

## **CHAPTER 6: USER SURVEYS**

Ian Dutton and Peter Valentine

### **Introduction**

To understand the impact of the John Brewer Reef floating hotel on the environment it was necessary to understand both patterns of human usage of the reef prior to the hotel construction, and how those usage patterns were likely to be modified once the hotel was installed. The project had two stages. Stage 1 was undertaken between May and July 1988 and reported on a 'baseline' survey of reef use and user attitudes for John Brewer Reef and other areas to be directly affected by the hotel operations. Stage 2 was completed in 1989 and examined changes in use of the reef and surrounding areas as a result of the resort operations. Stage 3 was planned to be a study of issues arising as a consequence of the resorts operations but did not proceed because of the hotel's closure and removal.

The objectives of the surveys were:

- a. to determine the nature, extent, frequency, duration and other characteristics of use of John Brewer Reef and other areas to be affected by resort operations prior to the commencement of the resort operation; and
- b. to assess changes in these use patterns and characteristics following commencement of operations to enable further investigation of reasons for changes, should such investigation be deemed necessary.

### **Methods**

#### **Stage 1: Description of previous use (Baseline)**

This stage involved determining the patterns of use of John Brewer Reef and other areas (e.g. adjacent reefs to be used for fishing operations emanating from the resort). Use patterns and characteristics were determined according to the following methods for the various user groups:

<b>User Group</b>	<b>Measurement Technique</b>
a. Day Trippers	Observation of use and interview with operator(s)
b. Private Boat Owners	Interview with sample drawn from DH&M records and review of surveillance data
c. Amateur Fishing Clubs	Interview with sample drawn from records and review of surveillance data
d. Commercial Fishermen	Review of surveillance data and interview of sample of skippers/crew drawn from surveillance records
e. Charter Boat Operators	Review of Surveillance data and interview of sample (includes Dive Operators) of operators
f. Scientific Researchers	Interview of selected researchers (to include all major institutions)

Apart from the descriptive information obtained during this stage, users were asked to outline their concerns in relation to the resort, in particular to indicate how they perceived the resort might affect their use of areas involved.

#### **Stage 2: Survey after 12 months**

Data was collected using similar techniques to those used in the first surveys, i.e. the observational/anecdotal method and direct survey methods. Because commercial day trips ceased shortly after the opening of the hotel this user category was removed from the questionnaire sample, leaving the remaining five user groups.

For each group, samples were selected as follows:

Private boat owners: questionnaires were sent to 133 boat owners who had responded to the earlier survey and to a random selection of 422 boat owners from the district.

Amateur fishing clubs: the ten clubs surveyed in the first sample were re-surveyed, and club members were interviewed by phone.

Commercial fishermen: representatives of the Queensland Commercial Fishermen's Organisation and mackerel fishermen were interviewed personally.

Charter boat operators: the sample was 24 charter boat operators who participated in the first survey and one new operator. All were sent a questionnaire or contacted by phone.

Scientists/researchers: of the 23 active researchers at John Brewer Reef (compared with 19 prior to the placement of the hotel), 20 were contacted and questioned.

## **Conclusions**

### **Stage 1 surveys**

The major users of John Brewer Reef in 1987 (in descending order of participant numbers) were day trippers, charter boat passengers and private boat owners. Other users included commercial fishermen, amateur fishing clubs and scientific researchers. However, the latter groups comprised only a small proportion of total visitation.

The baseline survey found that most users believed that the resort would have beneficial or neutral impacts on their use of John Brewer and other reefs. For example, among private boat owners, 58% indicated that they thought the resort would not change their use or experience at John Brewer, 30% indicated that their use of John Brewer would increase as a result of the resort and 12% believed that their use or experience at John Brewer would decrease due to the resort.

Among charter boat operators, similar trends were found with 54% stating that their visits would increase, 29% expected no change and 12% thought that their use would decrease. The few users who indicated concern about the potential impact of the resort on their use, cited reasons including adverse effects on fishing, aesthetically unappealing, loss of remoteness, adverse effect on reef or more restriction on reef access.

### **Stage 2 surveys**

The response rate to questionnaires for the private boat owners was 39%. Of these, 17% did not visit the reef in 1988 and 34% visited the inner reefs and islands only. Fishing was the primary reason to visit the reef for 70% of boat owners. Of 20 reefs nominated in the Townsville region, John Brewer Reef was visited by the greatest number of boats (37 boats for 97 visits), and the primary purpose of the visits was fishing (44%), followed by swimming (24%), and snorkelling or scuba diving (24%). The presence of the floating hotel at John Brewer Reef was nominated as major attractant by many respondents.

Approximately half of the boat owners surveyed reported that the floating hotel did not affect either the frequency or the quality of their use of John Brewer Reef. Where frequency of visits was changed, 61% reported an increase in visitation and 39% a decrease. Two of the 37 responses voiced strongly negative values about the appearance of the hotel. Other comments concerned the advantages of the hotel as a navigation aid, complaints about being unable to fish in the area, and concerns about the feeding of fishes from the resort.

Amateur fishing clubs made a total of 87 weekend club trips to the reef in 1988. None of the visits were to John Brewer Reef. Comment again was made on the use of the hotel as a navigational aid.

The two representatives for commercial fishermen were interviewed. Both reported little apparent impact from the hotel. Trawlers continued to anchor there and used the facilities of the hotel. Mackerel fishermen who had frequented John Brewer Reef in the past continued to do so, although in general it was not considered to be a good location for mackerel fishing and had not been so for five or six years.

Of the 25 charter boat operators contacted, responses are available from 15. Five take day-trips, five make two-day trips and the others have trips of variable length. A total of approximately 1400 trips were reported, of which 87% were to the reef. The operators are approximately equally divided between predominantly fishing or diving trips. John Brewer Reef was the second most frequently visited site (behind the Palm Islands), with 398 visits, and all but one of these were two days or less. Visitation rate was higher than in 1987 (346 visits), partly because of work associated with the hotel. Of the eight operators who reported visiting John Brewer Reef in 1988, five said that the hotel had changed the way that they used the reef and three said that it had not. Comments made by this group on the hotel include its use in navigation, a convenient point for passenger pick-up, and increase in the fish population due to the hotel, and as an interesting feature for the tourists.

Of the 20 researchers interviewed, most visited four times or less, and stayed from one to ten days. The hotel served as a focus for ten of the research scientists. Scientists from Australian Institute of Marine Science operated independently of the resort and reported little change in their use of the reef as a result of the hotel. For other scientists, the majority reported a change in their use of the reef; reasons included increased ease of transportation, provision of funding for research, studies on the impacts of the hotel. There was one negative comment on the debris produced by the hotel and its placement. With the removal of the floating hotel, along with the cessation of the Reef Link operation, there is now decreased opportunities for travel to the reef and research effort there may decline.

In summary, there were no clear cut results regarding the effects of the floating hotel on users. In the sampled populations, there was a slight increase in the number of users in the charter boat, private boat and researcher categories, but the major decline in day-trips as a result of the Reef Link closure. A few users chose to visit the reef specifically to see the hotel (novelty value), and others were economically dependent on the hotel (some charter boat operators and researchers) but there is little evidence that people actively avoided the hotel. Because of the variety of reef destinations, John Brewer Reef was never a particularly popular reef.

The proportion of responses commenting on negative aspects of the floating hotel were relatively small, and a high proportion of comments reflected other management issues such as a decline in fishing and the crown-of-thorns starfish. For most groups, there were reportedly approximately equal numbers of positive and negative impacts. Most of the perceived impacts were the same as those identified in the EIS for the project.

A category of user was deliberately excluded from the survey design: i.e. the hotel guests. Some mechanism for incorporating information on guests' attitudes into this survey, or directly to GBRMPA would have been desirable. Given that the hotel represents a potential 'threat' to John Brewer Reef, it is clear that more emphasis should have been placed on factors affecting the likely financial success of the venture. As hindsight has so clearly revealed, the earlier market assessment was flawed. More detailed information on guest experience would have been useful in assessing future applications for off-shore resorts.

Major recommendations of this study included:

- a. methodological problems in social survey research require greater attention, and should be funded as part of GBRMPA's research activities;
- b. a wider range of research methods should be tested before future attitudinal monitoring studies are conducted;
- c. GBRMPA should give greater priority to strategic and regional reef use data, both collection and updating; and
- d. existing information collection, storage and retrieval systems should be reviewed and improved, on the basis of the difficulty in extracting such information for the present study.