feel about this?

	Per cent of N				Frequency of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10c.1 yes	45	•	45	•	83	•	83	•
10c.2 no	9	•	9	•	17	•	17	•
10c.3 loss of privacy	7	•	7	•	13	•	13	•
10c.4 OK did not bother me	25	•	25	•	46	•	46	•
10c.5 daytrippers shouldn't come to camp area	4	•	4	•	7	•	7	•
10c.6 nice to see different people	2	•	2	•	4	•	4	•
10c.7 insecure about gear left in camp area	3	•	3	•	6	•	6	•
10c.8 intruded upon	6	•	6	•	11	•	11	•
10c.8a met on camping ground	20	•	20	•	37	•	37	•
10c.8b met in toilets	5	•	5	•	9	•	9	•
10c.8c met on beach	25	•	25	•	46	•	46	•
10c.8d met on tracks	16	•	16	•	30	•	30	•
N of respondents	54		54		No. of original categories			13
					Category cut-off			0.1%
Disagreement	.0016				No. of remaining categories			12

Mostly, these encounters did not bother campers. There is, however, a slight indication of loss of privacy (13%) and of being intruded upon (11%): ‘The daytrippers I came in contact with was when we were setting up the tents and a couple of the ladies walked right through the middle of our set up.’

**Question 10d.** *This boat is capable of carrying...and today there are...How do you feel about the number of people here?* TABLE 18

**Table 18.** (Q10d) This boat is capable of carrying...and today there are...How do you feel about the number of people here?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10d.1 acceptable	49	39	10	•	29	34	19	•
10d.2 no more	25	23	2	•	15	20	4	•
10d.3 too many	11	6	5	•	7	5	9	•
10d.4 not too many	33	28	5	•	20	25	9	•
10d.5 good/just right/ appropriate	64	61	3	•	38	54	6	•
10d.6 enhanced experience	12	12	•	•	7	11	•	•
10d.8 expectations - more than	3	2	1	•	2	2	2	•
10d.9 expectations - met	3	1	2	•	2	1	4	•
10d.12 was not full	24	20	4	•	14	18	7	•
10d.13 less is best/better	17	15	2	•	10	13	4	•
10d.14 more is best/better	13	13	•	•	8	11	•	•
N of respondents	168	114	54		No. of original categories			15
					Category cut-off			0.1%
Disagreement	.0026				No. of remaining categories			11

This was another question on perceptions of crowding which asked daytrippers and campers how they felt about the numbers of people on the boat that day, relative to the maximum capacity of the boat. In general, daytrippers felt that numbers were good/just right/appropriate and acceptable (54%/34%) (‘In terms of the number of people aboard today, for me it has been absolutely ideal because as I have said it has allowed everyone room to spread out.’) whilst recognising that there were not too many people (25%) and it was not full (18%). Twenty per cent also said that there should be no more, and 18% of people who answered this question commented on the upper limit itself (not a code for this answer) saying that it was too many or too high.

**Question 10e.** *The Parks Service has established a limit of 50 people camping on the island at one time. Now there are...How do you feel about this quota of 50?* TABLE 19

**Table 19.** (Q10e) The Parks Service has established a limit of 50 people camping on the island at one time. Now there are...How do you feel about this quota of 50?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10e.1 acceptable	25	•	25	•	46	•	46	•
10e.1a need larger camping area	7	•	7	•	13	•	13	•
10e.2 too high	20	•	20	•	37	•	37	•
10e.4 a lower maximum	18	•	18	•	33	•	33	•
10e.5 this is the maximum	32	•	32	•	59	•	59	•
10e.6 more people should be allowed	5	•	5	•	9	•	9	•
N of respondents	54		54		No. of original categories			9
					Category cut-off			0.1%
Disagreement	.0025				No. of remaining categories			6

Campers were also asked to comment on the 50 person quota for camping and on the size of other user groups. A number of expressions used by campers reflected their opinion that the camping quota was too high for the camping area. Whilst on one hand having an immediate response that a quota of 50 was acceptable (46%) ('I think it is a fair limit. I don't think the island would want to take many more than 50 at any one time.') and that this was the maximum that should be allowed (59%) ('I think that should be the absolute maximum. I wouldn't like to see it go over that at all.') on the other hand they were also saying it was too high (37%) ('It is probably too much, considering there is only one toilet block and the island is quite small') and there was a need for a lower maximum (33%) and for a larger camping area (13%). The number of responses in these last three categories is greater than in the acceptable category.

**Table 20.** (Q10f) How many people would be about right here (camping)?

	Frequency of N				Percent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10f.1 11–20	2	•	2	•	4	•	4	•
10f.2 21–30	12	•	12	•	22	•	22	•
10f.3 31–40	10	•	10	•	19	•	19	•
10f.4 41–50	19	•	19	•	35	•	35	•
10f.5 51–60	2	•	2	•	4	•	4	•
10f.11 No response	9	•	9	•	17	•	17	•
N of respondents	54		54		No. of original categories			11
Disagreement	.0003				Category cut-off			0.1%
					No. of remaining categories			6

**Question 10f.** *How many people would be about right here (camping)?* TABLE 20

When specifically asked 'how many people would be about right here' most respondents (80%) said less than or equal to 50 (4% 11–20 people, 2% 21–30 people, 19% 31–40 people, and 35% 41–50 people), 45% said less than or equal to 40. There is a clear indication that people would like to see the camping quota reduced and, if it cannot be reduced, 50 is the maximum that should be allowed: 'I think 50 is too high. I think 30 is a good number considering there is only this one camping site now.' 'I think it is a little too excessive. I think something more like 30 would be all right.' 'I think it is probably too much. I think 40 would be a fair few and that should go down to 20 whenever anything is nesting or any delicate times they should take it down to 20–25.'

**Question 10g.** *How do you feel about the group sizes of other campers?* TABLE 21

**Table 21.** (Q10g): How do you feel about the group sizes of other campers?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
10g.1 acceptable	23	•	23	•	11	•	43	•
10g.2 too large	24	•	24	•	12	•	44	•
10g.3 too small	6	•	6	•	3	•	11	•
10g.4 just small groups	17	•	17	•	8	•	31	•
10g.5 varied	9	•	9	•	4	•	17	•
10g.5a need larger camping area	3	•	3	•	1	•	6	•
N of respondents	54		54		No. of original categories			7
Disagreement	.0040				Category cut-off			0.1%
					No. of remaining categories			6

Campers also felt that groups sizes were too large (44%) and only small groups should be allowed (31%): 'There is a group here with 28 and that's just far too many.' 'I feel a bit sorry for family groups that come out here, particularly when we first arrived.' These two categories correspond to a greater number of responses than the ones who said acceptable (43%): 'I don't think that matters. I think it is the attitude of the campers.'



**Question 11.** *How do you feel about the number of people you saw in relation to what you expected?* TABLE 22

When asked, in general, how they felt about the number of people they saw in relation to what they expected, most respondents for all user groups said that their expectations were met and/or that there were more people than they expected. Campers and yachties felt there were more people than what they had expected (43%/35%) to a greater extent than the daytrippers (19%). The latter said their expectations were met (39%), and that there was less than expected (33%), whilst also saying that they were pleased with the numbers of people (37%). Campers were the only group which more noticeably commented on not being pleased with the number of people they saw (24%). Both campers and yachties also said that there were fewer people than expected (24%/30%), but as mentioned before this perception is less representative of their responses than the ones discussed above.

**Table 22.** (Q11) How do you feel about the number of people you saw in relation to what you expected?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
11.1 no expectations	30	21	4	5	14	18	7	13
11.2 expectations - met	74	44	22	8	36	39	41	20
11.3 expectations - more than	59	22	23	14	28	19	43	35
11.4 expectations - less than	63	38	13	12	30	33	24	30
11.5 positive evaluation/ pleased	57	42	8	7	27	37	15	18
11.6 negative evaluation/not pleased	22	3	13	6	11	3	24	15
N of respondents	208	114	54	40	No. of original categories			7
Disagreement	.0016				Category cut-off			5.0%
					No. of remaining categories			6

Overall, from all of the questions related to perceptions of crowding, it seems that campers do feel somewhat crowded already. Daytrippers seemed to be accepting of the numbers of people they had around them (in a situation which we know was of moderate to low use density). There also seems to be a fair amount of contact occurring between daytrippers and campers. There is a perception that greater numbers of people should not be allowed in the area.

Additional analyses were undertaken to further understand the issue of perceived crowding and how it relates to issues raised in the literature as, for instance, whether perceptions of being crowded are related to perceptions of physical environmental degradation.

For this purpose, an overall index of perceived crowdedness was computed. This index took into account any reference to perceptions of either high density or of inappropriate behaviour/activities by other visitors across all of the questions in the interview. More specifically, the responses captured by the following types of coding categories included here were: finding more people than expected, having a negative evaluation about the number of people, perceiving group size of campers as being too large, perceiving that there are too many people on boats, that less people is better, perceiving the behaviour of others as being disturbing and/or inappropriate, and decreased enjoyment because of other's behaviour.

To compute the index, categories relating to perceived crowdedness were combined by summing the scores across all cases and then computing the frequency of subjects that had any score greater than zero on this combined index. This meant that a reference to crowding on any one of the categories was sufficient to include a respondent in the count of people who perceived crowding. Two different sub-indices separating out 'perceptions of high density' and 'inappropriate behaviour/activities of other visitors' were also computed using the same procedure (summing across groupings of categories). These indices were subsets of the larger overall crowding index.

The two parameters measured separately, and included in the overall index, are recognised in the literature as contributors to perceptions of being crowded. The information presented in the box below shows that a large majority of visitors to Lady Musgrave Island and Reef are experiencing perceptions of being crowded 87% overall (85% of daytrippers, 96% of campers and 80% of yachties). Differences between the user groups are particularly apparent in the sub-indices. Only 13% of daytrippers and 25% of yachties were judged to have mentioned ‘inappropriate behaviour and disturbing activities by others’, while almost two-thirds of campers (59%) mentioned at least one of the categories covered by this index. Although perceptions of high density were more uniformly high, almost all of the campers mentioned something related to high density (96%), as did 84% of daytrippers and 67% of yachties. It is notable that despite the relative isolation of their position on a boat, two-thirds of the yachtie respondents perceived high density at the island.

**Table 23.** Perceptions of being crowded index

<i>Inappropriate behaviour and disturbing activities by others</i>					
No. OF CASES	57, %	TOTAL 27	DT 13	C 59	Y 25
<i>Perceptions of high density</i>					
No. OF CASES	175, %	TOTAL 84	DT 84	C 96	Y 67
<i>Total perceptions of being crowded = inappropriate behaviour and disturbing activities by others <u>and/or</u> perceptions of high density</i>					
No. OF CASES	181, %	TOTAL 87	DT 85	C 96	Y 80

It is important to remember that these results are derived from data collected under moderate to low conditions of density of daytrippers (Lady Musgrave Cruises was carrying on average 80 passengers during the data collection period and MV 1770 about 26 passengers), and high to moderate density conditions for campers (camper numbers averaged around 35–40 during data collection).

During some of the data collection with the Lady Musgrave Cruises’ passengers the pontoon was absent from the lagoon. Its absence could have increased perceptions of feeling crowding. Of the total number of people interviewed from Lady Musgrave Cruises in the data set (73), 20 interviews were conducted during the period when the pontoon was not there. A separate ‘perception of being crowded’ index was derived for both periods of data collection with Lady Musgrave Cruises passengers: a) with the pontoon—87% of passengers felt crowded; and b) without the pontoon—85% of passengers felt crowded. There seems to be little difference between these two data collection periods. Numbers of people during the second period were lower for three trips and higher for three trips than the average for the first period when the pontoon was there. Therefore, it appears from these results on average, that under conditions of moderate passenger numbers, daytrippers are also experiencing a sense of being crowded.

As well as computation of the crowding indices, measures of overlap (a particular kind of association between two categorical sets—ref. Scherl and Smithson 1987) were computed to examine whether comments about crowding co-occurred with particular environmental attitudes and values expressed in subjects’ responses. These co-efficients simply reveal (on a ‘0’ to ‘1’ scale) the extent to which mention of one category occurs simultaneously (in the same respondent) with mention of another. A co-efficient of .46 for example means that 46% of the time the two categories are both mentioned by respondents.

Results of these analyses revealed the following:

- Some relationship between valuing the natural/unspoiled characteristics of Lady Musgrave Island and Reef (157 cases, 76% overall, 72% daytrippers, 82% campers and 78% yachties) and perceptions of being crowded (.46);

- Some relationship between perceptions of environmental degradation (28 cases, 14% overall, 5% daytrippers, 32% campers and 13% yachties) and perceptions of being crowded (.39);
- A strong relationship between not wanting more tourist operators (134 cases, 64% overall, 61% daytrippers, 72% campers and 63% yachties) and perceptions of being crowded (.70);
- A strong relationship between campers who do not agree with the use of motorised equipment (74%) and perceptions of being crowded (.65); and
- A strong relationship between campers who encountered daytrippers (96%) and perceptions of being crowded (.86).

These results seem again to confirm the overall sensitivity of respondents to crowding and the particular position of campers as sensing crowding quite acutely.

### *Summary of the social environment dimension*

This section reports on the social environment dimension of the Lady Musgrave visitors. It develops a rich set of facets which help characterise each of the three groups. There is also a specific focus on several complex management issues. Generally respondents described other visitors as very friendly and some recognition was given of other visitors' diverse and interesting nature, especially by campers who perhaps had a greater opportunity to get to know their fellow visitors. Staff were generally praised by daytrippers.

As well as being more aware of their fellow visitors, campers were also more inclined to identify inappropriate behaviour and were very sensitive to the entire social environment. They spontaneously drew attention to conflict between themselves and daytrippers and recognised very different purposes and values. There was a high sense of community ('belongingness') amongst campers, not identified by daytrippers and yachties. It is clear that campers are much more socially sensitive than other types of visitors while daytrippers relate more with staff (favourably).

On particular issues there was a variety of views, some held very strongly. The use of generators caused considerable disturbance to campers (46% do not like it), however there is a recognition of a need for compressed air amongst some campers (presumably those campers who had generators may have counted for a significant part of this). There appears to be a conflict between the dislike of generators and a consideration for the scuba divers' needs. Generators for power are considered inappropriate for the setting. A sizeable proportion of visitors wish to have them banned entirely.

The social carrying capacity was a key focus of this section of the study and reactions to the numbers of people varied considerably, as might have been expected. Despite the surveys being undertaken at times of only moderate use, 21% said there were too many people on the boat and pontoon with 46% overall accepting the perceived level of use. With regard to encounters on the island, campers were once more highly sensitive to crowding compared with daytrippers.

One-third of daytrippers went to the camping area and their presence there elicited a range of responses including concern about loss of privacy, security of gear and feelings of being intruded upon. There were also more positive responses including those who felt such visits were acceptable.

With regard to the numbers of campers there was a clear sense that campers were feeling crowded already and would prefer less. Very few felt a solution might be a large camping ground, further indication that it is the social, not physical, capacity which is identified by campers. Concern was also expressed about camping group size.

By using the data to calculate an index of perceived crowdedness it was shown that 87% of visitors overall and similar proportions of each group are experiencing perceptions of being crowded.

#### 6.4.4 Facilities and Level of Tourism Development

**Question 12.** *How do you feel about the facilities at Lady Musgrave Island and Reef?* **TABLE 24**

**Table 24.** (Q12) How do you feel about the facilities at Lady Musgrave Island and Reef?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
12.1 nice to see it natural/ unspoiled	30	22	4	4	14	19	7	10
12.1a not intrusive - quality	17	6	4	7	8	5	7	18
12.2 not intrusive - quantity	70	43	7	20	34	38	13	50
12.3 facilities - positive	87	44	27	16	42	39	50	40
12.5 facilities - should have more	9	4	3	2	4	4	6	5
12.6 facilities - as is	70	41	16	13	34	36	30	33
12.7 facilities-should not have more	44	22	12	10	21	19	22	25
12.9 facilities - should have none	10	8	1	1	5	7	2	3
12.10 pontoon quality - positive	66	38	18	10	32	33	33	25
12.11 pontoon quality - negative	15	4	6	5	7	4	11	13
12.13 pontoon quantity - as is	34	15	12	7	16	13	22	18
12.14 pontoon quantity - should not have more	5	3	•	2	2	3	•	5
12.16 signs quality - positive	61	25	23	13	29	22	43	33
12.17 signs quality - negative	14	4	8	2	7	4	15	5
12.18 signs quantity - should have	15	6	8	1	7	5	15	3
12.19 signs quantity - as is	60	30	19	11	29	26	35	28
12.20 signs quantity - should not have more	10	5	3	2	5	4	6	5
12.21 signs quantity - should have less	5	1	2	2	2	1	4	5
12.23 GBB - positive	47	34	11	2	23	30	20	5
12.24 GBB - negative	11	7	2	2	5	6	4	5
12.26 GBB - as is	31	16	10	5	15	14	19	13
12.29 toilets - positive	51	8	35	8	25	7	65	20
12.30 toilets - negative	10	3	7	•	5	3	13	•
12.32 toilets - as is	47	18	17	12	23	16	31	30
12.33 toilets - should have more	7	7	•	•	3	6	•	•
12.36 tracks - positive	43	16	15	12	21	14	28	30
12.37 tracks - negative	15	10	3	2	7	9	6	5
12.38 tracks - should not have more	6	3	3	•	3	3	6	•
12.39 tracks - as is	41	19	19	3	20	17	35	8
12.43 comm. vessel - positive	45	35	10	•	22	31	19	•
12.44 comm. vessel - negative	9	6	3	•	4	5	6	•
12.46 comm. vessel - as is	17	14	3	•	8	12	6	•
12.52 snorkelling gear - positive	7	7	•	•	3	6	•	•
12.56 reef edge sign - positive	20	•	14	6	10	•	26	15
12.57 reef edge sign - negative	23	•	17	6	11	•	31	15
12.58 info. services - positive	25	4	18	3	12	4	33	8
12.59 info. services - negative	10	3	7	•	5	3	13	•
12.61 info. services - as is	18	1	15	2	9	1	28	5
12.62 info. services - should have more	14	3	10	1	7	3	19	3
12.65 fresh water - positive	19	10	6	3	9	9	11	8
12.66 fresh water - negative	18	8	8	2	9	7	15	5
12.67 box of garbage bags - positive	48	3	32	13	23	3	59	33
12.68 box of garbage bags - negative	7	•	6	1	3	•	11	3
N of respondents	208	114	54	40	No. of original categories			70
					Category cut-off			2.0%
Disagreement	.0026				No. of remaining categories			43

[The question was open; followed up only if specific facilities were not mentioned, by saying: pontoon, glass-bottomed boat, tracks on island, toilets, observatory, main vessel, box with garbage bags, interpretive information, outside toilets, zoning sign on reef flat].

The overall view about facilities expressed by the visitors to Lady Musgrave can be summarised as **‘present levels are acceptable—no further expansion’** which applies to most facilities mentioned. There are exceptions, but in overview the Park Service would make the least negative impact on the visitors by not expanding facilities. This is despite a **generally positive view about the existing facilities** (42% overall, 50% campers): ‘The tracks are great. The toilets now they have been improved are fantastic. I can’t fault either of those.’ Only 4% overall believed there should be **more facilities** versus 21% **should not have more** and 5% **should have none**: ‘The facilities on the island are most probably of the level that I thought they would be and would like them to be. Any more would change the island from being fairly primitive and adventuresome to more approaching a beach holiday on the mainland.’

The (decomposting) **toilets** received very strong approval from the campers (65% gave a **positive response**) (‘The toilets are great. I couldn’t imagine 53 people wandering off in the bush trying to dig holes everywhere, it would just be a nightmare and the birds wouldn’t have a chance.’) whereas, as expected, only 7% of daytrippers **responded positively about the toilets on the island** (few daytrippers would have seen them). Toilets were the most positively addressed facility for campers, closely followed by the **garbage bag supply** (59%). Both **information services** and the **track** received positive feedback from campers (around 33%): ‘Yes, it is interesting, it gives you a background information to the area and what’s around...it is good to have something like that around that you can read and get some information from.’ For daytrippers the most positive responses related to the **commercial operation**: the **pontoon** (33%), the **glass-bottomed boat** (30%) and the **commercial vessel** (31%). Day visitors also mentioned **sign quality** (positive 22%) (‘The other signs I found around the place have been quite good, they have told you about the camping, where to go camping and the sign on the toilet wall, I read that this morning and it told me a lot of stuff I didn’t already know so it was helpful.’) and **quantity** (as is 26%).

Yachties indicated that **sign quality** (33% positive), **garbage bags** (33% positive), **tracks** (30% positive), and **toilets** (30% as is) were the most important aspects. The **pontoon quality** was also viewed positively by some yachties (25%) as was the **quantity of signs** (28%). Of particular interest was the explicit mention of **not intrusive facilities**—50% of yachties mentioned this aspect of facilities, as did 38% of daytrippers, while only 13% of campers did so: ‘...I thought the track was good because it was natural but it was clear enough to see that you weren’t going to start wandering off all over away from the track...’. Perhaps yachties would have a particular interest in unobtrusive facilities, since their view of the island would be greatly affected by this.

Generally campers had a more positive response to **sign quality** (43% positive); but were somewhat ambivalent about **sign quantity** with 15% saying there **should be more** but 35% **leave as is** (others said either **no more** (6%) or **less** (4%)). With regard to the **zoning sign** on the reef flat, the campers were divided—26% **viewed it positively** and 31% viewed it **negatively**: ‘Because you can’t see it, there is no way in the world that you can read it.’ ‘The sign showing where the areas of the island are split up to say allow fishing or other aspects, without explanation aren’t terribly easy to understand.’ This contrasts with the equally divided yachties (15% positive and 15% negative) while for daytrippers it was not noticed, as expected, since they predominantly use an area of the lagoon away from the sign (see interview schedule for daytrippers Q12 in appendix 2).

**Question 19.** *How do you feel about the size, level and type of tourist operations here?*  
**TABLE 25**

This question aimed to understand how visitors felt about the size, level and type of tourist operations already occurring at Lady Musgrave Island and Reef. Responses to this question were divided into three general groupings: a) general responses, b) responses referring to quantity, and

c) responses referring to the impacts of the level of tourist operation on the quality of one's experience.

The general response, surprisingly relatively uniform across the three user groups, was that the present level is OK (54% overall, 54% daytrippers, 50% campers and 58% yachties): 'I think it would be just about right for the size of the island' and that they would like to see no more tourist operations at Lady Musgrave Island and Reef (47% overall, 45% daytrippers, 54% campers and 45% yachties): 'I don't think it would want to get any bigger...I wouldn't like to see any more boats coming out than that. I wouldn't want to see any development at all.' 'Again it does seem like a lot for one little tiny coral cay but certainly wouldn't like to see any more people coming here. Probably less.' They also, to a lesser extent, expressed positive feelings about the current size, level and type of operations (36%, 46%, 22% and 25% respectively). Campers were the only group which noticeably said there was too much already (30%). Interestingly no user group felt by and large that there were too few operations. When referring to quantity the predominant response revealed quite a strong feeling, again uniformly across all user groups, that there should be no more tourist operations there (35% overall, 36% daytrippers, 41% campers and 23% yachties).

**Table 25.** (Q19) How do you feel about the size, level and type of tourist operations here?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
19.1 no opinion	17	9	4	4	8	8	7	10
19.2 general response - positive	75	53	12	10	36	46	22	25
19.3 general response - OK	112	62	27	23	54	54	50	58
19.4 general response - no more	98	51	29	18	47	45	54	45
19.5 general response - too much	35	12	16	7	17	11	30	18
19.6 general response - too little	10	7	2	1	5	6	4	3
19.7 quantity - positive	14	9	2	3	7	8	4	8
19.8 quantity - OK	27	21	5	1	13	18	9	3
19.9 quantity - no more	72	41	22	9	35	36	41	23
19.10 quantity - too much	14	9	4	1	7	8	7	3
19.11 quantity - too little	16	9	6	1	8	8	11	3
19.12 quality - positive	36	28	2	6	17	25	4	15
19.13 quality - OK	36	24	6	6	17	21	11	15
19.14 quality - no more	55	30	20	5	26	26	37	13
19.15 quality - too much	43	15	19	9	21	13	35	23
N of respondents	208	114	54	40	No. of original categories			20
Disagreement	.0021				Category cut-off			3.5%
					No. of remaining categories			15

#### *Summary of the facilities and level of tourism development*

In this section the visitor reactions to existing facilities and tourist operations are reported. Generally, the views of visitors support existing levels with a strong indication that no further expansion should occur. Differences between specific user groups reinforce the particular needs of each. Their comments reveal considerable sensitivity to the need for facilities to be unobtrusive and, consistent with the crowding perceptions, some visitors felt the operations were too much already.

#### **6.4.5 Information and Interpretation Services/Facilities**

**Question 13.** *What sort of information did you get about Lady Musgrave Island and Reef prior to your visit?* TABLE 26

The responses to this question show that yachties obtained least information, followed by daytrippers and campers. Overall some 33% of visitors had no information before their trip; 40% of yachties, 33% of daytrippers and 26% of campers. Mostly the information was written (54%) but this was a more important medium for daytrippers (63%) compared with campers (50%) and

yachties (35%): ‘I got a thing on the turtles and the noddies and what the facilities were and how many people we were allowed to camp here and about rubbish and a map of the island and a map of the reef and a map of the different areas of the wildlife areas.’ ‘We picked up a brochure at a camp ground in Morgan Park and read it and decided to go on that.’ Information got prior to the trip was mainly about the environment generally (39% overall) but for daytrippers and campers included material about the trip (32% and 30% respectively). Campers were the highest proportion receiving information about the environment generally (54% followed by yachties at 45% and daytrippers at 30%.

**Table 26.** (Q13) What sort of information did you get about Lady Musgrave Island and Reef prior to your visit?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
13.1 none	68	38	14	16	33	33	26	40
13.2 written material/ pamphlets - positive	22	12	7	3	11	11	13	8
13.3 written material/ pamphlets	113	72	27	14	54	63	50	35
13.6 posters/pictures	15	7	6	2	7	6	11	5
13.8 trip generally - positive	11	4	6	1	5	4	11	3
13.9 trip generally	57	37	16	4	27	32	30	10
13.12 environment generally	81	34	29	18	39	30	54	45
13.15 marine fauna and flora	22	13	7	2	11	11	13	5
13.18 terrestrial fauna and flora	18	6	10	2	9	5	19	5
13.21 activities	19	7	9	3	9	6	17	8
13.24 other people	58	25	19	14	28	22	35	35
13.27 from parks service	29	3	20	6	14	3	37	15
13.30 from tourist agencies	39	34	4	1	19	30	7	3
N of respondents	208	114	54	40	No. of original categories			32
					Category cut-off			4.0%
Disagreement	.0030				No. of remaining categories			13

Although the question focused on the sort of information, many respondents included references to the sources of information in their responses. These sources for information are most revealing. The **Parks Service** obviously provides much material to campers (37%) compared with only 15% of yachties and 3% of daytrippers. **Tourist agencies** are unimportant for either campers (7%) or yachties (3%); but are very important for daytrippers (30%). Information from other people (family, friends etc.) is overall the most important source (28%) with 22% of daytrippers using this source and 35% of campers and yachties.

**Question 14.** *What sort of information about the place did you get during your trip and visit to Lady Musgrave?* TABLE 27

This question was designed to find out what sort of information visitors felt they were provided with during the trip (as opposed to before the trip).

The responses were very similar to those for the previous question with about the **environment generally** being of greatest overall response (32%): ‘We got told how big it was, what type of vegetation, how it formed and all that...’. Amongst daytrippers 23% mentioned some specific information about **marine flora and fauna** and 22% about the **trip generally**. For campers **terrestrial flora and fauna specifics** (19%) was followed by **marine flora and fauna** (15%) and the **trip generally** (15%). The sources for information were once again mentioned but this time included the **boat PA system** (10%), the **video** (6%), **from boat staff** (17%) and **talks** (4%). **Written material** was still mentioned most (23%) but campers in particular noted the **display outside the island toilets** (13%): ‘Reading the notice board on the toilets I also found that information I didn’t know.’

**Question 15. How did you feel about this information? TABLE 28**

This evaluation question revealed a **strong overall positive evaluation** with 52% responding positively (57% daytrippers, 48% yachties and 44% campers): 'I think that is generally speaking the best sort of information you can get...'. The campers in particular (28%) felt there was **not enough information** and this view is supported by responses from daytrippers (18%) and yachties (10%): 'I think that it would have been nice to have had more. And that's my major comment, get a complete picture, not just a few species, but a complete picture of what this is all about...'. A number of visitors wanted **more detailed information** ('information too general'), these included daytrippers (13%) and campers (11%). Some of the daytrippers were frustrated by their inability to **hear the PA system** (7%) and this probably accounts for many of the **negative responses to the information** (overall 7%).

**Table 27. (Q14) What sort of information about the place did you get during your trip and visit to Lady Musgrave?**

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
14.1 none	45	14	19	12	22	12	35	30
14.2 written material/ pamphlets - positive	12	7	4	1	6	6	7	3
14.3 written material/ pamphlets	48	26	17	5	23	23	31	13
14.5 PA system- boat- positive	8	8	•	•	4	7	•	•
14.6 PA system - boat	20	19	1	•	10	17	2	•
14.7 PA system- boat- negative	13	12	1	•	6	11	2	•
14.14 video - positive	13	6	7	•	6	5	13	•
14.15 video	13	8	4	1	6	7	7	3
14.16 video - negative	9	6	3	•	4	5	6	•
14.16a talks - positive	18	12	5	1	9	11	9	3
14.16b talks	9	8	1	•	4	7	2	•
14.18 display board outside toilet	11	2	7	2	5	2	13	5
14.21 trip generally	35	25	8	2	17	22	15	5
14.24 environment generally	66	43	13	10	32	38	24	25
14.26 marine fauna and flora - positive	12	7	4	1	6	6	7	3
14.27 marine fauna and flora	36	26	8	2	17	23	15	5
14.30 terrestrial fauna and flora	25	14	10	1	12	12	19	3
14.31 terrestrial fauna and flora - negative	7	6	1	•	3	5	2	•
14.32 from boat and boat staff - positive	18	16	2	•	9	14	4	•
14.33 from boat and boat staff	36	29	7	•	17	25	13	•
14.36 from other people	20	5	13	2	10	4	24	5
14.38 from parks service - positive	15	4	7	4	7	4	13	10
14.39 from parks service	26	3	15	8	13	3	28	20
14.41 from interviewers - positive	8	5	2	1	4	4	4	3
14.45 From experience/being there	18	9	4	5	9	8	7	13
N of respondents	208	114	54	40	No. of original categories			50
Disagreement	.0041				Category cut-off			3.0%
					No. of remaining categories			25

**Question 15a. Is there anything else you would like to know about Lady Musgrave? TABLE 29**

This question sought to find out whether there was any other specific information needs. Overall



40% said **no** (daytrippers 44%, campers and yachties 35%). Different types of visitors expressed different information needs. Yachties, for example, were keen to get more information about **management and regulation** (30%) whereas daytrippers wanted more **information on the environment**, especially **marine flora and fauna** (18%) ('It would be nice to be told what the various marine organisms are on the reef.') and **terrestrial flora and fauna** (17%): 'Some of the bird species. I don't know what the little birds are that run around the tents.' 'A complete picture of the flora and fauna plus the geology would be nice; even if it were a summary of what this was all about, it would be nice.' Campers were particularly seeking more information on the **environment** (26%) especially specifics about **marine** and **terrestrial flora and fauna** (30% in each case). There were also some specific needs on a range of topics mentioned including **history** (20% of yachties, 13% of campers and 11% of daytrippers), **geomorphology** (10% overall) and **human impact** (8% overall).

**Table 28.** (Q15) How did you feel about this information?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
15.2 evaluation - positive	108	65	24	19	52	57	44	48
15.3 evaluation	50	31	15	4	24	27	28	10
15.4 evaluation - negative	15	9	3	3	7	8	6	8
15.5 presentation - positive	18	10	4	4	9	9	7	10
15.9 not enough	39	20	15	4	19	18	28	10
15.11 could not hear	9	8	1	•	4	7	2	•
15.13 too general	23	15	6	2	11	13	11	5
N of respondents	208	114	54	40	No. of original categories			15
Disagreement	.0032				Category cut-off			2.0%
					No. of remaining categories			7

**Table 29.** (Q15a) Is there anything else you would like to know about Lady Musgrave?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
15a.1 no	83	50	19	14	40	44	35	35
15a.2 trip generally	17	2	8	7	8	2	15	18
15a.3 environment generally	38	13	14	11	18	11	26	28
15a.4 terrestrial fauna and flora	40	19	16	5	19	17	30	13
15a.5 marine fauna and flora	42	20	16	6	20	18	30	15
15a.6 environmental sensitivity/human impact	16	8	5	3	8	7	9	8
15a.8 history	28	13	7	8	13	11	13	20
15a.9 geomorphology	20	12	4	4	10	11	7	10
15a.10 management and regulation	26	6	8	12	13	5	15	30
15a.11 future options for management	16	7	6	3	8	6	11	8
15a.13 the visitors to the place	4	3	•	1	2	3	•	3
15a.14 the facilities	5	3	•	2	2	3	•	5
15a.15 camping	9	8	•	1	4	7	•	3
15a.16 accommodation	2	2	•	•	1	2	•	•
15a.17 future accommodation (resorts)	2	1	•	1	1	1	•	3
N of respondents	208	114	54	40	No. of original categories			18
Disagreement	.0027				Category cut-off			0.1%
					No. of remaining categories			15

**Question 15b.** *The QNPWS would like to provide further information about the natural environment at Lady Musgrave. What do you think would be the best way of providing that information?* TABLE 30

The responses reflect the current pattern of receiving information with an emphasis on **brochures, pamphlets and booklets** (60% overall): ‘I think brochures—like this brochure—could have what are the common species that you are going to find here or what are some of the highlights.’ Campers expressed strong support for **interpretive boards at the camp area** (28%) (‘I think the type of notice like the one that is on the toilet, that works quite well...I think maybe some similar cases with, say, information on the birds or the common fish and that thing would be nice to have on site.’), which even 18% of yachties supported. Yachties gave stronger support for **interpretive boards on the tracks** (28%), which only 11% of campers and 7% of daytrippers mentioned. **Videos** were favoured by daytrippers and campers (23% and 20% respectively) but by few yachties (10%). **Travel agents and tourist bureaus** were seen as useful outlets for park information by yachties in particular (33%) but also by daytrippers (20%) and campers (11%). **Talks and tour guides** were of particular interest to daytrippers (18%) and campers (15%). It is clear from these responses that the population of visitors to Lady Musgrave would like to see a variety of outlets and forms of information employed by the Parks Service.

**Table 30.** (Q15b) The QNPWS would like to provide further information about the natural environment at Lady Musgrave. What do you think would be the best way of providing that information?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
15b.1 brochures/pamphlets/booklets	125	69	32	24	60	61	59	60
15b.2 signs	26	10	7	9	13	9	13	23
15b.3 books on board	8	4	1	3	4	4	2	8
15b.4 interpretation boards in camp area	30	8	15	7	14	7	28	18
15b.5 interpretation boards on the tracks	25	8	6	11	12	7	11	28
15b.6 videos	41	26	11	4	20	23	20	10
15b.7 photos	27	17	6	4	13	15	11	10
15b.8 media/TV advertising	36	26	6	4	17	23	11	10
15b.9 talks/tour guide	31	20	8	3	15	18	15	8
15b.10 word of mouth	11	7	2	2	5	6	4	5
15b.11 improve PA system	5	3	1	1	2	3	2	3
15b.12 travel agents/tourist bureau	42	23	6	13	20	20	11	33
N of respondents	208	114	54	40	No. of original categories			13
Disagreement	.0075				Category cut-off			0.1%
					No. of remaining categories			12

*Summary of information and interpretation services/facilities*

The results in this section show that most information received was in written form and gave general information about the environment. There was strong positive evaluation about the information but also a desire for more detailed material. Types of information sought varied between groups with yachties seeking more management and regulation while daytrippers and campers need more detailed environmental information. Visitors suggested a variety of ways in which they would like to receive information, also varying between the groups. The clear message is that most visitors desire far more detailed interpretive information about Lady Musgrave Island and Reef.

**6.4.6 Zoning and Regulations**

**Question 16.** *GBRMPA and QNPWS have complementary zoning plans that determine how the Marine Parks should be used. Do you know what you can and cannot do at Lady Musgrave Reef?*  
**TABLE 31**

**Table 31.** (Q16) GBRMPA and QNPWS have complementary zoning plans that determine how the Marine Park should be used. Do you know what you can and cannot do at Lady Musgrave Reef?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
	76	29	29	18	37	25	54	
16.1 yes	71	40	14	17	34	35	26	45
16.2 no	44	22	18	4	21	19	33	43
16.3 can't touch/disturb fauna or flora	89	60	21	8	43	53	39	10
16.4 can't remove fauna or flora								20
16.5 can't damage/destroy fauna or flora	21	14	6	1	10	12	11	3
16.6 can't touch/disturb birds	2	1	1	•	1	1	2	•
16.8 can't touch/disturb corals	9	9	•	•	4	8	•	•
16.9 can't remove corals	29	20	7	2	14	18	13	5
16.10 can't damage/destroy corals	9	9	•	•	4	8	•	•
16.11 can't remove shells	25	9	13	3	12	8	24	8
16.12 can fish	56	10	32	14	27	9	59	35
16.13 can't fish	86	27	39	20	41	24	72	50
16.14 no domestic animals	1	1	•	•	•	1	•	•
16.15 can't pollute	41	33	4	4	20	29	7	10
16.16 no urinating in water	11	11	•	•	5	10	•	•
16.17 can camp	17	12	2	3	8	11	4	8
16.18 can't camp	3	2	•	1	1	2	•	3
16.19 camping restricted	11	10	•	1	5	9	•	3
16.20 anchorage restricted	2	2	•	•	1	2	•	•
16.21 look after the place	40	24	13	3	19	21	24	8
N of respondents	208	114	54	40	No. of original categories			22
					Category cut-off			0.1%
Disagreement	.0028				No. of remaining categories			20

This question was designed to test the awareness levels amongst users of the actual zoning plans. If respondents replied 'yes' to the question they were asked to elaborate.

Overall 37% said **yes** ('Yes. As far as I know from reading the pamphlets we were sent you have your national park that runs from that sign up to just past the entrance of the lagoon. You are not allowed to do anything in there but look.') and 34% said **no** ('I know you can't camp without a permit, as far as everything else, I wouldn't know to be honest.'). The highest level of confidence about their **knowledge of GBRMPA** zoning regulations was expressed by campers (54% yes), followed by yachties (45%) and daytrippers (only 25%). Asked to elaborate, there were many views expressed about the meaning of the zones.

The highest percentage of responses overall indicated that visitors **could not remove flora and fauna** (43%), with 53% of daytrippers mentioning this plus 39% of campers and 20% of yachties: 'I know we are not supposed to collect in a certain area, I know there are various zones in which you are not supposed to collect more than five specimens of any particular shellfish. I know there are rules on things like crayfish and spear fishing.' The **banning of fishing** was also mentioned by a large number of visitors (41% overall), but with very different expressions from campers (72% said people **cannot fish**), yachties (50%) and daytrippers (24%). Many of the campers and yachties also said you **can fish** (59% and 35% respectively). This also gives some indication that they are somewhat aware of zoning regulations.

Daytrippers believed most strongly that regulations prohibited **damage or removal of coral** (8% and 18%) ('You go there to have a good time but you are not to destroy anything. You should

leave everything as it was when you arrived.’) or **pollution** (29%). Of the daytrippers 10% mentioned **no urinating in the water** (something known to be mentioned by the skipper of one of the day visit boats), whereas no camper or yachtie mentioned this.

Generally speaking, day visitors were more hazy about the meaning of zoning and displayed a wider variety of incorrect assumptions compared with yachties and campers.

**Question 17.** *How do you feel about boats anchoring in the lagoon?* TABLE 32

This question was included to test the views and feelings about both commercial and other boats being in the lagoon.

One of the most interesting outcomes is that despite an **overall general evaluation** which was **accepting or positive** (54% overall said that boats were OK/not too many; 29% gave a positive general evaluation), many visitors of all types expressed concern about **environmental impacts**. Thus 43% of daytrippers said boats in the lagoon should be **regulated**—‘I suppose if it is not too many. They have to put a stop to so many otherwise if there were too many then it would spoil it’, and 19% expressed concern about **pollution by boats** (‘it just seems to me that there is too much danger of shit being thrown overboard and we had a horrible thing where the paint from the bottom of a boat bugged up the marine life. It just seems to dangerous’), with even more (33%) expressing concern regarding **anchor damage** (...and that’s the damage created by anchors. It is immense. It has been happening for years and years.’) and **environmental damage** generally: ‘I think it is something that is going to happen as long as they are restricted to a number and they don’t damage the environment.’ Of particular interest is the fact that although a high percentage of campers and yachties (48%) compared with daytrippers (14%) gave a **positive evaluation**, the former two types of visitors expressed high levels of concern about **anchor damage** (yachties 48% and campers 46%). A surprisingly high number (20%) of daytrippers gave a **negative evaluation of boats in the lagoon** overall and even campers (19%) and yachties (10%) expressed concerns. Clearly this is a complex issue.

**Table 32.** (Q17) How do you feel about boats anchoring in the lagoon?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
17.1 no opinion	10	6	4	•	5	5	7	•
17.2 OK/doesn’t bother me/not too many	113	63	32	18	54	55	59	45
17.3 safe	34	4	21	9	16	4	39	23
17.4 positive evaluation	61	16	26	19	29	14	48	48
17.5 negative evaluation	37	23	10	4	18	20	19	10
17.7 needs to be regulated	66	49	9	8	32	43	17	20
17.8 difficult to regulate	10	6	1	3	5	5	2	8
17.9 need moorings	38	16	10	12	18	14	19	30
17.11 concern re environmental damage	66	38	19	9	32	33	35	23
17.12 concern re environ. damage - anchor	82	38	25	19	39	33	46	48
17.13 concern re environ. damage - pollution	37	22	10	5	18	19	19	13
N of respondents	208	114	54	40	No. of original categories			14
Disagreement	.0024				Category cut-off			3.0%
					No. of remaining categories			11

**Question 18.** *Commercial and recreational fishing are allowed on most of the lagoon. How do you feel about this?* TABLE 33

The response to this question was extremely uniform, especially with regard to commercial fishing. There were very **strong negative views** about **commercial fishing** from all user groups,

but especially campers (65%) and yachties (60%): ‘I think the commercial fishing has depleted the reserves of fish on the reef by something like 50% in the time it has been happening and that is only two or three generations.’ ‘I wouldn’t think the commercial fishing should be allowed in the lagoon. If they fish in the lagoon it really cuts down the fish for your snorkelling.’ A **general negative view** about fishing was expressed by 55% of daytrippers and it is clear that for a very large majority of Lady Musgrave visitors, commercial fishing does not belong. Concerns for **environmental impacts of fishing** were expressed widely amongst all visitors (34% of daytrippers, 46% of campers and 48% of yachties): ‘I have known trawler blokes fishing out here years ago in the lagoon, pulling up sweetlips, tens and tens of them, coral trout, big groper, but there is not so much of that now, so I think they have really impacted it a lot, so I don’t agree with it at all. It is too localised. It is a small area really and it is open slather on the fish.’ **Recreational fishing** was seen as positive by yachties (30%) but less so by campers (22%) and daytrippers (8%): ‘I think they could do without commercial fishing, the recreational fishing is all right.’ Even **recreational fishing** was seen as negative by 17% of campers.

**Table 33.** (Q18) Commercial and recreational fishing are allowed on most of the lagoon. How do you feel about this?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
18.1 no opinion	15	7	4	4	7	6	7	10
18.2 general - positive	16	10	4	2	8	9	7	5
18.3 general - accepting	28	11	9	8	13	10	17	20
18.4 general - negative	77	63	9	5	37	55	17	13
18.5 general - should be regulated	38	24	11	3	18	21	20	8
18.6 concern for environmental damage	83	39	25	19	40	34	46	48
18.7 regulation - zoning	52	23	13	16	25	20	24	40
18.8 regulation - catch size	26	12	9	5	13	11	17	13
18.9 don't take what you can't use	21	7	10	4	10	6	19	10
18.11 commercial - accepting	24	4	14	6	12	4	26	15
18.12 commercial - negative	90	31	35	24	43	27	65	60
18.13 commercial - should be regulated	25	8	7	10	12	7	13	25
18.14 recreational - positive	33	9	12	12	16	8	22	30
18.15 recreational - accepting	45	9	17	19	22	8	31	48
18.16 recreational - negative	21	8	9	4	10	7	17	10
18.17 recreational - should be regulated	27	12	11	4	13	11	20	10
N of respondents	208	114	54	40	No. of original categories			18
Disagreement	.0033				Category cut-off			4.0%
					No. of remaining categories			16

*Summary of zoning and regulation*

Awareness of zoning and regulation varies and few visitors have detailed knowledge, but a high proportion expressed concern about impacts, recognising the need for regulation. Yachties and campers were better informed than daytrippers. Visitors expressed concern about potential impacts of boats anchoring in the lagoon and showed awareness of potential damage. There were strong negative views about commercial fishing and its potential impacts and even some concerns about recreational fishing, especially by campers.

(Question 19 follows question 12—see section 6.4.4)

6.4.7 General Observations about Management

**Question 20.** *Is there anything you noticed about the management of this place that you would like to talk about?* TABLE 34

This question asked visitors for perceptions of management in general. Responses were very positive about the quality of management and consistent across all user groups (51% overall): ‘It is nice and neat and it is tidy and there is no rubbish laying around and that’s the way it should be.’ Quantity of management was also mentioned much more in a positive or neutral than negative way (17%/22% overall, 11%/12% of daytrippers, 22%/26% of campers and 28%/43% of yachties). It is interesting that the yachties noted the quantity of management more than the other user groups.

**Table 34.** (Q20) Is there anything you noticed about the management of this place that you would like to talk about?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
20.1 no	98	63	20	15	47	55	37	38
20.2 did not notice much	9	5	1	3	4	4	2	8
20.3 information services - positive	13	9	3	1	6	8	6	3
20.4 information services	11	4	5	2	5	4	9	5
20.5 information services - negative	22	9	10	3	11	8	19	8
20.6 facilities - positive	13	6	5	2	6	5	9	5
20.7 facilities - negative	13	3	8	2	6	3	15	5
20.8 quality of management - positive	107	57	29	21	51	50	54	52
20.9 quality of management	47	17	18	12	23	15	33	30
20.10 quality of management - negative	24	10	12	2	12	9	22	5
20.11 quantity of management - positive	35	12	12	11	17	11	22	28
20.12 quantity of management	45	14	14	17	22	12	26	43
20.14 quantity of management - too lenient	23	9	10	4	11	8	19	10
N of respondents	208	114	54	40	No. of original categories			15
Disagreement	.0045				Category cut-off			3.5%
					No. of remaining categories			13

Overall, 47% were **not** interested in commenting on the management of Lady Musgrave but as expected this was predominantly daytrippers (55% **no**) rather than campers or yachties (37% and 38% respectively). Campers were perhaps the most prepared to comment and also the most critical of management. Campers made **negative** comments about the **information services** (19%) compared with such comments from only 8% daytrippers and yachties. Campers were also quite critical of the **quantity of management, too lenient** (19% compared with 8% and 10% for daytrippers and yachties); **overall quality negative** comments (22% compared with 9% and 5% for daytrippers and yachties). But campers also made **positive comments** about **management quantity** (22%) along with 28% of yachties and 11% of daytrippers. Perhaps the proximity and extended stay of campers revealed the best and worst aspects of management. Also during the study there were a large number of management agency staff present compared to other times.

**Question 21.** *Have you any thoughts about how the National Parks Service and the Marine Park Authority should manage this place in the future?* TABLE 35

This question focused attention on the underlying concerns and beliefs of people which had already emerged in earlier questions. The overwhelming impression of the responses is to be **very restrictive in management, to be cautious**. For example the most dominant responses overall

relate to **prevent damage to flora and fauna** (34%): ‘Just as much control as possible over anything that is going to damage the reef and the island’, **restrict numbers of people** (30%) (‘No, I think it is adequate what they are doing bringing tourists out here now, I don’t think they should exploit it like putting more boats and bringing more people.’ ‘...they will ruin it one day with too many people going to it. I happens so often in the States.’), **restrict development** (24%), (‘My only thoughts are to restrict activities to the activities that exist at the moment, no further development.’ ‘I would hate to see big shower blocks.’), **leave it as it is** (24%) (‘I think it is fine the way it is. I wouldn’t put any more facilities on the island. It is lovely.’), and **keep going as done so far** (33%): ‘So long as they keep very good controls on the number of tourist vessels coming out here, I think it doesn’t need to radically change...’. Eleven per cent also specifically mentioned that the place should be kept as natural as possible: ‘Keep it natural the way it is. That is the most important thing to me.’ All types of visitors show similar concerns with perhaps campers being even stronger in their expression of concern (35% say **restrict numbers of people**, 41% **prevent damage to flora and fauna**). It is particularly instructive to note that 20% of campers say there should be **less camping**: (‘Decrease the number of campers and decrease the amount of tourists that are allowed out on the day trips.’), whereas only 3% and 5% of yachties and daytrippers respectively suggest that option.

**Table 35.** (Q21) Have you any thoughts about how the National Parks Service and the Marine Park Authority should manage this place in the future?

	Frequency of N				Percent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
21.2 keep going as done so far	69	29	25	15	33	25	46	38
21.3 leave it as it is	50	28	12	10	24	25	22	25
21.4 as natural as possible	22	12	7	3	11	11	13	8
21.5 could provide more information/interpretation	32	17	9	6	15	15	17	15
21.6 more personnel presence	28	10	6	12	13	9	11	30
21.8 monitor for environmental decay	33	18	10	5	16	16	19	13
21.10 prevent damage to fauna and flora	70	36	22	12	34	32	41	30
21.11 restrict generally	36	22	6	8	17	19	11	20
21.12 restrict people (nos of)	63	31	19	13	30	27	35	33
21.13 restrict activities	32	19	7	6	15	17	13	15
21.14 restrict development	50	21	15	14	24	18	28	35
21.16 no fishing	21	11	8	2	10	10	15	5
21.22a less camping	18	6	11	1	9	5	20	3
21.24 balance conservation and development	22	12	6	4	11	11	11	10
N of respondents	208	114	54	40	No. of original categories			26
Disagreement	.0034				Category cut-off			4.0%
					No. of remaining categories			14

Some specific responses include **more information** (17% of campers and 15% of others), **more personnel presence** (20% of yachties) (‘Probably there is just not quite enough visits by the park rangers.’), **restrict activities** (15% overall) (‘I think the numbers should be dropped. I don’t think there should be any power facilities here. I certainly don’t think that any other areas should be taken over for camping.’), and **monitor for degradation** (16% overall).

The flavour of responses to this reveal a great concern about balance between conservation and use. It was clear from the results that respondents seemed to support management being more restrictive in many areas. Computation of references to a few categories revealed that a total of 54% (113 respondents and more than half of each user group) specifically mentioned various forms of restriction in categories 11 to 14 on this question, and there were additional numbers of respondents who were specific about restricting fishing and camping (10%/9%). The concerns are based on the already revealed values which the present visitors express about Lady Musgrave

Island. There seems great concern that despite good management efforts the magic of the island will be destroyed.

#### *Summary of perceptions of management*

Although overall perceptions of management were favourable, campers were more inclined to offer comments, both positive and critical. A very strong desire of visitors for restrictive management was revealed, leading to an overall impression of support for even more control and limitation of use. It was clear that this was related to both concern for the natural environment and concern for the social setting, the highly valued 'character' of the island recreation opportunity.

### **6.5 Reflection about the Experience**

**Question 22.** *All things considered what was the meaning of the visit to you personally?* TABLE 36

#### *Self/Experience*

Similarly to the questions on experience reported earlier, there was a strong **positive emotional response** and one of **excitement** (i.e. **high arousal**) to this question overall (75%/49%), consistently for all user groups. Campers reinforced that the meaning of their visit was related to **being relaxed, feeling tranquil and peaceful** (56% and also the case for 28% of yachties) and that it was an opportunity to **escape** (48%). Campers also reflected on their **positive anticipations** (26%). A smaller percentage of respondents overall mention that the meaning of the visit to them was that it provided for a **new** and **unique** experience (19%/17%) with 19%, 18% and 11% of daytrippers, yachties and campers respectively saying that their **expectations** were matched.

#### *Type of Activity*

**Contemplating nature** was the activity mostly referred to in this question and consistently by all user groups. The activity of **relaxing** is more important to yachties (20%), and a sense of **family togetherness** more important to campers (22%) when considering the meaning of the experience. Interestingly, snorkelling, an activity which is highly mentioned in responses to question 1 and 3, is not referred to very often here.

When recollecting one's experiences and trying to capture the meaning of it all, participants seem to be alluding to what they got out of the whole experience and activities rather than talking about the activities themselves. Answers to question 22 contain much less detailed descriptions of environmental features and activities than answers to question 1. (This could also be an artefact that by the end of the interview participants might have felt they have already spoken a lot about the details of their experience.) For instance, **engagement with nature** is relevant in capturing the meaning of visitors' experiences (19%).

#### *Physical Environment*

There is also in general an **evaluative** tone about the **environment** in this overview which is mainly **positive**. The **trip** is also **evaluated positively** by the daytrippers (27%).

The marine environment appears to be more important than the terrestrial when drawing the personal meaning of the experience. Both the general **ocean/GBR** and **reef community** were salient. The latter is more important to the daytrippers and the former to daytrippers and yachties. The marine environment is less important in explaining campers' meanings of their experience. **Corals** are slightly salient, and the **general island community** is nonetheless also important.



**Table 36.** (Q22) All things considered what was the meaning of the visit to you personally?

	Frequency of N				Percent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
<b>Self/Experience</b>								
T4 effort	9	6	3	•	4	5	6	•
T6 emotion - positive	155	88	40	27	75	77	74	68
T8 emotion - high arousal	101	56	25	20	49	49	46	50
T10 relaxed/tranquil/peaceful	49	8	30	11	24	7	56	28
T13 luck/fortune	22	11	7	4	11	10	13	10
T14 escape	44	12	26	6	21	11	48	15
T15 new experience	39	23	9	7	19	20	17	18
T16 unique experience	36	22	8	6	17	19	15	15
T18 symbolism	14	11	2	1	7	10	4	3
T20 mind - stimulating	12	8	3	1	6	7	6	3
T21 learning	15	9	4	2	7	8	7	5
T23 recollection	35	20	9	6	17	18	17	15
T24 anticipation - positive	41	24	14	3	20	21	26	8
T27 expectation - exceeded	7	6	1	•	3	5	2	•
T29 expectation - matched	35	22	6	7	17	19	11	18
<b>Type of activities</b>								
T31 general	7	•	5	2	3	•	9	5
T33 snorkelling - positive	6	6	•	•	3	5	•	•
T34 snorkelling	16	9	4	3	8	8	7	8
T37 swimming	6	3	1	2	3	3	2	5
T43 scuba diving - certified	10	5	3	2	5	4	6	5
T51 contemplating nature - positive	26	14	8	4	13	12	15	10
T52 contemplating nature	71	49	12	10	34	43	22	25
T73 relaxing	18	2	8	8	9	2	15	20
T97 boating	9	1	•	8	4	1	•	20
<b>Social Environment</b>								
T114 belongingness	7	5	2	•	3	4	4	•
T115 family togetherness	24	7	12	5	12	6	22	13
T116 spending time with friends	11	3	4	4	5	3	7	10
T122 other people's enjoyment	18	4	8	6	9	4	15	15
<b>Physical Environment - nature factors</b>								
T141 environment evaluation - positive	43	20	14	9	21	18	26	23
T142 environment evaluation	13	6	5	2	6	5	9	5
T144 physical isolation	11	2	5	4	5	2	9	10
T145 quietness/peace	12	•	8	4	6	•	15	10
T146 naturalness	30	13	8	9	14	11	15	23
T147 naturalness - reef	8	5	2	1	4	4	4	3
T149 ocean/GBR - positive	14	8	1	5	7	7	2	13
T150 ocean/GBR	46	32	7	7	22	28	13	18
T152 reef community - positive	12	8	2	2	6	7	4	5
T153 reef community	40	30	6	4	19	26	11	10
T155 island community - positive	8	6	1	1	4	5	2	3
T156 island community	34	20	7	7	16	18	13	18
T159 fish	17	11	4	2	8	10	7	5
T161 corals - positive	7	4	2	1	3	4	4	3
T162 corals	27	16	7	4	13	14	13	10
<b>Physical Environment - natural conditions</b>								

**Table 36 cont.**

T198 weather conditions - positive	12	6	2	4	6	5	4	10
<b>Physical Environment - interpretative</b>								
	•	•	•	•	•	•	•	•
<b>Environment Human/ interactions</b>								
T215 concern for human impact	12	7	2	3	6	6	4	8
T231 engagement with nature	39	22	11	6	19	19	20	15
T232 intimate encounters with nature	14	4	7	3	7	4	13	8
<b>Managerial/organisational factors</b>								
T233 development	15	7	5	3	7	6	9	8
T235 management	12	6	3	3	6	5	6	8
<b>Trip overall</b>								
T284 evaluation - positive	39	31	6	2	19	27	11	5
T286 I would come back	19	11	6	2	9	10	11	5
T289 recommend to friends	17	9	4	4	8	8	7	10
T291 expectation - met	9	6	•	3	4	5	•	8
T294 convenience/access	18	8	3	7	9	7	6	18
N of respondents	208	114	54	40	No. of original categories			297
Disagreement	.0027				Category cut-off			2.5%
					No. of remaining categories			54

### *Summary of reflection about the experience*

Responses to this question highlight one of the key differences between the experiences of campers and other user groups, i.e. the far greater importance to campers of the relaxed, tranquil, peaceful nature of the experience, as compared to the excitement and uniqueness of a ‘day on the reef’ for daytrippers. Yachties also mentioned relaxing as important, rather than the hype, excitement and ‘new experience’ of daytrippers. For campers, the experience seems to be primarily one of escape and peacefulness with a strong emphasis on family togetherness in a natural setting. This issue is explained in more detail in the conclusions to this report.

## **6.6 Motivation and Expectations**

### **Question 23.** *Why did you decide to come to Lady Musgrave?* TABLE 37

The responses to this question were analysed using the coding developed for all the open-ended questions. This particular question provided visitors a chance to reflect about their motivations for visiting Lady Musgrave, and to talk about their expectations. It came almost at the end of the interview.

#### *Self/Experience*

In the self/experience category, **positive emotion** was a very important element in the responses (23% overall), particularly with campers (35%), but also with daytrippers and yachties (18% and 20% respectively). For campers, 20% of the responses were coded as **emotion high arousal**, indicating a high level of expectations about Lady Musgrave. There were very high levels of **anticipation** amongst campers (35%), supporting this observation, although the anticipations of both daytrippers and yachties were also high (23%).

#### *Type of Activities*

**Contemplating nature** was again another category of response which was particularly important for daytrippers (35%), but also for yachties and campers (15% and 13%). **Scuba diving** was

clearly most important amongst campers. Both the **ocean/GBR** and the **general reef community** were an important factor in deciding to come to Lady Musgrave for most types of visitors (25% and 16% overall), but was clearly of principle interest to daytrippers (32% and 20%). **Family togetherness** featured strongly for both campers (24%) and daytrippers (18%), but not at all for yachties.

**Table 37.** (Q23) Why did you decide to come to Lady Musgrave?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
<b>Self/Experience</b>								
T3 sense of control	4	•	3	1	2	•	6	3
T6 emotion - positive	48	21	19	8	23	18	35	20
T8 emotion - high arousal	23	7	11	5	11	6	20	13
T10 relaxed/tranquil/peaceful	6	•	3	3	3	•	6	8
T11 physical state - positive	3	1	•	2	1	1	•	5
T13 luck/fortune	19	12	6	1	9	11	11	3
T14 escape	14	5	8	1	7	4	15	3
T15 new experience	21	13	7	1	10	11	13	3
T16 unique experience	11	6	5	•	5	5	9	•
T18 symbolism	7	7	•	•	3	6	•	•
T19 mind - clear	4	•	4	•	2	•	7	•
T20 mind - stimulating	4	3	1	•	2	3	2	•
T21 learning	4	3	1	•	2	3	2	•
T23 recollection	24	4	12	8	12	4	22	20
T24 anticipation - positive	38	18	13	7	18	16	24	18
T26 anticipation	16	8	6	2	8	7	11	5
T29 expectation - matched	8	2	3	3	4	2	6	8
<b>Type of activities</b>								
T31 general	5	4	1	•	2	4	2	•
T33 snorkelling - positive	4	2	1	1	2	2	2	3
T34 snorkelling	7	5	2	•	3	4	4	•
T37 swimming	3	2	1	•	1	2	2	•
T42 scuba diving - certified - positive	8	2	5	1	4	2	9	3
T43 scuba diving - certified	16	6	8	2	8	5	15	5
T51 contemplating nature - positive	12	6	4	2	6	5	7	5
T52 contemplating nature	53	40	7	6	25	35	13	15
T97 boating	3	•	•	3	1	•	•	8
<b>Social Environment</b>								
T114 belongingness	5	2	3	•	2	2	6	•
T115 family togetherness	34	21	13	•	16	18	24	•
T116 spending time with friends	16	9	5	2	8	8	9	5
T122 other people's enjoyment	7	3	4	•	3	3	7	•
T125 numbers of people/not crowded few	6	1	5	•	3	1	9	•
<b>Physical Environment - nature factors</b>								
T141 environment evaluation - positive	27	8	10	9	13	7	19	23
T142 environment evaluation	5	2	2	1	2	2	4	3
T145 quietness/peace	3	1	•	2	1	1	•	5
T146 naturalness	14	5	7	2	7	4	13	5
T150 ocean/GBR	51	36	7	8	25	32	13	20
T152 reef community - positive	7	5	1	1	3	4	2	3
T153 reef community	34	23	8	3	16	20	15	8
T155 island community - positive	4	2	1	1	2	2	2	3
T156 island community	29	15	8	6	14	13	15	15
T159 fish	6	4	2	•	3	4	4	•

**Table 37** cont.

T162 corals	11	6	5	•	5	5	9	•
T193 lagoon - positive	2	•	1	1	1	•	2	3
T194 lagoon	5	1	1	3	2	1	2	8
T196 lagoon safety/anchorage - positive	13	1	•	12	6	1	•	30
<b>Physical Environment - natural conditions</b>								
T198 weather conditions - positive	9	2	2	5	4	2	4	13
T200 sea conditions - calm	3	1	•	2	1	1	•	5
<b>Physical Environment - interpretative</b>								
	•	•	•	•	•	•	•	•
<b>Environment/Human interactions</b>								
T231 engagement with nature	7	5	1	1	3	4	2	3
<b>Managerial/organisational factors</b>								
T233 development	12	4	7	1	6	4	13	3
T238 info services	4	4	•	•	2	4	•	•
T248 advertising	21	19	•	2	10	17	•	5
T281 cost - positive	18	6	12	•	9	5	22	•
T282 cost	6	2	4	•	3	2	7	•
<b>Trip overall</b>								
T284 evaluation - positive	23	17	4	2	11	15	7	5
T289 recommend to friends	32	17	13	2	15	15	24	5
T294 convenience/access	81	54	8	19	39	47	15	48
N of respondents	208	114	54	40	No. of original categories			297
Disagreement	.0030				Category cut-off			1.25%
					No. of remaining categories			56

#### *Managerial/Organisational Factors/Trip Overall*

Some of the responses to this question were of a more practical nature. Daytrippers and yachties referred to **accessibility/convenience** as an important factor (47% and 48%) although to the campers this was less important (15%). The **cost** was a positive factor for campers (22%), while for daytrippers **advertising** was mentioned by 17%.

#### **Question 24.** *What were you hoping to get out of this trip?* TABLE 38

This was a further attempt to have respondents reflect about their expectations for experiences to be found at Lady Musgrave.

Amongst the visitors this question was answered in a wide variety of ways. Many of the responses referred to features indicating **positive emotion** (44% overall), with all three types of visitors experiencing similar levels (41%, 44% and 50% respectively for daytrippers, campers and yachties). It is also very clear that the focus of campers was very different from that of daytrippers, with 65% of campers seeking an experience described as **relaxed/tranquil/peaceful**. This was true of 40% of yachties as well, but only 11% of daytrippers had hopes for such an experience. In contrast to the other two groups, campers also mentioned **relaxing** explicitly as something they hoped to get out of the trip. Both campers and yachties also sought **escape** at Lady Musgrave (22% and 18% respectively) something mentioned by only 2% of day visitors. This is a significant difference in expectations.

For 24% of the daytrippers, responses to this question indicated **expectations were matched**, something applying to only 13% of campers and 18% of yachties. **General evaluation of physical**

**environment** by campers was positive (17%), but this was mentioned by only 4% of daytrippers in the context of this question. However another category of **positive evaluation for the trip overall** received strong support overall (25%) including 33% of daytrippers, 18% of yachties and 11% of campers.

**Table 38.** (Q24) What were you hoping to get out of this trip?

	Frequency of N				Per cent of total N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
<b>Self/Experience</b>								
T6 emotion - positive	91	47	24	20	44	41	44	50
T8 emotion - high arousal	29	19	7	3	14	17	13	8
T10 relaxed/tranquil/peaceful	64	13	35	16	31	11	65	40
T11 physical state - positive	5	3	•	2	2	3	•	5
T14 escape	21	2	12	7	10	2	22	18
T15 new experience	24	12	7	5	12	11	13	13
T16 unique experience	10	5	3	2	5	4	6	5
T19 mind - clear	5	•	4	1	2	•	7	3
T20 mind - stimulating	9	3	2	4	4	3	4	10
T21 learning	16	10	3	3	8	9	6	8
T23 recollection	20	14	4	2	10	12	7	5
T24 anticipation - positive	19	10	5	4	9	9	9	10
T27 expectation - exceeded	7	5	2	•	3	4	4	•
T29 expectation - matched	41	27	7	7	20	24	13	18
<b>Type of activities</b>								
T31 general	5	4	•	1	2	4	•	3
T33 snorkelling - positive	9	4	4	1	4	4	7	3
T34 snorkelling	16	10	6	•	8	9	11	•
T37 swimming	4	3	•	1	2	3	•	3
T42 scuba diving - certified - positive	13	5	7	1	6	4	13	3
T43 scuba diving - certified	19	7	8	4	9	6	15	10
T51 contemplating nature - positive	15	4	6	5	7	4	11	13
T52 contemplating nature	67	49	13	5	32	43	24	13
T64 teaching about nature	5	1	3	1	2	1	6	3
T67 photography	8	6	1	1	4	5	2	3
T70 fishing	4	•	2	2	2	•	4	5
T73 relaxing	21	4	14	3	10	4	26	8
T76 sunbathing	5	2	3	•	2	2	6	•
<b>Social Environment</b>								
T106 sociable - other visitors	6	4	2	•	3	4	4	•
T115 family togetherness	21	13	8	•	10	11	15	•
T116 spending time with friends	7	1	3	3	3	1	6	8
T118 diverse/interesting people	4	3	1	•	2	3	2	•
T119 respect/appreciate place - visitors	4	2	•	2	2	2	•	5
T122 other people's enjoyment	20	10	8	2	10	9	15	5
T123 get involved in the activity	5	3	1	1	2	3	2	3
<b>Physical Environment - nature factors</b>								
T141 environment evaluation - positive	18	5	9	4	9	4	17	10

**Table 38 cont.**

T145	quietness/peace	6	1	4	1	3	1	7	3
T146	naturalness	9	5	1	3	4	4	2	8
T149	ocean/GBR - positive	4	3	1	•	2	3	2	•
T150	ocean/GBR	31	23	8	•	15	20	15	•
T152	reef community - positive	7	4	2	1	3	4	4	3
T153	reef community	35	24	8	3	17	21	15	8
T156	island community	18	8	7	3	9	7	13	8
T159	fish	21	13	5	3	10	11	9	8
T162	corals	22	15	5	2	11	13	9	5
T165	other marine life	3	2	1	•	1	2	2	•
T180	trees	4	•	2	2	2	•	4	5
T194	lagoon	3	1	•	2	1	1	•	5
<b>Physical Environment-natural conditions</b>									
T198	weather conditions - positive	15	4	7	4	7	4	13	10
T199	weather conditions - negative	5	1	3	1	2	1	6	3
<b>Physical Environment - interpretative</b>									
T205	reef environment	7	6	1	•	3	5	2	•
T206	island environment	6	4	•	2	3	4	•	5
<b>Environment/human interactions</b>									
T231	engagement with nature	18	11	5	2	9	10	9	5
T232	intimate encounters with nature	5	3	1	1	2	3	2	3
<b>Managerial/organisational factors</b>									
T233	development	3	•	1	2	1	•	2	5
T235	management	3	1	1	1	1	1	2	3
<b>Trip overall</b>									
T284	evaluation - positive	51	38	6	7	25	33	11	18
T286	I would come back	4	4	•	•	2	4	•	•
T291	expectation - met	30	23	5	2	14	20	9	5
T293	expectation - exceeded	4	4	•	•	2	4	•	•
N of respondents		208	114	54	40	No. of original categories			297
Disagreement		.0024				Category cut-off			1.25%
						No. of remaining categories			59

*Summary of motivation and expectations*

Overall, the exploration of motivations for visiting Lady Musgrave Island and Reef indicates both overall similarities, and some important differences, among user groups. Generally, it was good, positive emotional feelings and anticipation of rewarding positive experiences that were salient amongst all groups. The activities associated with these expectations were largely those of contemplating nature, scuba diving and experiencing the GBR and the general reef community.

As in previous sections, however, there were also important user group differences. For the campers, the experience was more emotional, involving greater levels of anticipation, particularly in association with scuba diving. Although accessibility and convenience seemed not so salient for campers, relatively low cost was important, suggesting Lady Musgrave Island and Reef provided such an option for experiencing the GBRMP. Despite campers' high expectation of a 'special' experience, however, there is some indication that these expectations were not generally disappointed.

### 6.7 General Observations about the Study

**Question 25.** *Do you have any comments about this study and how do you feel about being interviewed on this trip?* TABLE 39

This question was introduced to gain an idea of respondents’ perceptions of the study and of their personal feelings about being interviewed during their trip. Leisure researchers need to be aware of data collection that takes place during people’s leisure time and the impact that it may have on interfering with respondents’ enjoyment. This is particularly the case for research conducted in very isolated locations, where people want to get away from it all, and this includes researchers. A lot of care was undertaken in this research design to ensure the least intrusion as possible (see section 4 on data collection).

**Table 39.** (Q25) Do you have any comments about this study and how do you feel about being interviewed on this trip?

	Frequency of N				Per cent of N			
	Overall	Daytrip	Camper	Yacht	Overall	Daytrip	Camper	Yacht
25.1 good/very good idea	106	63	26	17	51	55	48	43
25.2 suspicion about purpose of study	5	2	1	2	2	2	2	5
25.3 personal feeling about being interviewed - positive	80	48	17	15	38	42	31	38
25.4 personal feeling about being interviewed	135	70	37	28	65	61	69	70
25.5 personal feeling about being interviewed - negative	26	12	6	8	13	11	11	20
25.6 seeking visitors’ opinions - positive	90	44	30	16	43	39	56	40
25.7 good to see high management profile	19	10	5	4	9	9	9	10
25.8 thank you for allowing me to participate	9	5	2	2	4	4	4	5
25.9 want to help you do right thing	36	19	9	8	17	17	17	20
25.9 study positive contribution - management etc	104	61	29	14	50	54	54	35
25.11 study positive contributions to users	33	17	11	5	16	15	20	13
25.12 conclusion effectiveness of this study	52	24	19	9	25	21	35	23
25.13 quality of interview and study - positive	19	8	5	6	9	7	9	15
25.14 quality of interview and study	13	7	6	•	6	6	11	•
25.15 quality of interview and study - negative	14	5	5	4	7	4	9	10
Number of respondents	208	114	54	40	No. of original categories			16
Disagreement	.0023				Category cut-off			0.1%
					No. of remaining categories			15

Respondents were **very positive** towards the study: 51% said it was a **good/very good idea**: ‘It is probably a good idea to have a study and to get people’s opinion about it and I suppose you have just got to find out what people want and you don’t necessarily give it but at least you...(know).’ ‘I think it is good. You have to find out what people think and what they know because if you don’t know what they are thinking about, how can you give information to them, so I think it is a great idea. There should be more of it.’ and 43% felt **positive** about the resource management agency **seeking visitors’ opinions** (with campers being stronger to that effect (56%)): ‘It is a privilege to be asked for a change. Seeing the public actively involved is good for everyone I think.’ They also,

in general, felt **positive** about **being interviewed** (38%): 'I'm flattered that anybody would want my opinion.' 'It gives me a chance to sit here and talk my head off. It is pretty good. Usually people don't ask your opinions. It is no problem.' The only group slightly more ambivalent about being interviewed were the yachties (whilst 38% felt positive there were also 20% who felt negative). Perhaps yachties enjoy a higher degree of privacy than other user groups and an interview is more of an intrusion. However, some overall also mentioned that they wanted to **help the managers do the right thing** (17%).

An interesting, and widespread response, was that respondents felt that the study could have a **positive contribution to management** (50%), but some were also concerned about the **effectiveness of the study** (25%): 'I think it is good to find out the public's opinion and it helps you manage the area. I think it's the only way to find out things about the reef and what people really think of it.' 'It can only help the management if you get a better idea of what people want. I'm all for that stuff, I think it is good.' 'Asking people is the only way to achieve a workable management plan because then people will know, if not for themselves, that other people have been involved and so it is not just some bureaucrat deciding what is good for them.'



## **7.0 DISCUSSION OF RESULTS IN LIGHT OF SOME RELEVANT LITERATURE**

It has long been suggested that recreation should be studied as an 'experiential state' (e.g. Driver 1976). More recently, a number of authors have voiced support for the position that understanding the experiential state itself is an important research topic, particularly in the context of leisure and recreation research (Ingham 1987; Kleiber et al. 1986; Manell 1984). However, research in the area of outdoor recreation experiences thus far has provided little detailed understanding and description of the experience itself, evoking responses from participants with little imposition of meaning from the researchers. What are the components of these experiences? What are individual perceptions of these differing components? The predominant approach has been one of looking at the products of the experience (i.e. What are people deriving from outdoor recreation participation?) or measuring experience preferences through pre-determined scales.

The broad objective of the study described here was to understand the nature and dynamics of an outdoor recreation experience from the perspective of participants going through the experience. The research approach, as mentioned earlier, was phenomenological, i.e. participants' perceptions of, and the meaning they attached to, their experiences are of paramount importance. It was also interactionist in line with an environmental psychology perspective, i.e. there is an assumption of a reciprocal and ongoing relationship between individual and environment. The focus, therefore, was on the in situ experience, with data collected during the experiential process. How people perceived themselves and/or their relationships with the physical and social environment were core considerations.

There is no intention here to review the literature on outdoor recreation and studies with particular focus on recreation experiences. There are extensive reviews elsewhere (e.g. Driver et al. 1987; Roggenbuck & Lucas 1987; Scherl 1988a; Stankey & Schreyer 1987). What is worthwhile doing at this point in time is devoting this section to comparing the present study with two similar studies in intent and research design. Those are the studies conducted by Hunnam (1990) on reef experiences in Australia and the one conducted by Graefe et al. (1988) and Williams et al. (1990) on river recreation experience in the United States. Because they are more recent, they also do not feature in the literature reviews cited before. They all attempted to characterise the recreation experience of visitors to a natural area and also had a resource management emphasis (i.e. sought information that was relevant to the management of the area). In fact, as mentioned in the methodology section the present study took into account the coding scheme used by these two studies.

Some observations about these two studies and the study of Scherl (1988a), which served as the basis for the present study, were also made previously when discussing the content analysis method.

### **7.1 Observations about Methodology and Processes for Content Analysis**

All of these studies had open-ended questions eliciting free-flowing responses from visitors about their experiences. Questions in the river study and in the present study ranged from broad to more specific management oriented focuses. The former with the aim of prompting respondents to talk about the most salient facets of their experience without influencing them, and the latter to guarantee that a number of experiential domains and management issues got spoken about during the interview, in case they were not alluded to during the broader open-ended responses. In Hunnam's study it is not clear, however, exactly what these questions were. His study used a more free-flowing interview format where the interviewer would prompt the respondent at appropriate points in time and the schedule of prompts is not reported.

In all of the studies the scales and categories used for coding the interviews were validated against the contents of the interviews. This ensured that scales and categories were capturing the interview contents. In the current study the aim was also to capture the fullest range of observations on visitors' reef experience, reflecting as much as possible their own ways of expressing it. The 297

categories organised in the taxonomic framework captures this range. In addition, for the more focused questions specific lists of categories were developed (some taken from the larger taxonomy). After completion of all of the coding the judges gave suggestions as to how to modify the taxonomy and categories for coding in light of their experience. This modified taxonomy and the categories, which benefited from 10 weeks of coding experience and were validated against 208 interviews, are presented in appendices 8 and 9. It is these frameworks for coding which should be used in further studies.

A somewhat similar approach was adopted by Hunnam (1990) for whom different lists of categories were used to capture the content of the interviews. The first list contained codes related to the type of prompts given by the researcher (13 categories), the second related to the subject of the responses (organised under the headings of *social factors*, *nature factors*, *natural conditions*, *activity factors*, *organisational factors*, *hardware factors* and *personal factors* (27 categories)), the third contained type of experience information (3 categories: *preparation*, *saliency* and *experience*) and the fourth was a valuation code (3 categories: *positive*, *neutral* and *negative*). In addition, he developed specific categories identifying components of a reef experience. There were components of the experience *linked: to a physical activity* (the activity-engagement itself, activity engagement with nature and self-in-activity), *to the natural setting* (the novelty reef experience, offshore novelty, the awesome reef world and intimate encounters with marine life), *with the social setting* (negative and positive group experience, acceptance of the numbers of people involved, support of family or companions and alone-in-the-crowd), *to organisational factors* (the facilitated experience), *to weather and sea conditions* (the mediating weather) *and directly to self* (self pre-occupation). Altogether there were 58 categories of various types, including some related to evaluation and others related to specific subject content.

In the river recreation study, a smaller set of 35 scales were used to summarise the data. They were organised in the following four broad areas: outcome/activity factors (activity orientation, goal directness, competence-seeking, self-definition, centrality of escape, escape versus attraction, curiosity/learning, becoming/realisation and mode of relaxation), social factors (role in decision, social context, interactional context, locus of control, crowding, conflict and role in group), experiential factors (arousal, absorption in activity, scope of attention, depth of focus, presence of emotion, match of perceptual needs with conditions of participation, enjoyment/satisfaction, fantasy, symbolism, spontaneity, environmental sensitivity and centrality to lifestyle), and environmental/managerial factors (setting orientation, managerial preference, services preference, level of information, complacency, importance of environment and predicability of the environment). On both the river and the present study, scales and categories were rated in terms of their suitability to represent the unit of analysis. Hunnam's study only captured whether the codes did or did not represent the interview contents.

In both reef experience studies, interviews were literally transcribed and coding was done on written transcripts. The unit of analysis was the string of responses to one question for the present study and the 'remark' for Hunnam's study (i.e. an observation, thought or opinion made by the respondent on a single topic, with all of the remarks about one topic being combined for the whole interview to form a unit of analysis). In the river experience study interviews weren't transcribed. Coding was done on the basis of listening to the whole interview and the coding unit was the whole interview content. Reliability among judges was high in the present and the river experience study (the river experience study using five coders while the present one used two coders). In Hunnam's study the interviews were only coded by the researcher: this means no validation of his judgments and more possibility of personal biases in the interpretation of the data.

Both the river and the present study had a large number of interviews as part of their data set (204 and 208 respectively), whilst Hunnam's study is based on 40 interviews (Hunnam's study had several components—one of which, and the only one referred to here, was perceptions of experiences).

## 7.2 Observations about Analysis and Results

All of the studies looked at frequency of use of scales or categories to ascertain how salient they were to visitors. The present study, in addition, looked at patterns of use for each category and graphed those patterns of use. Only categories which were used quite consistently by the judges met a certain cut-off point, observed in the graphs, and were used in reporting results.

There are some major differences in the objectives of data analysis and consequently the way results are presented and interpreted. The two reef studies sought to capture the experiences of user groups rather than of each recreationist sampled (as in the case of the river study). The reef studies did not characterise the basic types of experiences *per se* across all respondents, i.e. assuming *a priori* that respondents were all one user group and attempting to sub-group them on the basis of their reported experiences. Instead the present study sought to understand what the overall experience of Lady Musgrave Island and Reef was; whether there were any differences among the three user groups, and, if so, what were they. Hunnam's study only dealt with one user group—day visitors to Norman Reef.

It is interesting to note, however, the similarities among the results of the present study and the river study with respect to depicting different experience types. Their Type 1 experience (Williams et al. 1990) resembles very closely our camper user group experience. Type 1 experience for them is characterised by 'family and friends', 'nature', and 'escape' being more important goals than 'thrills' and 'excitement.' Visitors reporting this type of experience also reveal perceptions of conflict and crowding.

Elements of Type 2 and Type 4 experience resemble our daytrip user group experience. In Type 2 experience going to the river is not seen as an escape but as an opportunity to become involved in something with high importance placed on the thrills and excitement goal. It is not clear from our data whether daytrippers tend to emphasise self-definition and control, which is also part of the definition of the Type 2 experience. Type 4 experience involves moderate activation, but little control, self-definition or meaning. Those seeking this type of experience see thrills and excitement and family and friends as important goals, but have little involvement or experience with the site. They say that this experience characterises novices. Perhaps, our daytrip experience includes elements of both Type 2 and Type 4 experiences from Williams et al. (1990) study, because in our sample there were 14% of daytrippers which were repetitive users and also 65% who have been to the GBRMP before. This could account for a bit more involvement with and concern for the site than if they were all novices. Demographic variables did not play a role in differentiating the type of experiences found in the present study with the group data analyses undertaken so far. All user groups interviewed had a good mixture of demographic variables and analyses using demographic information as dependent variables were not undertaken.

Many of the components of the reef experience identified by Hunnam (1990) for daytrippers to Norman Reef are similar to the ones identified in the current study (see list above). The most salient experience factor found in his study was 'natural setting—the general coral reef community' followed by 'natural conditions—the weather conditions.' These results concur with the ones from the present study (i.e. these experience dimensions are also very salient here, see table 3). In terms of Hunnam's experience components (which he sees as being different than experience factors), 'the novelty reef experience' is the most salient. This again is very similar to results from the present study for daytrippers. Interestingly also is that in both reef studies the social aspect of the experience is not very salient to daytrippers.

There were no comparisons in Hunnam's study among different user groups, but he undertook comparisons on the basis of two individual difference variables which he considered most likely to have affected the reef experience: amount of previous aquatic experience, and amount of time engaged in aquatic experiences during that trip (based on behavioural observations of respondents). Two type of comparisons were made. Data for snorkellers and non-snorkellers, and for people with and without aquatic experience were compared across some experiential factors.

*Active engagement with nature* was the only experience component identified as having a significant difference in saliency for the snorkellers and non-snorkellers (i.e. this intimate interaction with the natural setting is more special for snorkellers as one would expect). The only significant differences between people with aquatic recreation experiences and those with little or no such experiences were for the experience component—*the group experience* and for two experience factors—*snorkelling activity* and the *trip overall*. Hunnam interpreted these results by saying that people from aquatic experiences are influenced more by the other people aboard on the trip (this component was usually reported as a disappointing side of the trip). He suggests that the large-group reef trip does not cater satisfactorily for the more experienced marine or aquatic recreator.

Another interesting observation between another part of Hunnam's study (a structured survey of day visitors to Norman Reef, N = 1207) and the current study is that 83% of respondents in the former indicated that they were on their first visit to the GBR. In contrast, only 35% of respondents in our study have not been to the GBR before. This indicates that different regions of the GBR may be catering for different types of people. Perhaps the Cairns region attracts the one-time reef visitors, whilst Lady Musgrave Island and Reef, which is located offshore of a region with less tourism but closer to the main population centres in Australia, attracts more repetitive users. In fact, whilst only 22% of the present study's sample were from overseas, in Hunnam's study 84% of the sample (for the structured survey) were from overseas.

## 8.0 IMPLICATIONS FOR MANAGEMENT

Perhaps the single most important result for managers, from the GBR recreation experience research at Lady Musgrave Island and Reef, is identification of the complexity and diversity in the Lady Musgrave experience. Use of the term 'a coral cay camping experience' clearly disguises the richness of human experiences which the great variety of users seek and obtain. By carefully examining the measured experiences of visitors to Lady Musgrave, managers can derive a better appreciation of the values of the Park and subsequently prepare better directed management plans. Some specific examples of this process are outlined below.

Perhaps, a not unexpected outcome was the identification of very strong views about management. Visitors expected and welcomed very strict management and seem prepared, or eager, for greater restrictions and conditions on use. Managers should feel supported by the users in any efforts they make to preserve both the natural environment and the experience opportunities currently enjoyed by visitors to Lady Musgrave. Concerns that restrictive management practices may alienate the visitors are misplaced in the case of Lady Musgrave. Such a finding may be much more widespread throughout the Marine Park, with higher levels of support for managers from the community than some managers believe.

### 8.1 What are the Visitor Experience Values of Lady Musgrave?

Typical discussions of visitor use of parts of the GBRMP and other protected areas focus on numbers of people and types of activities. This is understandable due to the ease of measurement, but is not particularly helpful in identifying specific values of particular parts of the Marine Park or National Park system.

The range of categories in the taxonomy presented above (results for questions 1, 2, 22, 23 and 24) superordinate with subsets, shows the great diversity of salient elements of experience at Lady Musgrave. Analysis of these results, from the open-ended questions on experience, identified a number of values for Lady Musgrave Island and Reef. Thus a management plan should make it clear what the values of the island and reef to different user groups are. Beyond addressing the nature conservation, navigation, cultural, heritage and usage values, a management plan should also state the experiential values summarised below.

The Lady Musgrave study indicated that there is a complex and wide range of values attached to this Park. These values cannot be seen homogeneously across all user groups nor can they be inferred from a mere examination of the activities in which people engage. Campers express very strong contrasts with day visitors and yachties in the value they place upon tranquillity, peacefulness, relaxed environment, family togetherness and a sense of escape. Clearly, a strong aspect of the Lady Musgrave camping experience is this sense of isolation from everyday life in a peaceful, quiet and restful setting. This contrasts quite strongly with the day visitors for whom novelty is the key phrase. Unique and new experiences, and mental stimulation figure highly for day visitors whereas escape or peacefulness are minor elements. Day visitors express their experiences more commonly as activities when compared to campers and yachties.

Although all visitors value contemplating nature, there are some differences in the physical environmental emphasis, with day visitors seeming to focus more broadly on the marine environment with less emphasis, than campers, on the terrestrial environment. Campers, by comparison with daytrippers, focused more evenly on both terrestrial and marine environments. Yachties share values with both campers and daytrippers. In common with campers, they value tranquillity, peacefulness and relaxation but tend to have a bit more of a marine orientation rather than terrestrial, akin to daytrippers.

A key value is naturalness. This quality emerged as a crucial part of the experience dimensions for all visitors and has clear implications for management decisions and the ways in which they may be implemented. Where options exist, the choice should be for those actions which retain and

reinforce naturalness. Any proposal which undermines the naturalness of the Lady Musgrave environment should be reconsidered in the light of possible destruction of experience values.

## **8.2 Contrasts and Overlap of Activities and Environmental Perceptions**

Beyond the broad pattern described above however, there remain many similarities and a great diversity of values. For example there is much overlap in the range of activities through which people gain their experiences. This can be identified in the sample results from the activity-related question (Q3). An interesting comparison to make, however, is between the results for the broad question on experience (Q1) and the question which asked participants to talk about what they did while they were at the location (Q3) .

One good example to discuss, relates to the opportunity to walk around the island. Although a large proportion of day visitors undertook the walk along a track or around the island (see results Q3) this activity had minimal impact on their overall experience of Lady Musgrave (it scored low in salience, see results Q1). This result seems in contrast to claims made by boat skippers of the day trip operations that the island access is a crucial part of their overall operation. A further factor, from other results in this study, was that many daytrippers sought a higher quality of environmental interpretation than they had received (see results Q15 and Q15a). There is also some perception of crowding by the campers and a very high contact between campers and daytrippers.

The considerations above also place in relief the differences between simple measurement of activities and an attempt, as was done here, to capture what is salient in the complexity of experiences. An activity-based approach to management would clearly find the importance of the activity of walking around the island central, yet, these results suggest that, at least in its present form, a walk around the island is not a particularly salient aspect of daytrippers' experiences, although many of them undertake such an activity seeking something from it.

Addressing a number of management questions:

1. Should there be another operator at the lagoon?
2. Should there be more or less campers than the present 50?
3. Should generators be allowed on Lady Musgrave Island?
4. Should large camping groups be prevented from coming to Lady Musgrave Island?
5. Should commercial fishing be permitted on Lady Musgrave reef?
6. Should there be restrictions on daytrippers' use of the island?

How can the research shed light on any of these questions?

## **8.3 Should there be Another Operator at the Lagoon?**

The main issues of relevance here relate to the potential interaction between day visitors and campers, largely seeking a very different experience. The sense of feeling crowded, expressed by many campers, is not in keeping with the expressed experience values (relaxed, peace, tranquillity, escape). The potential to further aggravate this exists if even more contact occurs between numerous day visitors and campers. If an additional operator was located away from the island with strictly limited or no access to the island, the consequent increased numbers of day visitors is unlikely to have significant effects on the camping experience.

The situation with daytrippers is a little more complex as the data were all collected at conditions of less than maximum capacity (typically 60% or less of capacity). Even at these levels, 21% of daytrippers said fewer people would be better despite the 61% who said numbers of people were fine. However, besides inspection of individual tables of results, the overall index of perceptions of being crowded was high for daytrippers as well (see end of section 6.4.3). Quite clearly there are daytrippers who have a preference for less crowded conditions. It is difficult to predict the effects of another operator who was located close to existing operations and therefore imposed visual and

practical effects on the existing infrastructure. Some of the concerns about this situation are likely to relate to options for areas to undertake activities such as coral viewing and diving. Another operator located at a distant part of the lagoon, with no access to the island, is unlikely to have an appreciable impact on existing visitor experiences.

#### **8.4 Should there be more or less Campers than the Present 50?**

The evidence on this matter is much clearer but may also need careful interpretation. Campers generally had very high levels of awareness about the social setting of Lady Musgrave and expressed much greater concerns about crowding. Some 46% of campers felt that there were too many people visiting Lady Musgrave Island and only 20% of campers felt there were not too many. Nearly all campers experienced being crowded (96%, see perceptions of being crowded index in section 6.4.3).

It was also clear from a wide range of responses that some campers experienced the negative social impacts of crowding including loss of privacy and disturbance from other people's behaviour. In response to direct questions about camping numbers, most campers wanted a smaller quota (majority 40 or less). The sense of crowding was aggravated by a perception of a small camping area and large group size. If the consideration of camper experience is important in setting quotas, then the number of campers should be set at less than the present 50. It will be important to try to monitor perception of crowding in response to any change in conditions.

#### **8.5 Should Generators/Compressors be Banned from Lady Musgrave Island?**

This question raises a number of issues going beyond the results of the GBR recreation/tourism study. It should properly be addressed by analysis of the regional recreation opportunities to ensure that existing appropriate experience opportunities are not accidentally lost.

The results of the study are, however, surprisingly strong. Despite many of the respondents being in groups which use the generators/compressors, most people recognise the disturbance that generators/compressors produce and see this as conflicting with other people's use of the area. The noise of generators/compressors clearly conflicts with the expressed experience values for Lady Musgrave Island and it is therefore not surprising that most of the campers express concern (37 out of 54 campers said either they found it disturbing or it should not be allowed). The overall evaluation of campers' responses to this question suggests that the use of motorised equipment on Lady Musgrave Island is inappropriate.

In this particular case, the primary value of compressors is as a source of energy so that tanks can be refilled for scuba diving activities. An alternative might be refills from day vessel operators, but this is less than satisfactory for the large-group scuba dive visitors who like to get the maximum dives in, especially as the current vessels do not come every day. A key factor is the fact that such large groups normally travel to the island by chartered barge and are therefore able to choose other destinations where people not part of their group (or similar) are less likely to be present. By examining regional recreation opportunities (ROS approach), a possible solution is to establish one island as the key large-group camping destination for those wishing to use generators and compressors. Either Masthead or North West might be appropriate.

#### **8.6 Should Large Camping Groups be Prevented from Coming to Lady Musgrave Island?**

Once again the campers' responses seem to be clearly in the direction of not only fewer campers, but also smaller groups. Some 44% said group sizes were too large, with 31% saying that only small groups should be allowed; together these categories were in greater proportion to those who felt group size was acceptable. Given that many of the campers were themselves from large groups, this result does suggest an antipathy for large groups. Clearly, the experience values already identified are in conflict with large groups due to the inevitable difference in social behaviour between small and large groups. The issue of group size is not entirely unrelated to the

issue of motorised equipment for it is usually large groups who bring generators and compressors. The best solution may be to combine the opportunities for motorised equipment and large groups (with their capacity to hire barges) at an alternative destination such as North West or Masthead. This would allow the ferry serving Lady Musgrave to cater for the distinct small group opportunities which are not otherwise available at a reasonable cost.

### **8.7 Should Commercial Fishing be Permitted on Lady Musgrave?**

This is a difficult question. Visitors to Lady Musgrave are quite clearly strongly supportive of conservation and are concerned about environmental impacts. In this context the fact that 41% of all visitors mentioned the banning of fishing is significant (Q16). When commercial fishing specifically was mentioned very strong negative views were expressed by all user groups (Q18). This view is supported by a general belief that management of the area should be restrictive for conservation purposes (see Q20). Overall, the issue is clear from the visitor point of view. The poor image of commercial fishing activities in association with a tourism and recreation destination could be addressed by either banning commercial fishing locally or by attempting to inform people about the reasons it is permitted. It is likely that in the absence of either, campers at least will be concerned with the sight of commercial trawlers at Lady Musgrave Island. It should also be noted that there appears to be very limited appreciation of the zoning regulations of GBRMPA amongst visitors to Lady Musgrave.

### **8.8 Should there be Restrictions on Daytrippers' use of the Island?**

Results from this study suggest two very contrasting sets of experiences—the day visitor finding stimulation, excitement, novelty and uniqueness; the camper finding relaxation, escape, peacefulness and tranquillity. The physical separation of the two groups clearly enhances the prospects of maintaining this dichotomy and minimising conflict.

This suggests a couple of specific actions by management. To alleviate a sense of crowding amongst campers, attempts should be made to restrict access by day visitors. This could best be achieved by establishing an intensive use area in the north-east corner of the Island where interpretation could be provided for the daytrippers. A guided tour, with explanation, would complement the kind of experience which daytrippers obtain, and add in the identified missing elements for many. Such a positive approach, with numbers limited by the appropriate group size which could be handled in the period of time available, would require little supervision through prohibition rules. The fact that most day visitors walked the island track indicates they were seeking some island experience. However, because the actual island track experience was of very low salience in the measured experiences of day visitors it can be seen that managers may ban visitors to the island without significantly affecting the Lady Musgrave experience. But this may not produce the best outcome, and there is some risk of inducing psychological reaction and producing negative emotion through perceptions of having one's curiosity openly restricted and controlled. Rather, the option of developing an interpretive program with controlled access may cater not only to the camper conflict issue, but also to the demands for further interpretation by the day visitors. Such an approach seems preferable.

### **8.9 Summary of Recommendations**

Following from the experience values and other results of the study, some of the management recommendations with respect to use are:

- There should be a physical separation between daytrippers and campers;
- The land-based component of the daytrip experience should be enhanced with an interpretative track which provides for a compact and intense land-based experience;
- There should only be a small group of daytrippers on the island at any one time;
- The perception of being crowded by campers should be alleviated;
- The size of camping groups should be small; and
- Generators/compressors should not be allowed.



Management objectives in a management plan should include:

1. Lady Musgrave Island should provide an opportunity for small group camping with emphasis on relaxation, tranquillity and contemplation of nature. Interactions between campers and daytrippers should be minimised and no motorised equipment should be allowed.
2. Lady Musgrave Island should provide an interpreted-track walking opportunity for small groups of daytrippers. Only a limited number of daytrippers, sufficient to take on the interpreted walk, should be allowed on the Island at any one time. The track should be located away from the camping area.

## **9.0 MONITORING OF RECREATION/TOURISM EXPERIENCES AT LADY MUSGRAVE ISLAND AND REEF**

It is beyond the brief of the present report to design a monitoring program for Lady Musgrave Island and Reef, but the results of the study suggest some possible ways to tackle the issue. Such a design should be prepared using the results reported here.

Of greatest significance is the development in this report of a taxonomy of experiences which have direct application on Lady Musgrave. This taxonomy will prove useful for future data collection and analysis, and the preparation of both management goals and associated monitoring programs.

This study provides baseline data which allows for the first time a very comprehensive understanding of recreational experience in a marine park setting. As such, monitoring of selected elements of these experience data will provide clear indication of changes. There is a need to examine the outcomes reported here to identify potential aspects of particular value in monitoring change and some possible examples are presented here.

### *Perceptions of crowding*

Because the issue of carrying capacity is often of central concern to managers, the question of whether the volume or type of use is exceeding desirable levels may be addressed by measuring the perception of crowding from time to time, in association with accurate measures of the level and type of visitation. Change in the proportions of visitors in different categories who indicate a concern about visitor numbers should be readily evident.

### *Inter-group differences and conflict*

The clearly distinct experiences of campers and daytrippers have led to suggestions that future management may seek to separate these two groups more than at present. If some of the specific suggestions are taken up, and this leads to reduced contact, the effects may be monitored by interviews of campers.

### *Nature of the experience*

Throughout this work it has become clear that visitors value Lady Musgrave in a number of different ways and that most see the island, reef and lagoon as very special. The data collected in this study allow the managers to reassess how visitors feel about their experiences at Lady Musgrave in the light of any changes either locally or within the region.

### *The composition of visitors*

The baseline figures given here should be compared with future data to help give an indication of change which may be occurring. This should include simple ratios of repeat visitors in each of the categories, usually a good indication of change in the experience being provided.

### *The values of the island most salient to visitors*

Presumably changes in the Lady Musgrave environment may be reflected in changes in salience of various aspects of visitor activities and experiences. Setting modifications can also lead to this outcome. By surveying visitors in the future, an immediate indication may be gained that changes are taking place. Reference to the characteristics of the visitors, in conjunction with evidence of values different from those reported here, may serve as an early warning of possible problems.

### *Other issues*

The process of monitoring is usually undertaken in the context of management objectives and therefore requires careful specification of objectives in a form most appropriate for monitoring

needs. The results of the present work may be used to help devise both management objectives and associated monitoring programs.

One way to develop a useful monitoring program would be to workshop the results of this study with managers and attempt to identify appropriate objectives within both the local Lady Musgrave environment and the broader regional context.

One other question remains unanswered. How applicable will the results of this work be to other parts of the GBRMP? Clearly there are similarities in the activities and social settings of some sites, and the authors expect that the experience taxonomy will be broadly applicable, however the full spectrum of recreation opportunities are bound to reveal other dimensions not encountered here. Additional contrasting sites should be subjected to similar detailed study to extend the knowledge base, both to understand the interaction between people and this World Heritage Area, and to help develop more meaningful management plans.

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## **APPENDIX 1. INFORMATION DISTRIBUTED FOR INTERVIEWING TRAINING SESSIONS**

### **Great Barrier Reef Recreation Experience Research—Lady Musgrave Island**

Dear Interviewers

Our pre-trip meeting is on the 21/6/[91] from 10–12.30 in the Chairman's office, 2nd floor, GBRMPA.

Enclosed are copies of the forms you will need to use during the interviews and on-site behavioural observations, and a few instructions. I would like you to read them before our meeting on the 21st and raise any questions you may have then. If you have a chance you can even practice conducting an interview with a friend.

I would like everyone to use white, navy blue or yellow (GBRMPA corporate colours) collared T-shirts during the interviews, Aquarium volunteers can use the Aquarium T-shirt.

Everyone has to bring their own sleeping gear (linen, sleeping bags/blankets, towels).

Nobody (including campers) needs to bring any eating or cooking utensils.

Campers—There will be a large tent from QNPWS and a cover sheet that people can sleep under. You can bring a small tent if you would like.

Accommodation whilst in Bundaberg will be at Turtle Sands Caravan Park Bargara, phone: (071) 59 2340.

Arrangements for travel (transport and living allowances) have been organised for non-GBRMPA and QNPWS staff. You will get these details on the 21/6.

I hope you are looking forward to this experience, see you on the 21/6 (I will be away from 12/6 until the 19/6).

Cheers

Lea

## Great Barrier Reef Recreation Experience Research—Lady Musgrave Island

### Interviewers' Tasks

#### DAYTRIP

##### Outgoing trip

Try not to get seasick.

Complete information about numbers of people on board for question 10d and whatever information that you can complete in the 'site recording information sheet'.

##### During the stay

Observational information (see sheet attached). We will take it in turns: 2 persons on duty for the first hour (3 recordings), another 2 persons for the second hour (3 recordings) and another 2 persons for the third hour (3 recordings). Altogether 9 recordings covering a period of 3 hours for L.M. Cruises. For MV 1770 there will be more recordings and less people (i.e. more work), but we are only doing two of these trips.

Complete 3 site recording information sheets (one for each interview).

Have fun, swim, talk, snorkel, go to the island etc.

At the end of the day (last 20 minutes before departing), start distributing cards with numbers to people already inside the boat or in a 'ready to go state on the pontoon'. Each of us will distribute approximately 20 cards to passengers over 18 years old.

##### Return trip

You cannot get seasick.

Three interviews are to be conducted on the return trip, which lasts 2 hours.

Non-staff: Put identification badges in a visible place.

Staff: Use T-shirts with GBRMPA badges and a badge with your name.

Try to complete the distribution of numbered cards as soon as we leave.

The research will be introduced on the PA system by the Captain and I will talk about the research and call the numbers (I will select them using a random number table). Passengers who have the numbers called and are upstairs will come to where the PA system is and downstairs they will go to the bar (for Lady Musgrave Cruises). On the small boat it will be much easier to see the passengers.

Arrange interviewing sequence with your three interviewees and make sure you know where each of them will be sitting (grab one straight away).

Take passengers to allocated seats—the ones with reserved signs—upstairs (if a couple, give the option of partners to come if interviewee feels some hesitation in separation). Only the person with the sampled number should speak, but if interviewing in a couple context this may not be that easy to achieve. In these circumstances, make sure that if the non-respondent probes and says something that you make sure respondent agrees with that opinion, or make sure to make explicit on tape any nods of agreement from the respondent when friend/spouse says something (only respondent answers count).

Conduct interviews and complete interview rating after every interview. At the end of the trip we will thank participants of the study collectively but they should be thanked 'very much' after each interview as well.

## **CAMPERS AND YACHTIES**

Complete site recording information just prior to the interview.

Only interview people who have been at least 2 days on the island or anchored. Preferably interview people towards the end of their stay.

Time of the day for interviewing will be agreed upon when we get there and check the people camping or on boats.

For large educational groups interview some sample of the leaders and some sample of the group (if > 18 years). We may interview some of the kids and treat this as a sub-sample if there is some time. Groups over 6 people—can sample a maximum of 2 respondents.

Use coin to select the sex of the person in the group to be interviewed, when there is sex choice in the group. Rate each interview at the end.



## Great Barrier Reef Recreation Experience Research—Lady Musgrave Island

### Interviewing Style and Procedures

You will get a clipboard containing:

- a) site recording and demographic information sheets for every interview you will conduct with an ID number on top
- b) interview schedule
- c) pad
- d) pen
- e) behavioural observation sheets

You will get a plastic bag containing:

- a) tape recorder
- b) tapes
- c) batteries

For each interview you will complete 4 pages on site recording and participant's personal information.

Most of the instructions about the interview are within the interview schedule which is the same for all of the interview types. Some questions are only for particular interview types. This is clearly indicated.

Make sure you record on the tape the ID, the interview type, the date and your name (as on the site recording sheet), at the beginning of your interview (as instructed in the interview schedule).

During the interview make sure you do not lead the respondent and you do not give information. (You can answer questions after completion of the interview).

One interview for each side of a tape (45 mins on each side will be plenty).

At the end of the interview, label each side of the tape with date, time the interview started, interview type, interview ID, interviewer's name.

Place each tape (containing two interviews) inside one envelope with the two corresponding site and personal information sheets. Complete the labels on the top of the envelope and seal the envelope.

## APPENDIX 2. INTERVIEW SCHEDULES (DAYTRIPPERS, CAMPERS AND YACHTIES)

### Interview Schedule (Daytrip)

*Turn on tape here.*

1) Tell me about your visit to Lady Musgrave and what sort of experience has today been for you. *(Let the respondent talk as much as he/she wants and if he/she stops talking ask whether she/he would like to comment on anything else.)*

2) Reflecting about the experience you have had at Lady Musgrave today what were some of the things that were going through your mind during the course of the day?

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You may have commented already on some of the issues I will be asking you about, but we need to ask you some more specific questions as well. So if you have mentioned some things before that are also relevant to the questions I am going to ask you just please say them again.

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3) Could you tell me a bit about what you specifically did while you were there? What was that like? *(If respondents did not mention the following activities ask them specifically: swimming, snorkelling, diving, GBB and observatory.)*

4) How would you describe the physical environment at Lady Musgrave to a friend planning to visit it?

5) Is there anything special about this place that you think makes it distinctive from other places?

6) Was there anything about what you saw in the environment that increased or decreased your enjoyment of the place?

7) How important are natural environments to you during your leisure time? Tell me why?

8) How would you describe the people and their behaviour that you met at Lady Musgrave to a friend planning to visit it?

9) Was there anything about these people and their behaviour that increased or decreased your enjoyment of the place? (enhanced or detracted from your experience?)

*Then prompt respondents more specifically about other users (if the interviewee has not specifically mentioned them).*

Was there anything in particular about the campers or yachties or other daytrippers that increased or decreased your enjoyment?

10) How did you feel about the numbers of people you encountered on the boat and pontoon?

*(If participants find it difficult to answer prompt them with the following: Were there too many? OK? or too few?)*

10a) *(for all people who went to the island)* How did you feel about the numbers of people you met on the island?

10b) Did you go to the campground?

If yes, how did you feel about the number of people you encountered there?

10d) This boat is capable of carrying \_\_\_\_\_ and today there are \_\_\_\_\_. How do you feel about the number of people here?

11) How do you feel about the number of people you saw in relation to what you expected?

12) How did you feel about the facilities at Lady Musgrave Island and Reef? *(Let respondents talk about the facilities which were salient to them without probing. After you are sure that they will not say anything else then mention the following facilities one by one and ask how did they feel about them (note: facilities underlined are only relevant for campers/yachties who had a good walk on the island):* pontoon, GBB, signs, tracks on the island, toilets *(ask daytrippers whether they went to the toilet while on land),* observatory, main vessel, box with garbage bags, interpretive information outside toilets *(for daytrippers that went to the toilet ask about this too),* sign indicating zoning boundaries on the reef flat *(daytrippers will probably not notice this))*

- 13) What sort of information did you get about Lady Musgrave Island and Reef prior to your visit?
- 14) What sort of information about the place did you get during your trip and visit to Lady Musgrave?
- 15) How did you feel about this information?
- 15a) *(contingent on 15)* Is there anything else you would like to know about Lady Musgrave?
- 15b) The QNPWS would like to provide further information about the natural environment at Lady Musgrave. What do you think would be the best way of providing that information?
- 16) The Great Barrier Reef Marine Park Authority and Queensland National Parks and Wildlife Service have complementary zoning plans that determine how the Marine Parks should be used. Do you know what you can or cannot do at Lady Musgrave Reef? *(if yes ask to elaborate)*
- 17) How do you feel about boats anchoring in the lagoon?
- 18) Commercial and recreational fishing is allowed on most of the lagoon. How do you feel about this?
- 19) How do you feel about the size, level and type of tourist operations here? *(Let respondent talk first without saying anything then after he/she finished explain that there are two boat operators now: a) Lady Musgrave cruises with a maximum pax capacity of 150 and with a pontoon, coming to this location Tuesday, Thursday, Saturday and Sunday; and b) a smaller tourist operation MV 1770 with a maximum pax capacity of 40 and no pontoons which can come on Wednesday, Friday, Saturday and Sunday. There are also plane and dive charters operations coming when there is public demand. Please ask the question again after you gave this explanation. After they finished ask respondent whether he/she feels there could be larger and/or more operations coming to Lady Musgrave Island and Reef.)*
- 20) Is there anything you noticed about the management of this place that you would like to talk about?
- 21) Have you any thoughts about how the National Parks Service and the Marine Park Authority should manage this place in the future?
- 22) All things considered what was the meaning of the visit to you personally? *(if explanation is required say this: How important was this experience to you and in what ways?)*
- 23) Why did you decide to come to Lady Musgrave?
- 24) What were you hoping to get out of this trip?
- 25) Do you have any comments about this study and how do you feel about being interviewed on this trip?

### Interview Schedule (Campers)

**Turn on tape here.**

1) Tell me about your visit to Lady Musgrave and what sort of experience has today been for you. *(Let the respondent talk as much as he/she wants and if he/she stops talking ask whether she/he would like to comment on anything else.)*

2) Thinking about the experience you have been having at Lady Musgrave what were some of the things that were going through your mind?

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You may have commented already on some of the issues I will be asking you about, but we need to ask you some more specific questions as well. So if you have mentioned some things before that are also relevant to the questions I am going to ask you just please say them again.

---

3) Could you tell me what you specifically have been doing while here? *(If respondents did not mention the following activities ask them specifically: swimming, snorkelling, diving, GBB, walking, reef-walking)*

4) How would you describe the physical environment at Lady Musgrave to a friend planning to visit it?

5) Is there anything special about this place that you think makes it distinctive from other places?

- 6) Was there anything about what you saw in the environment that increased or decreased your enjoyment of the place?
- 7) How important are natural environments to you during your leisure time? Tell me why?
- 8) How would you describe the people and their behaviour that you met at Lady Musgrave to a friend planning to visit it?
- 9) Was there anything about these people and their behaviour that increased or decreased your enjoyment of the place? (enhanced or detracted from your experience?)  
*Then prompt respondents more specifically about other users (if the interviewee has not specifically mentioned them).*  
 Was there anything in particular about the daytrippers or yachties or other campers that increased or decreased your enjoyment?
- 9a) Different people bring different types of gear to the island. How do you feel about the use of motors (e.g. generators, compressors) in the camping area?
- 10) How did you feel about the numbers of people you encountered on the boat and pontoon on the day you arrived? *(If participants find it difficult to answer prompt them with the following: Were there too many? OK? or too few?)*
- 10a) How do you feel about the numbers of people you met on the island?
- 10c) Did you encounter daytrippers within the campground, toilets, on the tracks and/or on the beach and how did you feel about this?
- 10d) The boat you came with is capable of carrying 150 and when you came there were \_\_\_\_\_. How did you feel about the number of people on that day?
- 10e) The Parks Services has established a limit of 50 people camping on the island at one time. Now there are \_\_\_\_\_. How do you feel about this quota of 50?
- 10f) *(contingent on 10e)* How many people would be about right here?
- 10g) How did you feel about the group sizes of other campers?
- 11) How do you feel about the number of people you saw in relation to what you expected?
- 12) How did you feel about the facilities at Lady Musgrave Island and Reef? *(Let respondents talk about the facilities which were salient to them without probing. After you are sure that they will not say anything else then mention the following facilities one by one and ask how did they feel about them (note: facilities underlined are only relevant for campers/yachties who had a good walk on the island):* pontoon, GBB, signs, tracks on the island, toilets (ask daytrippers whether they went to the toilet while on land), observatory, main vessel, box with garbage bags, interpretive information outside toilets (for daytrippers that went to the toilet ask about this too), sign indicating zoning boundaries on the reef flat (daytrippers will probably not notice this))
- 13) What sort of information did you get about Lady Musgrave Island and Reef prior to your visit?
- 14) What sort of information about the place did you get during your trip and visit to Lady Musgrave?
- 15) How did you feel about this information?
- 15a) *(contingent on 15)* Is there anything else you would like to know about Lady Musgrave?
- 15b) The QNPWS would like to provide further information about the natural environment at Lady Musgrave. What do you think would be the best way of providing that information?
- 16) The Great Barrier Reef Marine Park Authority and Queensland National Parks and Wildlife Service have complementary zoning plans that determine how the Marine Parks should be used. Do you know what you can or cannot do at Lady Musgrave Reef? *(if yes ask to elaborate)*
- 17) How do you feel about boats anchoring in the lagoon?
- 18) Commercial and recreational fishing is allowed on most of the lagoon. How do you feel about this?
- 19) How do you feel about the size, level and type of tourist operations here? *(Let respondent talk first without saying anything then after he/she finished explain that there are two boat operators now: a) Lady Musgrave cruises with a maximum pax capacity of 150 and with a pontoon, coming to this location Tuesday, Thursday, Saturday and Sunday; and b) a smaller tourist operation MV 1770 with a maximum*

*pax capacity of 40 and no pontoons which can come on Wednesday, Friday, Saturday and Sunday. There are also plane and dive charters operations coming when there is public demand. Please ask the question again after you gave this explanation. After they finished ask respondent whether he/she feels there could be larger and/or more operations coming to Lady Musgrave Island and Reef.*

20) Is there anything you noticed about the management of this place that you would like to talk about?

21) Have you any thoughts about how the National Parks Service and the Marine Park Authority should manage this place in the future?

22) All things considered what was the meaning of the visit to you personally? *(if explanation is required say this: How important was this experience to you and in what ways?)*

23) Why did you decide to come to Lady Musgrave?

24) What were you hoping to get out of this trip?

25) Do you have any comments about this study and how do you feel about being interviewed on this trip?

### **Interview Schedule (Yachties)**

***Turn on tape here.***

1) Tell me about your visit to Lady Musgrave and what sort of experience has today been for you. *(Let the respondent talk as much as he/she wants and if he/she stops talking ask whether she/he would like to comment on anything else.)*

2) Thinking about the experience you have been having at Lady Musgrave what were some of the things that were going through your mind?

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You may have commented already on some of the issues I will be asking you about, but we need to ask you some more specific questions as well. So if you have mentioned some things before that are also relevant to the questions I am going to ask you just please say them again.

---

3) Could you tell me what you specifically have been doing while here? *(If respondents did not mention the following activities ask them specifically: swimming, snorkelling, diving, walking, reef-walking)*

4) How would you describe the physical environment at Lady Musgrave to a friend planning to visit it?

5) Is there anything special about this place that you think makes it distinctive from other places?

6) Was there anything about what you saw in the environment that increased or decreased your enjoyment of the place?

7) How important are natural environments to you during your leisure time? Tell me why?

8) How would you describe the people and their behaviour that you met at Lady Musgrave to a friend planning to visit it?

9) Was there anything about these people and their behaviour that increased or decreased your enjoyment of the place? (enhanced or detracted from your experience?)

*Then prompt respondents more specifically about other users (if the interviewee has not specifically mentioned them).*

Was there anything in particular about daytrippers or campers or other yachties that increased or decreased your enjoyment?

10a) *(for all people who went to the island)* How did you feel about the numbers of people you met on the island?

10b) Did you go to the campground?

If yes, how did you feel about the number of people you encountered there?

11) How do you feel about the number of people you saw in relation to what you expected?

- 12) How did you feel about the facilities at Lady Musgrave Island and Reef? *(Let respondents talk about the facilities which were salient to them without probing. After you are sure that they will not say anything else then mention the following facilities one by one and ask how did they feel about them (note: facilities underlined are only relevant for campers/yachties who had a good walk on the island):* pontoon, GBB, signs, tracks on the island, toilets (ask daytrippers whether they went to the toilet while on land), observatory, main vessel, box with garbage bags, interpretive information outside toilets (for daytrippers that went to the toilet ask about this too), sign indicating zoning boundaries on the reef flat (daytrippers will probably not notice this))
- 13) What sort of information did you get about Lady Musgrave Island and Reef prior to your visit?
- 14) What sort of information about the place did you get during your trip and visit to Lady Musgrave?
- 15) How did you feel about this information?
- 15a) *(contingent on 15)* Is there anything else you would like to know about Lady Musgrave?
- 15b) The QNPWS would like to provide further information about the natural environment at Lady Musgrave. What do you think would be the best way of providing that information?
- 16) The Great Barrier Reef Marine Park Authority and Queensland National Parks and Wildlife Service have complementary zoning plans that determine how the Marine Parks should be used. Do you know what you can or cannot do at Lady Musgrave Reef? *(if yes ask to elaborate)*
- 17) How do you feel about boats anchoring in the lagoon?
- 18) Commercial and recreational fishing is allowed on most of the lagoon. How do you feel about this?
- 19) How do you feel about the size, level and type of tourist operations here?
- 20) Is there anything you noticed about the management of this place that you would like to talk about?
- 21) Have you any thoughts about how the National Parks Service and the Marine Park Authority should manage this place in the future?
- 22) All things considered what was the meaning of the visit to you personally? *(if explanation is required say this: How important was this experience to you and in what ways?)*
- 23) Why did you decide to come to Lady Musgrave?
- 24) What were you hoping to get out of this trip?
- 25) Do you have any comments about this study and how do you feel about being interviewed on this trip?

### APPENDIX 3. TAXONOMY USED FOR CONTENT ANALYSIS OF BROAD QUESTIONS

#### Self/Experience

##### Notes

1: any response to question 1 or 2 that does not shift from the topic of experience can be coded in here as an aspect of experience even if it is not explicitly stated in the form 'it was this or that experience for me' because the question originally asked about experience

2: relaxing, tranquil, peaceful do not code under emotion

3: emotion—positive includes enjoyment, good, wonderful, fun

4: challenge includes both mental and physical

5: mind—clear includes not thinking about anything

6: mind—stimulating includes interesting, fascinating, cognitive evaluations.

7: anticipation—positive includes looking forward to it, —negative includes fear, —neutral includes curiosity

8: unique experience includes different, memorable, unforgettable, one of a kind

9: escape includes being away from it all, seclusion

10: sense of control includes being able to do what you want to do

11: recollection refers to any mention of wanting to remember the experience, wanting to have something to trigger this

12: always wanted to do something and now have done it, code as T24-3 and T29-3

T1 self-awareness

T2 lack of control

T3 sense of control

T4 effort/initiative

T5 challenge/adventure

T6 emotion - positive

T7 emotion - negative

T8 emotion - high arousal

T9 emotion - low arousal

T10 relaxed/tranquil/peaceful

T11 physical state - positive

T12 physical state - negative

T13 luck/fortunate/opportunity/chance

T14 escape/another world/contrast

T15 new experience

T16 unique experience/different

T17 fantasy/magical/religious

T18 symbolism

T19 mind - clear

T20 mind - stimulating/thinking

T21 learning

T22 lack of knowledge/previous lack of knowledge

T23 recollection/telling others at home/memories

T24 anticipation - positive/wanted to/hoped to

T25 anticipation - negative

T26 anticipation - neutral

T27 expectation - exceeded

T28 expectation - failed

T29 expectation - matched

#### Type of activities

##### Notes

1: relaxing includes sleeping

2: walking tracks includes forest

3: contemplating nature includes observing and watching if done purposefully

4: scuba diving—certified includes related activities e.g. filling tanks

T30 general activities - positive

T31 general activities - neutral

T32 general activities - negative

T33 snorkelling - positive

T34 snorkelling - neutral

T35 snorkelling - negative

T36 swimming - positive

T37 swimming - neutral

T38 swimming - negative

T39 scuba diving - introduction - positive

T40 scuba diving - introduction - neutral

T41 scuba diving - introduction - negative

T42 scuba diving - certified - positive

T43 scuba diving - certified - neutral

T44 scuba diving - certified - negative

T45 viewing from glassy - positive

T46 viewing from glassy - neutral

T47 viewing from glassy - negative

T48 observatory - positive

T49 observatory - neutral

T50 observatory - negative

T51 contemplating nature - positive

T52 contemplating nature - neutral

T53 contemplating nature - negative

T54 bird-watching - positive

T55 bird-watching - neutral

T56 bird-watching - negative

T57 fish feeding - positive

T58 fish feeding - neutral  
T59 fish feeding - negative

T60 turtle viewing - positive  
T61 turtle viewing - neutral  
T62 turtle viewing - negative

T63 teaching/showing about nature - positive  
T64 teaching/showing about nature - neutral  
T65 teaching/showing about nature - negative

T66 photography/video - positive  
T67 photography/video - neutral  
T68 photography/video - negative

T69 fishing - positive  
T70 fishing - neutral  
T71 fishing - negative

T72 relaxing/sleeping/sitting on beach - positive  
T73 relaxing/sleeping/sitting on beach - neutral  
T74 relaxing/sleeping/sitting on beach - negative

T75 sunbathing/sitting in sun - positive  
T76 sunbathing/sitting in sun - neutral  
T77 sunbathing/sitting in sun - negative

T78 eating/drinking - positive  
T79 eating/drinking - neutral  
T80 eating/drinking - negative

T81 walking - general - positive  
T82 walking - general - neutral  
T83 walking - general - negative

T84 walking - reef - positive  
T85 walking - reef - neutral  
T86 walking - reef - negative

T87 walking - track/through island - positive  
T88 walking - track/through island - neutral  
T89 walking - track/through island - negative

T90 walking - beach - positive  
T91 walking - beach - neutral  
T92 walking - beach - negative

T93 walking - around island - positive  
T94 walking - around island - neutral  
T95 walking - around island - negative  
T96 boating/on boat/anchoring - positive  
T97 boating/on boat/anchoring - neutral  
T98 boating/on boat/anchoring - negative

T99 main vessel ride - positive  
T100 main vessel ride - neutral  
T101 main vessel ride - negative

## **Social Environment**

### **Notes**

- 1: friendly includes polite
- 2: non-sociable includes keep to themselves

- 3: alone includes feeling separate from the group
- 4: others not feeling well includes others not enjoying themselves
- 5: activity by other people includes noise by other people
- 6: other people's enjoyment includes enjoyment of other people enjoying themselves
- 7: appreciate/respect includes concern for
- 8: belongingness—general and other includes general statements about feeling part of a group and specific examples not listed
- 9: family togetherness includes presence of a family, the experience caters for the whole family etc.
- 10: diverse/interesting people includes references to other nationalities

T102 friendly/nice/polite/general positive - other visitors  
T103 friendly/nice/polite/general positive - staff  
T104 unfriendly - other visitors  
T105 unfriendly - staff

T106 sociable - other visitors  
T107 sociable - staff  
T108 non-sociable - other visitors  
T109 non-sociable - staff

T110 drop pretences/barriers/casual/informal

T111 supportive, dependable, helpful - other visitors  
T112 supportive, dependable, helpful - staff

T113 alone  
T114 belongingness - general and other

T115 family togetherness  
T116 spending time with friends  
T117 others here for same purpose

T118 diverse/interesting/new/strange people/other nationalities  
T119 they seem to respect/appreciate the place - other visitors  
T119A they seem to respect the place – staff

T120 behaving inappropriately - other visitors  
T120A behaving inappropriately - staff  
T121 others not feeling well/not enjoying themselves  
T122 other people's enjoyment/enjoying people  
T123 get involved in the activity/others' activities

T124 numbers of people generally - crowded/many  
T125 numbers of people generally - not crowded/few

T126 numbers of people on island - crowded/many



T127 numbers of people on island - not crowded/few

T128 numbers of people on the boat and pontoon - crowded/many

T129 numbers of people on the boat and pontoon - not crowded/few

T130 numbers of people camping - crowded/many

T131 numbers of people camping - not crowded/few

T132 group size of campers - small/too small

T133 group size of campers - large/too large

T134 activity by other people - disturbing

T135 activity by other people - not disturbing/neutral

T136 use of motors - disturbing

T137 use of motors - not disturbing

T138 use of motors - should not be allowed

T139 spatial use by other people - too close

T140 spatial use by other people - not too close

#### **Physical Environment—nature factors**

##### **Notes**

1: includes white beaches, coral beaches

2: ocean/GBR, general reef community and general island community includes references of aesthetics

3: general reef community and general island community include references to the systems as a whole

4: general evaluation only for when there is no specific mention of a physical environment and includes aesthetic mentions and mentions of place

5: natural includes untouched, unspoiled, clean

6: coral cay = coral + island + other

7: coral atoll = coral + island + lagoon + other

8: marine life details—other includes sharks, also code sharks as other

9: beaches/sand— does not include underwater sand

10: lagoon safety/anchorage includes shelter and safe anchorage with no mention of lagoon

T141 general evaluation - positive

T142 general evaluation - neutral

T143 general evaluation - negative

T144 physical isolation

T145 quietness/peace

T146 natural - general

T147 natural - reef

T148 natural - island

T149 ocean/GBR/water/tides/depth - positive

T150 ocean/GBR/water/tides/depth - neutral

T151 ocean/GBR/water/tides/depth - negative

T152 general reef community - positive

T153 general reef community - neutral

T154 general reef community - negative

T155 general island community - positive

T156 general island community - neutral

T157 general island community - negative

T158 specific marine life details - fish - positive

T159 specific marine life details - fish - neutral

T160 specific marine life details - fish - negative

T161 specific marine life details - corals - positive

T162 specific marine life details - corals - neutral

T163 specific marine life details - corals - negative

T164 specific marine life details - other - positive

T165 specific marine life details - other - neutral

T166 specific marine life details - other - negative

T167 specific island life details - other - positive

T168 specific island life details - other - neutral

T169 specific island life details - other - negative

T170 specific island details - birds - positive

T171 specific island details - birds - neutral

T172 specific island details - birds - negative

T173 specific marine/island details - turtles - positive

T174 specific marine/island details - turtles - neutral

T175 specific marine/island details - turtles - negative

T176 specific island details - shells - positive

T177 specific island details - shells - neutral

T178 specific island details - shells - negative

T179 specific island details - trees - positive

T180 specific island details - trees - neutral

T181 specific island details - trees - negative

T182 colour of the reef - positive

T183 colour of the reef - neutral

T184 colour of the reef - negative

T185 colour of the water - positive

T186 colour of the water - neutral

T187 colour of the water - negative

T188 clarity of the water - positive

T189 clarity of the water - negative

T190 beaches/sand - positive

T191 beaches/sand - neutral

T192 beaches/sand - negative

T193 lagoon - positive

T194 lagoon - neutral

T195 lagoon - negative

T196 lagoon safety/anchorage - positive

T197 lagoon safety/anchorage - negative

### **Physical Environment—natural conditions**

T198 weather conditions - positive

T199 weather conditions - negative

T200 sea conditions - calm

T201 sea conditions - rough

T202 temperature - hot

T203 temperature - cold

### **Physical Environment—interpretative**

**Note:** interpretative refers to attempts to understand, interpret and/or predict the environment, 'finding out about things', learning, often involves interaction with the environment (interface between environment and knowledge)

T204 ocean/GBR/tides

T205 general reef environment/lagoon

T206 general island environment/general references

T207 specific marine life details - fish

T208 specific marine life details - corals

T209 specific marine life details - other

T210 specific island details - birds

T211 specific island details - turtles

T212 specific island details - shells

T213 specific island details - trees

T214 specific island details - other

### **Environment—human interactions**

**Note:** environment—human interactions refers to specific mentions of physical environment and self/people in the same unit of analysis

T215 human impact general - concern for

T216 human impact general - positive

T217 human impact general - neutral

T218 human impact general - negative

T219 human impact terrestrial - concern for

T220 human impact terrestrial - positive

T221 human impact terrestrial - neutral

T222 human impact terrestrial - negative

T223 human impact marine - concern for

T224 human impact marine - positive

T225 human impact marine - neutral

T226 human impact marine - negative

T227 impact of environment on people - concern for

T228 impact of environment on people - positive

T229 impact of environment on people - neutral

T230 impact of environment on people - negative

T231 engagement with nature/interacting with nature/sensory involvement/appreciating nature/first hand experience

T232 intimate encounters with nature/or part of nature

### **Managerial/organisational factors**

#### **Notes**

1: information services includes interpretation

2: development includes **general** references to commercialism, facilities and lack of all these things (it is a 4 or 0 rating; i.e. only a flagging function)

3: management general and other includes camping area/facilities

T233 development

T234 management general and other - positive

T235 management general and other - neutral

T236 management general and other - negative

T237 information services general - positive

T238 information services general - neutral

T239 information services general - negative

T240 information services island - positive

T241 information services island - neutral

T242 information services island - negative

T243 information services on boat/on GBB - positive

T244 information services on boat/on GBB - neutral

T245 information services on boat/on GBB - negative

T246 poor quality of PA system

T247 advertising - positive

T248 advertising - neutral

T249 advertising - negative

T250 tourist/commercial/services/operation overall and other - positive

T251 tourist/commercial/services/operation overall and other - neutral

T252 tourist/commercial/services/operation overall and other - negative

T253 management - regulation/zoning - positive

T254 management - regulation/zoning - neutral

T255 management - regulation/zoning - negative

T256 presence of management personal - positive

T257 presence of management personal - neutral

T258 presence of management personal - negative

T259 private boats - positive

T260 private boats - neutral

T261 private boats - negative

T262 pontoons - positive  
T263 pontoons - neutral  
T264 pontoons - negative

T265 signs - positive  
T266 signs - neutral  
T267 signs - negative

T268 toilets - positive  
T269 toilets - neutral  
T270 toilets - negative

T271 fresh water

T272 commercial vessel - positive  
T273 commercial vessel - neutral  
T274 commercial vessel - negative  
T275 glass-bottomed boat/GBB tour guide - positive  
T276 glass-bottomed boat/GBB tour guide - neutral  
T277 glass-bottomed boat/GBB tour guide - negative

T278 underwater observatory - positive  
T279 underwater observatory - neutral  
T280 underwater observatory - negative

T281 cost - positive  
T282 cost - neutral  
T283 cost - negative

### **Trip overall**

#### **Notes**

1: evaluation—fairly specific mentions of trip, day, visit  
2: need more time/like more time, code as evaluation—positive

T284 evaluation - positive  
T285 evaluation - negative

T286 I would come back - general  
T287 I would come back - daytrip  
T288 I would come back - camping

T289 recommend to friends/recommended by friends/other people  
T290 escape/being away

T291 expectation - met  
T292 expectation - failed  
T293 expectation - exceeded

T294 convenience/access (to coast, southern position in GBR, en route to destination)

#### **Miscellaneous**

T295 other  
T296 irrelevant  
T297 prompted  
T298 missing information

## **Great Barrier Reef Recreation/Tourism Experience Research**

### **Description of Some of the Categories for Coding**

#### **Self**

It refers to your feelings and/or thinking and/or evaluations or perceptions you have about yourself, or about your relationship with the immediate social and/or physical environment.

awareness: When you have discovered something about yourself or when you have been made more aware of your capabilities and limitations.

control: It refers to your perceptions of being in control of a situation.

emotion (high arousal): When your feelings are associated with high arousal (e.g. excitement, apprehension).

emotion (low arousal): When your level of arousal is optimal, i.e. you have enough but not excessive stimulation, or when you are simply stating an emotion which is not associated with high arousal (e.g. happy, sad).

effort: When you are concentrating on something and/or talking yourself into a difficult task, or when you refer to a physical effort.

self-control: Need to exert self-control in face of adverse outside.

physical state: It refers to your body state or to the group's physical state if you are part of a group and referring to the group, i.e. whether one's body is feeling good, relaxed, comfortable, strong, tired, tense etc.

challenge: When you have to deal with a situation with might be (or might not be) new to you but which involves challenge, conflict, adaptation or some demand placed upon you.

fantasy: extent of presence of fantasy, imagery, projection, imagination as part of the experience

symbolism: presence/significance of symbolic elements in the participation (e.g. the GBR symbolises Australia)

engagement with nature: references of you appreciating, seeing, watching, touching—in general terms being involved with nature (it reflects a relationship between you and the environment rather than a mere description of the environment out there)

intimate encounters with nature: close encounters with particular elements of the natural environment

clear mind: clarity of thinking, refreshed mind

## **Social Environment**

It refers to another person or a group of people or to your perception of belonging to a group. It includes description of the social environment, behaviour by others and interaction with others.

involvement, interaction, companionship: interactions among a group, the extent to which a person belong to a group

support, dependency, helpful: Making an assessment about the extent to which others are helpful and/or supportive and/or you depended on them in the context of your experience.

social feedback: Any interactions with others where you receive feedback about yourself or where you give feedback to others.

spatial use by other people: Any mention of how others have been using the physical space around the respondent and/or in relation to where respondent was or was using the physical space. (check CC book)

## **Physical Environment**

meaning of the environment—end: environment as end in itself, action based on desire to interact with that specific environment

meaning of environment—means: environment as a means to an end, basically a good place to do the activity the person wants to do

predictability: desire for a safe, predictable environment as a major aspect of the experience

risk: desire for risk and uncertainty as a major aspect of the experience

impact of environment on self: The extent to which you think the environment has an impact on you or on the group.

## APPENDIX 4. CATEGORIES USED FOR CONTENT ANALYSIS OF FOCUSED QUESTIONS

Preliminary demographics etc. non-fuzzy coding

1: ID Number	n
2: Day	n which is date as 020391
3: Time.	n which is time as 1500
4: Interviewer	
L. Scherl	1
S. Smithson	2
C. Cook	3
S. Pretty	4
A. Hennel	5
M. Gough	6
D. Briggs	7
P. Slaughter	8
etc.	
5: Interview type	
daytripper	1
camper	2
yachts	3
6: Vessel	
L.M.C.	1
MV 1770	2
7: Weather	
Windy, sunny	1
Windy, o'cast	2
Mod. wind, sunny	3
Mod. wind, o'cast	4
Light wind, sunny	5
Light wind, o'cast	6
8: Rain	
Yes	1
No	2
9: Boat Types, Private, Power,	Number of type for all
10: Private yacht	1 if ticked, 0 if not
11: Commercial fish.	1,0
12: Commercial tour.	1,0
13: Unknown	1,0
14: No. tour operations	n
15: Campers boats 1pm	n
16: Campers boats late pm	n
17: Campers boats present time	n
18: Sex	
female	1
male	2
19: Age	1 to 7 as on interview sheet
20: Residence	
Australia	1
Overseas	2
21: Postcode	4-digit n
22: Where O/S	String variable
	—type in <b>country</b> of origin
23: Been L.M.I. before	
Yes	1
No	2
24: Campers duration of stay	n of days
25: Been GBR before	
Yes	1
No	2

26: No. of times GBR before	n of times
(Who are you here with)	
27: a large group	1 if ticked, 0 if not
28: family	1,0
29: just a few friends	1,0
30: alone	1,0
31: a friend/spouse	1,0
32: Decision	String variable
	—type in abbrev. of answer
(following questions only for those who have been to L.M.I. before)	
33: 1st visit	n which is year
34: How many	n
35: How many last 3y	n

### 12a) Have you noticed any changes?

12a Y/N	Yes	1
	No	2

*If the respondent says yes, turn on tape here.*

Fuzzy coding starts here

### What has changed?

#### Notes

1: island includes water, beaches and anything not already specifically covered  
2: management includes interpretation, management services, tracks and camping ground  
3: includes signs, navigational aids, moorings and toilets

12a.1	island - positive
12a.2	island - negative
12a.3	island - neutral

12a.4	terrestrial fauna & flora general - more
12a.5	terrestrial fauna & flora general - less
12a.6	terrestrial fauna & flora general - different

12a.7	marine fauna & flora general - more
12a.8	marine fauna & flora general - less
12a.9	marine fauna & flora general - different

12a.10	coral - more
12a.11	coral - less
12a.12	coral - different

12a.13	fish - more
12a.14	fish - less
12a.15	fish - different

12a.16	birds - more
12a.17	birds - less
12a.18	birds - different

12a.19	shells - more
12a.20	shells - less
12a.21	shells - different

12a.22 trees/plants - more  
12a.23 trees/plants - less  
12a.24 trees/plants - different

12a.25 turtles - more  
12a.26 turtles - less  
12a.27 turtles - different

12a.28 visitors/users - more  
12a.29 visitors/users - less  
12a.30 visitors/users - different

12a.31 management - more  
12a.32 management - less  
12a.33 management - different

12a.34 tourist operations - more  
12a.35 tourist operations - less  
12a.36 tourist operations - different

12a.37 human impact/degradation - more  
12a.38 human impact/degradation - less  
12a.39 human impact/degradation - different

12a.40 built structures - more  
12a.41 built structures - less  
12a.42 built structures - different

12a.43 others  
12a.44 elsewhere  
12a.45 irrelevant  
12a.46 prompted  
12a.47 missing information

**1) Tell me about your visit to Lady Musgrave and what sort of experience has today been for you.** *(Let the respondent talk as much as he/she wants and if he/she stops talking ask whether she/he would like to comment on anything else.)*  
Taxonomy fuzzy coding

**2) (daytrippers) Reflecting about the experience you have had at Lady Musgrave today what were some of the things that were going through your mind during the course of the day?**

*(campers)* **Thinking about the experience you have been having at Lady Musgrave what were some of the things that were going through your mind?**

Taxonomy fuzzy coding

**3) (daytrippers) Could you tell me a bit about what you specifically did while you were there? What was it like?**

*(If respondents did not mention the following activities ask them specifically: swimming, snorkelling, diving, GBB and observatory.)*

*(campers and yachties)* **Could you tell me what you specifically have been doing while here? What was it like?**

#### Notes

1: relaxing includes sleeping

2: walking tracks includes forest  
3: contemplating nature includes observing and watching if done purposefully  
4: snorkelling includes swimming with mask and flippers (i.e. without snorkel!)  
5: scuba diving—if ambiguous as to whether intro. or certified then fuzzy code for both  
6: bird-watching includes seeing birds

3.1 activities general - positive  
3.2 activities general - neutral  
3.3 activities general - negative

3.4 snorkelling - positive  
3.5 snorkelling - neutral  
3.6 snorkelling - negative

3.7 swimming - positive  
3.8 swimming - neutral  
3.9 swimming - negative

3.10 scuba diving - introduction - positive  
3.11 scuba diving - introduction - neutral  
3.12 scuba diving - introduction - negative

3.13 scuba diving - certified - positive  
3.14 scuba diving - certified - neutral  
3.15 scuba diving - certified - negative

3.16 viewing from glassy - positive  
3.17 viewing from glassy - neutral  
3.18 viewing from glassy - negative

3.19 observatory - positive  
3.20 observatory - neutral  
3.21 observatory - negative

3.22 bird-watching - positive  
3.23 bird-watching - neutral  
3.24 bird-watching - negative

3.25 fish feeding - positive  
3.26 fish feeding - neutral  
3.27 fish feeding - negative

3.28 turtle viewing - positive  
3.29 turtle viewing - neutral  
3.30 turtle viewing - negative  
3.31 contemplating nature - positive  
3.32 contemplating nature - neutral  
3.33 contemplating nature - negative

3.34 teaching about nature - positive  
3.35 teaching about nature - neutral  
3.36 teaching about nature - negative

3.37 photography/video - positive  
3.38 photography/video - neutral  
3.39 photography/video - negative

3.40 fishing - positive  
3.41 fishing - neutral

3.42 fishing - negative

3.43 relaxing/sitting on beach - positive

3.44 relaxing/sitting on beach - neutral

3.45 relaxing/sitting on beach - negative

3.46 sunbathing/sitting in sun - positive

3.48 sunbathing/sitting in sun - neutral

3.47 sunbathing/sitting in sun - negative

3.49 eating/drinking - positive

3.50 eating/drinking - neutral

3.51 eating/drinking - negative

3.52 walking - positive

3.53 walking - neutral

3.54 walking - negative

3.55 walking - reef - positive

3.56 walking - reef - neutral

3.57 walking - reef - negative

3.58 walking - track/walking through - positive

3.59 walking - track/walking through - neutral

3.60 walking - track/walking through - negative

3.61 walking - beach/beachcombing - positive

3.62 walking - beach/beachcombing - neutral

3.63 walking - beach/beachcombing - negative

3.64 walking - around island - positive

3.65 walking - around island - neutral

3.66 walking - around island - negative

3.67 boating/on boat/anchoring - positive

3.68 boating/on boat/anchoring - neutral

3.69 boating/on boat/anchoring - negative

3.70 the main vessel ride - positive

3.71 the main vessel ride - neutral

3.72 the main vessel ride - negative

3.73 others

3.74 elsewhere

3.75 irrelevant

3.76 prompted

3.77 missing information

### 3a) What was is it like?

#### Note

1: specific marine life details—other includes sharks, stingrays, whales, dolphins, manta rays etc.

3a.1 further description of activities

3a.2 self-awareness

3a.3 sense of control

3a.4 lack of control

3a.5 effort

3a.6 challenge

3a.7 emotion - positive

3a.8 emotion - negative

3a.9 emotion - high arousal

3a.10 emotion - low arousal (boring/disappointed/anti-climax)

3a.11 relaxed/tranquil/peaceful

3a.12 physical state - positive

3a.13 physical state - negative

3a.14 fantasy

3a.15 symbolism

3a.16 mind - clear

3a.17 mind - stimulating

3a.18 learning

3a.19 lack of knowledge

3a.20 anticipation - positive

3a.21 anticipation - negative

3a.22 anticipation - neutral

3a.23 expectation - exceeded

3a.24 expectation - failed

3a.25 expectation - matched

3a.26 luck/fortunate/opportunity

3a.27 escape

3a.28 new experience

3a.29 unique experience

3a.30 danger experience

3a.31 physical isolation

3a.32 quietness/peace of place

3a.33 naturalness - general

3a.34 naturalness - reef

3a.35 naturalness - island

3a.36 general evaluation - positive

3a.37 general evaluation - neutral

3a.38 general evaluation - negative

3a.39 ocean/GBR/water/tides - positive

3a.40 ocean/GBR/water/tides - neutral

3a.41 ocean/GBR/water/tides - negative

3a.42 general reef community - positive

3a.43 general reef community - neutral

3a.44 general reef community - negative

3a.45 general island community - positive

3a.46 general island community - neutral

3a.47 general island community - negative

3a.48 specific marine life details - fish - positive

3a.49 specific marine life details - fish - neutral

3a.50 specific marine life details - fish - negative

3a.51 specific marine life details - corals - positive

3a.52 specific marine life details - corals - neutral  
 3a.53 specific marine life details - corals - negative  
  
 3a.54 specific marine life details - other - positive  
 3a.55 specific marine life details - other - neutral  
 3a.56 specific marine life details - other - negative  
  
 3a.57 specific island details - birds - positive  
 3a.58 specific island details - birds - neutral  
 3a.59 specific island details - birds - negative  
  
 3a.60 specific island details - turtles - positive  
 3a.61 specific island details - turtles - neutral  
 3a.62 specific island details - turtles - negative  
  
 3a.63 specific island details - shells - positive  
 3a.64 specific island details - shells - neutral  
 3a.65 specific island details - shells - negative  
  
 3a.66 specific island details - trees/forest/plants - positive  
 3a.67 specific island details - trees/forest/plants - neutral  
 3a.68 specific island details - trees/forest/plants - negative  
  
 3a.69 specific island life details - other - positive  
 3a.70 specific island life details - other - neutral  
 3a.71 specific island life details - other - negative  
  
 3a.72 reef colour - positive  
 3a.73 reef colour - neutral  
 3a.74 reef colour - negative  
  
 3a.75 water colour - positive  
 3a.76 water colour - neutral  
 3a.77 water colour - negative  
  
 3a.78 water clarity - positive  
 3a.79 water clarity - negative  
  
 3a.80 beaches/sand/bays - positive  
 3a.81 beaches/sand/bays - neutral  
 3a.82 beaches/sand/bays - negative  
  
 3a.83 lagoon - positive  
 3a.84 lagoon - neutral  
 3a.85 lagoon - negative  
 3a.86 lagoon safety/anchorage - positive  
 3a.87 lagoon safety/anchorage - negative  
  
 3a.88 others  
 3a.89 elsewhere  
 3a.90 irrelevant  
 3a.91 prompted  
 3a.92 missing information

**4) How would you describe the physical environment at Lady Musgrave to a friend planning to visit it?**

**Notes**

1: managed includes cultivated, manipulated  
 2: isolation includes physical isolation, seclusion, place for getting away, escape  
 3: lack of facilities includes fresh water  
 4: paradise, desert island, perfect, beautiful include those specific words.  
 5: recommendation—use words: ‘recommend’ or ‘would tell friends about it’  
 6: specific marine life details—other includes sharks, stingrays, whales, dolphins, manta rays etc.

4.1 recommendation - positive  
 4.2 recommendation - negative  
  
 4.3 general evaluation - positive  
 4.4 general evaluation - neutral  
 4.5 general evaluation - negative  
 4.6 paradise  
 4.7 desert island/tropical island  
 4.8 perfect/ideal/idyllic  
 4.9 beautiful/pretty  
 4.10 unique/different/rare/special  
  
 4.11 isolation/escape  
 4.12 quiet/peaceful/tranquil/relaxing  
  
 4.13 natural/unspoiled - general  
 4.14 natural/unspoiled - reef  
 4.15 natural/unspoiled - island  
  
 4.16 ocean/GBR/water/tides - positive  
 4.17 ocean/GBR/water/tides - neutral  
 4.18 ocean/GBR/water/tides - negative  
  
 4.19 general reef community - positive  
 4.20 general reef community - neutral  
 4.21 general reef community - negative  
  
 4.22 general island community - positive  
 4.23 general island community - neutral  
 4.24 general island community - negative  
  
 4.25 specific marine life details - fish - positive  
 4.26 specific marine life details - fish - neutral  
 4.27 specific marine life details - fish - negative  
  
 4.28 specific marine life details - corals - positive  
 4.29 specific marine life details - corals - neutral  
 4.30 specific marine life details - corals - negative  
  
 4.31 specific marine life details - other - positive  
 4.32 specific marine life details - other - neutral  
 4.33 specific marine life details - other - negative  
  
 4.34 specific island details - birds - positive  
 4.35 specific island details - birds - neutral  
 4.36 specific island details - birds - negative  
  
 4.37 specific island/marine details - turtles - positive



4.38 specific island/marine details - turtles - neutral  
 4.39 specific island/marine details - turtles - negative  
  
 4.40 specific island details - shells - positive  
 4.41 specific island details - shells - neutral  
 4.42 specific island details - shells - negative  
  
 4.43 specific island details - trees/forest/plants - positive  
 4.44 specific island details - trees/forest/plants - neutral  
 4.45 specific island details - trees/forest/plants - negative  
  
 4.46 specific island life details - other - positive  
 4.47 specific island life details - other - neutral  
 4.48 specific island life details - other - negative  
  
 4.49 reef colour - positive  
 4.50 reef colour - neutral  
 4.51 reef colour - negative  
  
 4.52 water colour - positive  
 4.53 water colour - neutral  
 4.54 water colour - negative  
  
 4.55 water clarity - positive  
 4.56 water clarity - negative  
  
 4.57 beaches/sand/bays - positive  
 4.58 beaches/sand/bays - neutral  
 4.59 beaches/sand/bays - negative  
  
 4.60 lagoon - positive  
 4.61 lagoon - neutral  
 4.62 lagoon - negative  
 4.63 lagoon safety/anchorage - positive  
 4.64 lagoon safety/anchorage - negative  
  
 4.65 weather conditions - positive  
 4.66 weather conditions - negative  
  
 4.67 sea conditions - positive  
 4.68 sea conditions - negative  
  
 4.69 temperature - positive  
 4.70 temperature - negative  
  
 4.71 management  
 4.72 facilities - camping  
 4.73 facilities - other  
 4.74 lack of facilities/uncommercialised  
  
 4.75 others  
 4.76 elsewhere  
 4.77 irrelevant  
 4.78 prompted  
 4.79 missing information

## 5) Is there anything special about this place

**that you think makes it distinctive from other places?**

### Notes

1: specific marine life details—other includes sharks, stingrays, whales, dolphins, manta rays etc.  
 2: convenience/access to island includes close to mainland/Brisbane  
 3: convenience/access to beach/lagoon/campsite includes entrance channel through L.M. reef

5.1 No  
 5.2 don't know/nothing to compare it with  
 5.3 general evaluation - positive  
 5.4 general evaluation - neutral  
 5.5 general evaluation - negative  
  
 5.6A recommendation negative  
 5.6 recommendation positive  
  
 5.7 paradise  
 5.8 desert island/tropical island  
 5.9 perfect/ideal/idyllic  
 5.10 beautiful/pretty  
 5.11 unique/different/rare/special  
 5.12 isolation/escape  
 5.13 quiet/peaceful/tranquil/relaxing  
  
 5.14 natural/unspoiled - general  
 5.15 natural/unspoiled - reef  
 5.16 natural/unspoiled - island  
  
 5.17 ocean/GBR/water/tides - positive  
 5.18 ocean/GBR/water/tides - neutral  
 5.19 ocean/GBR/water/tides - negative  
  
 5.20 general reef community - positive  
 5.21 general reef community - neutral  
 5.22 general reef community - negative  
  
 5.23 general island community - positive  
 5.24 general island community - neutral  
 5.25 general island community - negative  
  
 5.26 specific marine life details - fish - positive  
 5.27 specific marine life details - fish - neutral  
 5.28 specific marine life details - fish - negative  
  
 5.29 specific marine life details - corals - positive  
 5.30 specific marine life details - corals - neutral  
 5.31 specific marine life details - corals - negative  
  
 5.32 specific marine life details - other - positive  
 5.33 specific marine life details - other - neutral  
 5.34 specific marine life details - other - negative  
  
 5.35 specific island details - birds - positive  
 5.36 specific island details - birds - neutral  
 5.37 specific island details - birds - negative  
  
 5.38 specific island/marine details - turtles - positive

5.39 specific island/marine details - turtles - neutral  
 5.40 specific island/marine details - turtles - negative  
  
 5.41 specific island details - shells - positive  
 5.42 specific island details - shells - neutral  
 5.43 specific island details - shells - negative  
  
 5.44 specific island details - trees/forest/plants - positive  
 5.45 specific island details - trees/forest/plants - neutral  
 5.46 specific island details - trees/forest/plants - negative  
  
 5.47 specific island life details - other - positive  
 5.48 specific island life details - other - neutral  
 5.49 specific island life details - other - negative  
  
 5.50 reef colour - positive  
 5.51 reef colour - neutral  
 5.52 reef colour - negative  
  
 5.53 water colour - positive  
 5.54 water colour - neutral  
 5.55 water colour - negative  
  
 5.56 water clarity - positive  
 5.57 water clarity - negative  
  
 5.58 beaches/sand/bays - positive  
 5.59 beaches/sand/bays - neutral  
 5.60 beaches/sand/bays - negative  
  
 5.61 lagoon - positive  
 5.62 lagoon - neutral  
 5.63 lagoon - negative  
 5.64 lagoon safety/anchorage - positive  
 5.65 lagoon safety/anchorage - negative  
  
 5.66 weather conditions - positive  
 5.67 weather conditions - negative  
  
 5.68 sea conditions - positive  
 5.69 sea conditions - negative  
  
 5.70 temperature - positive  
 5.71 temperature - negative  
  
 5.72 convenience - access to island  
 5.73 convenience - access to beach/lagoon/campsite  
  
 5.74 facilities - camping  
 5.75 facilities - other (includes lighthouse)  
 5.76 lack of facilities/development (+ve, -ve)  
 5.77 activities  
 5.78 social environment/mentions of people generally  
 5.79 management

5.80 others  
 5.81 elsewhere  
 5.82 irrelevant  
 5.83 prompted  
 5.84 missing information

5.84A engagement with nature/interacting with nature  
 5.84B intimate encounters with nature/being part of nature

**6) Was there anything about what you saw in the environment that increased or decreased your enjoyment of the place?**

**Notes**

1: specific marine life details—other includes sharks, stingrays, whales, dolphins, manta rays etc.  
 2: damage to marine environment and damage to terrestrial environment means both natural and human

6.1 others  
 6.2 elsewhere  
 6.3 irrelevant  
 6.4 prompted  
 6.5 missing information

**6a) increased**

6.6 No, nothing

6.7 ocean/GBR/water/tides

6.8 general reef community  
 6.9 general island community  
 6.10 general aesthetic/general evaluation positive

6.11 specific marine life details - fish  
 6.12 specific marine life details - coral  
 6.13 specific marine life details - other

6.14 specific island details - birds  
 6.15 specific island/marine details - turtles  
 6.16 specific island details - shells  
 6.17 specific island details - trees/forest/plants  
 6.18 specific island life details - other

6.19 naturalness - general  
 6.20 naturalness - reef  
 6.21 naturalness - island

6.22 reef colour  
 6.23 water colour  
 6.24 water clarity

6.25 beaches/sand/bays  
 6.26 lagoon beauty  
 6.27 lagoon safety/anchorage  
 6.28 weather conditions  
 6.29 sea conditions  
 6.30 temperature

6.31 information services  
 6.32 management presence  
  
 6.33 boats  
 6.34 pontoons  
 6.35 signs  
 6.36 toilets  
 6.37 underwater observatory  
  
 6.38 unpolluted  
 6.39 everything/general/whole experience  
 6.40 impact of physical/natural environment on individual/self

**6b) decreased**

6.41 No, nothing  
  
 6.42 noise pollution  
 6.43 visual pollution - marine  
 6.44 visual pollution - terrestrial  
  
 6.45 information services  
 6.46 management presence  
  
 6.47 boats  
 6.48 aircraft  
 6.49 pontoons  
 6.50 signs  
 6.51 toilets  
 6.52 main vessel  
 6.53 underwater observatory  
  
 6.54 disturbance from other commercial operators  
  
 6.55 damage to marine environment  
 6.56 damage to terrestrial environment  
  
 6.57 lack of knowledge  
  
 6.58 specific island details - birds/lack of birds  
  
 6.59 impact of physical/natural environment on individual/self  
  
 6.60 poor tracks  
  
 6.61 weather conditions  
 6.62 sea conditions  
 6.63 temperature  
  
 6.64 access

**7) How important are natural environments to you during your leisure time? Tell me why?**

7.1 natural environments - not important  
 7.2 natural environments - not very important/not particularly  
 7.3 natural environments - important/fairly/quite  
 7.4 natural environments - very important/most  
  
 7.5 visit a lot

7.6 sometimes visit  
 7.7 very rarely visit  
  
 7.8 haven't thought/not an issue  
  
 7.9 others  
 7.10 elsewhere  
 7.11 irrelevant  
 7.12 prompted  
 7.13 missing information

**Why?**

**Note**

1: naturalness - don't use just for use of the word 'natural'

7.14 beauty  
  
 7.15 general evaluation - positive  
  
 7.16 naturalness (pristine, lack of human impact, unpolluted)  
  
 7.17 quietness/peacefulness/tranquillity/ relaxed (self/environment)  
  
 7.18 escape/seclusion/isolation  
  
 7.19 the activities one can do (contemplating nature included e.g. watching animals)  
  
 7.20 as an education resource/learning  
  
 7.21 self-awareness  
 7.22 self-reliance  
  
 7.23 provide challenge (physical/mental)  
  
 7.24 physical state positive (healthier/exercised)  
  
 7.25 mind - stimulated  
 7.26 mind - clear  
  
 7.27 emotion - positive  
 7.28 emotion - high arousal  
 7.29 emotion - low arousal  
  
 7.30 a place for sharing experiences/emotions  
 7.31 just being in it/get outdoors  
 7.32 to know they exist  
  
 7.33 engagement with nature/interacting with nature  
 7.34 intimate encounters with nature/being part of nature  
  
 7.35 concern for environment/conservation/ management/participation in env. groups/projects  
  
 7.36 others  
 7.37 elsewhere  
 7.38 irrelevant

7.39 prompted  
7.40 missing information

**8) How would you describe the people and their behaviour that you met at Lady Musgrave to a friend planning to visit it?**

**Notes**

1: belongingness—other includes general statements about feeling part of a group and specific examples of this not included elsewhere  
2: staff includes L.M. staff, QNPWS and GBRMPA staff  
3: diverse/interesting people includes mention of people of other nationalities/+ve and -ve references to 'other' groups: out-groups  
4: sociable includes any mention of social interaction, meeting etc.  
5: non-sociable includes any mention of not interacting

8.1 friendly/nice/polite - other visitors  
8.2 friendly/nice/polite - staff

8.3 unfriendly - other visitors  
8.4 unfriendly - staff  
8.4A boat staff - other (any comment other than friendly, sociable etc.)

8.5 sociable - other visitors  
8.6 sociable - staff  
8.7 non-sociable - other visitors  
8.8 non-sociable - staff

8.9 drop pretences

8.10 supportive, dependable, helpful - other visitors  
8.11 supportive, dependable, helpful - staff

8.12 alone  
8.13 belongingness - other  
8.14 family togetherness  
8.15 spending time with friends

8.16 others here for same purpose  
8.17 diverse/interesting people

8.18 They seem to respect/appreciate the place (includes general flora and fauna) - other visitors  
8.18A They seem to respect/appreciate the place (includes general flora and fauna) - staff

8.19 They seem to appreciate/respect the marine life - other visitors  
8.19A They seem to appreciate/respect the marine life - staff  
8.20 They seem to appreciate the terrestrial fauna and flora - other visitors  
8.20A They seem to appreciate the terrestrial fauna and flora - staff

8.21 behaving inappropriately - other visitors

8.21 behaving inappropriately - staff  
8.22 others not feeling well/not enjoying themselves  
8.23 other people's enjoyment/happy/good humoured/relaxed/interested/curious

8.24 get involved in the activity/doing own thing/busy

8.25 numbers of people generally - crowded/many  
8.26 numbers of people generally - not crowded/few

8.27 numbers of people on island - crowded/many  
8.28 numbers of people on island - not crowded/few

8.29 numbers of people on the boat and pontoon - crowded  
8.30 numbers of people on the boat and pontoon - not crowded

8.31 numbers of people camping - crowded/many  
8.32 numbers of people camping - not crowded/few

8.33 group size of campers - small  
8.34 group size of campers - large

8.35 activity by other people - disturbing/-ve impact  
8.36 activity by other people - not disturbing/+ve impact/respectful of others/compatible

8.37 use of motors - disturbing  
8.38 use of motors - not disturbing  
8.39 use of motors - should not be allowed

8.40 spatial use by other people - too close  
8.41 spatial use by other people - not too close

8.42 others  
8.43 elsewhere  
8.44 irrelevant  
8.45 prompted  
8.46 missing information

**9) Was there anything about these people and their behaviour that increased or decreased your enjoyment of the place? (enhanced or detracted from your experience?)**

9.1 others  
9.2 elsewhere  
9.3 irrelevant  
9.4 prompted  
9.5 missing information

**9a) increased**

9.6 No

- 9.7 friendly/nice/polite - other visitors
- 9.8 friendly/nice/polite - staff
- 9.9 sociable - other visitors
- 9.10 sociable - staff
- 9.11 drop pretences
- 9.12 supportive, dependable, helpful - other visitors
- 9.13 supportive, dependable, helpful - staff
- 9.14 alone
- 9.15 family togetherness
- 9.16 spending time with friends
- 9.17 belongingness - general and other
- 9.18 others here for same purpose
- 9.19 diverse/interesting people
- 9.20 they seem to respect/appreciate the place - other visitors
- 9.20A they seem to respect/appreciate the place - staff
- 9.21 other people's enjoyment/happy/good humoured/interested/curious
- 9.22 get involved in the activity/doing own thing/busy
- 9.23 numbers of people generally
- 9.24 numbers of people on island
- 9.25 numbers of people on the boat and pontoon
- 9.26 numbers of people camping
- 9.27 group size of campers
- 9.28 activity by other people - not disturbing/+ve impact/amusing
- 9.29 use of motors - not disturbing
- 9.30 spatial use by other people - not too close/all in one place
- 9.31 companionship
- 9.32 meeting new people
- 9.33 exchange of information/stories
- 9.34 feel safe
- 9.35 seeing people experiencing the GBR for the first time
- 9.36 everyone compatible
- 9b) decreased**
- 9.37 No
- 9.38 noise
- 9.39 lack of privacy
- 9.40 litter
- 9.41 impact on natural environment
- 9.42 unfriendly - other visitors
- 9.43 unfriendly - staff
- 9.44 non-sociable - other visitors
- 9.45 non-sociable - staff
- 9.46 alone
- 9.47 behaving inappropriately - other visitors
- 9.47A behaving inappropriately - staff
- 9.48 others not feeling well/not enjoying themselves/injuring themselves
- 9.49 numbers of people generally
- 9.50 numbers of people on island
- 9.51 numbers of people on the boat and pontoon
- 9.52 numbers of people camping
- 9.53 group size of campers
- 9.54 activity by other people - disturbing/-ve impact/worry re daytrippers in camp
- 9.55 use of motors - disturbing
- 9.56 use of motors - should not be allowed
- 9.57 spatial use by other people/too close
- If interviewing campers ask: Was there anything in particular about the daytrippers or yachties or other campers that increased or decreased your enjoyment?*
- 9.58 others
- 9.59 elsewhere
- 9.60 irrelevant
- 9.61 prompted
- 9.62 missing information
- 9a) increased**
- 9.63 No
- 9.64 friendly/nice/polite - other visitors
- 9.65 friendly/nice/polite - staff
- 9.66 sociable - other visitors
- 9.67 sociable - staff
- 9.68 drop pretences
- 9.69 supportive, dependable, helpful - other visitors
- 9.70 support, dependency, helpful - staff
- 9.71 alone
- 9.72 family togetherness
- 9.73 spending time with friends
- 9.74 belongingness - general and other
- 9.75 others here for same purpose
- 9.76 diverse/interesting people

9.77 they seem to respect/appreciate the place - other visitors  
9.77A they seem to respect/appreciate the place - staff

9.78 other people's enjoyment/happy/good humoured/interested/curious

9.79 get involved in the activity/doing own thing/busy

9.80 numbers of people generally  
9.81 numbers of people on the island  
9.82 numbers of people on the boat and pontoon  
9.83 numbers of people camping  
9.84 group size of campers

9.85 activity by other people - not disturbing/+ve impact/amusing

9.86 spatial use by other people - not too close

9.87 use of motors

9.88 companionship

9.89 meeting new people

9.90 exchange of information/stories

9.91 feel safe

9.92 seeing people experiencing the GBR for the first time

9.93 everyone compatible

#### **9b) decreased**

9.94 No

9.95 noise

9.96 lack of privacy

9.97 litter

9.98 impact on natural environment

9.99 unfriendly - other visitors

9.100 unfriendly - staff

9.101 non-sociable - other visitors

9.102 non-sociable - staff

9.103 alone

9.104 behaving inappropriately - other visitors

9.104A behaving inappropriately - staff

9.105 others not feeling well/not enjoying themselves/injuring themselves

9.106 numbers of people generally

9.107 numbers of people on island

9.108 numbers of people on the boat and pontoon

9.109 numbers of people camping

9.110 group size of campers

9.111 use of motors - disturbing

9.112 use of motors - should not be allowed

9.113 activity by other people - disturbing/-ve impact/worry re daytrippers in camp

9.114 spatial use by other people - too close

*If interviewing daytrippers ask: Was there anything in particular about the campers or yachties or other daytrippers that increased or decreased your enjoyment?*

9.115 others

9.116 elsewhere

9.117 irrelevant

9.118 prompted

9.119 missing information

#### **9a) increased**

9.120 No

9.121 friendly/nice/polite - other visitors

9.122 friendly/nice/polite - staff

9.123 sociable - other visitors

9.124 sociable - staff

9.125 drop pretences

9.126 supportive, dependable, helpful - other visitors

9.127 support, dependency, helpful - staff

9.128 alone

9.129 family togetherness

9.130 spending time with friends

9.131 belongingness - general and other

9.132 others here for same purpose

9.133 diverse/interesting people

9.134 they seem to respect/appreciate the place - other visitors

9.134A they seem to respect/appreciate the place - staff

9.135 other people's enjoyment/happy/good humoured/interested/curious

9.136 get involved in the activity/doing own thing/busy

9.137 numbers of people generally

9.138 numbers of people on island

9.139 numbers of people on boat and pontoon

9.140 numbers of people camping

9.141 group size of campers

9.142 use of motors

9.143 activity by other people - not disturbing/+ve impact

9.144 spatial use by other people - not too close

9.145 companionship

9.146 meeting new people

9.147 exchange of information/stories

9.148 feel safe

9.149 seeing people experiencing the GBR for the first time

9.150 everyone compatible

**9b) decreased**

9.151 No

9.152 noise

9.153 lack of privacy

9.154 litter

9.155 impact on natural environment

9.156 unfriendly - other visitors

9.157 unfriendly - staff

9.158 non-sociable - other visitors

9.159 non-sociable - staff

9.160 alone

9.161 behaving inappropriately - other visitors

9.161A behaving inappropriately - staff

9.162 others not feeling well/not enjoying themselves/injuring themselves

9.163 numbers of people generally

9.164 numbers of people on island

9.165 numbers of people on boat and pontoon

9.166 numbers of people camping

9.167 group size of campers

9.168 use of motors - disturbing

9.169 use of motors - should not be allowed

9.170 activity by other people - disturbing/-ve impact/worry re daytrippers in camp

9.171 spatial use by other people - too close

*If interviewing yachties ask: Was there anything in particular about daytrippers or campers or other yachties that increased or decreased your enjoyment?*

9.172 others

9.173 elsewhere

9.174 irrelevant

9.175 prompted

9.176 missing information

**9a) increased**

9.177 No

9.178 friendly/nice/polite - other visitors

9.179 friendly/nice/polite - staff

9.180 sociable - other visitors

9.181 sociable - staff

9.182 drop pretences

9.183 supportive, dependable, helpful - other visitors

9.184 support, dependency, helpful - staff

9.185 alone

9.186 family togetherness

9.187 spending time with friends

9.188 belongingness - general and other

9.189 others here for same purpose

9.190 diverse/interesting people

9.191 they seem to respect/appreciate the place - other visitors

9.191A they seem to respect/appreciate the place - staff

9.192 other people's enjoyment/happy/good humoured/interested/curious

9.193 get involved in the activity/doing own thing/busy

9.194 numbers of people generally

9.195 numbers of people on island

9.196 numbers of people on the boat and pontoon

9.197 numbers of people camping

9.198 group size of campers

9.199 activity by other people - not disturbing/+ve impact/amusing

9.200 use of motors

9.201 spatial use by other people - not too close

9.202 companionship

9.203 meeting new people

9.204 exchange of information/stories

9.205 feel safe

9.206 seeing people experiencing the GBR for the first time

9.207 everyone compatible

**9b) decreased**

9.208 No

9.209 noise

9.210 lack of privacy

- 9.211 litter
- 9.212 impact on natural environment
- 9.213 unfriendly - other visitors
- 9.214 unfriendly - staff
- 9.215 non-sociable - other visitors
- 9.216 non-sociable - staff
- 9.217 alone
- 9.218 behaving inappropriately - other visitors
- 9.218A behaving inappropriately - staff
- 9.219 others not feeling well/not enjoying themselves/injuring themselves
- 9.220 numbers of people generally
- 9.221 numbers of people on island
- 9.222 numbers of people on the boat and pontoon
- 9.223 numbers of people camping
- 9.224 group size of campers
- 9.225 activity by other people - disturbing/-ve impact/worry re daytrippers in camp
- 9.226 use of motors - disturbing
- 9.227 use of motors - should not be allowed
- 9.228 spatial use by other people - too close

**9a) (just for campers) Different people bring different types of gear to the island. How do you feel about the use of motors (e.g. generators, compressors) in the camping area?**

- 9a.1 do not like it
- 9a.2 disturbing
- 9a.3 OK/good
- 9a.4 It is necessary
- 9a.5 should not be allowed
- 9a.6 should be away from the camping area
- 9a.7 others
- 9a.8 elsewhere
- 9a.9 irrelevant
- 9a.10 prompted
- 9a.11 missing information

**10) (just for daytrippers and campers) How did you feel about the numbers of people you encountered on the boat and pontoon? (If participants find it difficult to answer prompt them with the following: Were there too many? OK? or too few?)**

- 10.1 OK/alright/enough/fine
- 10.2 no more
- 10.3 too many/many/lots/crowded
- 10.4 not too many/weren't many/few/wasn't crowded
- 10.5 nice/good/just right/about right/comfortable
- 10.6 enhanced experience
- 10.7 detracted experience

- 10.8 expectations - more than
- 10.9 expectations - met
- 10.10 expectations - less than
- 10.11 full
- 10.12 wasn't full
- 10.13 less is best/better (less than today's no. would be better/less than full made it better)
- 10.14 more is best/better/too few
- 10.15 others
- 10.16 elsewhere
- 10.17 irrelevant
- 10.18 prompted
- 10.19 missing information

**10a) (for all people who went to the island including daytrippers, yachties and campers) How did you feel about the numbers of people you met on the island?**

- 10a.1 OK/alright/fine
- 10a.2 no more
- 10a.3 too many/many/lots/crowded
- 10a.4 not too many/weren't many/few/wasn't crowded
- 10a.5 nice/good/just right/about right/comfortable
- 10a.6 enhanced experience
- 10a.7 detracted experience
- 10a.8 expectations - more than
- 10a.9 expectations - met
- 10a.10 expectations - less than
- 10a.11 less is best/better (less than today's no. would be better/less than full made it better)
- 10a.12 more is best/better/too few
- 10a.13 did not see/talk to/meet anyone
- 10a.14 did not go to the island
- 10a.15 others
- 10a.16 elsewhere
- 10a.17 irrelevant
- 10a.18 prompted
- 10a.19 missing information

**10b) (just for daytrippers and yachties) Did you go to the campground? If yes, how did you feel about the number of people you encountered there?**

- 10b.1 No
- 10b.1A Yes
- 10b.2 OK/alright/fine
- 10b.3 no more
- 10b.4 too many/many/lots/crowded
- 10b.5 not too many/weren't many/few/wasn't crowded
- 10b.6 nice/good/just right/about right/comfortable
- 10b.7 enhanced experience
- 10b.8 detracted experience
- 10b.9 expectations - more than
- 10b.10 expectations - met
- 10b.11 expectations - less than
- 10b.12 full
- 10b.13 wasn't full
- 10b.14 less is best/better (less than today's no.



would be better/less than full made it better)

10b.15 more is best/better/too few

10b.16 should not be any campers

10b.17 did not see anyone

10b.18 others

10b.19 elsewhere

10b.20 irrelevant

10b.21 prompted

10b.22 missing information

**10c) (just for campers) Did you encounter daytrippers within the campground, toilets, on the tracks and/or on the beach and how did you feel about this?**

10c.1 Yes

10c.2 No

10c.3 loss of privacy

10c.4 OK/did not bother me

10c.5 daytrippers should not come to camping area

10c.6 nice to see different people

10c.7 insecure about gear left in camping area

10c.8 intruded upon

10c.8a met on campground

10c.8b met at toilet

10c.8c met on beach

10c.8d met on tracks

10c.9 others

10c.10 elsewhere

10c.11 irrelevant

10c.12 prompted

10c.13 missing information

**10d) (just for daytrippers) This boat is capable of carrying \_\_\_\_ and today there are \_\_\_\_\_. How do you feel about the number of people here?**

10d.1 OK/alright/fine.

10d.2 no more

10d.3 too many/many/lots/crowded

10d.4 not too many/weren't many/few/wasn't crowded

10d.5 nice/good/just right/about right/comfortable

10d.6 enhanced experience

10d.7 detracted experience

10d.8 expectations - more than

10d.9 expectations - met

10d.10 expectations - less than

10d.11 full

10d.12 wasn't full

10d.13 less is best/better (less than today's no. would be better/less than full made it better)

10d.14 more is best/better/too few

10d.15 others

10d.16 elsewhere

10d.17 irrelevant

10d.18 prompted

10d.19 missing information

**10e) (just for campers) The Parks Service has established a limit of 50 people camping on the island at one time. Now there are \_\_\_\_\_. How**

**do you feel about this quota of 50?**

10e.1 OK

10e.1a need larger camping area/reorganisation (e.g. separate areas, dispersed)

10e.1b need just small groups

10e.2 too high

10e.3 too few

10e.4 a lower maximum

10e.5 this is the maximum/no more

10e.6 more people should be allowed

10e.7 others

10e.8 elsewhere

10e.9 irrelevant

10e.10 prompted

10e.11 missing information

**10f) (just for campers and contingent on 12e)**

**How many people would be about right here?**

10f.1 10–20

10f.2 21–30

10f.3 31–40

10f.4 41–50

10f.5 51–60

10f.6 61–70

10f.7 71–80

10f.8 91–100

10f.9 101+

10f.10 others

10f.11 elsewhere

10f.12 irrelevant

10f.13 prompted

10f.14 missing information

**10g) (just for campers) How did you feel about the group sizes of other campers?**

10g.1 OK

10g.2 too large/large

10g.3 too small/should be larger groups

10g.4 just small groups/mainly small groups/more small groups/group size should be limited

10g.5 varied

10g.5a need larger camping area/separate areas/general reorganisation

10g.6 others

10g.7 elsewhere

10g.8 irrelevant

10g.9 prompted

10g.10 missing information

**11) How do you feel about the number of people you saw in relation to what you expected?**

11.1 did not know what to expect/no expectations

11.2 expectations - met

11.3 expectations - more than

11.4 expectations - less than

11.5 positive evaluation/pleased

11.6 negative evaluation/not pleased

11.7 others

11.8 elsewhere

11.9 irrelevant

11.10 prompted  
11.11 missing information

**12) How did you feel about the facilities at Lady Musgrave Island and Reef?** *(Let respondents talk about the facilities which were salient to them without probing. After you are sure that they will not say anything else then mention the following facilities one by one and ask how did they feel about them (note: facilities underlined are only relevant for campers/yachties who had a good walk on the island): pontoon, GBB, signs, tracks on the island, toilets (ask daytrippers whether they went to the toilet while on land), observatory, main vessel, box with garbage bags, interpretive information outside toilets (for daytrippers that went to the toilet ask about this too), sign indicating zoning boundaries on the reef flat (daytrippers will probably not notice this))* (will not have a prompted category)

12.1 nice to see it natural/unspoiled  
12.1A not intrusive - quality (appearance)  
12.2 not intrusive - quantity/didn't notice any/weren't many

12.3 facilities general - positive  
12.4 facilities general - negative  
12.5 facilities general - should have more  
12.6 facilities general - as is/neutral  
12.7 facilities general - should not have more  
12.8 facilities general - should have less  
12.9 facilities general - should have none/better to have none

12.10 pontoon/observatory quality - positive  
12.11 pontoon/observatory quality - negative  
12.12 pontoon/observatory quantity - should have more  
12.13 pontoon/observatory quantity/general - as is/neutral  
12.14 pontoon/observatory quantity - should not have more  
12.15 pontoon/observatory quantity - should not have

12.16 signs quality - positive  
12.17 signs quality - negative  
12.18 signs quantity - should have more  
12.19 signs quantity/general - as is/neutral  
12.20 signs quantity - should not have more  
12.21 signs quantity - should have less  
12.22 signs quantity - should not have

12.23 GBB - positive  
12.24 GBB - negative  
12.25 GBB - should have more  
12.26 GBB - as is/neutral  
12.27 GBB - should not have more  
12.28 GBB - should not have

12.29 toilets - positive  
12.30 toilets - negative  
12.31 toilets - should not have more  
12.32 toilets - as is/neutral  
12.33 toilets - should have more  
12.34 toilets - should have less  
12.35 toilets - should not have

12.36 tracks - positive  
12.37 tracks - negative  
12.38 tracks - should not have more  
12.39 tracks - as is/neutral  
12.40 tracks - should have more  
12.41 tracks - should have less  
12.42 tracks - should not have  
12.43 commercial vessel - positive  
12.44 commercial vessel - negative  
12.45 commercial vessel - should not have more  
12.46 commercial vessel - as is/neutral  
12.47 commercial vessel - should have more/  
bigger  
12.48 commercial vessel - should have less/  
smaller  
12.49 commercial vessel - should not have

12.50 scuba/diving gear - positive  
12.51 scuba/diving gear - negative

12.52 snorkelling gear - positive  
12.53 snorkelling gear - negative

12.54 underwater observatory - positive  
12.55 underwater observatory - negative

12.56 reef edge sign - positive  
12.57 reef edge sign - negative/ineffective

12.58 information services - positive  
12.59 information services - negative/lacking  
12.60 information services - should not have more  
12.61 information services - as is/neutral  
12.62 information services - should have more  
12.63 information services - should have less  
12.64 information services - should not have

12.65 fresh water/showers - positive (fine as is therefore shouldn't have)  
12.66 fresh water/showers - negative (should have)

12.67 box of garbage bags - positive  
12.68 box of garbage bags - negative (includes need for garbage bins, pick up bins)

12.69 others  
12.70 elsewhere  
12.71 irrelevant  
12.72 prompted  
12.73 missing information

**13) What sort of information did you get about Lady Musgrave Island and Reef prior to your visit? How did you feel about the information?**

**Notes:** evaluation refers to the quality and quantity of the information not to the subject of the information

- 1: negative includes lacking (quality and quantity)  
2: about trip generally includes camping, boating, activities and other aspects of trip not covered elsewhere  
3: about environment generally includes specifics not covered elsewhere  
4: about activities includes regulations re activities, dangers

13.1 none/not much/very little

13.2 written material/pamphlets/L.M. brochure - positive

13.3 written material/pamphlets/L.M. brochure - neutral

13.4 written material/pamphlets/L.M. brochure - negative

13.5 posters/pictures - positive

13.6 posters/pictures - neutral

13.7 posters/pictures - negative

13.8 about trip generally - positive

13.9 about trip generally - neutral

13.10 about trip generally - negative

13.11 about environment generally - positive

13.12 about environment generally - neutral

13.13 about environment generally - negative

13.14 about environment (marine fauna and flora) - positive

13.15 about environment (marine fauna and flora) - neutral

13.16 about environment (marine fauna and flora) - negative

13.17 about environment (terrestrial fauna and flora) - positive

13.18 about environment (terrestrial fauna and flora) - neutral

13.19 about environment (terrestrial fauna and flora) - negative

13.20 about activities - positive

13.21 about activities - neutral

13.22 about activities - negative

13.23 other people - positive

13.24 other people - neutral

13.25 other people - negative

13.26 from parks service - positive

13.27 from parks service - neutral

13.28 from parks service - negative

13.29 from tourist agencies/information centres - positive

13.30 from tourist agencies/information centres - neutral

13.31 from tourist agencies/information centres - negative

13.32 others

13.33 elsewhere

13.34 irrelevant

13.35 prompted

13.36 missing information

**14) What sort of information about the place did you get during your trip and visit to Lady Musgrave?**

**Notes:** evaluation refers to the quality and quantity of the information not to the subject of the information

1: negative includes lacking (quality and quantity)

2: about trip generally includes camping, boating, activities, safety, regulations and other aspects of trip not covered elsewhere

3: about environment generally includes specifics not covered elsewhere

4: talks—where possible code who gave them (doesn't include PA talks)

14.1 none

14.2 written material/pamphlets/L.M. brochure - positive

14.3 written material/pamphlets/L.M. brochure - neutral

14.4 written material/pamphlets/L.M. brochure - negative

14.5 PA system - boat - positive

14.6 PA system - boat - neutral

14.7 PA system - boat - negative

14.8 posters/pictures - positive

14.9 posters/pictures - neutral

14.10 posters/pictures - negative

14.11 signs - positive

14.12 signs - neutral

14.13 signs - negative

14.14 video - positive

14.15 video - neutral

14.16 video - negative

14.16a talks - positive

14.16b talks - neutral

14.16c talks - negative

14.17 display board outside the toilet - positive

14.18 display board outside toilet - neutral

14.19 display board outside toilet - negative

14.20 about trip generally - positive

14.21 about trip generally - neutral

14.22 about trip generally - negative

14.23 about environment generally - positive

14.24 about environment generally - neutral

14.25 about environment generally - negative

14.26 about environment specifically (marine fauna and flora) - positive

14.27 about environment specifically (marine fauna and flora) - neutral

14.28 about environment specifically (marine fauna and flora) - negative

14.29 about environment specifically (terrestrial fauna and flora) - positive

14.30 about environment specifically (terrestrial fauna and flora) - neutral

14.31 about environment specifically (terrestrial fauna and flora) - negative

14.32 from L.M. staff (but not PA system) - positive

14.33 from L.M. staff (but not PA system) - neutral

14.34 from L.M. staff (but not PA system) - negative

14.35 from other people - positive

14.36 from other people - neutral

14.37 from other people - negative

14.38 from parks service - positive

14.39 from parks service - neutral

14.40 from parks service - negative

14.41 from interviewers - positive

14.42 from interviewers - neutral

14.43 from interviewers - negative

14.44 from experience/being there - positive

14.45 from experience/being there - neutral

14.46 from experience/being there - negative

14.47 others

14.48 elsewhere

14.49 irrelevant

14.50 prompted

14.51 missing information

# **15) How did you feel about this information?**

15.1 no opinion

15.2 evaluation - positive

15.3 evaluation - neutral/fine/adequate

15.4 evaluation - negative

15.5 presentation - positive

15.6 presentation - neutral/fine/adequate

15.7 presentation - negative

15.8 wasn't any/not much

15.9 not enough

15.10 too much

15.11 could not hear/wasn't listening/PA too loud/soft

15.12 could not understand

15.13 too general (includes need for more specific info)

15.14 too detailed

15.15 others

15.16 elsewhere

15.17 irrelevant

15.18 prompted

15.19 missing information

## **15a) (contingent on 15) Is there anything else you would like to know about Lady Musgrave?**

### Note

1: 15a.17 is a specific case of 15a.11

15a.1 No

15a.2 about the trip generally (hazards, activities etc.)

15a.3 on environment - general

15a.4 on terrestrial fauna and flora (include turtles)

15a.5 on marine fauna and flora

15a.6 on environmental sensitivity/human impact

15a.7 on monitoring/research

15a.8 on human history

15a.9 on geomorphology/island formation/as part of GBR

15a.10 on management and regulation/zoning

15a.11 on future options for management

15a.12 about the GBRMP

15a.13 about the visitors to the place

15a.14 about the facilities

15a.15 about camping

15a.16 about accommodation generally

15a.17 about future accommodation (resorts)

15a.18 others

15a.19 elsewhere

15a.20 irrelevant

15a.21 prompted

15a.22 missing information

**15b) The QNPWS would like to provide further information about the natural environment at Lady Musgrave. What do you think would be the best way of providing that information?**

15b.1 brochures/pamphlets/booklets

15b.2 signs

15b.3 books on board/boat

15b.4 interpretation boards in the camping area/at toilets

15b.5 interpretation boards on the tracks

15b.6 videos/slide shows

15b.7 photos/posters/pictures

15b.8 media/TV advertising

15b.9 talks/tour guide

15b.10 word of mouth

15b.11 improve PA system

15b.12 through travel agencies/tourist bureau/information centres

15b.13 others

15b.14 elsewhere

15b.15 irrelevant

15b.16 prompted

15b.17 missing information

**16) The Great Barrier Reef Marine Park Authority and Queensland National Parks and Wildlife Service have complementary zoning plans that determine how the Marine Parks should be used. Do you know what you can or cannot do at Lady Musgrave Reef? (if yes ask to elaborate)**

16.1 Yes

16.2 No

16.3 can't touch/disturb fauna or flora (general and other specific)

16.4 can't remove fauna or flora (general and other specific)

16.5 can't damage/destroy fauna or flora (general and other specific)

16.6 can't touch/disturb birds

16.7 can't damage/destroy birds

16.8 can't touch/disturb corals

16.9 can't remove corals

16.10 can't damage/destroy corals

16.11 can't remove shells

16.12 can fish

16.13 can't fish

16.14 no domestic animals

16.15 can't pollute/take out what you bring

16.16 no pissing in water

16.17 can camp

16.18 can't camp

16.19 camping restricted (area, permit only)

16.20 anchorage restricted

16.21 look after the place/common sense/caring for environment

16.22 others

16.23 elsewhere

16.24 irrelevant

16.25 prompted

16.26 missing information

**17) How do you feel about boats anchoring in the lagoon?**

**Notes**

1: positive evaluation includes 'a good place for anchoring'

2: negative evaluation includes 'should not be there'

17.1 no opinion

17.2 OK/doesn't bother me/not too many/fine/neutral

17.3 safe

17.4 positive evaluation - general

17.5 negative evaluation - general

17.6 too many

17.7 needs to be regulated

17.8 difficult to regulate

17.9 need moorings

17.10 don't put in moorings

17.11 concern about environmental damage - general

17.12 concern about environmental damage - anchor damage

17.13 concern about environmental damage - pollution

17.14 others

17.15 elsewhere

17.16 irrelevant

17.17 prompted

17.18 missing information

**18) Commercial and recreational fishing is allowed on most of the lagoon. How do you feel about this?**

18.1 no opinion

18.2 general - positive

18.3 general - neutral

18.4 general - negative  
 18.5 general - should be regulated

18.6 concern for environmental damage/depletion of fish stocks  
 18.7 regulation - zoning (e.g. not in lagoon)  
 18.8 regulation - catch size

18.9 don't take what you can't use/eat/don't need

18.10 commercial - positive  
 18.11 commercial - neutral  
 18.12 commercial - negative  
 18.13 commercial - should be regulated

18.14 recreational - positive  
 18.15 recreational - neutral  
 18.16 recreational - negative  
 18.17 recreational - should be regulated

18.18 others  
 18.19 elsewhere  
 18.20 irrelevant  
 18.21 prompted  
 18.22 missing information

**19) How do you feel about the size, level and type of tourist operations here?**

**Notes**

1: quantity includes number of trips, number of operations

2: quality includes size, style, character of operation, management

19.1 no opinion  
 19.2 general response - positive  
 19.3 general response - OK/neutral  
 19.4 general response - no more  
 19.5 general response - too much  
 19.6 general response - too little

19.7 quantity - positive  
 19.8 quantity - OK/neutral  
 19.9 quantity - no more  
 19.10 quantity - too much/too many trips, operations  
 19.11 quantity - too little/not enough trips, operations/OK to have more

19.12 quality - positive  
 19.13 quality - OK/neutral  
 19.14 quality - no more  
 19.15 quality - too much/too damaging/too glittery, too up market/too large  
 19.16 quality - too little/not developed enough/too down market/too small

19.17 cost - positive  
 19.18 cost - neutral  
 19.19 cost - negative

19.20 others  
 19.21 elsewhere  
 19.22 irrelevant  
 19.23 prompted  
 19.24 missing information

**20) Is there anything you noticed about the management of this place that you would like to talk about?**

**Notes**

1: quantity includes presence; refers to level or degree of management

2: quality refers to the style/character of the management; includes general statements about management

20.1 No

20.2 did not notice much

20.3 information services - positive  
 20.4 information services - neutral  
 20.5 information services - negative/lacking

20.6 facilities general - positive  
 20.7 facilities general - negative/lacking

20.8 quality of management/general - positive  
 20.9 quality of management/general - neutral  
 20.10 quality of management/general - negative

20.11 quantity of management - positive  
 20.12 quantity of management - neutral  
 20.13 quantity of management - too restrictive  
 20.14 quantity of management - too lenient/not enough presence

20.15 others  
 20.16 elsewhere  
 20.17 irrelevant  
 20.18 prompted  
 20.19 missing information

**21) Have you any thoughts about how the National Parks Service and the Marine Park Authority should manage this place in the future?**

21.1 to the best of their ability/take time to make decisions/carefully

21.2 keep going as done so far

21.3 leave it as it is  
 21.4 as natural as possible

21.5 could provide more information/interpretation

21.6 more personnel presence

21.7 set an example for conservation

21.8 monitor for environmental decay/research - general

- 21.9 prevent pollution
- 21.10 prevent damage to fauna and flora/protect general and specific
- 21.11 restrict general
- 21.12 restrict people numbers
- 21.13 restrict activities
- 21.14 restrict development (facilities, commercialism)
- 21.15 no camping
- 21.22 more camping
- 21.22a less camping/restrict camping/separate camping areas, small areas
- 21.16 no fishing/restrict fishing
- 21.17 lenient general
- 21.18 lenient people numbers
- 21.19 lenient activities
- 21.20 lenient development (includes more facilities and commercialism)
- 21.21 extend trips overnight
- 21.23 create zones for different levels of use
- 21.24 balance between conservation and development/tourism
- 21.25 others
- 21.26 elsewhere
- 21.27 irrelevant
- 21.28 prompted
- 21.29 missing information

**22) All things considered what was the meaning of the visit to you personally? (if explanation is required say this: How important was this experience to you and in what ways?)**  
Taxonomy fuzzy coding

**23) Why did you decide to come to Lady Musgrave?**  
Taxonomy fuzzy coding

**24) What were you hoping to get out of this trip?**  
Taxonomy fuzzy coding

**25) Do you have any comments about this study and how do you feel about being interviewed on this trip?**

**Note:** if respondents speak of hoping the study will make a positive contribution code: 25.10-3; 25.12-3

- 25.1 good/very good idea/necessary
- 25.2 suspicion about the purpose of the study
- 25.3 personal feeling about being interviewed - positive

- 25.4 personal feeling about being interviewed - neutral
- 25.5 personal feeling about being interviewed - negative

25.6 seeking visitors' opinions - positive

25.7 good to see a high management profile

25.8 thank you for allowing me to participate

25.9 want to help you do the right thing (hope I was helpful)

25.10 study positive contribution to management/decision making/environment

25.11 study positive contribution to users

25.12 concern about effectiveness/usefulness of this study

25.13 quality of interview and study - positive

25.14 quality of interview and study - neutral

25.15 quality of interview and study - negative

25.16 others

25.17 elsewhere

25.18 irrelevant

25.19 prompted

25.20 missing information

## **26) Anything else?**

26.1 prevent environmental pollution/damage/protect environment

26.2 others

26.3 elsewhere

26.4 irrelevant

26.5 prompted

26.6 missing information

## **Interview Context**

C1: Code ('very well') 7,6,5,4,3,2,1 ('not very well')

C2

C3

C4: (Code left to right 7,6,5,4,3,2,1 as above)

C5

C6

C7A

C7B

*That's it—you can start again on the next one now.*

## APPENDIX 5. CONTENT ANALYSIS OF INTERVIEWS: INSTRUCTIONS FOR CODERS

You have been presented with a number of categories and the definition of some which could be more ambiguous. Your next task is to consider each of a number of responses with respect to their placement within a category or categories. When doing this try to put yourself in the shoes of the person being interviewed, that is, imagine that you are the person visiting and experiencing Lady Musgrave Island and Reef. You should focus your attention on what is (are) the salient aspect(s) of the experience for the person answering the interview questions. For example, is it on the physical environment (the place is very beautiful)? Or is it on the social environment (there were a lot of people on the trip)? Or is it on some managerial/organisational factors (I thought the toilets were good).

The 6 reasonably broad categories which you will be focusing your attention during this first step are:

SELF

ACTIVITIES (characteristics and types)

SOCIAL ENVIRONMENT

PHYSICAL ENVIRONMENT (nature factors, natural conditions, interpretative, environment–human interactions)

MANAGERIAL/ORGANISATIONAL FACTORS

TRIP/EXPERIENCE OVERALL

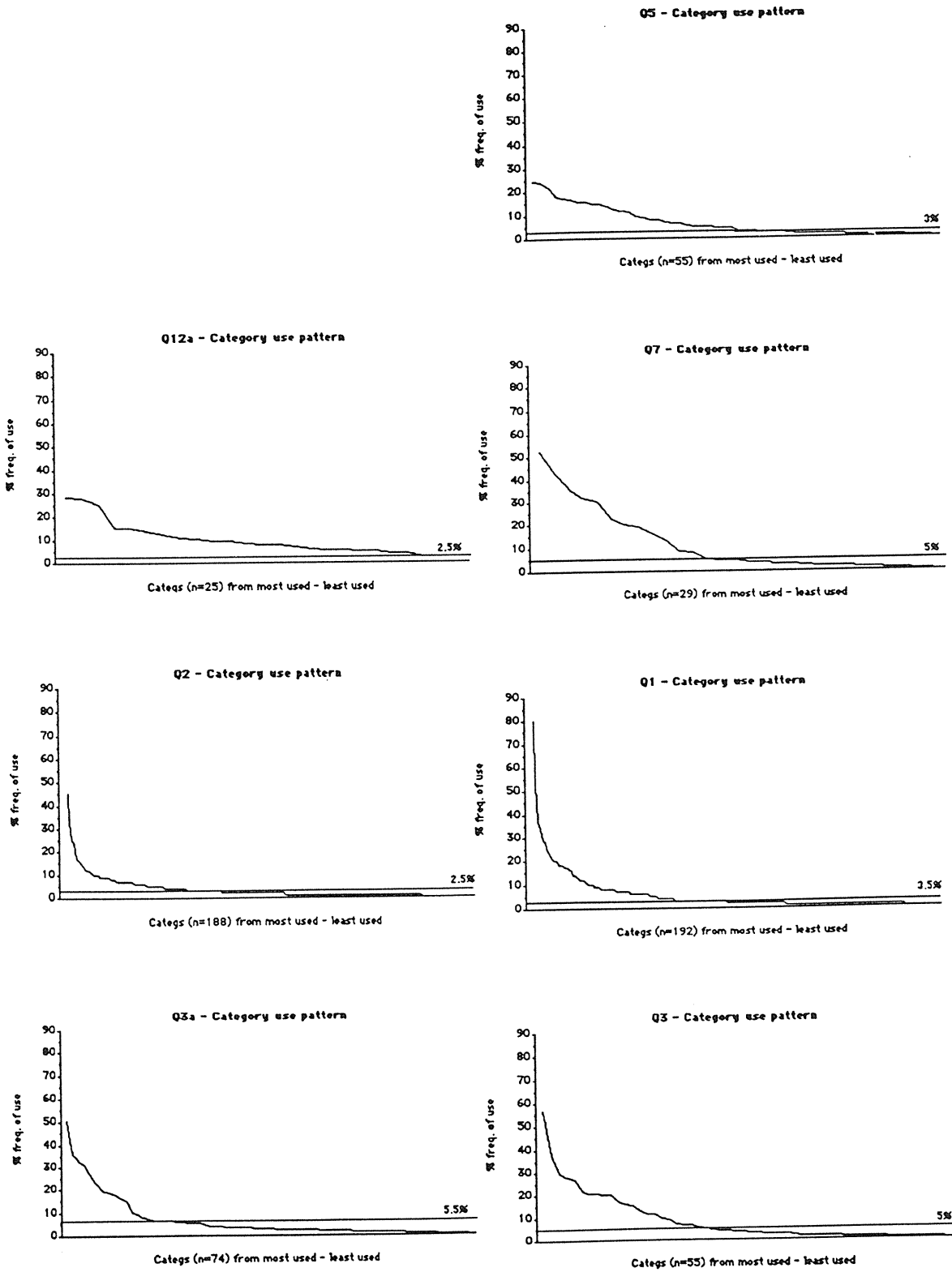
Remember that sometimes there might be more than one aspect of one's experience which is salient in the context of the answers to interview questions you are considering. After you have a broad idea about where the focus (or foci) of attention is (are), choose the categories which are relevant to represent the content of that response.

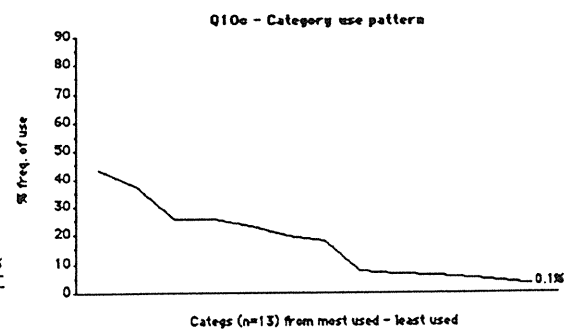
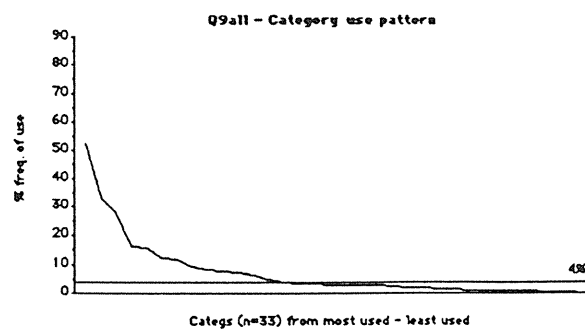
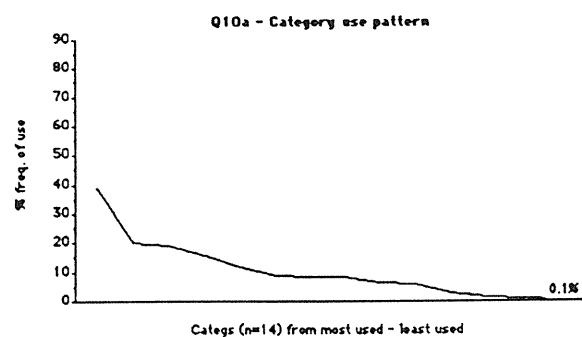
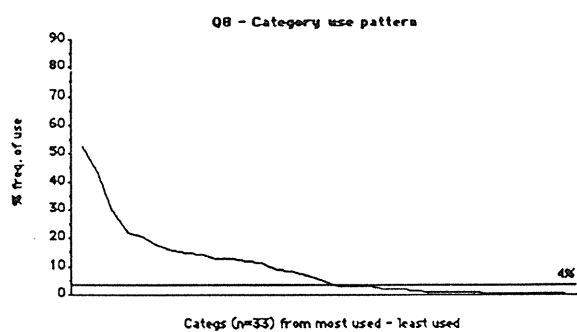
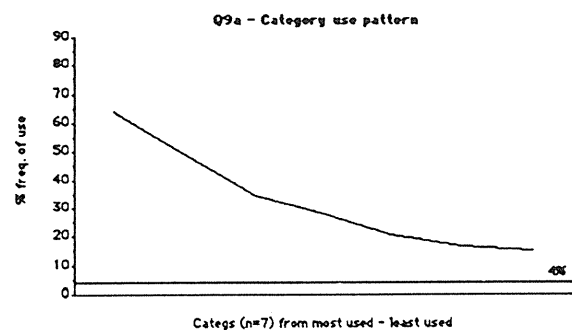
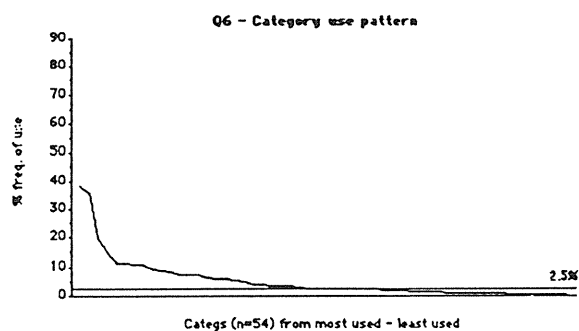
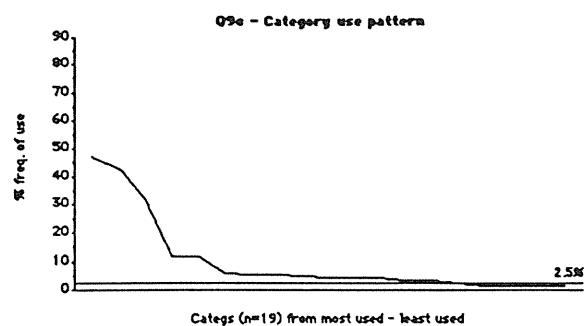
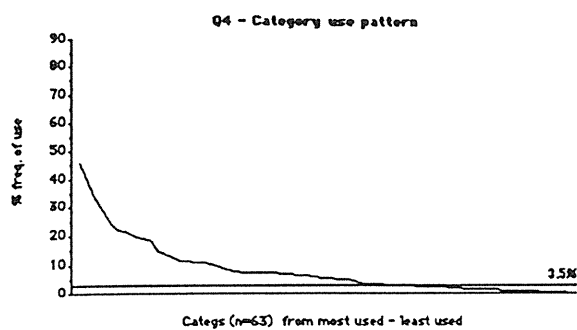
It is **very important** to note that coding of a response into a (or a number of) category(s) should only occur when there is an explicit presence of a theme (captured by a category) in a response. Coding should not occur when the theme can be inferred from the response (i.e. may be implicit). For instance, an interviewee may note how fantastic it is that the place looks very natural. This would require a coding for physical environment—nature factors. However, such a statement may also imply that s/he would not like to see any further facilities in the place. This implied message, which would be an inference by the coder, should not be coded (unless it is explicitly stated by the interviewee).

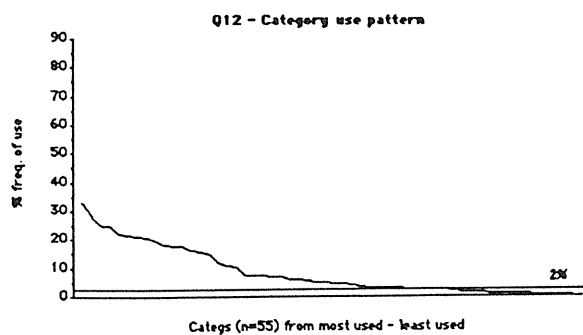
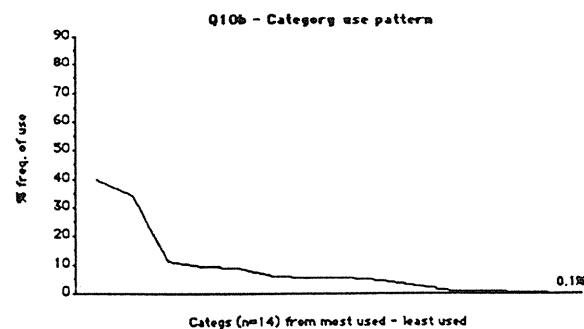
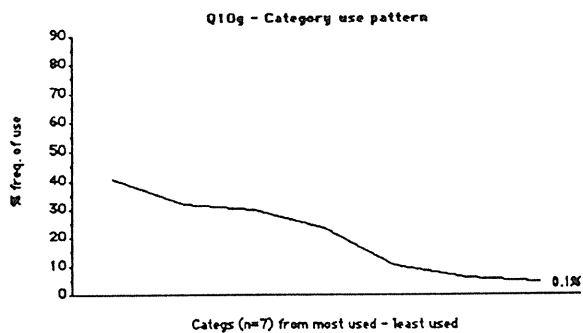
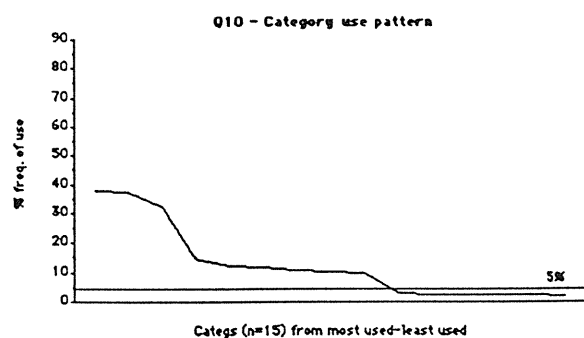
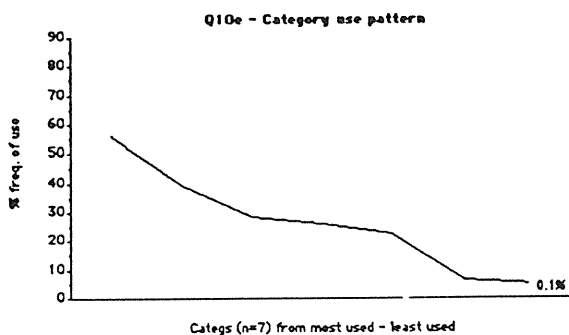
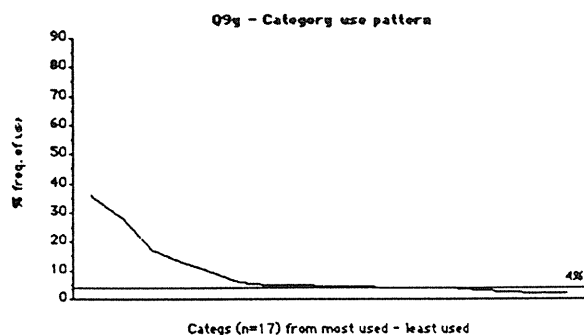
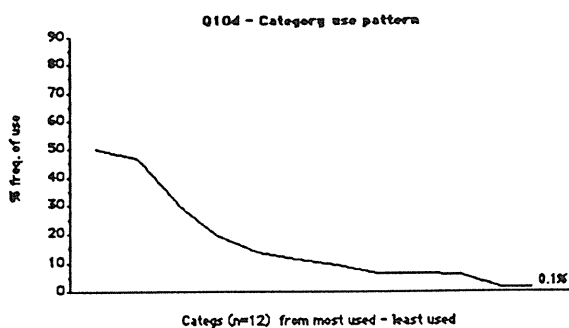
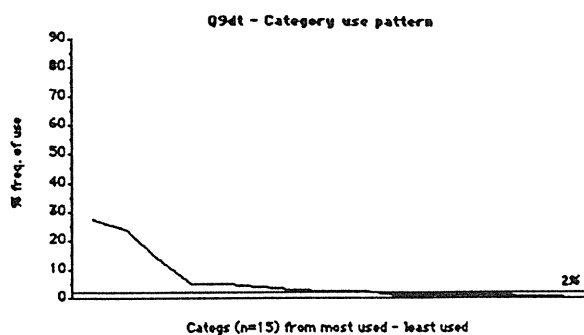


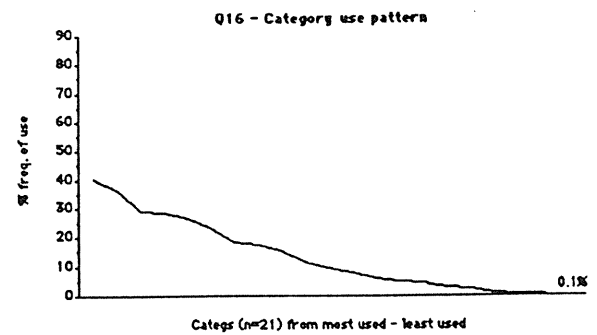
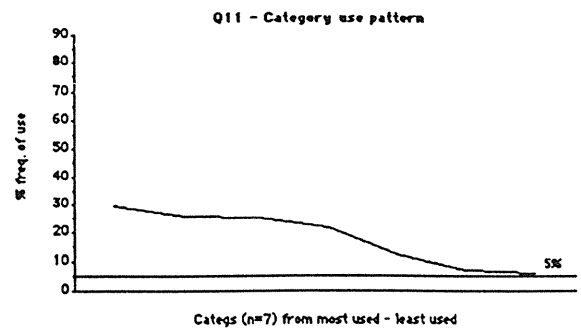
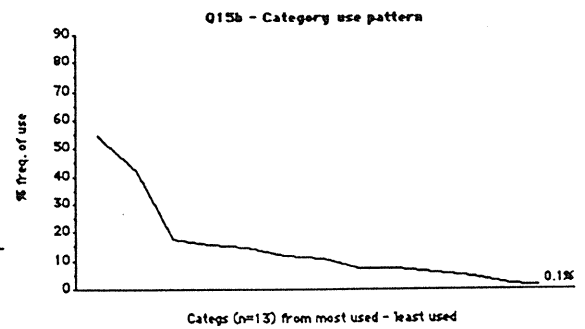
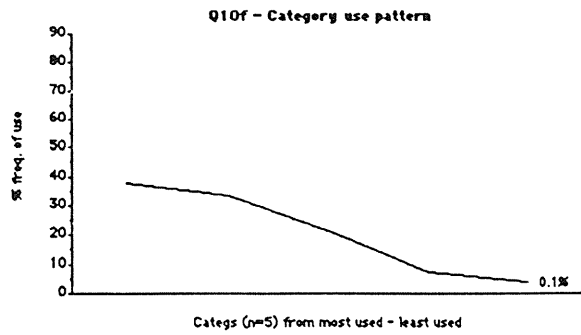
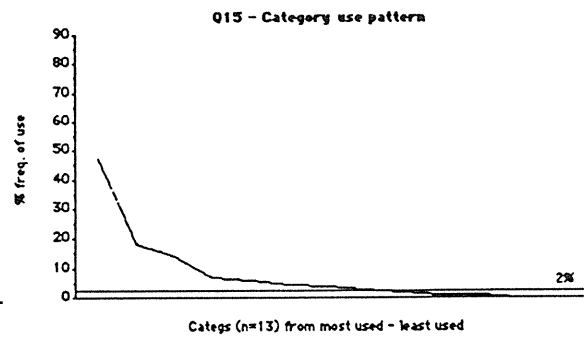
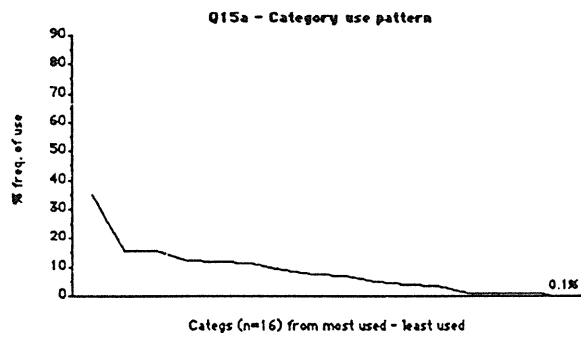
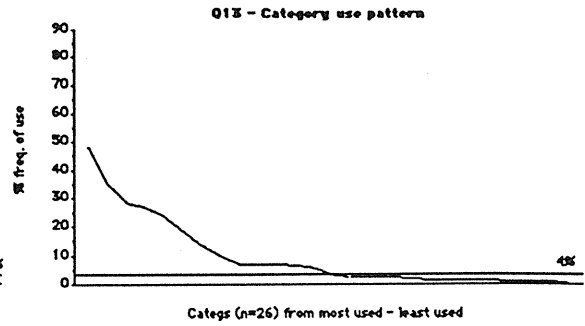
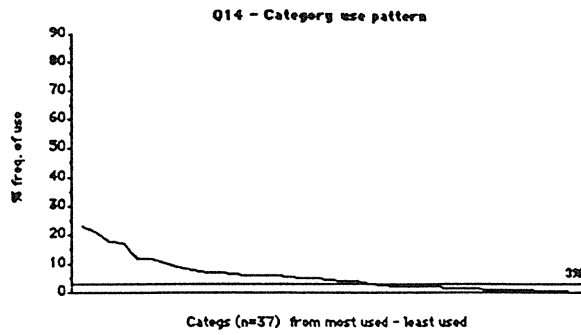
APPENDIX 6. 'SCREE' PLOTS OF CATEGORY RELEVANCE TO CONTENT

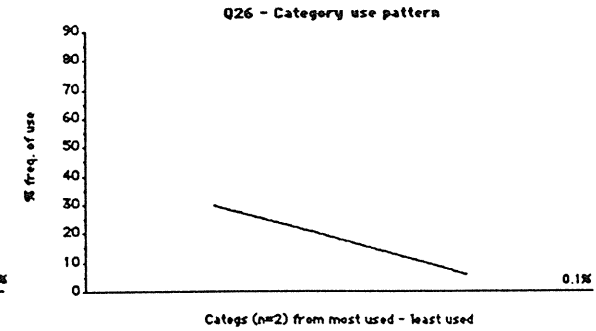
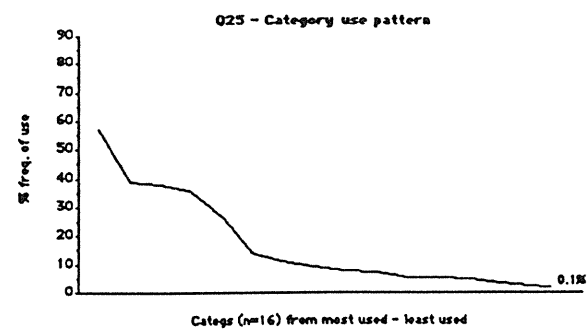
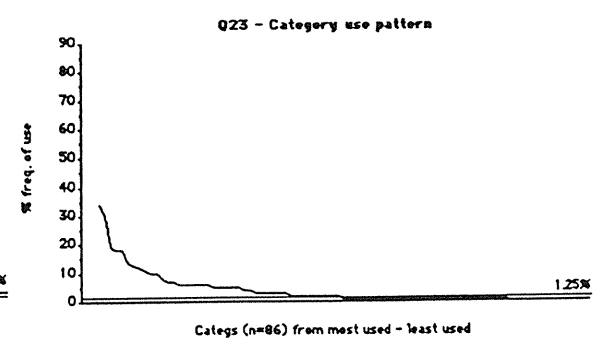
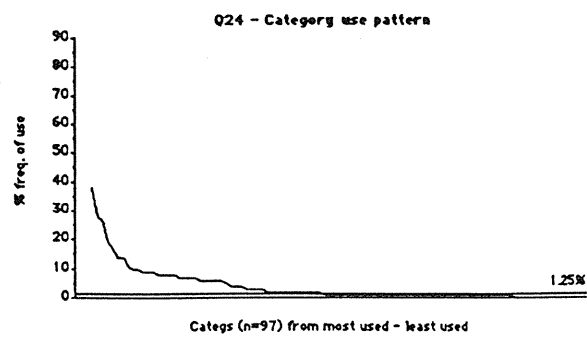
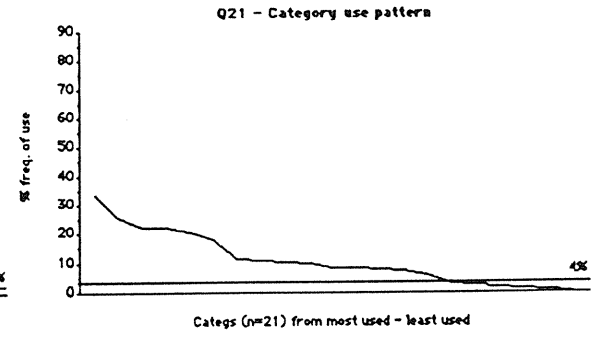
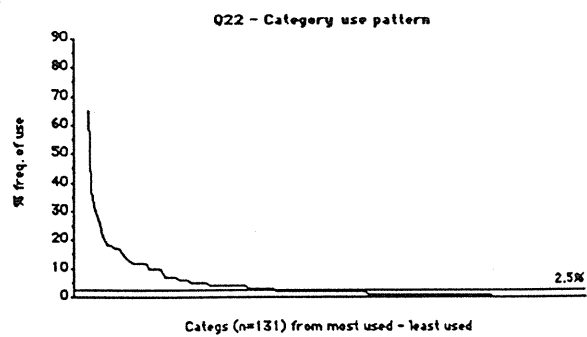
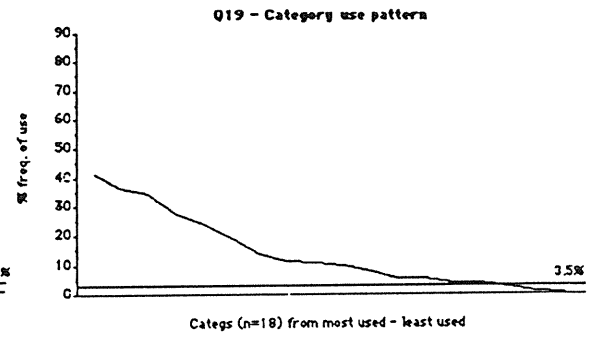
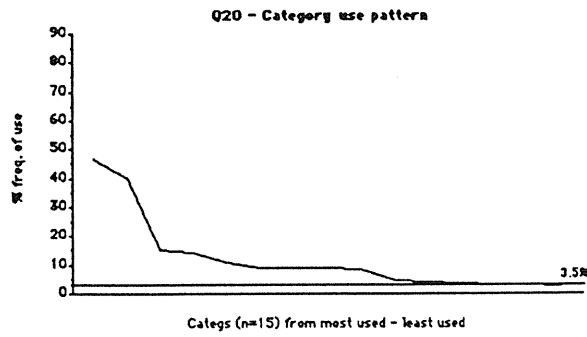
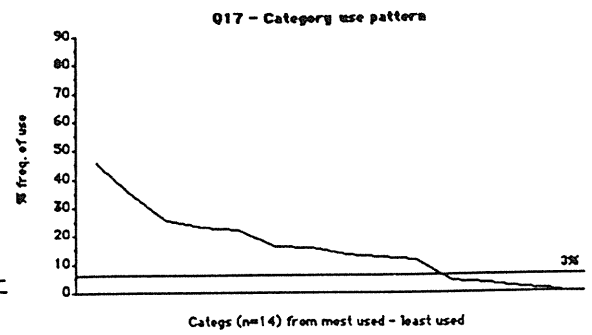
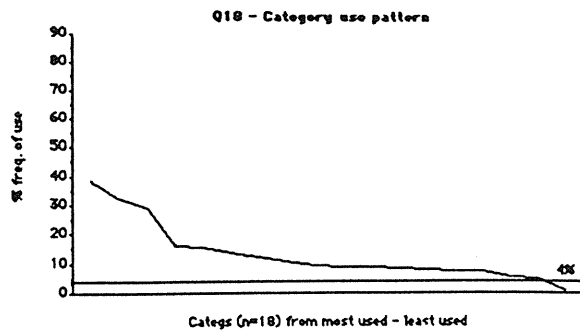
Scree graphs for all interview questions











## APPENDIX 7. BEHAVIOURAL OBSERVATION RECORDING SHEET

### Great Barrier Reef Recreation Experience Research—Lady Musgrave Island

#### SITE BEHAVIOURAL OBSERVATION

L.M. Cruises

Date:

Weather conditions:      Windy (20–25 knots) sunny      \_\_\_\_\_  
                                 Windy (20–25 knots) overcast      \_\_\_\_\_  
                                 Mod. winds (15–20 knots) sunny      \_\_\_\_\_  
                                 Mod. winds (15–20 knots) overcast      \_\_\_\_\_  
                                 Light winds (< 15 knots) sunny      \_\_\_\_\_  
                                 Light winds (< 15 knots) overcast      \_\_\_\_\_  
                                 Was it raining?      Yes \_\_\_\_ No \_\_\_\_

**Please record the following at the specified times:**

11.40

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

12.00

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

12.20

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

Great Barrier Reef Recreation Experience Research—Lady Musgrave Island

SITE BEHAVIOURAL OBSERVATION

L.M. Cruises

Date:

Weather conditions:      Windy (20–25 knots) sunny \_\_\_\_\_  
Windy (20–25 knots) overcast \_\_\_\_\_  
Mod. winds (15–20 knots) sunny \_\_\_\_\_  
Mod. winds (15–20 knots) overcast \_\_\_\_\_  
Light winds (< 15 knots) sunny \_\_\_\_\_  
Light winds (< 15 knots) overcast \_\_\_\_\_  
Was it raining?                      Yes \_\_\_\_ No \_\_\_\_

**Please record the following at the specified times:**

12.40

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

13.00

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

13.20

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

Great Barrier Reef Recreation Experience Research—Lady Musgrave Island

SITE BEHAVIOURAL OBSERVATION

L.M. Cruises

Date:

Weather conditions:      Windy (20–25 knots) sunny      \_\_\_\_\_  
                                 Windy (20–25 knots) overcast      \_\_\_\_\_  
                                 Mod. winds (15–20 knots) sunny      \_\_\_\_\_  
                                 Mod. winds (15–20 knots) overcast      \_\_\_\_\_  
                                 Light winds (< 15 knots) sunny      \_\_\_\_\_  
                                 Light winds (< 15 knots) overcast      \_\_\_\_\_  
                                 Was it raining?      Yes \_\_\_\_\_ No \_\_\_\_\_

**Please record the following at the specified times:**

13.40

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

14.00

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:

14.20

Percentage of people in the water:  
Percentage of people in the GBB:  
Percentage of people in the observatory:  
Percentage of people on the pontoon:  
Percentage of people inside the vessel:  
Percentage of people on the vessel outside:  
Percentage of people on the island:



## APPENDIX 8. TAXONOMY OF RECREATION/TOURISM MARINE PARK EXPERIENCES AND MANAGEMENT ISSUES FOR FUTURE STUDIES

### Categories for coding

#### Taxonomy of a reef/tourism experience and Marine Park recreation management issues

##### Self/Experience

###### Notes

1: any response to question 1 or 2 that does not shift from the topic of experience can be coded in here as an aspect of experience even if it is not explicitly stated in the form 'it was this or that experience for me' because the question originally asked about experience  
 2: relaxing, tranquil, peaceful—do not code under emotion  
 3: emotion—positive includes enjoyment, good, wonderful, fun  
 4: challenge includes both mental and physical  
 5: mind—clear includes not thinking about anything  
 6: mind—stimulating includes interesting, fascinating, cognitive evaluations  
 7: anticipation—positive includes looking forward to it, negative includes fear, includes curiosity  
 8: unique experience includes different, memorable, unforgettable, one of a kind  
 9: escape includes being away from it all, seclusion  
 10: sense of control includes being able to do what you want to do  
 11: recollection refers to any mention of wanting to remember the experience, wanting to have something to trigger this  
 12: always wanted to do something and now have done it, code as T24-3 and T29-3

T1 self-awareness  
 T2 lack of control  
 T3 sense of control

T4 effort/initiative  
 T5 challenge/adventure

T6 emotion - positive  
 T7 emotion - negative  
 T8 emotion - high arousal  
 T9 emotion - low arousal

T10 relaxed/tranquil/peaceful  
 T11 physical state - positive  
 T12 physical state - negative

T13 luck/fortunate/opportunity/chance  
 T14 escape/another world/contrast

T15 new experience  
 T16 unique experience/different

T17 fantasy/magical/religious  
 T18 symbolism

T19 mind - clear  
 T20 mind - stimulating/thinking  
 T21 learning  
 T22 lack of knowledge/previous lack of knowledge  
 T23 recollection/telling others at home/memories  
 T24 anticipation - positive/wanted to/hoped to  
 T25 anticipation - negative  
 T26 anticipation  
 T27 expectation - exceeded  
 T28 expectation - failed  
 T29 expectation - matched

##### Type of activities

###### Notes

1: relaxing includes sleeping  
 2: walking tracks includes forest  
 3: contemplating nature includes observing and watching if done purposefully  
 4: scuba diving—certified includes related activities e.g. filling tanks

T30 general activities - positive  
 T31 general activities  
 T32 general activities - negative

T33 snorkelling - positive  
 T34 snorkelling  
 T35 snorkelling - negative

T36 swimming - positive  
 T37 swimming  
 T38 swimming - negative

T39 scuba diving - introduction - positive  
 T40 scuba diving - introduction  
 T41 scuba diving - introduction - negative

T42 scuba diving - certified - positive  
 T43 scuba diving - certified  
 T44 scuba diving - certified - negative

T45 viewing from glassy - positive  
 T46 viewing from glassy  
 T47 viewing from glassy - negative

T48 observatory - positive  
 T49 observatory  
 T50 observatory - negative

T51 contemplating nature - positive  
 T52 contemplating nature  
 T53 contemplating nature - negative

T54 bird-watching - positive  
 T55 bird-watching  
 T56 bird-watching - negative  
  
 T57 fish feeding - positive  
 T58 fish feeding  
 T59 fish feeding - negative  
  
 T60 turtle viewing - positive  
 T61 turtle viewing  
 T62 turtle viewing - negative  
  
 T63 teaching/showing about nature - positive  
 T64 teaching/showing about nature  
 T65 teaching/showing about nature - negative  
  
 T66 photography/video - positive  
 T67 photography/video  
 T68 photography/video - negative  
  
 T69 fishing - positive  
 T70 fishing  
 T71 fishing - negative  
  
 T72 relaxing/sleeping/sitting on beach - positive  
 T73 relaxing/sleeping/sitting on beach  
 T74 relaxing/sleeping/sitting on beach - negative  
  
 T75 sunbathing/sitting in sun - positive  
 T76 sunbathing/sitting in sun  
 T77 sunbathing/sitting in sun - negative  
  
 T78 eating/drinking - positive  
 T79 eating/drinking  
 T80 eating/drinking - negative  
  
 T81 walking - general - positive  
 T82 walking - general  
 T83 walking - general - negative  
  
 T84 walking - reef - positive  
 T85 walking - reef  
 T86 walking - reef - negative  
  
 T87 walking - track/through island - positive  
 T88 walking - track/through island  
 T89 walking - track/through island - negative  
  
 T90 walking - beach - positive  
 T91 walking - beach  
 T92 walking - beach - negative  
  
 T93 walking - around island - positive  
 T94 walking - around island  
 T95 walking - around island - negative  
  
 T96 boating/on boat/anchoring - positive  
 T97 boating/on boat/anchoring  
 T98 boating/on boat/anchoring - negative  
  
 T99 main vessel ride - positive  
 T100 main vessel ride

T101 main vessel ride - negative

## Social Environment

### Notes

1: friendly includes polite  
 2: non-sociable includes keep to themselves  
 3: alone includes feeling separate from the group  
 4: others not feeling well includes others not enjoying themselves  
 5: activity by other people includes noise by other people  
 6: other people's enjoyment includes enjoyment of other people enjoying themselves  
 7: appreciate/respect includes concern for  
 8: belongingness—general and other includes general statements about feeling part of a group and specific examples not listed  
 9: family togetherness includes presence of a family, the experience caters for the whole family etc.  
 10: diverse/interesting people includes references to other nationalities

T102 friendly/nice/polite/general positive - other visitors

T103 friendly/nice/polite/general positive - staff

T104 unfriendly - other visitors

T105 unfriendly - staff

T106 sociable - other visitors

T107 sociable - staff

T108 non-sociable - other visitors

T109 non-sociable - staff

T110 drop pretences/barriers/casual/informal

T111 supportive, dependable, helpful - other visitors

T112 supportive, dependable, helpful - staff

T113 alone

T114 belongingness

T115 family togetherness

T116 spending time with friends

T117 others here for same purpose

T118 diverse/interesting/new/strange people/other nationalities

T119 they seem to respect/appreciate the place - other visitors

T119a they seem to respect the place - staff

T120 behaving inappropriately - visitors

T120a behaving inappropriately - staff

T121 others not feeling well/not enjoying themselves

T122 other people's enjoyment/enjoying people

T123 get involved in the activity/others' activities

T124 numbers of people - crowded/many

T125 numbers of people - not crowded/few

T126 numbers of people on island - crowded/many  
T127 numbers of people on island - not crowded/few

T128 numbers of people on the boat and pontoon - crowded/many  
T129 numbers of people on the boat and pontoon - not crowded/few

T130 numbers of people camping - crowded/many  
T131 numbers of people camping - not crowded/few

T132 group size of campers - small/too small  
T133 group size of campers - large/too large

T134 activity by other people - disturbing  
T135 activity by other people - not disturbing

T136 use of motors - disturbing  
T137 use of motors - not disturbing  
T138 use of motors - should not be allowed

T139 spatial use by other people - too close  
T140 spatial use by other people - not too close

#### **Physical Environment—nature factors**

##### **Notes**

- 1: includes white beaches, coral beaches
- 2: ocean/GBR, general reef community and general island community include references of aesthetics
- 3: general reef community and general island community include references to the systems as a whole
- 4: general evaluation only for when there is no specific mention of a physical environment and includes aesthetic mentions and mentions of place
- 5: natural includes untouched, unspoiled, clean
- 6: coral cay = coral + island + other
- 7: coral atoll = coral + island + lagoon + other
- 8: marine life details—other includes sharks, also code sharks as other
- 9: beaches/sand is not underwater sand
- 10: lagoon safety/anchorage includes shelter and safe anchorage with no mention of lagoon

T141 environment evaluation - positive  
T142 environment evaluation  
T143 environment evaluation - negative

T144 physical isolation  
T145 quietness/peace

T146 naturalness  
T147 naturalness - reef  
T148 naturalness - island

T149 ocean/GBR/water/tides/depth - positive  
T150 ocean/GBR/water/tides/depth  
T151 ocean/GBR/water/tides/depth - negative

T152 reef community - positive

T153 reef community  
T154 reef community - negative

T155 island community - positive  
T156 island community  
T157 island community - negative

T158 fish - positive  
T159 fish  
T160 fish - negative

T161 corals - positive  
T162 corals  
T163 corals - negative

T164 other marine life - positive  
T165 other marine life  
T166 other marine life - negative

T167 other island life - positive  
T168 other island life  
T169 other island life - negative

T170 birds - positive  
T171 birds  
T172 birds - negative

T173 turtles- positive  
T174 turtles  
T175 turtles - negative

T176 shells - positive  
T177 shells  
T178 shells - negative

T179 trees - positive  
T180 trees  
T181 trees - negative

T182 colour of the reef - positive  
T183 colour of the reef  
T184 colour of the reef - negative

T185 colour of the water - positive  
T186 colour of the water  
T187 colour of the water - negative

T188 clarity of the water - positive  
T189 clarity of the water - negative

T190 beaches/sand - positive  
T191 beaches/sand  
T192 beaches/sand - negative

T193 lagoon - positive  
T194 lagoon  
T195 lagoon - negative  
T196 lagoon safety/anchorage - positive  
T197 lagoon safety/anchorage - negative

#### **Physical Environment—natural conditions**

T198 weather conditions - positive

T199 weather conditions - negative

T200 sea conditions - calm

T201 sea conditions - rough

T202 temperature - hot

T203 temperature - cold

### **Physical Environment—interpretative**

**Note:** interpretative refers to attempts to understand, interpret and/or predict the environment, 'finding out about things', learning, often involves interaction with the environment (interface between environment and knowledge)

T204 ocean/GBR/tides

T205 reef environment/lagoon

T206 island environment/general references

T207 fish

T208 corals

T209 other marine life

T210 birds

T211 turtles

T212 shells

T213 trees

T214 other island details

### **Environment–human interactions**

**Note:** environment–human interactions refers to specific mentions of physical environment and self/people in the same unit of analysis

T215 human impact - concern for

T216 human impact - positive

T217 human impact

T218 human impact - negative

T219 human impact terrestrial - concern for

T220 human impact terrestrial - positive

T221 human impact terrestrial

T222 human impact terrestrial - negative

T223 human impact marine - concern for

T224 human impact marine - positive

T225 human impact marine

T226 human impact marine - negative

T227 impact of environment on people - concern for

T228 impact of environment on people - positive

T229 impact of environment on people

T230 impact of environment on people - negative

T231 engagement with nature/interacting with nature/sensory involvement/appreciating nature/first hand experience

T232 intimate encounters with nature/or part of nature

### **Managerial/organisational factors**

#### **Notes**

1: information services includes interpretation

2: development includes **general** references to commercialism, facilities and lack of all these things (it is a 4 or 0 rating; i.e. only a flagging function)

3: management (general and other) includes camping area/facilities

T233 development

T234 management - positive

T235 management

T236 management - negative

T237 information services - positive

T238 information services

T239 information services - negative

T240 information services island - positive

T241 information services island

T242 information services island - negative

T243 information services on boat/on GBB - positive

T244 information services on boat/on GBB

T245 information services on boat/on GBB - negative

T246 poor quality of PA system

T247 advertising - positive

T248 advertising

T249 advertising - negative

T250 tourist/commercial/services/operation overall and other - positive

T251 tourist/commercial/services/operation overall and other

T252 tourist/commercial/services/operation overall and other - negative

T253 management - regulation/zoning - positive

T254 management - regulation/zoning

T255 management - regulation/zoning - negative

T256 presence of management personal - positive

T257 presence of management personal

T258 presence of management personal - negative

T259 private boats - positive

T260 private boats

T261 private boats - negative

T262 pontoons - positive

T263 pontoons

T264 pontoons - negative

T265 signs - positive

T266 signs

T267 signs - negative

T268 toilets - positive  
T269 toilets  
T270 toilets - negative

T271 fresh water

T272 commercial vessel - positive  
T273 commercial vessel  
T274 commercial vessel - negative

T275 glass-bottomed boat/GBB tour guide -  
positive  
T276 glass-bottomed boat/GBB tour guide  
T277 glass-bottomed boat/GBB tour guide -  
negative

T278 underwater observatory - positive  
T279 underwater observatory  
T280 underwater observatory - negative

T281 cost - positive  
T282 cost - neutral  
T283 cost - negative

### **Trip overall**

#### **Notes**

1: evaluation—fairly specific mentions of trip, day,  
visit  
2: need more time/like more time, code as  
evaluation—positive

T284 evaluation - positive  
T285 evaluation - negative

T286 I would come back  
T287 I would come back - daytrip  
T288 I would come back - camping

T289 recommend to friends/recommended by  
friends/other people  
T290 escape/being away

T291 expectation - met  
T292 expectation - failed  
T293 expectation - exceeded

T294 convenience/access (to coast, southern  
position in GBR, en route to destination)

### **Miscellaneous**

T295 other  
T296 irrelevant  
T297 prompted  
T298 missing information

## APPENDIX 9. CATEGORIES FOR FOCUSED QUESTIONS' CODING FOR FUTURE STUDIES

### Non-fuzzy coding—preliminary demographics

1: ID Number	n
2: Day	n which is date as 020391
3: Time	n which is time as 1500
4: Interviewer	
L. Scherl	1
S. Smithson	2
C. Cook	3
S. Pretty	4
A. Hennel	5
M. Gough	6
D. Briggs	7
P. Slaughter	8
etc.	
5: Interview type	
daytripper	1
camper	2
yachts	3
6: Vessel	
L.M.C.	1
MV 1770	2
7: Weather	
Windy, sunny	1
Windy, o'cast	2
Mod. wind, sunny	3
Mod. wind, o'cast	4
Light wind, sunny	5
Light wind, o'cast	6
8: Rain	
Yes	1
No	2
9: Boat Types, Private, Power	n of type for all
10: Private yacht	1 if ticked, 0 if not
11: Commercial fish.	1,0
12: Commercial tour.	1,0
13: Unknown	1,0
14: No. tour operations	n
15: Campers boats 1pm	n
16: Campers boats late pm	n
17: Campers boats present time	n
18: Sex	
female	1
male	2
19: Age	1 to 7 as on interview sheet
20: Residence	
Australia	1
Overseas	2
21: Postcode	4-digit n
22: Where O/S	String variable
	—type in <b>country</b> of origin
23: Been L.M.I. before	
Yes	1
No	2
24: Campers duration of stay	n of days
25: Been GBR before	
Yes	1
No	2

26: No. of times GBR before	n of times
(Who are you here with)	
27: a large group	1 if ticked, 0 if not
28: family	1,0
29: just a few friends	1,0
30: alone	1,0
31: friend/spouse	1,0
32: Decision	String variable
	—type in abbrev. of answer
(following questions only for those who have been to L.M.I. before)	
33: 1st visit	n which is year
34: How many	n
35: How many last 3y	n

### 12a) Have you noticed any changes?

12a Y/N	Yes	1
	No	2

*If the respondent says yes, turn on tape here.*

Fuzzy coding starts here

### What has changed?

#### Notes

1: island includes water, beaches and anything not already specifically covered

2: management includes interpretation, management services, tracks and camping ground

3: includes signs, navigational aids, moorings and toilets

12a.1 island - positive

12a.2 island - negative

12a.3 island

12a.4 terrestrial fauna & flora - more

12a.5 terrestrial fauna & flora - less

12a.6 terrestrial fauna & flora - different

12a.7 marine fauna & flora - more

12a.8 marine fauna & flora - less

12a.9 marine fauna & flora - different

12a.10 coral - more

12a.11 coral - less

12a.12 coral - different

12a.13 fish - more

12a.14 fish - less

12a.15 fish - different

12a.16 birds - more

12a.17 birds - less

12a.18 birds - different

12a.19 shells - more

12a.20 shells - less

12a.21 shells - different

12a.22 trees/plants - more  
 12a.23 trees/plants - less  
 12a.24 trees/plants - different

12a.25 turtles - more  
 12a.26 turtles - less  
 12a.27 turtles - different

12a.28 visitors/users - more  
 12a.29 visitors/users - less  
 12a.30 visitors/users - different

12a.31 management - more  
 12a.32 management - less  
 12a.33 management - different

12a.34 tourist operations - more  
 12a.35 tourist operations - less  
 12a.36 tourist operations - different

12a.37 human impact/degradation - more  
 12a.38 human impact/degradation - less  
 12a.39 human impact/degradation - different

12a.40 built structures - more  
 12a.41 built structures - less  
 12a.42 built structures - different

12a.43 others  
 12a.44 elsewhere  
 12a.45 irrelevant  
 12a.46 prompted  
 12a.47 missing information

**1) Tell me about your visit to Lady Musgrave and what sort of experience has today been for you.** *(Let the respondent talk as much as he/she wants and if he/she stops talking ask whether she/he would like to comment on anything else.)*  
 Taxonomy fuzzy coding

**2) (daytrippers) Reflecting about the experience you have had at Lady Musgrave today what were some of the things that were going through your mind during the course of the day?**  
*(campers) Thinking about the experience you have been having at Lady Musgrave what were some of the things that were going through your mind?*  
 Taxonomy fuzzy coding

**3) (daytrippers) Could you tell me a bit about what you specifically did while you were there? What was it like?**  
*(If respondents did not mention the following activities ask them specifically: swimming, snorkelling, diving, GBB and observatory.)*  
*(campers and yachties) Could you tell me what you specifically have been doing while here? What was it like?*

## Notes

1: relaxing includes sleeping  
 2: walking tracks includes forest  
 3: contemplating nature includes observing and watching if done purposefully  
 4: snorkelling includes swimming with mask and flippers (i.e. without snorkel!)  
 5: scuba diving—if ambiguous as to whether intro. or certified then fuzzy code for both  
 6: bird-watching includes seeing birds

3.1 activities - positive  
 3.2 activities  
 3.3 activities - negative

3.4 snorkelling - positive  
 3.5 snorkelling  
 3.6 snorkelling - negative

3.7 swimming - positive  
 3.8 swimming  
 3.9 swimming - negative

3.10 scuba diving - introduction - positive  
 3.11 scuba diving - introduction  
 3.12 scuba diving - introduction - negative

3.13 scuba diving - certified - positive  
 3.14 scuba diving - certified  
 3.15 scuba diving - certified - negative

3.16 viewing from glassy - positive  
 3.17 viewing from glassy  
 3.18 viewing from glassy - negative

3.19 observatory - positive  
 3.20 observatory  
 3.21 observatory - negative

3.22 bird-watching - positive  
 3.23 bird-watching  
 3.24 bird-watching - negative

3.25 fish feeding - positive  
 3.26 fish feeding  
 3.27 fish feeding - negative

3.28 turtle viewing - positive  
 3.29 turtle viewing  
 3.30 turtle viewing - negative

3.31 contemplating nature - positive  
 3.32 contemplating nature  
 3.33 contemplating nature - negative

3.34 teaching about nature - positive  
 3.35 teaching about nature  
 3.36 teaching about nature - negative

3.37 photography/video - positive  
 3.38 photography/video

3.39 photography/video - negative

3.40 fishing - positive

3.41 fishing

3.42 fishing - negative

3.43 relaxing/sitting on beach - positive

3.44 relaxing/sitting on beach

3.45 relaxing/sitting on beach - negative

3.46 sunbathing/sitting in sun - positive

3.48 sunbathing/sitting in sun

3.47 sunbathing/sitting in sun - negative

3.49 eating/drinking - positive

3.50 eating/drinking

3.51 eating/drinking - negative

3.52 walking - positive

3.53 walking

3.54 walking - negative

3.55 walking - reef - positive

3.56 walking - reef

3.57 walking - reef - negative

3.58 walking - track/walking through - positive

3.59 walking - track/walking through

3.60 walking - track/walking through - negative

3.61 walking - beach/beachcombing - positive

3.62 walking - beach/beachcombing

3.63 walking - beach/beachcombing - negative

3.64 walking - around island - positive

3.65 walking - around island

3.66 walking - around island - negative

3.67 boating/on boat/anchoring - positive

3.68 boating/on boat/anchoring

3.69 boating/on boat/anchoring - negative

3.70 the main vessel ride - positive

3.71 the main vessel ride

3.72 the main vessel ride - negative

3.73 others

3.74 elsewhere

3.75 irrelevant

3.76 prompted

3.77 missing information

### 3a) What was it like?

#### Note

1: other includes sharks, stingrays, whales, dolphins, manta rays etc.

3a.1 further description of activities

3a.2 self-awareness

3a.3 sense of control

3a.4 lack of control

3a.5 effort

3a.6 challenge

3a.7 emotion - positive

3a.8 emotion - negative

3a.9 emotion - high arousal

3a.10 emotion - low arousal  
(boring/disappointed/anti-climax)

3a.11 relaxed/tranquil/peaceful

3a.12 physical state - positive

3a.13 physical state - negative

3a.14 fantasy/magical/religious

3a.15 symbolism

3a.16 mind - clear

3a.17 mind - stimulating

3a.18 learning

3a.19 lack of knowledge

3a.20 anticipation - positive

3a.21 anticipation - negative

3a.22 anticipation

3a.23 expectation - exceeded

3a.24 expectation - failed

3a.25 expectation - matched

3a.26 luck/fortunate/opportunity

3a.27 escape

3a.28 new experience

3a.29 unique experience

3a.30 danger experience

3a.31 physical isolation

3a.32 quietness/peace of place

3a.33 naturalness

3a.34 naturalness - reef

3a.35 naturalness - island

3a.36 environment evaluation - positive

3a.37 environment evaluation

3a.38 environment evaluation - negative

3a.39 ocean/GBR/water/tides - positive

3a.40 ocean/GBR/water/tides

3a.41 ocean/GBR/water/tides - negative

3a.42 reef community - positive

3a.43 reef community

3a.44 reef community - negative

3a.45 island community - positive

3a.46 island community

3a.47 island community - negative

3a.48 fish - positive

3a.49 fish

3a.50 fish - negative



3a.51 corals - positive  
 3a.52 corals  
 3a.53 corals - negative

3a.54 other marine life - positive  
 3a.55 other marine life  
 3a.56 other marine life - negative

3a.57 birds - positive  
 3a.58 birds  
 3a.59 birds - negative

3a.60 turtles - positive  
 3a.61 turtles  
 3a.62 turtles - negative

3a.63 shells - positive  
 3a.64 shells  
 3a.65 shells - negative

3a.66 trees/forest/plants - positive  
 3a.67 trees/forest/plants  
 3a.68 trees/forest/plants - negative

3a.69 other island details - positive  
 3a.70 other island details  
 3a.71 other island details - negative

3a.72 reef colour - positive  
 3a.73 reef colour  
 3a.74 reef colour - negative

3a.75 water colour - positive  
 3a.76 water colour  
 3a.77 water colour - negative

3a.78 water clarity - positive  
 3a.79 water clarity - negative

3a.80 beaches/sand/bays - positive  
 3a.81 beaches/sand/bays  
 3a.82 beaches/sand/bays - negative

3a.83 lagoon - positive  
 3a.84 lagoon  
 3a.85 lagoon - negative  
 3a.86 lagoon safety/anchorage - positive  
 3a.87 lagoon safety/anchorage - negative

3a.88 others  
 3a.89 elsewhere  
 3a.90 irrelevant  
 3a.91 prompted  
 3a.92 missing information

**4) How would you describe the physical environment at Lady Musgrave to a friend planning to visit it?**

#### Notes

1: managed includes cultivated, manipulated  
 2: isolation includes physical isolation, seclusion, place for getting away, escape

3: lack of facilities includes fresh water  
 4: paradise, desert island, perfect, beautiful include those specific words  
 5: recommendation—use words: 'recommend' or 'would tell friends about it'  
 6: other includes sharks, stingrays, whales, dolphins, manta rays etc.

4.1 recommendation - positive  
 4.2 recommendation - negative

4.3 environment evaluation - positive  
 4.4 environment evaluation  
 4.5 environment evaluation - negative  
 4.6 paradise  
 4.7 desert island/tropical island  
 4.8 perfect/ideal/idyllic  
 4.9 beautiful/pretty  
 4.10 unique/different/rare/special

4.11 isolation/escape  
 4.12 quiet/peaceful/tranquil/relaxing

4.13 natural/unspoiled  
 4.14 natural/unspoiled - reef  
 4.15 natural/unspoiled - island

4.16 ocean/GBR/water/tides - positive  
 4.17 ocean/GBR/water/tides  
 4.18 ocean/GBR/water/tides - negative

4.19 reef community - positive  
 4.20 reef community  
 4.21 reef community - negative

4.22 island community - positive  
 4.23 island community  
 4.24 island community - negative

4.25 fish - positive  
 4.26 fish  
 4.27 fish - negative

4.28 corals - positive  
 4.29 corals  
 4.30 corals - negative

4.31 other marine life - positive  
 4.32 other marine life  
 4.33 other marine life - negative

4.34 birds - positive  
 4.35 birds  
 4.36 birds - negative

4.37 turtles - positive  
 4.38 turtles  
 4.39 turtles - negative

4.40 shells - positive  
 4.41 shells -  
 4.42 shells - negative

4.43 trees/forest/plants - positive  
 4.44 trees/forest/plants  
 4.45 trees/forest/plants - negative  
  
 4.46 other island details - positive  
 4.47 other island details  
 4.48 other island details - negative  
  
 4.49 reef colour - positive  
 4.50 reef colour  
 4.51 reef colour - negative  
  
 4.52 water colour - positive  
 4.53 water colour  
 4.54 water colour - negative  
  
 4.55 water clarity - positive  
 4.56 water clarity - negative  
  
 4.57 beaches/sand/bays - positive  
 4.58 beaches/sand/bays  
 4.59 beaches/sand/bays - negative  
  
 4.60 lagoon - positive  
 4.61 lagoon  
 4.62 lagoon - negative  
 4.63 lagoon safety/anchorage - positive  
 4.64 lagoon safety/anchorage - negative  
  
 4.65 weather conditions - positive  
 4.66 weather conditions - negative  
 4.67 sea conditions - positive  
 4.68 sea conditions - negative  
  
 4.69 temperature - positive  
 4.70 temperature - negative  
  
 4.71 managed  
 4.72 facilities - camping  
 4.73 facilities - other  
 4.74 absence of facilities/uncommercialised  
  
 4.75 others  
 4.76 elsewhere  
 4.77 irrelevant  
 4.78 prompted  
 4.79 missing information

**5) Is there anything special about this place that you think makes it distinctive from other places?**

**Notes**

1: other includes sharks, stingrays, whales, dolphins, manta rays etc.  
 2: convenience/access to island includes close to mainland/Brisbane  
 3: convenience/access to beach/lagoon/campsite includes entrance channel through L.M. reef

5.1 No  
 5.2 don't know/nothing to compare it with  
 5.3 environment evaluation - positive

5.4 environment evaluation  
 5.5 environment evaluation - negative  
  
 5.6a recommendation - negative  
 5.6 recommendation - positive  
  
 5.7 paradise  
 5.8 desert island/tropical island  
 5.9 perfect/ideal/idyllic  
 5.10 beautiful/pretty  
 5.11 unique/different/rare/special  
  
 5.12 isolation/escape  
 5.13 quiet/peaceful/tranquil/relaxing  
  
 5.14 natural/unspoiled  
 5.15 natural/unspoiled - reef  
 5.16 natural/unspoiled - island  
  
 5.17 ocean/GBR/water/tides - positive  
 5.18 ocean/GBR/water/tides  
 5.19 ocean/GBR/water/tides - negative  
  
 5.20 reef community - positive  
 5.21 reef community  
 5.22 reef community - negative  
  
 5.23 island community - positive  
 5.24 island community  
 5.25 island community - negative  
  
 5.26 fish - positive  
 5.27 fish  
 5.28 fish - negative  
  
 5.29 corals - positive  
 5.30 corals  
 5.31 corals - negative  
  
 5.32 other marine life - positive  
 5.33 other marine life  
 5.34 other marine life - negative  
  
 5.35 birds - positive  
 5.36 birds  
 5.37 birds - negative  
  
 5.38 turtles - positive  
 5.39 turtles  
 5.40 turtles - negative  
  
 5.41 shells - positive  
 5.42 shells  
 5.43 shells - negative  
  
 5.44 trees/forest/plants - positive  
 5.45 trees/forest/plants  
 5.46 trees/forest/plants - negative  
  
 5.47 other island details - positive  
 5.48 other island details  
 5.49 other island details - negative

5.50 reef colour - positive  
 5.51 reef colour  
 5.52 reef colour - negative

5.53 water colour - positive  
 5.54 water colour  
 5.55 water colour - negative

5.56 water clarity - positive  
 5.57 water clarity - negative

5.58 beaches/sand/bays - positive  
 5.59 beaches/sand/bays  
 5.60 beaches/sand/bays - negative

5.61 lagoon - positive  
 5.62 lagoon  
 5.63 lagoon - negative  
 5.64 lagoon safety/anchorage - positive  
 5.65 lagoon safety/anchorage - negative

5.66 weather conditions - positive  
 5.67 weather conditions - negative  
 5.68 sea conditions - positive  
 5.69 sea conditions - negative

5.70 temperature - positive  
 5.71 temperature - negative

5.72 access to island  
 5.73 access to beach/lagoon/campsite

5.74 facilities - camping  
 5.75 facilities - other (includes lighthouse)  
 5.76 absence of facilities/development (positive, negative)

5.77 activities  
 5.78 social environment/mentions of people generally  
 5.79 management

5.80 others  
 5.81 elsewhere  
 5.82 irrelevant  
 5.83 prompted  
 5.84 missing information

5.84a engagement with nature/interacting with nature  
 5.84b intimate encounters with nature/being part of nature

**6) Was there anything about what you saw in the environment that increased or decreased your enjoyment of the place?**

**Note**

1: other includes sharks, stingrays, whales, dolphins, manta rays etc.

6.1 others  
 6.2 elsewhere

6.3 irrelevant  
 6.4 prompted  
 6.5 missing information

**6a) increased**

6.6 No, nothing

6.7 ocean/GBR/water/tides

6.8 reef community  
 6.9 island community  
 6.10 aesthetic/evaluation positive

6.11 fish  
 6.12 coral  
 6.13 other marine life

6.14 birds  
 6.15 turtles  
 6.16 shells  
 6.17 trees/forest/plants  
 6.18 other island details

6.19 naturalness  
 6.20 naturalness - reef  
 6.21 naturalness - island  
 6.22 reef colour  
 6.23 water colour  
 6.24 water clarity

6.25 beaches/sand/bays  
 6.26 lagoon beauty  
 6.27 lagoon safety/anchorage  
 6.28 weather conditions  
 6.29 sea conditions  
 6.30 temperature

6.31 information services  
 6.32 management presence

6.33 boats  
 6.34 pontoons  
 6.35 signs  
 6.36 toilets  
 6.37 underwater observatory

6.38 unpolluted  
 6.39 everything/whole experience  
 6.40 impact of physical/natural environment on individual/self

**6b) decreased**

6.41 No, nothing

6.42 noise pollution  
 6.43 visual pollution - marine  
 6.44 visual pollution - terrestrial

6.45 information services  
 6.46 management presence

6.47 boats

- 6.48 aircraft
- 6.49 pontoons
- 6.50 signs
- 6.51 toilets
- 6.52 main vessel
- 6.53 underwater observatory
- 6.54 disturbance from other commercial operators
- 6.55 damage to marine environment
- 6.56 damage to terrestrial environment
- 6.57 lack of knowledge
- 6.58 dead birds
- 6.59 impact of physical/natural environment on individual/self
- 6.60 poor tracks
- 6.61 weather conditions
- 6.62 sea conditions
- 6.63 temperature
- 6.64 access

**7) How important are natural environments to you during your leisure time? Tell me why?**

- 7.1 natural environments - not important
- 7.2 natural environments - not very important/not particularly
- 7.3 natural environments - important/fairly/quite
- 7.4 natural environments - very important/most
- 7.5 visit a lot
- 7.6 sometimes visit
- 7.7 very rarely visit
- 7.8 haven't thought/not an issue
- 7.9 others
- 7.10 elsewhere
- 7.11 irrelevant
- 7.12 prompted
- 7.13 missing information

**Why?**

**Note**

1: naturalness—don't use just for use of the word 'natural'

- 7.14 beauty
- 7.15 evaluation - positive
- 7.16 naturalness (pristine, lack of human impact, unpolluted)
- 7.17 quietness/peacefulness/tranquillity/relaxed (self/environment)

- 7.18 escape/seclusion/isolation
- 7.19 the activities one can do (contemplating nature included e.g. watching animals)
- 7.20 as an education resource/learning
- 7.21 self-awareness
- 7.22 self-reliance
- 7.23 provide challenge (physical/mental)
- 7.24 physical state positive (healthier/exercised)
- 7.25 mind - stimulated
- 7.26 mind - clear
- 7.27 emotion - positive
- 7.28 emotion - high arousal
- 7.29 emotion - low arousal
- 7.30 a place for sharing experiences/emotions
- 7.31 just being in it/get outdoors
- 7.32 to know they exist
- 7.33 engagement with nature/interacting with nature
- 7.34 intimate encounters with nature/being part of nature
- 7.35 concern for environment/conservation/management/participation in env. groups/projects
- 7.36 others
- 7.37 elsewhere
- 7.38 irrelevant
- 7.39 prompted
- 7.40 missing information

**8) How would you describe the people and their behaviour that you met at Lady Musgrave to a friend planning to visit it?**

**Notes**

- 1: belongingness—other includes statements about feeling part of a group and specific examples of this not included elsewhere
- 2: staff includes L.M. staff, QNPWS and GBRMPA staff
- 3: diverse/interesting people includes mention of people of other nationalities/positive and negative references to 'other' groups: out-groups
- 4: sociable includes any mention of social interaction, meeting etc.
- 5: non-sociable includes any mention of not interacting

- 8.1 friendly/nice/polite - other visitors
- 8.2 friendly/nice/polite - staff
- 8.3 unfriendly - other visitors
- 8.4 unfriendly - staff
- 8.4a boat staff - other (any comment other than friendly, sociable etc.)

8.5 sociable - other visitors  
 8.6 sociable - staff  
 8.7 non-sociable - other visitors  
 8.8 non-sociable - staff  
  
 8.9 drop pretences  
  
 8.10 supportive, dependable, helpful - other visitors  
 8.11 supportive, dependable, helpful - staff  
  
 8.12 alone  
 8.13 belongingness - other  
 8.14 family togetherness  
 8.15 spending time with friends  
  
 8.16 others here for same purpose  
 8.17 diverse/interesting people  
  
 8.18 They seem to respect/appreciate the place (includes flora and fauna) - other visitors  
 8.18a They seem to respect/appreciate the place (includes flora and fauna) - staff  
  
 8.19 They seem to appreciate/respect the marine life - other visitors  
 8.19a They seem to appreciate/respect the marine life - staff  
  
 8.20 They seem to appreciate the terrestrial fauna and flora - other visitors  
 8.20a They seem to appreciate the terrestrial fauna and flora - staff  
  
 8.21 behaving inappropriately - other visitors  
 8.21a behaving inappropriately - staff  
  
 8.22 others not feeling well/not enjoying themselves  
  
 8.23 other people's enjoyment/happy/good humoured/relaxed/interested/curious  
 8.24 get involved in the activity/doing own thing/busy  
  
 8.25 numbers of people - crowded/many  
 8.26 numbers of people - not crowded/few  
  
 8.27 numbers of people on island - crowded/many  
 8.28 numbers of people on island - not crowded/few  
  
 8.29 numbers of people on the boat and pontoon - crowded  
 8.30 numbers of people on the boat and pontoon - not crowded  
  
 8.31 numbers of people camping - crowded/many  
 8.32 numbers of people camping - not crowded/few

8.33 group size of campers - small  
 8.34 group size of campers - large  
  
 8.35 activity by other people - disturbing/negative impact  
 8.36 activity by other people - not disturbing/postive impact/respectful of others/compatible  
  
 8.37 use of motors - disturbing  
 8.38 use of motors - not disturbing  
 8.39 use of motors - should not be allowed  
  
 8.40 spatial use by other people - too close  
 8.41 spatial use by other people - not too close  
  
 8.42 others  
 8.43 elsewhere  
 8.44 irrelevant  
 8.45 prompted  
 8.46 missing information

**9) Was there anything about these people and their behaviour that increased or decreased your enjoyment of the place? (enhanced or detracted from your experience?)**

9.1 others  
 9.2 elsewhere  
 9.3 irrelevant  
 9.4 prompted  
 9.5 missing information

**9a) increased**

9.6 No  
  
 9.7 friendly/nice/polite - other visitors  
 9.8 friendly/nice/polite - staff  
 9.9 sociable - other visitors  
 9.10 sociable - staff  
  
 9.11 drop pretences  
  
 9.12 supportive, dependable, helpful - other visitors  
 9.13 supportive, dependable, helpful - staff  
  
 9.14 alone  
 9.15 family togetherness  
 9.16 spending time with friends  
 9.17 belongingness  
  
 9.18 others here for same purpose  
  
 9.19 diverse/interesting people  
  
 9.20 they seem to respect/appreciate the place - other visitors  
 9.20a they seem to respect/appreciate the place - staff  
  
 9.21 other people's enjoyment/happy/good humoured/interested/curious

9.22 get involved in the activity/doing own thing/busy

9.23 numbers of people

9.24 numbers of people on island

9.25 numbers of people on the boat and pontoon

9.26 numbers of people camping

9.27 group size of campers

9.28 activity by other people - not disturbing/positive impact/amusing

9.29 use of motors - not disturbing

9.30 spatial use by other people - not too close/all in one place

9.31 companionship

9.32 meeting new people

9.33 exchange of information/stories

9.34 feel safe

9.35 seeing people experiencing the GBR for the first time

9.36 everyone compatible

**9b) decreased**

9.37 No

9.38 noise

9.39 lack of privacy

9.40 litter

9.41 impact on natural environment

9.42 unfriendly - other visitors

9.43 unfriendly - staff

9.44 non-sociable - other visitors

9.45 non-sociable - staff

9.46 alone

9.47 behaving inappropriately - other visitors

9.47a behaving inappropriately - staff

9.48 others not feeling well/not enjoying themselves/injuring themselves

9.49 numbers of people

9.50 numbers of people on island

9.51 numbers of people on the boat and pontoon

9.52 numbers of people camping

9.53 group size of campers

9.54 activity by other people - disturbing/negative impact/worry re daytrippers in camp

9.55 use of motors - disturbing

9.56 use of motors - should not be allowed

9.57 spatial use by other people/too close

*If interviewing campers ask: Was there anything in particular about the daytrippers or yachties or other campers that increased or decreased your enjoyment?*

9.58 others

9.59 elsewhere

9.60 irrelevant

9.61 prompted

9.62 missing information

**9a) increased**

9.63 No

9.64 friendly/nice/polite - other visitors

9.65 friendly/nice/polite - staff

9.66 sociable - other visitors

9.67 sociable - staff

9.68 drop pretences

9.69 supportive, dependable, helpful - other visitors

9.70 supportive, dependency, helpful - staff

9.71 alone

9.72 family togetherness

9.73 spending time with friends

9.74 belongingness

9.75 others here for same purpose

9.76 diverse/interesting people

9.77 they seem to respect/appreciate the place - other visitors

9.77a they seem to respect/appreciate the place - staff

9.78 other people's enjoyment/happy/good humoured/interested/curious

9.79 get involved in the activity/doing own thing/busy

9.80 numbers of people

9.81 numbers of people on the island

9.82 numbers of people on the boat and pontoon

9.83 numbers of people camping

9.84 group size of campers

9.85 activity by other people - not disturbing/positive impact/amusing

9.86 spatial use by other people - not too close

9.87 use of motors

9.88 companionship

9.89 meeting new people

9.90 exchange of information/stories	9.124 sociable - staff
9.91 feel safe	9.125 drop pretences
9.92 seeing people experiencing the GBR for the first time	9.126 supportive, dependable, helpful - other visitors
9.93 everyone compatible	9.127 supportive, dependable, helpful - staff
<b>9b) decreased</b>	9.128 alone
9.94 No	9.129 family togetherness
9.95 noise	9.130 spending time with friends
9.96 lack of privacy	9.131 belongingness
9.97 litter	9.132 others here for same purpose
9.98 impact on natural environment	9.133 diverse/interesting people
9.99 unfriendly - other visitors	9.134 they seem to respect/appreciate the place - other visitors
9.100 unfriendly - staff	9.134a they seem to respect/appreciate the place - staff
9.101 non-sociable - other visitors	9.135 other people's enjoyment/happy/good humoured/interested/curious
9.102 non-sociable - staff	9.136 get involved in the activity/doing own thing/busy
9.103 alone	9.137 numbers of people
9.104 behaving inappropriately - other visitors	9.138 numbers of people on island
9.104a behaving inappropriately - staff	9.139 numbers of people on boat and pontoon
9.105 others not feeling well/not enjoying themselves/injuring themselves	9.140 numbers of people camping
9.106 numbers of people	9.141 group size of campers
9.107 numbers of people on island	9.142 use of motors
9.108 numbers of people on the boat and pontoon	9.143 activity by other people - not disturbing/positive impact
9.109 numbers of people camping	9.144 spatial use by other people - not too close
9.110 group size of campers	9.145 companionship
9.111 use of motors - disturbing	9.146 meeting new people
9.112 use of motors - should not be allowed	9.147 exchange of information/stories
9.113 activity by other people - disturbing/negative impact/worry re daytrippers in camp	9.148 feel safe
9.114 spatial use by other people - too close	9.149 seeing people experiencing the GBR for the first time
<i>If interviewing daytrippers ask: Was there anything in particular about the campers or yachties or other daytrippers that increased or decreased your enjoyment?</i>	9.150 everyone compatible
9.115 others	<b>9b) decreased</b>
9.116 elsewhere	9.151 No
9.117 irrelevant	9.152 noise
9.118 prompted	9.153 lack of privacy
9.119 missing information	9.154 litter
<b>9a) increased</b>	9.155 impact on natural environment
9.120 No	
9.121 friendly/nice/polite - other visitors	
9.122 friendly/nice/polite - staff	
9.123 sociable - other visitors	

- 9.156 unfriendly - other visitors
- 9.157 unfriendly - staff
- 9.158 non-sociable - other visitors
- 9.159 non-sociable - staff
  
- 9.160 alone
  
- 9.161 behaving inappropriately - other visitors
- 9.161a behaving inappropriately - staff
  
- 9.162 others not feeling well/not enjoying themselves/injuring themselves
  
- 9.163 numbers of people
- 9.164 numbers of people on island
- 9.165 numbers of people on boat and pontoon
- 9.166 numbers of people camping
- 9.167 group size of campers
  
- 9.168 use of motors - disturbing
- 9.169 use of motors - should not be allowed
  
- 9.170 activity by other people - disturbing/negative impact/worry re daytrippers in camp
  
- 9.171 spatial use by other people - too close
  
- If interviewing yachties ask: Was there anything in particular about daytrippers or campers or other yachties that increased or decreased your enjoyment?*
- 9.172 others
- 9.173 elsewhere
- 9.174 irrelevant
- 9.175 prompted
- 9.176 missing information
  
- 9a) increased**
- 9.177 No
  
- 9.178 friendly/nice/polite - other visitors
- 9.179 friendly/nice/polite - staff
- 9.180 sociable - other visitors
- 9.181 sociable - staff
  
- 9.182 drop pretences
- 9.183 supportive, dependable, helpful - other visitors
- 9.184 supportive, dependable, helpful - staff
  
- 9.185 alone
- 9.186 family togetherness
- 9.187 spending time with friends
- 9.188 belongingness
  
- 9.189 others here for same purpose
- 9.190 diverse/interesting people
  
- 9.191 they seem to respect/appreciate the place - other visitors
- 9.191a they seem to respect/appreciate the place - staff
  
- 9.192 other people's enjoyment/happy/good humoured/interested/curious
- 9.193 get involved in the activity/doing own thing/busy
  
- 9.194 numbers of people
- 9.195 numbers of people on island
- 9.196 numbers of people on the boat and pontoon
- 9.197 numbers of people camping
- 9.198 group size of campers
  
- 9.199 activity by other people - not disturbing/positive impact/amusing
  
- 9.200 use of motors
  
- 9.201 spatial use by other people - not too close
  
- 9.202 companionship
  
- 9.203 meeting new people
  
- 9.204 exchange of information/stories
  
- 9.205 feel safe
  
- 9.206 seeing people experiencing the GBR for the first time
  
- 9.207 everyone compatible
  
- 9b) decreased**
- 9.208 No
  
- 9.209 noise
- 9.210 lack of privacy
- 9.211 litter
  
- 9.212 impact on natural environment
  
- 9.213 unfriendly - other visitors
- 9.214 unfriendly - staff
- 9.215 non-sociable - other visitors
- 9.216 non-sociable - staff
  
- 9.217 alone
  
- 9.218 behaving inappropriately - other visitors
- 9.218a behaving inappropriately - staff
  
- 9.219 others not feeling well/not enjoying themselves/injuring themselves
  
- 9.220 numbers of people
- 9.221 numbers of people on island
- 9.222 numbers of people on the boat and pontoon
- 9.223 numbers of people camping
- 9.224 group size of campers



9.225 activity by other people - disturbing/  
negative impact/worry re daytrippers in camp

9.226 use of motors - disturbing

9.227 use of motors - should not be allowed

9.228 spatial use by other people - too close

**9a) (just for campers) Different people bring different types of gear to the island. How do you feel about the use of motors (e.g. generators, compressors) in the camping area?**

9a.1 do not like it

9a.2 disturbing

9a.3 OK

9a.3a concerned acceptance

9a.4 it is necessary

9a.5 should not be allowed

9a.6 should be away from the camping area

9a.7 others

9a.8 elsewhere

9a.9 irrelevant

9a.10 prompted

9a.11 missing information

**10) (just for daytrippers and campers) How did you feel about the numbers of people you encountered on the boat and pontoon? (If participants find it difficult to answer prompt them with the following: Were there too many? OK? or too few?)**

10.1 acceptable/alright/enough/fine

10.2 no more

10.3 too many/many/lots/crowded

10.4 not too many/weren't many/few/wasn't crowded

10.5 good/just right/appropriate

10.6 enhanced experience

10.7 detracted experience

10.8 expectations - more than

10.9 expectations - met

10.10 expectations - less than

10.11 full

10.12 wasn't full

10.13 less is best/better (less than today's no. would be better/less than full made it better)

10.14 more is best/better/too few

10.15 others

10.16 elsewhere

10.17 irrelevant

10.18 prompted

10.19 missing information

**10a) (for all people who went to the island including daytrippers, yachties and campers)**

**How did you feel about the numbers of people you met on the island?**

10a.1 acceptable

10a.2 no more

10a.3 too many/many/lots/crowded

10a.4 not too many/weren't many/few/wasn't crowded

10a.5 good/just right/appropriate

10a.6 enhanced experience

10a.7 detracted experience

10a.8 expectations - more than

10a.9 expectations - met

10a.10 expectations - less than

10a.11 less is best/better (less than today's no. would be better/less than full made it better)

10a.12 more is best/better/too few

10a.13 did not see/talk to/meet anyone

10a.14 did not go to the island

10a.15 others

10a.16 elsewhere

10a.17 irrelevant

10a.18 prompted

10a.19 missing information

**10b) (just for daytrippers and yachties) Did you go to the campground? If yes, how did you feel about the number of people you encountered there?**

10b.1 No

10b.1a Yes

10b.2 acceptable

10b.3 no more

10b.4 too many/many/lots/crowded

10b.5 not too many/weren't many/few/wasn't crowded

10b.6 good/just right/appropriate

10b.7 enhanced experience

10b.8 detracted experience

10b.9 expectations - more than

10b.10 expectations - met

10b.11 expectations - less than

10b.12 full  
10b.13 wasn't full

10b.14 less is best/better (less than today's no.  
would be better/less than full made it better)  
10b.15 more is best/better/too few

10b.16 should not be any campers  
10b.17 did not see anyone

10b.18 others  
10b.19 elsewhere  
10b.20 irrelevant  
10b.21 prompted  
10b.22 missing information

**10c) (just for campers) Did you encounter  
daytrippers within the campground, toilets,  
on the tracks and/or on the beach and how  
did you feel about this?**

10c.1 Yes  
10c.2 No

10c.3 loss of privacy

10c.4 OK/did not bother me

10c.5 daytrippers should not come to camping  
area

10c.6 nice to see different people

10c.7 insecure about gear left in camping area

10c.8 intruded upon

10c.8a met on campground  
10c.8b met at toilet  
10c.8c met on beach  
10c.8d met on tracks

10c.9 others  
10c.10 elsewhere  
10c.11 irrelevant  
10c.12 prompted  
10c.13 missing information

**10d) (just for daytrippers) This boat is capable  
of carrying \_\_\_\_\_ and today there are \_\_\_\_\_.  
How do you feel about the number of people  
here?**

10d.1 acceptable

10d.2 no more

10d.3 too many/many/lots/crowded  
10d.4 not too many/weren't many/few/wasn't  
crowded

10d.5 good/just right/appropriate

10d.6 enhanced experience

10d.7 detracted experience

10d.8 expectations - more than  
10d.9 expectations - met  
10d.10 expectations - less than

10d.11 full  
10d.12 was not full

10d.13 less is best/better (less than today's no.  
would be better/less than full made it better)  
10d.14 more is best/better/too few

10d.15 others  
10d.16 elsewhere  
10d.17 irrelevant  
10d.18 prompted  
10d.19 missing information

**10e) (just for campers) The Parks Service has  
established a limit of 50 people camping on  
the island at one time. Now there are \_\_\_\_\_.  
How do you feel about this quota of 50?**

10e.1 acceptable

10e.1a need larger camping area/reorganisation  
(e.g. separate areas, dispersed)  
10e.1b need just small groups

10e.2 too high  
10e.3 too few

10e.4 a lower maximum  
10e.5 this is the maximum/no more

10e.6 more people should be allowed

10e.7 others  
10e.8 elsewhere  
10e.9 irrelevant  
10e.10 prompted  
10e.11 missing information

**10f) (just for campers and contingent on 12e)  
How many people would be about right here?**

10f.1 11-20  
10f.2 21-30  
10f.3 31-40  
10f.4 41-50  
10f.5 51-60  
10f.6 61-70  
10f.7 71-80  
10f.8 91-100  
10f.9 101+

10f.10 others  
10f.11 no response  
10f.12 irrelevant  
10f.13 prompted  
10f.14 missing information

**10g) (just for campers) How did you feel about the group sizes of other campers?**

- 10g.1 acceptable
- 10g.2 too large/large
- 10g.3 too small/should be larger groups
- 10g.4 just small groups/mainly small groups/more small groups/group size should be limited
- 10g.5 varied
- 10g.5a need larger camping area/separate areas/reorganisation
- 10g.6 others
- 10g.7 elsewhere
- 10g.8 irrelevant
- 10g.9 prompted
- 10g.10 missing information

**11) How do you feel about the number of people you saw in relation to what you expected?**

- 11.1 did not know what to expect/no expectations
- 11.2 expectations - met
- 11.3 expectations - more than
- 11.4 expectations - less than
- 11.5 positive evaluation/pleased
- 11.6 negative evaluation/not pleased
- 11.7 others
- 11.8 elsewhere
- 11.9 irrelevant
- 11.10 prompted
- 11.11 missing information

**12) How did you feel about the facilities at Lady Musgrave Island and Reef? (Let respondents talk about the facilities which were salient to them without probing. After you are sure that they will not say anything else then mention the following facilities one by one and ask how did they feel about them (note: facilities underlined are only relevant for campers/yachties who had a good walk on the island):** pontoon, glass-bottomed boat, signs, tracks on the island, toilets (ask daytrippers whether they went to the toilet while on land), observatory, main vessel, box with garbage bags, interpretive information outside toilets (for daytrippers that went to the toilet ask about this too), sign indicating zoning boundaries on the reef flat (daytrippers will probably not notice this)) (will not have a prompted category)

- 12.1 nice to see it natural/unspoiled
- 12.1a not intrusive - quality (appearance)
- 12.2 not intrusive - quantity/didn't notice any/weren't many
- 12.3 facilities - positive

- 12.4 facilities - negative
- 12.5 facilities - should have more
- 12.6 facilities - as is
- 12.7 facilities - should not have more
- 12.8 facilities - should have less
- 12.9 facilities - should have none/better to have none

- 12.10 pontoon/observatory quality - positive
- 12.11 pontoon/observatory quality - negative
- 12.12 pontoon/observatory quantity - should have more
- 12.13 pontoon/observatory quantity - as is
- 12.14 pontoon/observatory quantity - should not have more
- 12.15 pontoon/observatory quantity - should not have

- 12.16 signs quality - positive
- 12.17 signs quality - negative
- 12.18 signs quantity - should have more
- 12.19 signs quantity - as is
- 12.20 signs quantity - should not have more
- 12.21 signs quantity - should have less
- 12.22 signs quantity - should not have

- 12.23 GBB - positive
- 12.24 GBB - negative
- 12.25 GBB - should have more
- 12.26 GBB - as is
- 12.27 GBB - should not have more
- 12.28 GBB - should not have

- 12.29 toilets - positive
- 12.30 toilets - negative
- 12.31 toilets - should not have more
- 12.32 toilets - as is
- 12.33 toilets - should have more
- 12.34 toilets - should have less
- 12.35 toilets - should not have

- 12.36 tracks - positive
- 12.37 tracks - negative
- 12.38 tracks - should not have more
- 12.39 tracks - as is
- 12.40 tracks - should have more
- 12.41 tracks - should have less
- 12.42 tracks - should not have

- 12.43 commercial vessel - positive
- 12.44 commercial vessel - negative
- 12.45 commercial vessel - should not have more
- 12.46 commercial vessel - as is
- 12.47 commercial vessel - should have more/bigger
- 12.48 commercial vessel - should have less/smaller
- 12.49 commercial vessel - should not have

- 12.50 scuba/diving gear - positive
- 12.51 scuba/diving gear - negative

12.52 snorkelling gear - positive  
 12.53 snorkelling gear - negative

12.54 underwater observatory - positive  
 12.55 underwater observatory - negative

12.56 reef edge sign - positive  
 12.57 reef edge sign - negative/ineffective

12.58 information services - positive  
 12.59 information services - negative/lacking  
 12.60 information services - should not have more  
 12.61 information services - as is  
 12.62 information services - should have more  
 12.63 information services - should have less  
 12.64 information services - should not have

12.65 fresh water/showers - positive (fine as is therefore shouldn't have)  
 12.66 fresh water/showers - negative (should have)

12.67 box of garbage bags - positive  
 12.68 box of garbage bags - negative (includes need for garbage bins, pick up bins)

12.69 others  
 12.70 elsewhere  
 12.71 irrelevant  
 12.72 prompted  
 12.73 missing information

**13) What sort of information did you get about Lady Musgrave Island and Reef prior to your visit? How did you feel about the information?**

**Notes:** evaluation refers to the quality and quantity of the information not to the subject of the information

- 1: negative includes lacking (quality and quantity)
- 2: about trip generally includes camping, boating, activities and other aspects of trip not covered elsewhere
- 3: about environment generally includes specifics not covered elsewhere
- 4: about activities includes regulations re activities, dangers

13.1 none/not much/very little

13.2 written material/pamphlets/L.M. brochure - positive  
 13.3 written material/pamphlets/L.M. brochure  
 13.4 written material/pamphlets/L.M. brochure - negative

13.5 posters/pictures - positive  
 13.6 posters/pictures  
 13.7 posters/pictures - negative

13.8 trip generally - positive  
 13.9 trip generally  
 13.10 trip generally - negative

13.11 environment generally - positive  
 13.12 environment generally  
 13.13 environment generally - negative

13.14 marine fauna and flora - positive  
 13.15 marine fauna and flora  
 13.16 marine fauna and flora - negative

13.17 terrestrial fauna and flora - positive  
 13.18 terrestrial fauna and flora  
 13.19 terrestrial fauna and flora - negative  
 13.20 activities - positive  
 13.21 activities  
 13.22 activities - negative

13.23 other people - positive  
 13.24 other people  
 13.25 other people - negative

13.26 from parks service - positive  
 13.27 from parks service  
 13.28 from parks service - negative

13.29 from tourist agencies/information centres - positive  
 13.30 from tourist agencies/information centres  
 13.31 from tourist agencies/information centres - negative

13.32 others  
 13.33 elsewhere  
 13.34 irrelevant  
 13.35 prompted  
 13.36 missing information

**14) What sort of information about the place did you get during your trip and visit to Lady Musgrave?**

**Notes:** evaluation refers to the quality and quantity of the information not to the subject of the information

- 1: negative includes lacking (quality and quantity)
- 2: about trip generally includes camping, boating, activities, safety, regulations and other aspects of trip not covered elsewhere
- 3: about environment generally includes specifics not covered elsewhere
- 4: talks—where possible code who gave them (doesn't include PA talks)

14.1 none

14.2 written material/pamphlets/L.M. brochure - positive  
 14.3 written material/pamphlets/L.M. brochure  
 14.4 written material/pamphlets/L.M. brochure - negative

14.5 PA system - boat - positive  
 14.6 PA system - boat  
 14.7 PA system - boat - negative  
  
 14.8 posters/pictures - positive  
 14.9 posters/pictures  
 14.10 posters/pictures - negative  
  
 14.11 signs - positive  
 14.12 signs  
 14.13 signs - negative  
 14.14 video - positive  
 14.15 video  
 14.16 video - negative  
  
 14.16a talks - positive  
 14.16b talks  
 14.16c talks - negative  
  
 14.17 display board outside toilet - positive  
 14.18 display board outside toilet  
 14.19 display board outside toilet - negative  
  
 14.20 trip generally - positive  
 14.21 trip generally  
 14.22 trip generally - negative  
  
 14.23 environment generally - positive  
 14.24 environment generally  
 14.25 environment generally - negative  
  
 14.26 marine fauna and flora - positive  
 14.27 marine fauna and flora  
 14.28 marine fauna and flora - negative  
  
 14.29 terrestrial fauna and flora - positive  
 14.30 terrestrial fauna and flora  
 14.31 terrestrial fauna and flora - negative  
  
 14.32 from boat and boat staff (but not PA system) - positive  
 14.33 from boat and boat staff (but not PA system)  
 14.34 from boat and boat staff (but not PA system) - negative  
  
 14.35 from other people - positive  
 14.36 from other people  
 14.37 from other people - negative  
  
 14.38 from parks service - positive  
 14.39 from parks service  
 14.40 from parks service - negative  
  
 14.41 from interviewers - positive  
 14.42 from interviewers  
 14.43 from interviewers - negative  
  
 14.44 from experience/being there - positive  
 14.45 from experience/being there  
 14.46 from experience/being there - negative

14.47 others  
 14.48 elsewhere  
 14.49 irrelevant  
 14.50 prompted  
 14.51 missing information

**15) How did you feel about this information?**

15.1 no opinion  
 15.2 evaluation - positive  
 15.3 evaluation  
 15.4 evaluation - negative  
  
 15.5 presentation - positive  
 15.6 presentation  
 15.7 presentation - negative

15.8 wasn't any/not much

15.9 not enough  
 15.10 too much

15.11 could not hear/wasn't listening/PA too loud/soft

15.12 could not understand

15.13 too general (includes need for more specific info)  
 15.14 too detailed

15.15 others  
 15.16 elsewhere  
 15.17 irrelevant  
 15.18 prompted  
 15.19 missing information

**15a) (contingent on 15) Is there anything else you would like to know about Lady Musgrave?**

**Note**

1: 15a.17 is a specific case of 15a.11

15a.1 No

15a.2 trip generally (hazards, activities etc.)

15a.3 environment generally  
 15a.4 terrestrial fauna and flora (include turtles)  
 15a.5 marine fauna and flora

15a.6 environmental sensitivity/human impact

15a.7 monitoring/research

15a.8 human history  
 15a.9 geomorphology/island formation/as part of GBR

15a.10 management and regulation/zoning  
 15a.11 future options for management  
 15a.12 the GBRMP

15a.13 the visitors to the place

15a.14 the facilities

15a.15 camping

15a.16 accommodation

15a.17 future accommodation (resorts)

15a.18 others

15a.19 elsewhere

15a.20 irrelevant

15a.21 prompted

15a.22 missing information

**15b) The QNPWS would like to provide further information about the natural environment at Lady Musgrave. What do you think would be the best way of providing that information?**

15b.1 brochures/pamphlets/booklets

15b.2 signs

15b.3 books on board/boat

15b.4 interpretation boards in the camping area/at toilets

15b.5 interpretation boards on the tracks

15b.6 videos/slide shows

15b.7 photos/posters/pictures

15b.8 media/TV advertising

15b.9 talks/tour guide

15b.10 word of mouth

15b.11 improve PA system

15b.12 through travel agencies/tourist bureau/information centres

15b.13 others

15b.14 elsewhere

15b.15 irrelevant

15b.16 prompted

15b.17 missing information

**16) The Great Barrier Reef Marine Park Authority and Queensland National Parks and Wildlife Service have complementary zoning plans that determine how the Marine Parks should be used. Do you know what you can or cannot do at Lady Musgrave Reef? (if yes ask to elaborate)**

16.1 Yes

16.2 No

16.3 can't touch/disturb fauna or flora (and other specific)

16.4 can't remove fauna or flora (and other specific)

16.5 can't damage/destroy fauna or flora (and other specific)

16.6 can't touch/disturb birds

16.7 can't damage/destroy birds

16.8 can't touch/disturb corals

16.9 can't remove corals

16.10 can't damage/destroy corals

16.11 can't remove shells

16.12 can fish

16.13 can't fish

16.14 no domestic animals

16.15 can't pollute/take out what you bring

16.16 no urinating in water

16.17 can camp

16.18 can't camp

16.19 camping restricted (area, permit only)

16.20 anchorage restricted

16.21 look after the place/common sense/caring for environment

16.22 others

16.23 elsewhere

16.24 irrelevant

16.25 prompted

16.26 missing information

**17) How do you feel about boats anchoring in the lagoon?**

Notes

1: positive evaluation includes 'a good place for anchoring'

2: negative evaluation includes 'should not be there'

17.1 no opinion

17.2 OK/doesn't bother me/not too many/fine

17.3 safe

17.4 positive evaluation

17.5 negative evaluation

17.6 too many

17.7 needs to be regulated

17.8 difficult to regulate

17.9 need moorings

17.10 don't put in moorings

17.11 concern about environmental damage

17.12 concern about environmental damage - anchor damage

17.13 concern about environmental damage - pollution

- 17.14 others
- 17.15 elsewhere
- 17.16 irrelevant
- 17.17 prompted
- 17.18 missing information

**18) Commercial and recreational fishing is allowed on most of the lagoon. How do you feel about this?**

- 18.1 no opinion
- 18.2 general - positive
- 18.3 general - accepting
- 18.4 general - negative
- 18.5 general - should be regulated
- 18.6 concern for environmental damage/depletion of fish stocks
- 18.7 regulation - zoning (e.g. not in lagoon)
- 18.8 regulation - catch size
- 18.9 don't take what you can't use/eat/don't need
- 18.10 commercial - positive
- 18.11 commercial - accepting
- 18.12 commercial - negative
- 18.13 commercial - should be regulated
- 18.14 recreational - positive
- 18.15 recreational - accepting
- 18.16 recreational - negative
- 18.17 recreational - should be regulated
- 18.18 others
- 18.19 elsewhere
- 18.20 irrelevant
- 18.21 prompted
- 18.22 missing information

**19) How do you feel about the size, level and type of tourist operations here?**

**Notes**

- 1: quantity includes number of trips, number of operations
- 2: quality includes size, style, character of operation, management

- 19.1 no opinion
- 19.2 general response - positive
- 19.3 general response - OK
- 19.4 general response - no more
- 19.5 general response - too much
- 19.6 general response - too little
- 19.7 quantity - positive
- 19.8 quantity - OK
- 19.9 quantity - no more
- 19.10 quantity - too much/too many trips, operations

- 19.11 quantity - too little/not enough trips, operations/OK to have more

- 19.12 quality - positive
- 19.13 quality - OK
- 19.14 quality - no more
- 19.15 quality - too much/too damaging/too glittery, too up market/too large
- 19.16 quality - too little/not developed enough/too down market/too small

- 19.17 cost - positive
- 19.18 cost
- 19.19 cost - negative

- 19.20 others
- 19.21 elsewhere
- 19.22 irrelevant
- 19.23 prompted
- 19.24 missing information

**20) Is there anything you noticed about the management of this place that you would like to talk about?**

**Notes**

- 1: quantity includes presence; refers to level or degree of management
- 2: quality refers to the style/character of the management; includes statements about management

- 20.1 No
- 20.2 did not notice much
- 20.3 information services - positive
- 20.4 information services
- 20.5 information services - negative/lacking
- 20.6 facilities - positive
- 20.7 facilities - negative/lacking
- 20.8 quality of management - positive
- 20.9 quality of management
- 20.10 quality of management - negative
- 20.11 quantity of management - positive
- 20.12 quantity of management
- 20.13 quantity of management - too restrictive
- 20.14 quantity of management - too lenient/not enough presence
- 20.15 others
- 20.16 elsewhere
- 20.17 irrelevant
- 20.18 prompted
- 20.19 missing information

**21) Have you any thoughts about how the National Parks Service and the Marine Park Authority should manage this place in the future?**

- 21.1 to the best of their ability/take time to make decisions/carefully
- 21.2 keep going as done so far
- 21.3 leave it as it is
- 21.4 as natural as possible
- 21.5 could provide more information/interpretation
- 21.6 more personnel presence
- 21.7 set an example for conservation
- 21.8 monitor for environmental decay/research
- 21.9 prevent pollution
- 21.10 prevent damage to fauna and flora/protect and specific
- 21.11 restrict generally
- 21.12 restrict people numbers
- 21.13 restrict activities
- 21.14 restrict development (facilities, commercialism)
- 21.15 no camping
- 21.16 no fishing/restrict fishing
- 21.17 lenient
- 21.18 lenient people numbers
- 21.19 lenient activities
- 21.20 lenient development (includes more facilities and commercialism)
- 21.21 extend trips overnight
- 21.22 more camping
- 21.22a less camping/restrict camping/separate camping areas, small areas
- 21.23 create zones for different levels of use
- 21.24 balance between conservation and development/tourism
- 21.25 others
- 21.26 elsewhere
- 21.27 irrelevant
- 21.28 prompted
- 21.29 missing information

**22) All things considered what was the meaning of the visit to you personally? (if explanation is required say this: How important was this experience to you and in what ways?)**  
Taxonomy fuzzy coding

## **23) Why did you decide to come to Lady Musgrave?**

Taxonomy fuzzy coding

## **24) What were you hoping to get out of this trip?**

Taxonomy fuzzy coding

## **25) Do you have any comments about this study and how do you feel about being interviewed on this trip?**

Note: if respondents speak of hoping the study will make a positive contribution code: 25.10-3; 25.12-3

- 25.1 good/very good idea/necessary
- 25.2 suspicion about the purpose of the study
- 25.3 personal feeling about being interviewed - positive
- 25.4 personal feeling about being interviewed
- 25.5 personal feeling about being interviewed - negative
- 25.6 seeking visitors' opinions - positive
- 25.7 good to see a high management profile
- 25.8 thank you for allowing me to participate
- 25.9 want to help you do the right thing (hope I was helpful)
- 25.10 study positive contribution to management/ decision making/environment
- 25.11 study positive contribution to users
- 25.12 concern about effectiveness/usefulness of this study
- 25.13 quality of interview and study - positive
- 25.14 quality of interview and study
- 25.15 quality of interview and study - negative
- 25.16 others
- 25.17 elsewhere
- 25.18 irrelevant
- 25.19 prompted
- 25.20 missing information

## **26) Anything else?**

26.1 prevent environmental pollution/damage/ protect environment

- 26.2 others
- 26.3 elsewhere
- 26.4 irrelevant
- 26.5 prompted
- 26.6 missing information

## **Interview Context**

C1: Code ('very well') 7,6,5,4,3,2,1 ('not very well')



C2  
C3  
C4: (Code left to right 7,6,5,4,3,2,1 as above)  
C5  
C6

C7A  
C7B

*That's it—you can start again on the next one now.*

## Self/Experience

### Notes

- 1 Any response to question 1 or 2 that does not shift from the topic of experience can be coded in here as an aspect of experience even if it is not explicitly stated in the form 'it was this or that experience for me' because the question originally asked about experience.
- 2 Relaxing, tranquil, peaceful do not code under emotion.
- 3 Emotion—positive includes enjoyment, good, wonderful, fun.
- 4 Challenge includes both mental and physical.
- 5 Mind—clear includes not thinking about anything.
- 6 Mind—stimulating includes interesting, fascinating, cognitive evaluations.
- 7 Anticipation—positive includes looking forward to it, —negative includes fear; includes curiosity.
- 8 Unique experience includes different, memorable, unforgettable, one of a kind.
- 9 Escape includes being away from it all, seclusion.
- 10 Sense of control includes being able to do what you want to do.
- 11 Recollection refers to any mention of wanting to remember the experience, wanting to have something to trigger this.
- 12 Always wanted to do something and now have done it, code as T24-3 and T29-3.

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