

2.0 THE SURVEY METHODOLOGY

Throughout the investigations, the emphasis has been on the collection of information in a systematic and scientific manner. This chapter contains a summary of:

- . the survey methods employed,
- . the samples selected, and
- . the variables measured.

2.1 THE SURVEY METHODS EMPLOYED

Use patterns in the Capricornia Section are extremely complex. There are, for example, mixtures of:

- . commercial and non-commercial uses,
- . island-based and boat-based users,
- . group and individual users, and
- . a variety of different access modes by sea and air.

The complexities are such that one single survey of all the different user groups was methodologically and logistically out of the question. For this reason a family of surveys was undertaken, with each component survey designed to capture information from a specific user group within the overall population of Capricornia Section users. Details of the survey methods used for each of the thirteen different user groups are contained in Table 1.

The timing and organization of the surveys was specifically designed:

- . to take account of seasonal variations in use, and
- . to ensure that any users who were in more than one user group (for example speed boat owners and campers) were only included in the one survey which represented their primary activities.

USER GROUP	TYPE OF SURVEY	WHEN UNDERTAKEN
Commercial fishermen	Mail questionnaire	July-September 1985
Private motor-boat owners	Mail questionnaire	August-September 1985
Island resort managers	Personal interview	May 1985 and November 1985
Charter boat operators	Personal interview	May 1985
Permit holders	Mail questionnaire	September - December 1985
Island residents	Self-administered mail-back questionnaire and personal interview	July 1985 and November 1985
Heron Island Resort visitors	Self-administered on-site questionnaire	July 1985 and November 1985
Lady Elliot Island Resort visitors	Self-administered on-site questionnaire	November - December 1985
Charter boat passengers	Self-administered on-board questionnaire	September - November 1985
Day-visitors to Lady Musgrave Island	Self-administered on-site questionnaire	November - December 1985
Island campers	Self-administered on-site questionnaire	April 1985 and November 1985
Research station directors	Personal interview	May 1985 and January 1986
User clubs and organizations	Mail questionnaire	October - November 1985

TABLE 1 : SURVEY METHODS EMPLOYED

2.2 THE SAMPLES SELECTED

Details of the sampling procedures and the sample sizes are contained in Table 2. Considerable effort was taken to ensure that, as far as possible, selected samples were representative of the user populations.

Apart from the sample of charter boat passengers, all survey samples are reasonable representations of the user populations. Because of the low response rate and the logistical difficulties of surveying charter boat passengers, the representativeness of this sample cannot be guaranteed. Nevertheless, the results of the charter boat passengers' survey have still been included because so little is known about this group of users. However it is recommended that information from the sample of charter boat passengers be treated with caution if extrapolations are to be made to the whole population of charter boat passengers.

2.3 THE VARIABLES MEASURED

A summary of the evaluation variables measured in each survey is included in Table 3. These variables are grouped into the following four sets which correspond to the survey objectives contained in Section 1.3:

- . a set of awareness variables,
- . a set of impact variables,
- . a set of attitudinal variables, and
- . a set of preference variables.

Additional descriptive variables were also included in each survey to obtain basic information about respondents, their level of experience in the Section, their origins etc. The purpose of the descriptive variables was to help define and classify respondents into small sub-groups which may be useful in specific applications of the data at a later date.

USER GROUP	ESTIMATE OF POPULATION SIZE	SAMPLING METHOD USED	RESPONSE RATE FROM SURVEY	FINAL SAMPLE SIZE	COMMENTS ON REPRESENTATIVENESS OF SAMPLE
Commercial fishermen	200+ commercial fishermen	Census of all commercial fishing vessels recorded by aerial surveillance flights between October 1981 and March 1985.	68 percent ¹	111 commercial fishermen	A reasonable representation of the user population.
Private motor- boat owners	Approx. 750 boat owners	Census of all boats recorded by aerial surveillance flights between October 1981 and March 1985.	79 percent ²	72 boat owners	A reasonable representation of the user population.
Island resort managers	3 managers	Census	100 percent	3 managers	Sample is total population.
Charter boat operators	28 operators	Census of all operators	93 percent	26 operators	Highly representative of the user population.
Permit holders	275 permit holders	Census	66 percent	164 permit holders	A good representation of the user population.
Island residents	83 adults	Census	60 percent	50 adults	A good representation of the user population.
Heron Island Resort visitors	Approx. 8,000 persons per annum	Census of all parties over separate peak and off-peak use periods - each 2 weeks in duration.	peak: 39 percent off-peak: 72 percent	peak: 91 parties or 218 individuals off-peak: 124 parties 292 individuals	A reasonable representation of the user population.

1. 27 percent of these respondents indicated that they did not fish in the Section.

2. 46 percent of these respondents indicated that they did not visit the Section.

TABLE 2 : SAMPLING PROCEDURES

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USER GROUP	ESTIMATE OF POPULATION SIZE	SAMPLING METHOD USED	RESPONSE RATE FROM SURVEY	FINAL SAMPLE SIZE	COMMENTS ON REPRESENTATIVENESS OF SAMPLE
Lady Elliot Island Resort visitors	Approx. 3,500 persons per annum	Census of all parties over one four week period.	44 percent	68 parties 166 individuals	A reasonable representation of the user population.
Charter boat passengers	Approx. 5,000 passengers per annum	Census of charter boat passengers over a 3 month period.	Approx. 20 percent	61 passengers	Cannot be considered to be representative of the user population.
Day-visitors to Lady Musgrave Island	Approx. 7,000 visitors per annum	All parties on 8 randomly selected days over a 6 week period.	98 percent	129 parties 373 individuals	A reasonable representation of the user population.
Island campers	Approx 2,500 campers per annum	Census of all adult campers over separate peak and off- peak periods.	peak: 97 percent off-peak: 100 percent	peak: 119 adult campers off peak: 28 adult campers	A good representation of the user population..
Research Station directors	2 directors	Census	100 percent	2 directors	Sample is total population.
User clubs and organizations	49 clubs and organizations	Census of clubs and organizations	54 percent	26 clubs and organizations	A reasonable representation of the user population.

TABLE 2 : SAMPLING PROCEDURES (continued)

SURVEY VARIABLES	USER GROUP						
	COMMERCIAL FISHERMEN	PRIVATE MOTOR BOAT OWNERS	ISLAND RESORT MANAGERS	CHARTER BOAT OPERATORS	PERMIT HOLDERS	ISLAND RESIDENTS	HERON ISLAND RESORT VISITORS
1. AWARENESS VARIABLES							
Are users aware of the marine park?	Measured	Measured	Not Measured	Not Measured	Measured	Measured	Measured
Are users aware of the zoning plan and regulations?	Measured	Measured	Not Measured	Measured	Measured	Measured	Measured
Are users aware of the multiple objectives of the zoning plan?	Measured	Measured	Not Measured	Not Measured	Measured	Measured	Measured
Are users aware of individual zones?	Measured	Measured	Not Measured	Measured	Not Measured	Measured	Measured
Do users understand arrangements for planning and day-to-day management?	Measured	Measured	Not Measured	Not Measured	Measured	Measured	Not Measured
2. IMPACT VARIABLES							
Are any users being disadvantaged by the zoning plan?	Measured	Measured	Measured	Measured	Measured	Measured	Not Measured
Has the zoning plan changed use patterns?	Measured	Measured	Measured	Measured	Measured	Not Measured	Not Measured
Has the zoning plan had any financial impacts on users?	Measured	Not Measured	Measured	Measured	Not Measured	Not Measured	Not Measured
3. ATTITUDINAL VARIABLES							
Is law enforcement adequate?	Measured	Measured	Measured	Measured	Measured	Measured	Not Measured
What is the image of field staff?	Measured	Measured	Measured	Measured	Measured	Measured	Measured
Is the permit system satisfactory?	Not Measured	Not Measured	Not Measured	Not Measured	Measured	Not Measured	Not Measured
Has the zoning plan been successful?	Measured	Measured	Not Measured	Not Measured	Measured	Measured	Measured
4. PREFERENCE VARIABLES							
What should be the role of field staff?	Measured	Measured	Measured	Measured	Measured	Measured	Measured
What changes should be made when the zoning plan is reviewed?	Measured	Measured	Measured	Measured	Measured	Measured	Not Measured
Should bag limits be imposed on recreational fishing?	Measured	Measured	Measured	Measured	Measured	Measured	Measured

TABLE 3 : SUMMARY OF SURVEY VARIABLES

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SURVEY VARIABLES	USER GROUP					
	LADY ELLIOT ISLAND RESORT VISITORS	CHARTER BOAT PASSENGERS	DAY-VISITORS TO LADY MUSGRAVE ISLAND	ISLAND CAMPERS	RESEARCH STATION DIRECTORS	USER CLUBS AND ORGANIZATIONS
1. AWARENESS VARIABLES						
Are users aware of the marine park?	Measured	Measured	Measured	Measured	Not Measured	Measured
Are users aware of the zoning plan and regulations?	Measured	Measured	Measured	Measured	Not Measured	Measured
Are users aware of the multiple objectives of the zoning plan?	Measured	Measured	Measured	Measured	Not Measured	Measured
Are users aware of individual zones?	Measured	Measured	Measured	Measured	Not Measured	Measured
Do users understand arrangements for planning and day-to-day management?	Not Measured	Not Measured	Not Measured	Measured	Not Measured	Measured
2. IMPACT VARIABLES						
Are any users being disadvantaged by the zoning plan?	Not Measured	Measured	Not Measured	Measured	Measured	Measured
Has the zoning plan changed use patterns?	Not Measured	Measured	Not Measured	Measured	Measured	Measured
Has the zoning plan had any financial impacts on users?	Not Measured	Not Measured	Not Measured	Measured	Measured	Not Measured
3. ATTITUDINAL VARIABLES						
Is law enforcement adequate?	Not Measured	Not Measured	Not Measured	Measured	Measured	Measured
What is the image of field staff?	Measured	Measured	Measured	Measured	Measured	Measured
Is the permit system satisfactory?	Not Measured	Not Measured	Not Measured	Measured	Measured	Not Measured
Has the zoning plan been successful?	Measured	Measured	Measured	Measured	Not Measured	Measured
4. PREFERENCE VARIABLES						
What should be the role of field staff?	Measured	Measured	Measured	Measured	Measured	Measured
What changes should be made when the zoning plan is reviewed?	Not Measured	Measured	Measured	Measured	Measured	Measured
Should bag limits be imposed on recreational fishing?	Measured	Measured	Not Measured	Measured	Measured	Measured

TABLE 3 : SUMMARY OF SURVEY VARIABLES (continued)

Because of the need to compare responses from different user groups in the Capricornia Section, there was a clear need to incorporate standard questions and standard formats to the greatest extent possible. The cost of comparability has been some minor reduction in the degree of specificity that could be incorporated into the questionnaires for each of the user groups.

It will be noted from Table 3 that not all survey variables were measured for all user groups. The emphasis in the design process was firstly to focus on key variables and secondly to keep questionnaires within a manageable length.

It was therefore necessary in the design of questionnaires to exclude certain questions where:

- . it was obvious that respondents would have insufficient experience or knowledge to offer meaningful responses (e.g. some of the impact variables were not measured for resort visitors), and
- . it was obvious from previous Authority and National Parks and Wildlife Service contact with user groups that the measurement of some variables would just be re-collecting information that was already known (e.g. some of the awareness variables were not measured for research station directors, charter boat operators and island resort managers).

One of the main functions of this summary report is to compare the views of different user groups in the Capricornia Section. In making these comparisons, considerable care has been taken to ensure that the responses are only compared when the different user groups have responded to identical questions.

On a small number of occasions the different survey methodologies prevented identically worded questions being asked of different user groups. In these circumstances the responses are reported in the individual technical survey reports but have not been included for comparative purposes in this summary report. This situation occurred in only a small number of cases where the surveys were undertaken by personal interview (e.g. the survey of charter boat operators).