



Population Research Laboratory



*Community perceptions of the proposed  
South Rockhampton Flood Levee*

**PRELIMINARY REPORT  
TOPLINE FINDINGS**

*prepared for the*  
**Rockhampton Regional Council**

*by the*  
**Population Research Laboratory  
CQUniversity Australia**

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## **PROJECT DETAILS**

### ***BACKGROUND***

The Rockhampton area has experienced major flooding from the Fitzroy River, most recently in 1991, 2011 and 2013. This has resulted in significant impacts to the community. In the past four years flooding has resulted in a repair bill of more than \$67 million across the region. The South Rockhampton Flood Levee has been identified by Rockhampton Regional Council (RRC) as the most cost effective option to mitigate the effects of flooding in Rockhampton. It was first identified in 1992 and there has been ongoing analysis including updated flood modelling in 2011. The levee will aim to deliver immediate and long term benefits and opportunities to the community, businesses and Council and particularly those who live, work and do business in areas affected by flooding.

In order to determine awareness and attitudes towards the South Rockhampton Flood Levee, Council has commissioned the CQUniversity Population Research Laboratory to conduct a telephone survey of the community. The information derived from this survey will firstly provide an indication of perceived impacts of flooding across various areas of the community. Second, it will provide the RRC with greater information from which design general and targeted communications about proposed activities. Third, it will aid Council in evaluating the attitudes and perceptions of the community towards the proposed levee. There is also a substantial communication component to the research with over 400 people being contacted directly and asked to reflect on their own experiences and knowledge of flood management and their perceptions of the benefits and opportunities posed by the proposed levee.

This preliminary report describes the data treatment and topline findings of the Rockhampton Regional Council, South Rockhampton Flood Levee: 2014 Community Perceptions Survey.

### ***THE QUESTIONNAIRE***

The survey questions were developed by the Rockhampton Regional Council. The survey was designed to gather both quantitative and qualitative information. Questions were primarily closed, scaled-response format, however there were several open-ended items which provided respondents with the opportunity to give feedback freely. Key demographic questions including locality, age and home ownership status were also included.

## **SAMPLING DESIGN**

The Rockhampton Regional Council area was defined as the sample area. The region was delineated into two areas for telephone interviewing; the North Rockhampton area and South Rockhampton combined with all other areas.

To permit the analysis a minimum sample size of 400 for the region was deemed necessary and the telephone sample was drawn to approximately resemble the population distribution within the region. Two sub-samples were defined:

1. North Rockhampton area, including suburbs of; Parkhurst/Limestone Creek/Mount Archer, Norman Gardens, Kawana, Park Avenue, Frenchville, Koogal/Lakes Creek and Berserker.
2. South Rockhampton and Other areas of the region, including:
  - a. Rockhampton City/Depot Hill, Allenstown, The Range, Wandal/West Rockhampton
  - b. Gracemere
  - c. Mount Morgan
  - d. Rural South East (Bajool, Bouldercombe, Kabra, Marmour, Midgee, Port Alma, Port Curtis)
  - e. Rural West (Alton Downs, Bushley, Dalma, Fairy Bower, Garnant, Glenroy, Gogango, Kalapa, Mornish, Nine Mile, Pink Lilly, Ridgeland, Stanwell, South Yaamba, Westwood, Wycarbah ).

**Table 1: Sub-sample Estimated Sampling Error**

<b>Sub-sample areas</b>	<b>Population %</b>	<b>Sample %</b>	<b>Sample N</b>	<b>Estimated Sampling Error</b>
North Rockhampton area	55	59	251	+/- 6.2%
South Rockhampton & Other areas	45	41	172	+/- 7.5%
<b>TOTAL POLL SAMPLE</b>			<b>423</b>	<b>+/- 4.8%</b>
<i>South Rockhampton only</i>	23	31	129	+/- 8.6%
<i>*Gracemere only</i>	11	6	25	+/- 19.6%
<i>*Combined Others only</i>	11	4	18	+/- 23.1%

\*Due to the smaller numbers within several area sub-samples, separate analysis of these districts is not recommended and findings should be viewed with caution.

The final survey sample has a statistically robust sample size (+/- 4.8%), analysis of the sample as a whole provides a credible and reliable measure of regional opinion.

## ***DATA COLLECTION***

The survey was administered through the twenty-station CATI (Computer-Assisted Telephone Interviewing)<sup>1</sup> system installed on a local area network at the PRL. This system facilitates the exchange of information among interviewing PC stations and supervisor stations linked via a file server during the data collection period. Supervisors monitor call dispositions, field edit, validate and accumulate data for analysis. The sample database was loaded into the CATI system that allocates telephone numbers to the interviewing stations. The question text and instructions were presented on the computer screen to the interviewer who asked questions of the respondent over the telephone and then entered the given responses into the computer.

All of the data collection was conducted from the Population Research Laboratory at CQUniversity. Interviews were conducted between the hours of 10:30am to 2:30pm; and 4:30pm to 8:30pm, Monday through Wednesday<sup>2</sup>. If the interviewers were unsuccessful in establishing contact on their first call, a minimum of five call-back attempts were made.

The interviewing began on Monday 2 June, 2014 and was completed on Wednesday 4 June, 2014. The average completed interview length was 11 minutes. A total of 428 interviews were completed during the survey period.

## ***THE DATA***

The data was tabulated, cleaned and analysed using the SPSS Version 19 statistical package. The resultant data set contains 423 cases with a total of 48 variables (excluding computed and re-coded variables) for each case. A total of five cases were excluded as these respondents were deemed to reside outside of the survey area (Livingstone Shire). Partial data has not been included in the final data set.

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<sup>1</sup>The Ci3 Win CATI System is a PC-based product of Sawtooth Technologies, USA.

<sup>2</sup> In compliance with the ACMA Industry Standard for Research Calls.

**QUALITY ASSURANCE**

Rigorous Quality Assurance (QA) processes are employed by the Population Research Laboratory to ensure the integrity of the data collected. As part of the QA program within the PRL special training of the staff was undertaken. A Supervisors’ briefing was also conducted. Prior to the commencement of data collection the survey instrument was trialled and the data examined. All PRL staff involved in the study were required to sign a Confidentiality Statement before the commencement of data collection. Feedback was sought on the final version of the survey instrument from the survey sponsors. Data and document backup procedures were implemented.

The data was regularly monitored during the data collection period. Regular data backups were made and the data was stored at two secure locations. Daily assessments were made of the data collection progress.

A Supervisors’ electronic log book was maintained in order to facilitate discussion and permit prompt action of any potentially adverse situations that arose.

**RESPONSE RATE**

The response rate is a calculated percentage representing the number of people participating in the survey either with a completed or partially completed interview divided by the number of eligible people selected in the sample. The numerator is the number of completed or partially completed interviews and the denominator includes the completed and partially completed interviews, the refusals, the sample not contacted, and other eligible households from within the sample frame. The calculations for the survey response rate are shown below.

$$\begin{aligned}
 \text{RESPONSE RATE} = & \frac{\text{Complete Interviews} + \text{Partial Interviews}}{(\text{Complete} + \text{Partial}) + (\text{Refusal} + \text{Non Contact} + \text{Other})} \\
 & \frac{428 + 6}{(428+6) + (254+3+39)}
 \end{aligned}$$

The Response Rate for the Community Survey was 59.5%

## DEMOGRAPHIC PROFILE OF RESPONDENTS

Table 2: Demographic Profile

DEMOGRAPHICS	SURVEY SAMPLE	
	Number	Percent
<b>AGE CATEGORY</b>		
18-34 years	32	7.6
35-44 years	59	13.9
45-54 years	108	25.5
55-65 years	104	24.6
65 years or above	118	27.9
<b>LOCALITY/SUBURB</b>		
Parkhurst - Limestone Creek - Mount Archer	18	4.3
Norman Gardens	59	13.9
Kawana	18	4.3
Park Avenue	33	7.8
Frenchville	65	15.4
Koongal & Lakes Creek	23	5.4
Berserker	35	8.3
Rockhampton City & Depot Hill	16	3.8
Allenstown	20	4.7
The Range	38	9.0
Wandal & West Rockhampton	55	13.0
Gracemere	25	5.9
Mount Morgan	10	2.4
Rural South East	4	0.9
Rural West	4	0.9
<b>HOME OWNERSHIP</b>		
Own home/mortgage	354	83.7
Rent home	64	15.1
Other/No response	5	1.2
<b>FLOOD AFFECTED IN 1991, 2011 OR 2013</b>		
Yes	178	42.1
No	245	57.9

## TOPLINE RESULTS

### *Awareness of flood mitigation activity*

QUESTION 1 & 2	TOTAL	LOCALITY				FLOOD AFFECTED		HOME OWNERSHIP		AGE	
		North	South	Gracemere	Others	Not affected	Affected	Own home	Rent home	<45 years	≥45 years
<b><i>Aware of the SR flood levee</i></b>											
Yes	<b>96.5</b>	95.6	97.7	96.0	100.0	96.7	96.1	97.2	92.2	94.4	97.0
No	<b>2.6</b>	3.2	2.3	4.0	0.0	2.9	2.2	2.0	6.3	5.6	1.8
Unsure	<b>0.9</b>	1.2	0.0	0.0	0.0	0.4	1.7	0.8	1.6	0.0	1.2
<b><i>Aware of NR flood mitigation</i></b>											
Yes	<b>61.0</b>	55.4	73.6	56.0	55.6	60.8	61.2	61.3	57.8	60.0	61.2
No	<b>37.1</b>	43.0	25.6	32.0	44.4	37.6	36.5	37.9	34.4	37.8	37.0
Unsure	<b>1.9</b>	1.6	0.8	12.0	0.0	1.6	2.2	0.8	7.8	2.2	1.8

***Q1: Are you aware of the proposed South Rockhampton Flood Levee?***

***Q2: Are you aware that the Rockhampton Regional Council is investigating infrastructure options to mitigate flooding for other areas in and around North Rockhampton?***



*Views on the potential benefits of the South Rockhampton Flood Levee*

QUESTION 3 % AGREE	TOTAL	LOCALITY				FLOOD AFFECTED		HOME OWNERSHIP		AGE	
		North	South	Gracemere	Others	Not affected	Affected	Own home	Rent home	<45 years	≥45 years
Help protect jobs	<b>51.8</b>	51.0	50.4	56.0	66.7	49.4	55.1	50.8	60.9	61.1	49.4
Help protect our economy	<b>61.2</b>	61.4	61.2	56.0	66.7	60.8	61.8	60.5	68.8	74.4	57.9
Highway traffic won't need to be diverted during floods	<b>68.3</b>	71.3	62.8	68.0	66.7	69.4	66.9	68.1	71.9	80.0	65.2
Help protect roads and essential infrastructure	<b>70.0</b>	72.1	67.4	64.0	66.7	68.6	71.9	69.5	75.0	80.0	67.6
Increase safety from flooding	<b>63.4</b>	64.9	60.5	64.0	61.1	62.0	65.2	63.0	67.2	74.4	60.3
Help protect community members	<b>67.1</b>	68.1	63.6	72.0	72.2	64.9	70.2	66.1	75.0	81.1	63.6
Save money in the long run	<b>51.3</b>	50.6	50.4	56.0	61.1	46.9	57.3	50.6	57.8	57.8	49.7
Help bring down insurance premiums	<b>35.0</b>	33.5	36.4	28.0	55.6	35.1	34.8	33.3	45.3	47.8	31.8
Reduce damage to the city	<b>71.9</b>	70.5	71.3	76.0	88.9	68.2	77.0	72.0	73.4	84.4	68.5
Improve the city's reputation	<b>54.4</b>	53.8	53.5	60.0	61.1	51.4	58.4	53.7	60.9	51.1	55.8
Reduce disruptions	<b>69.7</b>	72.1	65.1	64.0	77.8	70.2	69.1	70.1	70.3	74.4	68.5

*Q3: I will now read you a list of potential benefits of having the proposed flood levee. I'd like you to tell me whether you agree or disagree with each, or if you are unsure.*

### *Concerns about the South Rockhampton Flood Levee*

QUESTION 4	Number	Percent
Stated more than one concern	86	20.4
Stated a single concern	215	50.8
Stated no concerns	122	28.8

QUESTION 4	(Yes) Number	(Yes) Percent
It will increase flood waters outside the levee	90	21.3
The cost/expense of the flood levee	116	27.4
It won't be effective	38	9.0
The levee could be breached	16	3.8
I don't know enough about it	21	5.0
*Other concerns	139	32.9
No concerns	122	28.8

*Q4: Do you have any issues or concerns with the proposed South Rockhampton Flood Levee?*

\*This open-ended data will be further analysed and re-coded where possible for presentation in the final report.

### *Flood insurance premiums*

QUESTION 6	Number	Percent
Yes, it has gone up	206	48.7
No, it has not gone up	65	15.4
I'm not sure	64	15.1
I don't have flood insurance	87	20.6

*Q6: If you have flood insurance, has this gone up significantly (10% or more) in the last couple of years?*

*Views on potential opportunities from the South Rockhampton Flood Levee*

QUESTION 5 % AGREE	TOTAL	LOCALITY				FLOOD AFFECTED		HOME OWNERSHIP		AGE	
		North	South	Gracemere	Others	Not affected	Affected	Own home	Rent home	<45 years	≥45 years
Provide opportunities for improving urban areas in South Rockhampton	<b>58.4</b>	58.6	58.1	56.0	61.1	55.9	61.8	58.5	59.4	64.4	57.3
Provide usable land at Rosel Park for recreation/sports	<b>56.0</b>	55.0	59.7	48.0	55.6	53.9	59.0	55.4	59.4	53.3	56.4
Provide usable land for showgrounds	<b>48.0</b>	48.6	46.5	40.0	61.1	44.5	52.8	45.8	60.9	54.4	46.4
Provide usable land for a sports complex	<b>55.6</b>	55.0	57.4	48.0	61.1	50.2	62.9	55.6	57.8	55.6	56.1
Protect the city's road access to the highway	<b>63.4</b>	66.5	55.0	68.0	72.2	60.4	67.4	62.7	68.8	72.2	61.2
Viewing platforms for wetlands areas could be installed	<b>57.0</b>	57.4	55.8	48.0	72.2	55.9	58.4	56.2	60.9	63.3	55.2
Fitness trail, cycle track or walkways could be incorporated	<b>68.6</b>	67.7	68.2	64.0	88.9	64.5	74.2	68.4	68.8	71.1	68.2
A heritage trail linking Quay Street could be incorporated	<b>61.2</b>	61.8	58.9	56.0	77.8	57.6	66.3	60.2	68.8	63.3	60.6

*Q5: I'll now read a list of potential opportunities from the proposed flood levee. Again please tell me whether you agree or disagree with each, or if you are unsure.*

### South Rockhampton Flood Levee funding model support

QUESTION 7 & 8 CONDENSED	Number	Percent	
Support both options	98	23.2	
Support one of the options	178	42.1	65.3
Support neither option	106	25.1	
Unsure and unsupportive	41	9.6	34.7

QUESTION 7 & 8	TOTAL	LOCALITY				FLOOD AFFECTED		HOME OWNERSHIP		AGE	
		North	South	Gracemere	Others	Not affected	Affected	Own home	Rent home	<45 years	≥45 years
<b>Support irrespective</b>											
Yes	<b>38.3</b>	35.5	39.5	40.0	66.7	34.7	43.3	36.7	50.0	45.6	36.4
No	<b>46.6</b>	49.4	43.4	44.0	33.3	51.0	40.4	50.0	28.1	37.8	49.1
Unsure	<b>14.7</b>	15.1	16.3	16.0	0.0	14.3	16.3	13.3	21.9	16.7	14.5
<b>Support primary payment</b>											
Yes	<b>50.1</b>	52.6	45.0	44.0	61.1	53.9	44.9	50.0	53.1	60.0	47.6
No	<b>37.8</b>	35.9	41.9	44.0	27.8	32.7	44.9	38.7	32.8	30.0	40.0
Unsure	<b>11.8</b>	11.6	13.2	12.0	11.1	13.5	10.1	11.3	14.1	10.0	12.4

*Council is seeking a three way split for the overall cost of the proposed flood levee between Federal government, State government and Council. Council would cap its contribution at \$13M and seek the majority of the funding from the other levels of government, which is estimated at around \$48M total.*

**Q7: Would you support the flood levee irrespective of HOW Council funded its share of the cost of the levee?**

**Q8: Would you support the flood levee if Council's cost was PRIMARILY paid for by those who own property, investments or businesses INSIDE the levee and benefit by its construction, with all other ratepayers only contributing a small amount of about \$10 from the general rate?**



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