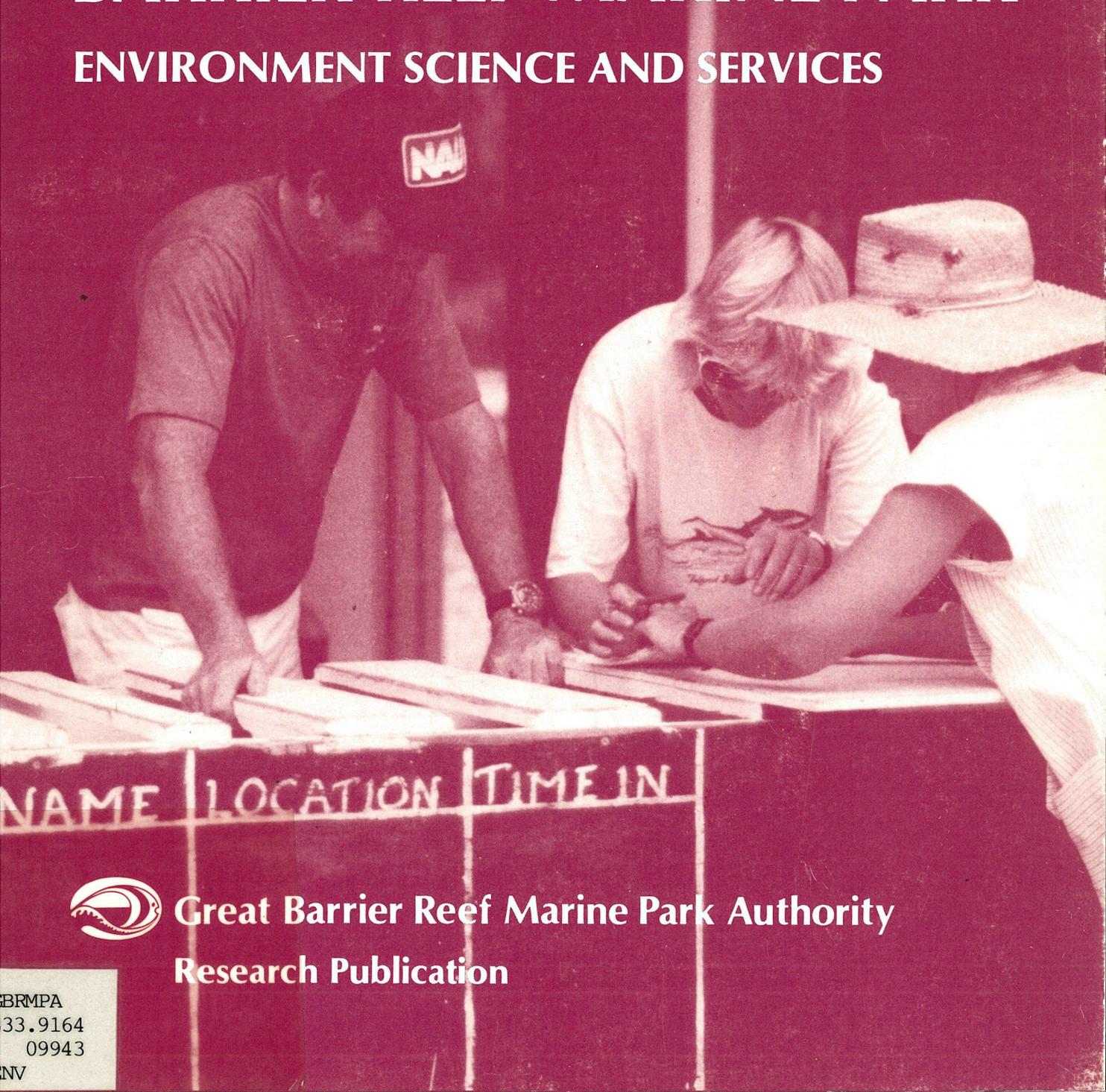


A USER-BASED EVALUATION OF THE ZONING PLAN AND DAY-TO-DAY MANAGEMENT IN THE CAPRICORNIA SECTION OF THE GREAT BARRIER REEF MARINE PARK

ENVIRONMENT SCIENCE AND SERVICES



Great Barrier Reef Marine Park Authority
Research Publication

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Environment Science and Services

March, 1987



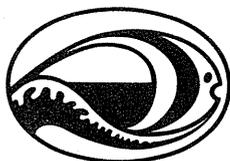
Great Barrier Reef Marine Park Authority

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**Great Barrier Reef
Marine Park
Authority**

P.O. Box 1379
Townsville Qld 4810
Telephone (077) 818811

**A USER-BASED EVALUATION OF THE ZONING PLAN
AND DAY-TO-DAY MANAGEMENT IN THE
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ENVIRONMENT SCIENCE AND SERVICES

MARCH 1987

SUMMARY

This is the final summary report resulting from the project 'User-based evaluation of the zoning plan and day-to-day management in the Capricornia Section of the Great Barrier Reef Marine Park'.

The Authority has actively sought public evaluation of its performance and has been rewarded by both a favourable judgement and valuable information on how its performance could be even further improved.

The overall public response to the Zoning Plan and day-to-day management is positive. At the same time, users have raised a number of issues that are to be addressed both in the forthcoming review of the Capricornia Section Zoning Plan and in the development of guidelines and policies for day-to-day management.

This research project was also undertaken as a pilot exercise to develop and test evaluation procedures for marine park planning. The methodology that has been developed has proven to be a useful model for further evaluation exercises.

KEYWORDS: GBR, park management, user survey, zoning plan.

Please address all comments and requests for copies to:

**The Executive Officer,
Great Barrier Reef Marine Park Authority,
P.O. Box 1379, TOWNSVILLE, AUSTRALIA, 4810.**

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1.0 INTRODUCTION

1.1 BACKGROUND

The Capricornia Section of the Great Barrier Reef Marine Park contains the waters, reefs and shoals of the Capricorn and Bunker Groups of islands offshore from the coastal centres of Yeppoon, Rockhampton and Gladstone (see Figure 1). The Section covers more than one million hectares and includes some of the most heavily used areas of the Great Barrier Reef.

The Zoning Plan and regulations for the Capricornia Section of the Great Barrier Reef Marine Park came into effect on the 1st July 1981. It was the first Zoning Plan prepared by the Great Barrier Reef Marine Park Authority and marked the end of an intense period of research, planning and public participation.

Since that time the emphasis in the Capricornia Section has been on the implementation of the Zoning Plan and on the establishment of day-to-day management programmes through the joint efforts of the Authority and the Maritime Estate Branch of Queensland National Parks and Wildlife Service.

At present, day-to-day management is undertaken by the Queensland National Parks and Wildlife Service working within guidelines and in accordance with policies set by the Authority. A permanent management presence has been established within the Section and in adjacent mainland centres. The responsibilities of the Capricornia Section management team include surveillance, enforcement of the Zoning Plan and regulations, education, extension, issuing of permits, provision of visitor facilities, research and monitoring.

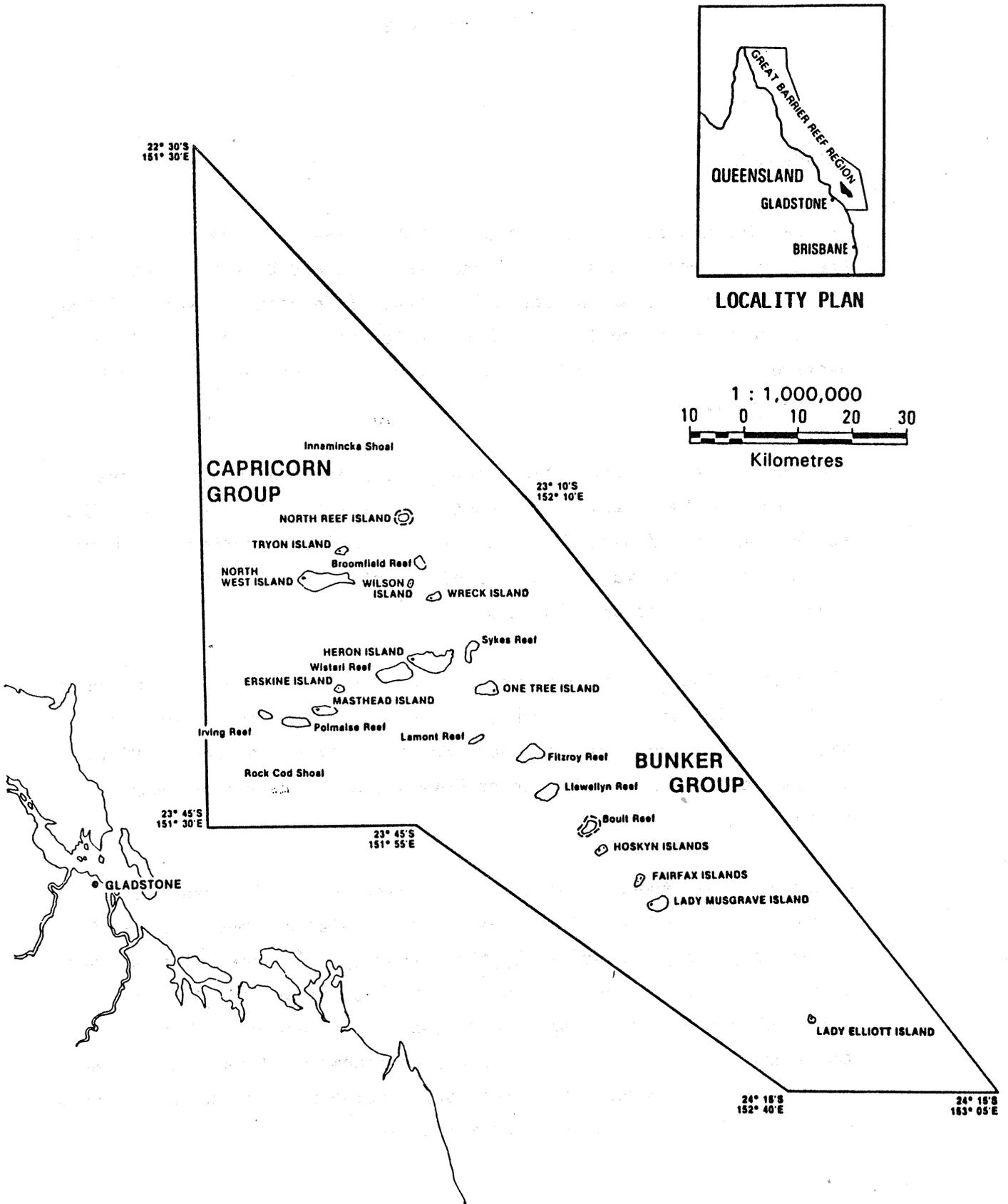


FIGURE 1: THE CAPRICORNIA SECTION OF THE GREAT BARRIER REEF MARINE PARK

As part of its on-going responsibilities, the Authority is aware of the need to monitor the performance of Zoning Plans and management programmes within the various Sections of the Great Barrier Reef Marine Park. The Capricornia Section User Survey is the Authority's first attempt at a scientific and systematic user-based evaluation of a Zoning Plan and day-to-day management. The Capricornia Section was selected for this pilot project because the Zoning Plan has been in effect longer than any others and is due for its first statutory review during 1986.

1.2 TARGET POPULATIONS

Under the terms of reference for the investigation, it was required that information be collected from each of the following thirteen user groups within the Capricornia Section:

- . Commercial fishermen,
- . Private motor-boat owners,
- . Island resort managers,
- . Charter boat operators,
- . Permit holders,
- . Island residents,
- . Heron Island Resort visitors,
- . Lady Elliot Island Resort visitors,
- . Charter boat passengers,
- . Day-visitors to Lady Musgrave Island,
- . Island campers,
- . Research Station directors, and
- . User clubs and organizations.

Definitions of the User Groups examined in this survey are provided in Appendix I.

It represents the most ambitious survey programme undertaken in any Section of the Marine Park and includes some major user groups who have never previously been studied in any detail. At the time of undertaking the surveys, the only user group of any significance not included in the survey was cruising yachtsmen. These users are the subject of a separate survey programme being undertaken by the Queensland National Parks and Wildlife Service.

1.3 SURVEY OBJECTIVES

The objectives of the Capricornia Section User Survey were:

- . to ascertain users' awareness of the Zoning Plan, regulations and day-to-day management arrangements,
- . to determine the impacts of the Zoning Plan, regulations and day-to-day management as perceived by users of the Capricornia Section,
- . to measure users' attitudes towards the current Zoning Plan, regulations and day-to-day management, and
- . to measure users' preferences for new and/or different management prescriptions.

These objectives were prepared by the consultants in consultation with officers of the Authority and the Queensland National Parks and Wildlife Service.

1.4 STUDY OUTPUTS

The output from the project consists of:

- . thirteen separate technical reports containing the detailed results of individual surveys administered to each of the user groups, and
- . a summary report that brings together the major findings from all the surveys.

This report is the summary report. It contains an overview of all the survey results in a form that is suitable for interpretation by the lay reader. The full technical details of the survey methodologies and findings are contained in the individual technical reports.

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

continued...

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

continued...

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).

3.0 THE SURVEY RESULTS

3.1 INTRODUCTION

The survey results presented in this chapter are intended to provide an overview of what has been a major data gathering exercise. The emphasis is on highlighting the major findings and general trends of the user survey. For more detailed consideration of individual user groups or survey variables, the reader is referred to the thirteen technical survey reports that accompany this volume.

Although thirteen different user groups were surveyed, only eleven sets of results are presented here. The reason for this is that the populations of:

- . island resort managers (3 individuals), and
- . research station directors (2 individuals)

were so small that confidentiality of their responses could not be guaranteed. The results of these remaining two surveys are therefore contained in separate confidential reports that have been lodged with the Authority.

To assist in the interpretation of the results, sample sizes are included with the responses to the various survey questions. These sample sizes are intended to be indicative only - they indicate the total size of the samples and do not take account of non-responses for individual questions.

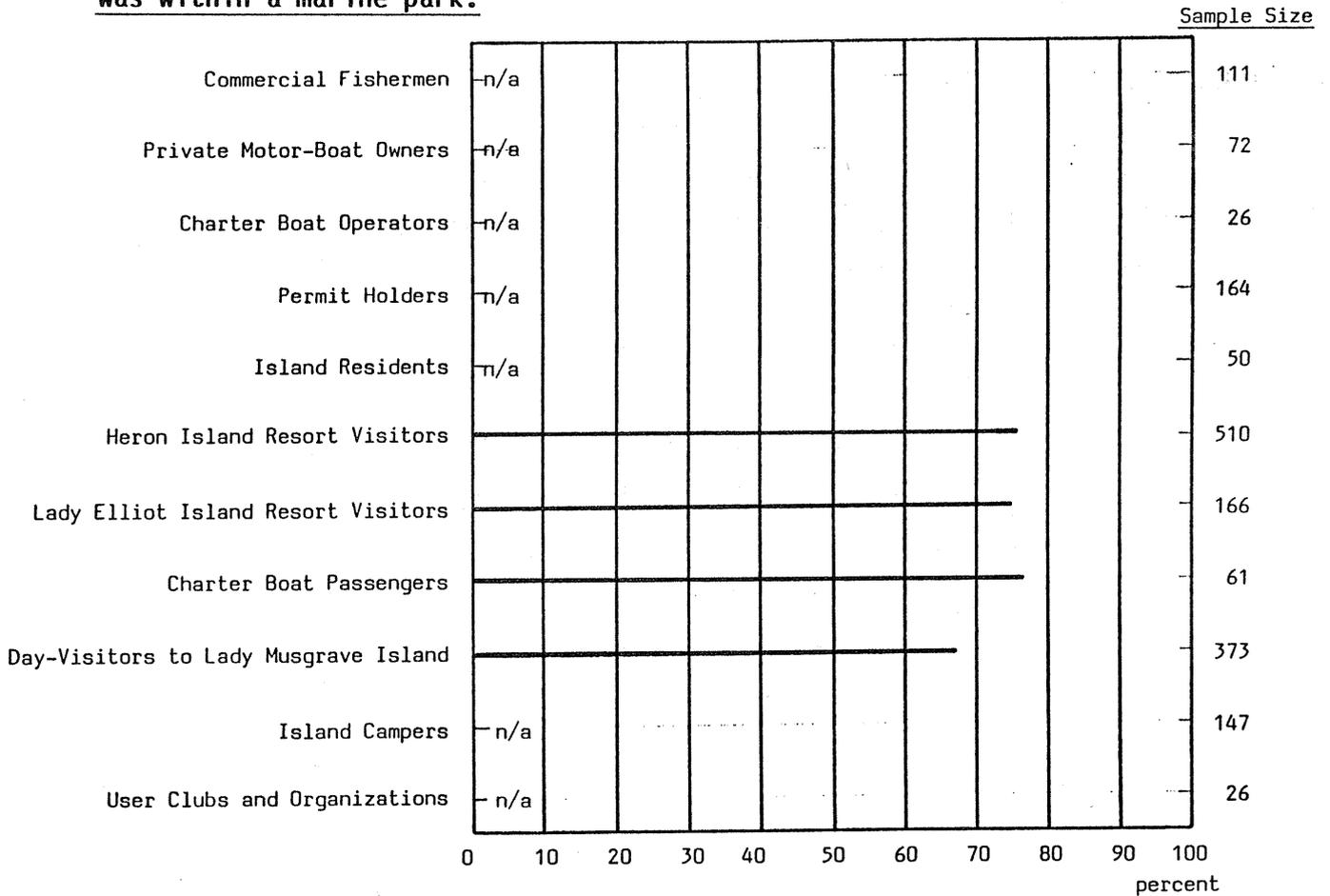
3.2 AWARENESS VARIABLES

The awareness variables are intended to measure users' knowledge and understanding of the Capricornia Section and the Zoning Plan. Contained within this section of the report are records of the percentages of respondents who:

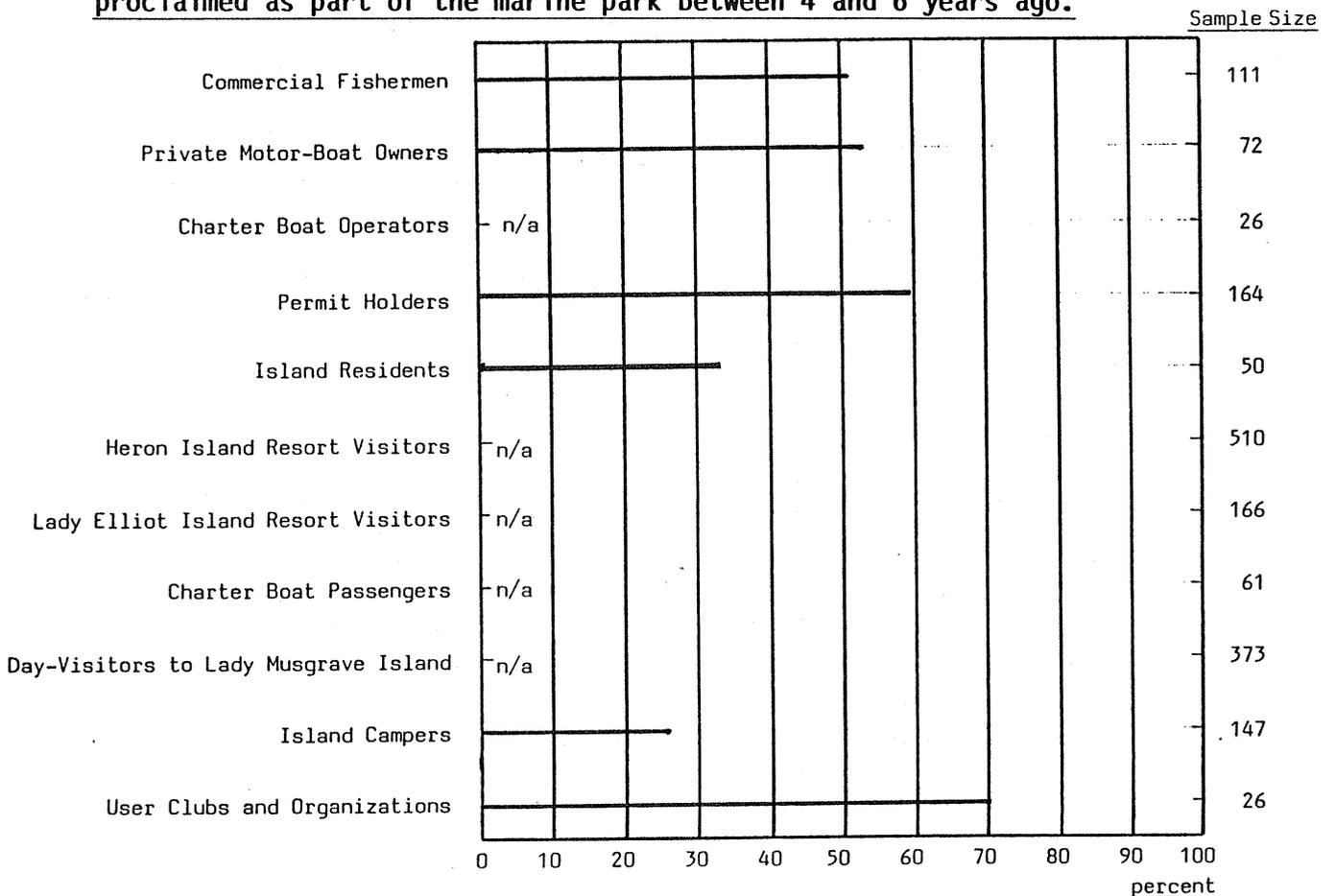
- . were aware that the place they were visiting was a marine park,
- . knew that the Capricornia Section was first proclaimed as part of the marine park between 4 and 6 years ago,
- . were aware that a Zoning Plan had been prepared for the Capricornia Section,
- . had seen a copy of the Zoning Plan,
- . own a copy of the Zoning Plan,
- . correctly thought that an objective of the Zoning Plan was to protect the reef for future generations,
- . correctly thought that an objective of the Zoning Plan was to exercise some control over what people do and where they go,
- . correctly thought that an objective of the Zoning Plan was to allow a reasonable amount of fishing and shell collecting,
- . correctly thought that an objective of the Zoning Plan was to provide areas where tourists can go and facilities can be developed,
- . correctly thought that an objective of the Zoning Plan was to keep some areas in a natural state by closing them off to the public,
- . could correctly name the zone around the reef on which they were located or spent most of their time,
- . correctly named G.B.R.M.P.A. as the agency responsible for the preparation of the Zoning Plan, and
- . correctly named Qld. National Parks and Wildlife Service as the agency responsible for day-to-day management.

Note: n/a indicates that the question was not asked of that user group.

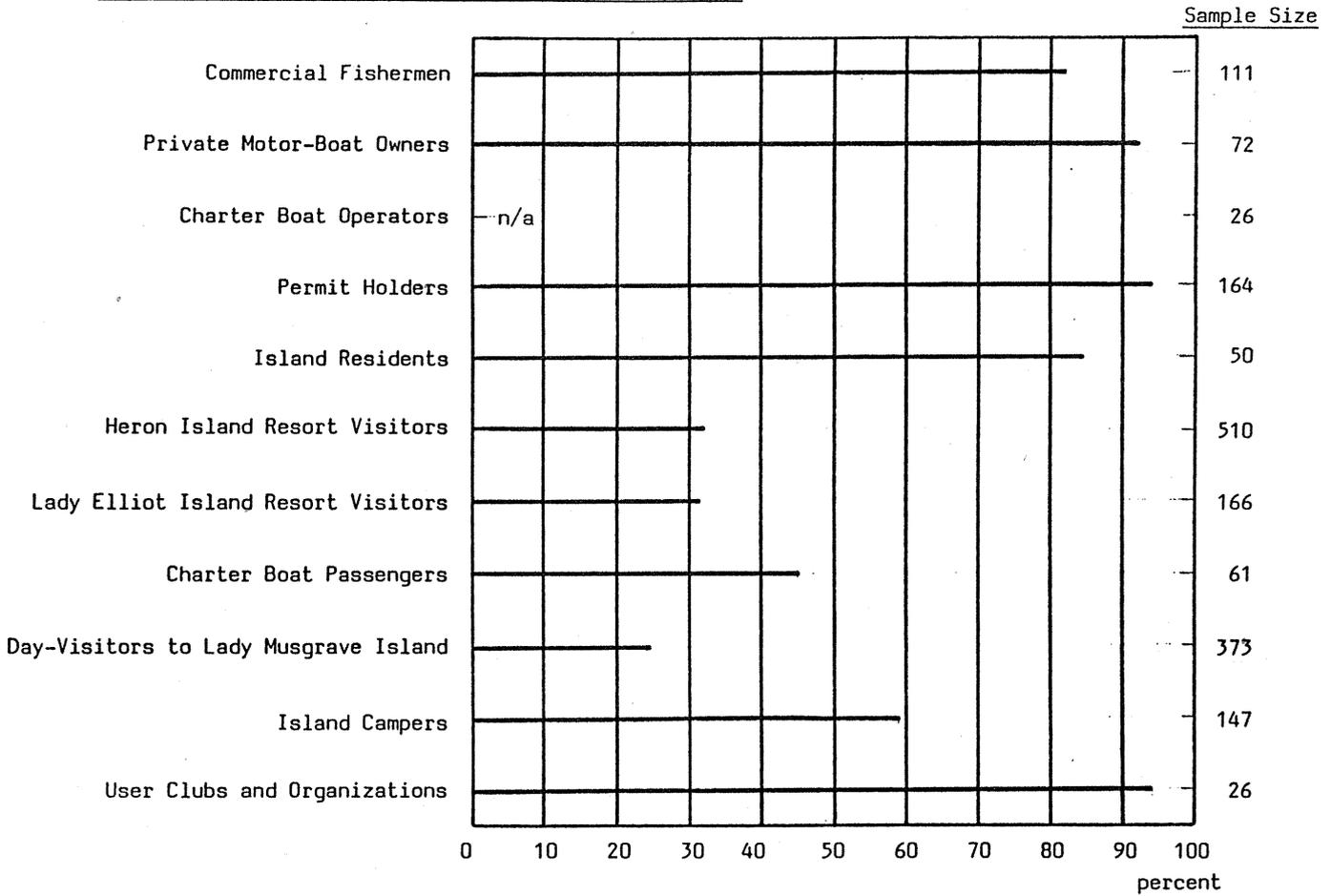
1. Percentage of respondents who were aware that the place they were visiting was within a marine park.



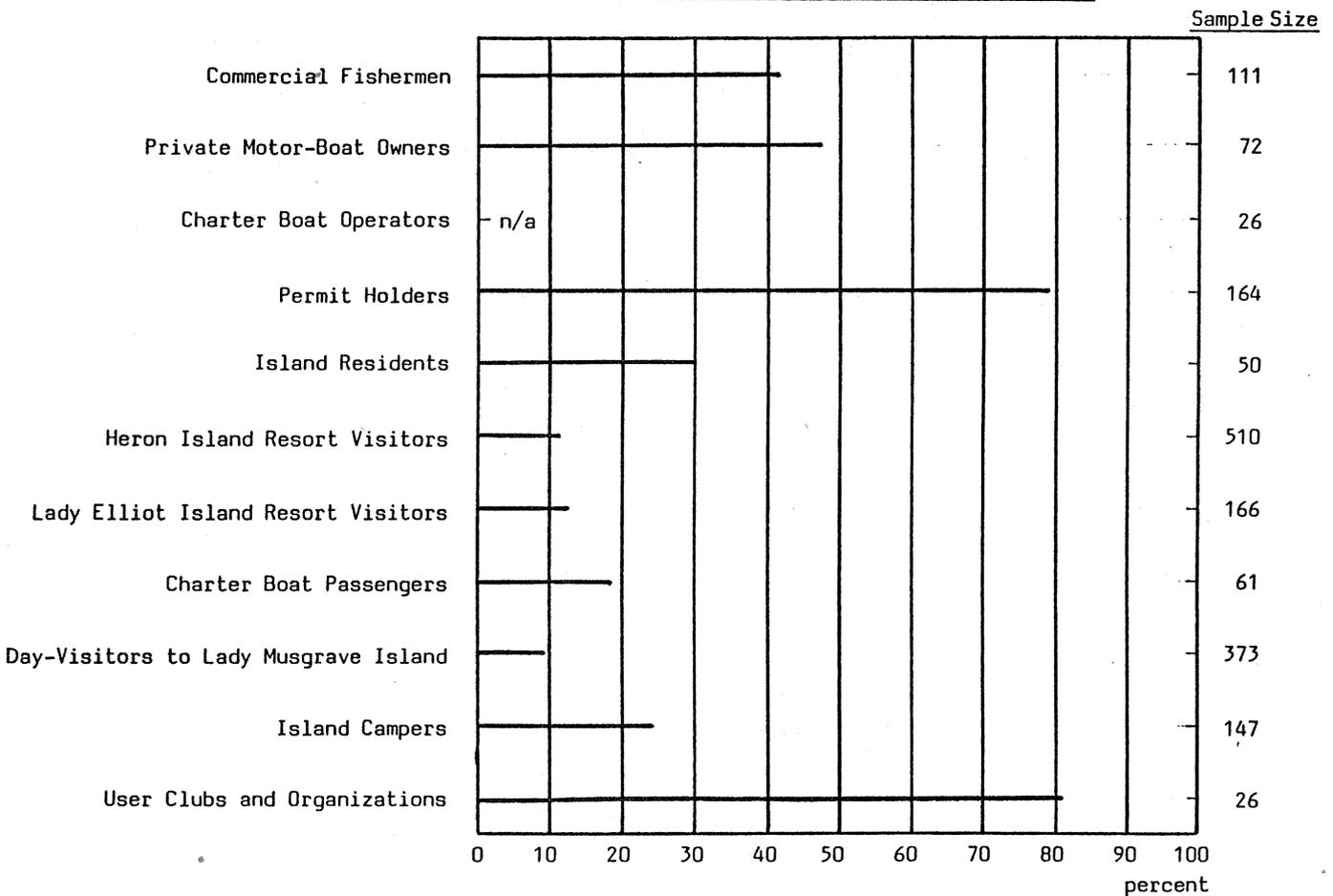
2. Percentage of respondents who knew that the Capricornia Section was first proclaimed as part of the marine park between 4 and 6 years ago.



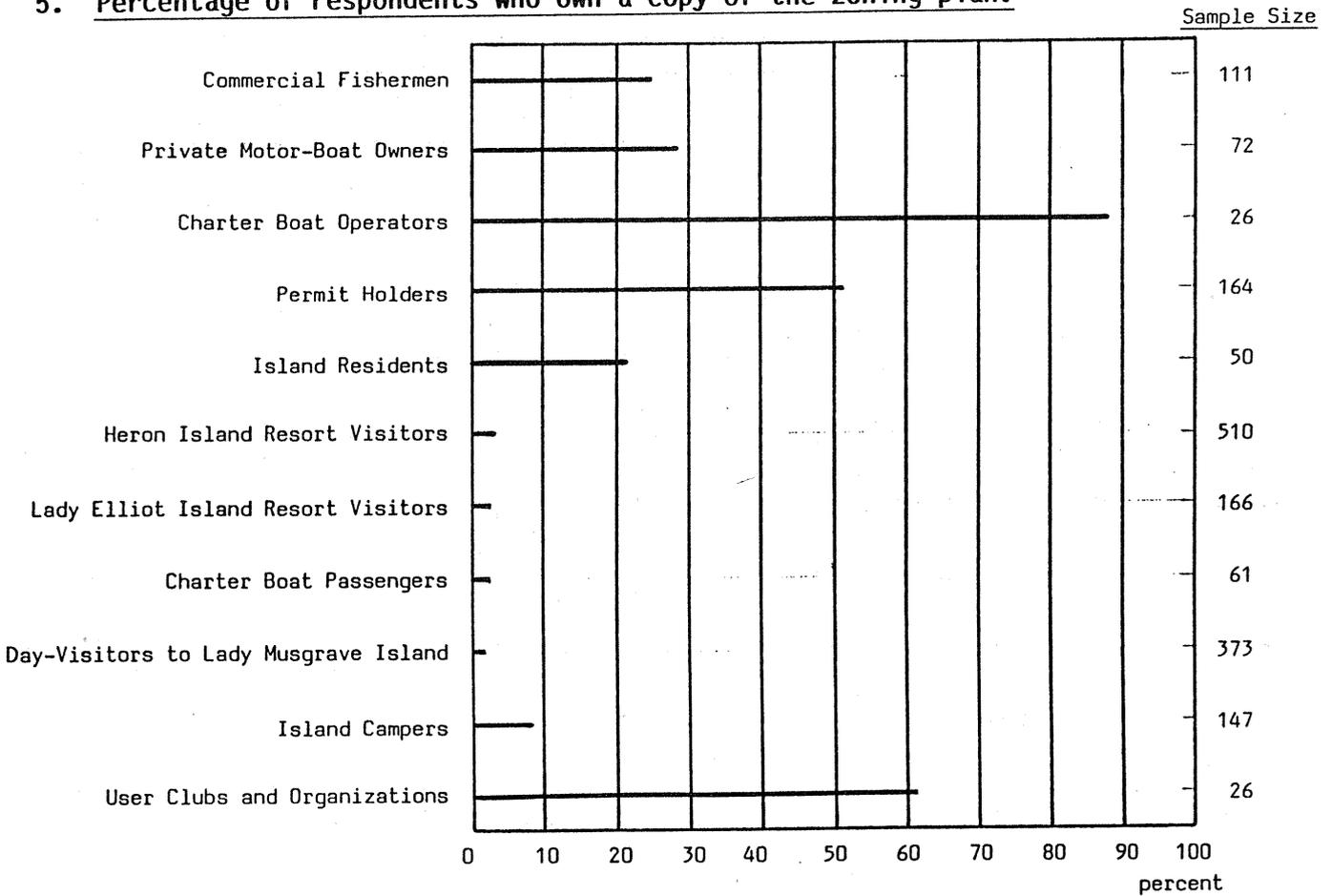
3. Percentage of respondents who were aware that a zoning plan had been prepared for the Capricornia Section.



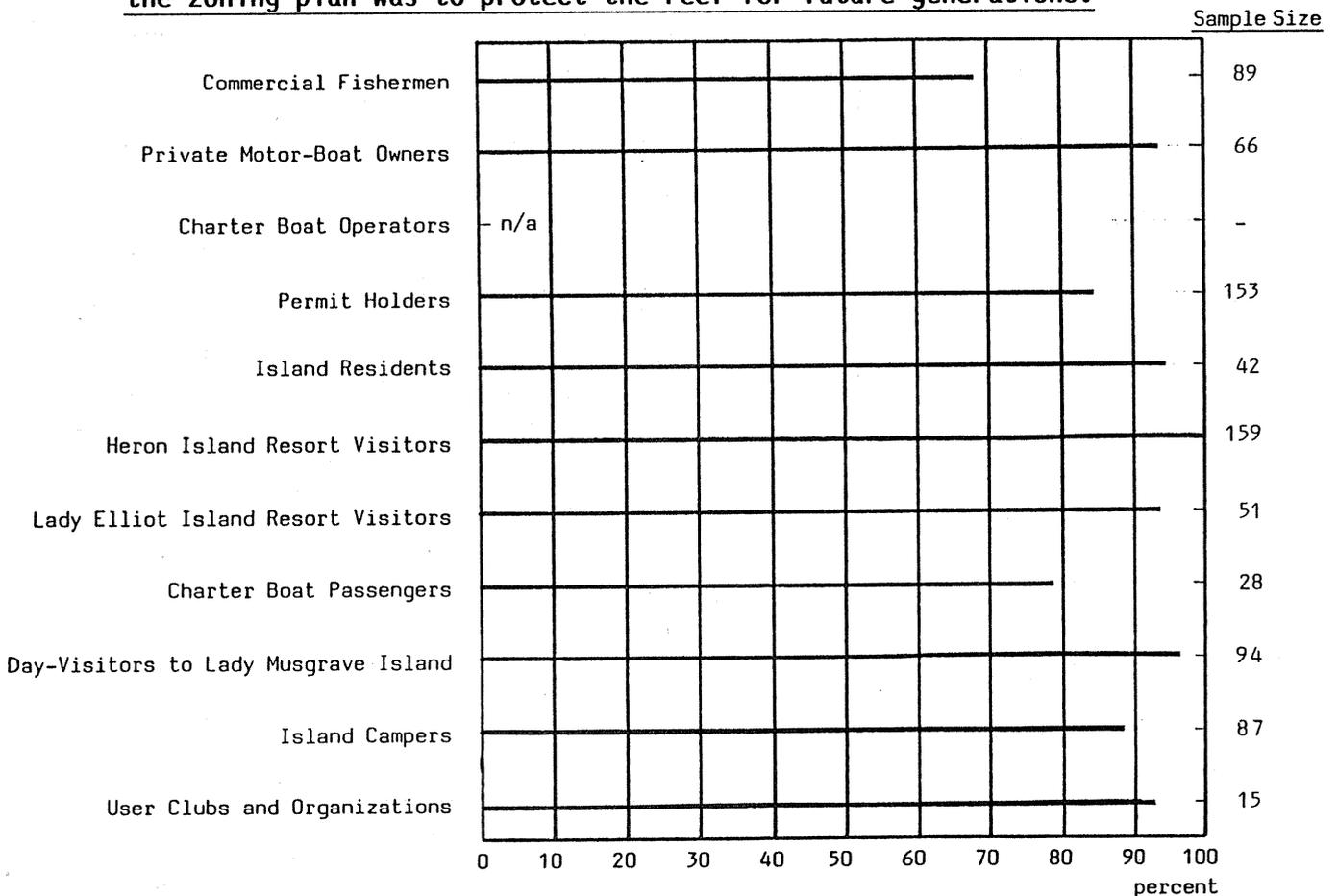
4. Percentage of respondents who had seen a copy of the zoning plan.



5. Percentage of respondents who own a copy of the zoning plan.

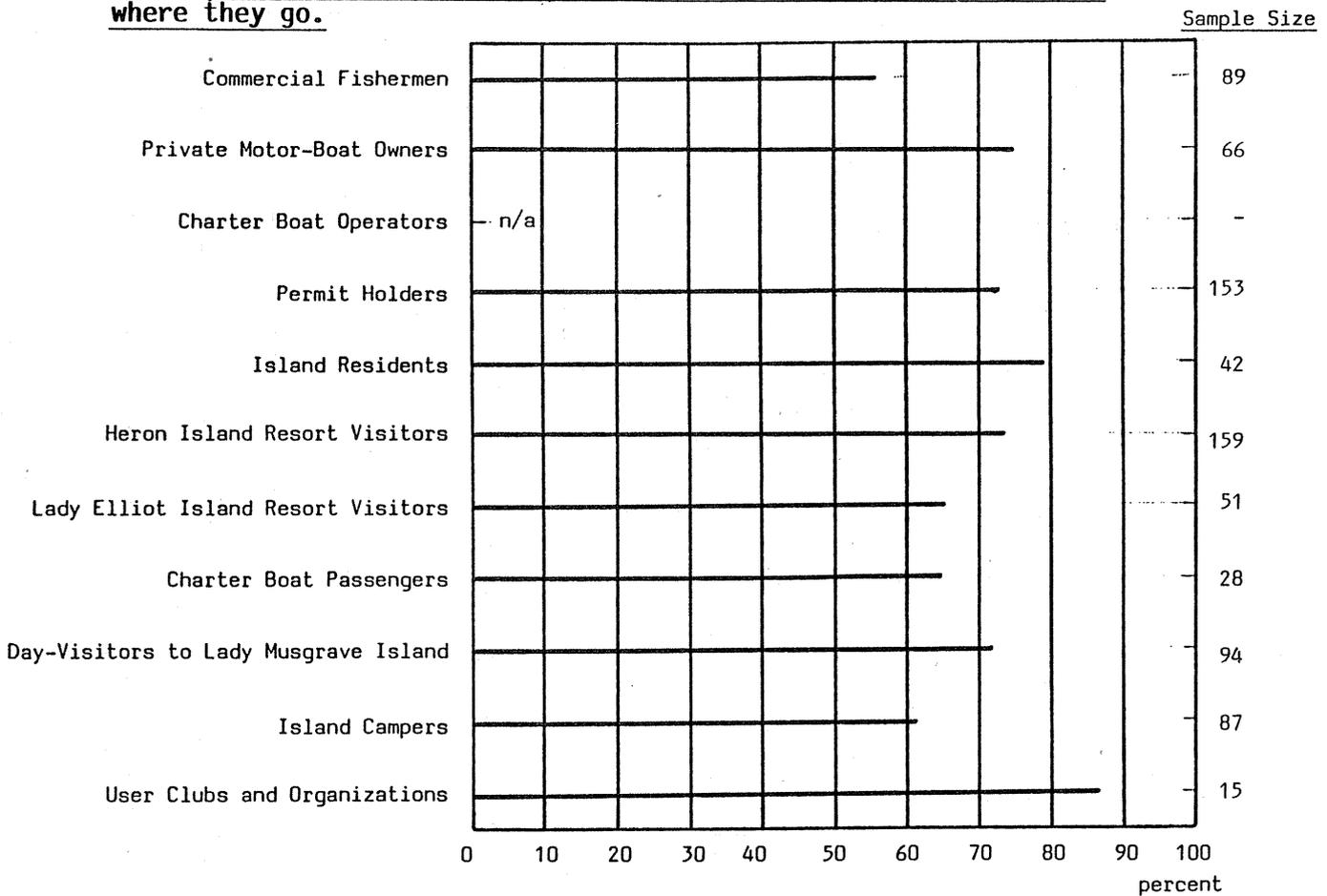


6(a) Percentage of respondents* who correctly thought that an objective of the zoning plan was to protect the reef for future generations.

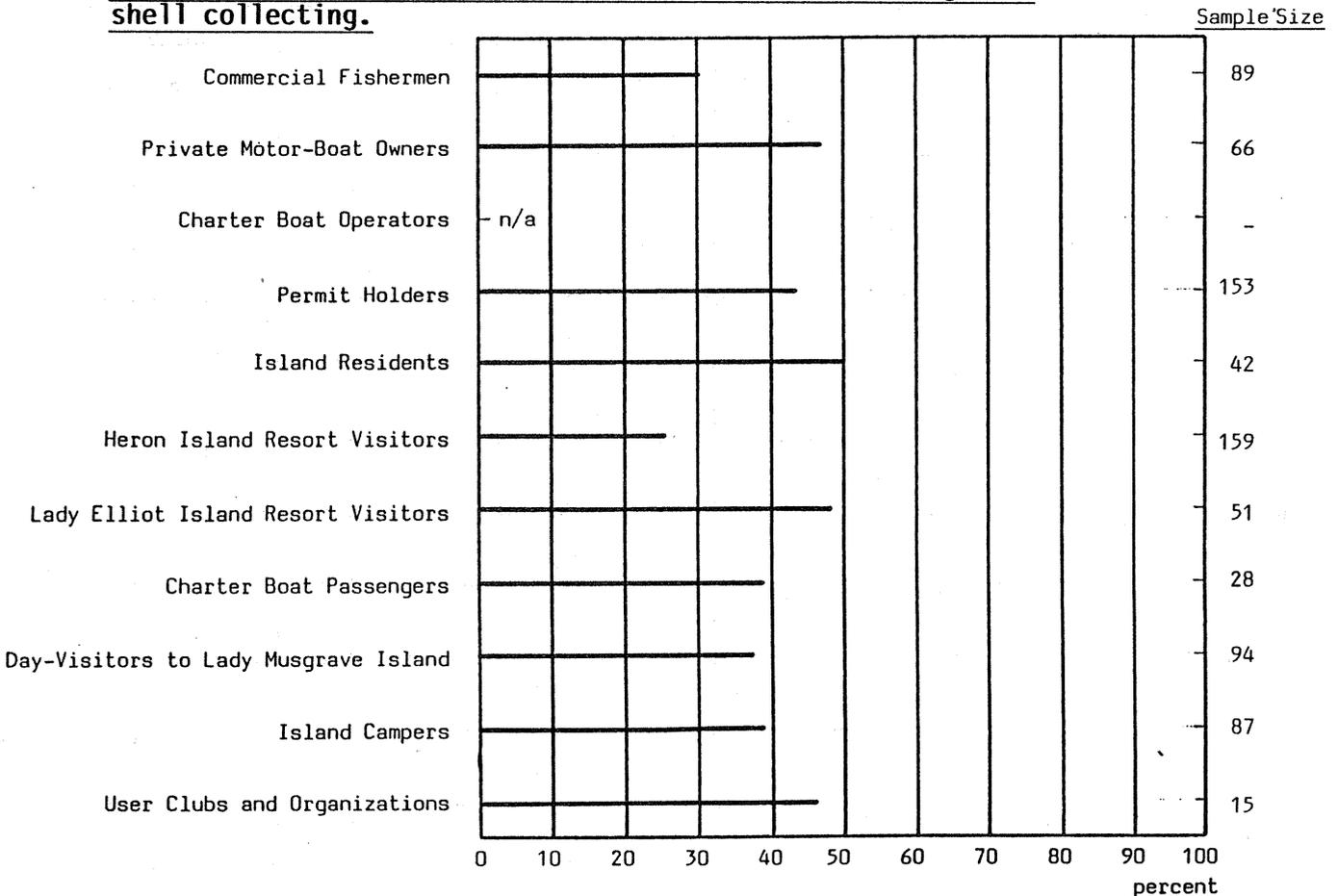


* Note: only includes respondents who were aware of the zoning plan.

6(b) Percentage of respondents* who correctly thought that an objective of the zoning plan was to exercise some control over what people do and where they go.

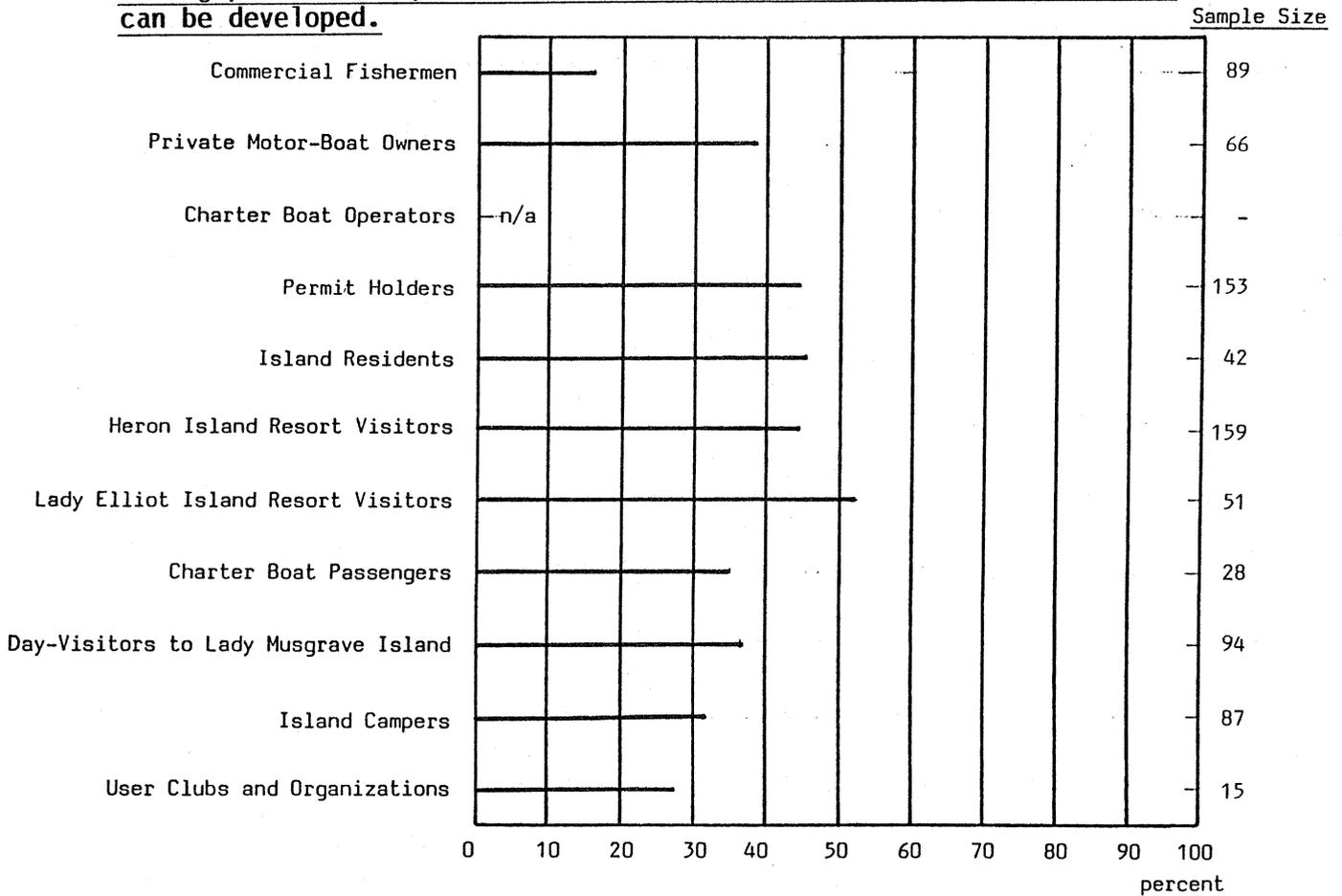


6(c) Percentage of respondents* who correctly thought that an objective of the zoning plan was to allow a reasonable amount of fishing and shell collecting.

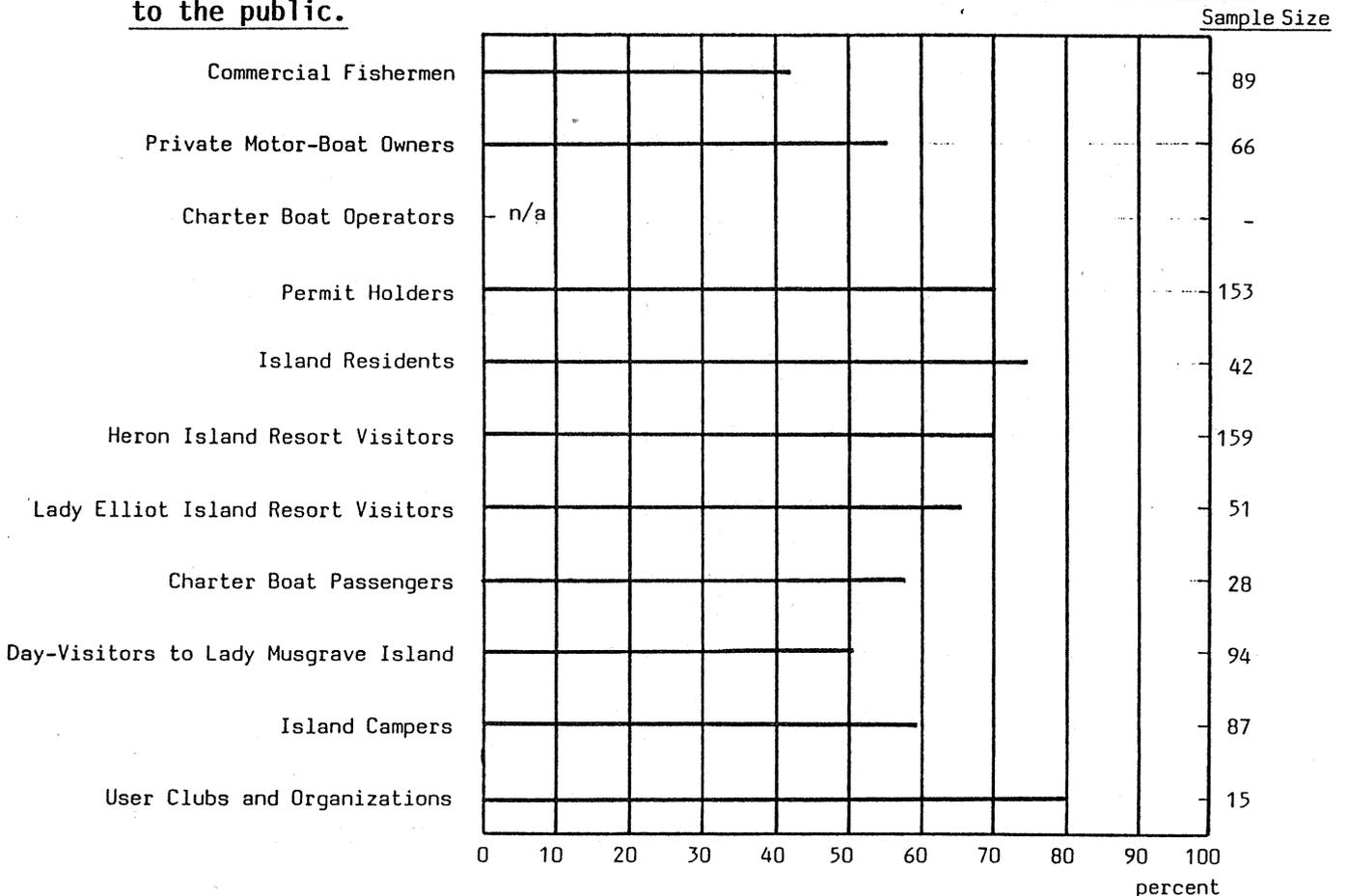


* Note: only includes respondents who were aware of the zoning plan.

6(d) Percentage of respondents* who correctly thought that an objective of the zoning plan was to provide areas where tourists can go and facilities can be developed.

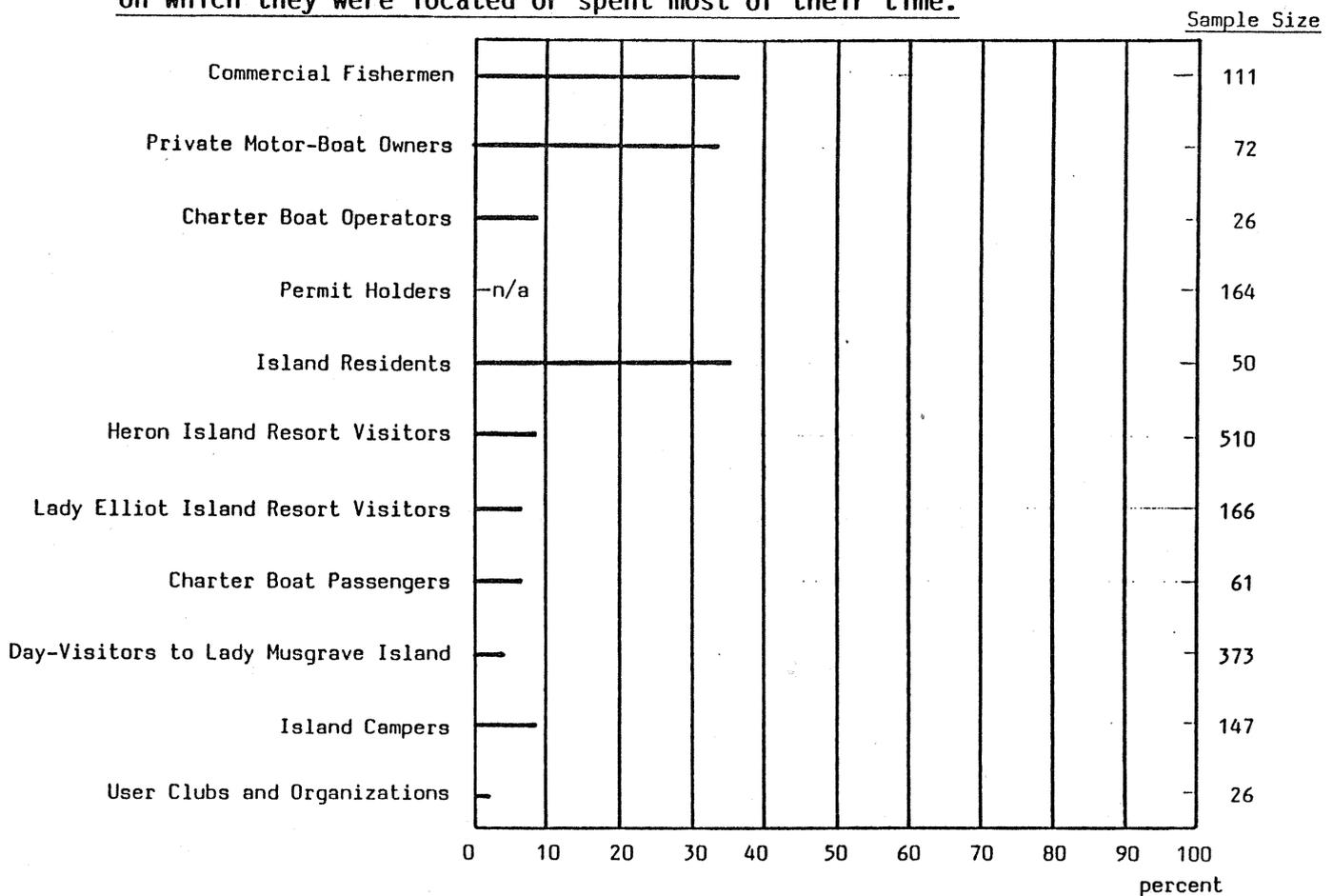


6(e) Percentage of respondents* who correctly thought that an objective of the zoning plan was to keep some areas in a natural state by closing them off to the public.



* Note: only includes respondents who were aware of the zoning plan.

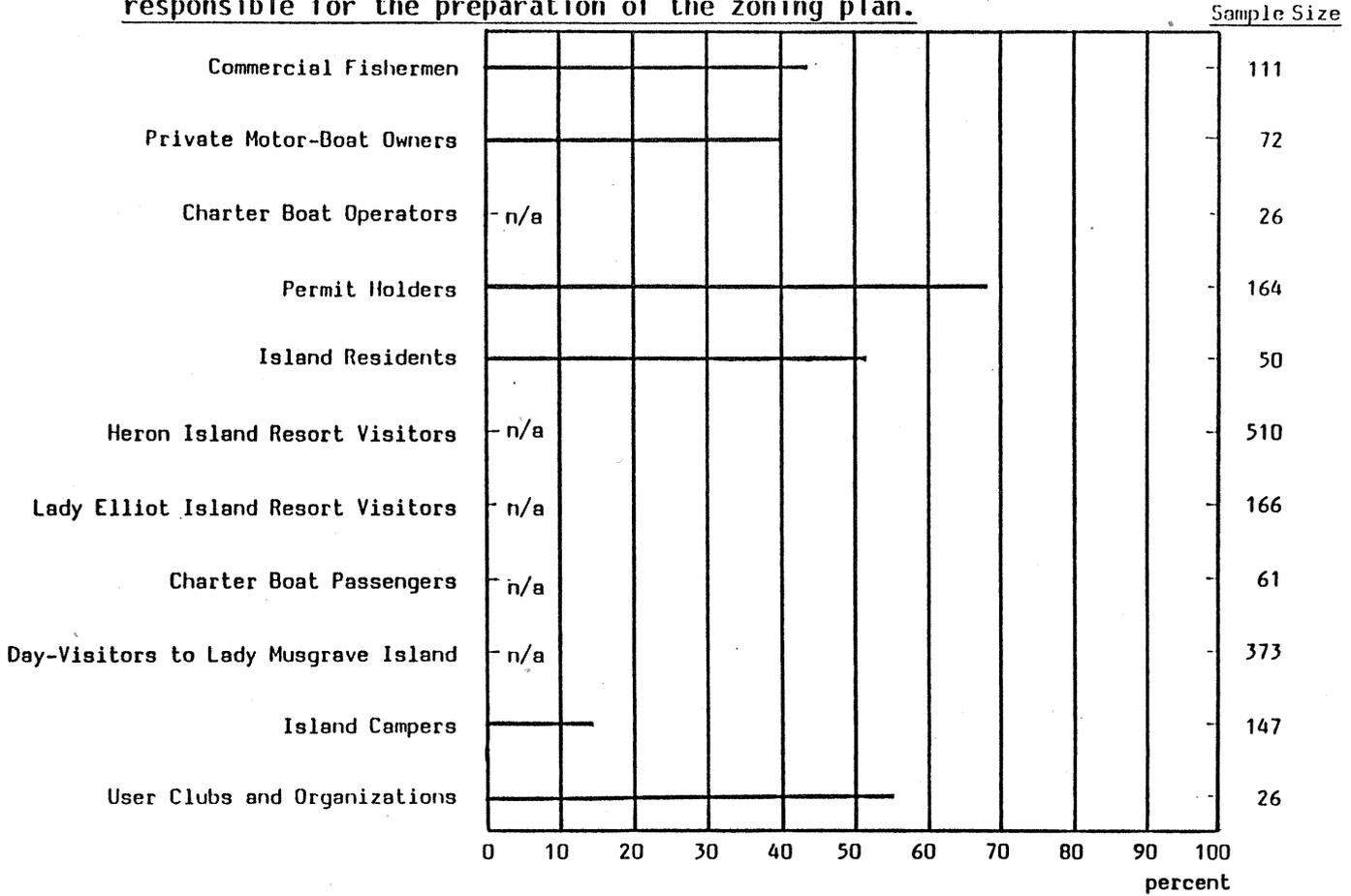
7. Percentage of respondents who could correctly name the zone around the reef on which they were located or spent most of their time.



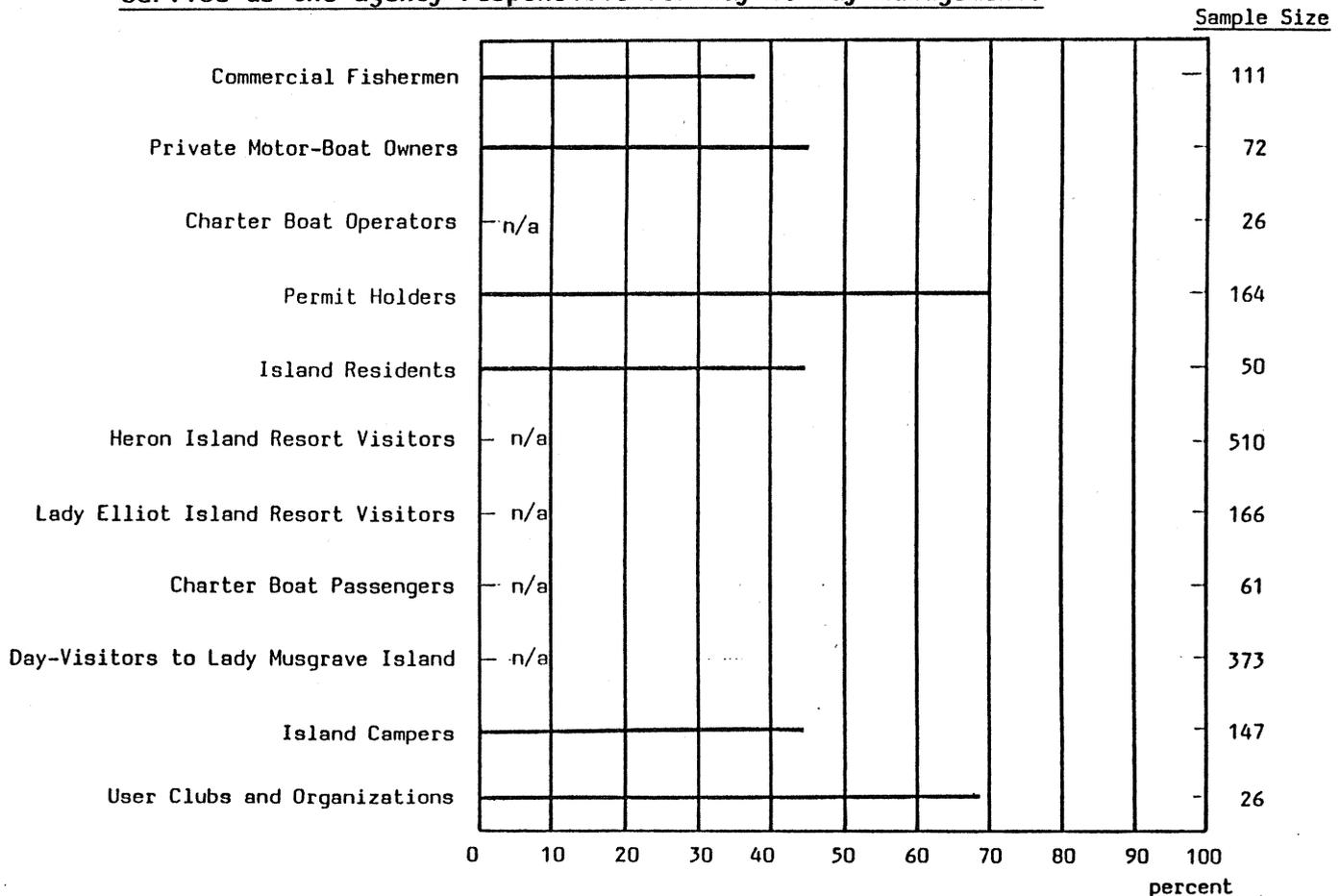
From the surveys that employed interview techniques (e.g. the charter boat operators' survey) and for other surveys where there was close contact with users (e.g. island residents and island campers), it is apparent that many regular users are aware of where and when activities of interest are permitted even though they may not be aware of the correct zone names.

In the case of surveys that sought information from predominantly 'novice' users (e.g. the resort visitors and day-visitors) there was a tendency for respondents to assume that use controls are more stringent than they actually are in practice. There was a common assumption amongst these users that extractive activities were not permitted anywhere within the marine park.

8. Percentage of respondents who correctly named G.B.R.M.P.A. as the agency responsible for the preparation of the zoning plan.



9. Percentage of respondents who correctly named Qld. National Parks and Wildlife Service as the agency responsible for day-to-day management.



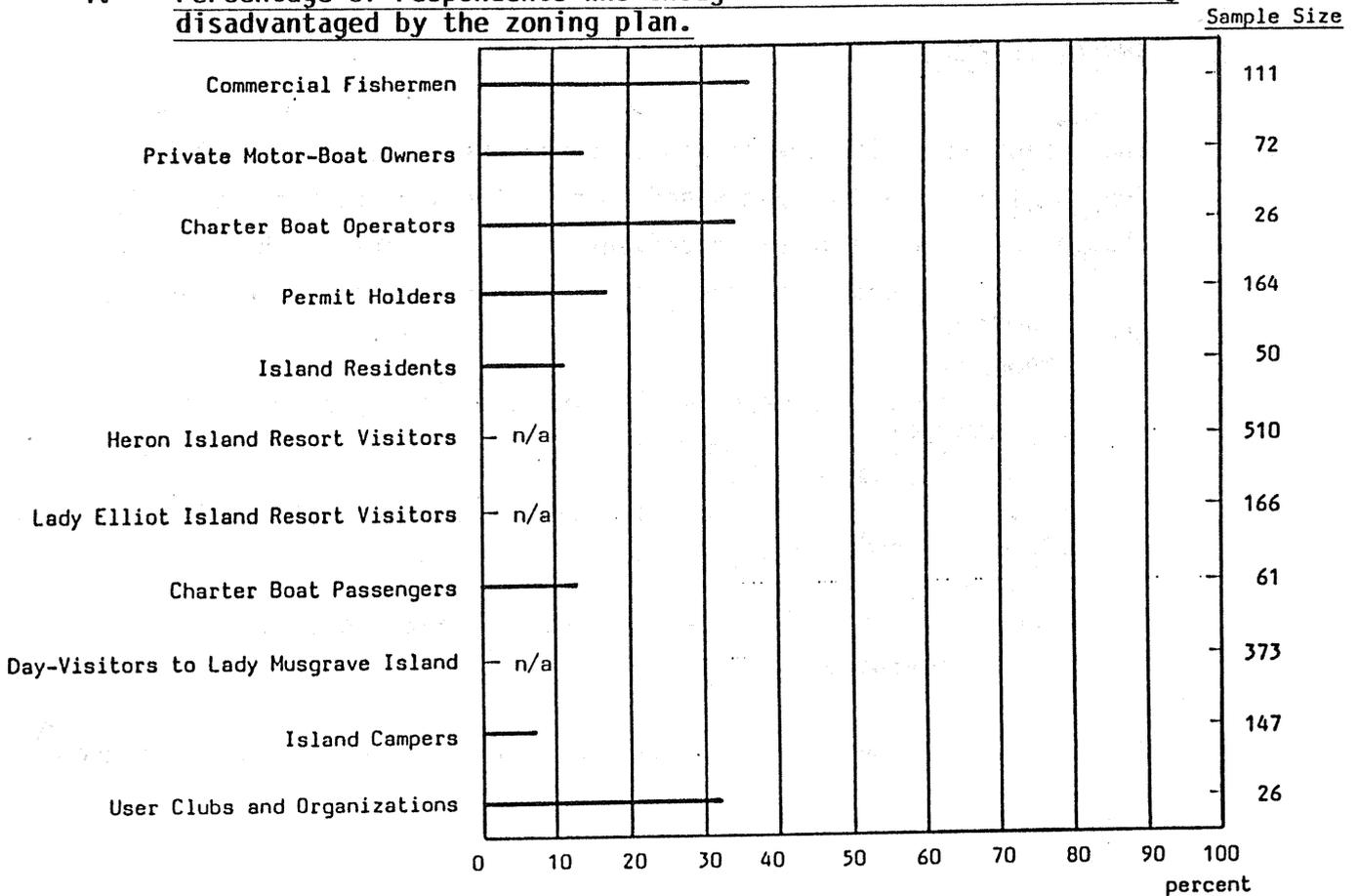
3.3 IMPACT VARIABLES

The impact variables are intended to measure the effects that the Zoning Plan has had on users and to see if any users perceive themselves as being unduly disadvantaged. Contained within this section of the report are records of the percentages of respondents who:

- thought that some users were being disadvantaged by the Zoning Plan (plus relevant comments),
- felt that the Zoning Plan had changed their activity patterns (for pre 1981 visitors only), and
- thought that they had been financially affected by the Zoning Plan.

Note: n/a indicates that the question was not asked of that user group.

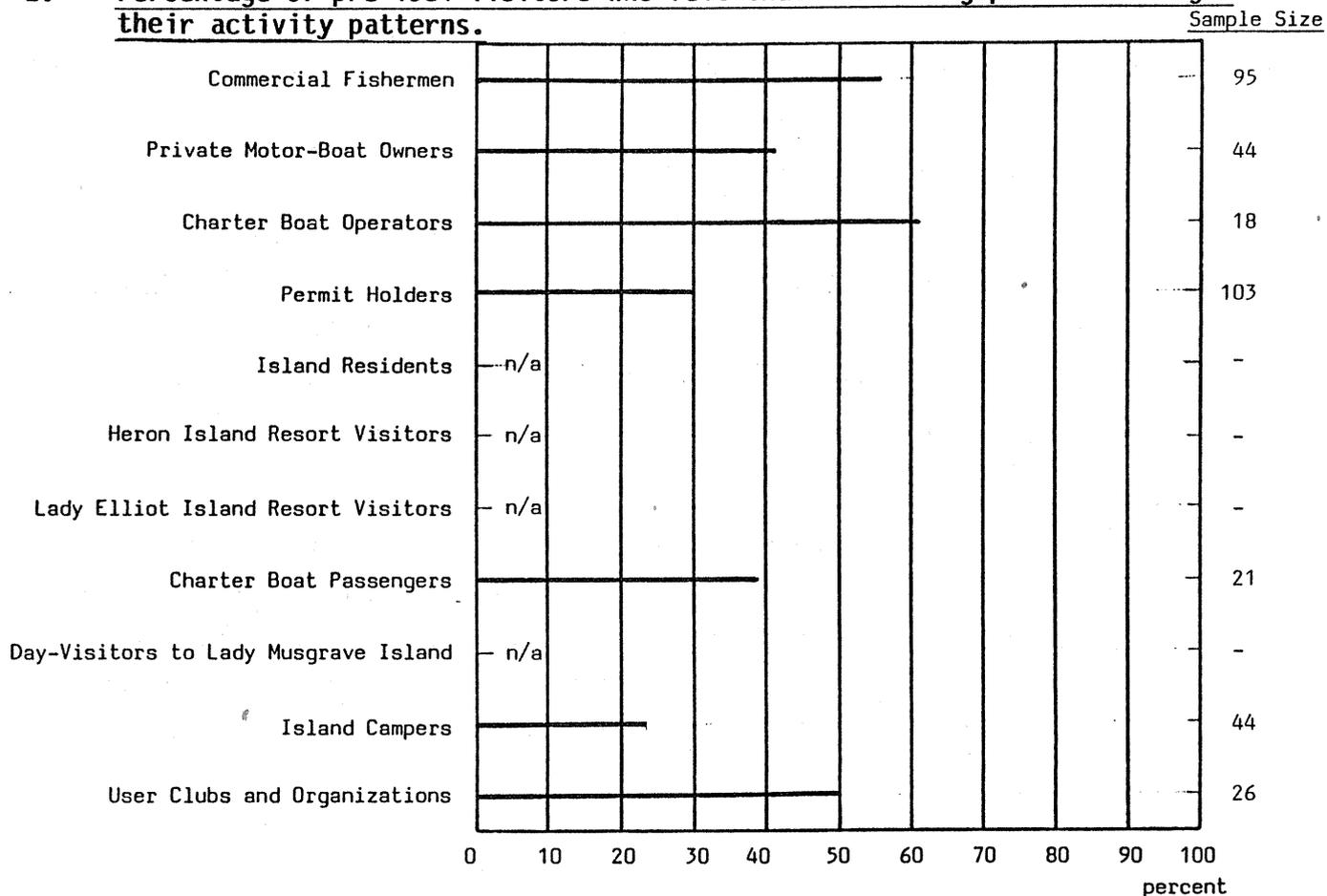
1. Percentage of respondents who thought that some users were being disadvantaged by the zoning plan.



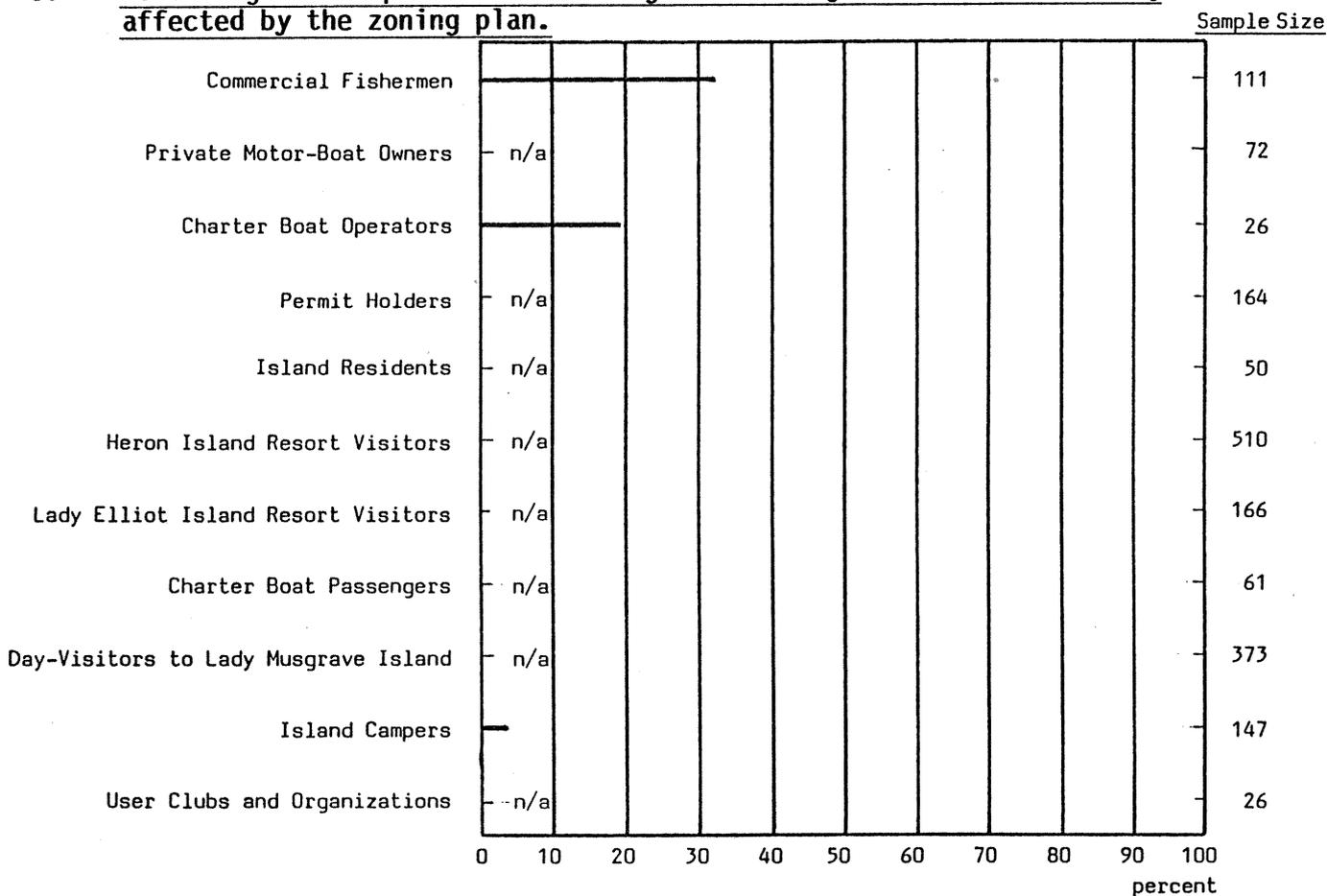
The main areas of disadvantage perceived by users were:

- . closure of traditional commercial fishing grounds,
- . closure of One Tree Island Reef to charter boat operators, recreational fishermen and photographers,
- . a decrease in the diversity of reef destinations available to charter boat operators,
- . making small boats travel further out to sea by the closure of some inner reefs,
- . unreasonable restrictions on trawling and spear fishing,
- . recreational fishermen being treated more leniently than commercial fishermen, and
- . excessive restrictions being placed on the conduct of scientific research.

2. Percentage of pre 1981 visitors who felt that the zoning plan had changed their activity patterns.



3. Percentage of respondents who thought that they had been financially affected by the zoning plan.



All the respondents who indicated that they had been financially affected perceived the impacts to have been negative. In nearly all cases their comments stemmed from the closure of traditional use areas.

In the case of commercial fishermen, the most common comment (by 16 separate respondents) was that they must now either work longer hours travelling to more remote fishing grounds or settle for a reduced income. In the case of charter boat operators, the major concern (voiced by 3 operators) was that they are now paying higher fuel costs to travel to more remote areas.

While many of the recreational users commented on the fact that they have been disadvantaged to some degree by the closure of certain areas to fishing and collecting, there was a tendency for respondents to accept that reasonable use restrictions are acceptable if they ensure the long term protection of the Reef. This view was supported by permit holders.

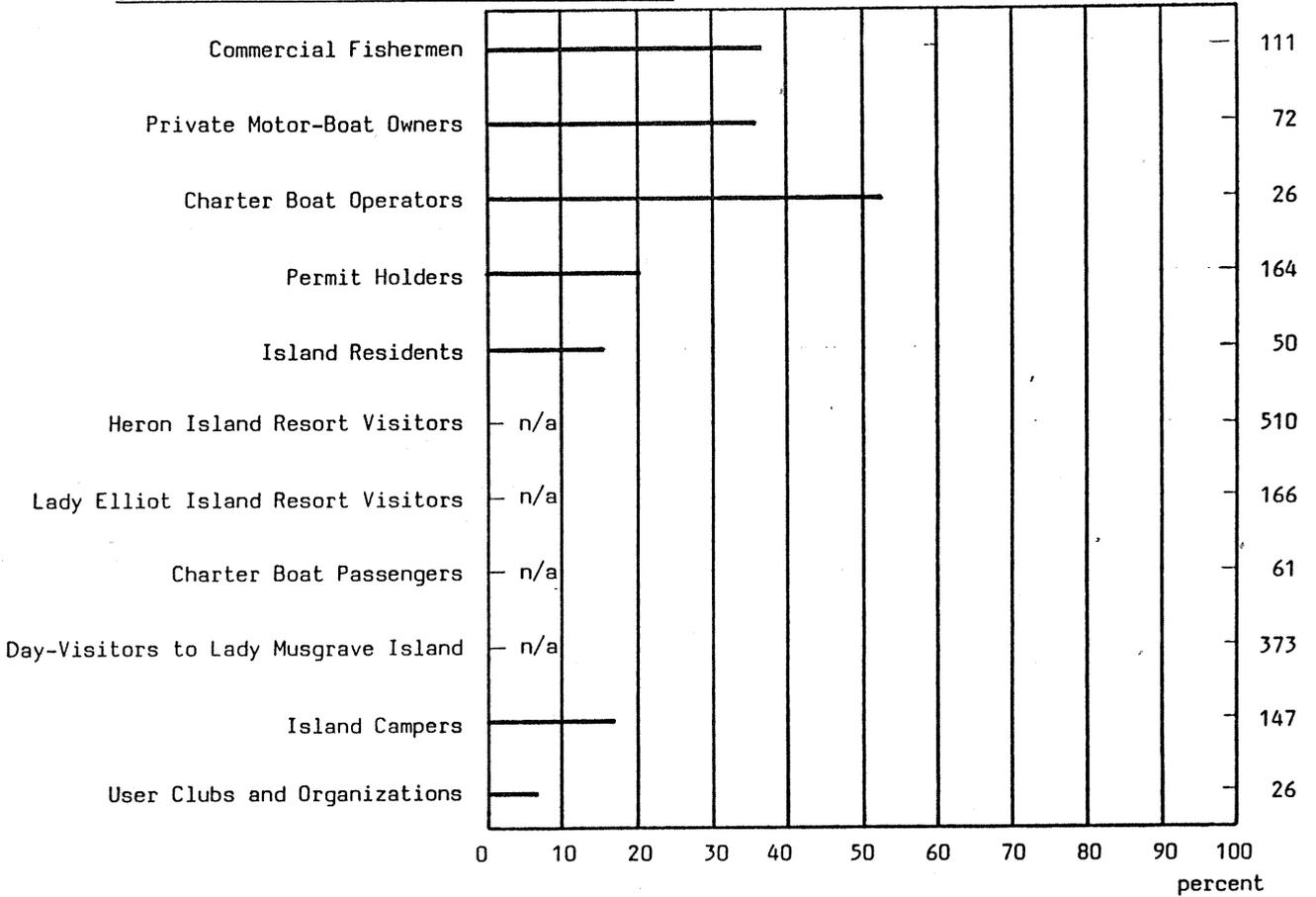
3.4 ATTITUDINAL VARIABLES

The attitudinal variables are intended to measure users' perceptions of the performance of the Zoning Plan and day-to-day management in the Capricornia Section. Contained within this section of the report are records of the percentages of respondents who:

- . felt that the legal provisions of the Zoning Plan are being adequately enforced (plus relevant comments),
- . had met a marine park ranger in the Capricornia Section (together with users' images of marine park rangers),
- . felt that the current permit issuing system is satisfactory (plus relevant comments),
- . agree that the Zoning Plan has helped to protect the Great Barrier Reef,
- . agree that the Zoning Plan has improved Australia's reputation in nature conservation,
- . agree that the Zoning Plan has improved the fishing,
- . agree that the Zoning Plan has been a good example of State and Commonwealth government co-operation,
- . agree that the Zoning Plan has been a wise use of public money,
- . agree that the Zoning Plan has been a bureaucratic nightmare,
- . agree that the Zoning Plan merely reflects what has been going on for years anyway, and
- . agree that the Zoning Plan places too many restrictions on what they can do.

Note: n/a indicates that the question was not asked of that user group.

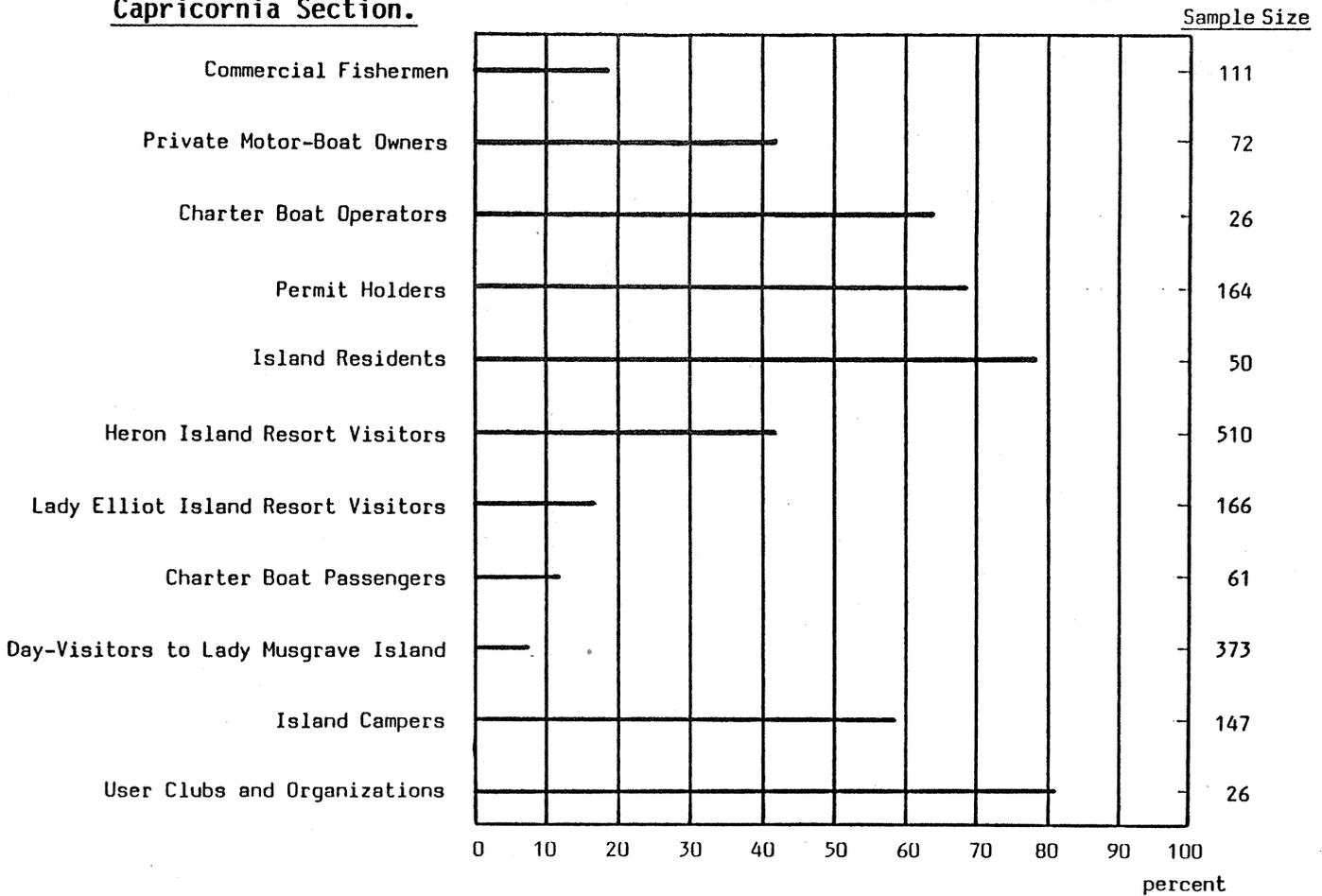
1. Percentage of respondents who felt that the legal provisions of the zoning plan are being adequately enforced. Sample Size



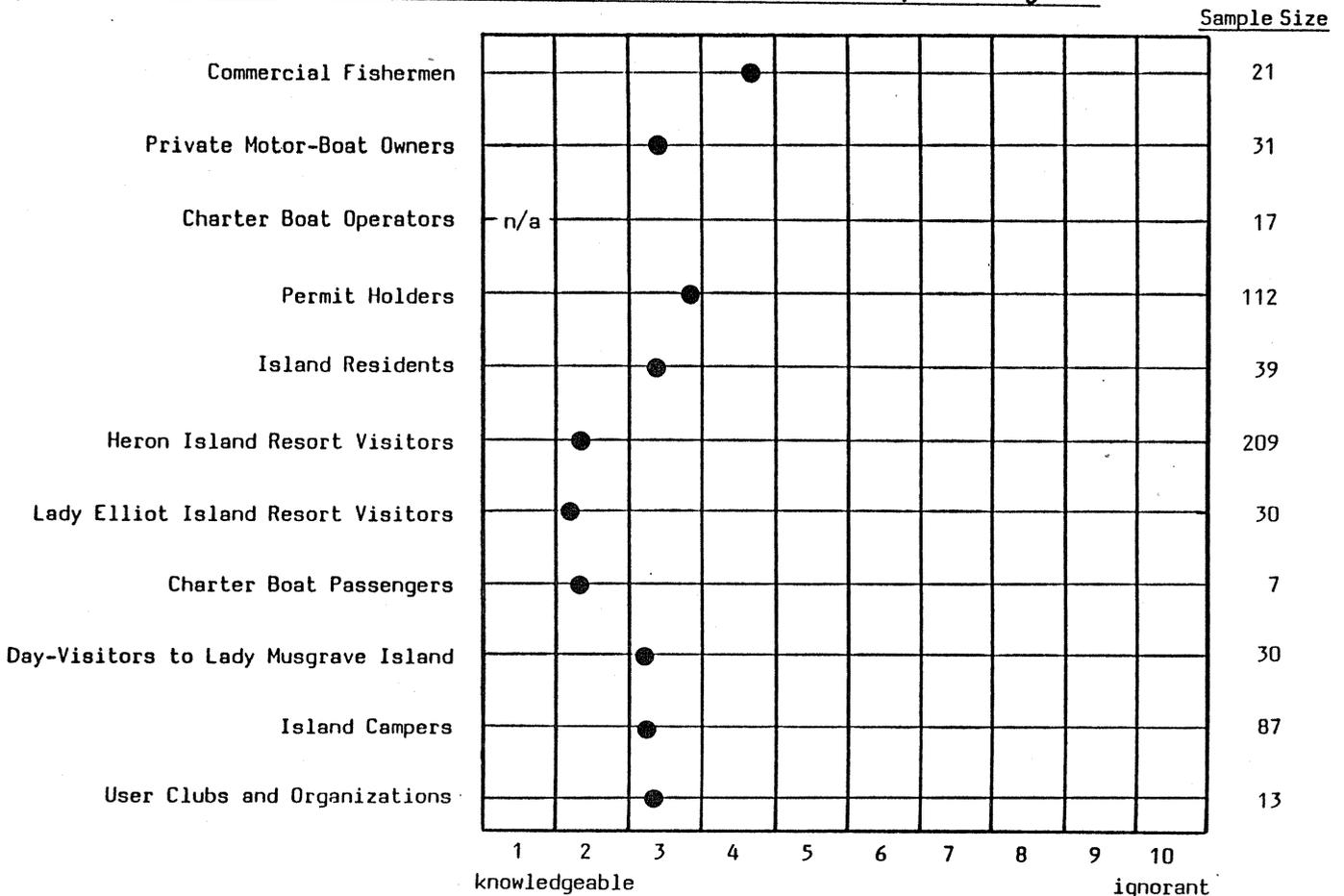
The following enforcement problems were noted most often by respondents:

- . there is inadequate surveillance of the Section,
- . known offenders are not being prosecuted,
- . rangers are rarely seen in the field,
- . more rangers are required,
- . aerial surveillance is ineffective, and
- . illegal night fishing is occurring.

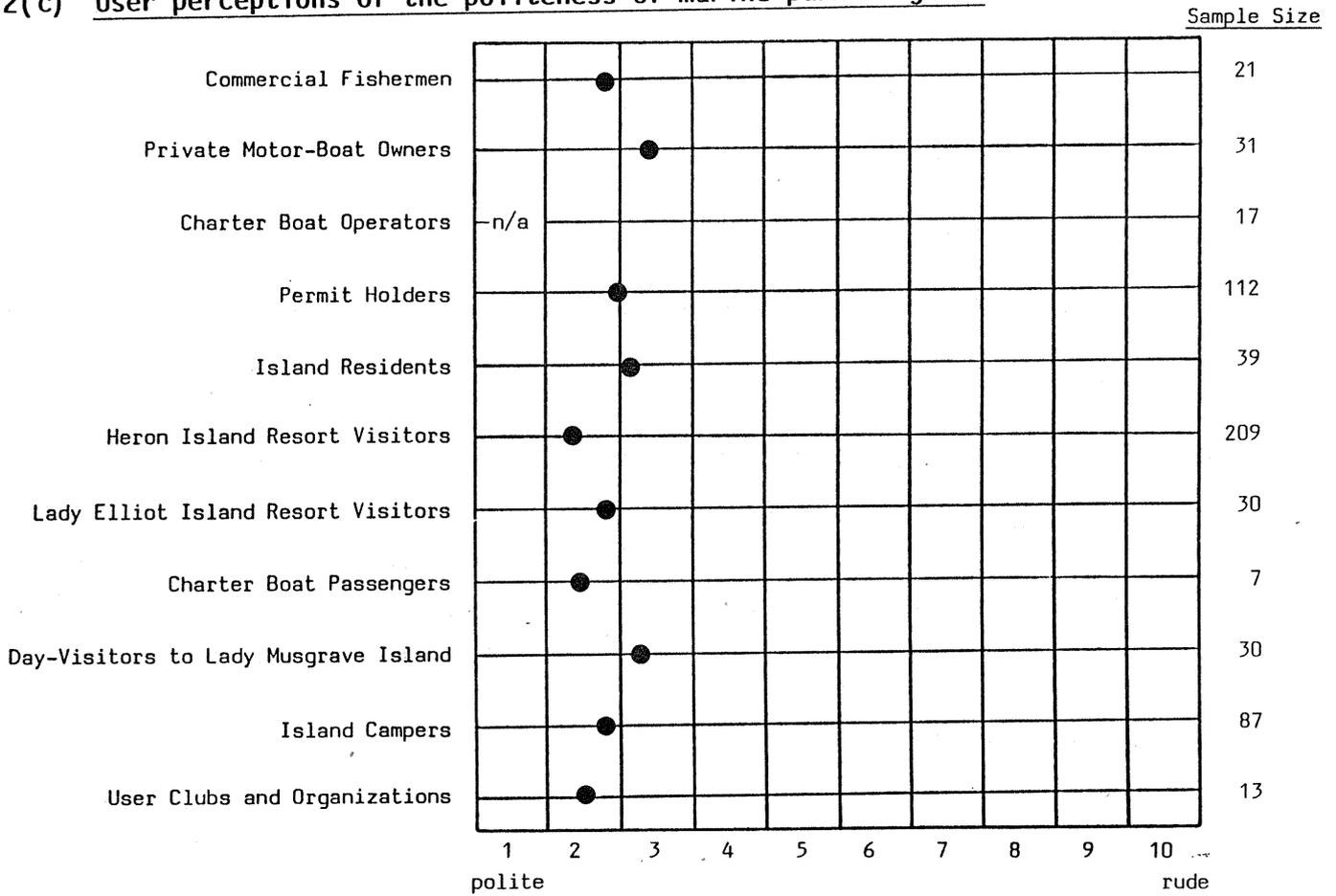
2(a) Percentage of respondents who had met a marine park ranger in the Capricornia Section.



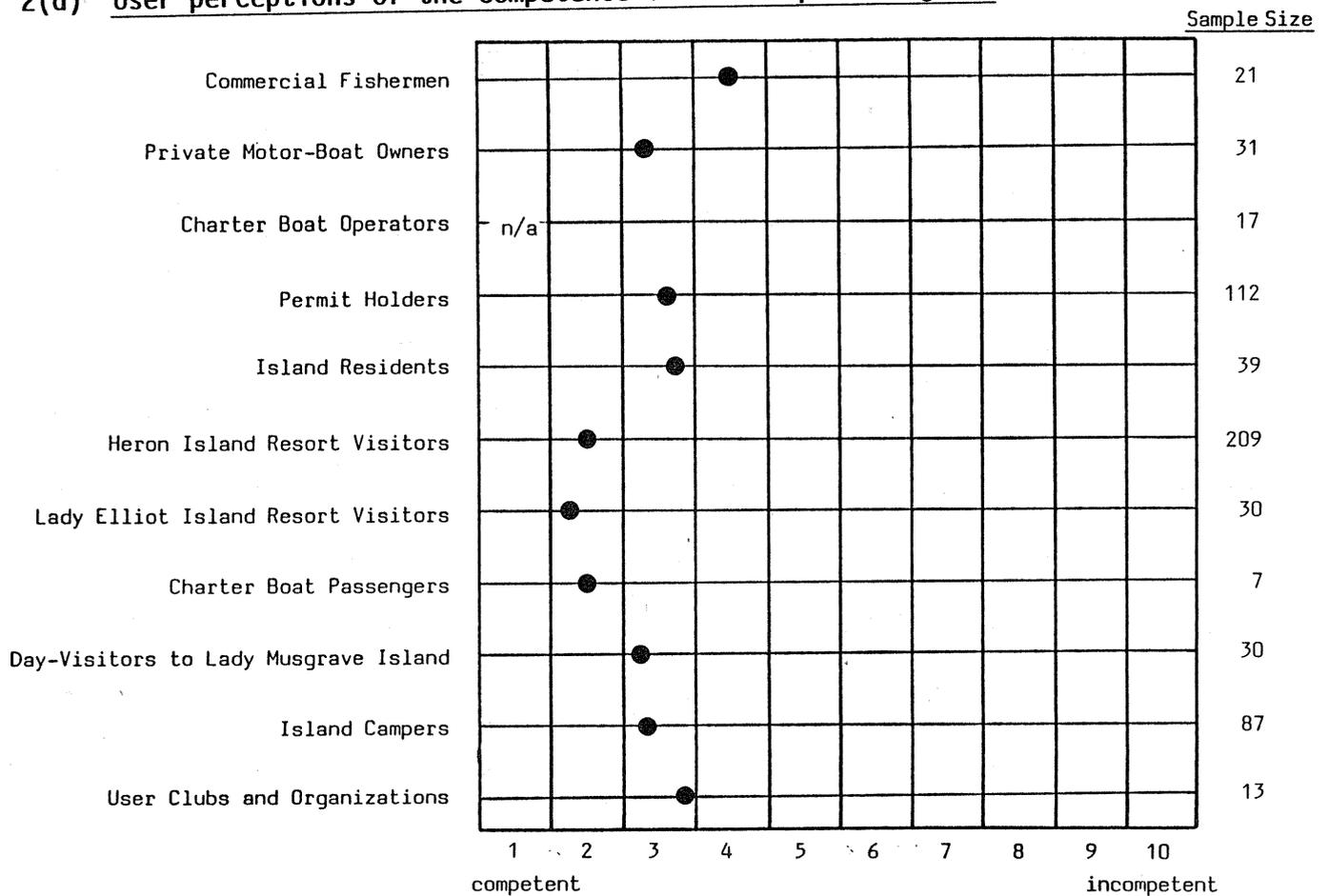
2(b) User perceptions of the knowledgeability of marine park rangers.



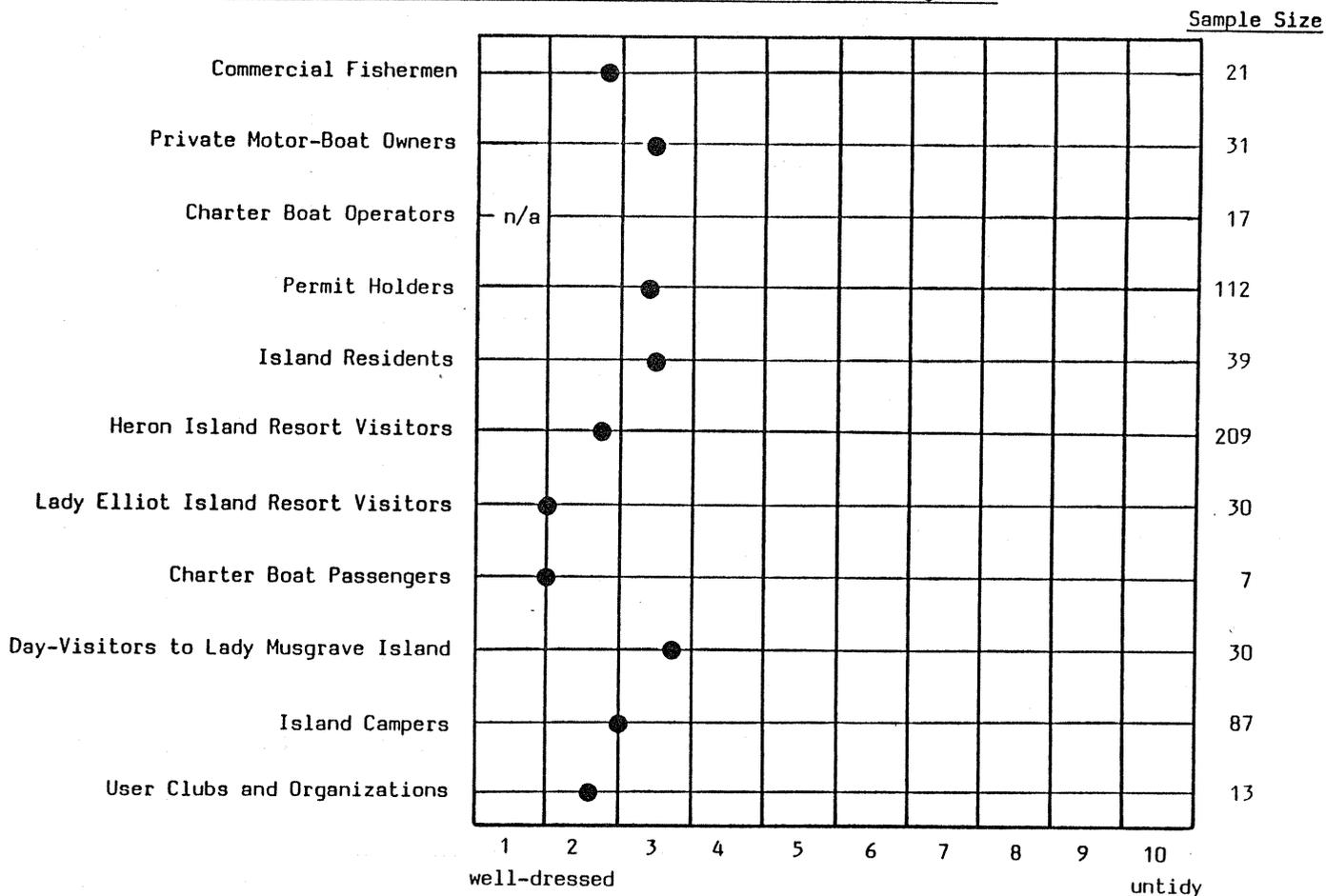
2(c) User perceptions of the politeness of marine park rangers.



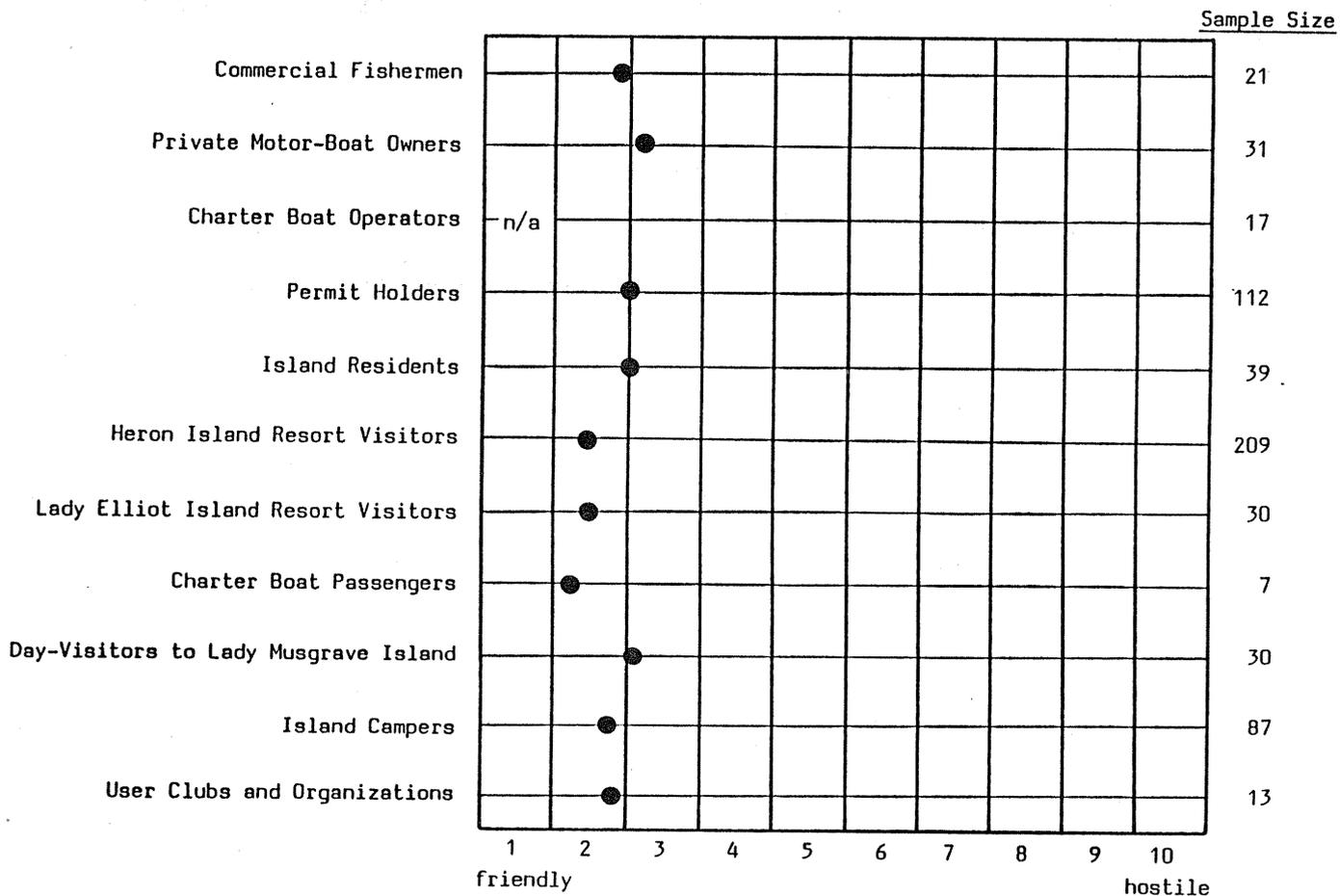
2(d) User perceptions of the competence of marine park rangers.



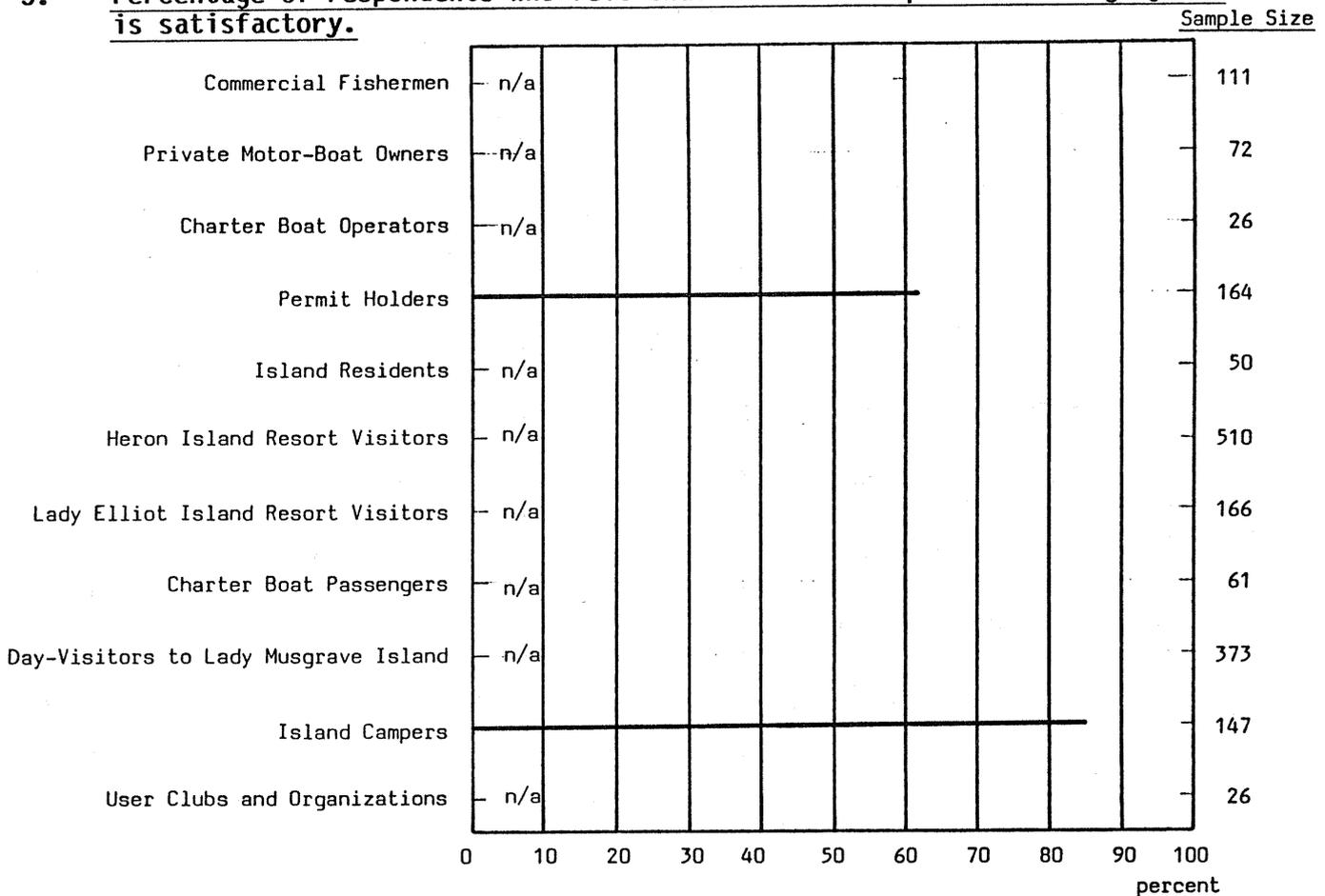
2(e) User perceptions of the appearance of marine park rangers.



2(f) User perceptions of the friendliness of marine park rangers.



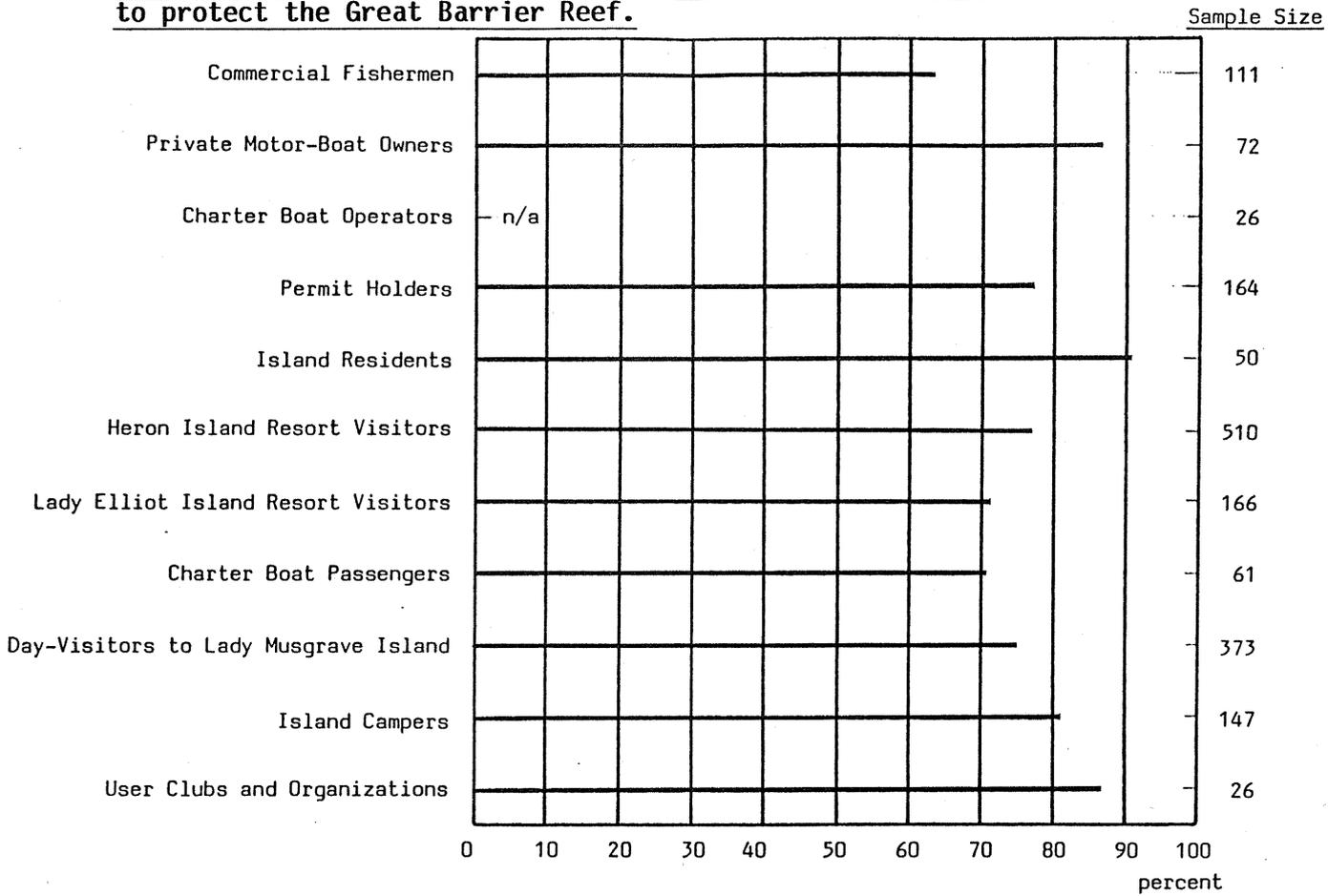
3. Percentage of respondents who felt that the current permit issuing system is satisfactory.



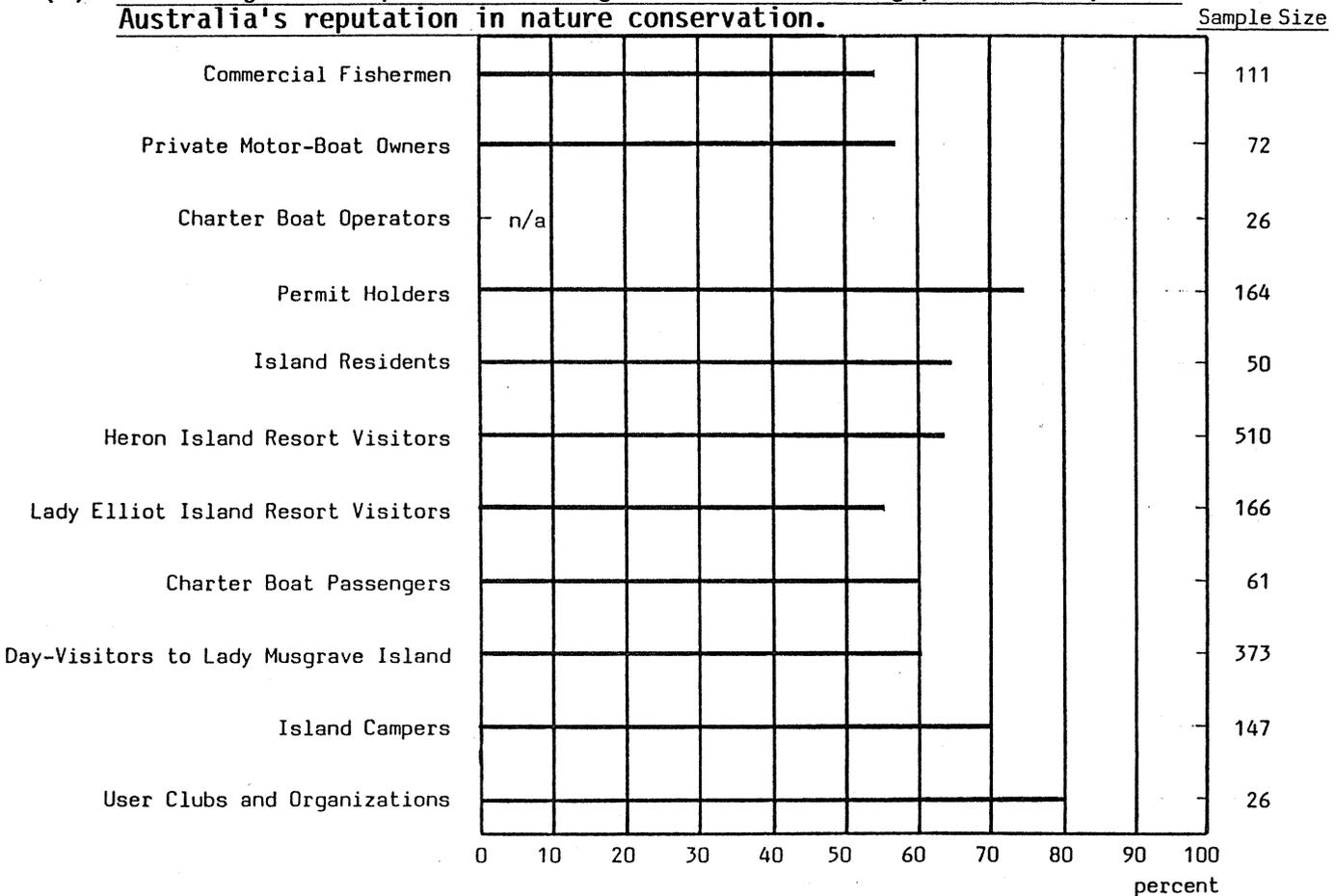
The most common problem areas raised by respondents in relation to the permit issuing system were:

- . too many agencies are involved,
- . too many details required from applicant,
- . a need for more local permit issuing stations, and
- . a need to be able to apply for camping permits more than 3 months in advance.

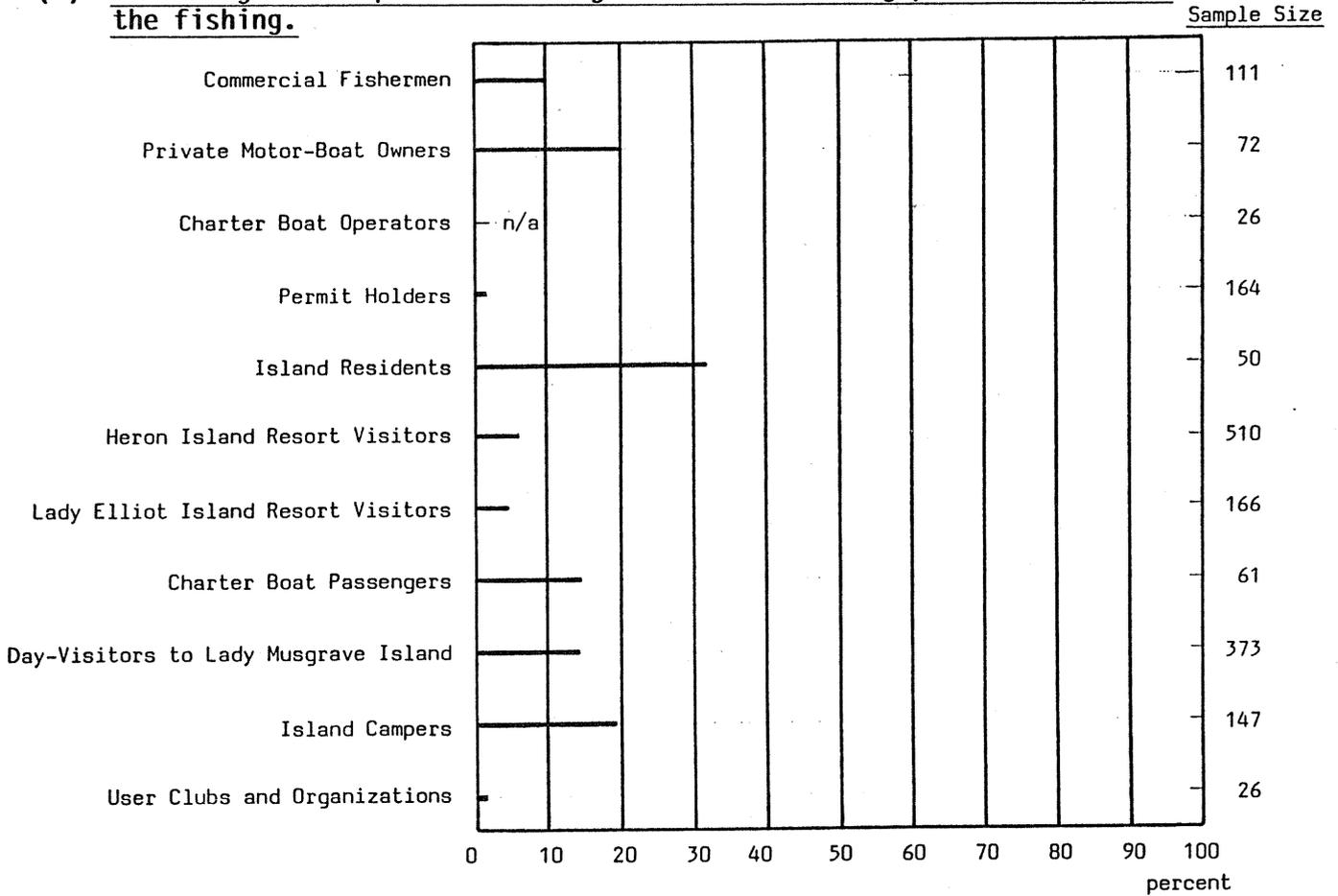
4(a) Percentage of respondents who agree that the zoning plan has helped to protect the Great Barrier Reef.



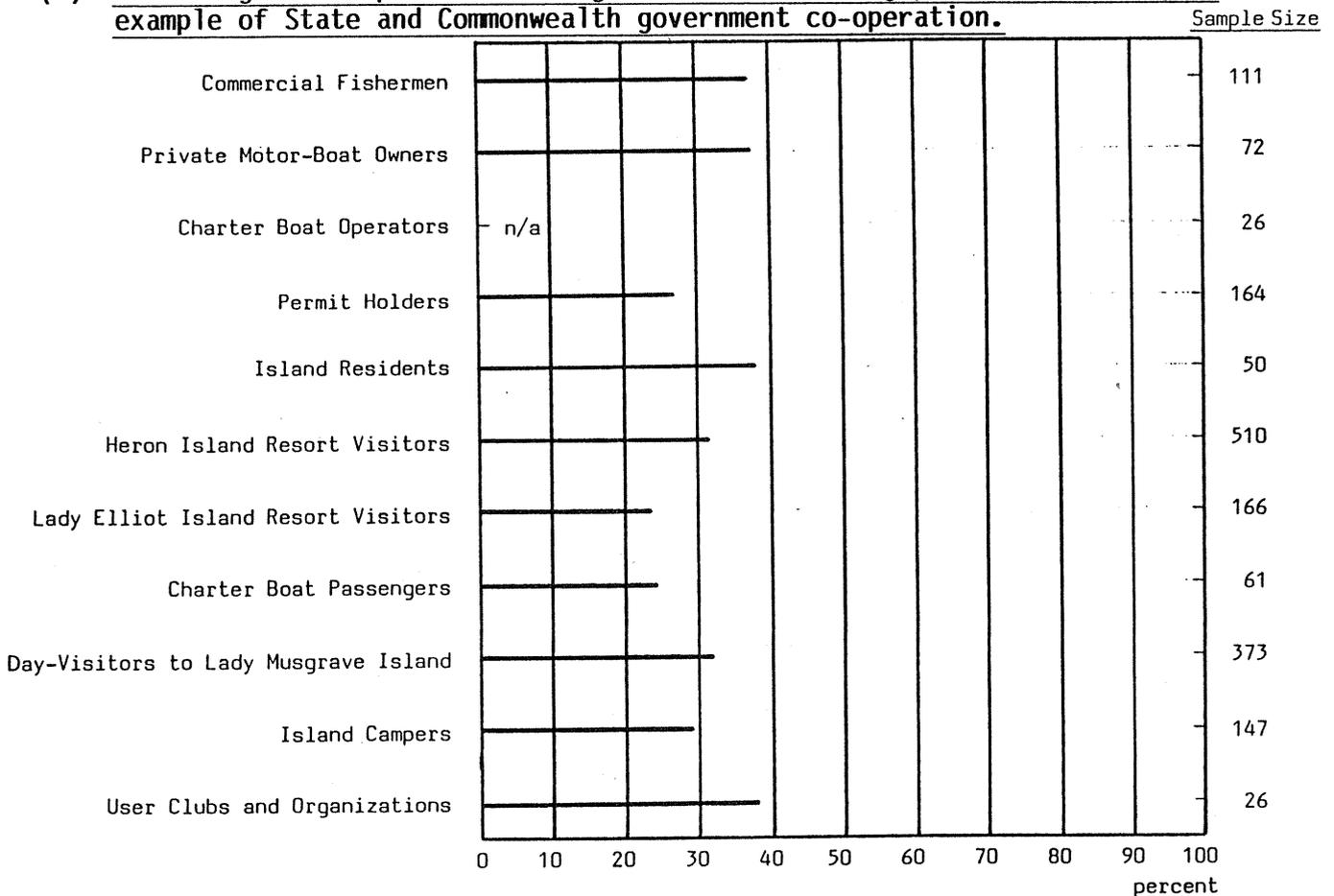
4(b) Percentage of respondents who agree that the zoning plan has improved Australia's reputation in nature conservation.



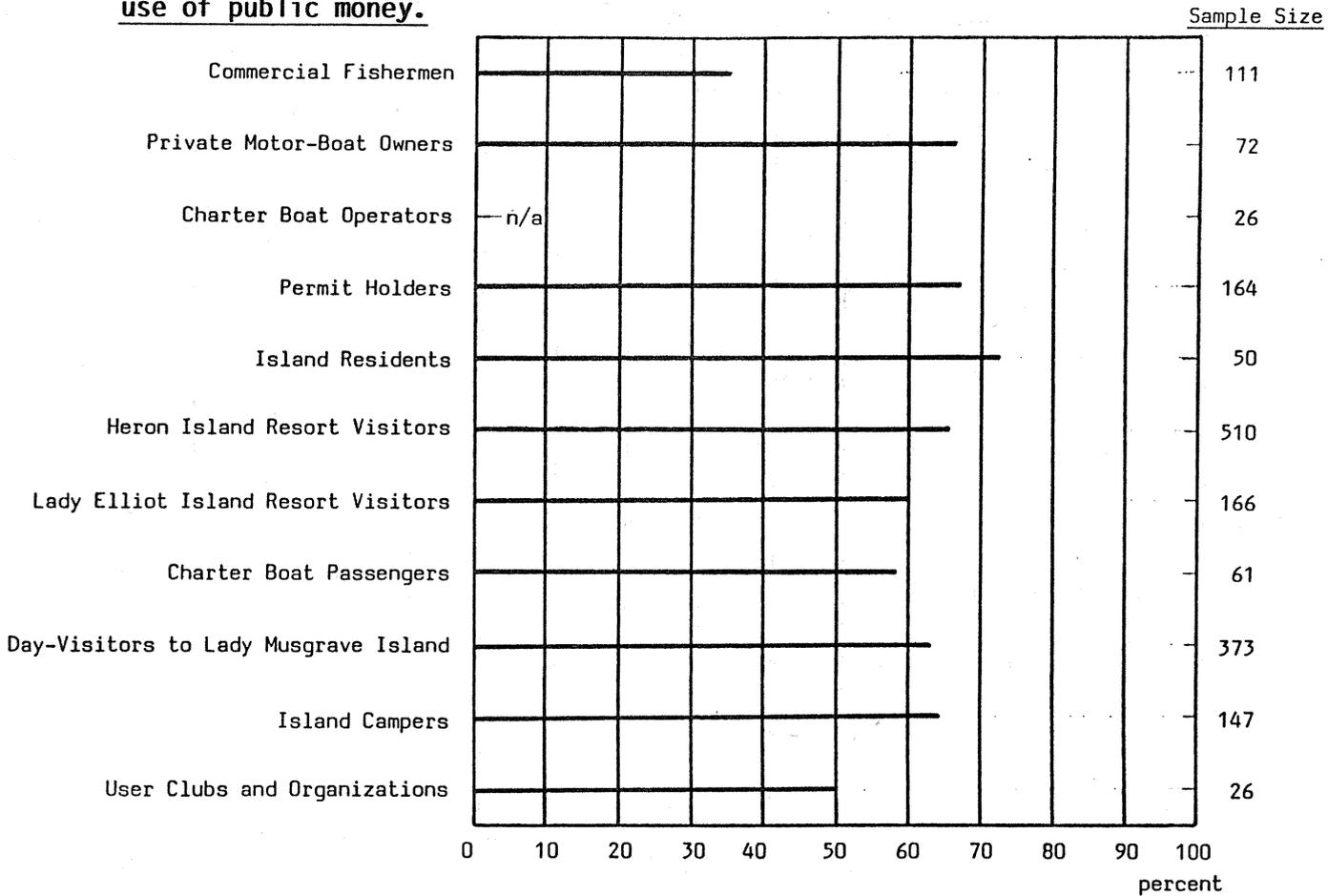
4(c) Percentage of respondents who agree that the zoning plan has improved the fishing.



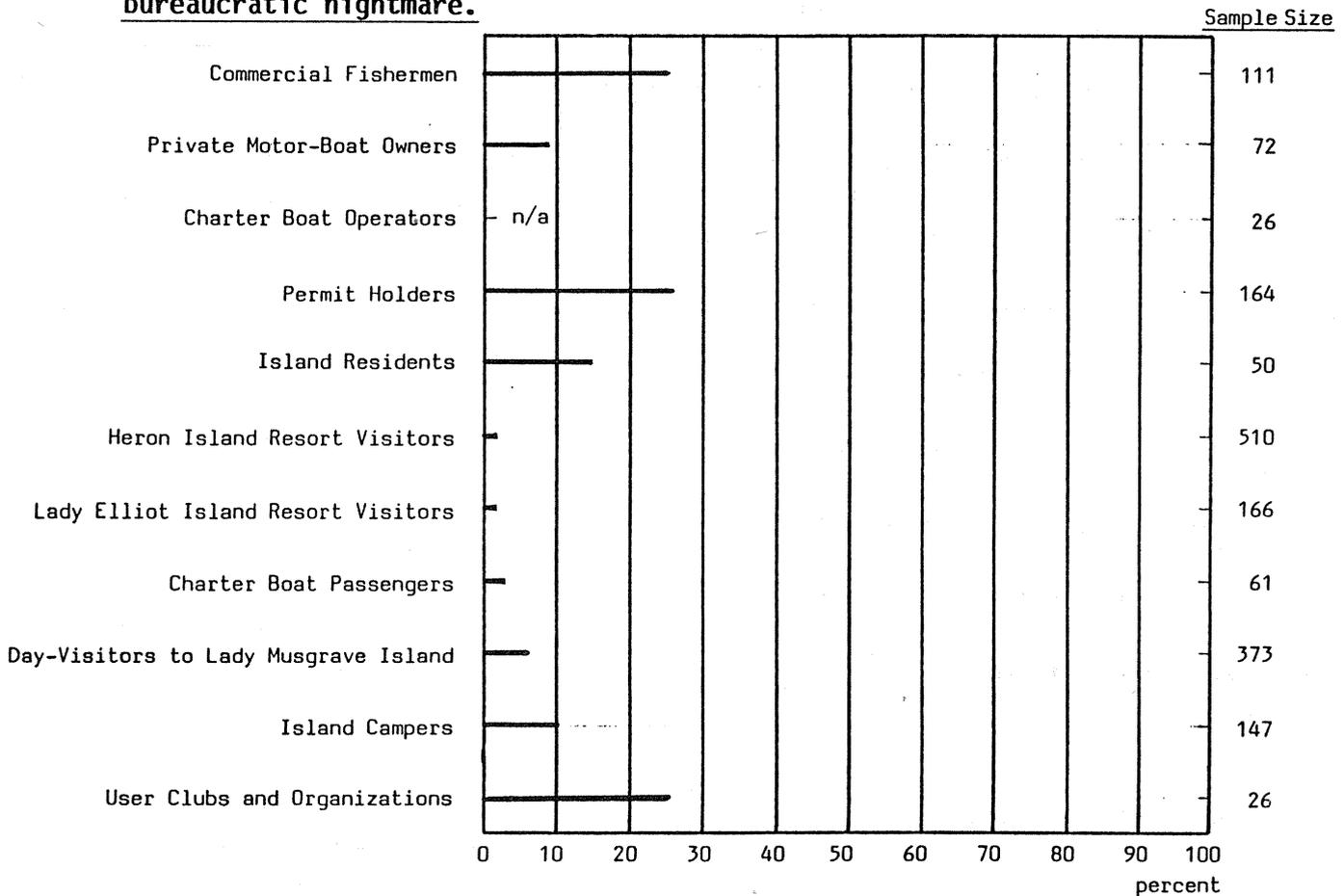
4(d) Percentage of respondents who agree that the zoning plan has been a good example of State and Commonwealth government co-operation.



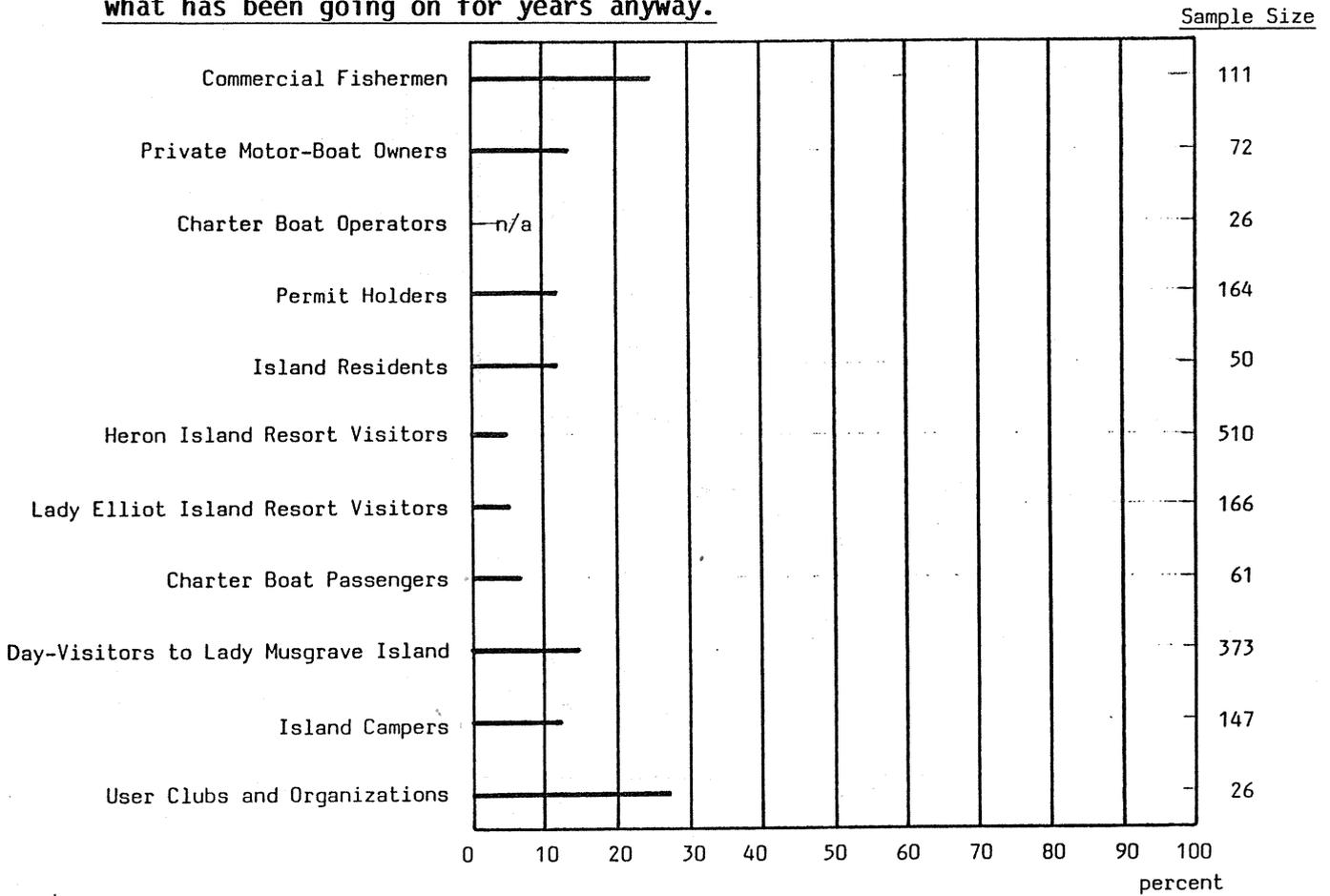
4(e) Percentage of respondents who agree that the zoning plan has been a wise use of public money.



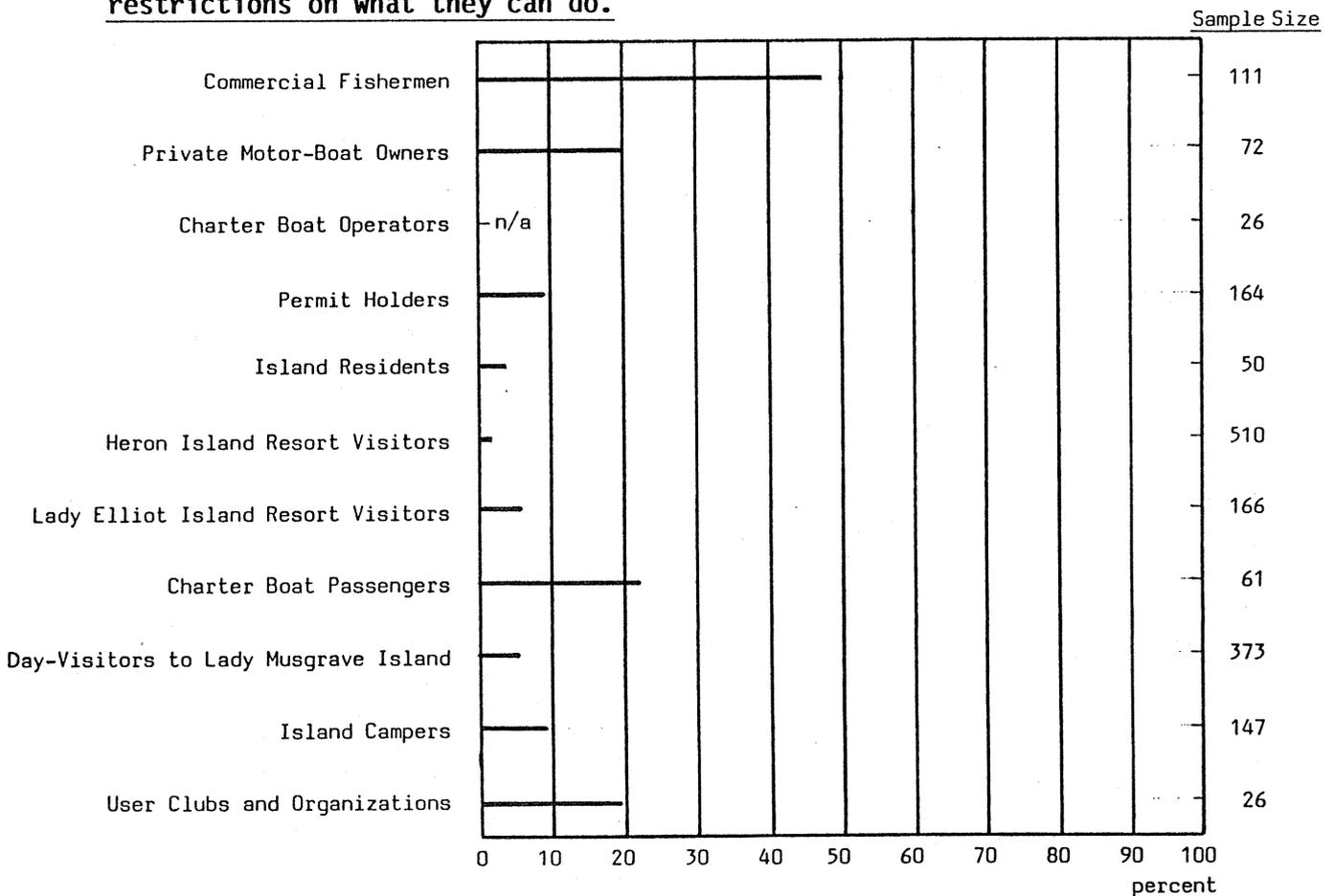
4(f) Percentage of respondents who agree that the zoning plan has been a bureaucratic nightmare.



4(g) Percentage of respondents who agree that the zoning plan merely reflects what has been going on for years anyway.



4(h) Percentage of respondents who agree that the zoning plan places too many restrictions on what they can do.



3.5 PREFERENCE VARIABLES

The preference variables are intended to measure user preferences in relation to the provisions of future Zoning Plans and day-to-day management. Contained within this section of the report are respondents' perceptions of what are appropriate roles for marine park rangers, and records of the percentages of respondents who felt that:

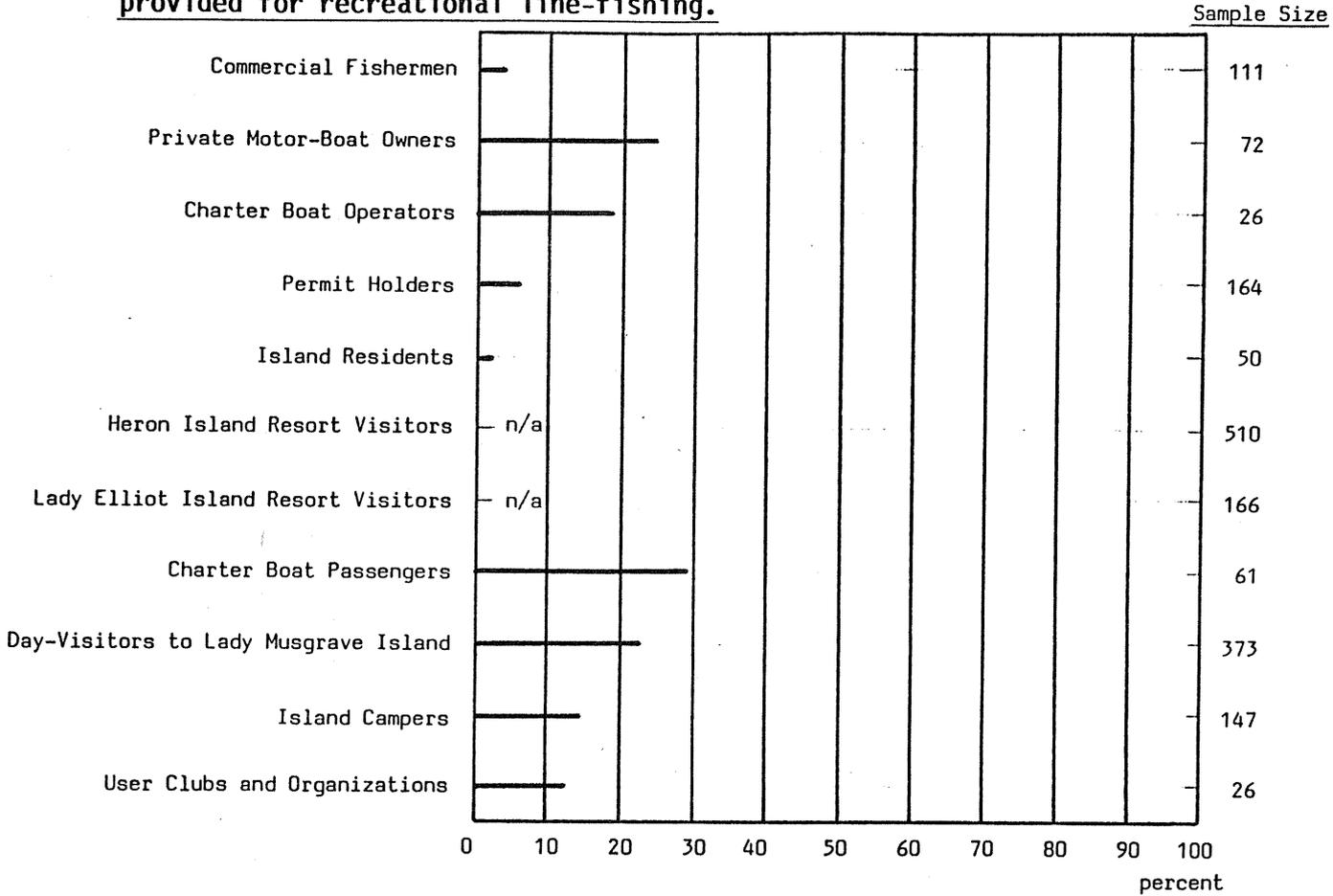
- . more (or less) opportunities should be provided for recreational line-fishing,
- . more (or less) opportunities should be provided for commercial line-fishing,
- . more (or less) opportunities should be provided for trawling,
- . more (or less) opportunities should be provided for netting,
- . more (or less) opportunities should be provided for spearfishing,
- . more (or less) opportunities should be provided for shell collecting,
- . more (or less) opportunities should be provided for camping,
- . more (or less) opportunities should be provided for resort development,
- . more (or less) opportunities should be provided for scientific research,
- . bag limits should be placed on recreational line-fishing, and
- . bag limits should be placed on recreational spearfishing.

Note: n/a indicates that the question was not asked of that user group.

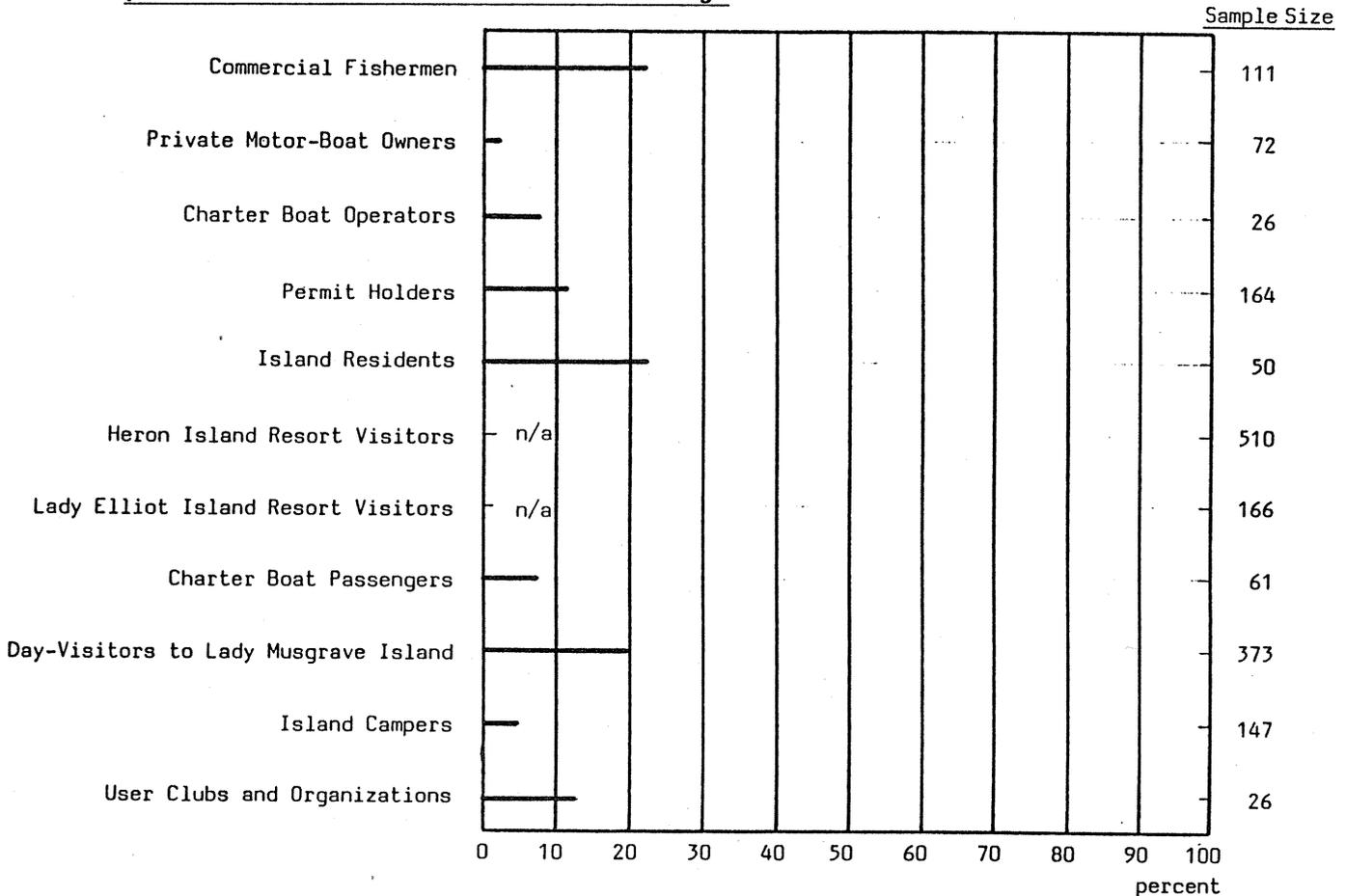
1. Preferred ranking of marine park ranger duties by each user group.
Duties are ranked in decreasing order of priority from 1 to 7.

<u>USER GROUPS</u>								<u>Sample Size</u>
Commercial Fishermen	5	2	6	7	3	1	4	111
Private Motor-Boat Owners	6	4	5	7	2	1	3	72
Charter Boat Operators	7	2	5	6	1	3	4	26
Permit Holders	6	4	5	7	3	1	2	164
Island Residents	5	4	7	6	3	1	2	50
Heron Island Resort Visitors	5	6	4	7	3	1	2	510
Lady Elliot Island Resort Visitors	6	4	5	7	3	1	2	166
Charter Boat Passengers	4	3	7	6	5	1	2	61
Day-Visitors to Lady Musgrave Island	7	4	5	6	3	1	2	373
Island Campers	7	4	6	5	3	1	2	147
User Clubs and Organizations	6	4	5	7	3	1	2	26
	Search and Rescue	Law Enforcement	Research	Keeping the Islands Tidy	Education and Information	Protecting Marine Life	Protecting Island Life	
	<u>RANGER DUTIES</u>							

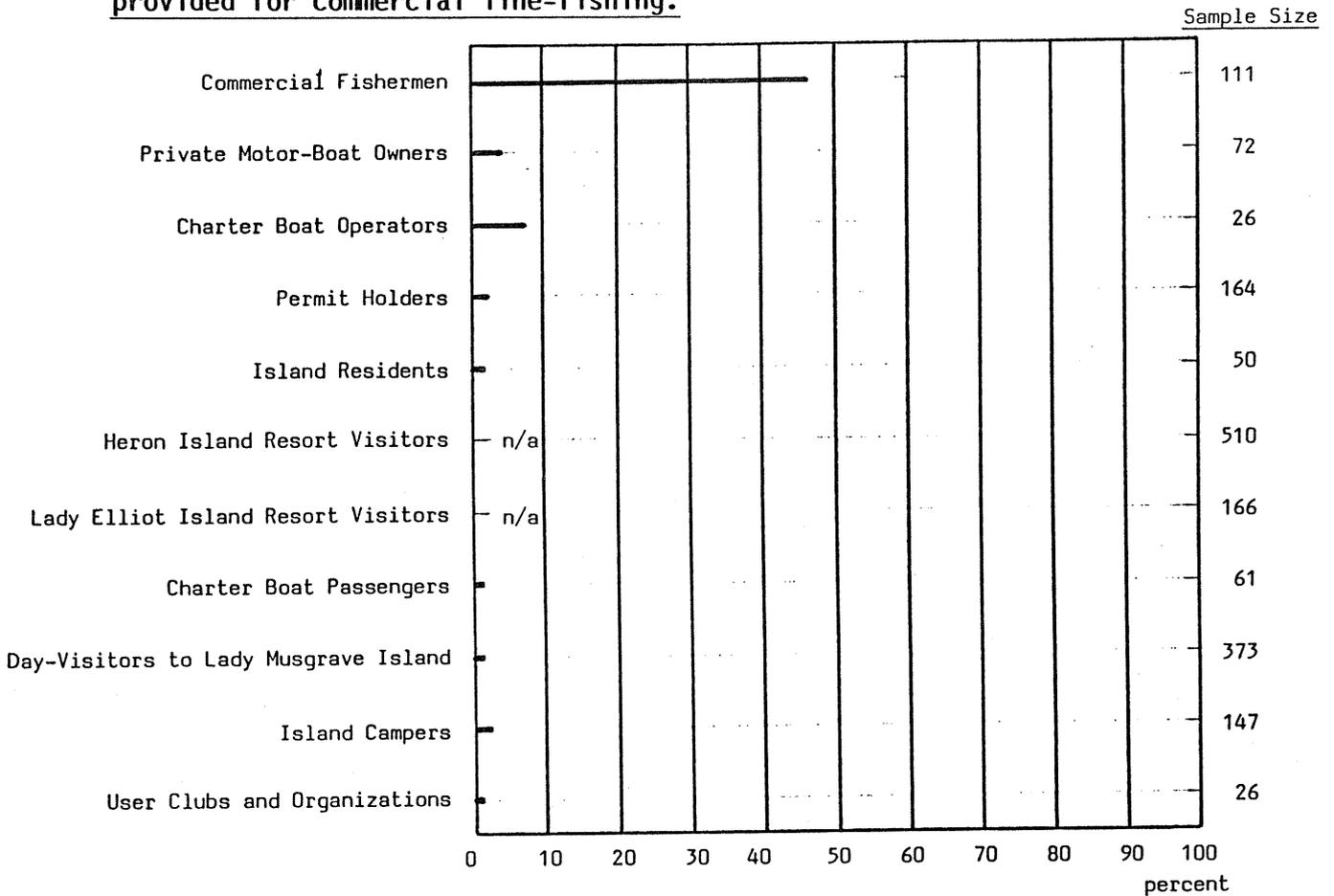
2(a) Percentage of respondents who felt that there should be more opportunities provided for recreational line-fishing.



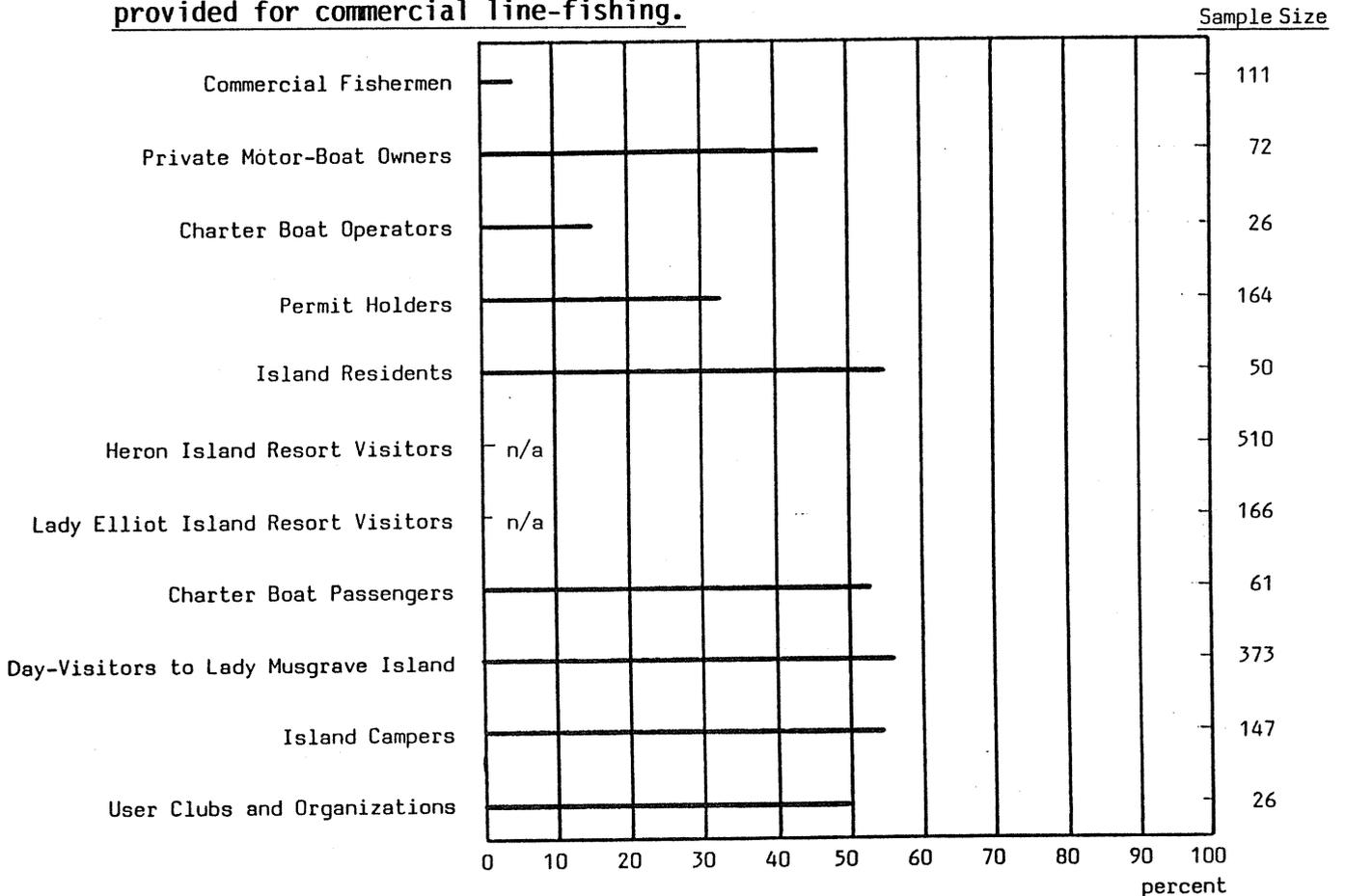
2(b) Percentage of respondents who felt that there should be fewer opportunities provided for recreational line-fishing.



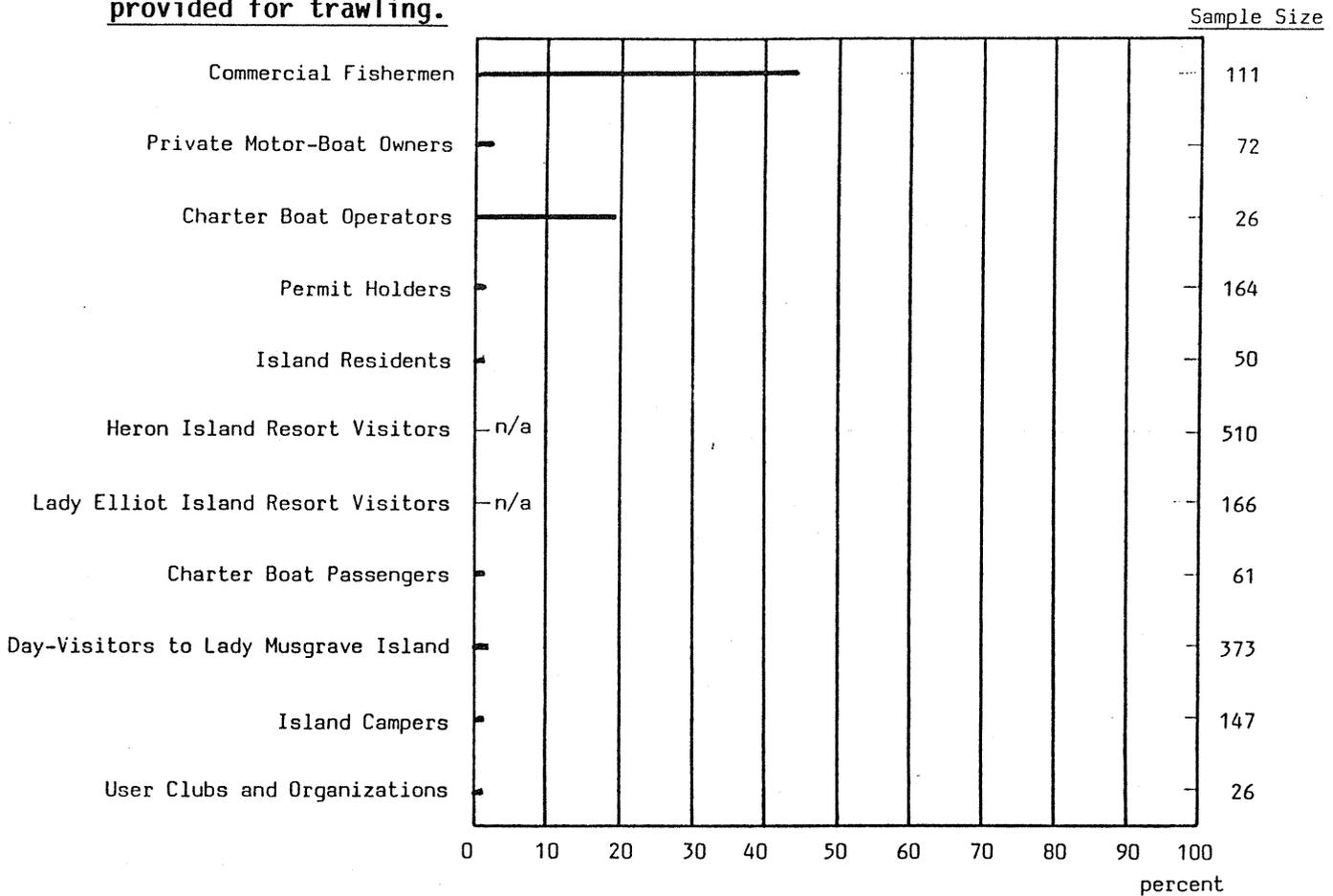
3(a) Percentage of respondents who felt that there should be more opportunities provided for commercial line-fishing.



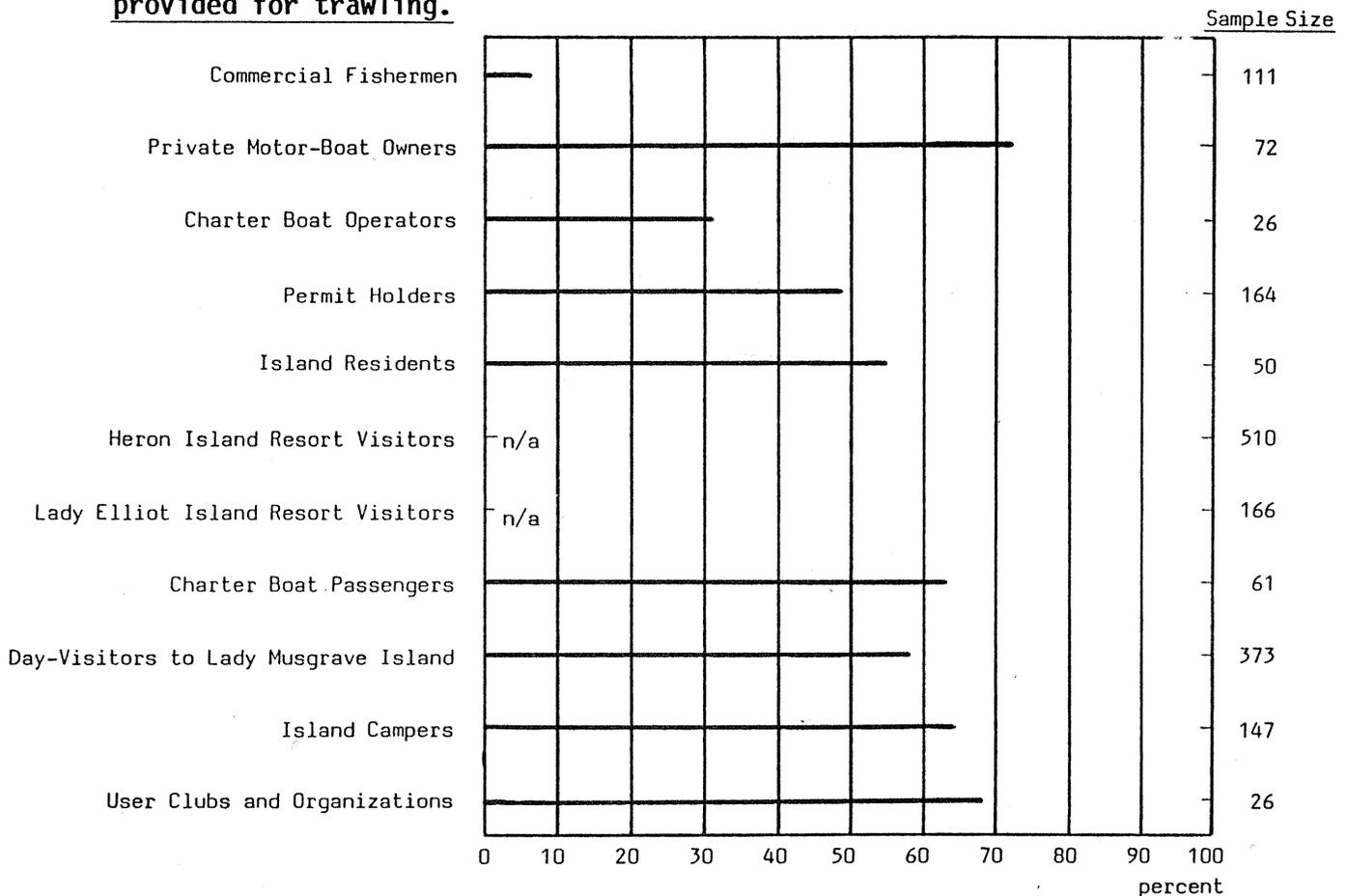
3(b) Percentage of respondents who felt that there should be fewer opportunities provided for commercial line-fishing.



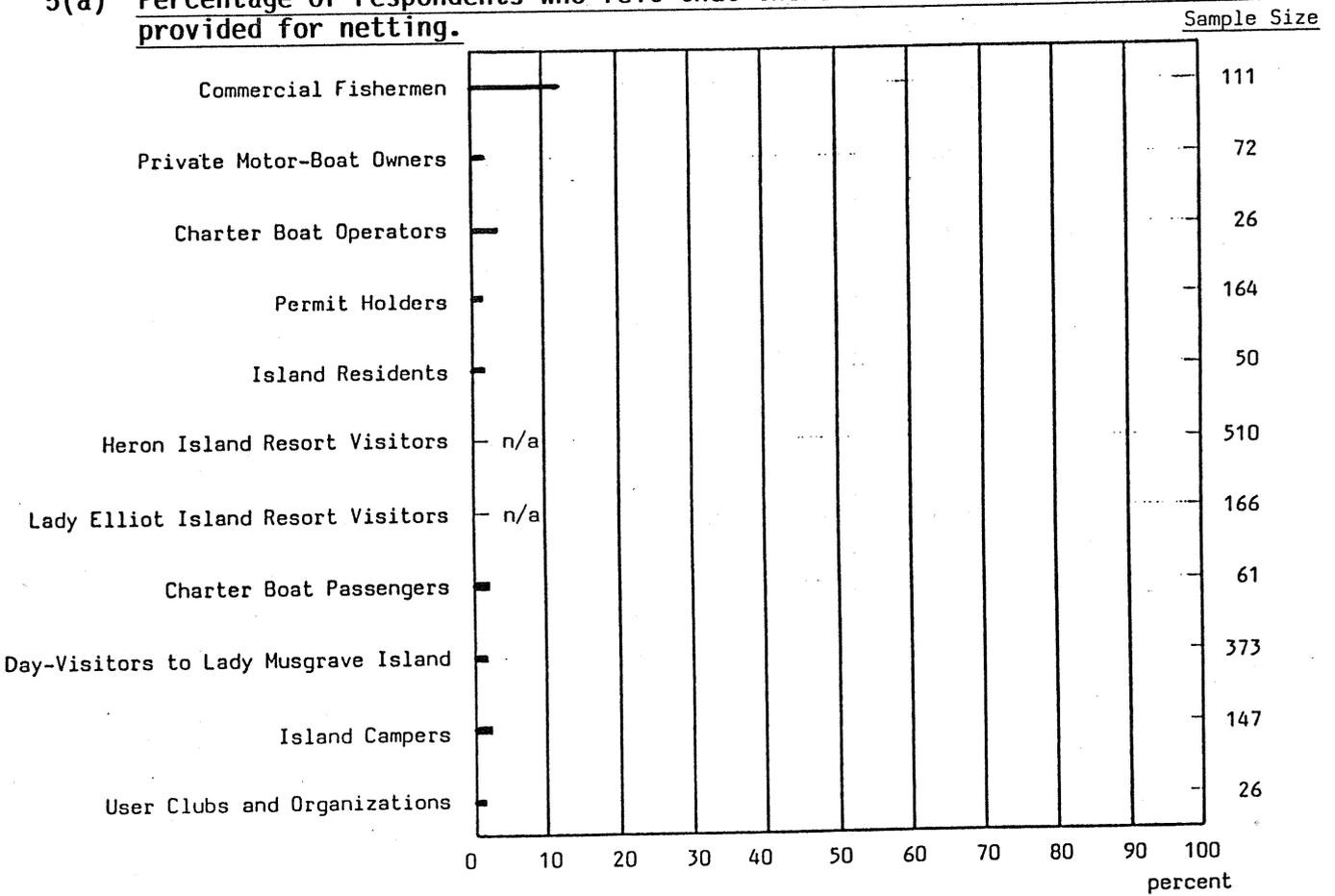
4(a) Percentage of respondents who felt that there should be more opportunities provided for trawling.



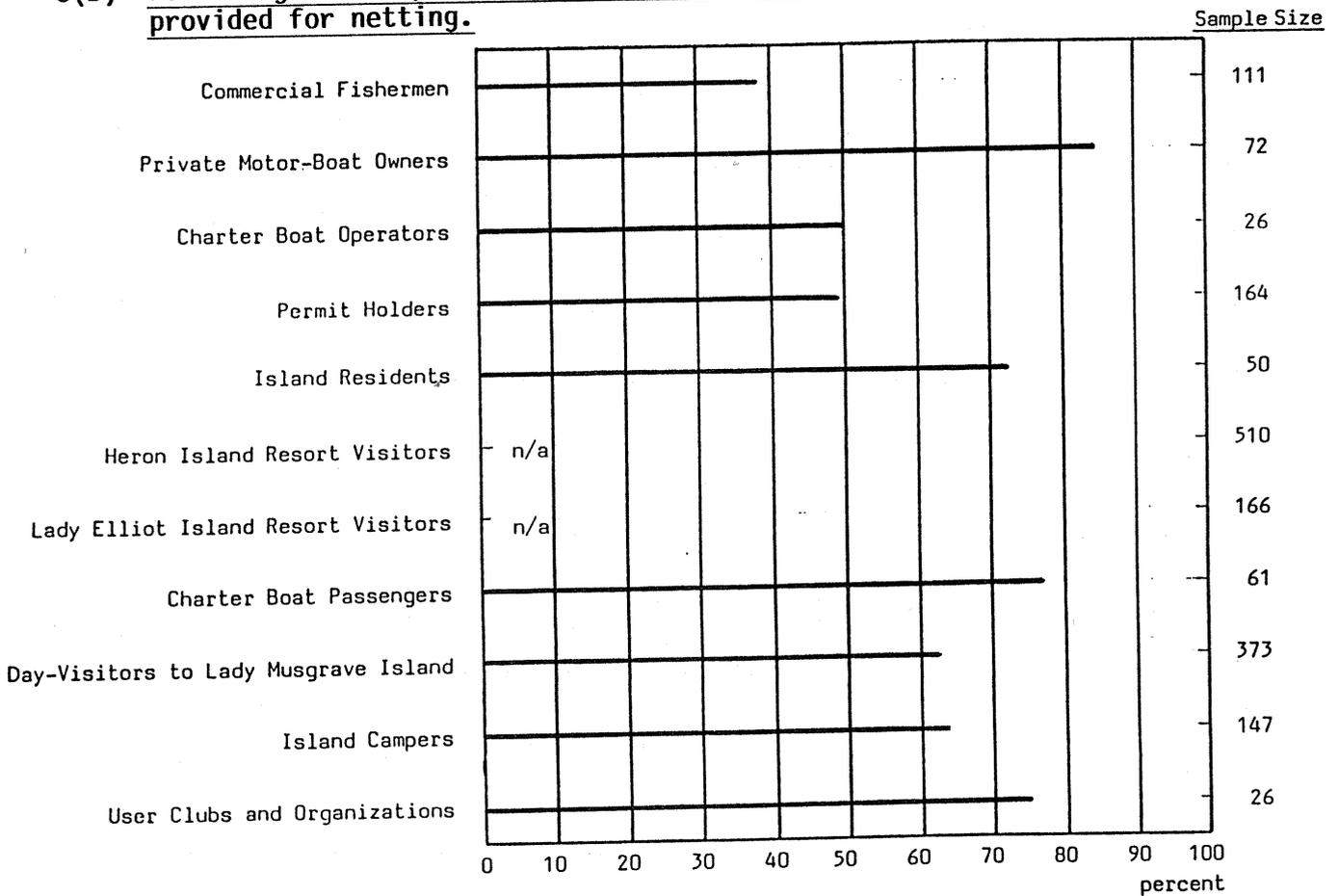
4(b) Percentage of respondents who felt that there should be fewer opportunities provided for trawling.



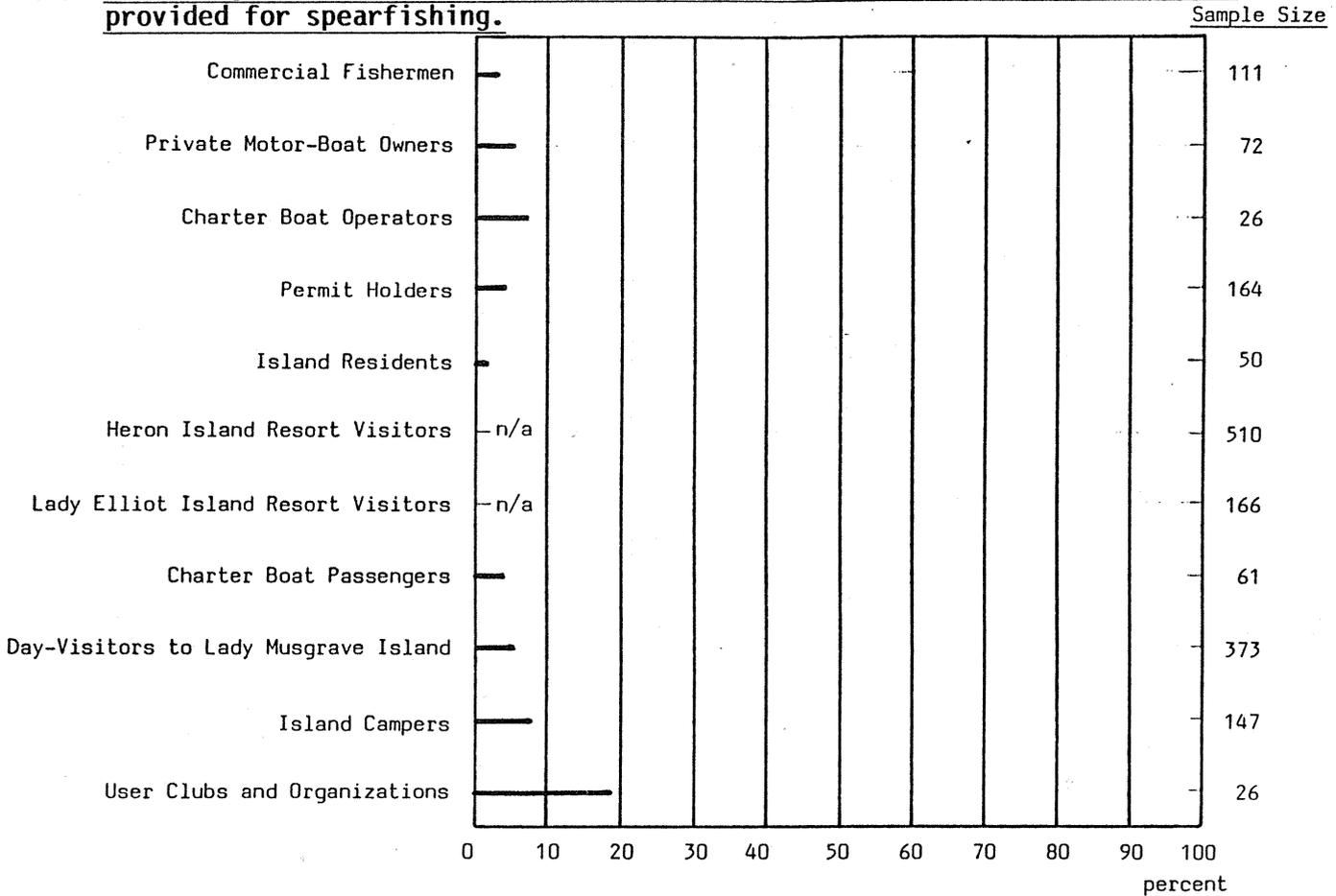
5(a) Percentage of respondents who felt that there should be more opportunities provided for netting.



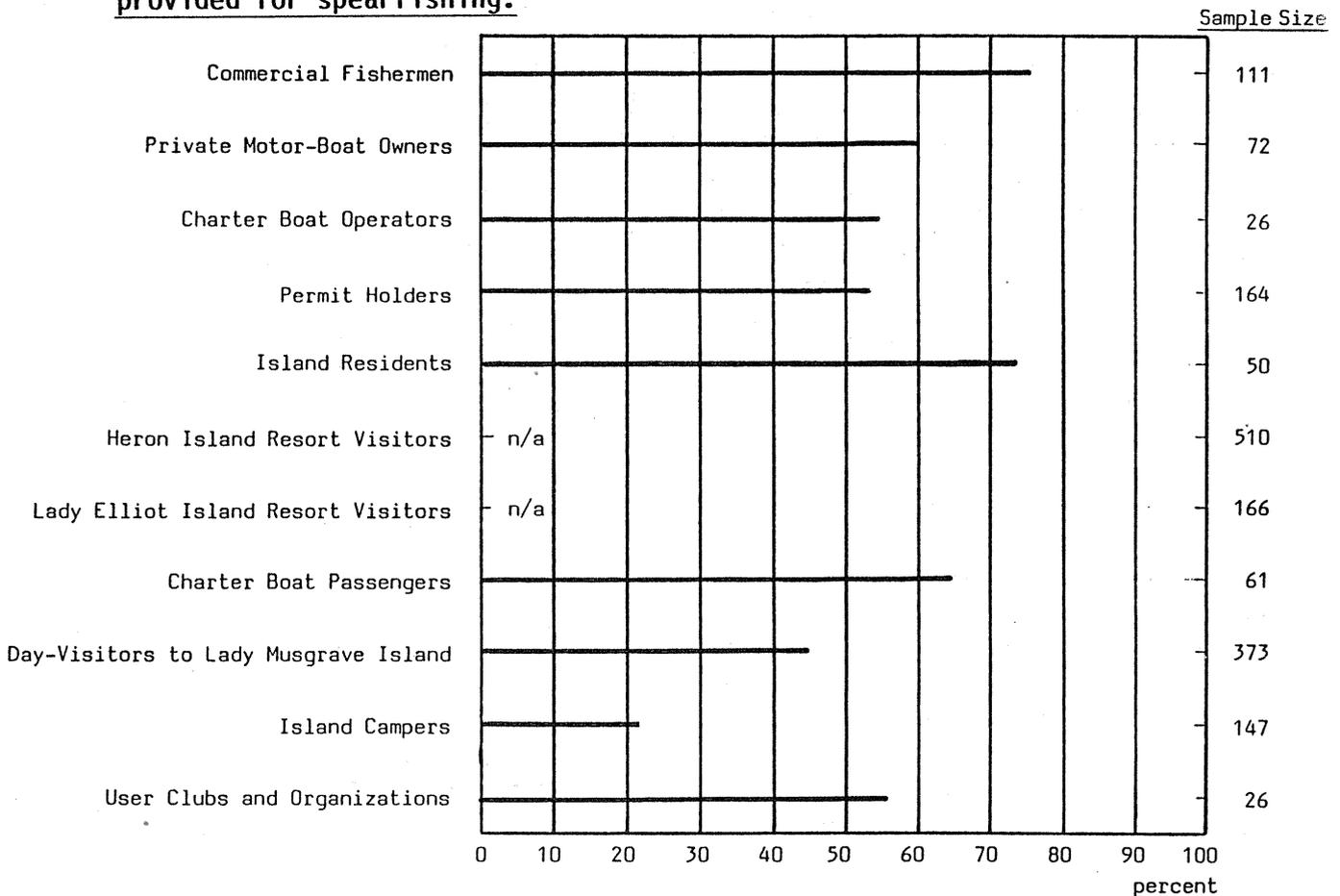
5(b) Percentage of respondents who felt that there should be fewer opportunities provided for netting.



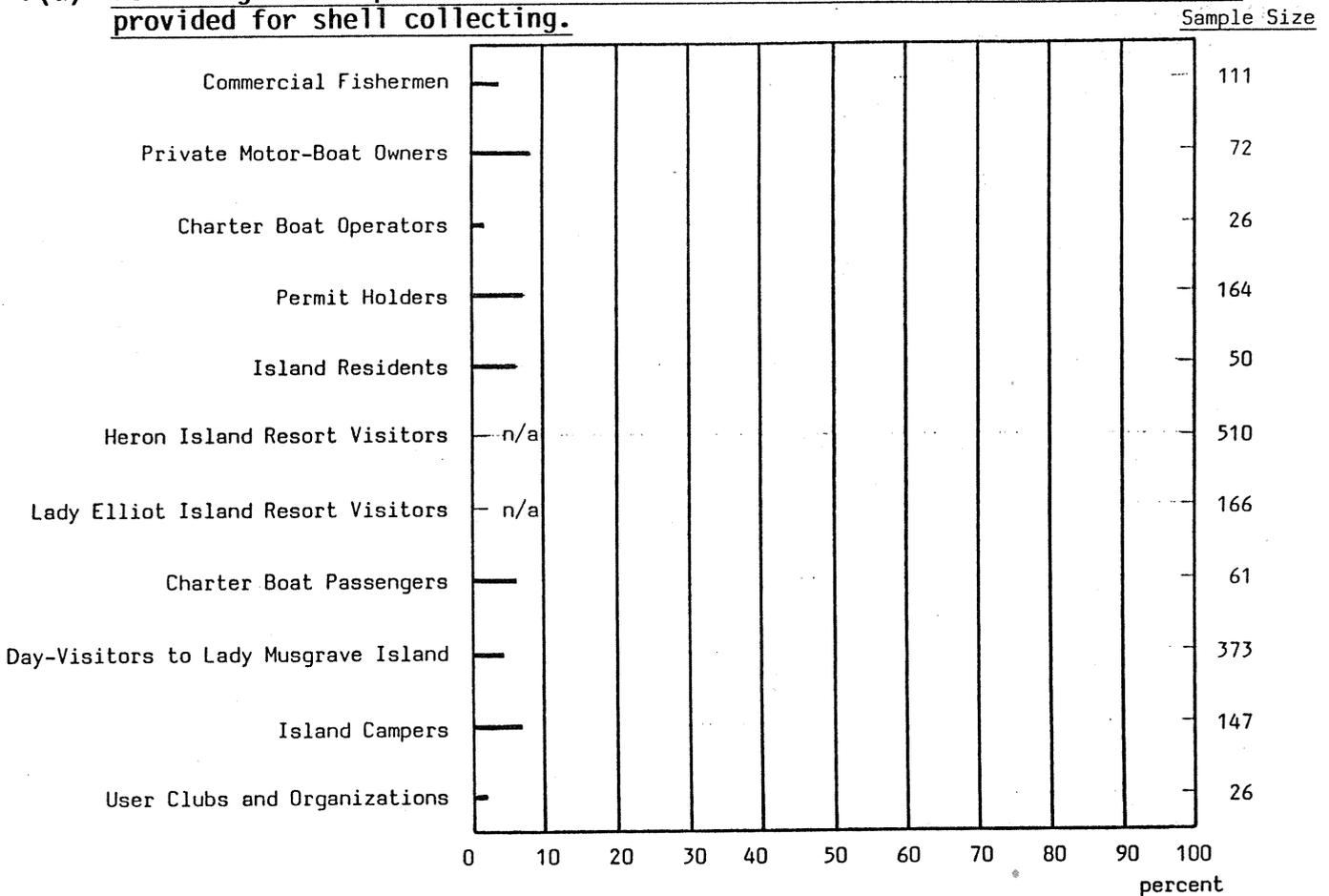
6(a) Percentage of respondents who felt that there should be more opportunities provided for spearfishing.



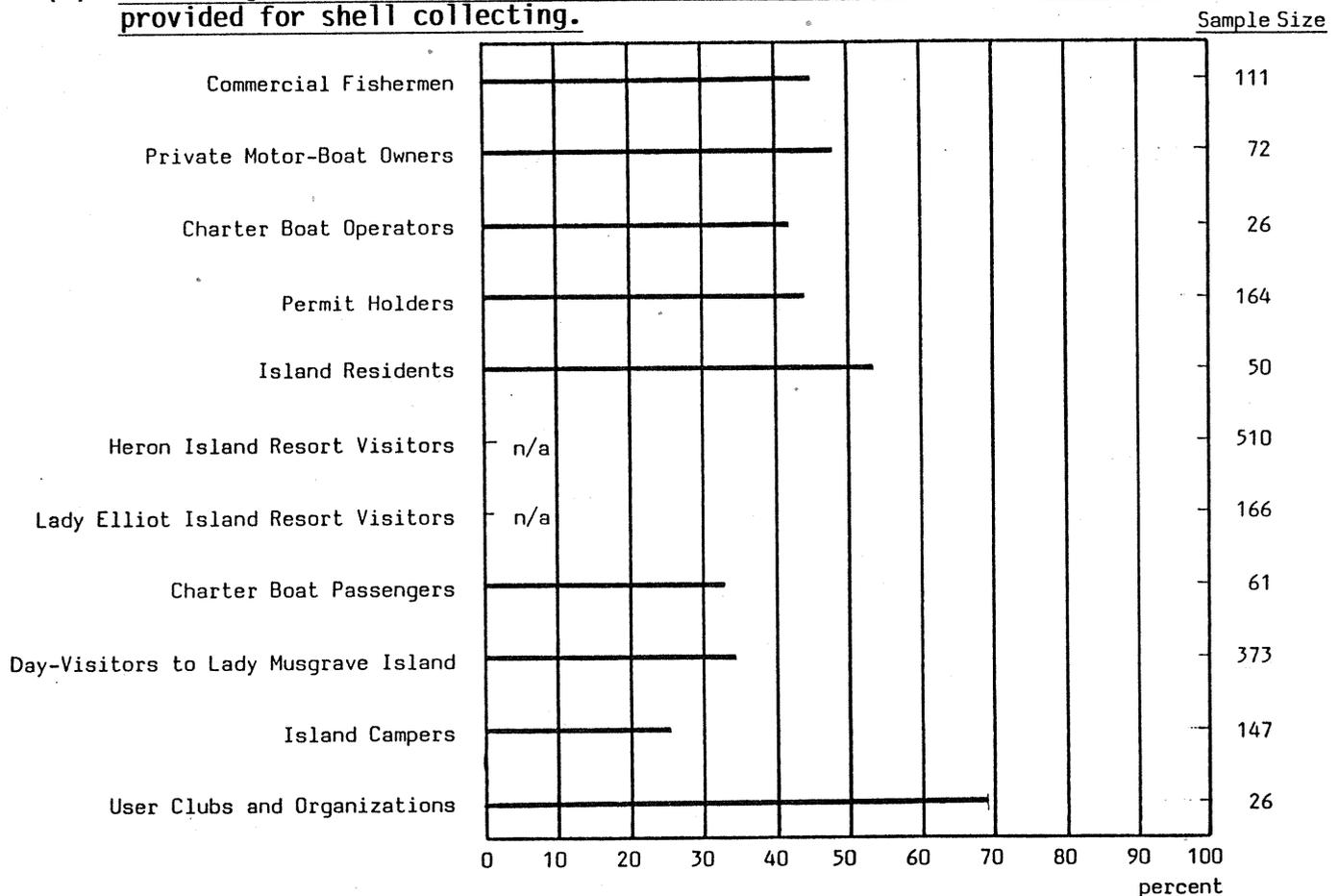
6(b) Percentage of respondents who felt that there should be fewer opportunities provided for spearfishing.



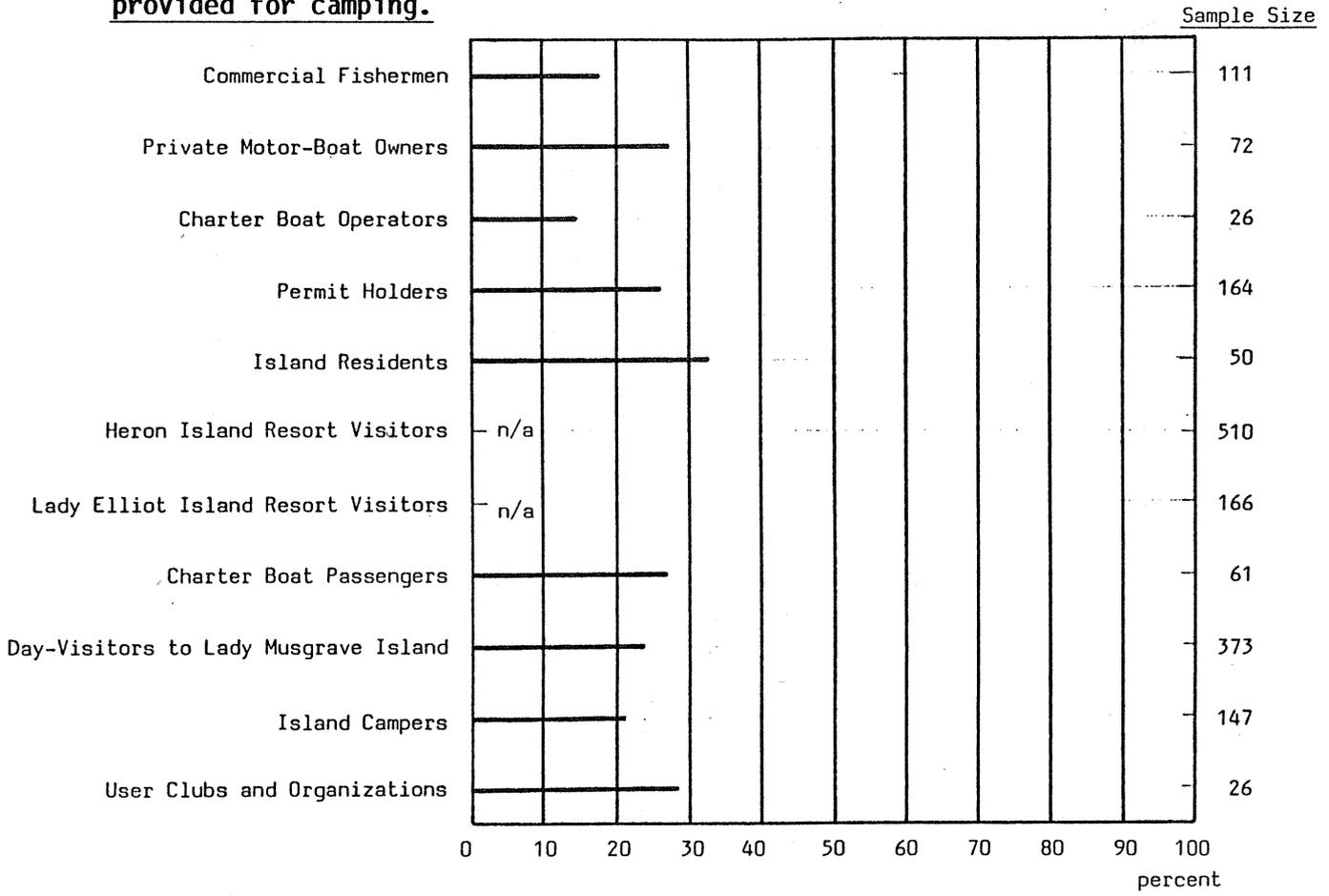
7(a) Percentage of respondents who felt that there should be more opportunities provided for shell collecting.



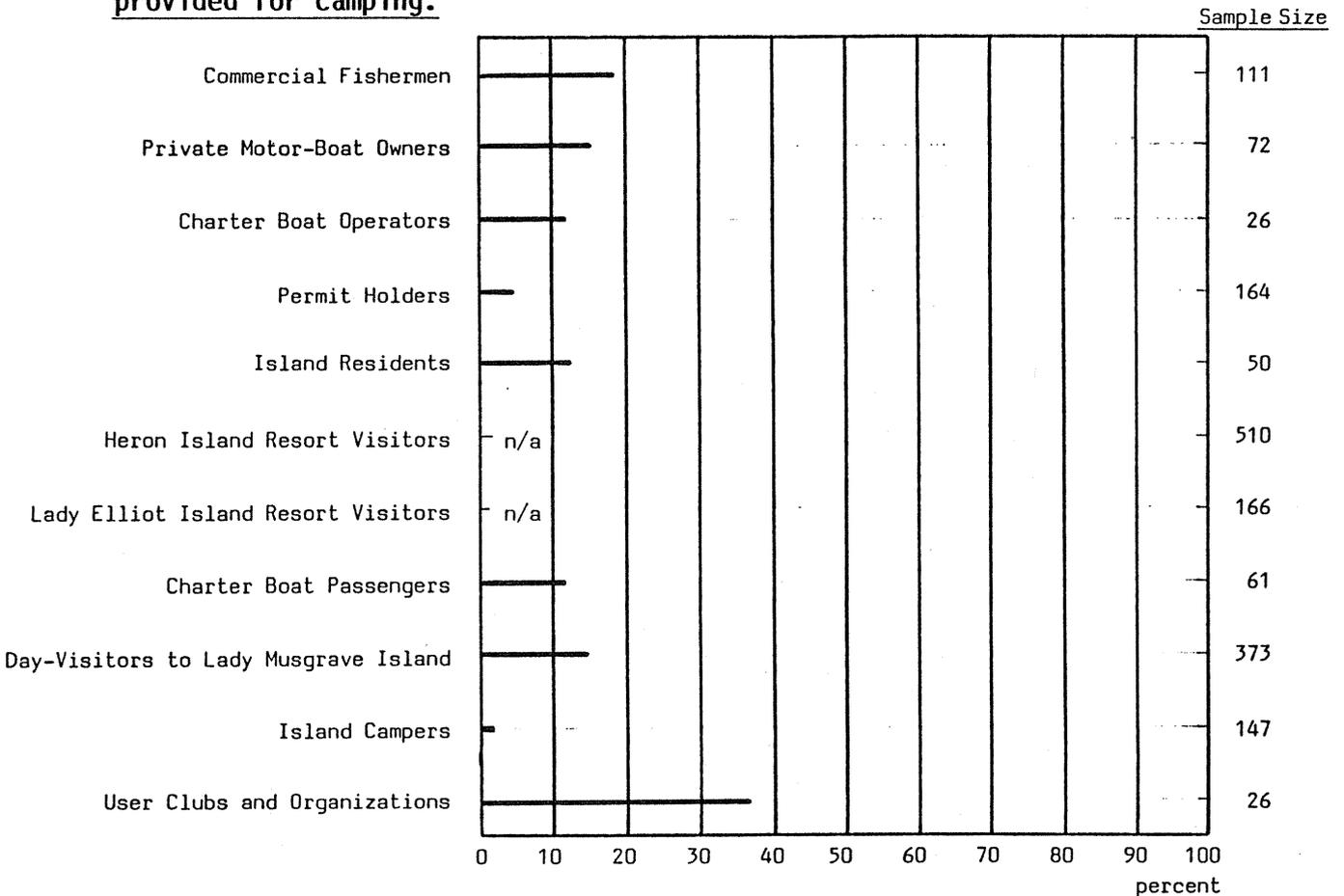
7(b) Percentage of respondents who felt that there should be fewer opportunities provided for shell collecting.



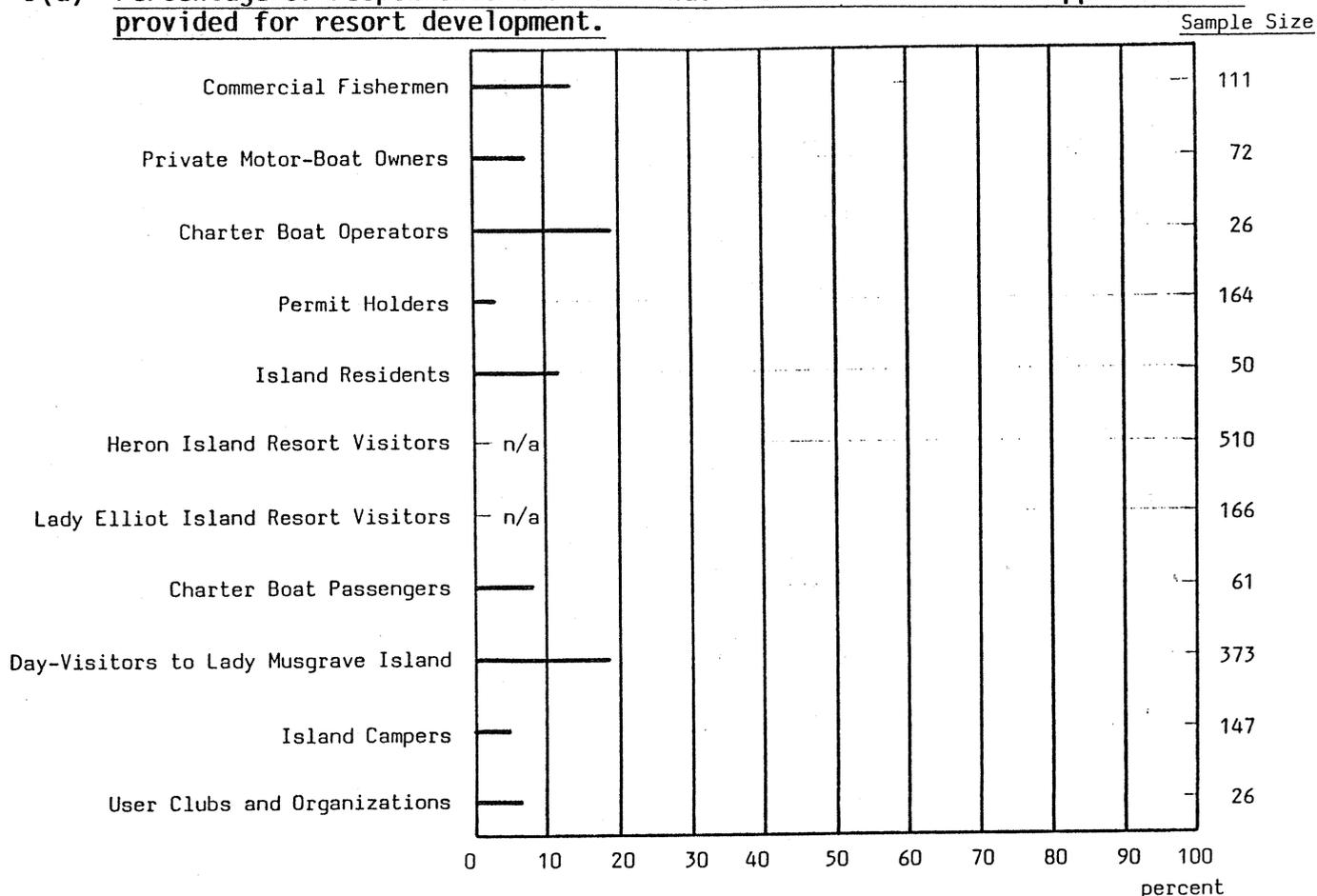
8(a) Percentage of respondents who felt that there should be more opportunities provided for camping.



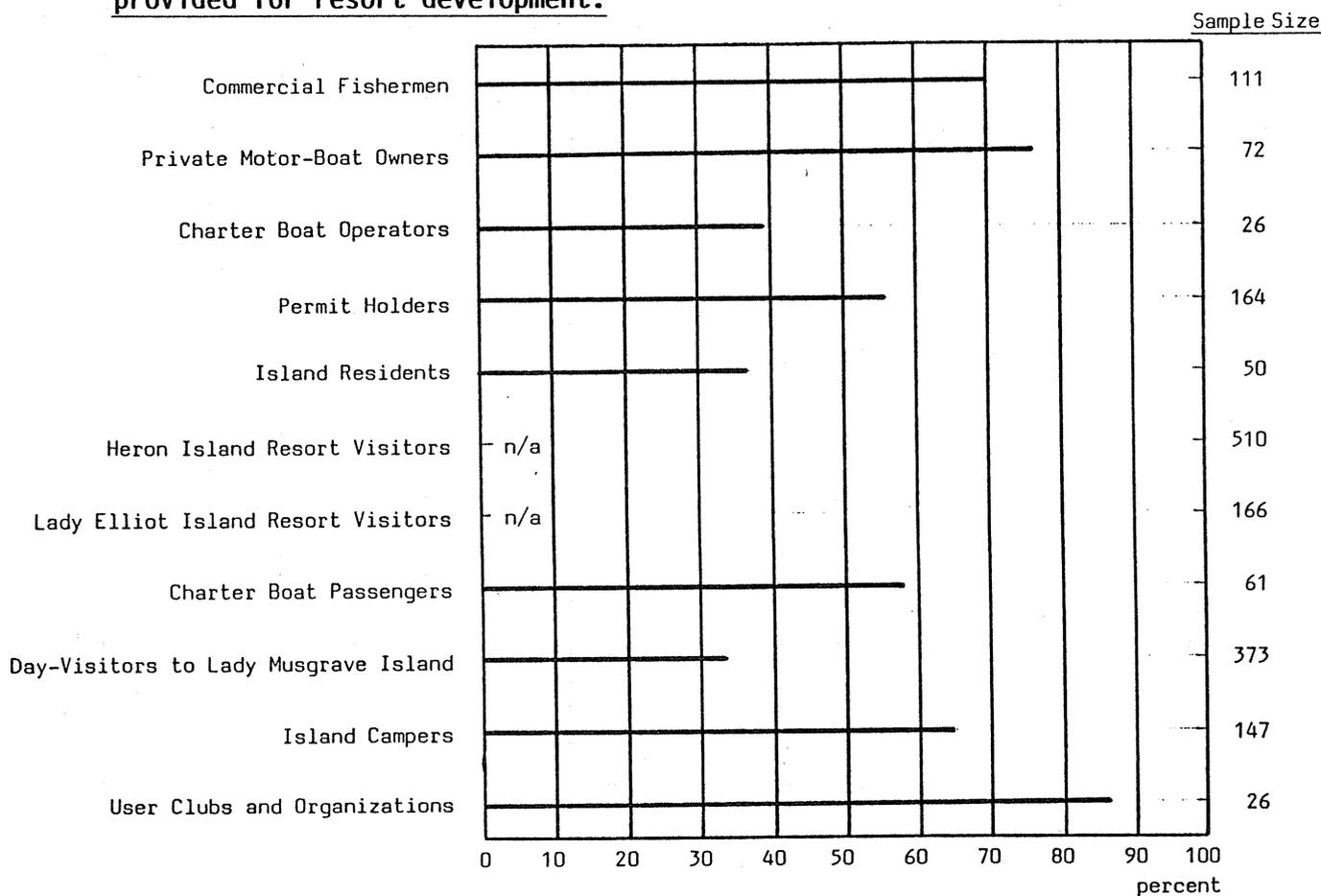
8(b) Percentage of respondents who felt that there should be fewer opportunities provided for camping.



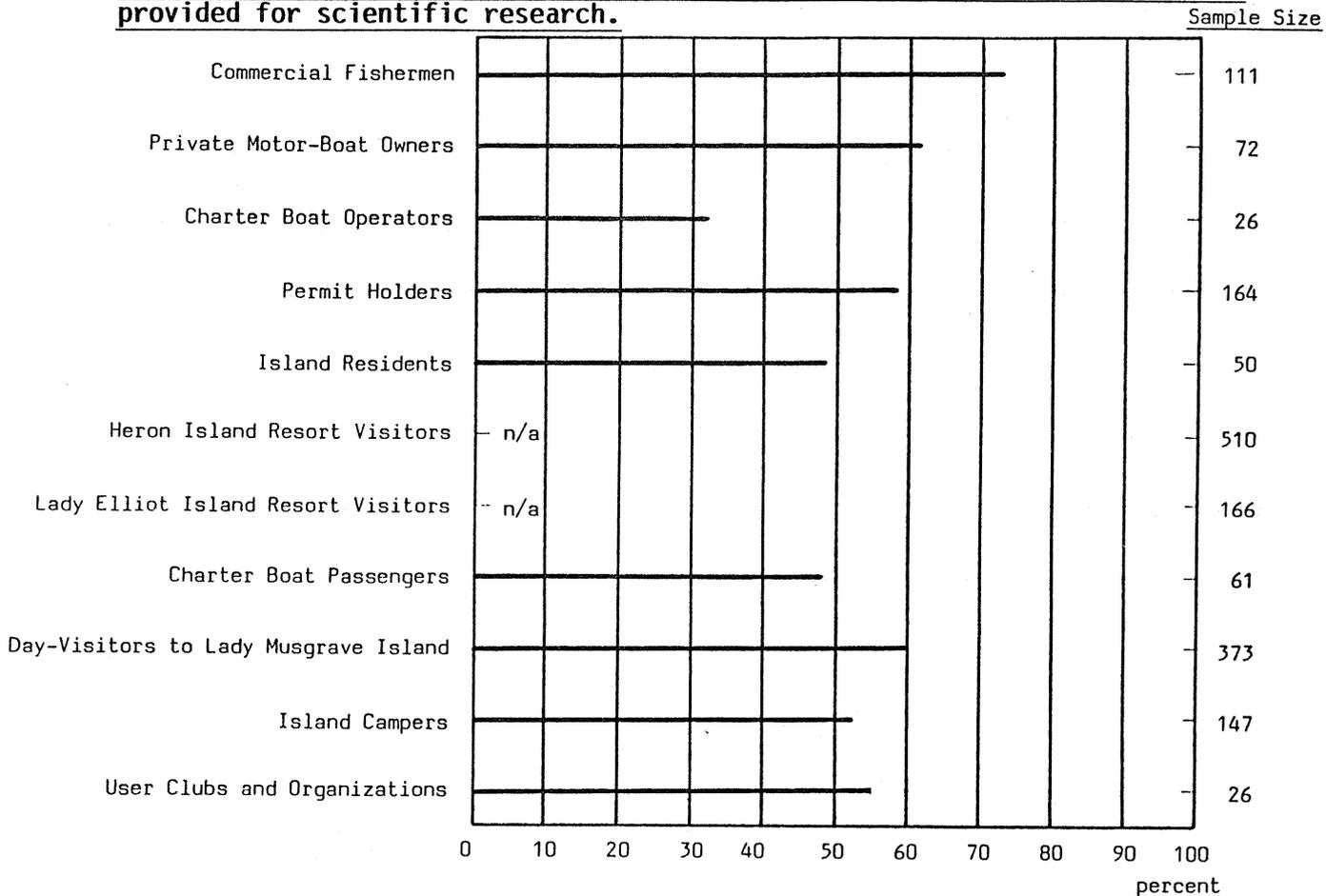
9(a) Percentage of respondents who felt that there should be more opportunities provided for resort development.



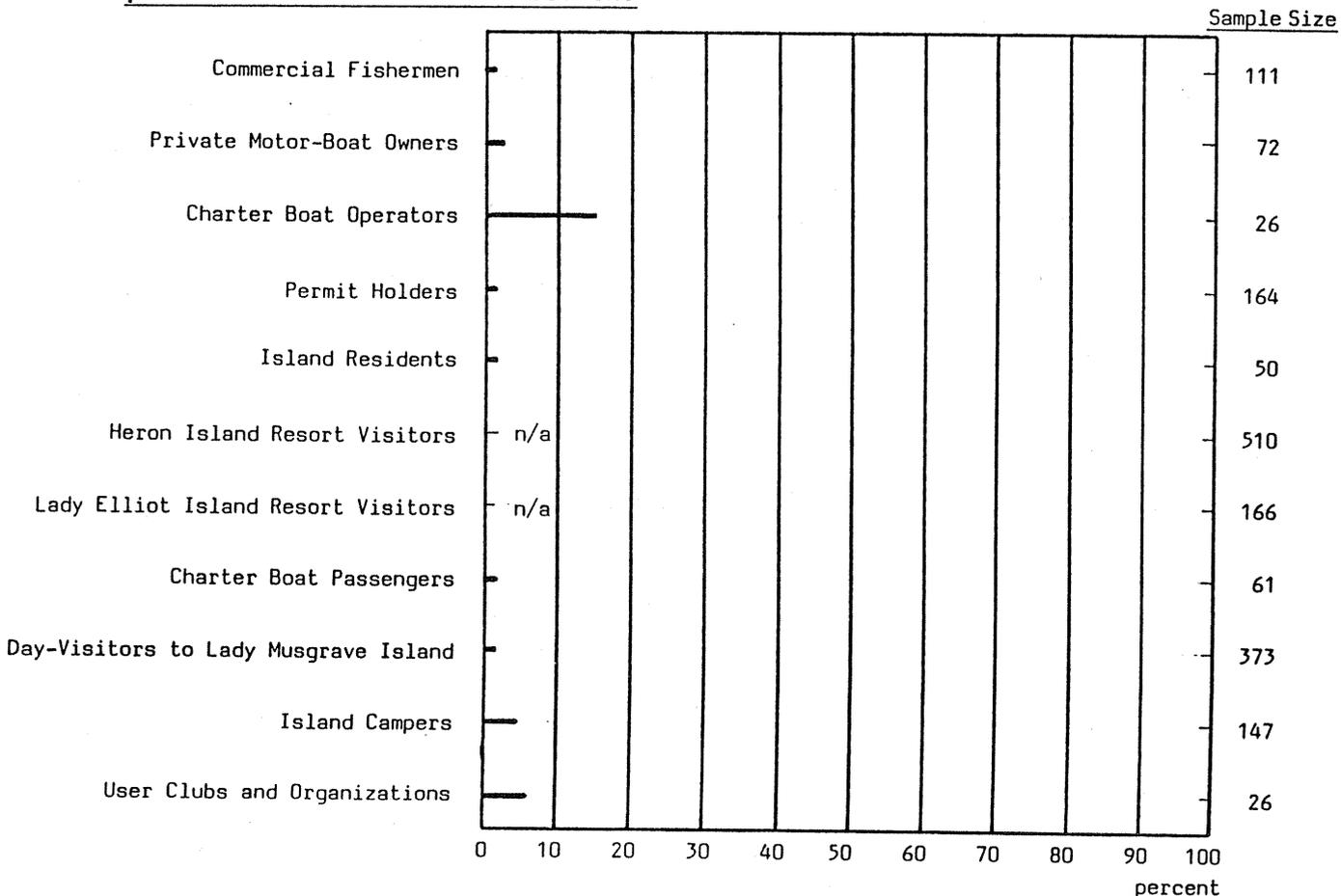
9(b) Percentage of respondents who felt that there should be fewer opportunities provided for resort development.



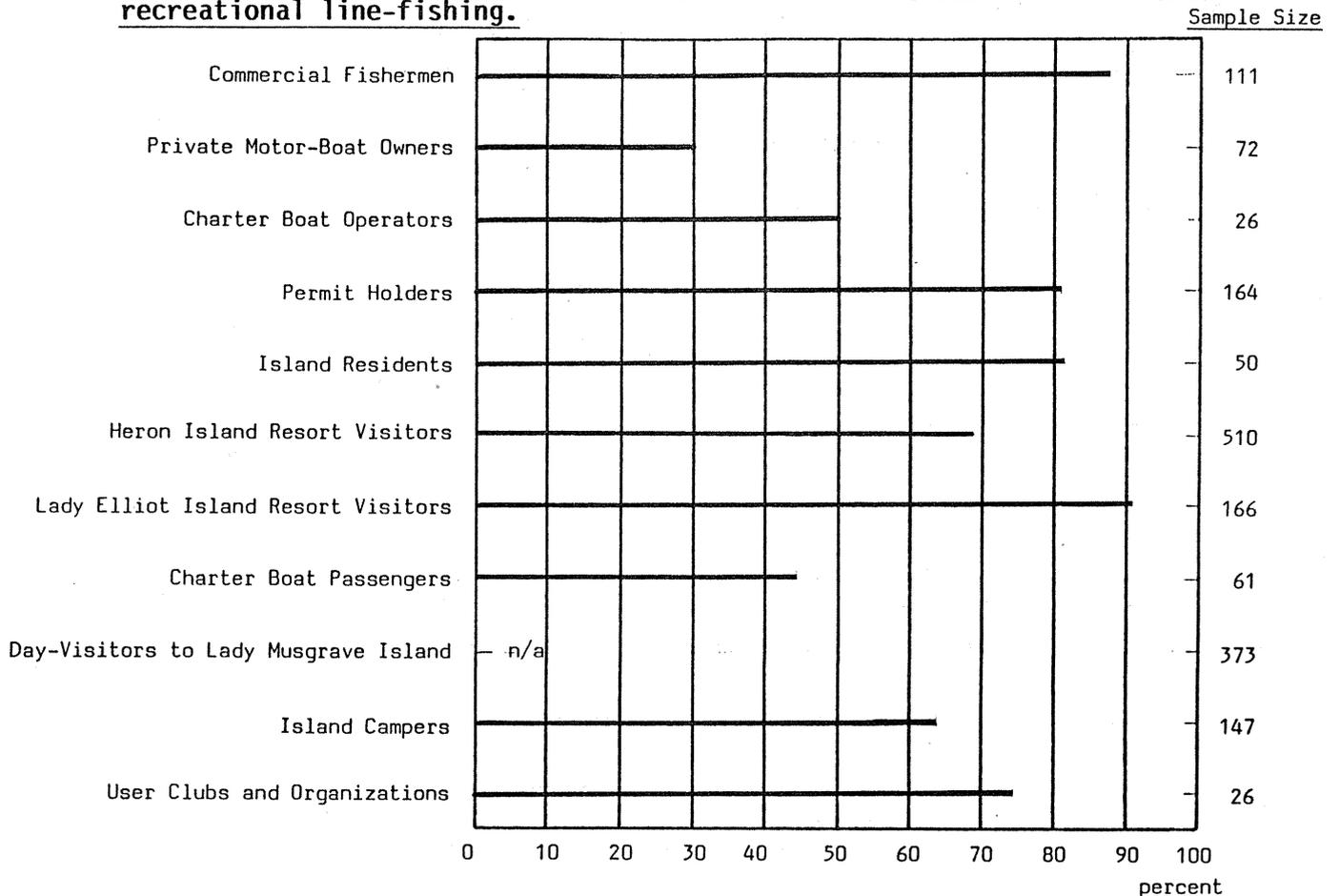
10(a) Percentage of respondents who felt that there should be more opportunities provided for scientific research.



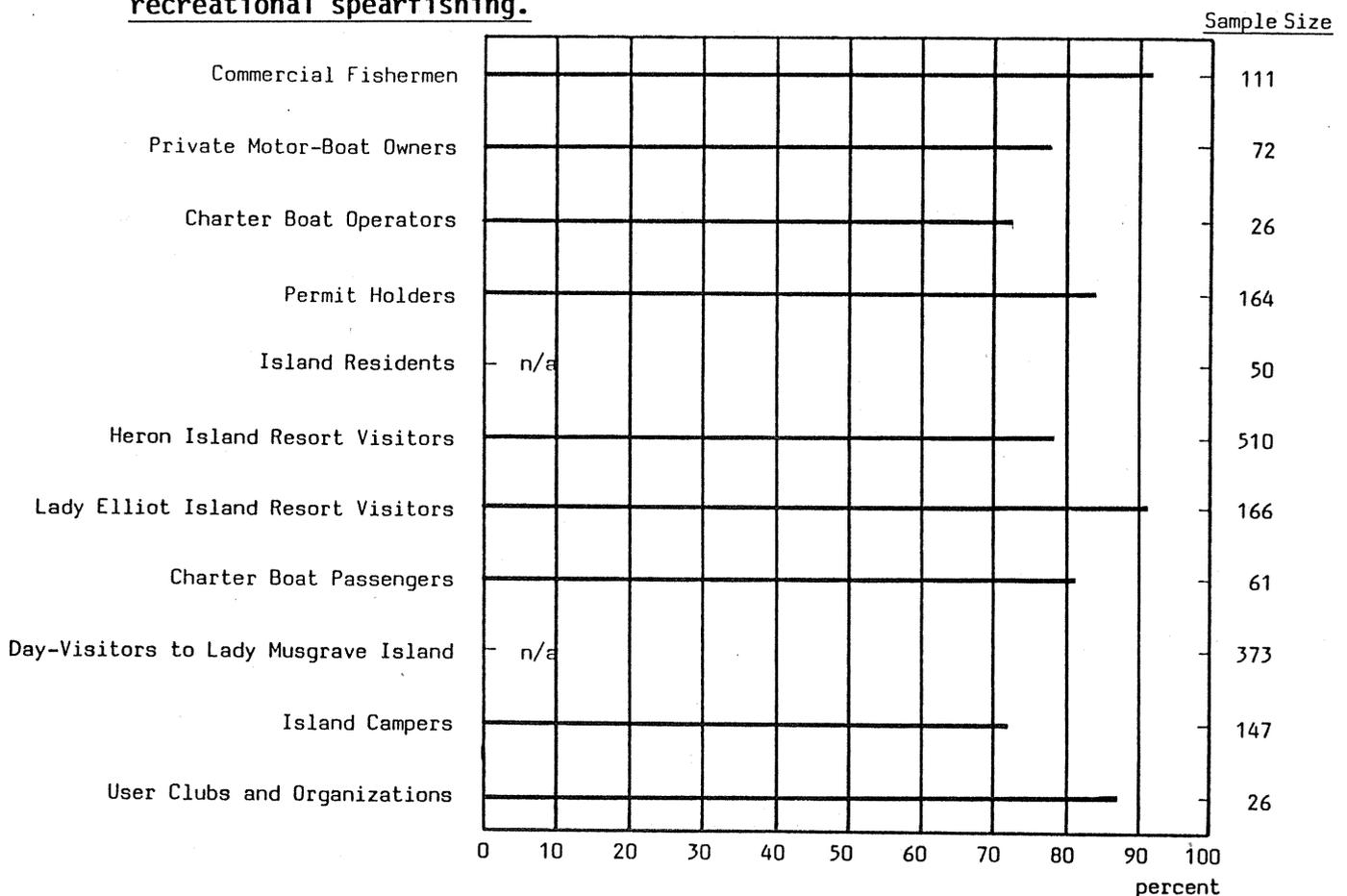
10(b) Percentage of respondents who felt that there should be fewer opportunities provided for scientific research.



11(a) Percentage of respondents who feel that bag limits should be applied to recreational line-fishing.



11(b) Percentage of respondents who feel that bag limits should be applied to recreational spearfishing.



4.0 CONCLUSIONS

The surveys described in this report collectively provide a scientific and systematic user-based evaluation of the Capricornia Section Zoning Plan and day-to-day management. The results of the surveys are based on the viewpoints of more than 1,700 Capricornia Section users from a wide variety of user groups.

The overall response to the Zoning Plan and day-to-day management is one that is very positive. There is a common belief amongst all user groups that the marine park is playing a worthwhile role in helping to protect the Great Barrier Reef. While most user groups expressed some reservations about some aspects of the Zoning Plan and day-to-day management, many users expressed a view that the levels of inconvenience they are suffering are acceptable if it means that this Section of the Great Barrier Reef will be protected for future generations.

Commercial fishermen feel that they have been more disadvantaged by the Zoning Plan than other groups of users. They cite loss of traditional fishing grounds and a lack of equivalent restrictions on recreational fishermen as evidence that they are disadvantaged. On the other hand there appears to be a consistent point of view from other user groups that opportunities for commercial fishing within the Section should be reduced when the Zoning Plan is reviewed.

There is evidence to suggest that many users perceive the Capricornia Section as a 'national park' rather than in its true role as a multiple-use park. The message that 'reasonable use' and 'limited extraction' are part of the marine park philosophy has so far eluded a wide cross-section of users.

The level of knowledge and understanding of the technical aspects of the Zoning Plan are generally quite low – even amongst users who spend a large amount of their working or leisure time in the Section. This does not necessarily mean that there is widespread ignorance of the zoning provisions. Even though users may not be aware of the zone names for example, there is a general awareness amongst regular users of where and when activities are permitted. There is a tendency amongst less experienced users to assume that use restrictions are more severe than in fact they are.

Strong preferences were expressed by a number of groups that opportunities for extractive activities such as line-fishing, trawling and shell collecting should be reduced when the Zoning Plan is reviewed. The notion of bag limits on recreational line and spearfishing received strong support from almost all user groups.

The image of marine park rangers was favourable amongst most user groups although there appears to be little contact between rangers and a number of significant user groups, particularly those who visit the southern part of the Section. Confusion exists amongst many users as to the relative roles of the Authority and the National Parks and Wildlife Service in the Capricornia Section. This confusion is even apparent amongst some users who have had close contact with both agencies.

There is a widespread feeling amongst users that the legal provisions of the Zoning Plan are not being adequately enforced. Many respondents feel that surveillance is inadequate and there is a general reluctance on the part of responsible agencies to seek prosecution of known offenders.

Overall the survey highlights a general public acceptance of the Capricornia Section Zoning Plan and the day-to-day management. An overwhelming majority of respondents from all user groups agree that the Zoning Plan has helped to protect the Great Barrier Reef.

At the same time the survey has raised a number of issues which should be addressed during the review of the Capricornia Section Zoning Plan. One of the most pressing of these issues concerns public perceptions of what are and are not acceptable levels of resource extraction from the Section, and how these perceptions might best be incorporated into the Zoning Plan. The survey has also identified some specific areas that warrant the attention of day-to-day managers in the Capricornia Section. Most of these are concerned with education, extension and enforcement activities.

As a final comment, it is worthwhile to note that this evaluation project has been something of a pioneering exercise for the planning profession in Australia. It is unusual for government planning agencies to seek public judgement on their performance. The Authority has done this and has been rewarded by both a favourable judgement and valuable information on how its performance could be even further improved. At the same time credit should also be given to the Capricornia Section users. Without exception, all user groups reacted positively to the project and showed a genuine interest in trying to improve the Zoning Plan and day-to-day management.

APPENDIX I.
DEFINITIONS OF USER GROUPS SURVEYED.

Commercial fishermen: Owners of registered commercial fishing vessels who have worked in the Capricornia Section. Most vessel owners in Queensland are master fishermen who operate their own vessels. There are four commercial fisheries operating within the Capricornia Section. They include; trawling for prawns and scallops, demersal fisheries (reef-dwelling species), pelagic fisheries (migratory species), and other minor fisheries.

Private motor-boat owners: Owners of registered private motor-boats over 4.5m (the minimum size required to reach the Capricornia Section) living in the coastal area bounded by St Lawrence and Burrum Heads.

Island resort managers: Managers of the two tourist resorts located on islands within the Capricornia Section.

Charter boat operators: Operators of registered charter boats based in adjacent ports and currently working in the Capricornia Section.

Permit holders: Individuals who had obtained a permit from either the Great Barrier Reef Marine Park Authority or the Queensland National Parks and Wildlife Service for activities within the Capricornia Section since permits were first required in 1981.

These persons can be broadly categorized into four permit groups based on the main activity in which they participate. The groups are; scientific researchers; collectors, for private or commercial purposes, of marine organisms (mainly molluscs, corals and algae); educators; and, other miscellaneous activities.

Island residents: Persons employed by tourist resorts, research stations and lighthouses who reside, on a full-time basis, on islands within the Capricornia Section. This group does not include any of the directors of the research stations nor resort managers.

Heron Island Resort visitors: Visitor parties staying at the Heron Island Resort during two survey periods.

Lady Elliot Island Resort visitors: Visitor parties staying at the Lady Elliot Island Resort during the survey period.

Charter boat passengers: Passengers who visited the Capricornia Section during September through November 1985 on one of twelve selected charter boats.

Day-visitors to Lady Musgrave Island: Parties of day-visitors visiting the Capricorn Section on the Lady Musgrave Island catamaran service over selected days during a six week survey period.

Island campers: All adult campers present on Masthead, North West, Tyrone and Lady Musgrave Islands over the selected survey periods.

Research station directors: The executive directors of the two research stations located on islands within the Capicornia Section.

User clubs and organisations: User clubs are defined as groups who participate in activities directly within the Capricornia Section. These organisations include; yachting, motor-boat, sportfishing, shell collecting and diving clubs. This group is distinct from the 'Permit holders' group in that permit holders are individuals only.