Statewide recreational fishing survey 2019-20 Screening Survey

Technical Report

July 2020

Social Research Centre

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1.   Introduction

1.1.   About this report

This report covers the data collection and methodological aspects of the screening survey for the statewide recreational fishing survey 2019/20. The survey was conducted by the Social Research Centre on behalf of the Department of Agriculture and Fisheries (DAF). This report aims to provide a detailed record of the survey procedures.

The purpose of this report is to:

- consolidate and summarise project information and assorted reports generated throughout the survey period

- provide analysis relating to sample characteristics and utilisation

- provide a detailed record and analysis of the survey approach and procedures; and

- consolidate issues for consideration relating to the improvement of the questionnaire and refinement of the methodology for future surveys, if applicable.

1.2.   Project background

The key objectives of the survey are to provide reliable and defensible statewide estimates relative to Queensland resident recreational fishers who are older than 5 years of age. These estimates include:

- The number of Queensland residents who fish recreationally and the participation rate of recreational fishing among Queensland residents by residential region, age and gender

- Recreational fishing effort (days/events/hours) by Queensland residents by fishing method, time and place.

- Recreational fishing catch (harvest and release separately) by Queensland residents by species, method, time and place.

- The ability to calculate recreational fishing catch per unit effort (CPUE) by Queensland residents per fishing day, trip and hour by species, method, time and place

- Expenditure on recreational fishing for example, bait, tackle, fuel, equipment, accommodation

- Recreational fishers' attitudes and awareness of various fishing and environmental topics.

Previous studies in 2010/11 and 2013/14 were conducted which relied on predominantly telephone diary surveys. An overview of the 2019/20 study can be found in Figure 1 below.

Figure 1   Project overview
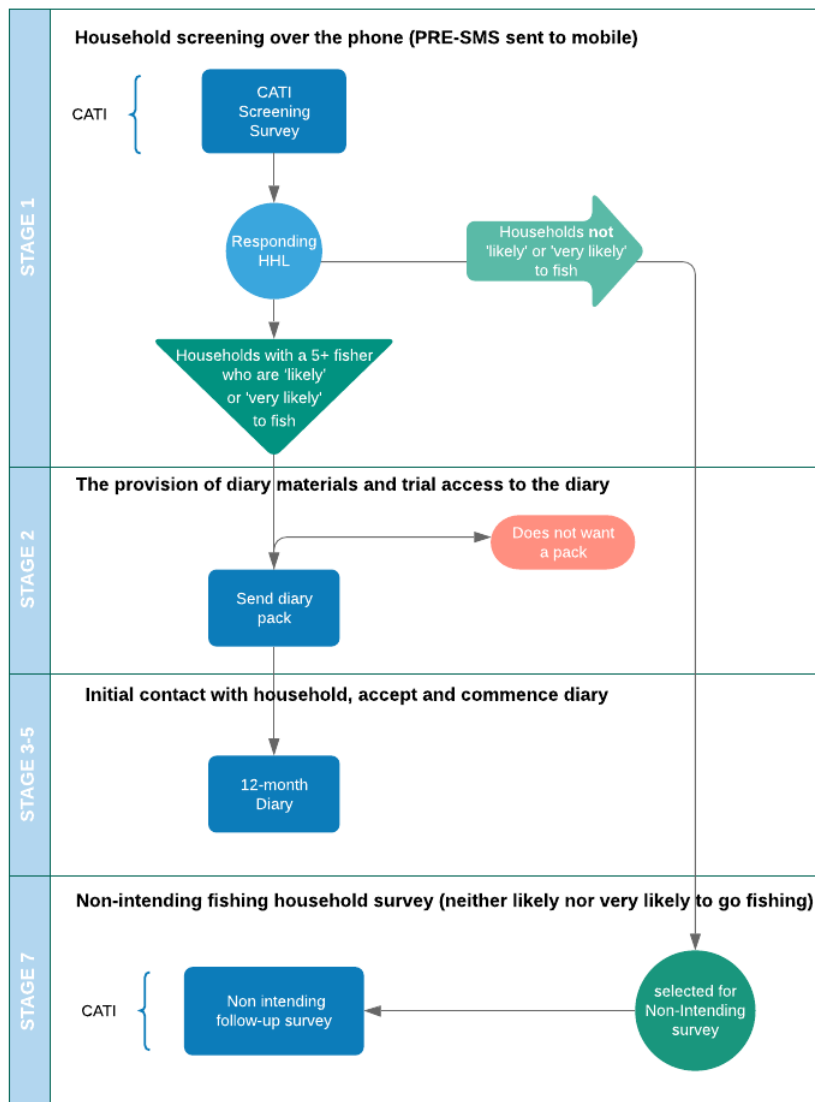
1.3.   Project overview

1.3.1.   Screening survey overview

The Screening Survey forms phase 1 of the statewide recreational fishing survey (SRFS) 2019/20. The Screening Survey was conducted via Computer Assisted Telephone Interviewing (CATI) with residents of Queensland. Households were asked whether they fished and whether they intended to fish over the next 12 months.

The survey was conducted from 29 January to 10 April 2019. The total achieved sample size was n=9,257. Respondents that answered B5DUM (diary eligibility) were considered a phase 1 complete for reporting purposes. A tri-frame sample design was used consisting of random digit dialled (RDD) landline telephone numbers, listed mobile phone numbers and RDD mobiles. Thirty-two per cent of interviews were conducted using landline phone numbers and 68 per cent were conducted using mobile numbers. Table 1 summarises key statistics for the survey.

Respondents were asked to complete the screening survey and then, if they were a household intending to fish in Queensland over the next 12 months, were then recruited to the 12-month diary. The response rate (reportable completes / made contact less screen outs & other contacts) for the screening survey was 40.5 per cent. The average interview length was 7.3 minutes, or 10.4 minutes for intending households and 5.8 minutes for non-intending households. The diary recruitment rate (agreed to receive the diary welcome pack / intending households) was 77.3 per cent.

Table 1   Screening survey key statistics

Key project statistics	Sample Frame			Fishing status	
	Total	Landline	Mobile	Intending Household	Non-intending Household
Reportable completes	9,257	3,013	6,244	3,475	5,782
Response rate (screening survey) *	40.5	39.3	41.1	-	-
Response rate (diary recruitment) ^	77.3	73.9	78.5	-	-
Average interview length (mins)	7.3	6.7	7.5	10.4	5.8

*base is made contact less screen outs & other contacts
^base is fishing households with screening survey complete

1.3.2.   Diary explanation survey overview

Households recruited for the diary received a follow up call to confirm the household's participation in the diary. The diary explanation survey ran from 8 April to 12 May 2019. During this call households were asked to nominate a "diary champion" for the household who would be the person in the household responsible for reporting the household's fishing events. As with previous surveys, a single contact within each household was required due to the difficulties that can arise in contacting multiple members within a household on a single email address or phone number, it also reduced the possibility of reporting the same event multiple times.

Table 2 summarises key statistics for the survey. In the last week of field, non-contacts were sent an email with a one question form asking for their expected fishing frequency over the next 12 months. Of those, 160 filled in the form and were included in Phase 2. A further 20 respondents that did not complete the engagement survey did fill in a diary while engagement survey was still in field and were also included in Phase 2. The remaining unresolved records were included in Phase 2 given they didn't refuse the diary.

Table 2   Explanation survey key statistics

Key project statistics	Sample Frame		
	Total	Landline	Mobile
Households recruited for the diary	2,640	660	1,980
Households accepting diary phase	1,844	500	1,344
Response rate *	69.8	75.8	67.9
Unresolved / not refused #	685	571	114
Average interview length (mins)	5.4	5.6	5.3

* households recruited at screening / households accepting diary after follow-up
# 180 of these households were unresolved in the explanation survey but were otherwise engaged with the diary

1.4. Quality assurance

All data collection activities were undertaken in accordance with the Privacy Act (1988), the Australian Privacy Principles, the Australian Market and Social Research Society's Code of Professional Practice, the Market and Social Research Privacy Principles, and ISO 20252 standards.

2. Methodology

2.1. Sample design

The survey utilised a tri-frame sample coverage by replacing electronic white pages with a tri-frame sample design. The sample design provides greater coverage by including mobile only households and unlisted landline households. Utilising a listed mobile frame also allows us to target the mobile only population of specific geographical areas. This sample design, including the 70:30 split of mobile phones to landlines, attempts to minimise sampling error for a given budget while providing a high level of coverage.

The sample design includes both randomly generated Queensland landline numbers that covers the vast majority of Queensland households with a landline, and randomly generated mobile telephone numbers, to cover the Queensland population that own a mobile phone. Mobile phone numbers that are not listed cannot be assigned a geographic location, and so the inclusion of these numbers has to be balanced against the costs associated with screening out sample members who do not reside in Queensland. Listed mobile is an effective method of efficiently targeting specific geographic areas and achieving representation of the mobile-only population. Its inclusion also reduces the cost of data collection and to be better able to maintain a reasonable mix of landline and mobile interviews within sampling strata.

2.2. Sample generation

The **RDD landline frame** is sourced from SamplePages, Australia's only remaining RDD sample vendor. A list-assisted methodology is used. List-assisted sampling uses listed numbers to draw a more efficient sample by excluding 100-blocks that would be highly unproductive to dial (Schroeder 2011). A 100-block is a block of telephone numbers defined by the last two digits of a telephone number. For instance, in the following example, the NN represent the 100-block: 03 9236 85NN; this 100-block would consist of all telephone numbers between 03 9236 8500 and 03 9236 8599. Only 100-blocks with 1 or more listed numbers are eligible for inclusion (a '1+ listed' design). Listed residential numbers are sourced from a range of historical and current lists; although the sources of lists are proprietary to SamplePages, they are known to include credit rating agencies. Within that 100-block, all numbers are eligible for selection, including unlisted numbers. Prior hard refusals from vendors using the SamplePages frame are ineligible for selection, as are commercial numbers. Prior to being provided to the Social Research Centre, numbers are checked for working status using SS7 look-up. SamplePages selects more numbers from 100-blocks with more listed numbers. As individuals have switched from landline to mobile, there are ever fewer working landline numbers. The list-assisted design is used by SamplePages because it increases productivity for its clients.

The SRC estimates that under-coverage due to the 1+ listed design is in the order of 6%. The proportion of Australian adults with a landline telephone in mid-2019 fell to 49% from 58% in mid-2018 (ACMA 2020). Applying the under-coverage estimate to national landline use, results in coverage of approximately 46% of Australian adults. Queensland landline use is, however, below national rates. In the National Health Survey (NHS) 2017-18, the most recent source for sub-national estimates of telephone use, 57.4% of Australians had landline access compared to 52.5% of Queenslanders (Phillips et al. 2019). If we assume that Queenslanders continue to use landlines less than Australians as a whole by the same proportions, 45% of Queenslanders would have landline access in mid-2019 and, accounting for under-coverage, 42% of Queensland adults would be in the landline RDD frame.

NHS estimates that landline access is higher in Brisbane than the rest of Queensland, with land access at 54.1% in Brisbane compared to 50.9% in the rest of the state. Unfortunately, NHS estimates become unreliable below this level. Neither the Social Research Centre nor SamplePages have information on variations on regional coverage from the 1+ listed design.

The **mobile RDD frame** is supplied by SamplePages. Unlike the landline RDD frame, a list-based approach is not used. Numbers are selected with equal probability from the full range of numbers allocated by the ACMA, with the exception of very unproductive blocks that are not expected to impact coverage, like companies that supply travel SIMs to international visitors. Prior hard refusals from vendors using the SamplePages frame are ineligible for selection, as are commercial numbers. Prior to sending the sample to the Social Research Centre, SamplePages checks whether numbers are working using HLR lookup, a database holding up-to-date information on mobile phone status.

We estimate that under-coverage is about 1%, due to false negatives in the working number check; in other words, the sampling frame covers approximately 99% of Australians with a mobile phone. The proportion of Australian adults with a mobile telephone in mid-2019 was 95% (ACMA 2020). Applying the under-coverage estimate to national landline use, results in coverage of approximately 94% of Australian adults. Queensland mobile use is slightly below national rates. In the NHS, 93.4% of Australians had a mobile phone access compared to 92.6% of Queenslanders (Phillips et al. 2019). If we assume that Queenslanders continue to use mobile phones less than Australians as a whole by the same proportions, Queensland mobile usage in mid-2019 would be 94% and, accounting for under-coverage, 93% of Queensland adults would be covered on the mobile frame.

NHS estimates that mobile access is higher in Brisbane than the rest of Queensland, with mobile phone use at 95.3% in Brisbane compared to 90.0% in the rest of the state. There is no reason to believe that under-coverage from working number look-up varies by state or sub-state area.

The **listed mobile frame** is supplied by SamplePages. Listed mobile numbers were selected at random from SamplePages' list of mobile numbers from in-scope postcodes. These numbers are sourced from a composite phone database built by contributors from different organisations, including charities, telemarketing companies, credit rating agencies and other business entities. The listed mobile sample is supplementary to dual-frame RDD (all listed mobile numbers are eligible for mobile RDD) and, consequently, does not increase on coverage.

2.3. Sample frame coverage

The coverage properties of the various frames have been described above. On a national level, coverage of dual-frame RDD is in the order of 97% of adults, just short of the maximum 98% possible coverage for a telephone survey, given that 2% of adults do not have a telephone (Phillips et al. 2019). Coverage is very high because the overwhelming majority of Australian adults have a mobile phone and RDD covers approximately 99% of mobile phones. The slightly lower coverage rates for landline phones only contribute to under-coverage for the landline-only population; the dual-user population (i.e. with mobile and landline access) is still covered by the mobile frame.

As Queensland is below national averages for both landline and mobile use, Queensland necessarily has a higher proportion of adults without telephone access. Using NHS estimates, 2.7% of Queensland adults had no telephone compared to 2.0% of Australian adults (Phillips et al. 2019). Accounting for the lower levels of access to telephones in Queensland, we estimate coverage at 96% of adults, also just short of the theoretical maximum of 97.3% for a telephone survey in Queensland.

2.4. In-scope population and respondent selection

The in-scope population for Phase 1 was Queensland residents, excluding residents of institutional premises (prisons, nursing homes, etc) and military bases.

Other exclusions that also applied included:

- persons who indicated that they were incapable of undertaking the interview due to a physical or health condition (including too old / frail)

- persons apparently under the influence of drugs or alcohol

- households with no person aged 18 years or over in residence, and

- mobile phone sample members where the mobile phone number called was not mainly for personal use or the main number used for personal purposes

The in-scope population for Phase 2 was Queensland residents very likely or likely to go fishing over the next 12 months (from 29 April 2019 to 28 April 2020 and aged 15 years or over.

3.   Response maximisation

Procedures to maximise response for the survey included:

- batched release of sample

- sending a primary approach SMS to all mobile sample

- leaving voicemail messages on answering machines to make initial contact with the household

- using an outgoing telephone number that has a Queensland prefix

- soft refusal conversion (see section 6.5)

- establishing a web presence for the survey on the Social Research Centre website to address frequently asked questions (see Appendix 4), and

- use of persuasive / call tailoring techniques to overcome initial reluctance, based on briefing materials sheet

- further tailoring the introduction to ensure 'non-fishing' households weren't refusing based on the survey topic.

3.1.   Call procedures

Calls are attempted over different times of day and days of the week, with up to six calls for landlines and four calls to mobile telephone numbers to establish contact with the household and a further eight calls to landlines or a further six calls to mobile telephone numbers to achieve an interview with the selected person in the household (fourteen to landlines and ten calls to mobiles in total).

This call regime was adopted to improve the representativeness of the achieved sample. Previous experience suggests that the representation of groups such as males and working persons is improved by using an extended call cycle of this type.

Initial contact attempts were made between 4:30 pm and 8:30 pm on weekdays and between 11:00 am and 5:00 pm on Saturdays and Sundays

3.2.   Primary approach text message

Mobile phone numbers selected to take part in the study were sent a pre-approach text. These messages encourage sample members to take the call (rather than ignore a call from an 'unknown number'), inform them that they might be contacted for the research and offering them a way to opt out. Research indicates that these messages increase response and cooperation rates (Dal Grande 2016; Pennay, Borg and Lavrakas 2015).

The primary approach text sent to mobile sample members was as follows:

RDD mobile sample: *This is a message from the QLD Government. The Social Research Centre will call you soon to see if you can take part in an important study [TEST DURING PILOT: about recreational fishing]. Reply '1' if you live in QLD. Reply '2' if you do NOT live in QLD or Reply '3' if you live in QLD and wish to Opt Out. More info call 1800 800 996*

Listed mobile sample: *This is a message from the QLD Government. The Social Research Centre will call you soon to see if you can take part in an important study TEST DURING PILOT: about recreational fishing]. Reply STOP to opt out. For more information call 1800 800 996*

As noted above, two versions of the primary approach text message were sent to test whether the mention of recreational fishing made a difference to response. The proportion of those replying to opt out, screen out, or screen in was similar across the two versions. Given this, the mention of recreational fishing in further batches of primary approach text messages was not used.

3.3. Voicemail

Voicemail messages were left on landline numbers if there was no contact on the first and second call attempt. The scripted messages informed the sample member of the nature of the call, encouraged participation and provided details of the survey hotline. The messages were as follows:

Landline sample: *"Hello. My name is (…) and I'm calling on behalf of the Queensland Department of Agriculture and Fisheries from the Social Research Centre to conduct an important study with Queensland residents. The results will improve our understanding of how many Queenslanders do and don't fish and ensure Queensland's fisheries are well managed into the future. Please call 1800 800 996 if you would like to schedule an appointment at a time that is convenient to you, otherwise we will try to call back at another time. Thank you."*

Mobile sample: *"Hello. My name is (…) and I'm calling on behalf of the Queensland Department of Agriculture and Fisheries from the Social Research Centre. We're calling mobile phones to conduct an important study with Queensland residents. The results will improve our understanding of how many Queenslanders do and don't fish and ensure Queensland's fisheries are well managed into the future. Please call 1800 800 996 if you would like to schedule an appointment at a time that is convenient to you, otherwise we will try to call back at another time. Thank you."*

3.4. Changing outgoing telephone number

To increase the likelihood of respondents answering their phones, the outgoing telephone number was changed from a Victorian '03' number to a Queensland '07' number. It was felt that residents of Queensland would be more receptive to receiving a call from a '07' number.

3.5. Helpdesk and 1800 number operation

The Social Research Centre operated an 1800 number throughout the survey period. The 1800 number primarily handled interview requests (such as changing appointment times), general queries related to the survey and queries relating to the pre-notification text message. If calls were not answered in real time (all operators currently busy, call received outside hours of operation), callers were routed to a messaging service and were returned within 24 hours. The helpdesk operators were fully briefed on survey background and procedures to answer a variety of queries. The helpdesk received a total of 625 calls during the screening and explanation surveys. Most contacts were to make an appointment (44%), to opt out of the research (18%) or to advise that they were out of scope for the survey (29%). The helpdesk contact information was also maintained throughout the diary stage (Phase 2) of the project.

4.   Questionnaire Design

4.1.   Questionnaire overview

The 2019 SRFS Screening Survey questionnaire was based on that used in the 2013/14 SRFS and other similar surveys on recreational fishing prevalence. The content and structure was developed in consultation with the Department of Agriculture and Fisheries and the Social Research Centre.

The questionnaire included the following sections:

- Screening for any fishing activity and fishing activity in Queensland over the next 12 months
- Household composition and individual fishing intention
    - Selection of main fisher
- Dual frame weighting questions (phone ownership)
- Diary recruitment
    - Collection of contact details
- Non-intending survey recruitment
    - Collection of contact details

4.2.   Testing and debriefing

A debriefing session with interviewers was held following the first night of field work and several changes were made to the questionnaire and approach to the survey, including;

- Changing the way the survey was explained if the household turned out not to be a fishing household
- Providing interviewers insights on the way the data is used and the purpose / importance of the screening survey
- Some general interviewer notes to provide instruction on question delivery
- Arming interviewers with an explanation as to why we ask the demographic questions of all survey respondents
- Providing feedback on the different approaches to diary recruitment.

5. Data Collection & Quality Control

5.1. Operational testing

Comprehensive testing was carried out by the Social Research Centre project management team to ensure the survey instruments were working correctly. Testing procedures included:

- programming the skips and sequence instructions as per the hard copy questionnaire

- rigorous checking of the questionnaire in 'practice mode', including checks of the on-screen 'presentation' of questions and response frames, and

- randomly allocating dummy data to each field in the questionnaire and examining the resultant frequency counts to check the structural integrity of the CATI script

5.2. Field team briefing

All interviewers selected to work on the survey attended a comprehensive briefing session covering the project background, objectives and procedures; all aspects of administering the survey questionnaire, including specific data quality issues; an overview of respondent liaison issues, including refusal avoidance techniques; and practice interviewing.

The briefing sessions were delivered by the Social Research Centre project manager and supervisory staff. In total 92 interviewers were briefed to work on the survey. The initial briefing session was held on 29 January 2019.

Survey briefing notes are provided at Appendix 5.

5.3. Fieldwork quality control procedures

The in-field quality monitoring techniques applied to the survey were consistent with existing ISO 20252 procedures, and included:

- monitoring (by remote listening) of each interviewer within their first three shifts, whereby the supervisor listened in to at least 75 per cent of the interview and provided comprehensive feedback on data quality issues and respondent liaison technique

- validation via remote monitoring covering the interviewer's approach and commitment gaining skills, as well as the conduct of the interview

- field team de-briefing after the first shift and, thereafter, whenever there was important information to impart to the field team in relation to data quality, consistency of interview administration, techniques to avoid refusals, appointment making conventions or project performance

- maintenance of a 'question and answer' log, addressing issues raised by interviewers, to clarify survey administration and definitional issues in the questionnaire

- monitoring the interview to refusal ratio by interviewer, and

- an end of survey de-briefing.

There were no issues arising from validation by remote monitoring undertaken as part of quality assurance. Table 3 shows the total number of validations completed for the survey. As per the ISO

20252 standard, 5 per cent of all telephone surveys completed must be validated. The minimum ISO requirements were met for this survey.

Table 3   Validation by remote monitoring

Validations	Total
Interviewers briefed on study	92
Surveys fully completed	8,388
Validations completed	454
Validations completed (%)	5.4

6. Response outcomes

6.1. Sample generation and utilisation

A total of 94,993 sample records were generated and attempted for the survey (including SMS approach), and 77,067 phone numbers were called to complete 9,257 interviews (Table 4). Respondents that answered B5DUM (diary eligibility) were considered a phase 1 complete for reporting purposes. In total, 284,761 calls were placed, equating to an interview every 33.9 calls (30.8 calls per interview for landline numbers, 82.3 calls per interview for RDD mobile numbers, and 14.2 calls per interview for listed mobile numbers). The average number of calls made to each sample record was 3.7 (4.6 calls per sample record for the landline frame, 3.4 calls per sample record for RDD mobile and 3.5 calls per record for listed mobile).

Table 4   Sample utilisation

	Total	Landline	RDD Mobile	Listed Mobile
All call attempts	**284,761**	**84,900**	**144,901**	**54,960**
Total sample generated and attempted	94,993	18,610	57,941	18,442
Sample initiated by telephone	77,067	18,610	42,776	15,681
Reportable completes	9,257	3,013	1,980	4,264
Average calls per interview	33.9	30.8	82.3	14.2
Average calls per sample record	3.7	4.6	3.4	3.5
Average sample records called per interview	9.2	6.8	24.3	4.0

6.2. Final call outcome

Table 5 shows the final call results for the survey. An interview was achieved from 9.7 per cent of the 94,993 numbers selected.

Of the numbers initiated, 10.5 per cent were unusable; 47.0 per cent were unresolved at the end of the call cycle (non-contacts or unresolved appointments); and 19.8 per cent were identified as being out of scope. Refusals (all types) were encountered at 10.7 per cent of the numbers initiated.

Table 5   Final detailed call outcome by sample type

Call outcome	Total (n)	Landline (n)	RDD Mobile (n)	Listed Mobile (n)	Total (%)	Landline (%)	RDD Mobile (%)	Listed Mobile (%)
Total numbers selected	**94,993**	**18,610**	**57,941**	**18,442**	**100.0**	**100.0**	**100.0**	**100.0**
SMS replies and sample wash (not called)								
SMS reply - Not in Queensland	3,973	-	3,972	1	4.2	0.0	6.9	0.0
SMS reply - Opt out	4,477	-	1,717	2760	4.7	0.0	3.0	15.0
Not in Queensland – State Info from Sample Provider	9,476	-	9,476	-	10.0	0.0	16.4	0.0
Sub-total SMS replies / screened out before CATI	*17,926*	*0*	*15,165*	*2,761*	*18.9*	*0.0*	*26.2*	*15.0*
Total numbers called	**77,067**	**18,610**	**42,776**	**15,681**	**100**	**24.1**	**55.5**	**20.3**
Completed interviews								
Complete and eligible for diary	3,475	907	759	1,809	4.5	4.9	1.8	11.5
Complete and not eligible for diary	5782	2106	1221	2455	7.5	11.3	2.9	15.7
Sub-total completed interviews	*9,257*	*3,013*	*1,980*	*4,264*	*12.0*	*16.2*	*4.6*	*27.2*
Refusals								
Terminated midway	359	144	87	128	0.5	0.8	0.2	0.8
Respondent refusal	594	313	106	175	0.8	1.7	0.2	1.1
Remove number from list	224	68	104	52	0.3	0.4	0.2	0.3
Refusals initiated for refusal conversion*	1944	351	923	670	0.5	5.0	1.6	0.0
Household refusal	4197	1528	1322	1347	5.4	8.2	3.1	8.6
Refused at main fisher handover	16	5	1	10	0.0	0.0	0.0	0.1
Mobile refused state	115	-	88	27	0.1	0.0	0.2	0.2
SMS reply - Opt Out	664	-	334	330	0.9	0.0	0.8	2.1
ICS refusal	100	18	47	35	0.1	0.1	0.1	0.2
Sub-total refusals	*8,213*	*2,427*	*3,012*	*2,774*	*10.7*	*13.0*	*7.0*	*17.7*
Unresolved appointments	**388**	**65**	**129**	**194**	**0.5**	**0.3**	**0.3**	**1.2**
Out of scope								
No one aged 18 years or over in household	535	62	363	110	0.7	0.3	0.8	0.7
Non-Queensland resident	12285	71	11257	957	15.9	0.4	26.3	6.1

SMS reply - Not in Queensland	972	-	972	-	1.3	0.0	2.3	0.0
Holiday house / usual residents not available / not a res dwelling	84	50	10	24	0.1	0.3	0.0	0.0
Other contacts								
Too old / frail / ill health	448	272	104	72	0.6	1.5	0.2	0.5
Language difficulty	754	126	557	71	1.0	0.7	1.3	0.5
Claims to have done survey	44	15	10	19	0.1	0.1	0.0	0.1
Unreliable respondent	55	16	24	15	0.1	0.1	0.1	0.1
Selected respondent away for duration	60	15	21	24	0.1	0.1	0.0	0.2
Sub-total out of scope contacts	*15,237*	*627*	*13,318*	*1,292*	*19.8*	*3.4*	*31.1*	*8.2*
Non-contacts								
Engaged	1213	451	604	148	1.6	2.4	1.4	0.9
Answering machine	21,548	4,963	12,031	5,121	28.0	26.7	28.1	32.7
No answer	13,083	3,996	7,361	1,726	17.0	21.5	17.2	11.0
Sub-total non-contacts	*35,844*	*9,410*	*19,996*	*6,995*	*46.5*	*50.6*	*46.7*	*44.6*
Unusable numbers								
Number disconnected	4,498	835	3,524	139	5.8	4.5	8.2	0.9
Not a residential number	3,025	1,696	1,006	323	3.9	9.1	2.4	2.1
Fax machine/modem	558	526	26	6	0.7	2.8	0.1	0.0
Incoming call restriction	47	11	28	8	0.1	0.1	0.1	0.1
Sub-total unusable numbers	*8,128*	*3,068*	*4,584*	*476*	*10.5*	*16.5*	*10.7*	*3.0*
Total calls	**284,761**	**84,900**	**144,901**	**54,960**	**100.0**	**29.8**	**50.9**	**19.3**

* Refusal conversion was carried out for respondents coded as a 'soft refusal' upon first contact. This is the process of re-serving them at a later date, in an attempt to convert the initial soft refusal to a completed interview. These 1,944 respondents were not contactable again after being initiated for refusal conversion. See section 6.5 for further details on refusal conversion outcomes.

The final call outcome by region and sample type is shown in table 6 below. RDD mobile records were treated as a separate stratum during the survey until they were allocated a region at the end of fieldwork.

Table 6   Final call outcome by region and sample type

Region and frame	Initiated n	Interview row%	Refusal row%	Unresolved contact row%	Screen outs row%	Other contacts row%	Non-contact row%	Unusable row%
Brisbane L.	6,976	16.7	13.0	0.26	1.0	2.9	50.5	15.7
Brisbane M.	3,820	21.5	36.4	1.47	5.4	1.0	31.9	2.4
Gold Coast L.	2,943	12.6	13.4	0.34	1.3	2.7	52.7	17.1
Gold Coast M.	3,192	19.0	36.4	0.97	7.0	1.3	32.9	2.4
Sunshine Coast L.	1,000	20.9	14.6	0.40	1.5	2.1	42.7	17.8
Sunshine Coast M.	1,223	20.4	40.7	1.06	3.8	1.1	30.1	2.8
West Moreton L.	397	21.2	17.9	0.00	1.0	1.8	47.6	10.6
West Moreton M.	1,458	33.1	15.3	0.82	5.9	1.4	40.7	2.7
Wide Bay-Burnett L.	641	27.3	15.6	0.78	1.1	1.7	39.0	14.5
Wide Bay-Burnett M.	1,094	21.2	42.4	0.55	4.4	1.0	28.5	1.9
Darling Downs L.	967	19.1	15.5	0.72	1.1	1.7	45.2	16.6
Darling Downs M.	1,251	21.7	37.3	1.28	4.3	0.8	32.1	2.5
CW/NW/SW L.	738	14.2	7.7	0.14	0.3	1.5	56.8	19.4
CW/NW/SW M.	972	25.7	14.5	0.82	8.5	1.3	46.0	3.1
Gladstone L.	467	17.3	11.6	0.00	0.9	2.1	55.5	12.6
Gladstone M.	339	23.0	20.6	0.59	8.8	1.2	42.8	2.9
Rockhampton L.	451	16.4	17.3	0.00	0.7	2.0	43.2	20.4
Rockhampton M.	1,002	26.0	26.3	1.00	4.8	1.1	38.4	2.3
Fitz Hinterland L.	397	13.4	9.3	0.25	1.0	1.8	58.9	15.4
Fitz Hinterland M.	513	28.3	16.4	0.58	3.9	1.4	47.8	1.8
Mackay-Whitsunday L.	718	12.8	11.8	0.14	1.1	1.0	52.9	20.2
Mackay-Whitsunday M	582	24.9	25.1	1.03	6.0	0.3	39.5	3.1
Mackay Hinterland L.	652	9.7	10.3	0.61	0.5	2.0	58.3	18.7
Mackay Hinterland M.	309	25.9	22.7	0.97	5.2	0.6	42.1	2.6
Townsville L.	727	18.2	12.8	0.69	1.0	1.0	53.2	13.2
Townsville M.	693	25.4	22.7	1.30	7.8	0.3	39.8	2.7
Nthern Hinterland L.	205	24.9	10.2	0.98	0.5	4.4	43.4	15.6
Nthern Hinterland M.	193	22.3	27.5	1.04	4.7	1.6	43.0	0.0
Cairns L.	894	11.4	11.4	0.34	0.6	2.2	56.5	17.6
Cairns M.	1,134	21.3	18.7	0.79	7.6	1.1	47.4	3.2
Far Nth Hinterland L.	437	16.5	14.6	0.92	1.1	3.7	42.3	20.8
Far Nth Hinterland M.	667	27.0	20.2	0.30	6.6	1.5	39.9	4.5
RDD Mobile	57,941	3.4	8.2	0.23	45.0	1.2	34.1	7.9

6.3. Allocation to region

The RDD landline and mobile listed sample provided by SamplePages contained postcode information, which allowed for random selection within each stratum. (No postcode information was available for mobile RDD sample dialled.) Given that the a priori allocation of records to geographical strata was approximate, the final allocation of records to geographical strata was based on postcode and locality information as collected directly from the respondent, with reference to concordances maintained by the Social Research Centre.

Whilst some attempt was made to keep track of the reallocation of sample records from one stratum to another in real time, the number of interviews by geographical strata could only be finalised at the end of data collection.

This, together with issues associated with phone number portability, re-directed numbers, holiday houses, and telephone exchanges covering a wide geographic area (possibly straddling geographical strata boundaries), meant that some reallocation of sample records from their *a priori* stratum was expected.

The final distribution of reportable completes across the sixteen regions are provided in Table 7 below.

Table 7   Final region distribution of final achieved sample by sample frame

Region	Total n	Landline n	RDD Mobile n	Listed Mobile n
Total	**9,257**	**3,013**	**1,980**	**4,264**
Brisbane	3333	1200	1051	1082
Gold Coast	1086	330	211	545
Sunshine Coast	599	209	131	259
West Moreton	397	63	38	296
Wide Bay-Burnett	529	175	98	256
Darling Downs	685	210	89	386
Central W / North W / South W	313	105	26	182
Gladstone	171	81	24	66
Rockhampton	381	84	40	257
Fitzroy Hinterland	154	47	20	87
Mackay Whitsunday	290	90	44	156
Mackay Hinterland	144	63	13	68
Townsville	400	128	86	186
Northern Hinterland	118	54	15	49
Cairns	372	102	52	218
Far North Queensland	285	72	42	171

Table 8 details the number of reportable completes and diary recruitment performance. Nearly a third (28.5 per cent) of households screened were both eligible and accepted the invitation to participate in the diary. The proportion of households accepting the invitation to participate in the diary was highest in Darling Downs, Fitzroy Hinterland and Northern Hinterland (83 per cent).

Table 8   Diary recruitment performance

Region	Complete n	Eligible for diary n	Accepted welcome pack n	Accepted welcome pack row %
Total	**9,257**	**3475**	**2640**	**76**
Brisbane	3,333	1045	765	73
Gold Coast	1,086	332	240	72
Sunshine Coast	599	232	169	73
West Moreton	397	153	125	82
Wide Bay-Burnett	529	219	166	76
Darling Downs	685	225	187	83
Central W / North W / South W	313	151	121	80
Gladstone	171	92	72	78
Rockhampton	381	179	135	75
Fitzroy Hinterland	154	65	54	83
Mackay Whitsunday	290	156	119	76
Mackay Hinterland	144	81	63	78
Townsville	400	166	122	73
Northern Hinterland	118	63	52	83
Cairns	372	173	134	77
Far North Queensland	285	143	116	81

6.4.   AAPOR Response and other rates

The AAPOR Response Rate 3 (RR3)[1] estimates the proportion of cases of unknown eligibility that may have been eligible for the survey and includes this estimate in the denominator for the calculation of the survey response rate. The formula for calculating RR3 is:

$$RR3 = \frac{I}{(I+P)+(R+NC+O) + e(UH+UO)}$$

Where:

I=Interviews

P=Partial interviews

R=Refusals

NC=Non-contacts

O=Other

e=Estimate of the proportion of unknown outcomes likely to have been in-scope

UH=Unknown, if household / occupied

UO=Unknown, other.

As shown in Table 9 the overall AAPOR **response rate (RR3)** for the survey was 25.0 per cent for landline, 22.2 per cent for RDD mobile and 26.7 per cent for listed mobile.

Table 9   Calculation of AAPOR response rate

Total phone numbers used	Landline	RDD Mobile	Listed Mobile
I=Complete Interviews (1.1)	3,013	1,980	4,264
R=Refusal and break off (2.1)	2,427	2,678	5,534
NC=Non-Contact (2.2)	15	21	24
O=Other (2.0, 2.3)	494	830	365
e1 the % of known-residential cases estimated to have eligible R	97.7	17.5	90.5
e2 the % of unknown-if-residential cases that are estimated to be residential	66.3	88.0	95.8
UH=Unknown Household (3.1)	9,421	19,775	6,694
UO=Unknown other [1] (3.2-3.9)	0	2,051	0
Response Rate 3			
I/((I+P) + (R+NC+O) + e(UH+UO))	25.0	22.2	26.7
Cooperation Rate 3			
I/((I+P)+R))	56.5	85.6	49.1
Refusal Rate 3			
R/((I+P)+(R+NC+O))	40.8	48.6	54.3
Contact Rate 3			
(I+P)+R+O / (I+P)+R+O+NC	99.7	99.6	99.8

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[1] AAPOR 2016.

The **cooperation rates** for the survey (interviews / interviews + refusals) are more typically reported as the 'response rate' for Australian surveys. The cooperation rate was 56.5 per cent for landline, 85.6 per cent for RDD mobile and 49.1 per cent for listed mobile.

The **refusal rate** is the proportion of all cases in which a household or respondent refuse to do an interview. The refusal rate was 40.8 per cent for landline, 48.6 per cent for RDD mobile and 54.3 per cent for listed mobile.

The **contact rate** is the proportion of all cases in which some member of the housing unit was reached by the survey. The contact rate was 99.7 per cent for landline, 99.6 for RDD mobile and 99.8 per cent for listed mobile.

6.5. Refusal Conversion

Refusal conversion is the process of identifying respondents coded as a 'soft refusal' upon first contact and re-serving them at a later date, in an attempt to convert the initial soft refusal to a completed interview. Only three types of 'soft refusals' were attempted: no comment / hung up, not interested or too busy. A total of 6,629 records were identified as soft refusals and flagged for follow-up through refusal conversion across all components. Of those selected for refusal conversion, n=644 were converted into an interview. Table 10 provides a summary of the refusal conversion by sample type. A proportion of the refusal conversion records were initiated to convert diary refusals, and these are also included in the table below.

Table 10   Refusal conversion summary by sample type

	Initiated for refusal conversion	Converted to completed interview	
	n	n	row %
Overall refusal conversion	**5,725**	**644**	**11.2**
Landline sample	1,807	333	18.4
RDD Mobile sample	2,243	88	3.9
Listed mobile sample	1,675	223	13.3

7. Data Outputs & Reporting

7.1. Weighting

When undertaking a survey, the sample of people you reach (i.e. survey), and their associated characteristics such as age or gender, may not reflect the broader population. As such, it is best and common practice to account for this by weighing the survey results to reflect the properties of the broader population.

It is usual to weight the data collected via sample surveys to:

- adjust for unequal probabilities of selection;
- properly combine the landline and mobile phone samples (and listed and RDD samples within the mobile phone samples); and
- compensate for the effects of non-coverage and non-response.

Weighting survey data improves the ability to draw inferences about the population based on the sample surveyed.

The broad approach recommended for this survey is based on the work of Valliant *et al.* (2013) with adjustments for dual-frame sample design and the presence of listed sample within the mobile frame. This involved the following steps:

1) A base weight is calculated as the product of two weights:
   a. A design weight, calculated to account for the probability of being sampled into the survey (refer to Section 2 for more details); and
   b. A non-response weight, accounting for the estimated chance of participation using the subset of items collected for both respondents and refusals (refer to Section 3 for more details).
2) The base weight is then adjusted using generalised regression so that the final weight conforms to population benchmarks (refer to Section 4 for more details).

7.2. Design weight

The design weight is calculated as the inverse of the probability of selection into the survey. For dual frame surveys, this probability is expressed as:

$$p_{selection} = p_{LL} + p_{MP}$$

where p_{LL} is the probability the respondent will be selected into the survey by landline; and
p_{MP} is the probability they will be selected into the survey by mobile phone.

This formula can be further broken down into:

$$p_{selection} = \frac{S_{LL}}{U_{LL}} LL + \frac{(S_{RMP} + \alpha\, S_{LMP}\, p_{LMP})}{U_{MP}} MP$$

where S_{LL} is the number of responding households contacted by landline;
U_{LL} is the population of the universe of landline numbers;
LL indicates the presence of a landline (0 for no, 1 for yes);
S_{RMP} is the number of responding households contacted by RDD mobile;
p_{LMP} is the probability of the household being part of the listed mobile sample;
α is an adjustment factor to ensure that the term $S_{LMP}p_{LMP}$ sums to the number of listed households;
S_{LMP} is the number of responding households contacted by listed mobile;

U_{MP} is the population of the universe of mobile numbers; and
MP indicates the number of mobile phones owned by adults in the household.

The sample size for the mobile phone term in the equation has been split between listed and RDD sample types. For RDD sample, all respondents with a mobile phone (whether or not they are also listed) have an equal chance of selection. For the listed sample, each household with a mobile phone needs an estimated probability (p_{LMP}) of appearing in the list. This is calculated using a logistic regression predicting membership in the listed mobile sample using cases from the combined listed and random mobile samples.[2] The coefficients from the model were applied to landline households with a mobile phone to give them a value for this as well.

The variables included in the regression were age category, sex, country of birth, level of education and whether the household was a fishing household, with region acting as a control[3]. This model was refitted with just the significantly related variables: age and sex, plus the control variable region, to create a parsimonious model. The coefficients for age and sex from this model were then applied to all cases in the data file aged 15 and over to create a probability for inclusion in the listed mobile sample. This was then averaged across household members.

When calculating probability of selection, an adjustment factor (calculated as average probability across all households) is used so that the S_{LMP} term is not deflated and the probability of listed mobile selections is correct relative to landline and RDD mobile selections.

For S_{LL}, S_{RMP} and S_{LMP} the counts of complete cases were obtained by region. U_{MP} was obtained by getting population counts for each region and then applying the proportion of mobile phone owners determined from ACMA/ABS data[4], while U_{MP} was determined from household counts by region multiplied by the proportion of landline owner again determined from ABS data[5]. More information on determining U_{LL} and U_{MP} can be found in the 2210 QLD Fishing Phase 1 Weighting Process (2019).

7.3. Non-response adjustment

Where possible during data collection, persons that refused to participate in the survey were asked a small subset of items to enable an adjustment to be made for this group, assuming they were representative of all refusals.

A weighted logistic regression[6] model was used to predict whether or not a person responded to the survey, conditional on the subset of information available for both respondents and non-respondents. The weight used in the model was the design weight, scaled so that the non-respondents who answered the subset of items represented all survey refusals. The predictors used in the model were as follows:

- Whether the household was a fishing household;

- Sample region (with a separate code for RDD mobiles where region was unknown);

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[2] Unweighted regression using "glm" function from the R "stats" package (R Core, 2019).

[3] Region comes out as highly significant in the model, but this an artefact of the sample design that needs to be controlled for rather than an indication of the probability of inclusion in the listed sample.

[4] This information is only available at Capital City/Rest of State level, so the Brisbane figure was known, but the Rest of Queensland figure was used for all other regions.

[5] See Footnote 2.

[6] Using the "surveyglm" function from the "survey" package in R.

- Sex of respondent; and

- Sample type (unlisted landline, listed landline, unlisted mobile, listed mobile).

The weight at the end of this stage was the inverse of the overall probability of participation where:

$$p_{participation} = p_{selection} \times p_{participation\,|\,selection}$$

7.4. Final calibration

The final step in the weighting process involved calibration of the adjusted design weight to population benchmarks for individuals for telephone status, age by education, sex, and country of birth all cross-classified by region and for household benchmarks for region. This calibration gave the final weight to all households for which a final fishing status could be confirmed.

Population counts for age by education, sex and country of birth were all aggregated to region by SA2 using Census counts. Telephone status benchmarks used the ABS National Health Survey 2013/14 for proportions of respondents with a landline, updated to 2018 using ACMA reports of the national proportion of mobile phone only adults (ACMA, 2015, 2018).

The household region benchmark had to be a benchmark that added to the correct number of households when one household member is selected for household level analysis, but still added to the same population totals as the individual benchmarks. The process here was to calculate the number of households for a region and have the 'selected' benchmark be the number of households and the 'not selected' benchmark be the difference between individual and household benchmarks (effectively the amount of weight to 'filter out' to get household estimates). For example, Brisbane has a population of 2,200,581 individuals and 869,205 households, so the 'Brisbane selected' benchmark is 869,205 and the 'Brisbane not selected' weight is 2,200,581 – 869,205 = 1,331,376. For this to work correctly it is necessary that all household members be given the same weight so that no matter which member is selected the weight always works.

All benchmarks were pro-rated to add to the latest available ABS Estimated Resident Population for Queensland (September 2018). The method for calibrating the design weights was generalised regression (GREG) weighting which uses non-linear optimisation to minimise the distance between the design and calibrated weights subject to the weights meeting the benchmarks (Deville, Särndal and Sautory, 1993; Vanderhoeft, 2001).

7.5. Data file provision

Data files for the survey were transferred through the Social Research Centre's secure file transfer portal, accessed at https://securesrc.sharefile.com. Individual accounts with access restrictions were created for Department staff and the Social Research Centre in compliance with confidentiality provisions. A Phase 1 data file was produced, output in Excel. This data file contained household level information, demographic information for all persons, and fishing information for all people in fishing households. This file is to be used in conjunction with the Phase 1 fishing estimates file.

References

American Association for Public Opinion Research (AAPOR) (2016). Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. 9th ed. AAPOR, Oakbrook Terrace, IL, USA.

Australian Bureau of Statistics (2017). *Census of Population and Housing* (August 2016), TableBuilder. Findings based on use of ABS TableBuilder data.

Australian Bureau of Statistics (2019). Estimated Resident Population. Catalog number 3101.0.

Australian Communications and Media Authority. 2020. 'Communications Report 2018-19.' Australian Communications and Media Authority, Belconnen, Australia.

Australian Communication and Media Authority (ACMA) (2015). Using mobile devices for voice, messaging and internet access. ACMA, Belconnen, ACT. http://www.acma.gov.au/theACMA/ engage-blogs/engage-blogs/Research-snapshots/Australians-get-mobile.

ACMA (2019). ACMA Communications Report 2017-18. ACMA, Belconnen, ACT.

Blumberg, S. J. and J.V. Luke. (2011). Wireless substitution: Early release of estimates from the National Health Interview Survey, July–December 2011. National Center for Health Statistics. Available from: http://www.cdc.gov/nchs/nhis.htm.

Dal Grande, E., C.R. Chittleborough, S. Campostrini, M. Dollard, and A.W. Taylor (2016). Pre-survey text messages (SMS) improve participation rate in an Australian mobile telephone survey: an experimental study. *PLoS ONE* 11(2):e0150231.

Deville, J., C. Särndal, and O. Sautory (1993). Generalized raking procedures in survey sampling. *Journal of the American Statistical Association*, 88(423), 1013-1020.

Pennay, D.W., K. Borg, and P.J. Lavrakas (2016). Using advance text messages to increase response rates and improve calling efficiency. Paper presented at the 69th annual conference of the World Association for Public Opinion Research, Austin, USA, 12 May.

Phillips, Benjamin, Jack Barton, Darren Pennay and Dina Neiger. 2019. 'Socio-Demographic Characteristics of Telephone Access in Australia: Implications for Survey Research.' The Social Research Centre, Melbourne, Australia.

R Core Team (2019). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. https://www.R-project.org/.

Schroeder, Paul. 2011. 'List-Assisted Sampling.' *Encyclopedia of Survey Research Methods*, vol. 2, edited by Paul J. Lavrakas, 429-432. Thousand Oaks, CA: Sage.

Valliant, R., J.A. Dever, and F. Kreuter (2013). *Practical Tools for Designing and Weighting Sample Surveys.* New York, NY, USA: Springer.

Vanderhoeft, C. (2001) Generalized Calibration at Statistics Belgium. Statistics Belgium Working Paper No 3.

Appendix 1   DAF response definitions

Table 11   Response outcomes (as done in previous surveys) for screening survey

Response	Households (n)	Households (column %)
Sample loss	*35,612*	*37.5*
Out of scope (new code) #	26,635	28.0
Other ^	766	0.8
Number disconnected	4,544	4.8
Business number	3,102	3.3
Fax/email line	558	0.6
Holiday home / no usual residents	7	<0.1
Non-response	*50,124*	*52.7*
Full refusal	12,387	13.0
Part refusal*	303	0.3
Full non-contact	35,994	37.9
Part non-contact*	238	0.3
Language/communication difficulties	1,202	1.3
Fully responding	*9,257*	*9.7*
Total	94,993	100

Out of scope was a new code in 2019 due to the initial unknown eligibility of RDD mobile respondents this year

^ Examples of other outcomes include away for duration of survey, no-one in household over 18

* Part refusal and part non-contact includes those that answered the first few questions of the survey (on household fishing activity) but subsequently refused or were a non-contact on the final call

Table 12   Non-response reasons

Response type	2019-20
Full refusal	24%
Part refusal	1%
Full non-contact	71%
Language/communication difficulties	2%
Other non-response	2%

* base for 2019 non-response is 50,124 (all responses less fully responding, out of scope and sample loss)

Appendix 2 Calibration benchmarks

Variable	Category	Benchmark
Sex	Brisbane - Male	1,161,299
	Brisbane - Female	1,200,038
	Gold Coast - Male	297,398
	Gold Coast - Female	314,228
	Sunshine Coast - Male	179,543
	Sunshine Coast - Female	192,304
	West Moreton - Male	47,662
	West Moreton - Female	47,836
	Wide Bay-Burnett - Male	152,528
	Wide Bay-Burnett - Female	156,385
	Darling Downs - Male	126,542
	Darling Downs - Female	130,945
	Central West / North West / South West - Male	35,495
	Central West / North West / South West - Female	33,560
	Gladstone - Male	33,950
	Gladstone - Female	32,186
	Rockhampton - Male	62,259
	Rockhampton - Female	62,197
	Fitzroy Hinterland - Male	24,269
	Fitzroy Hinterland - Female	22,169
	Mackay Whitsunday - Male	74,313
	Mackay Whitsunday - Female	71,842
	Mackay Hinterland - Male	19,223
	Mackay Hinterland - Female	16,721
	Townsville - Male	100,205
	Townsville - Female	100,253
	Northern Hinterland - Male	22,847
	Northern Hinterland - Female	22,456
	Cairns - Male	81,126
	Cairns - Female	83,527
	Far North Queensland - Male	65,269
	Far North Queensland - Female	62,564
Education by age	Brisbane - 0 to 4	166,620
	Brisbane - 5 to 14	332,246
	Brisbane - 15 to 29 - has Bachelor degree	96,306
	Brisbane - 15 to 29 - no Bachelor degree	412,158
	Brisbane - 30 to 44 - has Bachelor degree	194,620
	Brisbane - 30 to 44 - no Bachelor degree	315,670
	Brisbane - 45 to 59 - has Bachelor degree	120,518
	Brisbane - 45 to 59 - no Bachelor degree	321,053
	Brisbane - 60+ - has Bachelor degree	67,952
	Brisbane - 60+ - no Bachelor degree	334,194
	Gold Coast - 0 to 4	39,813

Gold Coast - 5 to 14	82,664
Gold Coast - 15 to 29 - has Bachelor degree	18,564
Gold Coast - 15 to 29 - no Bachelor degree	100,115
Gold Coast - 30 to 44 - has Bachelor degree	36,278
Gold Coast - 30 to 44 - no Bachelor degree	89,550
Gold Coast - 45 to 59 - has Bachelor degree	23,985
Gold Coast - 45 to 59 - no Bachelor degree	95,456
Gold Coast - 60+ - has Bachelor degree	16,582
Gold Coast - 60+ - no Bachelor degree	108,619
Sunshine Coast - 0 to 4	20,831
Sunshine Coast - 5 to 14	51,471
Sunshine Coast - 15 to 29 - has Bachelor degree	6,097
Sunshine Coast - 15 to 29 - no Bachelor degree	52,299
Sunshine Coast - 30 to 44 - has Bachelor degree	18,397
Sunshine Coast - 30 to 44 - no Bachelor degree	47,939
Sunshine Coast - 45 to 59 - has Bachelor degree	17,198
Sunshine Coast - 45 to 59 - no Bachelor degree	61,271
Sunshine Coast - 60+ - has Bachelor degree	15,102
Sunshine Coast - 60+ - no Bachelor degree	81,241
West Moreton - 0 to 4	6,314
West Moreton - 5 to 14	14,729
West Moreton - 15 to 29 - has Bachelor degree	1,137
West Moreton - 15 to 29 - no Bachelor degree	14,965
West Moreton - 30 to 44 - has Bachelor degree	2,543
West Moreton - 30 to 44 - no Bachelor degree	13,750
West Moreton - 45 to 59 - has Bachelor degree	2,119
West Moreton - 45 to 59 - no Bachelor degree	17,632
West Moreton - 60+ - has Bachelor degree	1,901
West Moreton - 60+ - no Bachelor degree	20,408
Wide Bay-Burnett - 0 to 4	17,842
Wide Bay-Burnett - 5 to 14	43,327
Wide Bay-Burnett - 15 to 29 - has Bachelor degree	2,824
Wide Bay-Burnett - 15 to 29 - no Bachelor degree	42,838
Wide Bay-Burnett - 30 to 44 - has Bachelor degree	8,106
Wide Bay-Burnett - 30 to 44 - no Bachelor degree	39,101
Wide Bay-Burnett - 45 to 59 - has Bachelor degree	7,761
Wide Bay-Burnett - 45 to 59 - no Bachelor degree	55,389
Wide Bay-Burnett - 60+ - has Bachelor degree	7,004
Wide Bay-Burnett - 60+ - no Bachelor degree	84,721
Darling Downs - 0 to 4	18,270
Darling Downs - 5 to 14	39,558
Darling Downs - 15 to 29 - has Bachelor degree	4,993
Darling Downs - 15 to 29 - no Bachelor degree	41,972
Darling Downs - 30 to 44 - has Bachelor degree	11,234
Darling Downs - 30 to 44 - no Bachelor degree	34,221
Darling Downs - 45 to 59 - has Bachelor degree	8,914

Darling Downs - 45 to 59 - no Bachelor degree	40,741
Darling Downs - 60+ - has Bachelor degree	6,550
Darling Downs - 60+ - no Bachelor degree	51,034
Central West / North West / South West - 0 to 4	6,124
Central West / North West / South West - 5 to 14	10,885
Central West / North West / South West - 15 to 29 - has Bachelor degree	1,692
Central West / North West / South West - 15 to 29 - no Bachelor degree	11,481
Central West / North West / South West - 30 to 44 - has Bachelor degree	2,716
Central West / North West / South West - 30 to 44 - no Bachelor degree	10,914
Central West / North West / South West - 45 to 59 - has Bachelor degree	1,446
Central West / North West / South West - 45 to 59 - no Bachelor degree	12,298
Central West / North West / South West - 60+ - has Bachelor degree	713
Central West / North West / South West - 60+ - no Bachelor degree	10,785
Gladstone - 0 to 4	5,395
Gladstone - 5 to 14	10,953
Gladstone - 15 to 29 - has Bachelor degree	1,064
Gladstone - 15 to 29 - no Bachelor degree	11,157
Gladstone - 30 to 44 - has Bachelor degree	2,709
Gladstone - 30 to 44 - no Bachelor degree	11,273
Gladstone - 45 to 59 - has Bachelor degree	1,714
Gladstone - 45 to 59 - no Bachelor degree	12,200
Gladstone - 60+ - has Bachelor degree	759
Gladstone - 60+ - no Bachelor degree	8,913
Rockhampton - 0 to 4	8,985
Rockhampton - 5 to 14	18,915
Rockhampton - 15 to 29 - has Bachelor degree	2,024
Rockhampton - 15 to 29 - no Bachelor degree	21,972
Rockhampton - 30 to 44 - has Bachelor degree	4,905
Rockhampton - 30 to 44 - no Bachelor degree	17,848
Rockhampton - 45 to 59 - has Bachelor degree	3,917
Rockhampton - 45 to 59 - no Bachelor degree	20,854
Rockhampton - 60+ - has Bachelor degree	2,421
Rockhampton - 60+ - no Bachelor degree	22,614
Fitzroy Hinterland - 0 to 4	4,411
Fitzroy Hinterland - 5 to 14	8,173
Fitzroy Hinterland - 15 to 29 - has Bachelor degree	863
Fitzroy Hinterland - 15 to 29 - no Bachelor degree	7,527
Fitzroy Hinterland - 30 to 44 - has Bachelor degree	1,824
Fitzroy Hinterland - 30 to 44 - no Bachelor degree	8,342
Fitzroy Hinterland - 45 to 59 - has Bachelor degree	936
Fitzroy Hinterland - 45 to 59 - no Bachelor degree	8,074
Fitzroy Hinterland - 60+ - has Bachelor degree	345

Fitzroy Hinterland - 60+ - no Bachelor degree	5,942
Mackay Whitsunday - 0 to 4	10,773
Mackay Whitsunday - 5 to 14	22,283
Mackay Whitsunday - 15 to 29 - has Bachelor degree	2,593
Mackay Whitsunday - 15 to 29 - no Bachelor degree	24,645
Mackay Whitsunday - 30 to 44 - has Bachelor degree	5,441
Mackay Whitsunday - 30 to 44 - no Bachelor degree	24,200
Mackay Whitsunday - 45 to 59 - has Bachelor degree	3,794
Mackay Whitsunday - 45 to 59 - no Bachelor degree	26,860
Mackay Whitsunday - 60+ - has Bachelor degree	1,977
Mackay Whitsunday - 60+ - no Bachelor degree	23,590
Mackay Hinterland - 0 to 4	3,513
Mackay Hinterland - 5 to 14	5,968
Mackay Hinterland - 15 to 29 - has Bachelor degree	758
Mackay Hinterland - 15 to 29 - no Bachelor degree	5,639
Mackay Hinterland - 30 to 44 - has Bachelor degree	1,373
Mackay Hinterland - 30 to 44 - no Bachelor degree	6,686
Mackay Hinterland - 45 to 59 - has Bachelor degree	518
Mackay Hinterland - 45 to 59 - no Bachelor degree	6,278
Mackay Hinterland - 60+ - has Bachelor degree	289
Mackay Hinterland - 60+ - no Bachelor degree	4,922
Townsville - 0 to 4	14,862
Townsville - 5 to 14	29,552
Townsville - 15 to 29 - has Bachelor degree	5,469
Townsville - 15 to 29 - no Bachelor degree	39,985
Townsville - 30 to 44 - has Bachelor degree	10,747
Townsville - 30 to 44 - no Bachelor degree	29,949
Townsville - 45 to 59 - has Bachelor degree	7,377
Townsville - 45 to 59 - no Bachelor degree	30,329
Townsville - 60+ - has Bachelor degree	3,987
Townsville - 60+ - no Bachelor degree	28,202
Northern Hinterland - 0 to 4	2,782
Northern Hinterland - 5 to 14	6,831
Northern Hinterland - 15 to 29 - has Bachelor degree	548
Northern Hinterland - 15 to 29 - no Bachelor degree	6,825
Northern Hinterland - 30 to 44 - has Bachelor degree	1,045
Northern Hinterland - 30 to 44 - no Bachelor degree	6,130
Northern Hinterland - 45 to 59 - has Bachelor degree	912
Northern Hinterland - 45 to 59 - no Bachelor degree	8,359
Northern Hinterland - 60+ - has Bachelor degree	628
Northern Hinterland - 60+ - no Bachelor degree	11,243
Cairns - 0 to 4	12,048
Cairns - 5 to 14	25,678
Cairns - 15 to 29 - has Bachelor degree	3,755
Cairns - 15 to 29 - no Bachelor degree	26,553
Cairns - 30 to 44 - has Bachelor degree	9,288

	Cairns - 30 to 44 - no Bachelor degree	25,673
	Cairns - 45 to 59 - has Bachelor degree	7,125
	Cairns - 45 to 59 - no Bachelor degree	26,754
	Cairns - 60+ - has Bachelor degree	3,748
	Cairns - 60+ - no Bachelor degree	24,032
	Far North Queensland - 0 to 4	9,411
	Far North Queensland - 5 to 14	20,648
	Far North Queensland - 15 to 29 - has Bachelor degree	1,512
	Far North Queensland - 15 to 29 - no Bachelor degree	19,154
	Far North Queensland - 30 to 44 - has Bachelor degree	3,678
	Far North Queensland - 30 to 44 - no Bachelor degree	17,972
	Far North Queensland - 45 to 59 - has Bachelor degree	3,425
	Far North Queensland - 45 to 59 - no Bachelor degree	23,220
	Far North Queensland - 60+ - has Bachelor degree	2,930
	Far North Queensland - 60+ - no Bachelor degree	25,884
Country of birth	Brisbane - Australia	1,693,393
	Brisbane - Other English-speaking countries	287,887
	Brisbane - Non-English speaking countries	380,058
	Gold Coast - Australia	424,866
	Gold Coast - Other English-speaking countries	108,042
	Gold Coast - Non-English speaking countries	78,719
	Sunshine Coast - Australia	292,943
	Sunshine Coast - Other English-speaking countries	54,772
	Sunshine Coast - Non-English speaking countries	24,132
	West Moreton - Australia	83,033
	West Moreton - Other English-speaking countries	6,840
	West Moreton - Non-English speaking countries	5,625
	Wide Bay-Burnett - Australia	268,394
	Wide Bay-Burnett - Other English-speaking countries	25,189
	Wide Bay-Burnett - Non-English speaking countries	15,331
	Darling Downs - Australia	227,734
	Darling Downs - Other English-speaking countries	13,185
	Darling Downs - Non-English speaking countries	16,569
	Central West / North West / South West - Australia	61,975
	Central West / North West / South West - Other English-speaking countries	3,537
	Central West / North West / South West - Non-English speaking countries	3,544
	Gladstone - Australia	55,725
	Gladstone - Other English-speaking countries	6,018
	Gladstone - Non-English speaking countries	4,394
	Rockhampton - Australia	111,432
	Rockhampton - Other English-speaking countries	6,522
	Rockhampton - Non-English speaking countries	6,502
	Fitzroy Hinterland - Australia	41,305
	Fitzroy Hinterland - Other English-speaking countries	2,795
	Fitzroy Hinterland - Non-English speaking countries	2,337

	Mackay Whitsunday - Australia	125,907
	Mackay Whitsunday - Other English-speaking countries	11,184
	Mackay Whitsunday - Non-English speaking countries	9,064
	Mackay Hinterland - Australia	31,305
	Mackay Hinterland - Other English-speaking countries	2,338
	Mackay Hinterland - Non-English speaking countries	2,301
	Townsville - Australia	170,690
	Townsville - Other English-speaking countries	14,549
	Townsville - Non-English speaking countries	15,219
	Northern Hinterland - Australia	41,571
	Northern Hinterland - Other English-speaking countries	1,474
	Northern Hinterland - Non-English speaking countries	2,258
	Cairns - Australia	125,060
	Cairns - Other English-speaking countries	16,678
	Cairns - Non-English speaking countries	22,916
	Far North Queensland - Australia	109,836
	Far North Queensland - Other English-speaking countries	8,263
	Far North Queensland - Non-English speaking countries	9,734
Telephone status	Brisbane - Mobile only	911,476
	Brisbane - Has landline	1,449,861
	Gold Coast - Mobile only	288,688
	Gold Coast - Has landline	322,939
	Sunshine Coast - Mobile only	175,512
	Sunshine Coast - Has landline	196,335
	West Moreton - Mobile only	45,075
	West Moreton - Has landline	50,423
	Wide Bay-Burnett - Mobile only	145,807
	Wide Bay-Burnett - Has landline	163,106
	Darling Downs - Mobile only	121,534
	Darling Downs - Has landline	135,953
	Central West / North West / South West - Mobile only	32,594
	Central West / North West / South West - Has landline	36,461
	Gladstone - Mobile only	31,216
	Gladstone - Has landline	34,920
	Rockhampton - Mobile only	58,743
	Rockhampton - Has landline	65,713
	Fitzroy Hinterland - Mobile only	21,918
	Fitzroy Hinterland - Has landline	24,519
	Mackay Whitsunday - Mobile only	68,985
	Mackay Whitsunday - Has landline	77,170
	Mackay Hinterland - Mobile only	16,966
	Mackay Hinterland - Has landline	18,978
	Townsville - Mobile only	94,616
	Townsville - Has landline	105,842
	Northern Hinterland - Mobile only	21,383
	Northern Hinterland - Has landline	23,920

	Cairns - Mobile only	77,716
	Cairns - Has landline	86,937
	Far North Queensland - Mobile only	60,337
	Far North Queensland - Has landline	67,496
Household count	Brisbane - Household count	1,492,132
	Brisbane - Remainder	869,205
	Gold Coast - Household count	366,127
	Gold Coast - Remainder	245,500
	Sunshine Coast - Household count	214,560
	Sunshine Coast - Remainder	157,287
	West Moreton - Household count	59,237
	West Moreton - Remainder	36,261
	Wide Bay-Burnett - Household count	171,903
	Wide Bay-Burnett - Remainder	137,010
	Darling Downs - Household count	151,971
	Darling Downs - Remainder	105,516
	Central West / North West / South West - Household count	35,272
	Central West / North West / South West - Remainder	33,783
	Gladstone - Household count	37,053
	Gladstone - Remainder	29,083
	Rockhampton - Household count	72,946
	Rockhampton - Remainder	51,510
	Fitzroy Hinterland - Household count	25,225
	Fitzroy Hinterland - Remainder	21,212
	Mackay Whitsunday - Household count	85,878
	Mackay Whitsunday - Remainder	60,277
	Mackay Hinterland - Household count	18,411
	Mackay Hinterland - Remainder	17,533
	Townsville - Household count	123,461
	Townsville - Remainder	76,997
	Northern Hinterland - Household count	24,864
	Northern Hinterland - Remainder	20,439
	Cairns - Household count	97,438
	Cairns - Remainder	67,215
	Far North Queensland - Household count	71,887
	Far North Queensland - Remainder	55,946

Electronic appendices

Supplied electronically:

Appendix 3 – AAPOR mapping to call outcomes

Appendix 4 – DAF outcome mapping to call outcomes

Appendix 5 – Final Questionnaire

Appendix 6 – Website information

Appendix 7 – Briefing notes